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Yves Boquet

# The Philippine Archipelago

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# The Philippine Archipelago

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# List of Acronyms

ABC	Association of Barangay Captains
ADB	Asian Development Bank
ADIZ	Air Defense Identification Zone
AIDS	Acquired Immunodeficiency Syndrome
ALI	Ayala Land Inc.
APEC	Asia-Pacific Economic Cooperation
APT	Assembly, Packaging, and Testing
ARB	Agrarian Reform Beneficiaries
ARMM	Autonomous Region of Muslim Mindanao
ASC	Agricultural Systems Cluster
ASEAN	Association of Southeast Asian Nations
ASG	Abu Sayyaf Group
AZE	Alliance for Zero Extinction
BCDA	Bases Conversion and Development Authority
BDO	Banco de Oro
BDPB	Bicol Development Planning Board
BEH	Bündnis Entwicklung Hilft (Alliance Development Works)
BEP	Bilingual Education Program of the Philippines
BFAR	Bureau of Fisheries and Aquatic Resources
BGC	Bonifacio Global City
BIFF	Bangsamoro Islamic Freedom Fighters
BIMP-EAGA	Brunei-Indonesia-Malaysia-Philippines East Asia Growth Area
BISUDECO	Bicol Sugar Development Corporation
BLADCOR	Bicol Livestock and Agricultural Development Corporation
BLDC	Bonifacio Land Development Corporation
BMLO	Bangsa Moro Liberation Organization
BMR	Bangsa Moro Republic
BOI	Board of Investments
BPI	Bank of the Philippine Islands
BPO	Business Process Outsourcing
BRIC	Brazil, Russia, India, China



BRICS	Brazil, Russia, India, China, South Africa
BRICSAM	Brazil, Russia, India, China, South Africa, Mexico
BRR1	Bangladesh Rice Research Institute
BSP	Bangko Sentral ng Pilipinas
CAB	Comprehensive Agreement on the Bangsamoro
CADT	Certificate of Ancestral Domain/Land Title
CALABARZON	Cavite, Laguna, Batangas, Rizal, Quezon
CAMANAVA	Caloocan, Malabon, Navotas, Valenzuela
CAR	Cordillera Autonomous Region
CARP	Comprehensive Agrarian Reform Program
CARPER	Comprehensive Agrarian Reform Program Extension with Reforms
CARS	Comprehensive Automotive Resurgence Strategy
CAVITEX	Manila-Cavite Expressway
CBCP	Catholic Bishops Conference of the Philippines
CBD	Central Business District
CDC	(1) Center for Disease Control (in Atlanta, Georgia, USA)
CDC	(2) Clark Development Corporation
CEC	Canadian Experience Class
CEO	Chief Executive Officer
CFO	Commission on Filipinos Overseas
CHASSAM	Coastal Hazards and Storm Surge Assessment and Mitigation
CIA	Central Intelligence Agency
CIDF	Coconut Industry Development Fund
CITRUS	Central Institute for the Training and Relocation of Urban Squatters
CIVETS	Colombia, Indonesia, Vietnam, Egypt, Turkey, South Africa
CLCVA	Central Luzon Cagayan Valley Authority
CLEX	Central Luzon Expressway
CMRP	Community-Based Mangrove Rehabilitation Project
CNI	Commission on National Integration
CO <sub>2</sub>	Carbon dioxide
COCOFED	Coconut Producers Federation
COMELEC	Commission on Elections
COMET	City Optimized Managed Electric Transport
COP21	21st Conference of the Parties (United Nations Conference on Climate Change, held in Paris)
CPF	Charoen Pokphand Foods (Thailand)
CRRI	Central Rice Research Institute (Cuttack, India)
CSI	Coconut Scale Insect
CVRP	Central Visayas Regional Project
DA	Department of Agriculture
DAR	Department of Agrarian Reform
DARBC	Dolefil Agrarian Reform Beneficiaries Cooperative
DENR	Department of Environment and Natural Resources

DepEd	Department of Education
DFC	Davao Fruits Corporation
DLTB	Del Monte Land Transport Bus Company
DMIA	Diosdado Macapagal International Airport (Clark)
DNA	Deoxyribonucleic acid
DOST	Department of Science and Technology
DOT	Department of Tourism
DOTC	Department of Transport and Communication
DPWH	Department of Public Works and Highways
DREAM	Disaster Risk and Exposure Assessment for Mitigation
DRR	Disaster Risk Reduction
DRRMO	Disaster Risk Reduction and Management Office
DRT	Diving Resort Travel
DU30	Rodrigo Duterte
EAFM	Ecosystem Approach to Fishery Management
EBFM	Ecosystem-based Fisheries Management
ECOFISH	Ecosystems Improved for Sustainable Fisheries
ECoP	Employment Confederation of the Philippines
EDB	Economic Development Board (Singapore)
EDCA	Enhanced Defense Cooperation Agreement
EDCOR	Economic Development Corps
EDSA	Epifanio de los Santos Avenue
EEZ	Exclusive Economic Zone
EHS	United Nations University's Institute for Environment and Human Security
EM-DAT	(International) Emergency Disasters Database
EMSA	European Maritime Safety Agency
ENSO	El Niño Southern Oscillation
EPZA	Export Processing Zones Authority
EU	European Union
EV	Electric Vehicles
FAO	Food and Agriculture Organization
FAR	Floor Area Ratio
FDI	Foreign Direct Investment
FFF	Federation of Free Farmers
FISH	Fisheries Improved for Sustainable Harvest
FPIC	Free Prior and Informed Consent
FSSP	Food Staples Sufficiency Program
FX	Shared taxi/minivan (originally Toyota FX models)
GARB	Genuine Agrarian Reform Bill
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
GET	Global Electric Transport
GHG	Greenhouse gases
GI	General Issue (material used by American soldiers)

GIS	Geographical Information Systems
GMA	Gloria Macapagal Arroyo
GMO	Genetically Modified Organism
GOMBURZA	Gomez-Burgos-Zamora
GPI	Global Peace Index
GPS	Global Positioning System
HDI	Human Development Index
HFA	Hyogo Framework for Action
HIV	Human Immunodeficiency Virus
HLI	Hacienda Luisita Inc.
IAS	Institute of Agrarian Studies
ICC	Indigenous Cultural Communities
ICM	Integrated Coastal Management
IMD	Institut de Management et Développement (Switzerland)
IMF	International Monetary Fund
INC	Iglesia ni Cristo
IPB	Institute of Plant Breeding
IPRA	Indigenous Peoples' Rights Act
IRA	Internal Revenue Allotment
IRDFS	Integrated Rice-Duck Farming System
IRRI	International Rice Research Institute (Los Baños)
ISEA	Insular Southeast Asia
ISIS	Islamic State of Iraq and Syria
IT	Information Technologies
ITCZ	Intertropical Convergence Zone
IUCN	International Union for the Conservation of Nature
JI	Jemaah Islamiyah
JICA	Japan International Cooperation Agency
JIM	Justice for Islamic Movement
JMA	Japan Meteorological Agency
JOIN	Japan Overseas Infrastructure Investment Corporation for Transport and Urban Development
KAMP	Kalipunan ng mga Katutubong Mamamayan ng Pilipinas (Assembly of the Indigenous People of the Philippines)
KBA	Key Biodiversity Area
KKK	(1) Katipunan (Kataas-taasan, Kagalang-galangang Katipunan ng mga Anak ng Bayan) (Highest and Most Honorable Association of the Children of the Nation)
KKK	(2) Kaibigan, Kaklase, Kabarilan
KLM	Koninklijke Luchtvaart Maatschappij N.V. (Royal Dutch Airlines)
KMP	Kilusang Magbubukid ng Pilipinas (Peasant Movement of the Philippines)
KOPIA	Korean Project on International Agriculture
LaDDeRS	Local Development of Doppler Radar Systems
LASEDECO	Land Settlement and Development Corporation

LASIK	Laser-Assisted In-Situ Keratomileusis
LEED	Leadership in Energy and Environmental Design
LTFRB	Land Transportation Franchising and Regulatory Board
LGBT	Lesbian, Gay, Bisexual, and Transsexual
LGU	Local Government Unit
LLDA	Laguna Lake Development Agency
LMPF	Lumad Mindanao Peoples Federation
LPG	Liquefied Petroleum Gas
LPU	Lyceum of the Philippines University
LRT	Light Rail Transit
LTO	Land Transportation Office
MAP	Management Association of the Philippines
MARINA	Maritime Industry Authority
MASICAP	Medium and Small Industries Coordinated Action Program
MAV	Minimum Access Volume
MBA	Military Bases Agreement
MBC	Makati Business Club
MCPSS	Marine Conservation Project for San Salvador Island
MDA	Mindanao Development Authority
MDG	Millennium Development Goals
MERALCO	Manila Electric Railroad and Light Company
MFA	Multi-Fiber Agreement
MGB	Mines and Geosciences Bureau
MHS	Ministry of Human Settlements
MILF	Moro Islamic Liberation Front
MIMAROPA	Mindoro, Marinduque, Romblon, Palawan
MIRAB	Migration, Remittances, Aid and Bureaucracy
MITI	Ministry of International Trade and Industry (Japan)
MKBA	Marine Key Biodiversity Area
MMC	Metropolitan Manila Commission
MMDA	Metropolitan Manila Development Authority
MMEIRS	Metropolitan Manila Earthquake Impact Reduction Study
MMIAC	Metro Manila Inter-Agency Committee
MMR	Mumps, Measles, and Rubella
MNLF	Moro National Liberation Front
MOA-AD	Memorandum of Agreement on Ancestral Domain
MOU	Memorandum of Understanding
MPA	Marine Protected Areas
MRR	Manila Railroad Company
MRT	Metropolitan Rail Transit
MSCI	Morgan Stanley Capital Index
MTBMLE	Mother Tongue-Based Multilingual Education
MTPDP	Medium-Term Philippine Development Plan
NAIA	Ninoy Aquino International Airport (Manila's main airport)
NAPOCOR	National Power Corporation

NARRA	National Resettlement Rehabilitation Administration
NASUTRA	National Sugar Trading Corporation
NATO	North Atlantic Treaty Organization
NBA	National Basketball Association (USA)
NCC	National Competitiveness Council
NCIP	National Commission on Indigenous Peoples
NCR	National Capital Region (=Metro Manila)
NCSB	National Statistics Coordination Board
NDC	National Development Corporation
NDRRM	National Disaster Risk Reduction & Management Council
NEC	National Economic Council
NEDA	National Economic Development Agency
NEPA	National Economic Protectionism Association
NFA	National Food Authority
NFSW	National Federation of Sugar Workers
NGO	Nongovernmental Organization
NGP	National Greening Program
NHA	National Housing Authority
NIGS	National Institute of Geological Sciences
NIPAS	National Integrated Protected Areas System
NLEX	North Luzon Expressway
NLSA	National Land Settlement Administration
NOAH	Nationwide Operational Assessment of Hazards
NPA	New People's Army
NPFP	National Physical Framework Plan
NSB	National Seaman Board
NSIC	National Seed Industry Council
NTZ	No Take Zone
OCW	Overseas Contract Workers
OEDB	Overseas Employment Development Board
OFW	Overseas Filipino Workers
OIC	Organization of Islamic Cooperation
OMA	Office for the Muslim Affairs
OMACC	Office for Muslim Affairs and Cultural Communities
ONCC	Office for Northern Cultural Communities
OSCC	Office for Southern Cultural Communities
OWWA	Overseas Workers Welfare Administration
PAGASA	Philippine Atmospheric, Geophysical and Astronomical Services Administration
PAGCOR	Philippine Amusement and Gaming Corporation
PAHRA	Presidential Assistant on Housing and Resettlement Agency
PAL	Philippine Airlines
PAMB	Protected Area Management Board
PANAMIN	Presidential Assistance on National Minorities
PAR	Philippine Area of Responsibility

PBA	Philippine Basketball Association
PBSP	Philippine Business for Social Progress
PCA	Philippine Coconut Authority
PCB	Palawan–Mindoro Continental Block
PCCI	Philippine Chamber of Commerce and Industry
PDC	Philippine Decentralization Committee
PDH	Philippine Department of Health
PDOS	Pre-departure Orientation Seminar
PDP	Philippine Development Plan
PDRF	Philippines Disaster Resilience Foundation
PEZA	Philippine Economic Zone Authority
PHHC	People’s Homesite and Housing Corporation
PHILCOA	Philippine Coconut Authority
PHILRICE	Philippine Rice Research Institute (1)
PHILSCAT	Phil-Sino Center for Agricultural Technology
PHILSUCOM	Philippine Sugar Commission
PHIVOLCS	Philippine Institute of Volcanology and Seismology
PHP	Philippine Peso
PLDT	Philippine Long Distance Telephone Company
PMB	Philippine Mobile Belt
PMC	Pacific Microwave Corporation
PMMA	Philippine Merchant Marine Academy
PNOC	Philippine National Oil Company
PNR	Philippine National Railways
PNS	Philippine Nautical School
POEA	Philippine Overseas Employment Agency
POLO	Philippine Overseas Labor Office
PC	Philippine Packing Corporation
PPA	Philippine Port Authority
PPICS	Peru, Philippines, Indonesia, Colombia, Sri Lanka
PRB	Population Reference Bureau
PRC	People’s Republic of China
PRCC	Pasig River Rehabilitation Commission
PRDF	Philippines Disaster Resilience Foundation
PRECHUR	Presidential Committee for Housing and Urban Resettlement
PRLM	Philippine Land Reform Movement
PRRI	Philippine Rice Research Institute (2)
PSA	Philippine Statistical Authority
PSF	People’s Survival Fund
PSRI	Philippine Sugar Research Institute
PUB	Public Utility Bus
PUJ	Public Utility Jeepney
PUP	Polytechnic University of the Philippines
PUV	Public Utility Vehicle
PWU	Philippines Women’s University

QR	Quantitative Restrictions
RA	Republic Act
RCDP	Regional Cities Development Project
R&D	Research and Development
RDC	Regional Development Council
RH	Reproductive Health
RO-RO	Roll-on Roll-off maritime transport
RPT	Real Property Tax
SALT	Sloping Agricultural Land Technology
SBDA	Subic Bay Development Authority
SBFZ	Subic Bay Freeport Zone
SCS	South China Sea
SCTEX	Subic-Clark-Tarlac Expressway
SDO	Stock Distribution Option
SEARCA	Southeast Asian Regional Center
SEATO	Southeast Asia Treaty Organization
SEZ	Special Economic Zone
SICRMC	Southern Iloilo Coastal Resource Management Council
SITMo	Save the Ifugao Terraces Movement
SK	Sangguniang Kabataan (Youth Council)
SLEX	South Luzon Expressway
SM	Shoe Mart
SME	Small and Medium Enterprises
SOCCSKSARGEN	South Cotabato, Cotabato, Sultan Kudarat, Sarangani, General Santos City
SONA	State of the Nation Address
SPARE	Special Program of Assistance for Relocation of Evacuees
SPDA	Southern Philippine Development Authority
SPDC	Sapang Palay Development Committee
SRA	Sugar Regulatory Administration
SRNH	Strong Republic Nautical Highway
SSS	Social Security System
SUV	Sport Utility Vehicle
SWS	Social Weather Stations
TADECO	Tagum Development Corporation
TB	Tuberculosis
TBI	Technology Business Incubators
TESDA	Technical Education and Skills Development Authority
TEU	Twenty (feet) Equivalent Unit (a measure of container traffic)
TFDA	Tondo Foreshore Development Authority
TIMP	Turkey, Indonesia, Mexico, Philippines
TIP	Thailand, Indonesia, Philippines
TNC	Transnational Corporation
TNT	Tago Nang Tago (in perpetual hiding) = illegal migrants

TODA	Tricycle Operators and Drivers' Associations
TPLEX	Tarlac-Pangasinan-La Union Expressway
TVA	Tennessee Valley Authority
UAE	United Arab Emirates
UCPB	United Coconut Planters Bank
UK	United Kingdom
UMA	Unyon ng Manggagawa sa Agrikultura, Union of Agricultural Workers
UNCLOS	United Nations Conference on the Law Of the Seas
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Population Division
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
UNISDR	United Nations International Strategy for Disaster Reduction
UP	University of the Philippines
UPLB	University of the Philippines Los Baños
UPS	United Parcel Service
US/USA	United States of America
USAAF	US Army Air Forces
USAID	United States Agency for International Development
V 20	20 Vulnerable Countries Forum
VAD	Vitamin A Deficiency
VOC	Volatile Organic Compound
WHO	World Health Organization
WISE	Weather Information-Integration for Systems Enhancement
WMO	World Meteorological Organization
WPS	West Philippine Sea
WTO	World Trade Organization
WWII	World War Two



# Chapter 1

## Introduction

**Keywords** Geographers • Geographical topics • Identity • Archipelago

“We, the French, do not know enough about the Philippines. We never had significant relations with the Philippines. The Philippines are a question mark.”<sup>1</sup>

The idea of this book was born from the realization that the Philippines islands are largely unknown to the general public and that academics have neglected them. Rarely mentioned by media except during disasters such as Typhoon Haiyan/Yolanda (Wootton 2015) or episodic political events, such as the recent outbursts of foul language by newly elected president Duterte, the country is largely absent from catalogs and brochures of travel agencies and has also been ignored by many political leaders.

For example, notwithstanding a friendship treaty signed in 1947, the official visit of French Prime Minister Jean-Marc Ayrault in October 2012 was the first one by a French government leader since the Philippines gained independence in 1946. Very few Filipino presidential visits to France have been recorded: Manuel Quezon in 1937, Cory Aquino in 1989, Fidel Ramos in 1994 and Gloria Macapagal Arroyo in 2003 (just for a UNESCO summit). Ferdinand Marcos, in spite of his long time at the helm of the country (21 years), traveled little abroad and never visited France. Most international visits of Filipino presidents since 1935 (establishment of the Commonwealth) have been in neighboring countries and the United States<sup>2</sup>, with Fidel Ramos and Gloria Arroyo accounting for more than half of the trips.

On the American side, despite the importance of the historical ties between the two countries, visits by U.S. presidents in the archipelago have been quite rare. In contrast

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<sup>1</sup>French Ambassador to the Philippines Gilles Garachon on the occasion of the presentation of the collective book prepared under the direction of William Guéraiche (cf. infra), <http://expatphilippines.ph/?p=3481>

<sup>2</sup>47 official or state visits by Filipino presidents to the United States, 27 to Japan, 21 to Indonesia, 16 to Brunei-Darrussalam, 15 each to China, Malaysia and Thailand, 14 to Singapore, 9 to Hong Kong, 8 to Vietnam, 7 to the United Kingdom and Italy, 6 to Mexico, South Korea, Spain and the Vatican, 5 to Australia, Cambodia, Saudi Arabia and Switzerland, as of August 1, 2014 (<http://www.gov.ph/presidential-trips/the-foreign-trips-of-the-presidents/>).

with his stated policy of an “American pivot to Asia”, it took 6 years before Indonesia-raised Barack Obama went to Manila, for barely 24 h.

The Philippines seem to have been of little interest to French geographers. This is not new. In 1974, Jacques Dupuis, reviewing a book in English on the Philippines, stated: “The Philippines is a no-man’s-land of French geography” (Dupuis 1974). Pierre Gourou and Jean Delvert, two well-known French geographers working on Southeast Asia, have written little about the country. In recent years, only Jean-Christophe Gaillard, Catherine Guéguen and the author of these lines have regularly published on the Philippines in academic geographical journals, and the last general work of a French geographer focusing on the Philippines was Raymond Blanadet’s little opus published in 1997 (Blanadet 1997), before the 2016 release of a short French version of the present book (Boquet 2016). Historians, political scientists, anthropologists and sociologists have been somewhat more prolific, as shown in the collective work on contemporary Philippines, published in 2013 under the direction of William Guéraiche (2013), which fills a vacuum but contains too little geography.

Research on the Philippines by non-Francophone geographers also seems relatively limited. The last comprehensive summary works in English on the geography of the Philippines date back to 1963 (Huke 1963), 1967 (Wernstedt 1967) and 1973 (Burley 1973), although other authors have published extensively on the Philippines since then, such as Philip Kelly (York University in Toronto) and Japanese researchers, but none doing a general presentation of the country’s geography encompassing all its major features. Looking at presentations and sessions in various conferences devoted to Asia, and at journals focusing on the Asian world, it is clear that the Philippine archipelago remains largely hidden to foreign geographers. This despite the fact that one can easily work in English, a language known by much of the Filipino population, which makes fieldwork much easier than in China, Japan, Korea, Thailand or Vietnam.

The small number of Filipino geographers (Dwyer et al. 1961; Ulack 1983) (only one geography department for the whole country, located at the University of the Philippines Diliman, in Quezon City) does not allow them to have a substantial presence in forums and conferences, whether at the International Geographical Union (the Republic of the Philippines, like many countries in the region, is not a full member), the AAG (Association of American Geographers), or even the SEAGA (Southeast Asian Geographers Association) conferences which require less financial effort for travel. The *Philippine Geographic Journal* published at UP Diliman, has a very irregular publication pattern and its reach remains confidential: in contrast to many other academic journals in the Philippines, especially those emanating from UP Diliman or Ateneo de Manila, it is not available online.

Therefore, the time seems to have come to provide an updated—even if it will be soon out-of-date—geographical view of a country, the 12th largest in the world for the number of people living in it, that passed the symbolic 100 million inhabitants threshold in 2014 and exhibits many original features in Asia. It has been researched and written during the presidency of Benigno Aquino, and finished just at the onset of Rodrigo Duterte’s presidency, which may soon alter some of the perspectives presented herein.

The Philippines islands are rich in issues of interest for geographers: their archipelagic character, an economic development lagging behind neighboring countries in Southeast Asia, a hard-to-tame Manila megacity, the country's exposure to "natural" hazards, idiosyncratic transportation systems, a slow demographic transition leading to the fast population growth of a youthful country within an increasingly ageing Asia, deforestation and environmental issues (coral reefs, mangroves), over-fishing, regional inequalities, ineffective land reform, a weak tourism attractiveness in comparison to neighboring nations, huge rice imports in a country which is home to a major international center for rice research, internal geopolitics (the question of Mindanao) and external geopolitics (tensions in South China Sea), and the massive migration of Filipino/as to all parts of the world...

Which approach can be used to avoid a mere collection of seemingly disconnected issues, and give some idea of how this country "works"? What are the specificities of the Philippines in comparison to neighboring countries? Perhaps the Philippine identity should be considered as a starting point.

Efforts at building a homogeneous national identity (Kaufman 2013) in the Philippines over the centuries have resulted in an unusual pattern of successes and failures. Spanish missionaries successfully spread Catholicism religion in the northern and central Philippines starting in the sixteenth century, but failed among the Muslims in the south, introducing an enduring religious cleavage within the country. Regional and ethnic identities have remained very strong, even as national pride has increased, maybe due to the initial geographical fragmentation of the country.

I have chosen "The Philippine archipelago" as the title of this book. Geographers like islands and archipelagoes as geographic objects of inquiry. Islands have a flavor of their own (Sevin et al. 2010), and they appear to be easily circumscribed.

Indeed, the location of the country in the Western Pacific, split into multiple islands, gives it a strong maritime dimension, which is a powerful element of its national identity. Climatologists widely use the expression "Maritime Continent" (Ramage 1968) to describe the archipelagic region of South East Asia (Indonesia, Philippines and New Guinea) where large land masses interact strongly with a maritime environment. These archipelagoes are quite different from the collections of tiny islands of the Southern Pacific.

Nowhere in the Philippines is one far away from the sea. The country has no land borders, but only maritime borders. Conflicting claims of several countries, including China, about the Spratly atolls occupied by troops from several countries, put the maritime dimension at the foreground of Philippine geopolitics. Muslim terror groups in Mindanao make good use of the many islets and secluded coves in the Sulu archipelago to transfer and hide their hostages. Tourism promotion has often highlighted the islandness of the country, starting with its most famous resort island, Boracay, just off the coast of Panay, one of the 11 major islands.

On this East Asian rim, Japan and Indonesia share with the Philippines archipelagic configurations related to geophysical structure and tectonic plate boundaries. Luzon and Mindanao, just as Java and Honshu are prone to volcanic eruptions, earthquakes, and tsunamis. The Philippine islands, Taiwan and Japanese islands are on the path of devastating typhoons in the Western Pacific. But as Philippe Pelletier

noted (Pelletier 1997), the archipelagoes of Japan and Indonesia have a singular noun, while the Philippines has a plural noun, which semantically reinforces the idea of fragmentation of the country.

However, these islands are close to each other. On land, the sea is never far away. On the water, land is never far away. The country is one of the most terraqueous in the world. But unlike Japan, there is no bridge or tunnel between the main islands except on a narrow passage between Samar and Leyte, the San Juanico Strait. Inter-island discontinuities persist, as they do in Indonesia. This sometimes results in difficulties and burdens in the supply of fresh produce such as Mindanao fruits shipped to Manila. Logistical bottlenecks due to islandness may prove disastrous, as was shown after in the terrible typhoon of 2013 in Leyte, which was hard-to-reach due to the scattering insularity and devastation at the airport.

Is this island fragmentation slowing down the development of the country, or is it an asset? (Carter 2013) Did it lead to insularisms and social and political clanism on many islands? (Vinzons Chato 2009).

It is not just an archipelago of islands, it is an archipelago of languages too. While the Japanese language unifies the country, the Philippines, despite efforts to promote Filipino based on the Tagalog language spoken in the area around Manila, has not been able to impose it as much as Indonesia did with Bahasa Indonesia based on Javanese. There are as many speakers of Cebuano as Tagalog, about 40 million, and languages such Bikolano, Waray, Ilocano, Kapampangan and others, have not been erased from daily use. Many Filipinos are bilingual in their country (Tagalog and their regional language) and even trilingual, with the English colonial language acting as a neutral unifying language, as well as the language of choice for business and secondary and university education. Despite the obvious difference in size of the two populations (ratio 13–1), this linguistic configuration is not unlike India, where Hindi cannot dominate other languages such as Bengali or Tamil. Indian subcontinent and Philippines archipelago?

Asian or Pacific archipelago? The Philippines is a founding member of ASEAN but the most remote country from its Jakarta headquarters. Within an East Asia split between Buddhism, Islam, Chinese philosophies and communist atheism, the Philippines contrasts singularly as a predominantly Catholic country, the third largest in the world after Brazil and Mexico, even as it faces Muslim irredentism in Mindanao. It was the only Asian country where the population adopted massively the colonizer's religion (Bankoff 2001). The Spanish colonial past of the country would rather make it a... Latin American nation, as suggested by most people's surnames, the cult of the Virgin of Guadalupe or agrarian structures organized around haciendas. But the country is also heavily tinged with North American culture. Its current institutions, politics and academics are copied from those of the United States of America, which had taken the Philippines under its wing in 1898. The Philippine society is now very much Americanized, from basketball to hamburgers, but the country does not seem as central to the interests of the United States as Japan or South Korea are.

The Philippines does not fit well into the historical patterns structuring Southeast Asian states, as they were analyzed by Michel Bruneau (2006): it is neither a "mandala

state” or a “network state”, an agrarian state nor a thalassocracy. It is certainly located in Asia: people eat rice, water buffaloes (carabao) wade through wet rice fields; but coconuts and taro are as important as they are in the islands of the Pacific, with which the Philippines shares the fishing technologies of outrigger canoes.

The Philippines hence appears beyond easy categorization. The country derives its identity from its island-based fragmentation, diversity and uniqueness in relation to its regional environment. It has contributed decisively, alongside neighboring Indonesia, to the introduction in 1955 of the notion of archipelagic waters, which has now entered international maritime law. The delimitation of the Philippine maritime domain has become a major geopolitical issue that will be examined in detail. Colonial trade was marked by the country’s role as a hinge between the Chinese world and the Iberian world of the Americas. A former U.S. colony, the country is torn between American support against the perceived Chinese threat in the “West Philippine Sea” (South China Sea), and mistrust vis-à-vis imperialism and neo-colonialism, while benefiting from the help of the U.S. military in Mindanao. The most numerous visitors are Korean and Japanese, but Australians and North Americans are much more visible. Europeans are not present in great numbers, including Spaniards. Philippine literature shows these hesitations and hybridations permeating society (Lifshey 2012). Such a complex and poorly known archipelago!

The challenge is to identify its most salient geographic features, with inputs from many disciplines and perspectives, as geographers often do: geophysics, climatology, history, demography, medicine, linguistics, anthropology, economics, sociology, agronomy, marine biology, migration studies, political science, architecture, urban and regional planning, geopolitics, tourism studies, risk science and environmental studies.

The book is structured in four sections of roughly equivalent size. First, I will present the background of the Philippines with elements of physical geography, history and population topics. Then I will examine the place of the Philippines in the global economy, before studying in a third section the main patterns of regional organization of the country and its capital area Metro Manila. Finally, the focus will be on some challenges the country must confront: the Muslim question in Mindanao, the conflict with China over islets in the South China Sea, tourism weaknesses and the intermeshed questions of risk management and environmental degradation.

I do not endeavor to make a systematic description of the country, province by province: this kind of approach is outdated, repetitive and finally not very interesting. There are also many areas in the Philippines that I did not visit yet. I prefer to highlight issues and topics which are essential to understanding how the Philippine archipelago functions at various scales, from the hyperactive and congested Metro Manila megacity to quiet Bicol fishing villages, from the majestic rice terraces of Ifugao country in northern Luzon to guerrilla warfare in the jungles of Mindanao, from uncomfortable tricycles to luxurious shopping centers, and from the local sari-sari shops to the global horizons of Filipino expatriated workers. Everything is connected: the colonial past provides clues to the present of this developing nation, demographics and economics are interrelated, politics and rural poverty meet in the

difficulties of agrarian reform, environmental issues impact housing patterns, globalization must also be examined “from below” in local people’s everyday life (Rigg 2007).

This book aims at being a lucid presentation of the Philippines today. I will not try to hide some of the bleak realities facing the country, while having a great sympathy for the daily struggle of “ordinary” Filipinos and Filipinas. To appeal to a broad audience, every effort has been made to avoid jargon and make the book an easy read for students as a regional geography textbook and for the general public as a structured analysis of the country.

In addition to more than fifteen fieldwork, conferencing and teaching trips to the Philippines since 2009, totaling more than a year in time spent in the archipelago, and equipped with the academic training and experiences of a French geographer who has also published on the United States—where I lived (Washington DC, Louisville KY) and taught for many years—and China, I delved into the works of academics from France, the Philippines and the Anglo-Saxon realm through many journal and book publications. Japanese research published in English was also used, and some material in Spanish.

I have spent many hours at the UP Diliman library in Quezon City, looking at material difficult to obtain abroad; however, thanks to Internet, many academic journals are now available through online portals. As the readers will see in the bibliographic references, I used most often journals published at Ateneo de Manila University (*Philippine Studies*, *Kritika Kultura*), UP Diliman (*Kasarinlan Philippine Journal of Third World Studies*, *Philippine Sociological Review*, *Philippine Review of Economics*, *Philippine Geographical Journal*, *Philippine Planning Journal*, *Philippine Law Journal*, *Muhon*, *Hukay...*) and University San Carlos in Cebu (*Philippine Quarterly of Culture and Society*), among many others. The importance of the seas in Philippine life led me to use also many articles published in international journals such as *Coastal Management*, *Ocean & Coastal Management*, *Marine Policy*, *Ocean Development and International Law*. Several government agencies, particularly PIDS (Philippine Institute for Development Studies) have published detailed reports on various aspects of the country, and I used statistics from national agencies and international sources, mostly from the USA or United Nations related.

When in France, a daily browsing of the English language Philippine press online (*Philippine Daily Inquirer*, *Manila Times*, *Manila Standard*, *Daily Tribune*, *Manila Bulletin*, *Philippine Star*, *Philippine Business World*, *Business Mirror*) and alternative news websites (*Rappler*, *Bulatlat*) allowed me to keep abreast of Philippine politics and policies, the development projects for Manila and provinces, among others, but also to glean very insightful comments from editorial columns written by leading academics and architects/planners (Walden Bello, Felino Palafox among them), as well as critical, often lucid, sometimes highly partisan, analyses of the country and its difficulties. I have tried on several occasions (birth control policies, agrarian reform, transport choices, housing policy, risk management, environmental issues) to present the multiple facets of the debates running throughout Philippine society about the future of the country. Any misinterpretation of this rich information material would be mine only.

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**Part I**  
**Land, History and People**



## Chapter 2

# 7107 Islands

**Abstract** The fact that it is made up of 7107 islands defines the character of the Philippines as a terraqueous country where maritime activities, issues and concerns are central to the life of people, most of them having settled on or near the coasts, some even living on water (the Badjao “sea gypsies” of Sulu archipelago). The 7107 number is used as a symbol of the nation. The Philippine archipelago, as part of the “Pacific ring of fire”, shares characteristics with Japan and Indonesia in terms of geological origin and the risks of earthquakes, volcanic eruptions and tsunamis. The chapter gives a summary presentation of the main physiographic features of the country (mountains and plains, lakes and rivers, peninsulas and inter-island seas) and its geophysical origin within the general scheme of plate tectonics. It also includes statistical comparisons with other island or archipelagic countries and raises some questions about the effects of the split of the country between many islands big and small.

**Keywords** Islands • Sea • Volcanoes • Plate tectonics • Coasts

The Philippine archipelago is located between Taiwan and Borneo, about 800 km from the Asian mainland (1100 km from Hong Kong to Manila, 1400 km from Da Nang). It is much more isolated from the Asian landmass than Indonesia or Japan. On the east side lies the immense Pacific Ocean, with the Philippine Sea extending more than 2000 km to the Carolines (Palau, Yap, Ulithi) and the Mariannas (Guam, Saipan, Tinian). On the west side, a hotly contested body of water, the South China Sea (or West Philippine Sea) separates the Philippines from Vietnam and China. The closest foreign land to the Philippines lies to the southwest, with the northern tip of the island of Borneo, in the Malaysian province of Sabah. The sea therefore plays a major role in the life of the Philippines, just as it is also a link between Southeast Asia’s countries (Nguyen 2016).

The complex shape of the islands gives the country an exceptionally long coastline in regard to its overall land size. The genesis of such a spatial configuration is linked to the interaction of three major tectonic plates and four smaller ones. The intertwining of land and sea gives a special importance to coastal areas, in terms of population settlement, urbanization and economic activities. The defining charac-

teristic of this archipelago nation is that it has a far greater sea area under national jurisdictions than land territory. Being an archipelagic country with an extended huge coastline, the Philippines has a big potential in coastline-development projects that could generate a wide variety of economic activities: the Philippines may become a mecca for marine tourism, develop the country's boat-manufacturing industry, and protect its exceptional marine biodiversity for ecotourism.

However, the Philippines is an elongated and fragmented state, whose parts are poorly connected. From the economic, social, and political standpoint, such a shape of the Philippines may be a disadvantage due to the high costs and time required to link together the different elements. The fragmentary nature of the country is a source of the regional (parochial?) thinking of the Filipinos. The existence of many tribal, ethnic and linguistic groups is partly due to the archipelagic character of the nation. In matters of security, the numerous islands and the long coastline make it difficult to defend the country against foreign invasion, smuggling and the prevention of illegal entry of aliens.

The ocean is also the source of typhoons, a major component of Philippine life. The situation of the archipelago in the western part of the Pacific Ocean gives it a humid climate, marked by a seasonal inversion of wind and rain patterns, and the permanent threat of strong storms born from the warmest ocean waters on the planet (Fig. 2.1).

## 2.1 Sea and Land Intertwined: The Terraqueous Character of the Philippines

### 2.1.1 *Islands, Seas and Lakes*

Official Philippine statistics indicate that the country is made up of 7107 islands, with a total land area of 299,000 km<sup>2</sup>, the 64th largest country in the world, a medium-size country roughly of the same dimension as Cuba, Norway, Italy or Vietnam, slightly smaller than Japan. The country stretches about 1850 km from Y'Ami Island (Batanes province), barely 78 miles from Taiwan, in the north, to Sitangkai (Tawi-Tawi province) in the south, only 34 miles from Borneo. It extends from 4°23' N to 21°25' N and is therefore entirely located within the tropical zone.

The exact number of islands has been subject to discussions (Bethge 2008). In 1663, Spanish priest Francisco Colin, in his "Labor Evangelica" (Colin and Chirino 1663) indicates the number of the Philippine Islands to be only 40, obviously disregarding many other smaller islands, that he says "to be impossible to count". According to a map from the 1700s, "The Philippine Isles are computed to be 11000"<sup>1</sup>. The 1913 Catholic Encyclopedia lists 3141 islands

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<sup>1</sup><http://filipinolibrarian.blogspot.fr/2006/07/islands-philippines.html>

of which 1668 are named (Finegan 1913). Today, 2773 islands have a name. In 1949, Erica Grupe Lörcher refers to the “about four thousand smaller and larger islands” of the Philippines (Grupe-Lörcher 1949). Philippine historian Antonio Molina finally puts the number at 7083 in his publication “The Philippines through the Centuries” (Molina 1960). According to historian Ambeth Ocampo (2007), the number “7107” used today comes from a 1939 counting by the Land Survey Office. It is not clear if this number came from a counting on maps or from systematic field visits. Recent publications always use this 7107 number, or a “more than 7000 islands” formulation. According to geographers and the international law of the sea (UNCLOS) convention, islands are defined as “naturally formed lands surrounded by water at high tide and protruding above the water level”. Since many of the islands not named are in fact mostly small coral reefs, would sea-level rise reduce the number of Philippine islands by covering some coral reefs at high tide? A new survey has revealed, on the contrary, that the country may have about 7500 islands (Macaranas 2016), most of the additional ones being in Mindanao.

This 7107 number has become somehow synonymous with the Philippines, since it is widely used by a number of companies, such as *7107 Islands Placement and Promotion* (an overseas job placement agency, [www.my7107.com](http://www.my7107.com)), several restaurants (*7107 Islands* on Boracay Island, *Archipelago 7107* in Ortigas Center, Pasig, *Bistro 7107*, a Filipino Fusion restaurant in Arlington, Virginia, [www.bistro7107.us](http://www.bistro7107.us), *7107 Flavours* in Singapore), some cruise lines (*7107 Island Cruise*, [www.7107islandsmanagement.com](http://www.7107islandsmanagement.com) and *7107 Islands Cruise*, [www.7107islandscruise.net](http://www.7107islandscruise.net)) and several travel agencies (*The 7107 Islands—Discover the Philippines*, <http://www.the7107islands.com>, *7107 Magnificent Islands Tours*, [7107islandstours.com](http://7107islandstours.com), Visit 7101 Islands, [www.visit7107islands.com](http://www.visit7107islands.com), *7107 Islands Tours*, <https://twitter.com/7107islands>, *7107 Adventure Travel & Tour*, <http://fun7000.com>), a travel magazine (*7107 Islands Magazine*) and a music festival (*7107 International Music Festival* in Angeles City, <https://twitter.com/7107imf>), among others.

And there are “7107 reasons to visit the Philippines”, “7107 reasons why the Philippines rock”, “7107 reasons to love Pinas”, “7107 reasons why I love Philippines”, “7107 reasons why we choose Philippines”, “7107 good reasons to retire in the Philippines”, “7107 reasons to be happy”, “7107 reasons to celebrate in the Philippines”, “7107 ways to travel the Philippines”, “7107 ways to enjoy the Philippines” or “7107 ways to celebrate with San Miguel beer”, “7107 Philippine sunsets”, “7107 islands proving it’s more fun the Philippines”, presented on numerous Facebook pages and blogs. It is “7107 times more fun in the Philippines”!

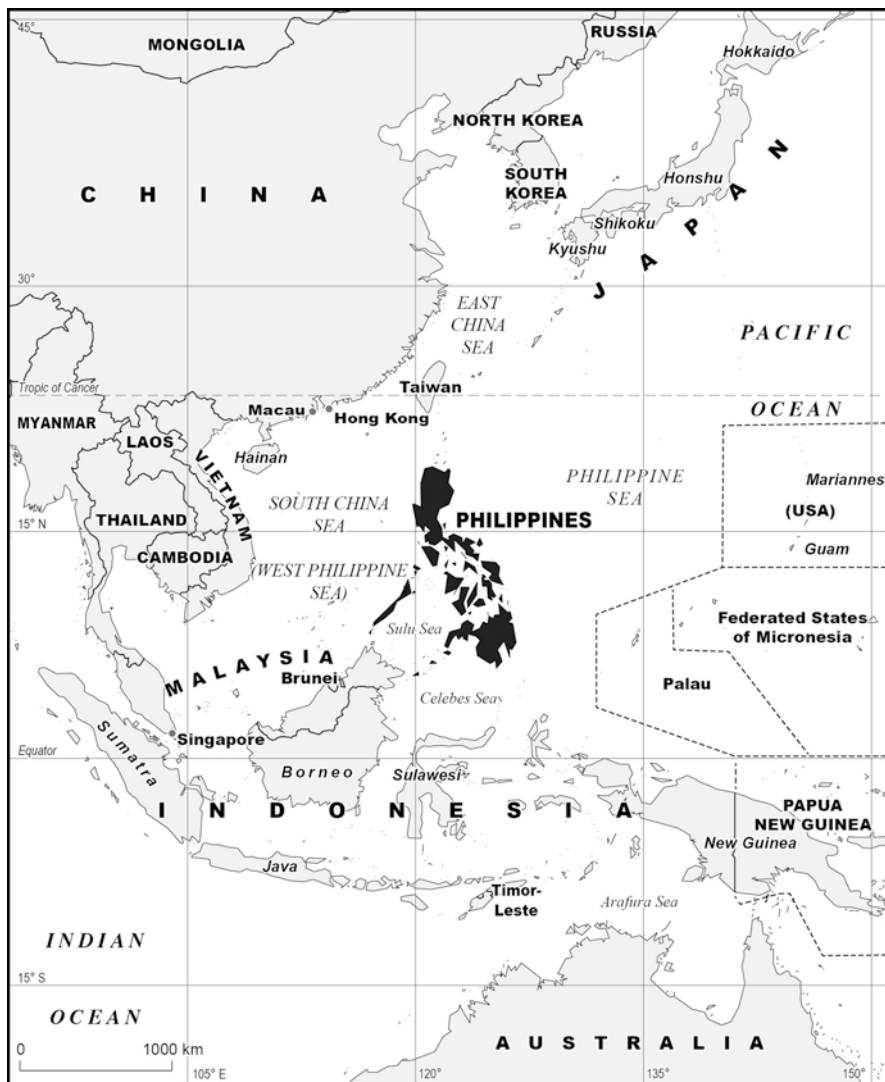


Fig. 2.1 The Philippines in Southeast Asia

7107 islands, but only 11 of them cover 94% of the land area, two of them, Luzon in the north (104.687 km<sup>2</sup>, 35%) and Mindanao in the south (94.630 km<sup>2</sup>, 32.6%), being each larger than the rest of the archipelago, where the central islands, around the central Visayan Sea, are called collectively the Visayas.

Bounded by the islands of Masbate (N), Cebu (SE), Negros (S) and Panay (W), the Visayan Sea covers an approximate area of 10,000 km<sup>2</sup>, comparable to the Sibuyan Sea surrounded by Luzon (N), Mindoro (W), Panay (S) and Masbate (E). These two internal seas together are about the size of Japan's Seto Inland Sea. A third internal sea (20,000 km<sup>2</sup>) is the Mindanao Sea, or Bohol Sea, separating Mindanao

**Table 2.1** The 20 largest Philippine islands in area and resident population

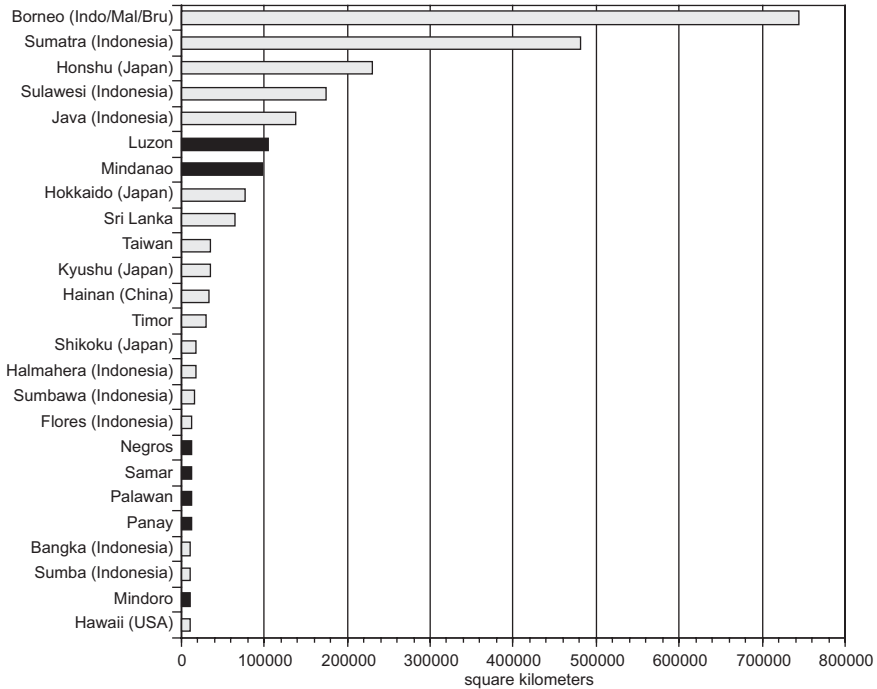
	Area (km <sup>2</sup> )	%	Aggregate %		Population 2010 (millions)		Aggregate %
Luzon	104.688	35.0%	35.0%	Luzon	48,520	52.5%	52.5%
Mindanao	97.530	32.6%	67.6%	Mindanao	20,365	22.1%	74.6%
Negros	13.328	4.4%	72.0%	Negros	4194	4.5%	79.1%
Samar	12.849	4.3%	76.3%	Panay	4031	4.4%	83.5%
Palawan	12.189	4.1%	80.4%	Cebu	3629	3.9%	87.4%
Panay	12.011	4%	84.4%	Leyte	2188	2.4%	89.8%
Mindoro	10.572	3.5%	87.9%	Samar	1751	1.9%	91.7%
Leyte	7368	2.5%	90.4%	Mindoro	1239	1.3%	93.0%
Cebu	4468	1.5%	91.9%	Bohol	1164	1.3%	94.3%
Bohol	3269	1.1%	93.0%	Palawan	0793	0.9%	952%
Masbate	3268	1.1%	94.1%	Masbate	0660	0.7%	95.9%
Catanduanes	1523	0.5%	94.6%	Jolo	0448	0.5%	96.4%
Basilan	1265	0.4%	95.0%	Basilan	0391	0.4%	96.8%
Marinduque	920	0.3%	95.3%	Mactan	0369	0.4%	97.2%
Busuanga	890	0.3%	95.6%	Tawi-Tawi	0366	0.4%	97.6%
Jolo	869	0.3%	95.9%	Marinduque	0228	0.3%	97.9%
Dinagat	769	0.3%	96.2%	Siargao	0200	0.2%	98.1%
Tablas	686	0.2%	96.4%	Guimaras	0163	0.2%	98.3%
Poliillo	629	0.2%	96.6%	Tablas	0158	0.2%	98.5%
Guimaras	605	0.2%	96.8%	Biliran	0155	0.2%	98.7%
PHILIPPINES	299.000		100%	PHILIPPINES	92,337		100%

from the Visayas (Negros, Cebu, Bohol, Leyte). Finally the Sulu Sea (about 420,000 km<sup>2</sup>, more than the entire landmass of the country) is much wider, between Palawan to the west, Mindoro, Panay, Negros to the northeast, Mindanao's Zamboanga peninsula to the southeast, the Sulu archipelago to the south and the northern shores of Malaysian Borneo to the southwest. It is also very deep in places (up to 7000 m). In the center of the Sulu Sea, a few atolls rise from the sea floor depths to within a few meters of the surface, such as the Tubbataha Reefs, a World Heritage site.

Only 154 islands are larger than 13 km<sup>2</sup> (5 sq. miles) and about 500 over 1 km<sup>2</sup>. 5000 to 6000 have no permanent population<sup>2</sup>. The 20 largest islands make up 96.8% of the territory and the 20 most populated islands (a slightly different set) are home to 98.7% of the population (see Table 2.1).

This 7107 islands number (1768 of them for Palawan province alone) projects an image of extreme fragmentation. It also has some implications for service to the smallest inhabited islands, but in fact most of the population (95.9%) live on the 11 large islands of the country, and the archipelago resembles more Japan than Indonesia, whose West-to-East dimension is larger than the United States.

<sup>2</sup>The exact number of inhabited islands fluctuates widely, from 800 to 2000, while about 2500 islets are unnamed.



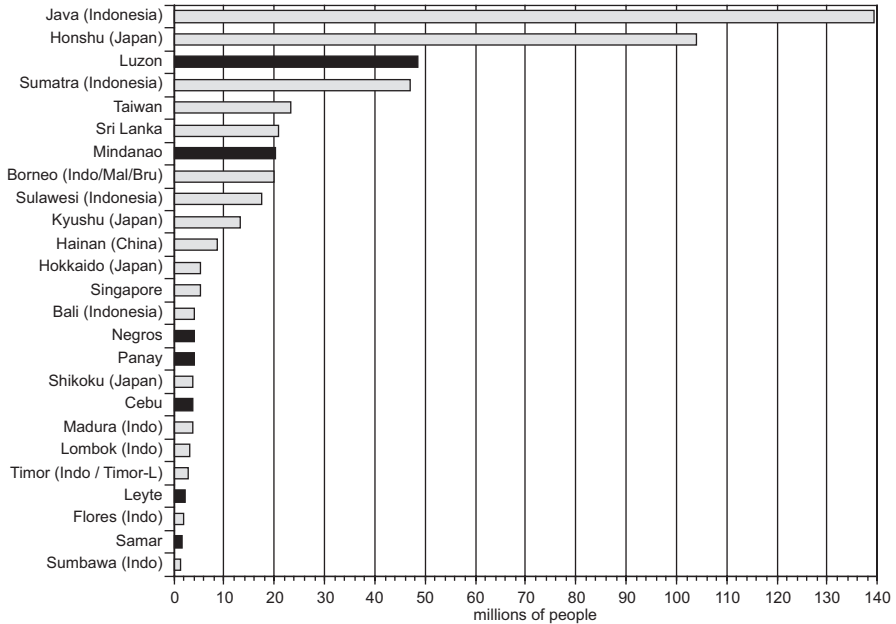
**Fig. 2.2** Philippine islands among major Asia-Pacific islands

How do these Philippine islands compare to other islands in Asia and the Pacific? In terms of size, they are much smaller than their Indonesian counterparts. Four islands in Indonesia are much larger than Luzon: Borneo (7.1 times larger), Sumatra (4.6 times), Sulawesi (1.7 times) and Java (1.3 times). Negros, the third largest island in the Philippines, is slightly smaller than Flores, the 7th Indonesian island. In Japan, Honshu is 2.2 times the size of Luzon, however Mindanao is larger than Hokkaido, but Kyushu and Shikoku bigger than Negros. Japan has four large islands, and many tiny ones (Okinawa, the 5th one, is smaller than Basilan, ranked 13th, Awaji, the 6th one, is barely the size of Guimaras, 20th in the Philippines) (Fig. 2.2).

In terms of population, Luzon appears small compared to Java (139 million) and Honshu (104 million), and its population (48.5 million) is about the same as Sumatra (47 million). However, it has more than twice the population of Taiwan (23.2 million) or Sri Lanka (20.9 million). Luzon is much less dominant in the population of the Philippines (52.5%) than Java within Indonesia (57.5%) and Honshu in Japan (81.3%).

The Philippines' second island is relatively more populated than in the other countries (Mindanao 22.1% vs. Sumatra 19.3% and Kyushu 10.3%); Negros (4.5%) slightly more than Hokkaido (4.3%) but less than Sulawesi (7.1%); Panay (4.4%) more than Shikoku (3.1%) but less than Kalimantan-Borneo (5.7%) (Fig. 2.3).

There are sharp contrasts in population densities. If Java and the adjacent islands of Madura and Bali are well known for their concentration of population (respectively



**Fig. 2.3** The population of Philippine islands in comparison to other Asian islands

1004, 888 and 730 people/km<sup>2</sup>), the same high densities are observed in Cebu (812 people/km<sup>2</sup>). Luzon and Honshu are comparable (463 and 451 people/km<sup>2</sup>). Many islands in the Visayas have densities around 300 (Bohol 356, Panay 336, Negros 315, Leyte 297). Mindanao and Masbate are at the 200 mark (209 and 202), but Mindoro is only at 117 (Sulawesi 99, Sumatra 98), and Palawan, at 65 people/km<sup>2</sup>, has a lower density than Hokkaido (70), but still much higher than Borneo (27) or Halmahera (25).

The challenge of the Philippines may not be to tame the huge size of its territory like Indonesia, but rather the harmonious development of many medium-size, well populated, islands.

The archipelagic nature of the country is reinforced by the lack of fixed links and the fact that many areas are mountainous and difficult to access, with few roads and steep slopes despite the moderate altitudes, since there is no point above 3000 m in the Philippines.

The country’s rivers are rather short, due to the lack of any major fluvial basin. Only four run for more than 200 km. They are the Cagayan River in northern Luzon (505 km for a watershed of barely 27,000 km<sup>2</sup>), the Rio Grande de Mindanao (373 km), the Agusan River, also in Mindanao (350 km) and the Pampanga River in the central plains of Luzon (260 km). This limits the possibilities for major hydro-electric dams, despite the abundance of rain and the steep slopes observed in many parts of the country.

However, one of the largest Asian lakes<sup>3</sup> is located close to Manila. Laguna de Bay, which has a complex volcanic origin and used to be linked to the ocean (Viales 2013), has an area of 930 km<sup>2</sup>, the second largest plain lake in Southeast Asia after Cambodia's Tonle Sap (2700 km<sup>2</sup>). Not far from Manila and Laguna de Bay, Lake Taal, the 3rd largest in the Philippines after Lake Lanao (Rabor 1971) in Mindanao (340 km<sup>2</sup>), is a caldera lake (area 234 km<sup>2</sup>, altitude 5 m, with an active volcano in its middle), second only to Lake Toba in Sumatra (1130 km<sup>2</sup>, altitude 905 m). It is noted for having the only island of the world located in a lake on an island in a lake on an island (Vulcan point in Crater Lake on Volcano Island in Taal Lake on Luzon) (Ramos 2002). Taal Lake was formed by a series of catastrophic caldera-forming eruptions that created parts of Laguna de Bay and the smaller scale eruptions that formed the cones and volcanic peaks in the area. Taal Lake also presents biological oddities. It was once a salt-water bay; after it was separated from the sea, it turned fresh gradually, allowing a number of oceanic species time to adjust to freshwater conditions. Taal thus supports freshwater sardines as well as a freshwater sea snake. It once had bull sharks, but they were exterminated by local fishermen in the 1930s.

### 2.1.2 *Shorelines*

Shorelines of the Philippines are tortuous, with many peninsulas and bays, giving the country a very irregular shape. Drawing the Philippines by memory and by hand is quite a challenge!

The length of Luzon is about 1000 km and its width between 120 and 160 km, narrowing down to barely 13 km in Quezon province, at the mountainous Tayabas isthmus separating central Luzon and the Tagalog-speaking area from the long Bicol southeastern peninsula. Lingayen Gulf and the smaller Subic Bay indent Luzon's northwestern coast. Further south is Manila Bay, which is separated from the open sea by the Bataan Peninsula. Tayabas Bay and Ragay Gulf surround the Bondoc Peninsula of Luzon's southern coastline. Southeastern Luzon's Bicol peninsula has San Miguel Bay, Lagonoy Gulf and Albay Gulf on its eastern side, and Sorsogon Bay on the southwest. It ends in the Sorsogon Peninsula.

Mindanao's is also characterized by a number of sizable gulfs, bays and peninsulas. Its northernmost point is the Surigao Peninsula, with Butuan Bay to its west. Iligan Bay is extended inland from Ozamiz by a deep indentation, Panguil Bay, creating a narrow isthmus that connects the Zamboanga Peninsula to the rest of Mindanao. Sibuguey and Baganian Peninsulas protrude from the south coast of the Zamboanga Peninsula on Moro Gulf, with Pagadian Bay on the south of the isthmus and Illana Bay continuing the southwest coast. Sarangani Bay indents the coast near its southernmost part, Tinaca Point. North of that point is Davao Gulf, defined by Cape San Agustin.

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<sup>3</sup>Lakes in the Philippines have not been the object of much study except for the mentioned ones (Brillo 2015).



In the Visayan Islands there are two large bays: Leyte Gulf, located south of Samar and east of Leyte. A peninsula leading towards Boracay Island protrudes in the northwestern part of Panay Island. Guian peninsula is a clearly delineated extension of Samar.

A number of smaller islands create further separations within water bodies. Northeast of the narrowest point of Luzon, the elongated Alabat Island separates Lamon Bay from Calauag Bay. In northern Leyte, Biliran Island creates a Biliran strait. The narrow San Juanico strait between Samar and Leyte appears as a little Bosphorus or Dardanelles, so is, on a smaller scale, the Gaboc Channel between Nonoc Island and the southern part of Dinagat Island. The Mactan Channel separates Lapu-Lapu, where the airport is located, from Cebu City on “mainland” Cebu.

The result is that the overall length of the coastline<sup>4</sup> is comparable to the length of the Russian coastline (36.289 km vs. 37.653)! In fact, the Philippines have the 5th longest shoreline in the world, much longer than in bigger countries such as

**Table 2.2** Longest coastlines and highest coastline/land area ratios

	Length of coastline (km)		Coastline/land area ratio (meters of coastline per km <sup>2</sup> )
Canada	202.080	Denmark	172.36
Indonesia	54.716	<b>PHILIPPINES</b>	121.71
Greenland	44.087	Greece	104.68
Russia	37.653	Croatia	104.34
<b>PHILIPPINES</b>	36.289	Jamaica	94.36
Japan	29.751	Estonia	89.51
Australia	25.760	Norway	82.65
Norway	25.148	Japan	81.62
U.S.A.	19.924	Cyprus	70.12
Antarctica	17.968	Haiti	64.26
New Zealand	15.134	Fiji Islands	61.78
China	14.500	New Zealand	56.53
Greece	13.676	United Kingdom	51.37
United Kingdom	12.429	Iceland	49.58
Mexico	9.330	Qatar	48.59
Italy	7.600	Taiwan	48.55
Brazil	7.491	Timor-Leste	47.47
Turkey	7.200	Cuba	34.01
India	7.000	Panama	33.49
Chile	6.435	Indonesia	30.20

Source: <http://world.bymap.org/Coastlines.html> (CIA World Factbook data)

<sup>4</sup>Available data vary greatly due to the fractal nature of coastlines and the choices made to include—or not—major features such as fjords in the data (Mandelbrot 1983). If we include fjords, the length of the Norwegian coastline jumps from 25.148 km to 53.199 and the Chilean coastline from 6435 km to 78563. We will refer here to the most widely used data, drawn from the CIA World Factbook.

Australia, the United States, China or Brazil. When it is compared to the area of the country, the Philippines have the second longest ratio of coastline to land of any country of the world with more than 500 km of coastlines<sup>5</sup>. No point in the Philippines is located more than 120 km from the sea (Table 2.2).

The Philippines' diverse coastal zone consists of a variety of tropical ecosystems, including sandy beaches, rocky headlands, sand dunes, coral reefs, mangroves, sea-grass beds, wetlands, estuaries, and lagoons.

Many islands means also many sea passages between these islands. The current number of islands reflects a recent rise in sea levels, which tends both to diminish their number, by keeping permanently underwater some very low-lying coral reefs, but also to increase their number, in the cases a low altitude isthmus may be submerged and make two islands out of just one! Past reconstitutions of the physiognomy of the archipelago (Voris 2000; Robles 2013) indicate that the current major islands were not always separated one from another. It is well known that during the periods of lower sea levels associated with high latitude glaciations, the large Indonesian islands of Borneo, Sumatra, and Java were all connected to the Asian mainland, forming a landmass called "Sunda". Similarly, the Strait of Torres did not exist between Australia and Papua New Guinea, which were connected to form "Sahul". In the Philippines, which were for the most part separated from the Asian continent, Sunda and Sahul, the same interplay of sea level and islands has changed over time the linkages and separations. Throughout the Quaternary, land/sea distribution in the Philippine archipelago has fluctuated with the changes in the levels of seas and oceans.

At the Last Glacial Maximum value of  $-120$  m for the sea level compared to today's level, the Philippines were much larger than they are now: 488,000 km<sup>2</sup> vs. 299,000. At that time, there was a greater Palawan including Culion, Busuanga, Balabac and Dumarán and other smaller islands. Jolo and Tawi-Tawi were just one. Cebu, Guimaras, Masbate, Negros and Panay were not separated, forming a large island of 56,000 km<sup>2</sup>. Luzon was one island including the eastern Visayas (Leyte, Samar) as well as Bohol, Marinduque, Catanduanes, Polillo. However, some islands remained separate from others, even as the sea level was lowered by 200 m: Camiguin, Siquijor, Sibuyan, Tablas and Mindoro. This affected the sea crossing potential and migration routes for humans, animals and plants.

Rivers extending into now submerged maritime areas were merging, such as the Pampanga River and the Pasig River in what is now Manila Bay. The biogeographical zonation of the Philippine islands was mostly shaped by land exposures and connections during the glacial periods (Heaney 1985; Heaney et al. 1998).

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<sup>5</sup>The calculated ratio is much higher, and loses much of its significance, for countries and territories mostly made up of multiple tiny atolls, such as Micronesia (aptly named "tiny islands", ratio of 8706!), the Bahamas (354) or French Polynesia (659).

**Table 2.3** Largest EEZ in the world and coral reefs' share of world total

	EEZ area (km <sup>2</sup> )	Country area (km <sup>2</sup> )	EEZ/country	Share of world's coral reefs
United States (total)	11.351.000	9.600.000	118%	1.3%
France (total)	11.035.000	675.000	1635%	5.0%
Russia	8.095.881	17.098.242	47%	–
Australia	6.362.934	7.692.024	83%	17.2%
Indonesia	6.079.377	1.904.569	319%	17.9%
Canada	6.006.154	9.985.000	60%	–
<i>French Polynesia</i>	4.767.242	4167	114404%	2.5%
New Zealand	3.423.231	268.021	1277%	0.5%
Mexico	3.269.386	1.972.550	166%	0.9%
Brazil	3.179.693	8.515.767	37%	0.4%
Japan with outer islands	2.625.750	377.944	695%	1.0%
Papua New Guinea	2.396.214	462.840	518%	5.8%
Mainland China	2.285.872	9596961	24%	3.8%
<b>PHILIPPINES</b>	<b>2.265.684</b>	<b>298.170</b>	<b>759%</b>	<b>8.8%</b>
<i>Greenland (Denmark)</i>	2.184.254	2.166.086	101%	–
Chile	2.009.299	756.096	265%	–

Sources: Sea Around Us Project (<http://www.searoundus.org/eez/>), World Atlas of Coral Reefs (United Nations Environment Programme World Conservation Monitoring Centre, [http://coral.unep.ch/Coral\\_Reefs\\_files/reef%20area%20by%20country%20.jpg](http://coral.unep.ch/Coral_Reefs_files/reef%20area%20by%20country%20.jpg))

### 2.1.3 Philippine Seas and EEZ

The EEZ of the Philippines, as the coastline length, compares favorably to other countries when measured in relation to the landmass of the country. The sea area theoretically under Philippine jurisdiction is eight times larger than the islands themselves, giving the archipelago the 13th place in the world. This EEZ includes, as in Indonesia, archipelagic waters between the islands (Table 2.3).

The Philippine archipelago is one of the three pillars of the “Coral Triangle” (Hoegh-Guldberg et al. 2008). With an estimated 25.000 km<sup>2</sup> of coral reefs within its EEZ, it ranks third in the world (8.8% of the total) behind Indonesia (17.9%) and Australia (17.2%), ahead of France (mostly Polynesia), Papua New Guinea and Fiji. These coral reefs represent, alongside the mangroves (19th in the world) (FAO 2007), a major marine biodiversity hotspot while also being very appealing for tourists (diving activities). However, the Philippine coral reefs appear today to be in a poor shape, possibly the most endangered of all major coral zones in the world, due to global warming combined with over-exploitation of the resources (Bryant et al. 1998; Burke et al. 2011; Alave 2012).

## 2.2 Mountainous Islands from the Ring of Fire

### 2.2.1 *Physiography of the Philippines*

The topography of the Philippines is quite diverse. Most of the major Philippine Islands are of volcanic origin. The country is therefore very mountainous. About 49% of the country is made up of slopes 18% or steeper (Espiritu et al. 2010), which makes large regions unsuitable for agriculture unless terraces are built, creates difficulties for circulation and heightens the risk of landslides.

The northern part of Luzon Island is extremely rugged. Luzon's highest peak, Mount Pulag, rises to 2934 m (9626 ft). The island has three mountain ranges that run roughly parallel in a north-south direction (Fig. 2.4).

The Sierra Madre runs so close to the island's eastern shore that there is hardly any coastal plain. The wide Cagayan River valley separates this eastern range from the Cordillera Central. On the west, the Zambales Mountains (Mt Tapulao 2037 m, Mt Pinatubo 1486 m today but 1745 m before its 1991 eruption) extend southward to Manila Bay. The central plain of Luzon (Pangasinan /Nueva Ecija/Tarlac / Pampanga / Bulacan provinces north of Manila, continuing south of the capital), mostly agricultural (64% in Pampanga), is in sharp contrast with the adjacent high mountains areas of the central and east Cordilleras and the Zambales mountains. Southeastern Luzon's Bicol peninsula is a mountainous and volcanic area containing the most active Philippine volcano, Mount Mayon (2420 m), a perfect cone rising above the plain like Mt Fuji in Japan. Legazpi City (Albay) and Fuefuki City (Yamanashi Prefecture) have developed a sisterhood accord for their respective volcanoes, Mayon and Fuji (Nuñez 2016).

Mindanao has five major mountain systems, some of which were formed by volcanic activity. The eastern edge of Mindanao is highly mountainous; this region includes the Diuata Mountains, with several elevations above 1800 m and the southeastern ranges, which reach a high point of 2800 m. In central Mindanao, a broad mass of rugged mountain ranges bisects the island from north to south. It includes Mt Apo (2954 m), the highest peak in the country, which overlooks Davao Gulf. In the eastern part of Mindanao, the Agusan River Valley lies between two mountain ranges. To the southwest of those ridges, several rivers meet in the Cotabato Basin and mountain peaks lead to the Bukidnon-Lanao Plateau. Further west, the island narrows to a fifteen-kilometer wide isthmus, from which the long Zamboanga Peninsula protrudes to the southwest. This peninsula is covered largely with mountains and possesses limited coastal lowlands.

Mindoro Island is mostly mountainous, rising above 2400 m, with narrow coastal lowlands to the east and northeast of the mountain zone.

In the Visayas, if Samar is a rather low-lying island, Leyte, Bohol, Cebu and Negros, as well as Palawan, show strong altitudinal contrasts, with mountain ridges separated by elongated valleys of tectonic origin (horst/graben combinations) or falling into the sea with basically no coastal plain (Cebu). Volcanoes have built the top peaks in Negros (Mt Canlaon or Kanlaon, 2465 m), while an interesting tropical karst (Teves 1954) has developed in Bohol, the tourist-drawing "Chocolate Hills".

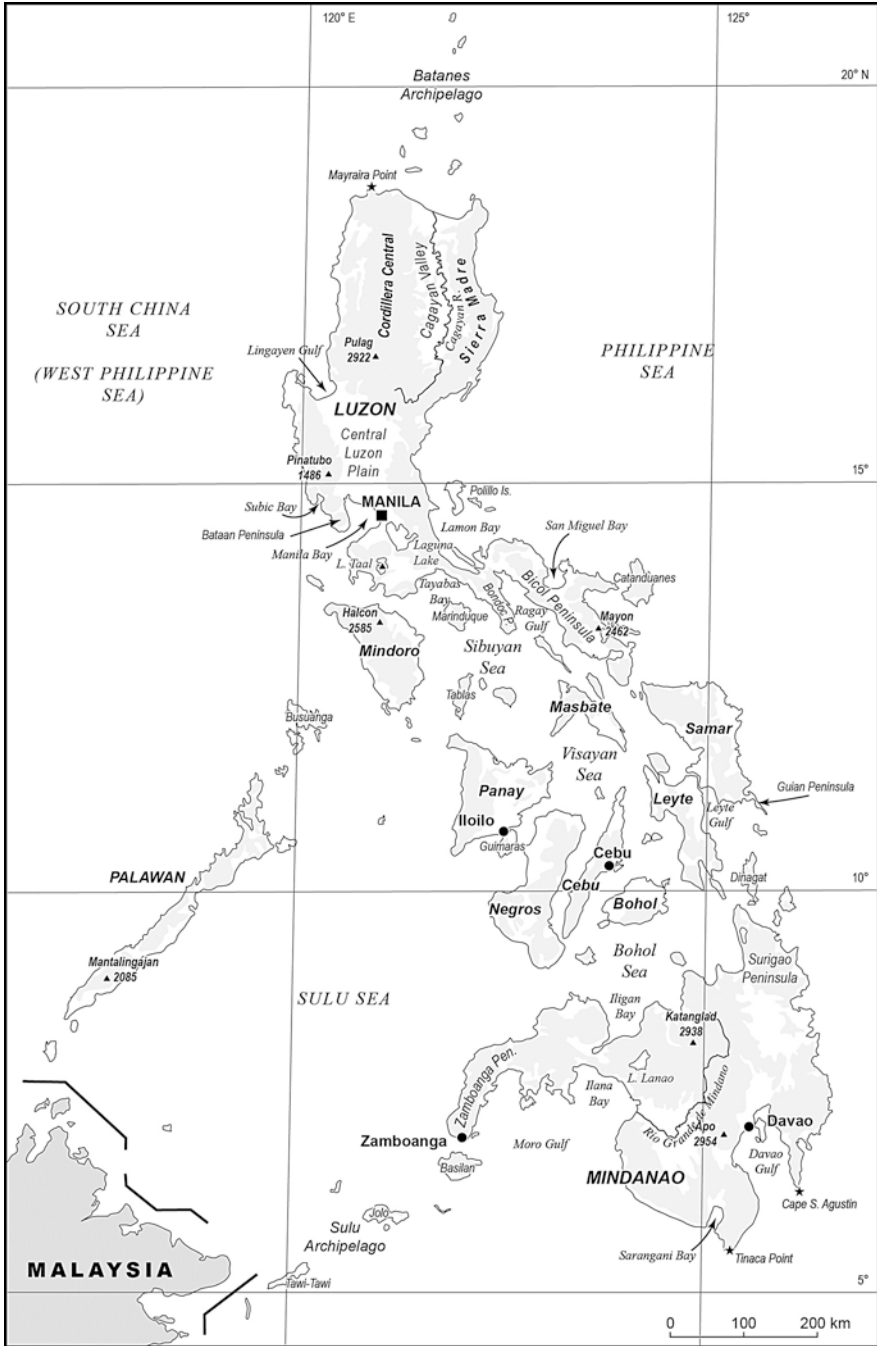


Fig. 2.4 Principal features of the physiography of the Philippines

Some of the mountains have acquired some spiritual value as sites of connection with God or gods, such as Mt Makiling in Laguna province and Mt Banahaw on the Laguna-Quezon border. Hot springs gave birth to a flourishing spa and resort industry (Calamba-Los Baños area near Mt Makiling, Laguna, and Mt Bulusan in the Sorsogon province of southeastern Luzon).

Several mountain sites are rich in minerals: gold (Paracale in Camarines Norte, Mt Diwalawal in Compostela Valley, Mindanao), copper (Zambales province, Rapu-Rapu in Albay, Mankayat in the Igorot country of northern Luzon,...), iron (Camarines Norte, Bulacan, Marinduque, Samar, Surigao), nickel (Nonoc island near Mindanao), marble (Romblon, Palawan, Cebu) and coal (Sorsogon, Cebu, Masbate).

### 2.2.2 *The Complex Origin of the Philippine Archipelago*

The birth of the Philippine archipelago, in the midst of the West Pacific Region, is the result of a complex series of geological events (Aurelio 2000a, b; Aurelio et al. 2012) that have involved continental rifting, oceanic spreading, subduction, ophiolite obduction, arc-continent collision, intra-arc basin formation and strike-slip faulting (Lallemand et al. 2001; Yumul et al. 2003a, b). As part of the western-Pacific “Ring of Fire,” the Philippine archipelago contains thirty-seven volcanoes, of which eighteen are active.

Located at the juncture of the large India-Australia plate, Eurasia Plate and Pacific Plate, the West Pacific Region is currently the region of the world with the most active and complex tectonic activities (Acharya and Aggarwal 1980). Since late Mesozoic, a northward movement of the India-Australia Plate has resulted in collision/subduction with the Eurasia Plate, as well as the westward subduction of the Pacific Plate under the Eurasia Plate. This has resulted in the formation of a series of volcanic activity zones, in Pacific Siberia, Japan, the Ryukyu, the Philippines, Indonesia, the Mariannas and New Zealand, among others, and the opening of marginal seas with young oceanic lithosphere (Xu et al. 2014). Several micro-plates are getting squeezed between convergent plate margins. These oceanic lithospheres, whose limits are still revisited by researchers (Lagmay and Tejada 2009), formed at different times and opened through different mechanisms (Hall et al. 1995; Aurelio 2000a, b). The Philippine Sea plate, proposed as a distinct plate at the early stage of plate motion theory, plays a special role in the tectonic history of the western Pacific and eastern Eurasian continent and represents a challenge for geophysicists, because its motion relative to the surrounding plates is difficult to determine since its limits consist primarily of subduction zones rather than accreting boundaries.

The plate under the Philippine Sea (Fang et al. 2011) subducts under the Eurasia Plate at the Ryukyu Trench to the northwest and along the 100 km long west-dipping East Luzon Trough—Philippine Trench System to the Southwest. At the “Galathea Depth” (−10,540 m), this Philippine trench (or Mindanao trench, extending towards Halmahera in Indonesia) is the third deepest in the world after “Challenger Deep” in the Mariana trench near Guam (−11,033 m) and “Horizon Deep” in the Tonga trench (−10,880 m).

The Sunda/Sulu Sea micro-plate subducts along the east-dipping Negros Trench, the South China Sea subducts along the 1200 km east-dipping Manila Trench beneath Luzon (Hayes and Lewis 1984) and the Celebes Sea subducts along the east-dipping Cotabato Trench in western Mindanao.

Two tectono-stratigraphic blocks underlying the Philippine islands have been identified: PCB and PMB. The Palawan–Mindoro Continental Block (PCB) was originally a part of the Asian mainland that was rifted away during the Mesozoic and drifted in the course of the opening of the South China Sea (SCS) during Late Paleogene. The Philippine Mobile Belt (PMB) (Rangin 1991a, b) has developed mainly from island arcs and ophiolite terranes that started to form during the Cretaceous. Since the Miocene, the PMB has been colliding with the PCB in the Visayas in the central-western Philippines.

This PCB/PMB collision has significantly influenced the geological evolution of the Philippines through space and time, resulting into the collage of terranes of varying origin exposed in the central Philippines (Yumul et al. 2008) and the counterclockwise rotation of Mindoro–Marinduque and the clockwise rotation of Panay, northeastern Negros, Cebu, northwestern Masbate and Bohol (collectively called the Western Visayan block), resulting into their present-day northeast–southwest trend (Yumul et al. 2003a, b). The collision boundary is located from the northern part of Mindoro through the central mountain range swinging east of Sibuyan Island in the Romblon Island Group and finally threading along the Buruanga Peninsula and eastern side of the Antique Ophiolite Complex in Northwest Panay (Zamoras et al. 2008; Yumul et al. 2013) before exiting and connecting with the Negros Trench (Yumul et al. 2009).

The north–south-trending Philippines archipelago is composed of several rigid rotating crustal blocks (platelets), hence the high number of earthquakes and the complex geology (Rangin 2015). Basement rocks, originated from mainland Asia before the rifting and eventual opening of the South China Sea between 32 and 17 Ma, are found in Palawan, Mindoro, western Panay and the Romblon Islands group (Romblon, Sibuyan, Tablas). They include clastic, carbonate and igneous rocks. Karstic (Wagner 2013) seaside formations and grottoes are tourist attractions in two areas of Palawan: El Nido and near Puerto Princesa (Underground River) (de Vivo et al. 2009), as well as in Bohol (“Chocolate Hills”, a typical cone karst) (Urich et al. 2001; Waltham 2008; Salomon 2011). The Sagada caves (Mouret et al. 1984) in the mountains of North Luzon are also karstic. Ophiolite and ophiolitic basement rocks are widely distributed in the Philippines. They originated from several oceanic rifts, in at least five episodes of oceanic crust generation since the Jurassic period (Encarnacion 2004). Likewise, arc basement rocks can be found throughout the archipelago, particularly in the magmatic arcs of the Cordillera and Sierra Madre Range in Luzon Island, the Antique Range and Negros Arc in the Visayas, and in the East Pacific Cordillera and Daguma Range in Mindanao. Philvolcs (the Philippine Institute of Volcanology and Seismology) is currently listing 22 active volcanoes in the Philippine Mobile Belt. Volcanic activity and igneous intrusions have been active since Cretaceous. Most of these arc sequences are related to subduction events.

The Philippines islands have therefore long been recognized as a natural laboratory for studying biodiversity and biogeographic limits, transitions and fine local

scale endemisms (Jones and Kennedy 2008; Vallejo 2011). The archipelago is somewhat of an oddity, having fauna and flora features from all major biogeographic provinces of the western Pacific, Melanesia, Wallacea and Sundaland. However, the island of Palawan and its satellites have more affinities with Sundaland (all Indonesian islands west of Lombok, including Borneo and Malaysia), whereas the rest of the Philippines are more Wallacean (Indonesian islands east of Bali, including Sulawesi) in flora and fauna (Persoon and Van Weerd 2006).

The Philippines is also a laboratory for the study of arc evolution and continent growth (Angelier 1984; Florendo 1994). A number of authors have developed the paradigm, though not universally accepted, that the Philippines is a collage of exotic terranes assembled by accretion, convergence and wrench tectonics (Karig 1983). There is strong evidence that the Philippines are in the process of becoming a part of the continental margin of Southeast Asia. As the subduction of South China Sea and Sulu Sea lithosphere continues, the Philippines, as well as Taiwan, will be completely accreted to Asia and constitute new continental crust (Dilek and Harris 2004).

Tectonic deformations are therefore very complex in the Philippines (Yoshida et al. 2016) and create a permanent risk of violent volcanic eruptions and major earthquakes with a potential for powerful tsunamis all over the archipelago.

There are 23 volcanoes currently active in the archipelago (Ozawa et al. 2004; de la Cruz 2015a): Mt Mayon has erupted 48 times since its first recorded eruption in 1616, the second most active volcano is Taal Volcano in Batangas province (33 recorded eruptions, including a cataclysmic one in 1754) (Moore et al. 1966; Ranada 2015c). The next most active volcanoes are Mount Kanlaon on Negros island with 27 recorded eruptions (Espina 2015; Corrales 2016) and Mt Bulusan in Sorsogon (17 eruptions since 1852) (de la Cruz 2015b, 2016; Ranada 2015a). These volcanoes may be tricky to predict since they can produce phreatic eruptions, ash eruptions, lava flows or deadly explosions and pyroclastic flows with major caldera collapses (Fontijn and Newhall 2013). Sometimes they emit toxic ashes than can be deadly for the visitors and residents nearby. The 1814 eruption of Mt Mayon killed 1200 people, and 350 more died in 1897 (Olan 2015). Taal and Mayon have the potential to erupt again with great force. The proximity of Metro Manila and its dynamic southern periphery (Cavite, Batangas and Laguna provinces) is quite worrisome in case of a major Taal eruption (Torres et al. 1995; Bartel et al. 2003; Alanis et al. 2013; Galgana et al. 2014; Ranada 2015d).

The 1991 eruption of Mt Pinatubo (Wolfe 1992; de la Cruz 2015c) is considered as the most powerful volcanic event of the twentieth century. For months and years after the volcano blew off its top and released huge amounts of pyroclastic flows that buried parts of Pampanga and Zambales provinces, including the US-controlled military bases of Clark and Subic Bay and a now famous church in Bacolor, the remaining ashes on its sloped are still threatening to trigger more lahars (Tayag and Punongbayan 1994; Newhall and Punongbayan 1995; Bardintzeff 1999; Crittenden and Rodolfo 2003; Orejas 2015). Pinatubo's lahar flows (Umbal 1997; Van Westen and Daag 2005; Carranza and Castro 2006) and their consequences on local residents, especially the Aeta aborigine population (Rodolfo 1995; Seitz 1998; Leone and Gaillard 1999; Gaillard and Leone 2000; Crittenden 2001; Gaillard 2002, 2006a, b, 2008; Gaillard et al. 2005; Gaillard and Le Masson 2007) have been



abundantly studied, due to the magnitude of the 1991 eruption, but lahar flows have also affected other Philippine volcanoes such as Mt Mayon. (Rodolfo 1989; Arguden and Rodolfo 1990; Rodolfo and Arguden 1991) on the days after the eruption but also in times of heavy rainfall (Paguican et al. 2009).

Earthquakes of damaging intensity have occurred all over the archipelago, except in Palawan, which is geologically different from most of the country, since it is part of the more stable Sunda plate. Fault lines of a generally meridian direction have been identified (Molas and Yamazaki 1994) including in the Manila metropolitan area, with the Marikina river running alongside the “West Valley” fault line (Rimando and Knuepfer 2006). Detailed maps have been drawn distributed to local officials for a better assessment of risk. (Pazzibugan 2015; Ranada 2015b). Strong earthquakes have occurred recently in Bohol (magnitude 7.2 in 2013), and geophysicists agree that a catastrophic earthquake of a magnitude much greater than 8 is expected soon in the Philippine archipelago (Galgana et al. 2007; Yu et al. 2013; Diola 2014), as they have happened in Indonesia and Japan. Past earthquakes already reached that level (possibly 8.6 and 8.7 in 1897 in Basilan, 8.3 in 1948 in Aklan, 8.3 in 1924 in Davao oriental and four others above 8...) (Bautista and Oike 2000; Bautista and Bautista 2004; Romulo et al. 2015). Such a “big one” would create havoc if it happens in Metro Manila (Miura et al. 2008), already hit by an estimated 8.0 tremor in Las Piñas in 1645 when the area was thinly settled (Solidum 2014).

Major earthquakes have the potential to trigger tsunamis (Nakamura 1978). The most devastating tsunami in the history of the Philippines (Lovholt et al. 2012; Suppasri et al. 2012) hit the Moro Gulf region in August 1976, after a magnitude 8.0 earthquake centered in Cotabato, and killed around 8000 people (Badillo 1978; de la Cruz 2015d). Another one hit the northern coast of Mindoro in November 1994 after a 7.0 magnitude quake (Imamura 1995), killing 71 people, and one in Bohol in 1990 with 41 casualties (Besana-Ostman et al. 2011). Manila Bay and Metro Manila could suffer immensely from a tsunami generated by an earthquake alongside the Manila Trench thrust fault in the South China Sea (which could also devastate the coastlines of Vietnam and southern China) (Megawati et al. 2009; Okal et al. 2011; Nguyen et al. 2014).

This tectonic activity is a factor in the high frequency of landslides (Lagmay et al. 2006), alongside abundant rainfall (see Chap. 3) and excessive deforestation. It explains the complexity of the islands contours, the exceptional length of their shoreline and the extreme terraqueousness of the country.

## 2.3 The High Level of Maritimity of the Archipelago

### 2.3.1 Coastal Population

67 of the 81 Philippine provinces have a seashore. Only Luzon and Mindanao, the two largest islands, have inland provinces (11 in Luzon, mostly north of Manila, the lone exception being Laguna province, named for the largest lake in the country, Laguna de Bay, and 3 in Mindanao).

Inland provinces of northern Luzon are mountainous and their population densities dip well below the national average: 62 people/km<sup>2</sup> in Kalinga, 56 in Abra and 26 in Apayao, the least densely populated province of the Philippines.

915 of the 1616 Philippine cities and municipalities are in the coastal area, and they house 62% of the country's population. 301 of them include small offshore islands (Baguilat 2004). In Quezon province, which has 1066 km of shorelines, 34 out of 42 municipalities are coastal. On many islands, coastal municipalities have a much higher population density than inland ones, for example in Bohol (average 337 for coastal municipalities vs. 173 inland), or in the coastal villages of Marinduque vs. the inland villages (Salvacion and Magcale-Macandog 2015). This however does not appear to be true when the inland side of provinces is made up of rich farmland, such as Pangasinan, northern Luzon (504 inland density vs. 523 coastal density), where the inland areas are home to 67% of the provincial population, quite an exception.

Most large cities of the country are either on the coast, or near the coast (in the Greater Manila area: Quezon City, Makati, Caloocan, Pasig, Taguig, Valenzuela, Muntinlupa). The main cities away from the sea are either on the outskirts of Manila (Antipolo, San Jose del Monte, Rodriguez) or in the northern Luzon central plain (Angeles City, Tarlac, Cabanatuan). Only Baguio is clearly a city away from the sea, in a mountainous region. In all other islands, the main population centers are in a coastal position: Davao, Cagayan de Oro, General Santos, Iligan, Cotabato (Mindanao), Cebu (Cebu Island), Bacolod, Dumaguete (Negros), Iloilo (Panay), Tacloban (Leyte), Puerto Princesa (Palawan)... Most of these cities are ports: ports of commerce, fishing ports and ferry terminals for inter-island travel. Fisheries and aquaculture are major activities in coastal farm communities. It is also well known that Filipinos are possibly the largest nationality onboard commercial ships, cruises ships and cargo ships alike.

Some minority populations even have a seaborne lifestyle.

### 2.3.2 *People of the Sea: The Badjao “Sea Gypsies”*

The archipelagic nature of the Philippines promoted a seafaring people who depended heavily on boats for livelihood and transportation. For centuries prior to the coming of the Spaniards, inhabitants of the islands satisfied their protein requirements by subsistence fishing from outriggered *barotos* or *paraws* within the lagoons and along the edges of reefs surrounding their islands. Some boats could carry many persons, while others carried one man (*isahan*) or two men (*duhahan*). A boat might be constructed with or without *katig* (outriggers: bamboo and wood floats attached to each side serving as a counterpoise to stabilize the boat and avoid its overturn). Boats were also used for riverine and inter-island trading activities. They were needed to conduct wars and raids (*mangayaw*). According to the Spaniards, war was part of the early Bisayans' lives, and Bisayan raiders were especially feared due to their fast boats. According to the accounts of the Spanish writers, the Ilonggos of

Panay particularly were skilled boat-builders. Popular due to its speed and maneuverability, their *paraw* had decorative edges and was powered by sails.. There was also the *barangay* or *balangay*, made of wooden planks put together with wooden nails, and worked by sails on two masts as well as by paddles. This maritime legacy may explain why Ilonggo sailors can be found in all shipping routes around the world (Scott 1982; Funtecha 2000).

Historians of the early settlement of the Philippines advance the idea of a society largely structured by small clans derived from the occupants of boats. The common term for “neighborhood” is *barangay*, a term derived from *balangay*. As in many southeastern Asian societies, there seems to be a strong social symbolism associated with ships (Abinion 1989; Mangin 2001).

Fishermen play a major role in the coastal society of the Philippines. many of them used to live a seasonal nomadic lifestyle, migrating alongside the concentration of fish (*pangayaw*), and returning rarely to the sedentary villages where sojourners (*tumandok*) lived. Several places served as sheltering ports in case of bad weather, among them the Gigantes islands, off the Panay coast in the Visayan sea, where fishermen from Panay, Masbate, Cebu, Negros, Samar, Leyte and Bohol could mix every year (Zayas 1994). In the southernmost municipality of the country, Sitangkai, boats are still the primary transportation mode, although footbridges connect one house from another. A simple “labuan” (moorage) in the mangroves and islets of the outer reaches of Borneo island, it has been for long time a place of maritime contacts, a hub for economic and population exchanges (Zayas 2014), one of the centers of the Bajau life on the water.

Scattered along the coastal areas of Tawi Tawi, Sulu, Basilan, and some coastal municipalities of Zamboanga del Sur, the Badjao<sup>6</sup> (or Bajau) of the Sulu and Celebes Seas use small wooden double outrigger sailing canoes (trimarans: *perahu*, *vinta*) (Spoehr 1971) first developed in Micronesia. Nicknamed “sea gypsies”, they had developed over the centuries a nomadic lifestyle (Nimmo 1968, 1969; Martenot 2001) comparable to the Moken of the Mergui archipelago (Burmese-Thai coastland), the Bugis of eastern Sulawesi and the Orang Laut of southeastern Sumatra (Lenhart 1995; Lapien 2004). Their myths and legends are sea-based (Jubilado 2010). Their livelihood depended on the sea : spear fishing, fish trapping, seaweeds and shell gathering, both as their source of food or to sell/barter with sedentary populations or other necessities such as clothing, materials for boat construction, mats, fishing equipment as well as farm products such as fruits and cassava. Unique to their cultural rituals was the concept of life and their relationship to the sea : as a childbirth ritual, a newly born infant was thrown into the sea and members of the clan dived to save him and make it a new member of the community.

Today, their nomadic lifestyle as navigators and sea divers living on houseboats is receding quickly (Nimmo 1972; Lagsa 2015). Displaced by poverty<sup>7</sup>, conflict and the death of their traditional fishing culture (Glionna 2009), most of the 200.000

<sup>6</sup> Amongst themselves, they’re known as Sama Lau or Sama Dilaut (Sea Sama). Their group originated from the Samal tribe on Mindanao.

<sup>7</sup> Poverty compounded by high fertility rates, with many families of 10–12 children.

<sup>8</sup> <http://www.philstar.com/cebu-news/2013/02/18/910267/badjaos-their-real-story>

Badjao are settled in poor neighborhoods (Jumala 2011), living in ramshackle villages of wooden huts, built on stilts over the water, in cities such as Zamboanga (Mindanao) or Puerto Princesa (Palawan)<sup>8</sup>, even in the seaside slums of Manila Bay or Cebu (Bracamonte et al. 2011). In Sulu, many have become beggars, waiting for tourists to throw a few coins in water next to their small boats. Due to the ongoing conflict in the region between revolutionary Muslim groups and the Philippine government (see Chap. 19), many Badjao have migrated to friendlier Muslim areas, Sabah in Malaysia (Nagatsu 2001) and Sulawesi and Kalimantan in Indonesia (Saat 2003). They are now the second-largest ethnic group in Sabah, despite the fact that many of them are illegal immigrants. Many are stateless, feeling rejected by Filipinos but not really welcome in Malaysia, and their children remain largely unschooled (Lim 2012), which limits their hopes for rewarding employment in the future.

### 2.3.3 *Dangers from the Sea*

If the constant land-sea interaction and the circumvolute shape of the Philippine islands provide some benefits, such as multiple harborage facilities and sea breezes, as well as the lack of any dry or arid area in the country, many dangers lurk from its oceanic environment. The sea is a major element of Filipinos' life and they have learned to live with threats coming from oceanic waters.

Four major "natural" threats and a political one can be identified.

Powerful typhoons (see Chap. 3) develop between the Mariannas and the Philippines many times every year, drenching the country under deluges of water accompanied by howling winds. Storm surges may become deadly. During heavy weather times, public advisories recommend a stop to all maritime activity, in the open ocean as well as within the archipelago. Islands are then temporarily isolated from each other when ferries stop.

The tectonic activity underlying the surrection of the Philippine islands may also trigger tsunamis, another deadly threat from the ocean.

A third category of risk is sea-level rise. As in all coastal areas of the world, this is a worrisome future, since a large part of the population lives alongside the coastline. The long-term threat presented by gradual sea-level rise may be accelerated short-term by storm surges and the sinking of alluvial materials. Seawater level rise is also a threat to fragile coral reefs already damaged by human use. Coastal erosion is seen as increasing (Bayani-Arias et al. 2012).

On a much smaller scale, the Philippine waters, part of tropical oceans, are visited by sharks, and the range of deadly dangerous estuarine crocodiles (*crocodylus porosus*) extends to the archipelago, as shown by the 2011 capture of "Lolong", a gigantic specimen, in Agusan Marsh (Mindanao).

Dangers may also come from human actions. Piracy has been frequent for many centuries in all maritime Southeast Asia. In the early nineteenth century, an entire ethnic group, the Samal Balangingi of the Sulu-Mindanao region, specialized in maritime raiding, attacking Southeast Asian coastal settlements and trading vessels (Warren 2003). Piracy seems to have increased in recent years (Frécon 2008). In the

Philippines, the Sulu archipelago is still known for harboring pirates hiding in numerous tiny islands close to the Malaysian waters. Also, the geopolitical situation of the Spratly Islands in the “South China Sea” (see Chap. 20) has led to acerbic verbal exchanges between China and the Philippines and of small-scale confrontations, which may escalate, hopefully not, towards military actions. Without terrestrial borders, the Philippine islands are threatened in their maritime geopolitical environment by the uncertain status of an archipelago of tiny atolls.

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# Chapter 3

## A Tropical Archipelago

**Abstract** The tropical maritime climate of the Philippines is marked by high temperature and abundant rainfall. The chapter first examines the major characteristics of the climate, dominated by the seasonal alternation of the Amihan and Habagat monsoons, leading to sharp differences between regions for their patterns of rainy seasons. Typhoons from the western Pacific hit the islands with brutal force, even if some years are more prone than others to the onslaught of tropical storms, depending on the general atmospheric circulation and the strength—or absence—of El Niño or La Niña. Typhoons not directly hitting the Philippines can still generate high levels of rainfall and enhance flooding, due to the increase in the strength of the habagat southwest monsoon flow. Local conditions may affect the patterns of precipitation at different scales of space and time. In this mostly wet country, episodes of drought may also occur and cause problems for agriculture, especially for rice growing.

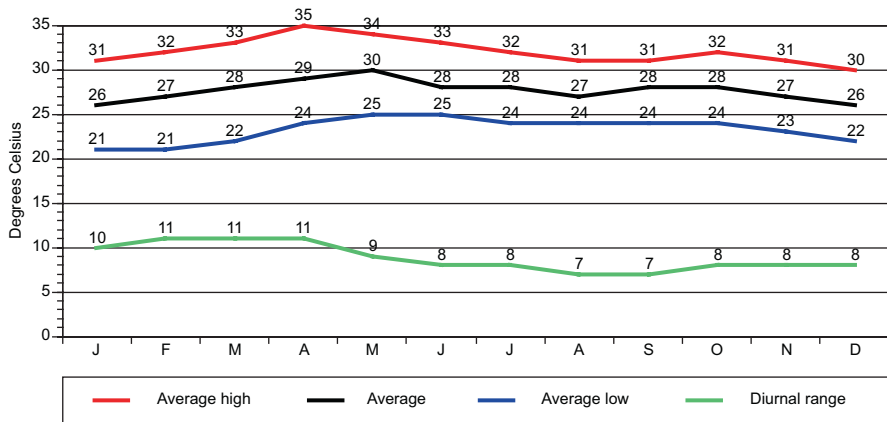
**Keywords** Tropicality • Monsoon • Typhoons • Drought • El Niño

Located in the tropical zone, the Philippine archipelago is warm and humid. The situation of the country in the western part of the Pacific Ocean exposes it to the threat of powerful typhoons.

### 3.1 General Characteristics of the Philippine Climate

The climate of the Philippines (Pérard-Tournier 1984) is tropical and maritime. It is characterized by relatively high temperature, high humidity (Tilley 1988) and abundant rainfall. Insularity, at a larger scale, tends to uniformize the climate of the Philippines, mostly influenced by maritimity. But at a finer scale, due to the partition of the country into many islands, the interplay of sea and land and the mountain obstacles, weather and climate vary from day to day and from place to place.

Temperatures in the Philippines stay warm throughout the year, with an annual average of 28.1 °C in Manila (average daily minimum 24.6 °C, average daily maximum 31.8 °C). There is little variation in temperatures from north to south and east to west: the 2014 average temperature was 25.3° in Itbayat (Batanes, north of



**Fig. 3.1** Average monthly temperatures in Manila. The data for the chart above are taken from year 2000 to 2012. <http://www.worldweatheronline.com/Manila-weather-averages/Manila/PH.aspx>

Luzon), 26.8° in Vigan (northern Luzon), 27.8° in Mactan (Cebu) and 28.5° in Davao (Mindanao), 27.3° in Daet, Camarines Norte, on the eastern coast and 27.8° in Puerto Princesa in the west. Temperatures vary little during the year, although it is slightly cooler from December to February, especially in northern Luzon, where the hottest month is in general April<sup>1</sup> or May<sup>2</sup>. Higher-altitude Baguio (1540 m) is still about 20° on average in January (average lows 13 °C, average highs 24 °C), however temperatures may fall below 10 °C on some winter mornings (absolute low of 6.2 °C in February 1961) (Fig. 3.1).

The diurnal range is maximal in the dry season, and wider than interseasonal amplitudes, which is a characteristic of tropical countries.

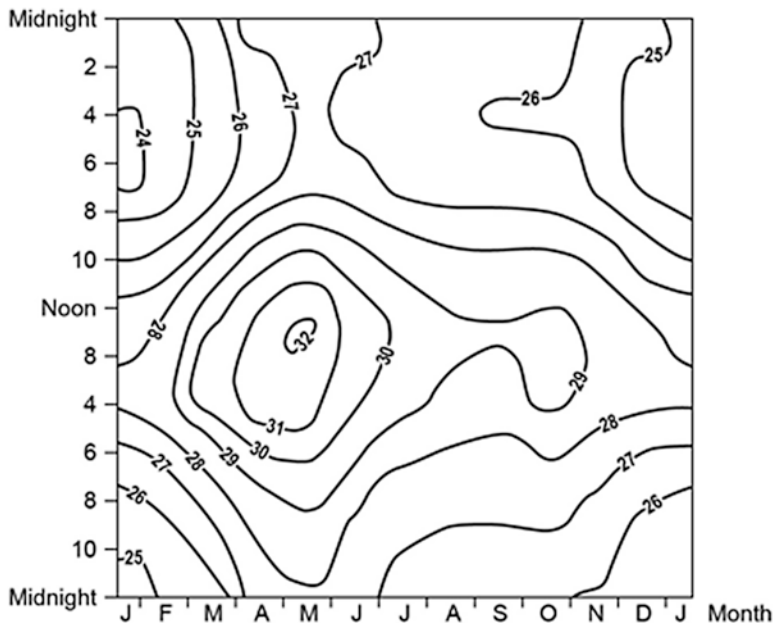
The seasonal variations in temperatures are minimal in Mindanao but tend to increase towards the northern part of the archipelago. In a central situation within the country, Cebu's thermo-isopleth chart shows a weak thermal amplitude, slightly bigger within a day than within a year, which is typical of tropical climates (Fig. 3.2).

As it is often the case in the tropical realm, seasons in the Philippines are mostly determined by the pattern of precipitations. Rainfall is the most important climatic element in the Philippines. Due to high temperature and the surrounding bodies of water, the Philippines experience a high relative humidity. The average monthly relative humidity varies between 71% in March and 85% in September.

Rainfall varies from one region to another, depending upon the direction of the moisture-bearing winds and the location of the mountain systems (Manalo 1956).

<sup>1</sup>The hottest temperature ever recorded in the Philippines was 42.2° in Tugueguarao (Cagayan province of northern Luzon) on April 20th, 1912 and May 11th, 1969. It stands as the record high temperature for Oceania (Australia excepted). Source : World Meteorological Organization/ Arizona State University—<http://wmo.asu.edu/#continental>

<sup>2</sup>Manila's all-time record high temperature stands at 38.5° on May 14th, 1987.



**Fig. 3.2** Thermo-isopleth graph for Cebu. (from Pérard-Tournier 1984, p. 71)  
 Temperatures rarely climb above 32 °C or drop below 24 °C. The daily amplitude in temperatures appears slightly larger (5° in May) than the difference (3–4°) between the warmest (May) and “coolest” month (January)

Average annual precipitations range<sup>3</sup> from 960 mm in General Santos (southern Mindanao) to 4465 mm in Hinatuan (Surigao del Sur province, in northeastern Mindanao). Eastern areas of the archipelago are usually wetter than western ones: Infanta (Quezon) receives 4105 mm/year and Borongan (Eastern Samar) 4055 mm, when Puerto Princesa (Palawan) gets 1527 mm and Zamboanga (SW Mindanao) only 1267 mm. But Panay’s west coast is wetter than its east coast in the center of the Visayas, where several places are relatively dry compared to the rest of the country (1218 mm in Dumaguete, Negros, 1412 mm in Tagbilaran, Bohol and 1565 mm in Mactan, Cebu). In the western and central Visayas, the western coasts of islands are wetter than the eastern coasts (Negros, Masbate, Mindoro); this is the opposite of what can be observed in eastern islands (Samar, Leyte, Bohol) where the Pacific side is wetter than the Visayan Sea side. Classic windward/leeward contrast of tropical islands.

Some places have suffered dry episodes (313 mm in Zamboanga in 1985, 408 mm in Puerto Princesa in 1979, 484 mm in Tagbilaran in 1982, 563 mm in General Santos in 1991), while some years have seen torrential downpours on eastern locations (5567 mm in Borongan in 2014, 5773 mm in Infanta in 2008, 6973 mm in Catarman,

<sup>3</sup> <http://pagasa.dost.gov.ph/index.php/climate-agromet/climate-info-statistics/climatological-normals>. Values are calculated on a 30-year average covering the 1980–2010 period.

northern Samar in 2011, 7584 mm in Hinatuan in 2011)<sup>4</sup>. Legazpi, at the southeastern tip of Luzon is usually a relatively humid place (average 3432 mm), but can experience huge variations in rainfall, from 683 mm in 1984 to 4602 mm in 2008. Interannual rainfall irregularity is therefore a major issue for farmers (Lansigan et al. 2000). Metro Manila gets an average of 1768 mm (NAIA airport weather station in Pasay City), also with a certain irregularity from year to year: 1322 mm in 2004, but 3668 mm in 2012 (Fig. 3.3).

The Philippine archipelago is under tropical weather yearlong. However, there are clear seasons, mostly marked by strong contrasts in rainfall and wind direction, secondly in tropical storm frequency, and more modestly in temperatures. Manila, Tacloban and Davao present very distinct precipitation patterns, with a pronounced dry season from December to April/May in Manila, followed by a period of intense rainfall culminating in August. In Tacloban, it is almost opposite: the rainy season reaches its peak in December and January, when it is dry in Manila, with much less rain from March to September. In Davao there is much less interseasonal variation, from a minimum of 108 mm in March to a maximum of 187 mm in June. Here we are closer to an equatorial type climate, with very little variation of temperatures and rainfall during year, such as can be found further south in Borneo (Fig. 3.5).

Interseasonal variation is maximal north of Manila: Baguio City receives on average 15 mm in January and 905 mm in August. Iba, Zambales (annual average 3451 mm) receives 838 mm in July and 898 mm in August (only 317 and 418 mm in Manila), but just 13 mm in December. On the other side of Luzon, at the same latitude, Infanta receives 676 mm in December and its “driest” month is August, when it is the wettest in Iba! (Fig. 3.6 and Table 3.1).

These patterns are the result of two major dynamics affecting the weather in the Philippines: the seasonal reversal of monsoon winds (“*amihan*” / “*habagat*”) and the recurring occurrence of typhoons.

Four types groups of climatic patterns were identified by Filipino climatologist José Coronas in the 1920’s, based on the seasonal distribution of rainfall.

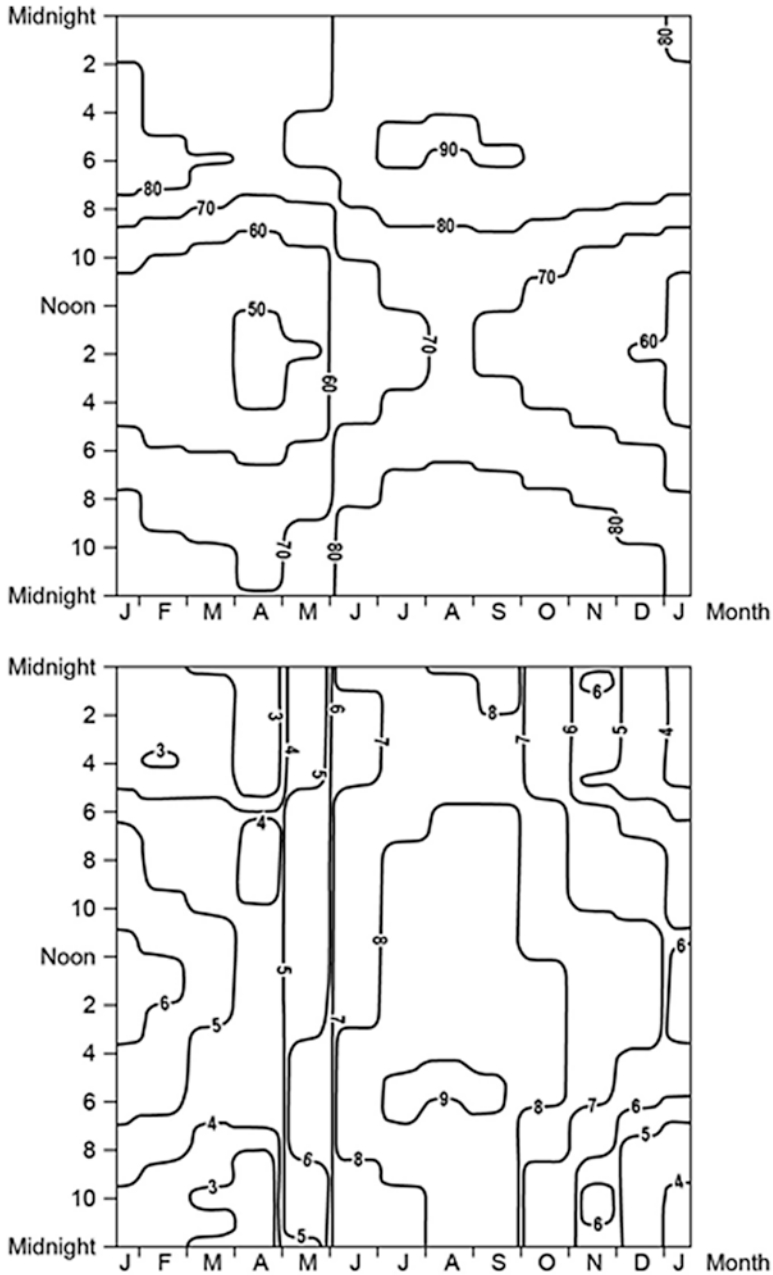
Type I—has two pronounced seasons: dry from November to April and wet throughout the rest of the year. The western parts of Luzon, Mindoro, Negros and Palawan experience this climate. These areas are shielded by mountain ranges but are open to rains brought in by the southwest monsoon flows and tropical cyclones.

Type II—characterized by the absence of a dry season but with a very pronounced maximum rain period from November to January. Regions with this climate are along or very near the eastern coast (Catanduanes, Sorsogon, eastern part of Albay, eastern and northern parts of Camarines Norte and Sur, eastern part of Samar and large portions of eastern Mindanao).

Type III—seasons are not very pronounced but are relatively dry from November to April and wet during the rest of the year. Areas under this type include the western part of Cagayan, Isabela, parts of northern Mindanao and most of eastern

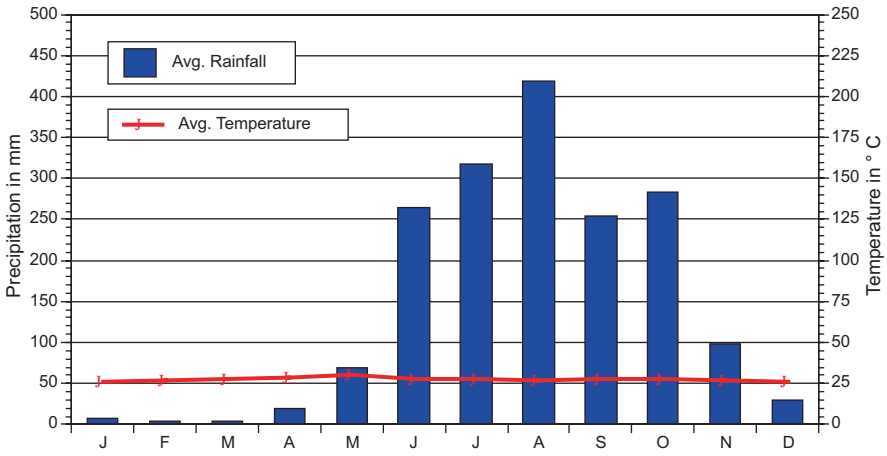
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<sup>4</sup><http://en.tutiempo.net/climate/philippines.html>

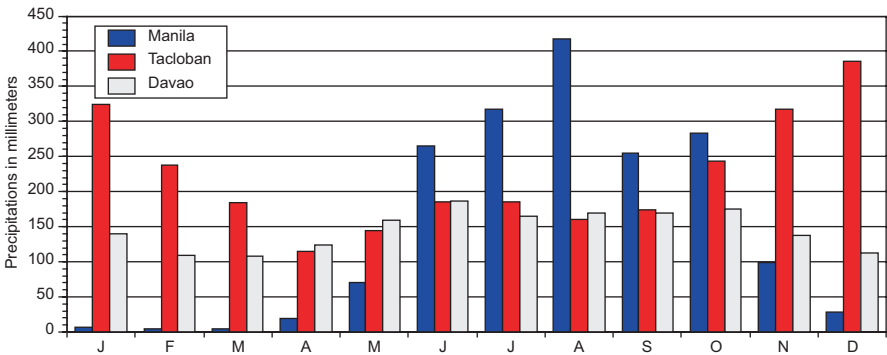


**Fig. 3.3** Isopleth charts for hygrometry (top) and nebulosity (bottom) in Manila (from Pérard-Tournier 1984, p. 155)

April and May are the driest months (50% humidity at mid-day), August the most humid one with a maximum hygrometry in the early morning hours, giving sometimes light precipitations at 6 or 7 a.m. The cloud cover is lowest (3 out of 10: 30%) during the February nights and highest (more than 90%) in the early evenings of August, a typical time for thunderstorms (Fig. 3.4)



**Fig. 3.4** Seasonal weather patterns in Manila

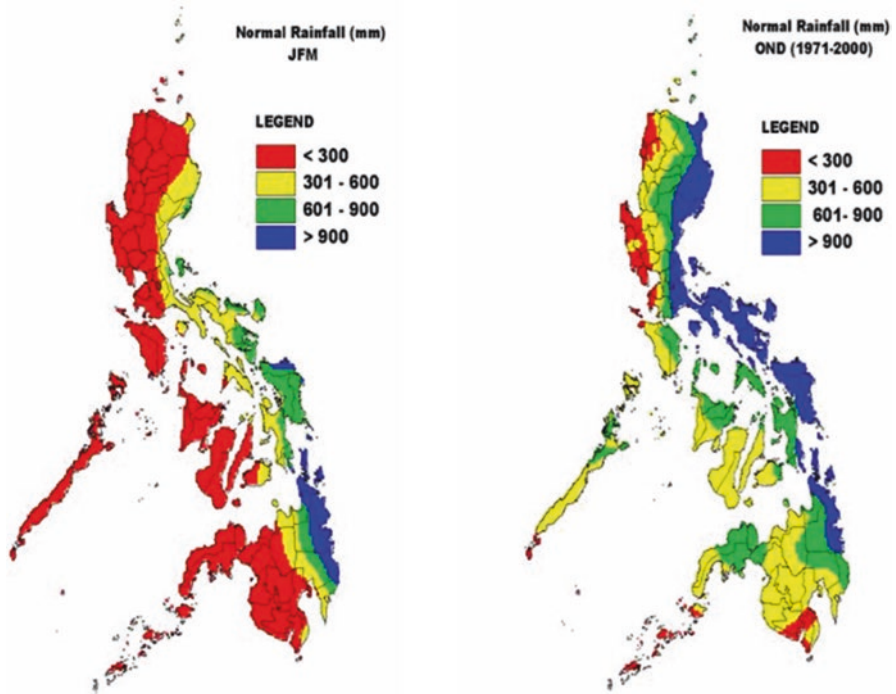


**Fig. 3.5** Monthly precipitations in Manila, Tacloban and Davao

Palawan. These areas are partly sheltered from trade winds but are open to Habagat and are frequented by tropical cyclones.

Type IV—characterized by a more or less even distribution of rainfall throughout the year. Areas with this climate include Batanes, northeastern Luzon, southwest Camarines Norte, west of Camarines Sur, Albay, northern Cebu, Bohol and most of Central, eastern and southern Mindanao.





**Fig. 3.6** Contasted rainfalls in January/February/March and October/November/December. Source: PAGASA

**Table 3.1** Iba and Infanta: contrasting monthly rainfall patterns

		J	F	M	A	M	J	J	A	S	O	N	D
Iba, Zambales	15°20'N 119°59'E	4	9	20	38	255	520	838	898	560	234	62	13
Infanta, Quezon	14°45'N 121°39'E	365	253	192	209	198	237	284	190	271	626	595	676

### 3.2 Amihan and Habagat

Weather patterns in the Philippines are generally dictated by prevailing winds consisting of a seasonal domination of the southwest monsoon from mid-May to October and of the cooler, drier northeast monsoon from November to early May. “*Hangin<sup>5</sup> Habagat*” (the southwest monsoon) brings heavy rainfall (Wang and Ho 2002) that often results in floods during the wet season in Manila and central Luzon. “*Hangin Amihan*” (the northeast monsoon) brings colder air, especially from the

<sup>5</sup>“*Hangin*” means “wind” in tagalog.

Christmas season to February, with occasional cold surges, when extra-tropical air pushes its way to southern China (Hong Kong) and northern Luzon<sup>6</sup>.

Chinese and Arab traders had recognized these wind patterns quite early (Rivers 2004). Chinese junks sailed from Guangdong and Fujian to the Philippines and Indonesia during *Amihan* sometime around March, and returned around June during *Habagat*. Spaniards in the sixteenth century also knew about these trade winds but called them by other names. In a 1576 report to King Philip II, Governor-General Francisco Sande wrote that "...there are two general seasons (in Filipinas), the dry season, (when) the *brisas*, as they are called, blow from the southeast to the north, finally blowing directly from the north; while in the other or wet season, the *vendevales* blow from northwest to southwest. Thus during these two seasons, the winds blow from every point of the compass. ...Coming from Nueva España [Mexico], from the east towards this western region, the *brisas* would help; while the *vendevales*, especially the usual one, the southwesterly wind in the channels of these islands would impede the progress of the ship... it is quite clear and evident that by the end of May and middle of June the *vendeval* begins here from the west and blows strongly night and day. Now if for any reason it should cease for a moment, it would only be to burst forth again with renewed vigor. Such a period of quietness is called here *calladas* (silence). The *brisa* begins in November and lasts till the end of May. Between these two general seasons two others exist, called *bonanzas* ('gentle winds') which last from the middle of March to the end of May, and comprise also part of September and October" (Ocampo 2013).

*Habagat*, the southwest monsoon, develops during the summer months in the northern hemisphere, when the Asian continent becomes warmer than the surrounding seas. As a result, a low-pressure area develops over the continent, inducing air from over the ocean to flow towards the continent. Deviated to the right by the Coriolis force, they are mostly blowing from the west-southwest to the east-northeast, becoming the prevailing winds in the country. The significant southwest monsoon rainfall is a by-product of air passing over large areas of warm equatorial ocean, stimulating increased levels of evaporation from the ocean's surface; the southwest monsoon air, now laden with water vapor, cools as it moves north and as it rises over land; no longer able to retain its moisture, it precipitates copious volumes to irrigate rice fields and drench rainforests, sometimes causing severe flooding below hillsides that have been stripped of forest cover. Most days there is a thunderstorm or two in the afternoon, between 3 and 9 p.m., with a downpour lasting 15–30 min, a classic feature of tropical weather, even if rains can also happen at any time of the day or night.

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<sup>6</sup>Baguio – in altitude – experienced its lowest temperature at 6.3 °C on January 18th, 1961. Frost and snow are unknown to most Filipinos except if they have traveled abroad in winter. At sea-level, Tuguegarao registered its lowest ever at 12.2° in January 1969. The all-time lowest temperature recorded in Metro Manila was at 15.1° Celsius on February 4th, 1987 and December 30th, 1988. In Legazpi (SE Luzon), the record low was 13.9° on February 28th, 1971. For many people, any temperature below 20 °C with some breeze feels very cold, when it is comfortable for Westerners.

Sometimes the heavy rain episodes last much longer<sup>7</sup>. In early August 2012 and 2013 there were prolonged episodes of uninterrupted torrential rains in the Manila area, due to habagat enhanced by the passage of slow-moving typhoons northeast of the Philippines, increasing the strength of the southwestern winds. On August 7th, 2013, 472 mm of rain accumulated in Quezon City, more than the 455 mm registered on September 26th, 2009 at the height of typhoon Ondoy/Ketsana. In October 2015, typhoon Lando/Koppu dropped 737 mm of rain over Baguio in just 20 h (De Vera 2015a, b; See 2015). The same city received 1795 mm in 6 days of October 2009 (531 mm on October 3rd, 685 mm on October 8th) with typhoon Pepeng/Parma, leading to massive landslides (Inokuchi et al. 2011).

However, these heavy rains may not be observed everywhere. For example, the colossal rainfall of mid-July 1972 in northwestern Luzon was accompanied by a drought period in central Mindanao. Manila received that month more than 1800 mm, when the total amount in Zamboanga was just 80 mm (Pérard-Tournier 1984, pp. 622–628). Even in locations close to each other, the daily rainfall can be very different. On October 4th, 2009, Laoag received 403 mm, while Dagupan stayed dry (8 mm). A few days later, October 8th, it was just the opposite: 443 mm in Dagupan, 33 mm in Laoag.

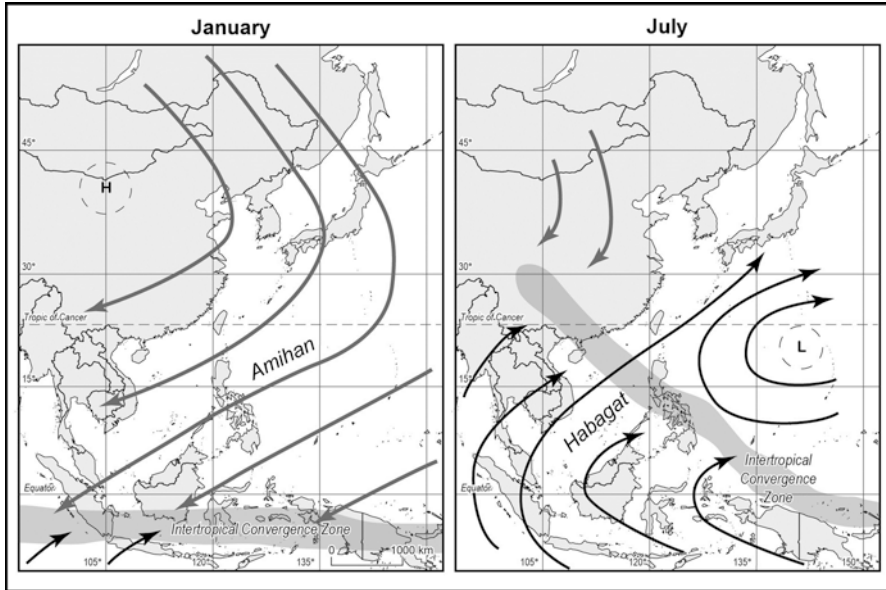
These wet seasons may be interrupted by “monsoon breaks” lasting a few days, when the Inter Tropical Convergence Zone (ITCZ) withdraws suddenly to the south of the Philippines, and trade winds come to dominate again the weather patterns for several days (Pérard-Tournier 1984, pp. 669–690) before tropical disturbances reappear.

The month of October marks the transition period for wind systems as the wind pattern reverses (Chang et al. 2005) rather suddenly from southwest to northeast. The northeast monsoon or amihan starts to affect the country usually by mid to late October. It is cold and dry in nature, resulting in a temperature drop and a slight chill mostly in the early morning (Fig. 3.7).

Amihan, the northeast monsoon draws colder, drier air that originates in a vast high pressure forming over eastern Siberia, Mongolia and northeastern China during the fall and winter months. The winter monsoon air from the anticyclone pushes outward in a clockwise motion from its center, blowing towards the Philippines from Japan and Korea in a northeast-to-southwest dominant direction, merging with the trade winds of same orientation. It brings some Pacific moisture on the eastern coast of the Philippines during the winter months, hence the rainfall reported in Cagayan Valley, Isabela and Quezon provinces, while Manila is protected from the rains by mountains blocking the flow of maritime air but experiences slightly cooler temperatures. The air mass originates in sub-freezing areas but warms up gradually on its way south, even more as it passes over the warm Kuroshio current on its way to the Philippines (Pérard-Tournier 1984, p. 334). It usually enhances precipitations on the eastern side of Luzon and in the eastern Visayas, when in the rest of Luzon the sky is clear and humidity relatively low, which leads to very refreshing nights.

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<sup>7</sup>Sometimes called *siyam-siyam*, 9-9, because they are said to last 9 days and 9 nights.



**Fig. 3.7** Amihan and Habagat: seasonal wind patterns in the Philippines

### **INSERT—Folktales of Amihan and Habagat**

In the Islands of Philippine Archipelago, there were six hidden kingdoms of elemental gods. Rulers were called Bathalas. Araw (“day”) was known as the father of all elemental gods. The fire kingdom ruled by Persus, the sea kingdom by Aguaros, the Earth kingdom by Danaya, the kingdoms of lightning and thunder by twin brothers Dagitad and Tonare. As for the kingdom of winds, it was divided between another pair of twins: Habagat ruled over southwest wind kingdom and his sister Amihan over the northeast wind kingdom.

A variation on the Amihan and Habagat wind divinities reads as follows.

In the beginning of time, when the people of the earth had just inherited the Earth, Bathala, the main God in Philippine mythology, had two children, his daughter Amihan and his son Habagat. Amihan and Habagat used to play together all the time, running just above the earth so swiftly that they caused people trouble in their day-to-day lives. One day, Amihan complained to her father that Habagat was so playful that he was annoying her. Bathala told her she was right and he had noticed that people were bothered by their turbulent behavior: rice paddies were destroyed, houses blown by the wind, and many other incidents. So Bathala decided to allow Amihan to play over the earth half of the year and Habagat the other half. As a girl, she was able to play more quietly, but the more rambunctious boy Habagat was still causing problems when he had some friends visiting to play with him (presumably the typhoons).

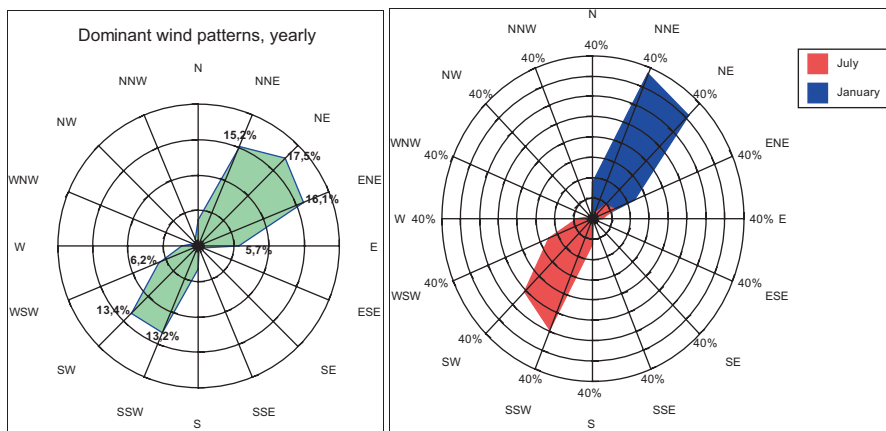
Amihan has still another meaning. In the Philippine mythology, Amihan is the first creature in the universe, the legendary bird that frees the first humans, Malakas and Maganda, from a bamboo plant (see Chap. 4).

Amihan patterns usually prevent typhoons from reaching north to Luzon, that is why if there are typhoons during this time, they occur mostly in the southern islands and usually the typhoon tracks westward in a straight line, hitting Vietnam after crossing though the Philippines, while in time of Habagat, many typhoons tend to veer towards Japan, following the general movement of air masses.

Seasons are called “*tag-lamig*” (cold season) and “*tag-ulan*” (rainy season) in Tagalog. What is called “summer” is the hottest part of the dry season, in April and May, sometimes called “*tag-init*” (hot season).

In Mindanao it is often a time of storms linked to the northerly progression of the ITCZ, but in the Visayas and Luzon it is a period of usually quiet weather, with little rain. However, the rising level of humidity in the air combined with temperatures above 35° makes it very uncomfortable to all, including at night. Due to the low level of water in dam reservoirs, not fed by rains, and the high demand for electricity (air conditioning), the electricity supply is often insufficient, and power outages occur often, including in Manila. This is the time for school vacations. Filipinos are hence often confused by the use of the word “summer” by Europeans or Americans talking about July or August. A period of drought would be called “*tag-tuyot*” (dry season). October-November is a season of transition, when monsoon rains taper off. It is usually more pleasant but with the permanent threat of typhoons.

This contrasting pattern is quite visible in Boracay (Fig. 3.8).



**Fig. 3.8** Dominant winds in Boracay. Source: [http://www.windfinder.com/windstatistics/boracay\\_island](http://www.windfinder.com/windstatistics/boracay_island)  
 Statistics based on observations taken between 06/2011 and 01/2015 daily from 7 a.m. to 7 p.m. local time

There is a clear contrast between two dominant directions, reflecting the opposite directions of winds observed, for example, between the months of January (Amihan pattern) and July (Habagat pattern). The result is that the windward/leeward contrast is not as strong as in other tropical islands dominated by unidirectional trade winds flows. Pluviosity contrasts are seasonal and the vegetation, which reflects the year-long patterns, does not exhibit the startling opposition found in Hawaii, for example, between tree ferns and moss-covered trees on one side and cacti on the other side (Noguchi 1992).

This pattern of winds was essential at the time of the galleon trade. It guided the schedule of sailing (Isorena 2015). It was during the *amihan* season that Chinese vessels would arrive in the archipelago to trade, while Manila-bound galleons left the port of Acapulco. During this time of winter monsoon it was almost impossible for galleons to leave the Philippines through the San Bernardino Strait between Samar and SE Luzon (the *Embocadero* to Spaniards) towards the Pacific in an east-northeast direction. By June, the *habagat* set in and blew from the west-southwest to west. This is when Acapulco-bound galleons left Manila Bay. This southwest monsoon was needed to propel ships through the San Bernardino Strait out into the Pacific. However, ships entering the strait from the east at this time would find it extremely dangerous. Late ships from Acapulco were advised instead to seek the nearest port in eastern Luzon to winter. Most shipwrecks of the galleon trade occurred in bad weather inside the archipelago as the ships were trying to negotiate narrow passages between islands. The mighty galleons showed their unsuitability for the difficult waters of the Philippine archipelago. All the qualities that enabled them to face the harsh conditions of navigation in the North Pacific, heavy duty, deep draft, robustness, turned to their disadvantage in the midst of countless islands, islets, stories and shoals of the Philippine seas (Berthe and De Los Arcos 1992).

### 3.3 Typhoons

Typhoons<sup>8</sup>, named *bagyos* in the Philippines, have long been a problem for the Philippines<sup>9</sup> and therefore duly recorded by Jesuit priests in the Philippines and China (Udias 1996a, b; Garcia-Herrera et al. 2007). They exert a great influence on the climate and weather conditions of the archipelago. A great portion of the rainfall, humidity and cloudiness are due to the influence of typhoons. They generally originate in the region of the Marianas and Caroline Islands of the Pacific Ocean,

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<sup>8</sup>The term typhoon appears to be derived from the Cantonese “tai-fun” (big wind). They are the same kind of atmospheric phenomenon as North American hurricanes (from the Carib god of the winds Juracan) or Indian Ocean’s cyclones.

<sup>9</sup>Historians have been able to reconstruct a good part of the meteorological major events of the Philippine since pre-colonial times, in part due to navigation logs from the galleon trade (Garcia et al. 2001; Ribera et al. n.d.-a, n.d.-b, Ribera et al. 2008; Warren 2012).

which have the same latitudinal location as Mindanao. Their movements usually follow a westerly or northwesterly direction, sparing Mindanao from being directly hit by majority of the typhoons that cross the country. This makes the southern Philippines quite desirable for agriculture and industrial development.

### **INSERT—Naming the typhoons**

The Tagalog term *bagyo* is used to designate Philippine *typhoons* since a storm dumped a record rainfall of 1170 mm in 24 h in the northern city of Baguio on July 15, 1911.

As in other parts of the world, tropical storms have been assigned names for many years. The practice for the western Pacific area was informally started in 1944 when US Army Air Forces (USAAF) forecasters in Saipan named them after their wives or girlfriends. In 1945, the US Armed Services publicly adopted a list of women's names for typhoons of the western Pacific, despite reluctance at the US Weather Bureau. In 1958, American meteorologists in Guam decided to name the storms as they were still developing before reaching the hurricane/typhoon status. In 1963 (Dioquino 2009), the Philippine Weather Bureau created its own list of female names, all ending in -ng, for use only in its self-defined “area of responsibility”. Each set, which contained names for 25 storms from A to Y, went on rotation every 4 years, with an auxiliary list of names from A to G to be used if the number of typhoons in 1 year exceeded 25. In 1999, Philippine authorities called upon the public to help draw a list of suitable names—male and female—for storms, to be applied as the new millennium was coming. Three restrictions were imposed: no derogatory meanings; no more than nine letters and three syllables; must reflect the culture of the people. 140 names (100 official and 40 auxiliary) were then assigned to the cyclones that would cross the country in the first 16 years of the twenty-first century among 18,000 entries submitted by participants in the “Name a Bagyo Contest” launched by the Department of Science and Technology and the Philippine Atmospheric, Geophysical and Astronomical Services Administration (DOST-Pagasa). The names would come in 4-year cycles, meaning typhoons in 2001, 2005, 2009, and 2013 would bear the same names in alphabetical sequence (Fernandez 2007)<sup>10</sup>. However, the most brutal storms, which left a path of destruction and have entered history, see their given names retired for good.

At the same time, weather disturbances also are given an international name from the Japan Meteorological Agency (JMA) once they reach tropical storm strength (at sustained winds of 63 km/h) and develop in the northwestern part of the Pacific Ocean (between 180° and 100°E longitude to the north of the Equator). PAGASA has its own naming system apart from JMA's, since the

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<sup>10</sup><http://pagasa.dost.gov.ph/index.php/learning-tools/philippine-tropical-cyclone-names>

Philippine weather bureau also gives names to tropical depressions not strong enough to be awarded a name under Japanese criteria. Giving a local name to an incoming weather disturbance, weak or strong, serves as a “signal” for Filipinos to prepare for it.

There are 140 names in the JMA list, with ten coming from each of the 14-member nations of the UN Economic and Social Commission for Asia and the Pacific (ESCAP)/World Meteorological Organization (WMO) Typhoon Committee: Cambodia, China, North Korea, Hong Kong, Japan, Laos, Macau, Malaysia, Micronesia, the Philippines, South Korea, Thailand, the United States and Vietnam. Unlike the PAGASA naming system, JMA’s exhausts all 140 names, grouped into ten subsets, before recycling the list. Each ESCAP/WMO member-nation submits one name per subset and JMA’s naming system has no auxiliary list, since the names are used as needed, and there is no re-start at the beginning of the calendar year. There is no alphabetical order for the storms, except the name of countries providing the names (Bueza 2013).

List of Philippine bagyos’ names for 2015 : 1. Amang 2. Betty 3. Chedeng 4. Dodong 5. Egay 6. Falcon 7. Goring 8. Hanna 9. Ineng 10. Jenny 11. Kabayan 12. Lando 13. Marilyn 14. Nonoy 15. Onyok 16. Perla 17. Quiel 18. Ramon 19. Sarah 20. Tisoy 21. Ursula 22. Viring 23. Weng 24. Yoyoy 25. Zigzag—Auxiliarylist:Abe—Berto—Charo—Dado—Estoy—Felion—Gening—Herman—Irma—Jaime

List of International names available for West Pacific in 2015 (with the name of the country providing the storm’s name)<sup>11</sup>: Mekkhala (Thailand)—Higos (USA)—Bavi (Vietnam)—Maysak (Cambodia)—Haishen (China)—Noul (North Korea)—Dolphin (Hong Kong)—Kujira (Japan)—Chan-hom (Laos)—Linfa (Macau)—Nangka (Malaysia)—Soudelor (Micronesia)—Molave (Philippines)—Goni (South Korea)—Atsani (Thailand), etc....

The two lists are independent, since 1/not all Philippine named tropical depressions will be given an international name if they fizzle out before developing into major storms, and 2/the storms not affecting the Philippine area of responsibility will not be given a specific name by Pagasa. However, the Philippines being in first line for most West Pacific tropical storms, the majority of these weather disturbances will be given the two names.

Cyclones in the western Pacific area are ranked in five categories according to the maximum speed of surface winds. “Tropical depressions” are identified storms with moderate winds under 33 knots (61 km/h). Increasing speeds lead to “tropical storms” (34–47 knots, 62–87 km/h), “strong tropical storms” (48–63 knots, 88–117 km/h), “typhoons” (64–129 knots, 118–239 km/h) and the dreaded “super-typhoons” (130 knots and above, winds peaking over 240 km/h).

<sup>11</sup><http://www.typhooncommittee.org/list-of-names-for-tropical-cyclones/>



The Philippine islands sit on the western rim of the Pacific Ocean, the most active area for tropical cyclones because of the vast expanse of deep, warm ocean water. Surface marine water circulation is very regular, with the North Equatorial current, fed by easterly winds blowing on the immense surface of the Pacific Ocean, reaching the Philippine archipelago yearlong. Seawater temperatures are always above 27 °C, and rise to 29 °C in August around all the islands except Mindanao and Palawan (“only” 28 °C) which is perfect for cylogenesis (Pérard-Tournier 1984, pp. 28–35). The reservoir of warm waters makes this area the only one in the world where tropical cyclones can occur at any time of the year, even if some months (July to October) are more prone to it.

An average of nineteen tropical disturbances (tropical depressions, tropical storms and typhoons) enter each year the “Philippine Area of Responsibility” (P.A.R.) and nine of them end up making landfall or crossing the archipelago, generally from east to west or southeast to northwest. These tropical cyclones exhibit specific individual behaviors: some arrive in full force on the eastern side of the Visayas and weaken considerably by the time they are in the vicinity of central Luzon (Hagupit/Ruby 2014), some retain their full strength across the Visayan and Sibuyan Seas (Haiyan/Yolanda 2013), some appear to get stronger as they move west (Rammasun/Glenda 2014). Some stay almost stationary for days over northern Luzon (Parma/Pepeng 2009; Lando/Koppu 2015) (Faustino 2015; Geronimo 2015), others will hover near the islands or barely brush the archipelago on their way to Japan following the North Equatorial current, then the Kuroshio, from their breeding grounds in the Marianna islands. Some move in a straight line towards Hong Kong or north-central Vietnam, others will curve towards Taiwan, Korea or Japan. Some are “hit and run” cyclones, gone in 3 days from inception to dissolution, some stay on for 2 or even 3 weeks, moving little or making unexpected turns and returns, such as supertyphoon Rita/Gloring in July 1972.

There is a rather strong year-to-year variability in the number of storms: 2010 was a very quiet year, with just 11 storms entering the PAR and two hitting the archipelago. In sharp contrast, 1993 saw 32 named storms, of which 19 directly impacted the country, according to PAGASA<sup>12</sup>, the Philippine Atmospheric, Geophysical and Astronomical Services Administration (Fig. 3.9).

The trajectories of storms vary widely, but some trends appear, as shown by the 2011 storms. Storms hitting the Philippines often regain strength over water in the South China Sea, aiming for Vietnam and Hainan, or the Western Pacific after veering to the north or northeast (Brand and Blelloch 1973) on their way to Korea or Japan. Some storms barely enter the PAR but still get a Filipino name, even if their impact on the country is minimal (Fig. 3.10).

There is a clear seasonality of tropical disturbances. Few of them come during the amihan period of the early months of the year, but on the onset of the Habagat

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<sup>12</sup>This acronym means “hope” in tagalog.

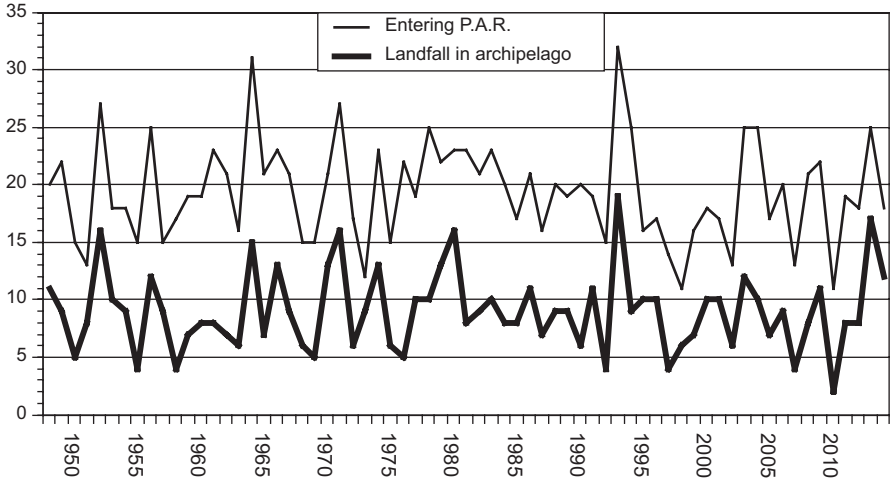


Fig. 3.9 Yearly number of typhoons in the Philippines, 1948–2014

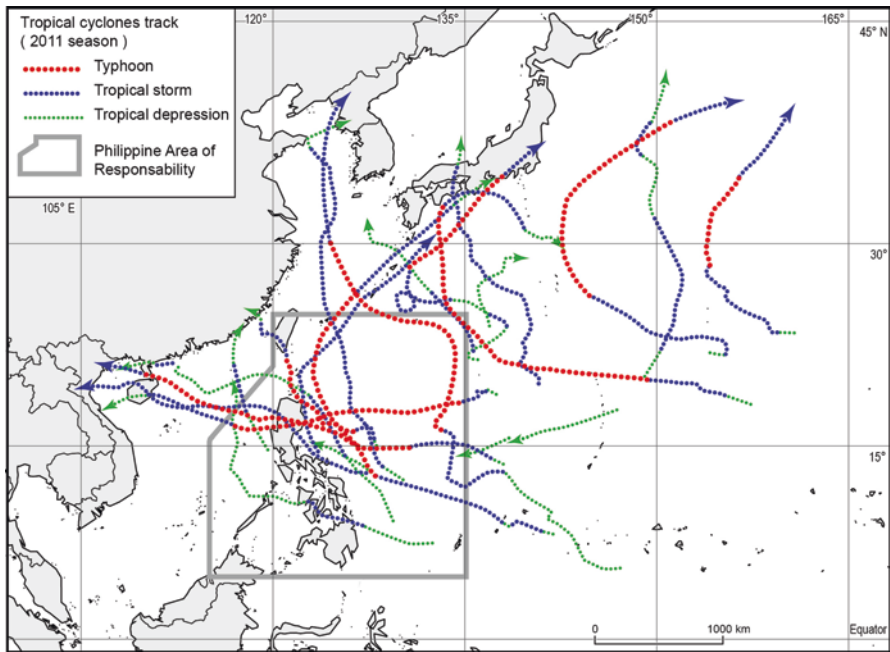


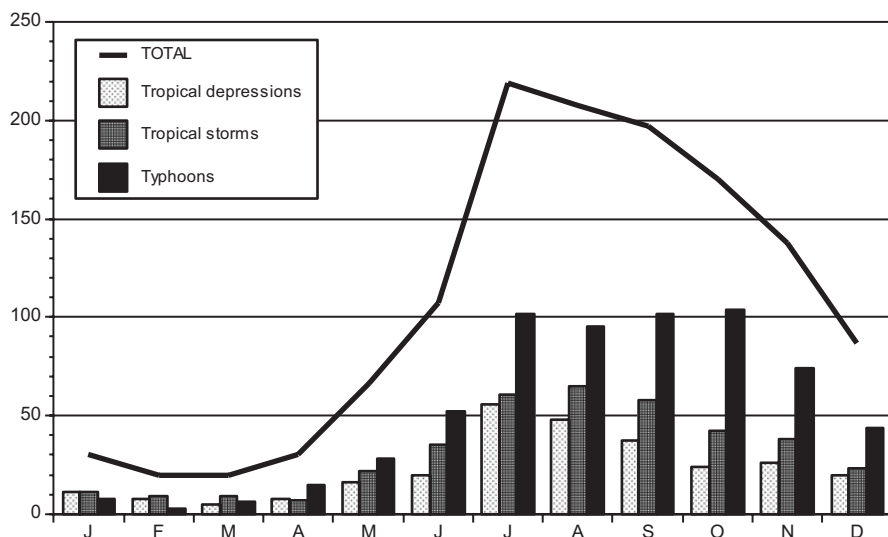
Fig. 3.10 Tracks of cyclones and typhoons in 2011. Source: <http://www.typhoon2000.ph/stormstats/2011tracks.gif>

Southwest Monsoon coincides with a strong increase in the number of cyclones. The warm moist air from the monsoon feeds the growing storms.

They occur mostly from July to October, when the Pacific Ocean waters are warmest. However, some of the worst typhoons in recent years have happened near

the end of the year: Washi/Sendong in December 2011, Bopha/Pablo in December 2012, Haiyan/Yolanda in November 2013, Hagupit/Ruby in December 2014. Washi/Sendong and Bopha/Pablo were quite unusual because they hit a Mindanao island usually spared by the biggest typhoons and therefore with poorly prepared populations (Fig. 3.11 and Table 3.2).

Even when they do not hit the archipelago directly, they may enhance the habagat monsoon flow (Cayanan et al. 2011) and exacerbate rainfall in the western part of the Philippines (the Habagat Floods hitting Manila and surrounding areas (Macaraig 2012; Andrade 2013; Cinco 2013) due to the distant effect of typhoons Haikui and Saola/Gener in August 2012 and Trami/Maring in August 2013 are good examples). The intensified speeds of the wind in the outer area of cyclonic flow of the storms and divergence patterns over the West Pacific east of Manila pulled more moist air mass from the west over the Philippines, triggering unending heavy rains for several days. The PAGASA weather service issued a red alert bulletins for “torrential rains greater than 30 mm per hour of rainfall volume that is most likely to last for 3 h” and everyone was advised to prepare to evacuate due to flooding especially those

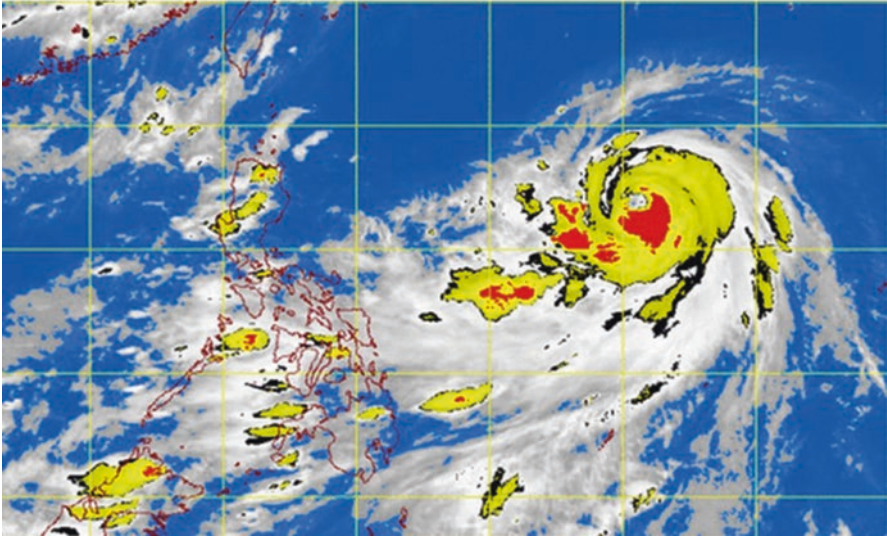


**Fig. 3.11** Monthly distribution of tropical disturbances entering the Philippine Area of Responsibility, 1948–2014

**Table 3.2** Precipitations recorded at different locations in Metro Manila during episodes of heavy habagat rains

	Sangley Point (Cavite)	Port Area (Manila)	Science Garden (Quezon City)
Normal August (31 days)	475 mm	432 mm	504 mm
Habagat 2012 (August 6–8) (72 h)	788 mm	859 mm	1007 mm
Habagat 2013 (August 18–20) (72 h)	1067 mm	701 mm	545 mm

Source: <http://gb-sb.blogspot.fr/2013/08/pagasa-habagat-2013-vs-habagat-2012.html>



**Fig. 3.12** Typhoon Neoguri/Florita (July 2014). Color-enhanced satellite imagery. <http://www.canadianinquirer.net/wp-content/uploads/2014/07/DOST-PAGASA-Neoguri.jpg>  
 Even though this typhoon did not impact directly the Philippine archipelago, it attracted air masses loaded with humidity, reinforcing the southwest Habagat monsoon winds over the Philippine islands, as this view shows clearly. It later moved northwards towards Japan

in low lying areas. Indeed, these rains caused many rivers in the capital area to overflow and Laguna Lake inundated large parts of Laguna and Rizal provinces. In Pampanga province, fishponds developed in amphibious areas were submerged and destroyed twice (Sinapit 2013; Van't Veld 2015), wiping out the investments of more than 2300 fishpond operators. Rainfalls far exceeded the seasonal norms and differed markedly from one station to another within the MetroManila area itself. The proximity of mountains to the capital region seems to be an additional factor for rainfall increase (Lagmay et al. 2015) (Fig. 3.12).

Philippine typhoons appear to have become stronger since the 1990s. From 1947 to 1960, the strongest typhoon to hit was Amy in December 1951 with a highest wind speed recorded at 240 kph in Cebu. From 1961 to 1980, Sening (Joan) was the record holder with a highest wind speed of 275 kph recorded in Virac in October 1970. During the next 20 years, the highest wind speed was recorded at 260 kph in Daet (Anding/Irma, November 1981) and Virac (Rosing/Angela, Oct-Nov 1995). In the new millennium, the highest wind speed soared to 320 kph recorded by Reming (Durian) in Nov-Dec. 2006 in Virac, then came Yolanda in November 2013, hitting the Samar coast in Guian with peak winds estimated at 350 kph, arguably the strongest typhoon ever to hit land anywhere on the planet (Takagi and Esteban 2016).

The alert signals used to have three levels, but the increasing frequency of so-called “super-typhoons” has led Philippine authorities to create a brand new “signal no. 4” level for exceptionally violent storms. On the long-term, the frequency

of cyclones over the Northwest Pacific does not seem to have increased, but the maximum intensity seems to be greater, as the waters of the Pacific are warming up. Trend scenarios call for possibly fewer but stronger storms in years ahead (Kang and Elsner 2012; Colbert et al. 2015).

Is this increased energy of storms due to climate change and global warming of the oceans? How should the Philippines prepare for the recurrence of Yolanda-like storms?

Current research by climatologists (Wu and Wang 2000; Lau and Wu 2001; Kawamura et al. 2002; McBride et al. 2003; Kubota and Wang 2009; Zhang et al. 2012; Feng et al. 2014; Villafuerte and Matsumoto 2015) indicates that the frequency of typhoons and hence the interannual variability of total rainfall in the Philippines is largely correlated to the oceanwide effects of El Niño-La Niña cycles (ENSO, El Niño Southern Oscillation). For example, during the summer of Central Pacific El Niño years, tropical cyclones are more likely to make landfall over East Asia (Japan and Korea). In the autumn of central Pacific El Niño years, there are very few landfalls in the Philippines. More systems are likely to make landfall in China, Indochina, the Malay Peninsula, and the Philippines, with heavier cyclone-related rains, during the peak season of eastern Pacific La Niña (Yonekura and Hall 2011), and less in eastern Pacific El Niño years, because an anticyclonic anomaly develops over the Philippine Sea and rainfall shifts eastward (Yuan et al. 2012); as a result, the total rainfall over the Philippines and Taiwan decreases. Reduced rainfall is one of the most common impacts of El Niño in the Philippines. This has caused massive drought in different parts of the country in the past, leading to meager farm outputs, for rice as well as corn (De La Cruz 2014, 2015). During the 1997–1998 El Niño event, the distribution of water was reduced to 4 hours per day in Metro Manila; about 30% of the population of Metro Manila who had no access to water coming from the Metropolitan Waterworks and Sewerage System relied on private operators, who offered water at a higher cost (De Vera 2015a, b). Similar warnings have been applied to the developing El Niño situation of 2015, as more than 50 provinces were experiencing drought (less than 60-percent their normal rainfall) and dry spell conditions (20 to 59% less than usual rainfall) in late May (Pazzibugan 2015).

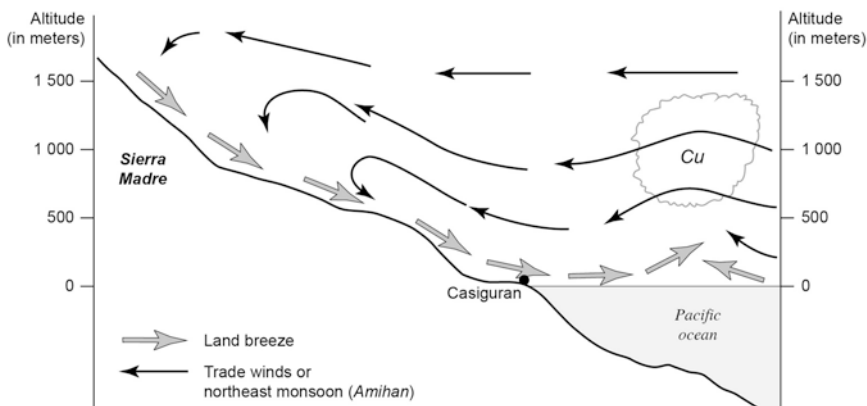
However, some researchers see little coincidence between La Niña and heavier monsoon rains, pointing instead to a declining rainfall trend (Cruz et al. 2013), which may have consequences for farmers. ENSO influence seems to be dominant factor in rain variability in the October-December period, while the intensity of the monsoon is the prime factor in the June-August time (Villafuerte and Matsumoto 2014).

Another current avenue of research is the existing link between global warming and the variability of rainfall, either in the southwest monsoon or in typhoons. However, conclusions remain a little fuzzy about its impact on weather patterns on shorter periods of time. In Southeast Asia including the Philippines, the impact of global warming on the onset, development, reversal or intensity of the Southwest monsoon is not clear yet (Loo et al. 2015).

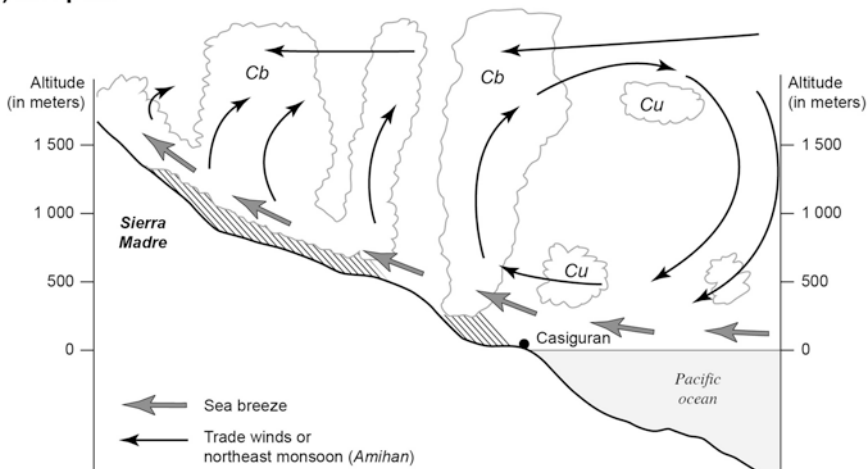
The analysis is made complex both at the global and local scales (Pullen et al. 2015), by the intricate interplay of land and sea, land-sea breezes interferences with steep slopes to create powerful, but localized, convective cells leading to huge local dif-

ferentials in rainfall amounts in this “maritime continent” of archipelagoes (Ramage 1968; Neale and Slingo 2003; Qian 2008). For example, the Cagayan Valley, in northern Luzon is protected by two mountain ridges and therefore appears as one of the driest place in the Philippines, the coldest in “winter” and the hottest in “summer”, as shown by statistics from Tuguegarao. Meanwhile, on a pan-Asian scale, the interplay between the Pacific trade winds and the true monsoon (southern hemisphere trade winds diverted to the northeast through the Coriolis effect) leading to a seasonal latitudinal move of the ITCZ is complicated by their encounter with medium latitude westerly winds over the South China sea area (Pérard-Tournier 1984) (Fig. 3.13).

a) at 2 a.m.



b) at 2 p.m.



**Fig. 3.13** Daily wind reversal on a mountainous coastal area of the NE Philippines (Casiguran, Aurora province) in Amihan season

The interplay between sea and mountain creates a regime of nighttime land breezes and afternoon sea breezes, allowing for the development of cumulonimbus clouds and associated thunderstorms in the later part of the afternoon (Pérard-Tournier 1984, p. 310)

If climatologists are still discussing the fine details of weather patterns and their possible long-term changes, it remains that the Philippine population is subjected to recurring episodes of heavy rainfall and episodic onslaughts of fierce storms, creating hazards for populations in most coastal and low-lying areas, linked to storm surges (Morin et al. 2016), leading to massive evacuations when powerful storms are forecast (Marasigan 2015). We will examine in the last chapter of this book the patterns of risk, vulnerability and resilience in the Philippines.

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## Chapter 4

# The Spanish Creation of the Philippines: The Birth of a Nation

**Abstract** This chapter examines the human background of the country from its early settlement to the end of the Spanish colonial era. Different theories have been presented to explain the initial settlement of the country. The Austronesian societies developed a social structure and patterns of commerce that were not completely erased by the Spanish colonization following the discovery travels of Magellan and others, and the conquest of the islands by Legazpi in the sixteenth century. Spanish control meant the imposition of the Catholic Church as a powerful element of organization in the countryside, and the development of cities following colonial Spanish guidelines. Manila was central to a large maritime trade network symbolized by the Manila galleons linking the Philippines, China and Spanish America (Acapulco). The excesses of the Spanish friars were a major factor in the Philippine revolution of the 1890s where writer Jose Rizal was a dominant figure. The end of the Spanish colonial order in 1898 marked the beginning of a second colonization by the United States.

**Keywords** Settlement • Exploration • Colonization • Catholic Church • Revolution

As a nation, the Philippines' history (Maguidad and Muhi 2001) is quite unique in Asia, since it was born from European conquest. Before the Spaniards there was no Philippine nation. Later it became an American colony, and therefore appears as a meeting point of civilizations (Wright 2000), a true melting pot of cultures from East Asia, the Pacific islands, Spain via Mexico, and the United States. Colonial America in Asia, a “third world”? (Berthe and De Los Arcos 1992).

The archipelago, maybe due to its spatial configuration, did not have a history of kingdoms or empires akin to Burma, Siam, Cambodia or even Java. There was no agrarian state in the Philippines, and no major trading port before the arrival of the Spaniards in the sixteenth century (Bruneau 2006). The Spanish colonization established in the Philippines a Catholic nation (Gripaldo 2009), with cultural, social and economic characteristics close to those of Latin American countries. Many characteristics of land ownership inherited from the Spanish period are still in place today, while some observers lament them as a “colonial mentality” in this only Christian country in Asia.

## 4.1 Pre-Hispanic Philippines

Popular Filipino culture, rich in tales and superstitions about magical creatures (Eugenio 1993), carries several legends about the creation of the islands.

The myth of Pili and Pinas tells the story of a brave warrior living on a large island, who owned a pili nut farm and was fondly called “Pili” by his neighbors, “pili” being both the name of the nut variety and a word meaning “chosen”. His lover was Pinas. When the country was threatened by invasion by a foreign king, he prepared for battle. When the foreign army came, he fought a vastly superior army. After he sent a desperate prayer to the god Bathala, this supreme divinity of the Tagalog people helped him by stomping on the land and opening large crevices where the sea swallowed the invaders. The big island then became several islands forming the shape of a warrior in a ready stance holding a shield (Visayas) and a sword (Palawan). But Pili and Pinas were never seen afterwards.

According to another Tagalog legend, the Philippines were formed a long time ago when there was no land on earth. There was only Bathala, god of the sky, Aman Sinaya, goddess of the Sea, and Amihan, the northeastern wind<sup>1</sup>. The first two were fighting: the sea was lashing great waves to hurt the sky, and the sky was in fury with lightning and strong winds. Amihan decided to stop them and took the form of a bird. Tired of flying in the storms, it finally convinced the sky to rain down big rocks to stop the turbulent sea. These rocks became the Philippine Archipelago, and the bird was able to rest. Sea and sky reconciled, made love and a bamboo grove appeared. As the bird rested on the bamboo, it heard voices inside, split it in two parts and there came a man, Malakas (“strong”) and a woman, Maganda (“beautiful”), ancestors of all Filipinos and of humankind.

Paleontological (Détroit et al. 2004) and ethnolinguistic (Blust 1988) research, as well as genetics (Miranda 2003), suggests that the origin of the inhabitants of the Philippines is multiple (Gaillard and Mallari 2004). Several theories have been advanced to explain the early settlement of the archipelago (Francisco 1971; Bellwood 1980; Solheim 1993; Manuel 1994).

Henry Otley Beyer (1921, 1935, 1949), an American who founded of the Department of Anthropology of the University of the Philippines, saw the ancestors of modern-day Filipinos coming from southern India through the Malaysian peninsula and Borneo, in several waves: “Dawn Man” close to Java man or Peking man around 250,000 BC, then Negritos, via land bridges at the time of ice age lowering sea-levels, ca. 25,000 BC, followed by Indonesian seafarers (3000–1000 BC),

<sup>1</sup>In Visayan legend the three deities are respectively Magauayan, Kaptan and Manaul.

ancestors of northern Luzon's ethnic groups (Ibanag, Kalinga, Apayao, Ifugao, Igorot), and finally more advanced Malay who brought the iron age culture, irrigation technologies and later Islam. Beyer's migration theory stated that the Indonesians pushed the Negritos away from the shore, so that they could settle near the shore. The Negritos were settled then into the fields, where they would hunt for food. Then the Malays pushed the Indonesians away from the shore and in turn the Indonesians pushed the Negritos away from the fields into the hills and mountainous regions of the Philippines. Most Malay settlements were coastal or riverine, since the sea and inland waters provided most of the food. Also, in the absence of roads, people traveled mostly by water, even more in an archipelago.

According to Filipino anthropologist Felipe Landa Jocano's "core population theory" (Landa Jocano 1967, 1975), fossil evidence and cultural features show a quite different story. For him, there was no succession of clearly separated migration waves, but a relatively continuous flow, that came from the north and spread beyond the Philippines towards Borneo, New Guinea and Australia. It was basically the same ethnic group but over time ethnic groups started to differentiate. According to Landa Jocano, the peoples of prehistoric insular Southeast Asia belonged to the same "core" population, who shared a common cultural orientation (house types, belief systems, ritual complexes). This base culture emerged from similar responses to geographical conditions. Malays, Filipinos and Indonesians were "co-equal as ethnic groups" in the region of "Island Southeast Asia".

It seems widely accepted now that the settlement of the archipelago by hunters-gatherers (Junker 1996; Mijares 2008) started about 40,000 years ago and several waves of settlement followed each other. On Palawan island, in the western Visayas, human bones (Tabon Cave man, discovered in 1962) (Détoit et al. 2004) dating about 22,000 years ago, much earlier than in Malaysia, have been found, as well as some stone tools estimated to be about 30,000 years old. These tools have features reminiscent of those found in Borneo.

The Aeta (Negritos, Batac) came 13,000—10,000 years ago from the Asian continent and dispersed throughout the Philippines. Nowadays they are living mostly in the remote highland areas of Luzon, Palawan, Panay, Negros and Mindanao. Their very dark skin pigmentation and hair texture strongly resemble those of Australian Aborigines and Papuans.

The third major wave of migration consisted of peoples that anthropologists call "Austronesians"<sup>2</sup>, who may have originated from the lower Yangzi river before moving along China's coastline.

Another hypothesis for the peopling of Southeast Asian island areas makes them come from Taiwan ("out-of-Taiwan hypothesis") (Bellwood 1988, 1997). Excellent sailors, ancestors of the Badjao water people, they first arrived from Fujian and Taiwan around 3500–3000 B.C., settling mostly in northern Luzon (Mijares 2006), and bringing with them a more advanced culture; iron melting for the production of iron tools, pottery techniques and the system of *sawah* (rice fields). The common root-language of the archipelago's dialects is part of the Austronesian family, which

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<sup>2</sup>From the Latin *auster* for "south wind" and the Greek *nêsos* for "island" (Tanudirjo 2004; Peterson 2009).

extends from Polynesia to Madagascar (Lopez 1967; Bellwood 1991). It has affinities with the languages of inland Taiwan as well as Tai-Kadai dialects in today's Thailand and Laos.

However, this “out-of-Taiwan” hypothesis, popularized by linguists such as Peter Bellwood (1995), seems much less certain now. Recent research (Capelli et al. 2001; Macaulay et al. 2005; Soares et al. 2008) has shown the majority of current Austronesian speakers trace their paternal heritage to Pleistocene settlers in the region, as opposed to more-recent agricultural immigrants. DNA diversity in the region has evolved in situ over the last 35,000 years within Insular Southeast Asia, “ISEA” (today's Malaysia, Indonesia and the Philippines), and expanded dramatically around the beginning of the Holocene, when the ancient continent of Sundaland was broken up into the present-day archipelago by rising sea levels (Oppenheimer 1999). Global warming and sea level rises at the end of the Ice Age (15,000–7000 years ago) shaped human diversity in the region. Taiwan and Near Oceania (Western Pacific archipelagoes) received new populations more recently, within the last 8000 years.

There were some distant Indian/Hindu influences. Orang Dumpuan (“men of Champa”), vassals of Srivijaya came from Annam around the tenth century A.D., followed by Orang Bajar from Banjarmasin in Borneo, who were also vassals of Srivijaya. The “Laguna Copperplate Inscription”, dated from about 900 AD (oldest known written document found in the Philippines), which was found in the Laguna de Bay contains a mixture of Sanskrit, old Malay, old Javanese and old Tagalog writings, shows the existence of links between Luzon and Java, especially the Srivijaya Empire (Rausa-Gomez 1967), pointing to a Hindu-Buddhist cultural influence on the animist people of pre-Islamic Philippines and the early development of trade by local kingdoms, both within the archipelago and outside (Junker 1999).

Starting in the eleventh century A.D., Muslim traders came from Kalimantan (Indonesia) to the Philippines. Islam spread throughout the southern part of the Philippines, chiefly in the Sulu archipelago, Mindanao and southern Palawan, with some local Muslim communities further north including in central Luzon.

Each of these ethnic groups kept a specific war culture (Junker 1999): at the time of the arrival of the Spaniards in the sixteenth century, the various peoples of the Philippines used different weapons from one tribe to another. Burial sites reveal the violence of the times (decapitations, impaled bodies) and defenses around settlements were quite developed at the time of Spanish arrival: they consisted of raised earthworks with wooden palisade along the top (“*kuta*” in Tagalog) surrounded by a ditch or water-filled moat (“*bangbang*” in Tagalog). In Bicol (southeastern Luzon), bamboo towers called “*bantara*” were built behind the fortifications as stands for archers armed with long bows. Fortified villages on the Zamboanga peninsula (within the Sulu polity) constructed a high bamboo watchtower outside the fortifications so that warriors could scan the sea for approaching marauders. Tribal groups had developed chiefdoms which embarked on raids against other groups, but also did some trade, especially of prestige goods (Junker 1990, 1993, 1994), with the Chinese neighbors, in particular during the Ming dynasty of China.

Two major types of civilizations developed in parallel in the pre-European archipelago. The 2013 exhibition held at the Paris Quai Branly Museum on “the Philippines, archipelago of exchanges”, showed clearly two types of artistic expressions.

In the mountains and valleys of the Northern Highlands, “rice societies” developed an art carefully reflecting nature. Leaf-shaped dishes, sun-like bowls, leaf veins carved in some object always expressed that desire of harmony with nature and rice landscapes. The southern coasts and islands in the South have seen flourishing Muslim sultanates (in Mindanao and Sulu) from the fourteenth century and are at the heart of an ancient maritime network under influences from India, Indonesia, China and the Arab world.

Shipping routes were already very active in pre-Hispanic times (Shaffer 1996; Orillaneda 2016). Funeral jars, jade, pearls, coral jewelry, Chinese porcelains reveal these early exchanges. From the tenth century—long before the Spanish colonization—warehouses were built and transport was organized through the mountains. An alternate model (Flessen 2006) of early settlement of Southeast Asian archipelagos, including the Philippines, has been developed around the concept of the Nusantao Maritime Trading and Communication Network (Solheim 1988, 1996, 2006). In the Visayas, the local kingdoms centered on Dumaguete, Tanjay and the city of Cebu were quite active in trading with other parts of Southeast Asia (Bacus 1996, 1999; Junker et al. 1996).

In this merchant context, the Chinese presence was increasingly active. Chinese trading posts were established in several sites of Luzon during the Song dynasty, around 1000 A.D. There were also trips from Visayan sailors to the coast of Fujian (Scott 1983; Isorena 2004). In the early fifteenth century, Ming emperor Yung Lo organized several maritime expeditions to the archipelago (1405–1406, 1408–1410, 1417), before imposing nominal sovereignty of China over the islands in 1424, when he appointed a governor. These appropriation efforts stopped with the death of Yung Lo.

Maritime thalassocracies based in present-day Indonesia gradually gave way in the fourteenth century to Muslim sultanates, supported by a strong and massive new immigration of Malay origin, and whose installation in the Philippines began in the southern islands of Sulu and Mindanao.

As Islam progressed towards the Visayas and Luzon, Spanish conquerors appeared after the first European contact made by Magellan in Cebu.

## 4.2 Spanish Exploration and Conquest

The islands were reached in 1521 by Portuguese navigator Ferdinand Magellan (Burney 1803; Bourne 1907; Denison Champlin 1911; Aquino 1993; Schreurs 2000; Blair 2006; Field 2006), working for the Holy Roman Emperor Charles V (Charles I of Spain). Looking for a new route around America to the East Indies and the Moluccas, instead of the Vasco de Gama’s route around Africa, Magellan left Sevilla

in August 1519, explored the Rio de la Plata, quelled a revolt of his Spanish lieutenants off the coast of Patagonia, then discovered in October 1520 the passage later named in his honor (Straits of Magellan) near the southern tip of South America. He then went up the coast of current-day Chile before embarking on a long westward sailing across the large ocean that he named Pacific, briefly stopping in Guam (early March 1521), finally reaching the empty islet of Homonhon at the southern tip of Samar on March 16, 1521. He then followed the coast of Leyte towards an small island named Limawasa where was held the first mass ever on the islands, first christened San Lazaro archipelago, then to Cebu. Magellan took possession of the islands on behalf of the Spanish Empire, barely 2 years after Cortez' conquest of Mexico. His contact with local chiefs was cordial at the beginning: he concluded a "blood compact" (*sanduguan*)<sup>3</sup> with Rajah Kolambu and Rajah Humabon in Cebu. But on the island of Mactan, off the coast of Cebu, Magellan was killed by the warriors of local king Lapu-Lapu on April 27, 1521, as sailors from the Magellan fleet had started to abuse local women. His second-in-command, Juan Sebastian del Cano, was able to escape with a reduced fleet and return to Europe in September 1522.

On April 1529, through the treaty (or "capitulation") of Zaragoza, Spain sold the rich Moluccas (Donkin 2003) to Portugal and a new line of demarcation was established, on a north-south line established 298 leagues east of the Moluccas. In a replica of the 1494 agreement ("Treaty of Tordesillas") between the two countries about Atlantic discoveries, Spain would get the territories east of the line (mostly the Pacific Ocean) and Portugal the western ones, including all of Asia and its neighboring islands so far "discovered". Although the Philippines were not named in the treaty, Spain implicitly relinquished any claim to them because they were located west of the line.

However, a few years later, in 1543, a second Spanish expedition was led from the western coast of Mexico, under the leadership of Ruy Lopez de Villalobos. They landed in the same area of eastern Visayas as Magellan, and then explored the coast of Mindanao to the south. Villalobos, in honor of the young Prince of Spain Felipe, the future king Philip II, named the islands of Samar and Leyte "Islas Filipinas"<sup>4</sup>.

The real conquest of the Philippines came in 1565 with the arrival of the expedition led by Miguel Lopez de Legazpi (Cushner 1965), who had built a career as financial administrator in colonial New Spain, rising to the position of civil governor of Mexico City. After he conquered Bohol, Negros<sup>5</sup> and Cebu in 1565, where he founded the first permanent Spanish settlement in the islands, currently Cebu City<sup>6</sup>, he visited the whole archipelago, renamed it "Philippines" to include all the islands, not just Samar and Leyte, and his associates<sup>7</sup> conquered Panay in 1569, then

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<sup>3</sup>From *dugo* (blood).

<sup>4</sup>In Chinese Song dynasty records (982 AD), the archipelago had been known as Ma-yi.

<sup>5</sup>Home of the dark-skinned Ati tribe, a Negrito group, hence the name given to the island by Spaniards.

<sup>6</sup>The original name of Cebu City was "Villa del Santísimo Nombre de Jesús" (The City of the Most Holy Name of Jesus), since Spaniards had discovered a small statuette of the Christ child brought by Magellan 45 years earlier.

<sup>7</sup>Martin de Goiti and Legazpi's own grandson Juan Salcedo.

Mindoro and the large island of Luzon in 1570. Finally, on May 19, 1571, an expedition of 280 Spaniards and 600 Visayans encountered no resistance from the rulers of the tiny but prosperous kingdom of Maynila in Luzon. Legazpi established a blood compact with Rajah Sulayman and his uncle Lakandula, king of Tondo, as he had done earlier in Bohol with Rajah Sikatuna. On June 3, 1571, despite some resistance in Bulacan and Pampanga, Legazpi established Manila as the capital of the new Spanish colony (Guariña 2007).

The geographic proximity to the newly-designated capital of Manila and the distinct topographical features of the three “Southern Tagalog” provinces (Cavite, Batangas and Laguna), the close links of their coastal areas along Laguna de Bay to Manila Bay for commerce and defense, made them early on essential areas in the development of the colonial Philippines and the establishment of hispanized governance structures (Parco de Castro 2010).

By the time of Legazpi’s death, in August 1572, although the Visayas and central Luzon had passed under Spanish and Catholic control, there was strong resistance by local Muslim rulers in Mindanao, as well as in the mountains of northern Luzon (animist Zambal and Igorot tribes).

Through largely outnumbered by the local populations, the Spaniards who came to colonize the Philippines easily took control of many islands. This was possible because the natives lacked unity and a centralized form of government due to the diversity of languages and the physical separation between islands, the willingness of many local rulers to accept the Spaniards with treaties signed under the form of blood compacts, especially to use the support of Spaniards against their enemies, and the maritime and military superiority of the Spaniards. In the Bicol peninsula of southeastern Luzon (Gerona 1992), the Spaniards who came in the early phase of the conquest were greeted by a myriad of indigenous settlements scattered throughout the vast region. Existing independently from each other, each settlement maintained a definite form of socio-political organization strongly based on kinship ties reinforced by the ritual blood compacts encountered by Spanish explorers and conquistadores. The Spaniards referred to them as *rancherías*, roughly equivalent to the English word hamlet, and widely known in the Philippines as *barangay*<sup>8</sup>.

Although some barangays already functioned as units of governance, each one existed independently of the other, and the powers of each Datu, Hari or Rajah<sup>9</sup> (local chief) were limited only to his own barangay, embracing only a few hundred people. Barangays could be considered as “village-states”. The social structure (Scott 1979, 1997) often comprised a small nobility, which administered land for the community, an intermediate class of freemen (*maharlika*), lower-class peasants (*timaiwa*) who were in a serf-like status, and finally slaves (*alipin*, mostly war captives). Barangay chiefs had great powers: executive, judicial, legislative as well as military. The local political regime could be described as consultative monarchies, since the Datu often consulted village elders before making a decision, especially in

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<sup>8</sup> A term derived from the Malay *balangay*, meaning “boat” (Abinion 1989)—As in many Southeast Asian societies, there seems to be a strong social symbolism associated with ships.

<sup>9</sup> In Muslim areas.



judicial affairs. Local shamanism rituals were often led by female priestesses, the *catalonan* (tagalog) or *babaylan* (visayan). After the Spanish takeover, Catholic priests relegated these women to secondary roles (Barretto-Tesoro 2008).

No higher institution existed, and the Spaniards took advantage of this situation, using the barangays friendly to them to subdue the barangays that were not. The resistance came from areas where governance networks were stronger.

The Islamic sultanates of Sulu and mainland Mindanao represented a higher stage of political and economic development than the barangay. These sultanates had emerged in the two centuries preceding the arrival of Spanish colonialists, in a wave of Malay migrants whose rulers tried to convert to Islam, enslaved or drove away the original non-Muslim inhabitants of the areas that they chose to settle in.

The Philippines had never been a country. The Spaniards had to build a nation.

### 4.3 The Spanish Colonization of the Philippines

Legazpi's successors started a more systematic colonization, evangelization and Hispanicization of the country with the help of Augustinian friars at first, before other religious orders (Franciscans, Jesuits, Dominicans) joined to make the Philippines a stronghold of Catholicism.

#### 4.3.1 *Hispanic Philippines*

Spain had three objectives in its policy toward the Philippines, its only colony in Asia: to acquire a share in the spice trade, to develop contacts with China and Japan in order to further Christian missionary efforts there, and to convert the Filipinos to Christianity. Philip II explicitly ordered that pacification of the Philippines be bloodless, to avoid a repetition of Spain's sanguinary conquests in the Americas (Phelan 1957; Lynch 2010). Occupation of the islands was accomplished with relatively little bloodshed, partly because most of the population (except the Muslims) initially offered little armed resistance. Contrary to what happened in the Americas (Lovell 1992), it seems there was no demographic collapse after the arrival of Spaniards. The lack of a massive depopulation through diseases in the Philippines may be attributed to the contacts that already existed with continental Asian countries such as China, protecting of early Filipinos against mortality from common diseases. Possibly, as in Pacific islands, the discontinuous character of the archipelago prevented a massive spread of epidemics. However, recent research by Linda Newson challenges this assumption (Newson 1999, 2006, 2009).

The Philippines were administered as a dependency of New Spain (Mexico), making it a colony of another colony. Under the theoretical supervision of the viceroy in Mexico and the Council of the Indies until 1821, a governor general exercised power, assisted by the *Royal Audiencia*, or Supreme Court. The territory was divided

into provinces (*alcaldas*, administered by a provincial governor, or *alcalde mayor*), themselves subdivided into *pueblos* (districts) administered by a *capitan* or *gobernadorcillo* (little governor), who selected barangay leaders (*cabezas de barangay*) among the families of former *datu* or chiefs. Unpacified areas (*corregimientos*) were headed by a military officer (*corregidor*). (Robles 1969).

In 1570 the *encomienda* system (Bauzon 1967; Roth 1974; Anderson 1976) was introduced in the Philippines when Legazpi, in compliance with the decree issued by King Philip II in 1558, distributed lands in Cebu to loyal Spanish subjects who had helped him in the conquest. Some *encomiendas* were owned by the king of Spain (*Encomiendas Reales*), mostly cities, seaports and regions rich in natural resources. The majority were private *encomiendas* entrusted to private citizens or the Catholic Church. The *encomienda* was not actually a land grant (*merced*, also used in Philippines), but was a reward under which the Spaniard receiving his favor (*encomendero*) was given the right to collect tributes—or taxes, or free labor—from the inhabitants of the area assigned to him. The *encomienda* was, therefore, a public office. *Encomenderos* were required by law to give protection to the natives, to help missionaries convert the natives to Christianity and to promote education. However, many Spanish *encomenderos*, including clergy members, committed abuses, such as brutality towards Filipinos, sexual abuse of women, forced labor (*polo*, the Philippine version of the Latin American *repartimiento*), excessive tribute collections, and unwarranted confiscation of farm animals or crops. Abuses sometimes led to conflict between friars and *encomenderos*. Clergymen observed that the *encomenderos* neglected their duty of teaching the Christian faith to the Filipinos and were only interested in enriching themselves instead. Some friars tried to protect the Filipinos from the greed and mistreatment by preaching from the pulpits against *encomendero* abuses, writing letters and memorials to the governor and the King of Spain about the abuses of the *encomenderos*, and refusing them communion or absolution of their sins. Nevertheless, tribute and forced labor lasted for more than two centuries, until 1884.

This system helped create reinforce an oligarchic/feudalistic system of local control in rural areas (Cushner and Larkin 1978). A Filipino upper class of “*Indios encomenderos*” (Santiago 1990), the *lakan* soon to be called *principalía* or *principales* (principal ones), made up mostly of the people chosen by Spaniards to be barangay leaders, had local wealth, high status and prestige; and certain privileges, such as exemption from taxes, some control of the parish church, and appointment to local offices. Under Spanish rule, communal use and ownership of land was replaced with the concept of private, individual ownership and the conferring of titles on members of the *principalía*. However, with one lone exception, “Indios” did not control land (Santiago 2002) (Table 4.1).

It gave rise to a class of Spanish-Indio<sup>10</sup> *mestizos* (descendants of a Spanish lord and a local woman), a socially exclusive class who studied in Manila and had close ties with Spain, traveled in Europe, and later in the United States. It was able to

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<sup>10</sup>As in America, native populations were called “Indios” by the colonizers, until the end of the nineteenth century.

**Table 4.1** The social colonial structure of Mexico and the Philippines

Colonial Mexico		Colonial Philippines		
Casta	Description	Casta	Description	Social position
<i>Peninsulares</i>	European-born whites (Spaniards)	<i>Peninsulares</i>	European-born whites (Spaniards)	Highest administrative position, clergy
<i>Criollos</i>	American/Mexican-born whites	<i>Insulares</i>	Philippine-born white (Spaniards)	High administrative position, clergy
<i>Mestizos</i>	Spanish-Indio descent	" <i>Filipinos</i> " or " <i>Tornatras</i> "	Spanish-Indio descent	Lower administrative position, ilustrados
<i>Mulattos</i>	Spanish-African descent	<i>Chinese Mestizos</i> or <i>Mestizos de Sangley</i>	Spanish-Chinese or Chinese-Filipino descent	Merchants, lower administrative positions
<i>Indios</i>	Natives	<i>Chinese</i> or " <i>Sangley</i> "	Immigrants of Chinese descent	Merchants
<i>Negros</i>	African descent	<i>Indios</i> and <i>Negritos</i>	Natives (Austronesians) + Aeta, Agta, ...	Menial labor + "savages"

Source: Rodriguez (2006)

acquire large tracts of land and to enrich itself further with money-lending to the poor. Meanwhile, Filipinos peasants, seeing it was useless to work hard if the only result of their labor was to enrich the *encomenderos*, sometimes adopted a lazy attitude, encouraged by friars who told them that neglecting their work would free them from injustice.

Contrary to what had happened in Mexico or Peru, the Spaniards did not find large quantities of exploitable precious metals in the Philippines (Diaz-Trechuelo 1963, 1964). The spices so abundant in the not-so-far Moluccas were also not there. The ecology and agriculture of the archipelago were not transformed much until the middle of the nineteenth century, with the exception of the introduction of corn cultivation and some irrigation to increase the rice production for the growing urban population. A colonial tobacco monopoly was established in 1781, lasting until 1881; Cagayan Valley, Nueva Ecija, Marinduque and Isabela were designated by Spanish authorities as areas where tobacco should be the only crop, at the expense of rice, corn, peanuts and root products. Farmers in these areas were forced to buy their food while being paid very low prices for tobacco. The Philippine colony did not create much wealth by itself (Pradera 2004), in fact it was a money-losing territory (Merchant 2012), and annual deficits were compensated by subsidies (the "*situado*") from Mexico (Bauzon 1981).

The main source of income for the colony was its role as an entrepot linking the Hispanic world and the Chinese realm (Diaz-Trechuelo 1966; Watson Andaya 2010). The "Manila galleons" (Chaunu 1951; Palazuelos-Mazars 2012) sailing from

Manila or Cebu to Acapulco, Mexico (Zaide 1971; Ango 2010), taking advantage of prevailing winds across the Pacific Ocean (Bankoff 2006), brought shipments of silver bullion and minted coins, Spanish brandy, Mexican wines, wool and sardines that were exchanged for return cargoes of Chinese goods, silk textiles, lacquered goods and porcelain bound for Spanish California, Acapulco or Peru (Galvin 1964; Flynn and Giraldez 1996; Bjork 1998; Nogami 2006; Tremml 2012). There was also a Portuguese-led slave trade using Manila as a major hub. Portuguese slavers provided an important labour force that helped build and maintain the Manila colony from 1580 to 1640, during the years of “Iberian Union”, when one-crown rule gave Portuguese traders free trade access to Manila (Seijas 2008). This diversified trade in Manila is credited for bringing the baroque aesthetic style of European art, architecture, literature and music deeply influenced by the Catholic Church across the seas, lending to its evolution. Puebla City, in Mexico, was a major seat of baroque culture during the Spanish colonial era, and has undeniable similarities with the Philippines. The design of Puebla’s many churches are strikingly parallel to that of colonial churches in the Philippines, including the wide-open plazas across the religious buildings. Aztec words also made their way from Mexico to the Philippines to enter Tagalog, such as *kamote* (sweet potato), *tiangge* (flea market) and *palengke* (market).

But there was no direct trade with Spain until the establishment by Governor General Jose Basco y Vargas of a Royal Company of the Philippines (*Real Compania de Filipinas*) in 1785, which was strongly opposed by galleon traders. This company, due to mismanagement and corruption, was never as successful as its Dutch, English or French equivalents; it disappeared in 1834.

Malay or Chinese piracy around the archipelago (Mallari 1986; Luque Talavan 1999) was a constant threat to this international trade, as well as Japanese incursions. Galleons Trade to Acapulco, a colonial government monopoly, continued until 1813. A few years later, in 1831, Manila became an open port for international trade, before Chinese and Japanese ports were opened by western powers in 1842 and 1854 (Aguilar 1994). New trade partners arose, as well as exports of sugar, abaca and textile products (Legarda 1999; Pradera 2004). Manila was also an alternative to Malacca and Makassar for the Moluccan spice trade and the base from which the Spanish made their bid for control of the Moluccas (Villiers 1986).

The thriving entrepot trade attracted growing numbers of Chinese to Manila. In addition to managing trade transactions, the Chinese were the source of provisions and services (tailors, cobblers, painters, bakers, confectioners, candle makers, silversmiths, apothecaries) for the capital. The Spanish did not trust them but had to recognize their essential role. Soon the Chinese became more numerous than the Spanish in Manila. Colonial authorities tried to control them with restrictions on residence, confinement to a neighborhood outside Manila’s walls, the ghetto-like “Parian” (moved several times) and periodic deportations back to China. Some violent clashes, leading to riots and massacres, occurred during the seventeenth century (McCarthy 1970). For a brief time, the Chinese were expelled from the country before being re-admitted (Escoto 1999, 2000). Chinese-Indio mestizos emerged as

an important economic group, the Sangley<sup>11</sup>, who controlled trade and money-lending (Wickberg 1964). Today, the richest people in the country are still mostly Filipino-Chinese.

Cities created by the Spaniards (Reed 1967) followed the prescription of the “Leyes de India” (see Chap. 14) implemented in colonial Spanish America. Many cities had the same square central plaza with arcades, a church and the local government authority buildings as what was found from Mexico to Argentina.

From the beginning, the Spaniards had to face threats against their new colony. In 1566, the Portuguese had tried to retake Cebu from Legazpi. In 1574, a Chinese fleet unsuccessfully attacked Manila. The Dutch, who had had been fighting for their independence from Spain since 1568, ousted the Portuguese, established a new colonial base in Java, then tried repeatedly to capture Manila (1600, 1609, 1616, 1647), tried a blockade then started to trade (Roessingh 1967; Laarhoven and Pino Wittermans 1985; Van den Muijzenberg 2001). Before cutting contacts with the outside world in 1644, Japan claimed sovereignty over the archipelago. Later, during the 7 Years War, the British occupied Manila (1762–1763), but they left after the signing of the Treaty of Paris (De la Costa 1962). As the nineteenth century was coming to an end, Germany also started to express interest in the Philippine islands (Guerrero 1961; Schult 2002, 2005, 2011). In 1887, the set-up of a Philippine Exposition in Madrid was a way for Spain to reassert its authority, and its colonial project for the archipelago at a time its control was weak and discontent was growing among the local population (Sanchez Gomez 2002; Hardacker 2011).

### 4.3.2 Catholic Philippines

The role of the Spanish clergy, especially the monks, was considerable (Fernandez 1979). After the Augustinians who had traveled with Legazpi in 1565, the Franciscans arrived in the Philippines (1577), followed by Jesuits (1581), Dominicans (1587) and Recollects (1605). Manila became the seat of an archbishopric in 1595.

Early missionaries implemented the *reduccion* system comparable to the Jesuits practices in South America (Cushner 1959; Hernandez 2010). The pacification of the Philippines had to be accomplished through conversions and the gathering of converts into the *cabecera* (concentrated settlement). Churches and convents were central elements of community life. Smaller settlements, known as *sitio* (*purok* in local Tagalog language) or *visita*, had only a small chapel where priests from the neighboring town could come celebrate mass from time to time. Natives who retreated to the mountains in order to avoid the *reduccion* system were named *remontados*, and scattered in small altitude villages throughout Luzon.

The Spaniards considered conversion through baptism to be a symbol of allegiance to their authority. Converting Filipinos was relatively easy, given the absence

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<sup>11</sup> *Xianglei*, traveling merchants.

of other organized religions, except for Islam, which predominated in the south. The missionaries were especially successful in bringing women and children into the Church by learning the local languages (Mintz 2005) rather than forcing the “Indios” to learn Spanish. The collective ceremonials incorporated Filipino social customs into religious observances, such as the lively fiestas (Wendt 1998) celebrating the patron saint of a local community, until today.

The Church controlled culture in the Spanish Philippines (Gripaldo 2009). Printing presses were owned and managed by the religious orders. Thus, religious themes dominated the literature (Lumbera and Nograles-Lumbera 1982) and culture of the Christianized majority, which was educated by the friars. As early as 1611, the Dominicans friars founded in Manila the “Colegio de Nuestra Señora de Santisimo Rosario”, later renamed “Pontifical and Royal University of Santo Tomas, The Catholic University of the Philippines”. Known today as the University of Santo Tomas, it is the oldest university in Asia<sup>12</sup> (25 years older than Harvard, Massachusetts), and it is still one of the “Big Three” universities of the Philippines<sup>13</sup>, with more than 42,000 students on campus in 2013. Then came in 1630 the “Colegio de San Juan de Letran” in Manila, also run by the Dominicans and the Colegio de Santa Isabel in 1632. These early colleges (Santiago 1991) gave maximum emphasis to religious topics in curriculae, since academic control was exerted by friars in an authoritarian way later described by Jose Rizal in *Noli me Tangere* (see infra).

Church and state were inseparably linked in carrying out Spanish policy (Gazano 2001). The state assumed administrative responsibility, funding expenditures and selecting personnel for the new ecclesiastical establishments. Responsibility for conversion of the indigenous population to Christianity was assigned to several religious orders: the Dominicans, Franciscans, and Augustinians, known collectively as the “friars”, and to the Jesuits. A 1594 agreement assigned specific regions to each monastic order, so as to avoid competition (De La Costa 1954). Augustinians were in the central Visayas (Cebu, Bohol, Negros), the Tagalog country around Manila and south of Laguna Lake, as well as the provinces of Pampanga and Ilocos towards the north. Franciscans were in Camarines (southeastern Luzon), Dominicans in Cagayan (northern Luzon), Jesuits (Cushner 1959) in Samar and Leyte. Spanish authorities congregated the scattered Filipino population into clustered village settlements, where they could more easily than in smaller hamlets or in upland areas, be instructed and Christianized under a friar’s eye. The basic administrative unit in the Spanish Philippines was the *pueblo* or municipal township. Before the area was awarded to the Augustinians, Franciscan missionaries had already helped established several pueblos near the shores of Laguna Lake (Concepcion 2013): Pila, Lumbang, Nagcarlan and Morong in 1578, Siniloand and Pangil in 1579. The *pueblo* encompassed both settled and unsettled districts within its geographical boundaries. A town centre known as *población* was the largest single residential zone within the municipality but was surrounded by smaller satellite communities.

<sup>12</sup> However, there are proponents of an even earlier university created by the Jesuits, the Colegio de San Ildefonso in Cebu (1595), which is now part of the University of San Carlos.

<sup>13</sup> The two other universities widely considered as the most prestigious and highest-ranked in the country are the Ateneo de Manila, now located in Quezon City, created by the Jesuits in 1859, and the public University of the Philippines founded in 1908. Most political and economic leaders of the Philippines have graduated from one of these three universities.

Beyond these areas of settlement were the sparsely populated regions of swamp, forest, plain or mountain. Size varied enormously both in geographical extent and population density, from a few hundred families clustered in a single village or *barangay* in frontier areas to many thousands of persons spread over a number of settlements in the lowland provinces of Luzon and the central Visayas (Bankoff 1992). This paved the way for the emergence of the present system of politico-territorial organization of villages, towns, and provinces, and to denser settlement on the coastal and lowland areas (Fornier 1998).

In the course of Spanish colonization in the Philippines, the friars constructed opulent Baroque-style church edifices (Trota Jose 1991). Most of these structures are still standing across the country and they symbolize the cultural influence of Spain in Filipino life (Legarda 1960; Ahlborn 1963). While the Spaniards exploited labor in the construction of the sanctuaries for Roman Catholic worship, these same buildings allowed the expression of Filipino artistic talents, since the carpenters, masons, craftsmen, and artisans were mainly Filipinos.

Religious orders provided essential civil administration in the greater part of the archipelago. Attempts by governors to control the friars failed, as demonstrated by the 1719 assassination of Fernando Bustamonte, who had tried to impose civilian control on the church. Monasteries also became major landowners, and the abuses by many arrogant Spanish-born monks towards local people generated strong resentment from Filipino farmers. In 1768, Governor José Raon decided the secularization of vacant parishes, which led to the rise of a class of Filipino priests. Their return to Spain (1859) was one of the causes of the explosion of Filipino nationalism.

Overall, Spanish colonization in the Philippines may be considered as having both positive and negative consequences.

On the positive side, it created a new country, opened to foreign investment and global trade. Formal Western education (reading, writing, counting), viewed by the Church as an effective way to lead the populations to Christianity, was accompanied by the introduction of books and literature. Many cultural transfers were accomplished, in terms of agricultural tools, new crops, new building techniques, and the infusion of the local vocabulary by many Spanish words in the different dialects of the archipelago (Tayag 2015) as well as the rise of Chavacano<sup>14</sup>, a creole language in Zamboanga Peninsula. Jesuits also learned the local languages (Arañas 1985) to be more efficient in their work of evangelization. Maps were made of the country (Padron 2015), leading to a better knowledge of its configuration.

However, colonization was accompanied by the systematic destruction of the local writing system (*baybayin* script), the oppression of Filipinos by clerics, and the division of society in favor of a small Spanish-speaking elite who took control of local politics. The church teachings ingrained in Filipino psyche the fact that poverty was not bad. “Blessed are the poor and the oppressed, for they will inherit the kingdom of heaven”. However, some writers were denouncing this teaching. Graciano Lopez Jaena (1856–1896), for example, wrote that “burying him in ignorance and fanaticism, the friar had found in the *indio* an inexhaustible mine of exploitation”.

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<sup>14</sup>Chavacano is of Spanish-Portuguese structure with Malay words, contrary the other languages of the archipelago, which are of Austronesian structure and grammar with Spanish and English words incorporated.

### Spanish-Filipino family names

One of the more obvious marks left by Spanish rule in the Philippines is the prevalence of Hispanic surnames among Christianized Filipinos. Before the arrival of Spaniards, the customary naming system was “A father of B”. The Catholic influence quickly led Filipinos to choose names of Saints and adopt as surname “Santos” (still the most common family name today), “San Antonio”, “San Jose”, as well as the very Catholic “Cruz” or “De La Cruz”, “Del Rosario”, or “Bautista”. However, siblings in a same family often chose different surnames, making administration very complicated. Some peasants serving on the land of a powerful *encomiendero* sometimes chose his family name, infuriating landlords who did not want to share their name with low-class peasants.

To solve the problems, the Governor General of the Philippines, Narcisio Clavera, decreed on November 21, 1849 that all Filipinos should have a surname as a step to improve census data and tax collection. (Luque Talavan 1997). It also allowed to track down unauthorized migration throughout the Philippines. The decree came with a 141-page reference book known as the “Catalogo alfabetico de apellidos” (Alphabetical catalogue of surnames, *Alpabetikong katálogo ng mga Apelyidong Pilipino*) from which all family names should be picked.

Spanish administrators, working with priests at the barangay level, established a very rigid system for the distribution of the names. The elder male member of each family had to pick a name from the list. In some areas, the names all started with the same letter: letter M in Santa Cruz (Zambales province), R in the city of Oas (Albay province). Since the book had many pages, often the administrators worked with one short set of names; administrators in Negros imposed family names starting with the same letter as the town: G in Guimbal, T in Tubungan, etc. To provide more name diversity, the names already too popular (Bautista, Cruz, De la Cruz, Santos) were not on the list, therefore unauthorized, but if they had already used that name for more than four generations, people were allowed to keep it. Most names were Spanish (Garcia, Gomez, Gonzalez, Guerrero, Martinez, Mendoza, Ocampo, Reyes, Rivera, Rodriguez, Torres), some Basque (Aboitiz, Azcarraga, Echevarria, Ibarra, Ugarte) or Catalan (Balaguer, Ferrer, Puig), others about personal character traits (Banayat: calm, Bayani: heroic, Dimaguiba: strong, Dimalanta: untiring, Karunungan: knowledgeable, Magsaysay: talkative, Maliwanag: smart, Matapang: brave, Panganiban: aware of danger, Sicat: famous...) described in different dialects of the Philippines. Names reminiscent of Catholic practices and beliefs were widely favored (Contemplacion, De Dios, Encarnacion, Navidad, Pascua, Resurreccion, Sacramento). Filipino-Chinese people adopted romanized forms, either very-Chinese sounding monosyllabic or disyllabic names (Chua, Lee, Sy, Tan, Ting, Caktiong, Singson) or disyllabic or trisyllabic ending in the honorific *-co* (Angsioco, Cojuangco, Gotiangco, Ongpauco, Pangco, Pempengco, Tetangco, Tiangco, Yangco).



The *encomienda* system generalized a model of feudalism (Keck 1996) leading to abuse of property, confiscation of the land by the rich and a social system of dependance of the poor towards the rich, leading to a culture of corruption, debt and clientelism. The immense majority of Filipinos, contrary to what had happened in Latin America, had only a very superficial knowledge of Spanish (Goujat 2006a, b), except for the educated *Ilustrados*, and continued to speak their regional dialects. Spaniards were invisible except for the friars. They represented less than 1% of the population, whereas their numbers amounted to about 20% in Spanish America at the beginning of the nineteenth century (Cruz 2014).

There was no real feeling of national unity, of a Filipino nationhood (Araneta 1964). In the south, the will to impose Catholicism on reluctant Muslims led to rebellion by the “Moros”, lasting to this date. At the time of Spanish colonization, slavery was frequent in Mindanao. Hostility and mutual suspicion characterized the relations between the Spaniards and the Filipinos toward the end of the nineteenth century (Arcilla 1999), which led to the Revolution.

Early revolts were numerous. More than 200 erupted during the Spanish era: the Magat Salamat Conspiracy in Tondo (1587), the Magalat Revolt in Cagayan (1596), the Sumoroy Revolt in Samar (1649), the Mariago Revolt in Pampanga (1660), the Malong Revolt in Pangasinan (1661), the long-lasting Dagohoy Revolt in Bohol (1744–1829), the Diego Silang Revolt in Ilocos (1762–63), the Ibarag revolt in Isabela and Cagayan (1763), the Hermano Pule Revolt in Tagalog country (1840–1841) and the Tayabas peasant rebellion in 1841 (Sweet 1970). However, they were all quite localized and did not spread to the whole country, due to the absence of a national consciousness, the lack of leaders able to unite the whole archipelago, and the difficult communications between provinces (languages and islands). Spaniards were also very good at using regional enmities, using the Cebuanos to suppress revolts in Bohol, or the Pampangos to fight the Ilocanos. Revolts were more sustainable in Mindanao, due the unifying force of Islam and better-organized local powers. Moros responded to Spanish troop deployments in the South and the constructions of forts as in Zamboanga (Loyre 1986), by launching raids in the Visayas and up to Manila (Non 1993).

The late nineteenth century uprising would be different.

#### 4.4 The Philippine Revolution

Whereas the Spanish colonies in the Americas, following the United States example, gained their independence in the early years of the nineteenth century, the Philippines did not take part in this movement of decolonization. In fact, Spanish control increased over the Philippines, since Mexico, now an independent nation, did not exert control on the Philippines anymore.

In 1812, a new Spanish constitution was framed at Cadiz, a center of liberal and anti-monarchist agitation, which attempted to define a more progressive

and democratic Spain, even as Napoleon's army was being expelled from their territory. Under this constitution the Filipinos were to be represented in the Spanish Cortes, where it was hoped that some of the abuses in colonial administration and church practice in the Philippines would be redressed. Local revolts against clergy practices (Pilapil 1961) led to the development of a Philippine reform movement, often led by Filipino-born priests.

The last galleon reached Manila in 1815, and the trade monopoly started to erode. By the 1830s, trade with the port of Manila was allowed for foreign merchants, as demand for sugar and abaca/hemp was increasing and plantations were growing (see Chap. 9) and even more after the opening of the Suez Canal in 1869.

Trade development and the travels to Europe of educated Filipinos (*Ilustrados*) (Rafael 1990; Majul 2010a) facilitated the introduction of liberal ideas inspired by Rousseau's Social Contract, Locke's Treaties of Government or Paine's Common Sense.

In 1868, a short-lived liberal revolution allowed the nomination as Governor General of the Philippines of reform-minded Carlos de la Torre (1869–1870). However, he was succeeded by reactionary autocrat Rafael Izquierdo (1871–1873) who established a strict “law and order”, “sword and crucifix” with strict press censorship, curtailed individual freedoms and more power to friars.

Although the Philippine archipelago was now Spain's largest colony, it was not considered important because the immense profits obtained from Cuban sugar exports attracted most investment and officials' attention.

During the last third of the nineteenth century, at the high tide of Western imperialism, Spain had mixed feelings about colonization, trying on one hand to expand in order to keep its place as a colonial power and intensifying its efforts to develop the local economy (Pradera 2004), while at the same time fearing the loss of her old colonies as the imperial race became more intense. There was the clear possibility of some other country (Britain? France? Germany?) usurping its possessions. To prevent such a move by rival nations, Spain tried, too late and against the wishes of local authorities, to develop the immigration of Spaniards into the archipelago (Huetz de Lemp 1997).

In 1872, under Governor General Izquierda, a mutiny of native soldiers at the Cavite Barracks, near Manila, precipitated a crackdown on the leaders of the reform movement. Dozens of activists and businessmen were exiled from the country, and three priests, Fathers José Burgos, Mariano Gómez, and Jacinto Zamora, were subjected to a show trial, found guilty, and executed publicly. The martyrdom of “Gom-Bur-Za”, in the middle of a wave of executions of seditious elements, was a decisive element in the start of a strong anti-Spanish movement.

Filipinos were beginning to think of themselves as Filipinos rather than as members of various tribes scattered among the 7000 islands between Borneo and Taiwan. The consciousness that the Spanish oppression was suffered by all gave rise to a feeling of nationhood (Majul 2010b).

#### 4.4.1 *The National Heroes, Rizal and Bonifacio*

In Spain, Filipino expatriates campaigned for representation of the Philippines in the Spanish Cortes, believing in obtaining reforms through peaceful means. Several organizations, such as the Sociedad Hispano-Filipina (1888), La Solidaridad (1888), Liga Filipina (1892), started to demand strong reforms, denounced the role of the church, especially in schools and colleges (Schumacher 1975), published newsletters and newspapers, in Spain and in the Philippines. Filipino intellectuals, witnessing the rise of Japan, started to develop the idea of an independent Philippines and the consciousness of a national identity, not based on Spanishness but on Malayness (Mojares 2013): the ilustrados' anticolonial project surprisingly defined and constructed the "Filipino" using Orientalist and racialist discourses more commonly associated with colonialist thought than with anticolonial themes (Thomas 2012).

A major figure was Jose Rizal (Fischer 1970; Tranvaux 2000)<sup>15</sup>, an individual of many talents, "Asia's Renaissance man", doctor in ophthalmology, but also anthropologist, sculptor, poet and journalist, who had studied in Spain (Aseniero 2013), France and Germany. In two novels written in Spanish, "*Noli me tangere*" ("Touch me not", Berlin, 1887) and "*El Filibusterismo*" ("The subversive", Ghent, 1891), he chronicled the Philippine society of the time (Alip and Borlaza 1971) and violently attacked the attitude of the Church, denouncing the power of friars, racism in the upper classes, the lackadaisical attitude of Spanish civilian authorities (Goujat 2010) and the injustices suffered by the people. Rizal's intention in writing his novels was to enlighten Europeans about the state of the land, the oppressive measures handed down by a far away colonial administration and the corrupt practices (Diokno 2011) of religious orders, which led to the "indolence" of Filipino people (De Dios 2011) and a sluggish economy. Smuggled copies of his novels inspired a strong sense of national consciousness that ignited the Philippine revolution against the Spanish Crown.

When he returned to the Philippines in 1892, he created La Liga Filipina (Jandoc 2011), which demanded equality between Filipinos and Spaniards and the replacement of Spanish friars by Filipino priests. This led to his arrest for treason, even as he was a member of the landed elite of Calamba, Laguna province. He kept contact with European backers (Schumacher 1954) writing to him in French, German, English or Dutch during his time of internal exile in Dapitan, in far-away Zamboanga province (Mindanao). One of Rizal's friends, Andres Bonifacio, founded at the same time (1892) a secret nationalist organization, the *Katipunan*<sup>16</sup>, which published an underground journal, *Kalayaan* (Liberty). Katipunan, which held meetings in the Balintawak house of an elderly shopkeeper, Melchora Aquino, a.k.a. "Tandang Sora" or the "mother of Katipunan" (Doran 1998), was a liberationist

<sup>15</sup>A parallel figure to Jose Rizal is Jose Marti in Cuba (Campomanes 1999; Hagimoto 2010).

<sup>16</sup>"Katipunan" means "association". The full name of the group was *Kataas-taasan, Kagalang-galangang Katipunan ng mga Anak ng Bayan* (Highest and Most Honorable Association of the Children of the Nation), also known as KKK, with no relations whatsoever with the US-based white supremacist Ku Klux Klan.

movement led by well-educated members of the Filipino elite, the “Ilustrados”, and its shadow government spread throughout much of the islands; its goal was independence from Spain through armed revolt.

In 1896, treason by one member of the Katipunan led to the decision of the leaders of the group to prepare an armed insurrection against Spanish colonial powers. Contacts were made with Jose Rizal, who had just been freed and was on his way to a ship taking him to Cuba. Rizal was re-arrested and executed on December 30, 1896, at the age of 35. The Spanish colonial government presented him as a mestizo (mestizo) Chinese to deny the status of pure Filipino (Indio puro).

Rizal’s martyrdom inspired the country (Schumacher 2000; Quibuyen 2002). Revolution broke out. Bonifacio’s men started military actions around Manila, in Cavite, Bulacan and Morong. A civil war was under way. In March 1897, a Convention of Katipunan members proclaimed 28-year old Emilio Aguinaldo as president of the First Republic of the Philippines, a move contested by Bonifacio, who was then arrested and executed on May 10, 1897 (age 34). There was chaos at the helm of the Philippine revolution, since two of its charismatic leaders<sup>17</sup> were now dead. Aguinaldo reached a truce with Spanish authorities and went into self-exile in Hong Kong. Spanish power was still in place, but shaken to the core by the intensity of this first phase of the Philippine revolution. Spaniards were about 20,000 in the archipelago. Filipinos 7 to 8 million.

#### ***4.4.2 From the Spanish-American War to the Philippine-American War***

In April 1898, the United States’ Republican president, William McKinley, under pressure from major media figures (Joseph Pulitzer, William Randolph Hearst) and the Democratic Party, sent an ultimatum to Spain after the sinking of US battleship “Maine” in Havana harbor. Spain had to surrender Cuba to the United States. Cuba was one of the few places in the Americas still under Spanish colonial control. Madrid refused and declared war. American forces deployed rapidly against Spain, in the Caribbean, but also in the Pacific.

Within a few weeks, a US Navy fleet under the command of Commodore George Dewey was in Manila Bay on May 1, 1898. It was an easy victory for the Americans: not one of them was injured, while Spaniards suffered heavy casualties and all their ships were destroyed. A few weeks later, on August 5, 1898, American troops entered Spanish Manila. There was no resistance from the Spaniards (Smith 1995), due to an secret agreement between the United States and Spain. However, Filipinos who were allies of the Americans were not allowed to enter Intramuros. This lack of trust between Americans and Filipinos was a bad omen. On June 12, 1898,

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<sup>17</sup>Rizal and Bonifacio are the “national heroes” of the Philippines, considered as the founding fathers of the country in a way similar to Benjamin Franklin, Thomas Jefferson or George Washington in the United States.

Aguinaldo, who had come back from Hong Kong in May on an American ship, declared the independence of the Philippines. Not being allowed to enter Intramuros was an affront to the nationalist Filipinos.

It happened at a time when the archipelago attracted several powers. Japan's offer to help govern the islands, since it was already controlling nearby Taiwan, was spurned. German aggressive behavior in the China Sea was opposed by the British Royal Navy.

The treaty of Paris (December 1898) led to the end of Spanish control over Cuba and the cession to the United States, for 20 million dollars, of many Spanish-held territories: Puerto Rico, Guam and the Philippines. This, coming 6 months after the annexation of Hawaii, made the United States a Pacific Ocean power. A year later, Wake Island and parts of the Samoa archipelago also became US territory. Spain was still allowed to trade with the Philippines for 10 years.

A treaty signed on the other side of the world had overthrown Spanish power in the Philippines. For Spain, it was the end of a glorious colonial history, but the loss of Manila was not as devastating as losing Cuba, since the links between Spain and the Philippines had never been very strong (Goujat 2006a, b) and the colony, so peripheral in Spanish eyes (Jacquard 2012), was unprofitable (Rodao 1998). However, it replaced one colonial domination with another, which could not fulfill the wishes of the Filipino leaders. Very soon, the arrival of American troops was seen as an invasion and armed hostilities started again in the Philippines, this time between Filipinos and Americans, even if the power of Spanish friars was destroyed.

The U.S. government had assured the Filipino rebels that its only interest was to defeat Spain, and incidentally, help Filipinos achieve independence. U.S. President McKinley (Coletta 1961) had publicly declared that “*we come not as invaders or conquerors, but as friends, to protect the natives in their homes, in their employment, and in their personal and religious rights*” and that “*the mission of the United States is one of the benevolent assimilation*”<sup>18</sup>. However, after the defeat of Spain, the United States turned against the Filipinos, who had provided significant military support and logistical information, and seized the Philippines making it a U.S. colony (Wolff 1991). McKinley explained that the Filipinos, “our brown little brothers”, were “incapable of self-government” unless trained into American ways of

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<sup>18</sup> Presidential proclamation, December 21, 1898.

<sup>19</sup> In front of Congress, he justified the war in the Philippines in these terms: “The truth is I didn't want the Philippines, and when they came to us, as a gift from the gods, I did not know what to do with them. When the Spanish War broke out Dewey was at Hong Kong, and I ordered him to go to Manila and to capture or destroy the Spanish fleet, and he had to; because, if defeated, he had no place to refit on that side of the globe, and if the Dons were victorious they would likely cross the Pacific and ravage our Oregon and California coasts. And so he had to destroy the Spanish fleet, and did it! But that was as far as I thought then. When I next realized that the Philippines had dropped into our laps I confess I did not know what to do with them. I sought counsel from all sides—Democrats as well as Republicans—but got little help. I thought first we would take only Manila; then Luzon; then other islands perhaps also. I walked the floor of the White House night after night until midnight; and I am not ashamed to tell you, gentlemen, that I went down on my knees and prayed Almighty God for light and guidance more than one night. And one night late it

governance (Go 2000), and that God (Harris 2011) had revealed to him<sup>19</sup> the mission of the United States (Miller 1984) was to educate and Christianize them. In his classic 1899 poem, “The white man’s burden” (Van Ells 1995; Harris 2007), Rudyard Kipling encouraged American colonizers to take responsibility for the supervision and advancement of the colonized toward modernity and civilization. He evoked Filipinos as hybrid wild devils-children to reflect and reinforce the prevailing, racist, discourse about the colonized as being culturally, intellectually, and physically underdeveloped and inferior, even though the Philippines had been Christianized by the Spaniards for several centuries. As the African-Americans and the Native Americans of that time, Filipino/as were to be guided towards a higher level of civilization (Coloma 2009) through humanitarian imperialism (Clymer 1976). Not all Americans, especially women, agreed with this view (Murphy 2009), and demonstrations against the takeover of the Philippines took place in Boston, New York, Washington and other cities.

On January 1, 1899, Emilio Aguinaldo, was again declared the first president of the Philippines by the Katipunan. A constitution, drafted by Apolinario Mabini (Majul 2010c), “brain of the Revolution”, and discussed since September 15, 1898, by the young Philippine revolutionary Congress meeting in Malolos, Bulacan, was adopted on January 21, 1899, and an inauguration of the new Republic planned for July 23, 1899. This Malolos Constitution included a very controversial separation of church and state (Aguilar 2015).

Hostilities began on February 4, 1899, when an American soldier fired on a Filipino soldier who was crossing a bridge in the occupied U.S. territory of San Juan del Monte, Bulacan. U.S. President William McKinley later explained to reporters that “insurgents had attacked Manila” in order to justify the war in the Philippines. On March 28, 1901, Aguinaldo, considered a traitor by the Americans, was arrested. He was later released in 1907. Guerrilla warfare continued for two more years until the surrender of Simeon Ola y Arboleda, the last resisting leader of Katipunan, on April 16, 1902.

The Philippine-American War, also known as the Philippine Insurrection, may be considered as the first war of national liberation of the twentieth century. It was

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came to me this way—I don’t know how it was, but it came: (1) That we could not give them back to Spain—that would be cowardly and dishonorable; (2) that we could not turn them over to France and Germany, our commercial rivals in the Orient, that would be bad business and discreditable; (3) that we could not leave them to themselves—they were unfit for self-government—and they would soon have anarchy and misrule over there worse than Spain’s was; and (4) that there was nothing left for us to do but to take them all, and to educate the Filipinos, and uplift and civilize and Christianize them, and by God’s grace do the very best we could by them, as our fellow-men for whom Christ also died. And then I went to bed, and went to sleep, and slept soundly, and the next morning I sent for the chief engineer of the War Department, and I told him to put the Philippines on the map of the United States, and there they are, and there they will stay while I am President”, in Schirmer and Roskamm Shalom (1987) pp 22–23.

<sup>20</sup>“...I have seen that we do not intend to free, but to subjugate the people of the Philippines. We have gone to conquer, not to redeem... and so I am an anti-imperialist. I am opposed to having the [American] eagle put its talons on any other land”, Mark TWAIN, letter to *The New York Herald*, October 15, 1900.

at the same time an insurgency and a revolution, a liberation war and a colonization war<sup>20</sup>, a race war (Kramer 2006a, b), a guerrilla and a conventional war (Silbey 2008). It also marked the spread of the United States beyond the American continent, prelude to an American world presence and its growing role in Asia (Hunt 2012). Fighting spread quickly, with operations differing from one island to the other (McAllister-Linn 2002), making difficult the end of hostilities since there was no national leader to negotiate with.

During this war, an estimated 20,000 Filipino soldiers and 4234 Americans died. Historians of the Philippine-American war acknowledge that the Samar campaign led by General Jake Smith (whose mission was to turn the island into a “howling wilderness” with a “kill-and-burn” strategy) was incredibly barbaric (Welch 1974), leading him to be court-martialed (with only a reprimand in the end). The number of Filipino civilians who died, as a direct result of torture, fighting, malnutrition and disease brought by war (Gates 1984; Smallman-Raynor and Cliff 2000), may have reached one million people, more than 10% of the population<sup>21</sup>, leading some authors, including Americans such as Mark Twain<sup>22</sup> to advance the idea of a Filipino genocide<sup>23</sup>. American concentration camps were established in several provinces to gather men, women and children (Batangas and Laguna in 1902, Albay in 1903, Cavite in 1905).

What were the goals of the Americans in the Philippines? (Soberano 1973, 1974; Bello 1998) Historians are divided about the ultimate motives. Did the United States “stumble” into empire (Smith 1985), pursued Manifest Destiny’s trends from the second half of the nineteenth century, or annexed the islands in search of commercial markets? How important was the “civilizing” mission? McKinley told Americans that they were launched on “a holy cause” to advance “the banner of liberty” across the Pacific, that they fought in the name “of liberty and law, of peace and progress”, and that they should adopt a policy of “benevolent assimilation” so that Filipinos “shall for ages hence bless the American republic because it emancipated and redeemed their fatherland, and set them in the pathway of the world’s best civilization.” (Hunt 1999) U.S. Senator Albert Beveridge (R-Indiana), in a 1900 speech, claimed that “God had not been preparing the English-speaking and Teutonic peoples for a 1000 years for nothing but vain and idle self-admiration. No!

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<sup>21</sup> In the province of Batangas alone, one third of the population of 300,000 had been killed by combat, famine, or disease. Zambales province’s population dropped 35%, Rizal 21%, Batangas 17%.

<sup>22</sup> “We have pacified some thousands of the islanders and buried them; destroyed their fields; burned their villages, and turned their widows and orphans out-of-doors; furnished heartbreak by exile to some dozens of disagreeable patriots; subjugated the remaining ten millions by Benevolent Assimilation, which is the pious new name of the musket; we have acquired property in the three hundred concubines and other slaves of our business partner, the Sultan of Sulu, and hoisted our protecting flag over that swag. And so, by these providences of god — and the phrase is the government’s, not mine — we are a World Power”, Mark Twain, letter to *The New York Herald*, October 15, 1900.

<sup>23</sup> Parallels have been drawn between this U.S.-Philippine war and the Vietnam experience, where dehumanized U.S. troops looted and annihilated villages.

<sup>24</sup> *Congressional Record* (56th Cong., 1st Session), vol XXXIII, pp 705–711.

He has made us the master organizers of the world to establish system where chaos reigns. He made us adept in government that we may administer government among savage and senile peoples.... He has marked the American people as His chosen nation to finally lead in the redemption of the world"<sup>24</sup>. Were the Americans to civilize their new colony and moralize Philippine life by uprooting vice, crime, gambling and prostitution? (Kramer 2011).

Unlike in Latin America, where the protection of economic interests in coveted countries appeared essential, the conquest of the Philippines, whether it was planned or not, established the United States as a trans-Pacific power, a global power. As Sen. Beveridge also noted in his speech about the role of the United States in the Philippines, a presence near the perceived colossal market of China was important (McCormick 1963): control of the Philippines would allow to monitor navigation lanes and prepare the commercial conquest of China, using the archipelago as a by-station.

Unlike most colonies, the Spanish Philippines were not economically dependent on the “mother country” (Spain), which was usually only the fourth largest trading partner of the archipelago behind the United Kingdom, the United States, and China. Foreign trading was mainly conducted by the British and Americans, domestic trade dominated by the Chinese, leading some to consider that the Philippines was in fact an Anglo-Chinese colony with a Spanish flag (Legarda 2012). With the coming of the United States, the Philippines would be put under a high level of economic complementarity / dependence for a good part of the twentieth century.

As for educated Filipinos, the arrival of the Americans was perceived as a way to change the old elite structure by adopting the American form of political democracy, with the ultimate objective of reaching independence. In a message to the American Congress in 1899, president William McKinley had defined the basic policy of the United States towards the Philippines: “The Philippines are not ours to exploit, but to develop, to civilize, to educate, to train in the science of self-government. This is the path we must follow or be recreant to a mighty trust committed to us”. Did the Americans follow this path?

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## Chapter 5

# From US Colony to Independent Country: The Construction of a State

**Abstract** This chapter covers the twentieth century, when the Philippines were changed by the US colonization after a brutal war of conquest. Progress in education, medicine, urbanization and transportation was obvious, while the Americans fostered the development of a Filipino political class that was called to govern the country alongside American political ideals, as was hoped with the implementation of the Philippine Commonwealth in 1935 under president Quezon. The difficult years of the Japanese occupation gave place to an independent nation in 1946, which had to deal with the presence of US military bases during the Cold War, profound social inequalities inherited from the Spanish period, and an economic dependence towards the United States. The central figure of Ferdinand Marcos exemplifies the difficulties of the country to attain a truly democratic life. Political power is still controlled by an oligarchy of a few dozen families. Corruption and violence are parts of the daily difficulties encountered by Filipinos.

**Keywords** Americanization • War • Commonwealth • Politics • Corruption

After Spain relinquished control over the archipelago in 1898, a new colonial power replaced it for half a century (Gleek 1984): the United States of America. The country finally gained its independence in 1946, one of the first nations in Asia to do so. But many observers of the Philippines consider that the country and its inhabitants—even if living abroad—are still marred today by the legacies of both Spanish and American colonizations, and that a prevalent “colonial mentality” (David and Okazaki 2006) is preventing them from finding the right way to development.

### 5.1 The American Colonization of the Philippines

In July 1901 William H. Taft, a judge who later became the 27th president of the United States (1909–1913), was named by William McKinley to be the first U.S. civilian governor of the archipelago (Schumacher 1970), succeeding Arthur MacArthur, who had been military governor. Americans endeavored to Americanize the archipelago (Karnow 1990; Go and Foster 2003). After McKinley’s



assassination in September 1901, his successor Theodore Roosevelt inherited the management of the American takeover of the Philippines. His 8 years tenure can be considered as being both imperialist in its philosophy of bringing “civilization” to “savage” populations (Williams 1980; Friedman 2007), as had been done with Native Americans in the United States (Paulet 2007), and at the same time anti-imperialist, since Roosevelt started very quickly to prepare the islands for future independence (Wertheim 2009; Burns 2013a, b).

The ideology of “Manifest Destiny” implied that the United States had to conquer other countries, and the model of America as a tutor in democracy (Abueva 1976), central to the U.S. perception of its relationship to the Philippines, were the bases of American nationalism and imperialism in the archipelago. At the same time, anti-imperialist ideology argued that the forcible annexation of other countries was a betrayal of American principles, since the United States was the first nation born of de-colonization (Delmendo 2004).

Between September 1900 and August 1902, the American government in the Philippines issued 499 laws. A judicial system was established, including a Supreme Court, and a legal code was drawn up to replace antiquated Spanish ordinances. A civil service was organized. The 1901 municipal code provided for popularly elected presidents, vice presidents, and councilors to serve on municipal boards. After military rule was terminated on July 4, 1901, the Philippine Constabulary was organized across the archipelago as a police force to control banditry and deal with the remnants of the insurgent movement.

American leaders kept the general structure of government in the archipelago and Filipino elites quickly adjusted to the American presence, with the creation of political parties (Soberano 1975), such as the *Partido Federal* (Federal Party, 1901) which advocated pacification and annexation of the Philippines by the United States, and the *Partido Independista Inmediatista*, the *Partido Urgentista*, and the *Comite de la Union Nacional* (1906) which later merged into the *Partido Nacionalista*, which has been the main political party in the Philippines for the entire twentieth century.

But they quickly adapted the new forms of governance to the prevalent political culture of clanism, nepotism and corruption (Go 1999). The governors of provinces were Filipinos elected by municipal counselors for a term of 2 years. They were assisted by provincial treasurers and supervisors appointed by the Americans. Quickly, some brilliant governors emerged as the top political figures of the country. Among them, Chinese-Mestizo Sergio Osmeña (from Cebu) and Spanish-Mestizo Manuel Luis Quezon y Molina (from Tayabas province, today’s Quezon province) (Guéraiche 2004).

American officials found themselves in the difficult dilemma of modeling a colonial state after the United States but were confronted by a mutated version dominated by Filipino leaders (Fry 1977; Abinales 2002). From the very beginning, United States presidents and their representatives in the islands defined their colonial mission as tutelage: preparing the Philippines for eventual independence.

Historians have described a tacit alliance between the Philippine elite and policymakers in Washington during the American period in the archipelago.

“The United States professed to rule the Philippines in the interests of Filipinos. In the interest of some Filipinos, the members of the upper class Washington needed to help govern the country. Yet even in the case of the *Ilustrados*, and as a general principle, the United States ran the Philippines in the interests of Americans. Any connection between these interests and those of the Filipino people at large—or, for that matter, of the American people at large—was basically coincidental” (Brands 1992).

The passage of the Philippine Bill in 1902 led to the nomination of two Philippine commissioners to the United States, whose role was to inform the US Congress about the situation in the colony. The first two were Pablo Ocampo and Benito Legarda y Tuason (1907–1909), then Manuel Quezon replaced Ocampo and was nominated for several 2 year terms (1909, 1911, 1913, 1915), but soon he realized that Filipinos in the United States were considered as foreigners (Guéraiche 2008) and he started to lobby for the independence of the Philippines and was able to persuade the 1912 Democratic Convention to include this goal in the Woodrow Wilson presidential platform.

Americans endeavored to improve the health situation of the colony (McElhinny 2007a, b). At the end of the Spanish period, the country was in a dismal situation, with an infantile death rate approaching 500 per 1000, the worst in the world. Tuberculosis claimed 50,000 lives per year and smallpox 40,000. A cholera epidemic had killed 4000 people in Manila in 1902 and possibly 200,000 for the whole country. A Bureau of Health was established, a leper colony was set up on Culion Island in 1902, and American hygienists and engineers pushed for the rapid development of modern water systems, and the imposition of strict regulations on hygiene, nutrition and sanitation. The result was a fast decline in the death rate: 30.5 per 1000 in 1898, 21 per 1000 in 1907, 11.8 per 1000 in 1925.

The Americans also improved the transportation system. White American colonisers imagined themselves as modern men destined to bring civilisation to the colony through technology (medical facilities, transport infrastructure..) (Pante 2014). In 1901, the country had less than 200 km of railroads (Manila to Dagupan route), but in 1904 and 1905, more than 700 km of rail was laid in Luzon, linking Manila to the provinces of Cavite, Rizal, Batangas, Laguna and Tayabas, south of the capital, while 200 km were also laid in the Visayas (Cebu and Panay islands). Electric streetcars were introduced in Manila in 1904. During the administration of Governor William Cameron Forbes, nicknamed “Caminero” (road builder), the length of the road system was multiplied by more than 10, growing from 432 miles in 1909 to 4605 miles in 1913. He supervised the building of Baguio, the “summer capital” of the country (Alcantara 2000), at an altitude high enough (1500 m) to avoid the oppressive heat of April-May, and the Benguet Road leading to it through the southern part of North Luzon’s Cordillera (Bankoff 2005). There were also major improvements in the ports of Manila, Cebu and Iloilo.

The Philippines were modernizing, but the American public visiting the 1904 Saint Louis World Expo, celebration of the global reach of the United States (Francia 2014), were shown mostly mountain people and wild tribes artifacts (Delsahut 2014), not the Christian Filipinos or the positive changes happening in the colony.

The fair was the largest ever, with more than 1500 buildings spread over 500 ha. The Philippine Exhibit was the fair's biggest. 1100 Filipinos had been drawn from different regions of the archipelago, from Mindanao Muslims to Igorots in the north, so the average American was under the impression that the Philippines was still a place inhabited by uncivilized savages, which of course enraged educated Filipinos such as Manuel Quezon. In the following years, some Igorots were exhibited as curiosities in amusement parks such as Coney Island near New York City, others were transported across the United States from fair to fair, being forced to eat dogs in public.

English was soon declared the official language of the Philippines. However, Spanish was still spoken widely by only the economic and political elites until World War II. It acquired a curious societal role in both the Philippines and Guam because, although having been a colonial language, Spanish became a way of national identification and resistance to the rule of the United States, which was symbolized by English (Rodao 1998). However, after World War II, Spanish quickly disappeared. Today, less than 2% of Filipinos speak Spanish.

Americans opened a public school on Corregidor Island, barely 1 month after Admiral Dewey had destroyed the Spanish navy in the battle of Manila Bay on May 1, 1898. By April 1900 there were about 1000 schools in the Philippines, 39 of them in Manila. American soldiers were the first teachers, before 600 volunteer American teachers arrived on US Navy ships in 1901 to take over education from the Catholic Church. That same year the Philippine Normal School was founded, so Filipinos could be trained to do actual classroom teaching. American teachers brought with them American teaching methods, songs, ideals, rituals and ceremonials (cape-and-gown graduation rituals). As the Church was the symbol of the Spanish rule, so the school became the symbol of American "civilization" effort in the Philippines (May 1976, Aguilos 1999). The schooling for African Americans in the U.S. South served as the prevailing template for colonial pedagogy in the archipelago (Sintos Coloma 2009). Scholarships to the USA for brilliant Filipino students ("*pensionados*") were awarded as early as 1903. Women benefited greatly from schooling opportunities (Sobritchea 1990).

The public University of the Philippines was established on June 18, 1908 by the "University Act", which specified that its function was to provide advanced instruction in literature, philosophy, the sciences and arts, and to administer professional and technical training. Its organization was modeled on American colleges, being divided first into four schools, the College of Medicine and Surgery, the College of Liberal Arts, the College of Fine Arts, all in Manila<sup>1</sup>, while the School of Agriculture was located in Los Baños, Laguna. Later it became a nationwide organization with provincial campuses, and a new flagship campus was established in the Diliman area of Quezon City.

Basketball, a very popular sport in the Philippines, was also introduced by Americans (Antolihao 2015), even in this country of smaller-stature people. Baseball, also played as early as 1898, was popular in the first half of the twentieth

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<sup>1</sup>They were followed a few years later by the College of Law and the College of Engineering.

century, but declined fast after independence, quite a difference with what happened in Japan after WW II.

The Catholic Church was disestablished as the official church of the Philippines, amounting to a separation of Church and State already envisioned in the 1899 Malolos Constitution. Religious freedom was guaranteed (Coquia 1956), allowing for the rise of Protestant missions (Clymer 1980; Raymond 2008), of Mormonism and a new cult, *Iglesia ni Cristo*<sup>2</sup>. A substantial amount of church-owned agricultural land was redistributed. American authorities paid the Vatican seven million dollars in 1904 to acquire farm properties, which were then sold back to large landowners, since poor Filipino peasants could not acquire them. Americans clearly coddled the archipelago's sixty or so ruling families (Hutchcroft 1991, 2000), reinforcing the feudal oligarchy that continues to this day, and widening the gap between rich and poor, especially in the countryside.

To get control of Philippine trade upon expiration of the 10-year trade provisions in the Treaty of Paris (which allowed entry of Spanish goods to the islands on the same terms as the Americans), the U.S. established free trade via the Payne-Aldrich Act (1909) and the Underwood-Simmons Act (1913). The laws were wide-ranging, but specific provisions imposed quotas on Philippine sugar and tobacco exports to the U.S. and none on any U.S. entering the Philippines. Under free trade, the Philippines sold raw agricultural materials to the U.S. and entered untaxed; American processed goods drove out other foreign competition from the Philippine market since they were cheaper, having entered the islands untaxed. During these times as in 1936, the Philippine market was ranked as first or second for many American export products. Furthermore, free trade only between the U.S. and the Philippines discouraged and/or killed any nascent native Filipino industrialization and kept the native majority primarily agricultural, i.e. as peasants, tenant-farmers and rural. There was no effort to develop industries and no training in technologies. The best students to be sent to the United States were in the humanities and law, future politicians but not future engineers. However, several existing Spanish-Filipino companies grew rapidly. Among them were the Barcelona-based *Compañía General de Tabacos de Filipinas* (also known as "Tabacalera", the biggest private employer in the islands), *San Miguel Brewery* or the insurance companies owned by the Zobel de Ayala family. After the Spanish administration left the Philippines, private individuals and organizations took the lead in promoting contacts, preparing a class of capitalists allied with Filipino-Chinese interests.

American presence was also marked by the deployment of troops and the setting up of major military bases, both in the Manila area and in the provinces. Clark Air Base (1903) near Angeles City, Pampanga and the naval airbase of Subic Bay (1899)

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<sup>2</sup>The *Iglesia ni Cristo* (INC) is a restorationist Christian Church. It was founded July 27, 1914 by Felix Manalo, a former Methodist pastor raised Catholic, who affirmed he was sent by God to restore the Christian Church in its original form after the great apostasy. The Church rejects the doctrine of the Christian Trinity, including the divinity of Jesus. INC is nowadays the second largest Church in the Philippines after the Catholic Church and is covering the country with white churches easily recognizable with their pointed spires reminiscent of Mormon temples (Kavanagh 1955).

near Olongapo, Zambales (Anderson 2009) became essential elements of the American military system in the Pacific, second only to San Diego and Hawaii. Other major facilities included John Hay Air Station (1903) in Baguio, Wallace Air Station (1903) in La Union province (originally a cavalry camp), Ft William McKinley at the southern edge of Manila (US Army 1901), Sangley Point Naval Station (1898) in Cavite.

As for the native tribal populations in Mindoro (Mangyan) and Luzon (Igorot, Aeta) in particular, President McKinley recommended the establishment of reservations on the US model.<sup>3</sup>

The Americans, once their power was assured, implemented several measures of self-government, such as an elected Filipino legislature starting its work in 1907. Eighty delegates were to be elected for 2-year terms to represent the Christian provinces of the Philippines. The electorate was made up of wealthy and educated Filipinos. In the first assembly, 47 lawyers, among them Osmeña and Quezon, were elected. There were also ten farmers, eight businessmen and 15 others. The first speaker of the legislature was Sergio Osmeña, and the majority leader Manuel Quezon, before he left for the US 2 years later.

## 5.2 The Independence of the Philippines

### 5.2.1 *The Commonwealth of the Philippines*

The first elected Filipino congressmen from the *Nacionalista Party*, led by Manuel Quezon and Sergio Osmeña, pushed immediately for “immediate, complete and absolute independence from the United States” (Onerato 1989); of course to no avail. Former Governor Taft, who became president of the United States for one term (1909–1913) was an active opponent of independence for the colony (Burns 2013a, b). However, his successor Woodrow Wilson (Curry 1954) was much more receptive to the idea<sup>4</sup> and Governor Francis Burton Harrison (1913–1921) pushed for “Filipinization” of the administration in the archipelago, i.e. the replacement of Americans by Filipino civil servants. From a 1905 peak of 3307 American administrators (45% of the Philippine administration), numbers had dropped already to

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<sup>3</sup>“In dealing with the uncivilized tribes on the islands the commission should adopt the same course followed by Congress in permitting the tribes of our North American Indians to maintain their tribal organization and government, and under which many of those tribes are now living in peace and contentment, surrounded by a civilization to which they are unable or unwilling to conform. Such tribal governments should, however, be subjected to wise and firm regulation; and, without undue or petty interference, constant and active effort should be exercised to prevent barbarous practices and introduce civilized customs?” (Schult 1997).

<sup>4</sup>“Step by step we should extend and perfect the systems of self-government in the island, making test of them and modifying them as experience discloses their successes and their failures. . . . that we should more put under the instruments of their life, their instrumentalities of control of the native citizens of the archipelago to the essential government”.

2623 in 1913 (29%) and fell to 582 in 1920, after which they remained fairly stable in the following decade (Maguidad and Muhi 2001).

In 1916, the US Congress passed the “Philippine Autonomy Act”, also known as “Jones Law”<sup>5</sup>. It served as the new organic law of the Philippines, a constitution whose preamble stated that full independence of the Philippines was the goal of American policy in the archipelago, provided that the country would be stable enough to assume its destiny by itself (Onerato 1966; Beadles 1968). Executive power was still in the hands of an American Governor General, but a bi-cameral Philippine legislature replaced previous bodies. Modeled after the United States system, the new law created a Filipino House of Representatives, elected in districts across the country, and a Philippine Senate where most members would be elected in larger districts, while the Governor General would appoint senators representing non-Christian areas<sup>6</sup>. This law insured adequate representation of the Filipinos on the management of their country and was the first step toward independence (Brands 1992). It called for a US governor with Filipino cabinet members appointed by the Americans, as well as a Filipino Council of State named by the US congress to advise the governor and his cabinet.

In 1934, the US Congress, after the veto of an earlier measure by president Herbert Hoover (Friend 1963), passed the Tydings-McDuffie Act, granting independence to the Philippines in 1946 after an intermediary period of “Commonwealth”. This was the result of a long battle in Washington between “expansionists” and “contractionists” during the great Depression: would the United States be better off with the Philippines or without the colony? Symmetrically, a similar debate had risen in the archipelago: would the Philippines be better off going alone or under the supervision of the United States? (Friend 1964).

On May 14, 1935, an election gave the new position of President of the Commonwealth of the Philippines to Manuel Quezon, an aide to Aguinaldo in his youth and now the leader of the *Nacionalista Party*. At the time of Quezon’s official inauguration on November 15, 1935, the country had a single legislative body, entirely composed of Filipinos, and the Constitution had established a Supreme Court modeled on the US system. The president, assisted by a vice-president (Sergio Osmeña), had strong executive powers. Women received the right to vote in 1937, the third Asian country after Mongolia (1924) and Thailand (1932) to do so.

One of the measures of decolonization (Executive Order 134, December 1937) was to impose Tagalog, the language of the central region Luzon around Manila, as the new national language (Llamzon 1968), effective on July 4, 1946<sup>7</sup>, despite the fact that the mother tongue of most Filipinos is not Tagalog but Cebuano, Waray,

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<sup>5</sup>Its sponsor in the US Congress was Virginia Representative (Dem.) William Atkinson Jones, who chaired the House Committee on Insular Affairs from 1911 to his death in 1918.

<sup>6</sup>U.S. colonialists, in dialogue with Filipino elites, clearly divided the Philippine population into “civilized” Christians and “savage” animists and Muslims. The former were gradually extended self-government as they demonstrated their “capacities.” The latter were governed first by Americans, then by Christian Filipinos, without being considered as equal. See Kramer (2006).

<sup>7</sup>The planned date for full independence.

Bicolano, Ilocano, Kapampangan, Pangasinan, or another of the many dialects spoken across the archipelago.

The new government had an ambitious agenda for national defense (creation of a new set of military facilities), greater control over the economy, reforms in education, improvement of transport, the colonization of the island of Mindanao, and the promotion of local capital and industrialization. Commonwealth Act 311 (January 9, 1938) created the National Development Corporation, aimed at promoting the development of national companies controlled by the Philippine government. The main objective was to insure self-sufficiency of the Philippine economy (Gopinath 1986). Quezon also laid plans for a symbolic new capital city on the outskirts of Manila and a new campus for the University of the Philippines in the Diliman section of newly created Quezon City, and with Executive Order 139 (January 1938) he set up a National Relief Administration for mitigating the effects of earthquakes, typhoons and floods.

However, the Commonwealth of the Philippines also had to confront agrarian unrest, a tense diplomatic and military situation in East Asia, and uncertainty about the American level of support to the future Republic of the Philippines.

### 5.2.2 *The Japanese Invasion*

On December 8, 1941, 1 day after destroying the response capability of the United States in Hawaii (Pearl Harbor), the Japanese attacked Manila and U.S. military interests in the Philippines<sup>8</sup>, part of their strategy to gain rapid control over most of Southeast Asia (French Indochina, British Malaysia and Hong Kong, Dutch Indies). American troops, after resisting in Corregidor Island, near Manila, where the Philippine government (Quezon, Osmeña....) had taken refuge, had to retreat on March 21, 1942, leading General Douglas MacArthur<sup>9</sup>, to promise, after he took

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<sup>8</sup>After bombing Clark Field, Davao, Baguio, Aparri, as well as Nichols Field and Sangley Point in Cavite, the Japanese landed on December 10 in Aparri and Vigan, on December 12 in Legazpi, December 20 in Davao and Jolo, December 22 in Lingayen and Lamón Bay, then bombed Intramuros to take control of Manila.

<sup>9</sup>Douglas MacArthur (1880–1964) was the most brilliant officer of his time and a man with deep career roots in Asia and specially the Philippines. Son of the military governor of 1898 Arthur MacArthur, he was major of his promotion at the West Texas Military Institute in San Antonio (1899) then at the West Point Military Academy (1903) at the time his father was consolidating the US presence in the Philippines. He first visited Asia in the 1903–1906 period (Philippines, Japan, China, Singapore, India). He was then active in Mexico (1914). In 1916 he became a press attaché/spokesman of the US Department of Defense before taking part to the 2nd Battle of the Marne in France (1918). In 1919 he became the youngest superintendent of West Point, then in 1922 he was appointed commander of Manila's military district, getting even more acquainted with the Philippines and become a close friend of nationalist leader Manuel Quezon. He then became commander of the 4th Army Corps based in Georgia before being drafted as... president of the US Olympic Committee to boost training of American athletes before the 1928 Amsterdam games. He was back in the Philippines, as military commander of the archipelago in 1929/1930 then went

refuge in Australia at the demand of president Roosevelt, that the retreat was only temporary: “I came out of Bataan and I shall return!”<sup>10</sup>.

The Japanese occupation was effective in 1942. The Japanese tried to remove Western cultural influence in the Philippines (Gosiengfiao 1966), denouncing the “degenerating influence of American culture”, the Filipino habit of “reliance upon Western nations”, the debilitating effects of “Anglo-American materialism,” “hedonism,” “epicurism”, an “excessive esteem toward the weaker sex” and the excesses of “American individualism, liberalism and democracy.” The Japanese set up an internment camp on the campus of Santo Tomas University (70% of prisoners were Americans, the others British, Chinese and Spanish).

The Japanese, led by General Masaharu Homma, kept an appearance of Filipino control through a puppet government of five commissaries<sup>11</sup>. However, Philippine resistance remained pervasive and determined. Japanese troops multiplied the atrocities against the population and military prisoners, culminating with “the death march of Bataan”<sup>12</sup> and large-scale massacres during the battle of Manila in February 1945. People were beaten by the Japanese military police (*kempeitai*) for no reason; many women were raped or enslaved as “comfort wives” (AWHRC 1992; Henson 1999; Whaley 2016).

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back to Washington as Chief of the Joint Chief of Staff of the US Armed Forces, a position that led him to give more autonomy to the Air Force during a wide reorganization of the American military. In 1935, Franklin Roosevelt gave him the authorization to accept the request of president Manuel Quezon, who named him Field Marshall, to supervise the development of the military forces of the young Philippines Commonwealth. Officially retired in 1937, he remained in Manila as advisor to Quezon. In 1941, when Roosevelt, sensing the imminence of a Japanese attack, decided to federalize the new Philippine Army, he called MacArthur out of retirement and named him Commander of the US Armed Forces in the Far East. After World War II he went on to supervise the US occupation of Japan, then he was the head of the international forces in the Korean war until his public proposal to use nuclear bombs over China led president Truman to retire him definitely from active duty in 1951. (Meixsel 2001; Masuda 2012).

<sup>10</sup>Pressed by Washington officials to rectify his wording into a more inclusive “We shall return”, Douglas MacArthur refused to amend his original quote. His personal involvement in the country, quite evident from his biography, probably explains it. Today, MacArthur’s name is present in many parts of the Philippines. The main road leading North from Manila towards five provinces of Luzon (Bulacan, Pampanga, Tarlac, Pangasinan and La Union) is MacArthur Highway, a name also given to a major thoroughfare in Davao (Mindanao). There is a MacArthur Bridge over the Pasig river in Manila. MacArthur (Leyte) and General MacArthur (Samar) are two cities bearing his name, as well as numerous schools and streets across the country. He is the foreigner whose name has been most used in place-naming, where the dominant figures remain of course Rizal and Bonifacio.

<sup>11</sup>Jose Yulo as Chief Justice, Jose Laurel as Minister of Justice, Benigno Aquino at Interior, Quintin Paredes at Public Works and the respected scholar Claro Recto at Health and Public Welfare.

<sup>12</sup>After the capture of Bataan peninsula, the Japanese rounded up Filipino and American soldiers, forcing them to march towards San Fernando (Pampanga) under the scorching heat, executing all those unable to continue.



Resistance was strong across the country, with different groups<sup>13</sup> fighting the Japanese, guerrilla-style, in diverse provinces. Their role was to kill Japanese soldiers, to unmask and liquidate pro-Japanese spies, to counter Japanese propaganda through clandestine newspapers (Mateo 2006), and to keep radio contact with MacArthur and allied forces in Australia in preparation for the reconquest of the archipelago. Many towns were in fact liberated by these guerrilla groups before the Americans came back.

After the Battle of the Philippine Sea, the Americans recovered Guam (June 19, 1944), then Palau and Tinian. Allied troops led by MacArthur landed back on the Philippines in October 1944, setting foot first on Leyte Island, close to the place where Magellan had discovered the Philippines. This Battle of Leyte started on October 20th with 225,000 troops, a larger operation even than in Normandy. A statue now stands in Polo, near the beach where MacArthur, accompanied by the president in exile Sergio Osmeña<sup>14</sup>, proclaimed he had fulfilled his promise: “I have returned!”. His emotional speech on the beach included the perspective of the coming full independence of the Philippines.<sup>15</sup>

The Liberation of the Philippines, however, proved very hard, with an intense battle for Manila in February 1945, marred by widespread damage to the city and numerous deaths, and Japanese soldiers fighting valiantly in remote mountainous areas, some of them well after Japan surrendered in August 1945<sup>16</sup>. But it was the condition to obtain independence. MacArthur, who had proclaimed the liberation of the country on July 4th, 1944, before being sent to supervise post-surrender Japan, played a key role in re-establishing Filipino officials to prepare independence, while at the same time pushing aside communist-inspired resistance leaders as well as Filipinos who had clearly collaborated with Japan, such as Salvador Laurel, who had been proclaimed president by the Japanese (Edgerton 1977).

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<sup>13</sup>Col. Guillermo Nakar and Roque Alban in Ilocos Norte, the Huks (see Chap. 10) in central Luzon, PQOG—President Quezon Own Guerrilla—in Tagalog country (Cavite, Batangas, Laguna, Quezon), Bicol Guerillas under Wenceslao Vinzon, Col. Ruperto Kangleon in Samar and Leyte, Col. Macario Peralta in Panay, Datu Salipada Pendatun in Mindanao.

<sup>14</sup>Vice-president, Osmeña had succeeded Quezon, deceased from pulmonary tuberculosis on August 1st, 1944 in Saranac Lake (New York), following the guidelines of the Philippine constitution.

<sup>15</sup>“To the people of the Philippines. I have returned. By the grace of Almighty God our forces stand again on Philippine soil - soil consecrated in the blood of our two peoples. We have come, dedicated and committed, to the task of destroying every vestige of enemy control over your daily lives, and of restoring, upon a foundation of indestructible, strength, the liberties of your people. At my side is your President, Sergio Osmeña, worthy successor of that great patriot, Manuel Quezon, with members of his cabinet. The seat of your government is now therefore firmly re-established on Philippine soil”.

<sup>16</sup>Lieutenant Hiroo Onoda (1922–2014) hid in the jungles of Lubang Island near Mindoro until 1974, killing more than 30 people along the years as he refused to surrender without an explicit order of his commander.

### 5.2.3 *Independence*

The Philippines was with China the only Asian country—not yet fully independent—to sign the United Nations charter on October 11, 1945, followed 19 days later by India (still undivided), which was also on the path towards independence from his colonial tutor Britain. The world community was recognizing the impending independence of the country.

Elections held on April 23, 1946 elevated Manuel Roxas, president of the Philippine Senate since July 1945<sup>17</sup>, to the presidency of the Commonwealth, soon to be Republic. He had defeated incumbent Sergio Osmeña, who did not really campaign, considering he had shown his capacities to the country already, by a margin of 54–46%. Roxas, who had benefited from the support of MacArthur, US Commissioner Paul McNutt and the widow of Manuel Quezon, was inaugurated as the 3rd president of the Philippines on May 28, 1946.

Negotiations with the U.S. government allowed him to reach an agreement, approved by the Philippine Congress, to an official independence proclamation on July 4th, 1946, on the very day of the United States anniversary of their own independence in 1776.

However, discontent remained in the countryside about the lack of progress for farmers, particularly from the Huks, who lead an active struggle in the following years.

Even after its independence, the Philippines maintained privileged relations with the United States, especially in economic and military affairs. The terms of independence in 1946 were such as Filipinos and other Asians, such as Nehru in India, questioned whether the United States was transferring real power or just rearranging the means of control, especially on economic and military terms (Takagi 2008).

The Bell Trade Act of 1946 or Philippine Trade Act passed by the Congress of the United States on April 30, 1946, one week after the defeat of Osmeña, set out the conditions for the economic ties between the Philippines and the United States after independence. The United States would offer 800 million dollars for the rebuilding of the Philippines after World War II if the Bell Trade Act was adopted by the Congress of the Philippines, which was done on July 2, 1946, just 2 days before Independence. The provisions of the Bell Act were quite diverse, and criticized as infringing on the economic independence of the new nation:

- a preferential tariff over the next 20 years,
- free trade between the United States and the Philippines for 8 years, but with quotas on the exports of the Philippines to the United States: the Philippines was not to export products which would come in “substantial” competition with American-made products.

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<sup>17</sup>Roxas had been the Speaker of the Philippine House of Representatives between 1922 and 1933 and Quezon has designated him as the country leader during the war if something happened to himself or Osmeña. Roxas was a leader of the anti-Japanese resistance in Mindanao, while Osmeña was in exile in America with Quezon.

- the value of Philippine currency was set at two pesos per dollar.
- the government of the Philippines was requested not to impose restrictions on the transfer of money from the Philippines to the United States
- a parity clause gave the citizens of the United States equal rights as the Filipinos to use or acquire minerals, forests and other natural resources of the Philippines. This parity clause required amendments to the 13th article of the 1935 Constitution of the Philippines, which reserved the use of natural resources of the Philippines only for Filipinos.

The Military Bases Agreement of 1947 (MBA) signed on March 16, 1947, officially allowed the US to establish, maintain and operate air and naval bases in the country (Shalom 1990). It provided for about 23 listed bases<sup>18</sup> and utilities for use by Americans for a period of 99 years. Most important of these bases were the sprawling Clark Air Base in Pampanga province, the biggest American airbase outside of the continental USA, and the Subic Naval Base in Zambales (Corning 1990). Other provisions of the 29-article MBA included mutual protection and cooperation between the two countries, reciprocal use of American and Philippine military installations, and the prohibition to Philippine government from granting any bases to any other nation without US consent. The United States forces were allowed to recruit Filipino citizens, on a voluntary basis, for service in the American military. American base commanders had the right to tax, distribute utilities, hand out licenses, search without warrants, and deport undesirables. In addition to the MBA, the two countries signed a Military Assistance Agreement in 1947 and a Mutual Defense Treaty in October 1951.

Nationalist Filipinos, and many American analysts, considered that the country did not achieve real independence, given the high degree of control and presence of the United States in the Philippines in the 1950s (Paterno 1964).

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<sup>18</sup>Clark Field Airbase (Pampanga), Fort Stotsenberg (Pampanga), Mariveles Military Reservation, POL Terminal & Training Area (Bataan), Camp John Hay Leave and Recreation Center (Baguio), Army Communications System with the deletion of all stations in the Port of Manila Area, U.S.A.F Cemetery No. 2 (San Francisco, Delmonte, Rizal province), Angeles General Depot (Pampanga), Leyte-Samar Naval Base including shore installations and air bases, Subic Bay, Northwest Shore Naval Base and the existing naval reservation at Olongapo (Zambales province) and the Tawi Tawi Naval Anchorage and small adjacent land areas, Canacao-Sanglely Point Navy Base (Cavite province), Bagobantay Transmitter Area (Quezon city) and associated radio receiving and control sites in the Manila area, Tarumpitao point (Loran Master transmitter Station, Palawan), Talamputan Island, C.G. #354 Loran (Palawan), Naule Point (Loran Station, Zambales), Castillejos, C.G.#356 (Zambales), Mactan Island Army and Navy Airbase (Cebu), Florida Blanca Airbase (Pampanga), Aircraft Service Warning Net, Camp Wallace (San Fernando, La Union), Puerta Princesa Army and Navy Air Base including Navy Section Base and Air Warning Sites (Palawan), Tawi Tawi Naval Base (Sulu Archipelago), Aparri Naval Air Base (Cagayan province).

## 5.3 The Republic of the Philippines

### 5.3.1 *From Democracy to Martial Law*

From 1946 to 1972, the Philippine political system was formally democratic. Short presidencies followed each other in rapid succession due to untimely deaths of the national leaders, either by disease or accidents. President Roxas, died of a heart attack in 1948. His vice-president Elpidio Quirino succeeded him and was reelected in 1949, but lost in 1953 by a wide margin (31% to 69%) to Ramon Magsaysay, who was killed in a plane crashed in 1957. Carlos Garcia was then defeated in 1961 by his own vice-president Diosdado Macapagal, who in turn was beaten by Ferdinand Marcos in 1965.

Presidents losing elections can at first sight be considered as a healthy sign of democracy. However, in the Philippine context, it is more likely to be a symptom of a political system dominated by shifting alliances between political clans (Frantzich 1968; Roces 2000). It also reflects a peculiarity of the Philippine system compared to the American electoral system. Presidential candidates run on a ticket with a potential vice-president, but often voters split the vote between the would-be president of one alliance and the running mate of another presidential candidate, so that the vice-president is in fact representing the opposition within government.

There is only one round of elections, no primaries, and many presidents have been elected without a majority vote (Carlos Garcia 41% in 1957), especially in recent years (Fidel Ramos 24% in 1992, Joseph Estrada 40% in 1998, Gloria Macapagal-Arroyo 40% in 2004, Benigno Aquino 42% in 2010), due to the lack of a dominant political force in the country and the ambitions of powerful leaders of political clans. Most voting is marred by corruption, fraud and violence, and political power lies in the hands of a small number of families which often control an entire region, placing sons, nephews and wives in local councils, then congress and governorships, limiting indeed the rise of new personalities and ideas. This has generally insured the status quo in the rural areas and the persistence of inequalities inherited from the Spanish and American colonial periods. The major political parties are barely distinguishable in terms of ideology and take advantage of a political system allowing contending elite factions to rotate in and out of office. Most of the political game in the Senate consists of attracting a few people to an alliance, since senators are not elected today from specific districts but on national lists presented by the president on one side, and his/her opponents on the other side.

Formal elective democracy took a back seat with Ferdinand Marcos. Formerly the Senate's president, a lawyer by training, he was elected in 1965 (52% vs. 43% for incumbent Diosdado Macapagal) and won again in 1969 (a rare occurrence, with a wider margin, 61% to 39% against Sergio Osmeña Jr.). In his first State of the Nation Address (SONA), Marcos announced plans for dynamic economic development and deep government reform. He ordered the immediate construction of roads, bridges and public works, the improvement of electric power capacity and water services. He also urged reforms of the judiciary system, of the national defense

strategy and announced he would combat crime, smuggling, graft and corruption in the government. To implement his program, Marcos mobilized the manpower and resources of the Philippine military to assist civilian agencies in infrastructure construction, regional planning and industrial development. The army became a major part of the government. Marcos, following guidelines of the 1954 Manila Pact which created SEATO, the Asian version of NATO, also supported openly the United States at the time of the war in Vietnam (Ingles 1966), sending about 10,000 non-combat Filipinos to assist the US forces there. This policy led to huge protests initiated by student leaders of the University of the Philippines, who denounced the excessive alignment of the country with the former colonial power and the increasing militarization of the government. They were joined by opposition leaders such as Senator Benigno “Ninoy” Aquino.

The response of Marcos was to proclaim martial law in September 1972. Ruling by decree, he ordered the arrest of opposition leaders, politicians as well as students, closed down Congress for a time, severely limited freedom of the press and civil liberties, imposing curfews. Some businesses and farms belonging to opponents were seized by the Marcos government and given to relatives, friends and allies (“Marcos cronies”) of the president (Aquino 1999), who also carved a Metropolitan Manila region out of the Rizal province, naming his wife, First Lady Imelda Marcos (Ricordeau 2015), as the governor of the new capital region. Military officers were placed on the governing boards of most corporations, media outlets, public utilities, government agencies, while the ranks of the military increased fourfold and the country developed the manufacturing of weaponry. In 1975, a presidential decree mandated that all Philippine youth take part in military training camps, while his daughter was named president of a national youth organization. A new Constitution allowed him to stay in power beyond the scheduled end of his 4 year-term in 1973. And when he submitted himself again to reelection in 1981 after lifting martial law, he was reelected for 6 years in a landslide (88%).

### ***5.3.2 “People Power”: The EDSA Revolution***

In 1980, opposition leader Benigno Aquino, who had been sentenced to death by a military court, was allowed to leave the Philippines for treatment of heart disease in the United States, where he went on lecturing on campuses against the Marcos regime. Despite death threats and the murders of anti-Marcos activists in the United States, Aquino decided to return to the Philippines. On August 21, 1983, as his plane had just landed at Manila airport, he was accompanied to the tarmac by Philippine military personnel and gunned down at the foot of the aircraft.

This murder generated vivid emotion across the country and the world, and two million people attended his funeral. The funeral ceremony was led by the Cardinal Archbishop of Manila Jaime Sin, who had condemned many times the human rights violations committed under martial law. The trial of 26 people, including high-ranking military officers such as chief of staff Gen Fabian Ver, ended in their full

acquittal on December 2, 1985, making the county very angry at this mockery of justice.

Many Filipinos refused to obey the government or pay taxes and the economy, already shaken by martial law, went into a deep recession. Under pressure from the Reagan administration in Washington, Marcos suddenly decided in November 1985 to advance the date of the presidential elections, in order to keep control of the country. The elections were scheduled for February 7, 1986, leaving very little time for the opposition to organize. The person most likely to rally the greatest number of people was Aquino's widow, Corazon ("Cory") Aquino, who reluctantly accepted to run for president against Marcos, despite having no personal experience of politics except for being the wife of a politician. Marcos officially won the election by a relatively small margin (54–46%), while independent observers counted 800,000 more votes for Corazon Aquino and denounced fraud and intimidation in many voting places.

On February 15, 1986, the CBCP (Catholic Bishops Conference of the Philippines) declared the regime had lost all moral authority due to electoral fraud and encouraged people to demonstrate peacefully. Given the influence of the church in the country, this was a powerful blow to Marcos. The next day, on February 16th, a massive rally of possibly four million people took place on EDSA (Bagadion 1986), a major thoroughfare encircling Manila, where Corazon Aquino called for massive civil disobedience. A few days later, on February 22nd, two of the strongest supports of the president, Defense Minister Juan Ponce Enrile and acting Chief of Staff Fidel Ramos switched their support from Ferdinand Marcos to Corazon Aquino. On February 23rd, a second rally led by soldiers, priests, nuns, and pro-Aquino political figures took place. Two days later, seeing no support from Washington, and abandoned by 85% of the military, Ferdinand Marcos fled in exile to Hawaii with his family, where he died a few months later.

If "EDSA" is equated with a popular revolt, it can also be considered as a successful coup led by Juan Ponce-Enrile and Fidel Ramos (Montiel 2010; Rafael 2016). Despite the appearance of a 'people power' revolution (Curaming and Claudio 2010; Claudio 2013), the key driver behind the fall of the Marcos regime—as well as Suharto's in Indonesia—were forces internal to the regimes (Fukuoka 2015). The presidency was vacant. The only person who could rightfully claim it was Corazon Aquino.

### 5.3.3 *The Post-Marcos Years*

Democracy had to be restored. A new Constitution was adopted by referendum on February 2, 1987. It limited the presidency to one 6-year term. Presidents and vice-presidents could be elected from different tickets. Senators were to be elected at-large on national lists, while members of the house were still representing districts. After years of tight control by Marcos, more powers were given to local authorities. Freedoms of speech and freedom of the press were reinstated, as well as individual

freedoms (habeas corpus). Many political prisoners were released in the early weeks of the “Cory” Aquino presidency.

Since 1986, the country has been governed by six presidents. Cory Aquino was succeeded in 1992 by Fidel Ramos. A pro-American officer graduated from West Point Military Academy (1950) and holder of a masters in Civil Engineering from the University of Illinois (1951), he was the first Protestant president of this immensely Catholic country. Ramos traveled to many countries to boost foreign investment in the Philippines. His successor (1998–2001) was Joseph “Erap”<sup>19</sup> Ejercito Estrada, a populist former actor that some compared to Ronald Reagan. He was forced to resign in 2001 after being subjected to impeachment in the Philippine congress (Kasuya 2005), and was succeeded by his vice-president Gloria Macapagal Arroyo, daughter of former President Diosdado Macapagal. A former student at the prestigious Georgetown University School of Foreign Service in Washington DC, where she befriended the Clintons, she obtained a Masters in economics at Ateneo de Manila, then a Ph.D. in economic at UP-Diliman, before teaching in both universities in Quezon City and becoming undersecretary for trade in the Cory Aquino government. She was elected in her own right in 2004. In 2010, Senator Benigno ‘Noynoy’ Aquino III, son of the murdered opposition leader and former President Corazon Aquino, was elected largely on name recognition, in the wake of his mother’s death. Davao’s populist mayor Rodrigo Duterte won the election in 2016, with 39% of the votes, beating Aquino’s hand-picked successor Mar Roxas (23%), grandson of the 3rd president, and three other candidates by a wide margin.

This succession of presidents seems to indicate a relative stability and a harmonious political life. However, the country remains politically unstable. There were no less than four military coup attempts (July 1986, August 1987, December 1989, October 1990) against Corazon Aquino, accused by Marcos nostalgics of being a weak leader (no political experience) soft on communists when she released a number of political prisoners. Fidel Ramos was able to rein in mutiny leaders and appeared as a natural candidate in 1992. Joseph Estrada had to resign in January 2001 when he was engulfed by a whirlwind of corruption and incompetence accusations (Claudio 2014). Massive rallies (“Edsa 2”) demanded his departure and he, the champion of the common people, had to leave the presidential palace He spent several months in jail afterwards<sup>20</sup>. The government of Gloria Macapagal Arroyo (“GMA”), despite her impressive academic credentials, was also a disappointment, since a lingering doubt about her honesty during the 2004 elections was followed by repeated accusations of massive personal enrichment during her 9 years at the helm of the country. When he came into power, Benigno Aquino promised a “straight path” (“*matuwid na daan*”) (Quilala 2015) towards the eradication of corruption (“*kung walang corrupt walang hirap*”, if there is no corruption there is no poverty), but his lack of experience, many awkward episodes of inaction or lack of reactivity, such as during the hostage-taking of a busload of Chinese tourists, which ended tragically a few weeks into his presidency, weakened his stature. Many observers

<sup>19</sup>Letters in reverse order from “*pare*” (pal, mate, friend).

<sup>20</sup>Discredited in 2001, he came back forcefully in 2013 to be elected mayor of Manila City.

saw him as aloof and more intent on fighting his political enemies (Gloria Macapagal Arroyo, the Marcoses, the former Supreme Court Chief Renato Corona) than working for the common Filipino. Critics denounced President Benigno Aquino's systematic use of "KKK" relationships: *Kaibigan* (friends), *Kaklase* (classmates) and *Kabarian* (shooting buddies). In 2013–2014, a massive corruption scandal developed around the Philippine Senate, and there were again rumors of coup preparations within the ranks of the army.

Despite the apparent return to democracy, the country suffers from the same ills as ever: control of the political life (Thompson 2014) by powerful landed families (Quimpo 2005) fighting each other, poverty-rooted corruption at all levels (Montinola 1994; Coronel 1998; Montelibano 2015a, b), instability linked to clientelism and shifting alliances (Neher 1985), continued struggle of poor farmers against landowners including the very family of President Aquino, mediocre industrialization, difficulties to reach a lasting peace with the Muslim factions in Mindanao, widespread criminality fueled by poverty and drug usage (Makabenta 2016).

Colonial and postcolonial administrations appear to have been mostly interested in establishing and maintaining social order, and in protecting US military bases during the Cold War. The incorporation of Philippine elites into the political system has been more important than addressing the political and economic demands of most Filipinos (Hutchcroft and Rocamora 2003). Opportunities to introduce real land reform, to reform the economy, and to broaden the political system to include voices 'from below' were always avoided to keep elites happy (Weekley 2006). Therefore, most Filipinos seem to have no confidence at all in the government to seriously work in solving the "real problems of real Filipinos": employment, health and quality education.

Good governance leading to high growth has not been reached in the Philippines, which has not totally followed the Singapore (Zakaria 1994; Emmerson 1995; Robison 1996; Barr 2000) and Malaysia's proclaimed belief in the "reverse orientalism"<sup>21</sup> of "Asian values" (Hill 2000; Li 2003; Thompson 2004), mixing authority, public order, democratic form (Dalton and Ong 2005) and economic growth guided by the state. Under Marcos, there was authoritarianism, but also greed and cronyism, and therefore no economic miracle (Thompson 1996). The economic growth of the country has not been on par with other Southeast Asian nations since World War II, when the country, at the time of independence, appeared as one of the most promising in Asia. Large segments of the population are still mired in deep poverty. Despite evident progress for women<sup>22</sup>, social inequalities are

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<sup>21</sup> Orientalist scholarship in the nineteenth century perceived "Orientals", Asians, as mysterious and culturally backwards. In the late twentieth century, however, Asian leaders such as Lee Kuan Yew in Singapore and Mohamed Mahathir stressed the cultural differences between East and West as a reason why democracy could not take the same form in Asia and western democracies. The Philippines, being a culturally hybrid country shaped by Spanish and American colonizations, fits awkwardly in this scheme, and the Confucian sense of order and deference to authority appears quite weak in this archipelago of Latin culture.

<sup>22</sup> Gender equality is recognized as being largely achieved in the Philippines, ranked 9th in the world by the World Economic Forum "Global Gender Gap", with a top place in education (1st in



enormous. In 2011 the 40 richest families on the Forbes wealth list accounted for 76% of the country's gross domestic product (GDP) growth. This was the highest in Asia, compared with Thailand (33.7%), Malaysia (5.6%) and Japan (2.8%), according to NEDA economist Cielito Habito (Tiquia 2014).

In a country where many people are poor and have not finished high school, the political scene is dominated by three non-exclusive categories of figures (Dayao 2014): wealthy people (whose wealth inspires people who hope voting for them will change their life), celebrities (actors such as former president Estrada, athletes such as boxing star Emmanuel "Manny" Pacquiao) (David and Atun 2015) and members of political dynasties (Teehankee 2001; Dal Bo et al. 2009; Thompson 2012; Brown 2015) (Aquino, Marcos, Binay, Macapagal, Roxas...): the last two presidents, Gloria Arroyo and Benigno Aquino are both children of presidents (Diosdado Macapagal and Corazon Aquino), in a model quite frequent in Asia (Nehru / Indira Gandhi / Rajiv Gandhi in India, Ali Bhutto / Benazir Bhutto in Pakistan, Ahmed Soekarno/Megawati Sukarnoputri in Indonesia, Lee Kuan Yew / Lee Hsien Long in Singapore, Aug San / Aung San Suu Kyi in Burma, Park Chung Hee / Park Geun-Hye in South Korea, also in Sri Lanka, Thailand,...). The Asian Institute of Management (AIM) Policy Center has calculated that 6% of legislators in the United States belong to dynasties, 10% in Argentina, 22% in Ireland, 33% in Japan, 40% in Mexico, and a whopping 70% in the Philippines (Mendoza et al. 2012; Cruz and Mendoza 2015).

Can "*trapo*" (traditional politicians and policies) (Eaton 2003) cure the country's ills? Bickering and political enmities have hampered the rescue operations in Leyte<sup>23</sup> after typhoon Yolanda in 2013. According to the Fund for Peace (Washington DC) in its annual report on "failed states"<sup>24</sup>, the Philippines are in the "very high warning" category (Diokno 2014), alongside Bolivia, Madagascar, Mozambique or Laos, with particularly mediocre scores on the "factionalized elites", "security apparatus" (uncontrolled violence by police and army), "state legitimacy" (political corruption) and "group grievances" (in this case the farmers) categories. In a country where the press is quite free and does not hesitate to attack frontally the highest-ranked politicians, many journalists have been murdered. The level of daily insecurity in the country, where there are no gun control laws, is considered as high (robberies, summary executions, murder of journalists and local politicians) in large cities as well as in the countryside, even if daily life in the Philippines cannot

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all four sub-indicators of literacy, enrollment in primary, secondary and tertiary education) and health (sex-ratio at birth and "healthy life expectancy"), and a top-10 ranking (out of 146 countries) in indicators for wage equality and "legislators, senior officials and managers". However, it was at a dismal 102nd place for labour force participation. (Caraballo 2014; Hausman et al. 2014).

<sup>23</sup>When Tacloban City mayor, a nephew of Imelda Romualdez-Marcos, complained that the central government wanted to take control of his city, minister of interior Mar Roxas, an Aquino ally, supposedly replied to him: "Remember, we are Aquinos and you are a Romualdez". No commentary is needed....

<sup>24</sup>[www.failedstatesindex.org](http://www.failedstatesindex.org)—(Bondoc 2014).

compare with Somalia, Afghanistan or Irak<sup>25</sup>. The 2014 Global Peace Index (GPI) prepared by the Institute for Economics and Peace<sup>26</sup> places the Philippines 134th among 162 world countries with a very poor record (4.0 on a maximum of 5.0) in the following categories: perceived criminality in society, access to weapons, organized conflict (internal), violent crime, political terror and terrorist activity. It was ranked as one of the ten countries most affected by terrorism in 2013, alongside Iraq, Afghanistan, Pakistan, Nigeria, Syria, Somalia, India, Yemen and Thailand (Fonbuena 2014).

Remnants of the colonial past are still present. Corrupt policies (Hutchcroft 1991; Almeida 2012) based on land ownership and patronage were already prevalent in the Spanish Philippines (Huetz de Lempis 2006, 2008). Corruption, even though it also exists in many other Asian countries (Moran 1999; Treisman 2000; Quah 2003), may be linked with the deeply ingrained cultural feature of “utang na loob” (debt of gratitude), which will be difficult or impossible to erase<sup>27</sup>. Regional fiefdoms controlled by political dynasties (Aquino 1968; Gazano 1997; Conde 2007; McCoy et al. 2009; Rodis 2014) suffer from mediocre governance (Tusalem and Pe-Aguirre 2013), which is not conducive to society-wide development (Auvray et al. 2003; Habito 2015; Mendoza et al. 2016; Panao 2016). Filipino leaders, at the local and national levels, have fused family, politics, and business to amass private wealth and weaken public institutions (Quimpo 2005) and many have played the populist card of presenting themselves as champions of the common man, even if they belong to powerful local dynasties and many of them now have law degrees from prestigious universities in the Philippines (Ateneo de Manila and UP Diliman) and the United States (Kimura 1998). Ferdinand Marcos, Joseph Estrada and newly elected president in 2016, Davao-based Rodrigo Duterte are good practitioners of this “sandwich coalitions” (Swamy 2013).

The Philippines rank as a “middle-of-the road” democracy in the Democracy Index of the Economic Intelligence Unit ([www.eiu.com](http://www.eiu.com)), an independent business firm within the *Economist* group. In 2012 it ranked 69th out of 167 countries, with a score of 6.30 (extremes were Norway 9.93 and North Korea 1.08), close to Malaysia 6.41 and Thailand 6.55. But the elements used to build the composite index showed huge gaps in the Philippine democratic system (Maboloc 2015): the country fared quite well—best in southeast Asia—in civil liberties (9.12) and electoral process/pluralism (8.33), but much more poorly in political participation

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<sup>25</sup>In the first weeks of his presidency (2016), Rodrigo Duterte launched a massive campaign against drug trafficking, resulting in hundreds of summary killings of suspected dealers and users. The bloodbath raised questions, both inside the Philippines (Catholic Church, Senate) and abroad (United Nations) about the apparent systemic violation of human rights by the incoming administration.

<sup>26</sup><http://www.visionofhumanity.org/#page/indexes/global-peace-index/2014>

<sup>27</sup>“Utang na Loob” is one distinct cultural Filipino trait which implores upon every individual to look back with gratitude to those who have extended a good deed in any way and therefore obliges to pay back the same. Its good side is the sense of community and mutual help implied, its bad side is encouragement to corruption (Kaut 1961; Kerkvliet 1995; Brown et al. 2009; Quah 2010).

(5.56), functioning of government (5.36) and especially political culture (3.13, worst in Southeast Asia) (Mangahas 2014).

The system of bossism (Sidel 1997), nepotism (Hoddert 2014), oligarchic politics (Tuazon 2007) and family/clan dominance (McCoy et al. 2009) is a vicious cycle that prevents new people from emerging in the political field, because they cannot be elected. While the majority of Filipinos are poor, they are actually led by rich and powerful dynasts (Montelibano 2015a, b). Poor Filipinos are not ruled by leaders who can truly represent them. This “cacique democracy” (Anderson 1988; Estrada Claudio 2014) is deeply marred by patronage, corruption, violence and fraud (Quimpo 2009). It has led shady business operators to arrange deals with powerful senators, congress(wo)men, governors or cabinet members to railroad taxpayer money aimed at providing public services or infrastructure projects into the pockets of high-ranking officials, as exemplified by the 2013–2014 scandal engulfing the Philippine senate around Mrs Janet Lim Napoles.

The Catholic Church remains a powerful political force (Verlet 1990, 1991). It has aligned itself in recent years with the plight of the poor farmers in land conflicts, but it is still extremely conservative in ethical matters and values, as shown by the vigorous opposition of the Philippine bishops to the Reproductive Health Law (see Chap. 6). Many of the current social and political problems are akin to Latin America’s problems (Brazil, Mexico, Guatemala...).

In a show of independence from the United States (Solidum 1988; Coronel Ferrer 1992), the Philippine Senate voted in 1991 the end of the American lease on military bases such as Clark Air Force base and Subic Bay Naval Base, already damaged by the violent eruption of Mt Pinatubo. However, under the “Visiting Forces Agreement” (Velasco 2015), there are still US military advisors and some US troops in Mindanao, fighting “international terrorists” in the “global war on terror” (Kraft 2003), and on April 28, 2014, US president Barack Obama, in a context of increasing tensions with China (Cruz de Castro 2009, 2013) about the control of islets in the South China Sea (see Chap. 9), signed with Benigno Aquino, a new military pact (EDCA, Enhanced Defense Cooperation Agreement), not ratified by the Philippine Senate, that could allow a return of American forces on Philippine bases, making once again the US military presence an issue in Philippine politics (Salaverria and Bordadora 2014; Misalucha and Amador 2016) and a symbol of an incomplete decolonization (Schirmer 1997; Cruz de Castro 2014a, b; Kapunan 2014; Oliveros 2014; Sambalud 2014; Tatad 2016).

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## Chapter 6

# 100 Million Filipinos

**Abstract** The Philippine archipelago, with more than 100 million inhabitants, is the 12th most populous in the world, one of the fastest growing and youngest countries in Asia, and will soon overtake an aging Japan. Causes of the high rate of population growth include the teachings of the influential Philippine Catholic Church (no divorce, contraception or abortion) and the active sexual life of young Filipinos. Many women become pregnant at a very early age, soon after puberty. The country has not developed population control policies as some other countries (Thailand, China) have. Therefore it has a very young population with few elderly people, a situation that may be good for the economy (demographic window of opportunity). The chapter relates the debate around the Reproductive Health Bill, a key legislation aiming at making it easier for couples to control fertility despite virulent opposition from the Church. Other data show that the demographic and epidemiographic transition of the Philippines is far from over: infant mortality rates, although they have gone lower, are still too high. Infant diarrhea and malnutrition kill many children every year. Mosquito-borne diseases, especially malaria and dengue, are threats for the entire population, while tuberculosis remains strong in the country.

**Keywords** Demographics • Fertility • Family planning • Health • Dengue

When Chonalyn Sentino Cabigayan was born at 12:35 a.m. Sunday July 27th, 2014 at state-run Fabella Hospital in Manila, the Philippines joined the small club of the countries harboring more than 100 million inhabitants (Peralta 2014a, b; Clarisse 2014).

The Commission on Population had announced a few days earlier that it would come up with a list of 100 babies born at 12:06 a.m. or minutes later on that day, after calculating the exact time when “the 100th million Filipino” would be born, based on the rate of about three babies being born in the country every minute. One hundred babies were chosen that night, one in each of the 81 provinces and the 17 municipalities making up Metro Manila, as well as the two largest provincial cities, Cebu and Davao.

The symbolic babies received free Philhealth medical insurance; their growth and development will be monitored until they reach 18, free of charge, by health officers from Local Government Units. Their parents were given 5000 pesos (about

100 euros) worth of blankets and other necessities for newborns. The government's Health Secretary Enrique Ona stated that the babies would be under a "complete and expanded immunization program", with vaccines against mumps, measles and rubella (MMR), pneumonia, polio, tuberculosis and severe diarrhea-causing rotavirus. Girls will also get preventive treatment against cervical cancer.

Baby Chonalyn was still the one picked up by the press, since Fabella Hospital, located in hyper-dense Tondo neighborhood, was possibly the busiest maternity ward in the world (Bernabe 2014) and a symbol of a rapidly crowding nation. Its overcrowded facilities were closed in June 2016 by the Aquino government, in a move considered as anti-poor by activists, who fear commercial redevelopment of the site, rather than a reconstruction of a better medical facility (Macalalad 2016; Manalo 2016; Umil 2016).

The Philippines belong to the high population density East Asian realm. With 337 inhabitants per square kilometer in 2013, comparable to Japan's 336, the country is among the ones with most pressure on land resources. It ranks 2nd to India (385 people/km<sup>2</sup>) amongst countries larger than 100,000 km<sup>2</sup>, and 9th (behind Bangladesh 1096, Taiwan 647, South Korea 503, Netherlands 407, Haiti 397, India 385, Belgium 368 and Burundi 343) amongst countries of more than 10,000 km<sup>2</sup>.

The continued rapid growth of the population is a challenge for the nation as it is in other developing countries (Madigan 1968; Alexandratos 2005) in terms of feeding the population, educating it, keeping it healthy, creating jobs and preserving limited local resources. Will the Philippines be able to control and manage its territory as the Netherlands and Taiwan, or will it become another Burundi or Haiti, only larger? Data on health, nutrition and poverty reveal worrisome situations, even if huge progress has been made in the last half-century.

It leads to questions about the policies to adopt in Catholic-dominated country where the Church exert a strong social and political influence (Fabros 1988). Should the Philippines push for birth control? What kind of policy for teenage pregnancies? How to encourage higher use of agricultural lands without damaging the environment further (deforestation)? Is population growth good after all for the Philippines? The debate has been going on for decades about the interrelations between population growth and economic growth (Easterlin 1967; Stolte-Heiskanen 1975; Bloom and Freeman 1986; Kelley 1988; Barlow 1994; Merrick 2002). Is poverty a cause or a consequence of high population growth? (Teodoro 2015) Many authors argue that the slowdown in population growth has been an essential element of economic growth in East and Southeast Asia (Bloom and Williamson 1997; Bloom and Finlay 2009), including China (Li and Zhang 2007; Cai 2010) and the Philippines (Orbeta and Pernia 1999; Balisacan and Mapa 2012). Should the policy be to work first on population growth, and economic growth will follow? Or would economic growth bring lower fertility rates? Is population growth the cause of poverty, or is poverty the driver of population growth? (Teodoro 2015) Contrary to its neighbors which have reached levels of fertility well below generation replacement levels, the country will not have to deal for many decades with the rapid aging of population experienced first in Japan, now in South Korea, China and Taiwan, soon in Thailand (Mason et al. 2002).

## 6.1 The Rising Number of Filipinos

The Philippine population has different features from some of its neighbors in East and Southeast Asia, which have experienced a spectacular slowdown of their population growth and are rapidly aging (Mason 2001, 2003). Starting in the 1960s, many Asian countries abandoned pro-natalist policies, established population control as a major national development objective and implemented comprehensive programs intended to slow down population growth. Not so in the Philippines. The country is still growing at a rapid pace, much faster than in most of Southeast Asia. A simple comparison with three neighboring countries of roughly the same physical extent, Japan (10th), Vietnam (14th) and Thailand (20th), is quite revealing indeed (Table 6.1).

### 6.1.1 Growth Population Data

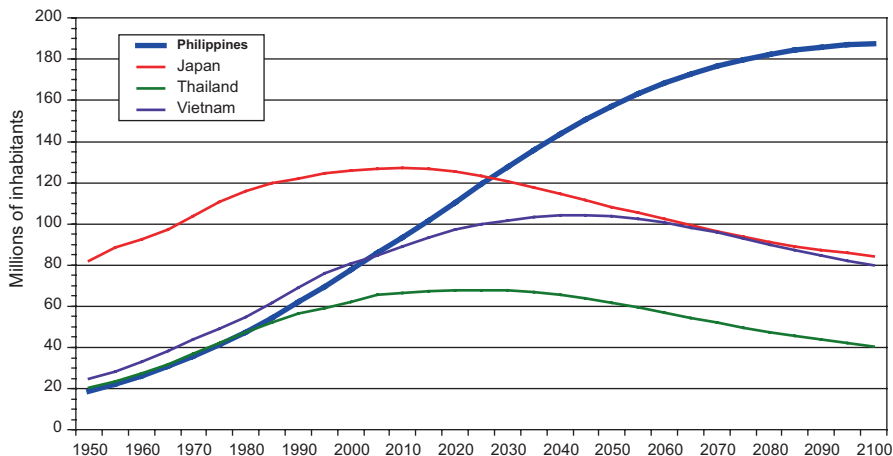
The country was a nation of seven million people at the time of the end of Spanish colonization. By the time the United States granted it independence in 1946, there were 18 million residents. It was then the 24th most populated country in the world, with less than half France's population (11th) and almost as much as Vietnam (18th), South Korea (19th) and Thailand (21<sup>st</sup>). Since that time, data indicate that since the 1950s the Philippines has experienced an explosive population growth (20 million in 1950, 40 million in 1973, 60 million in 1990, 80 million in 2002), which is projected to continue for several decades (Fig. 6.1).

Until the 1990s, the Philippines, Thailand and Vietnam grew in parallel; however, Thailand's demographic growth slowed down and the country is scheduled to peak at about 70 million people around 2020, then to see its population slowly decrease. Vietnam will still grow, albeit at a slower pace than before until about 2040, peaking at about 105 million. Meanwhile, the Philippines' fast population growth is projected to continue until it starts to slow down around 2050, possibly peaking around 2100, which is of course a very distant time horizon. The Philippines would then approach the 190 million mark. As for Japan, it has already stopped growing, peaking at about 127 million, and is projected to decline to 80 million in

**Table 6.1** Size and density comparison: Japan, the Philippines, Thailand and Vietnam

	Area (km <sup>2</sup> )	Population 1950 (million)	Density/km <sup>2</sup> 1950	Population 2015 (million)	Density/km <sup>2</sup> 2015
Japan	364,000	82.2	217	126.8	348
PHILIPPINES	298,000	18.6	62	101.8	341
Thailand	511,000	20.6	40	67.4	132
Vietnam	331,000	24.9	75	93.3	282

Source: United Nations Population Division



**Fig. 6.1** Observed and projected populations of four Asian countries, 1950–2100. Source of data: United Populations Population Division, World Population Prospects, the 2012 Revision, <http://esa.un.org/unpd/wpp/unpp/p2k0data.asp> (medium variant)

2100. In 1950, the Japanese population (80 million) was four times larger than the Philippine population. In 2025 it is projected that both countries will have 120 million inhabitants, and by 2075 there would be two Filipinos for every Japanese.

At the 2050 horizon, despite the spectacular growth of African populations (Nigeria, Congo, Ethiopia, Tanzania), the Philippines will have risen from 12th to 11th in the world if current trends and projections hold, passing Russia, Japan and Mexico. In the next 35 years, the Philippines are projected to gain 57 million people, but Vietnam only 15 million, when Thailand would lose four million (Table 6.2).

This fast population increase would lead to a frightening rise in population density for the Philippines, raising acute questions in land and resources sustainability (Table 6.3).

### 6.1.2 A Young Country

A major factor in the population growth is the high level of fertility in the country. The Philippines, at 3 children per woman, a crude birth rate of 24 per 1000, and 34% of the population under 15 years of age, is well above the world's averages (2.5 children, 20 births per 1000 people, 26% under 15). The median age of the Philippine population (22.7) is among the lowest in Asia (Figs. 6.2 and 6.3, Table 6.4).

**Table 6.2** The 25 most populated countries in the world in 2014 and 2050

Rank	Mid-2014 population in million		2050 population in million	
1	China	1364	India	1657
2	India	1296	China	1312
3	United States	318	Nigeria	397
4	Indonesia	251	United States	395
5	Brazil	203	Indonesia	365
6	Pakistan	194	Pakistan	348
7	Nigeria	177	Brazil	226
8	Bangladesh	158	Bangladesh	202
9	Russia	144	Congo, Dem. Rep.	194
10	Japan	127	Ethiopia	165
11	Mexico	120	PHILIPPINES	157
12	PHILIPPINES	100	Mexico	151
13	Ethiopia	96	Egypt	146
14	Vietnam	91	Russia	134
15	Egypt	88	Tanzania	129
16	Germany	81	Vietnam	106
17	Iran	77	Uganda	104
18	Turkey	77	Iran	99
19	Congo, Dem. Rep.	71	Japan	97
20	Thailand	66	Turkey	93
21	United Kingdom	65	Kenya	81
22	France	64	Iraq	80
23	Italy	61	United Kingdom	77
24	South Africa	54	Sudan	77
25	Tanzania	51	Germany	76

Source: Population Reference Bureau

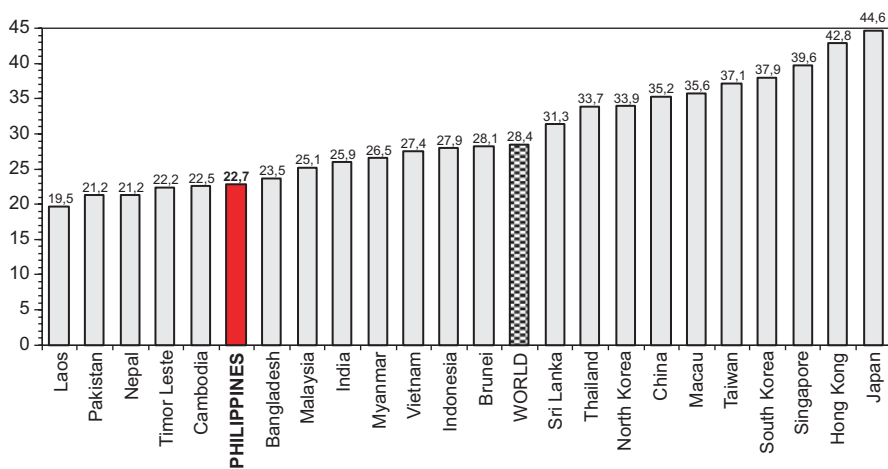
**Table 6.3** Evolution of projected population density (people/km<sup>2</sup>), 1950–2100

	Japan	PHILIPPINES	Thailand	Vietnam
1950	217	62	40	80
1975	293	138	83	148
2000	333	259	121	244
2015	348	341	132	282
2025	326	397	132	301
2050	287	524	120	313
2075	248	599	97	280
2100	224	626	79	242

Source: Population Reference Bureau



**Fig. 6.2** A very young population (Pagsanjan, Laguna, août 2011, photo YB)



**Fig. 6.3** Median age in Asian countries (2013). Source: CIA world book of facts

### 6.1.3 A Sexually Active Filipino Youth

Young Filipinos are becoming more sexually adventurous as the traditionally powerful Roman Catholic Church loses its influence to the Internet and smart phones. According to the Philippine Statistics Authority, one in ten Filipina teenagers (15–19 years old) is now already a mother (Ambanta 2014). The average age of Filipinas for the birth of their first baby and their mean age at childbearing is comparable to

**Table 6.4** 2014 demographic indicators for selected Asian countries

Crude birth rate p. 1000		Fertility rate		Proportion of children under 15	
Timor Leste	37	Timor Leste	5.7	Timor Leste	42%
Pakistan	28	Pakistan	3.8	Pakistan	38%
Laos	26	Laos	3.2	Laos	35%
PHILIPPINES	24	PHILIPPINES	3.0	PHILIPPINES	34%
Cambodia	24	Cambodia	2.8	Nepal	34%
Nepal	22	Indonesia	2.6	Cambodia	31%
India	22	India	2.4	India	31%
Bangladesh	20	Nepal	2.4	Bangladesh	29%
Indonesia	20	Bangladesh	2.2	Indonesia	29%
Sri Lanka	18	Malaysia	2.1	Sri Lanka	26%
Malaysia	17	Sri Lanka	2.1	Malaysia	26%
Vietnam	17	Vietnam	2.1	Myanmar	25%
Myanmar	17	North Korea	2.0	Brunei	25%
Brunei	16	Myanmar	2.0	Vietnam	24%
North Korea	15	Thailand	1.8	North Korea	22%
China	12	Brunei	1.6	Thailand	18%
Thailand	12	China	1.6	China	16%
Macau	11	Japan	1.4	Singapore	16%
Singapore	9	Macau	1.2	South Korea	15%
South Korea	9	Singapore	1.2	Taiwan	14%
Hong Kong	8	South Korea	1.2	Japan	13%
Taiwan	8	Hong Kong	1.1	Macau	11%
Japan	8	Taiwan	1.1	Hong Kong	11%

Source: Population Reference Bureau

many other countries of the region (22–23 years old and 28–29), but there is a high degree of teen pregnancy in the country, since 47 per 1000 of women aged 15–19 give birth, one of the highest rates in Asia. The number of children born to very young women is increasing in the Philippines, when it has decreased in many other countries of the region (Table 6.5).

The poverty situation in the Philippines has paved the way for adolescent girls to drop out of school. In most cases, instead of studying, they resort to finding ways to put food on the table and not be hungry when they go to sleep. About 20% of high-school age girls drop out of the educational system to help her family by working. Those educated are least likely to get pregnant at a young age and have better access to sex education in educational institutions, putting their education ahead of domestic duties and other roles in the family (Rodriguez 2014a, b, c, d). The percentage of Filipino girls aged 15–19 who had already given birth has increased from 6.3% in 2006 to 13.6% in 2013 (Table 6.6).

Data from a national survey conducted by the University of the Philippines Population Institute (UPPI) and the Demographic Research and Development Foundation (Angsioco 2014a) show that that 32% of Filipinos between the ages of



**Table 6.5** Birthand fertility data, selected Asian countries

Average age of mother at first baby delivery		Mean age at childbearing		Fertility rates of women 15–19 (per 1000)	
Bangladesh	18.1	Bangladesh	25.1	Bangladesh	81
India	19.9	Nepal	26.3	Nepal	74
Nepal	20.1	India	26.8	Laos	65
Timor Leste	22.1	Vietnam	27.1	Timor Leste	59
Malaysia	22.4	China	27.3	Indonesia	48
Indonesia	22.5	Thailand	27.3	PHILIPPINES	47
Sri Lanka	22.6	Laos	28.0	Thailand	46
Vietnam	22.6	Indonesia	28.3	Cambodia	44
Pakistan	22.7	North Korea	28.7	Vietnam	35
Myanmar	22.8	Cambodia	28.8	India	33
Cambodia	22.8	PHILIPPINES	28.9	Sri Lanka	28
Thailand	23	Macau	29.8	Pakistan	27
PHILIPPINES	23.1	Brunei	29.9	Brunei	23
Singapore	29.4	Hong Kong	30.0	Myanmar	12
Japan	29.4	Japan	30.1	China	9
South Korea	29.6	South Korea	30.2	Malaysia	6
Hong Kong	29.8	Myanmar	30.3	Singapore	6
		Singapore	30.3	Japan	5
		Pakistan	30.3	Macau	4
<i>No data available for several countries</i>				Hong Kong	3
				South Korea	2
				North Korea	1

United Nations, Department of Economic and Social Affairs, Population Division (2009). *World Fertility Data 2008* (POP/DB/Fert/Rev2008)

**Table 6.6** Percentage of childbearing women aged 15–19

	Middle school dropouts	High school dropouts	High school graduates	College students
1994	15.1%	5.9%	6.5%	3.6%
2002	22.4%	5.3%	7.9%	2.3%
2013	26.1%	23.3%	9.8%	7.0%

Source: Natividad [2014](#)

15 and 24 have had sex before marriage (Macob [2014](#)), a significant increase from previous surveys: 17.8% in 1994 and 23.2% in 2002. The highest premarital sex prevalence was found in the National Capital Region (NCR), (40.9%), and Central Luzon (39.1%) while the lowest was in the Autonomous Region of Muslim Mindanao (ARMM) (7.7%). A high percentage (78%) of young people's first sexual encounter was unprotected (84% of women, 73% of men) from sexually transmittable diseases or pregnancy. This risky behavior (De Jose [2013](#)) has led to a high number of unwanted pregnancies.

The survey also indicates a growing consumption of pornographic material by both young men and women, largely on Internet. For example, 38% of Bicol youth (Barcia 2014) have read pornographic materials (39.7% of males, 36.7 % of females). The growing availability of electronic media led 8.8% to visit websites with sexually-explicit content, 16.5% to send or receive sex videos through cell phones or internet, and 4.3% to engage in phone sex. As today is the age of social media, a majority of the female Filipino youth (56%) has a social networking account, while only half of the males have an account. A growing number of young women, especially from poorer backgrounds, are tempted to start webcam work to earn some income through cybersex (Mathews 2010) by exposing themselves in varying degrees of nudity to viewers in other parts of the world. Many of them are single mothers (Cruz 2012a, b) with no job prospects due to the interruption of their schooling to take care of their children. This illegal job (Dizon 2014), where young poor women, some of them under 18, is often controlled by foreigners and represents a growing shift away from moral values taught by the Philippine church (Gipson et al. 2012).

The Church's teaching about adultery and extramarital sex (Butuyan 2015) has no strong effect anymore on how young—and less young—Filipinos behave. From virtual sex to intercourse, more and more youth cross the line and engage in sex at younger ages than before (17.5 years for males and 18.3 years for females). Fertility rates among the 15–19 are therefore rising.

Surveys indicate a widespread ignorance of the risks associated with casual sex, partly due to the lack of adequate sex education programs in schools. Stories also abound of young women betrayed and abandoned by their partner when he learns of her pregnancy. The change of norms has affected attitudes such as the pressure to get married once a girl gets pregnant. A growing number of young people today live together without being married, but neglect and partner violence seem to be part of the current trends in Filipinas' lives (Hindin and Adair 2002; Serquina-Ramiro et al. 2004; Serquina-Ramiro 2005; Lucea et al. 2012; Tsai et al. 2016).

There were 125,270 children born to mothers under 20 years of age in 2000, this number has increased to 206,574 in 2010. In 2002, 4.4% of females aged 15–19 were already mothers. This climbed up to 11% in 2013. Most of these women did not finish high school and lack the same employment opportunities as those who graduated from high school. Busy with children, they are under qualified for most jobs and if they are lucky enough to find a job, it is a low-paying activity, with salaries insufficient to cover the cost of raising a child, or several children, or to send them to school (Bansagan and Panganiban 2008). Government statistics indicate they were even 755 children born to mothers under 15 in 2000, this has increased to 1324 in 2010. 37% of the children born in 2008 had unmarried mothers. Children having children (Gavilan 2014; Rodriguez 2015).

### 6.1.4 Determinants of Fertility

In general, Filipina women with college degrees are less prone to procreate often than poor women with little formal education. College-educated women had only 2.3 children as compared to 4.3 for women with only primary education. Income, which is related to education, is the most important predictor of fertility: women from the poorest quintile have almost twice as many children as those from the richest quintile (4.0 vs. 2.2). Younger age at first marriage/birth and limited use of modern contraception are the main reasons for the higher fertility among the poor (Lai and Tey 2014). A 2008 government survey showed that 39% of married Philippine women in their childbearing years wanted to avoid or postpone pregnancy but were not using modern contraceptives. The most commonly cited reasons were the fear of side effects, husband's opposition (Williams and Sobieszczyk 2000, 2003; Clark et al. 2007), cost and lack of availability.

Access to birth control is mostly limited to Filipinos with the means to buy it, which has the effect of women giving birth to more children than they desired (Palomo-Nacionales 2008). Researchers had already shown in 1970 that increased female education correlated with smaller family size, higher age of first marriage, and employment, which indirectly reduced family size (Harman et al. 1970). Women of higher social status and enjoying more personal autonomy tend to space more their pregnancies (Upadhyay and Hindin 2005). Fertility goals of Filipino couples usually range from two to three children; the partner who wants more children has the stronger voice, while the desire for gender balance among offspring creates a willingness to have more children than originally desired (David and Atun 2014) (Tables 6.7 and 6.8).

Fertility rates vary greatly across the country. As expected, rural women have more children than women in the cities (Caraballo 2012). The lowest fertility rates are observed in Metro Manila (2.31), the richest and most educated part of the country, and the highest levels are found in poor remote areas, such as the provinces of Masbate (4.32), Romblon (4.40) or Northern Samar (4.51). It has been shown for a

**Table 6.7** Variables explaining variations in fertility rates in the Philippines

Wealth	Poorest quintile 4.0—2nd poorer 3.4—Middle income 3.0—2nd richest 2.6—Richest quintile 2.2
Women's education	Primary or no schooling 4.3—Secondary education 2.9—College educated 2.3
Husband's education	Primary or no schooling 4.1—Secondary education 2.8—College educated 2.3
Women's work status	Traditional "informal" sector 3.7—Not working 2.9—Modern "formal" sector 2.8
Place of residence	Rural 3.4—Urban 2.7
Ethnicity	Waray 3.6—Bicolano 3.4—Ilongo 3.0—Cebuano 3.0—Ilocano 2.8—Tagalog 2.7—Others 3.6

Source: Lai and Tey 2014

long time that migration to cities has a strong impact, with a declining gradient of fertility linked to social distance from the rural home communities (Va 1978).

Because of their lack of access to reproductive health information and services, Philippine women in the poorest quintile have an average of six children, two more than they desire. Unintended pregnancy/childbearing is a relatively more common

**Table 6.8** Fertility rates by province

National Capital Region (Metro Manila)	2.31	
Region 3 (Central Luzon)	2.61	Bataan 2.45, Bulacan 2.56, Nueva Ecija 2.60, Pampanga 2.60, Zambales 2.65, Tarlac 2.69, Aurora 3.57
Region 4 A (Calabarzon)	2.64	Laguna 2.35, Cavite 2.42, Quezon 2.58, Batangas 2.71, Rizal 3.17
Region 11 (Davao region, Mindanao)	2.64	Davao del Sur 2.45, Davao del Norte 2.75, Compostela Valley 2.75, Davao Oriental 3.15
Region 2 (Cagayan Valley)	2.84	Isabela 2.77, Nueva Vizcaya 2.84, Quirino 2.86, Batanes 2.91, Cagayan 3.00
Region 7 (Central Visayas)	2.99	Siquijor 2.80, Cebu 2.84, Bohol 3.09, Negros Oriental 3.23
Region 1 (Ilocos)	3.14	Ilocos Norte 2.75, Ilocos Sur 2.78, La Union 3.11, Pangasinan 3.36
Region 10 (Northern Mindanao)	3.16	Misamis Oriental 2.88, Lanao del Norte 3.03, Misamis Occidental 3.09, Camiguin 3.59, Bukidnon 3.73
Cordillera Autonomous Region	3.17	Benguet 2.75, Abra 3.00, Apayao 3.42, Mountain 3.67, Ifugao 3.73, Kalinga 3.75
Region 6 (Western Visayas)	3.35	Iloilo 3.05, Guimaras 3.21, Negros occidental 3.32, Capiz 3.36, Aklan 3.48, Antique 3.95
Region 13 (Caraga, Mindanao)	3.43	Agusan del Norte 3.27, Surigao del Norte 3.32, Surigao del Sur 3.58, Agusan del Sur 3.73
Region 9 (Zamboanga Peninsula, Mindanao)	3.50	Zamboanga del Sur 3.41, Basilan 3.55, Zamboanga del Norte 3.61
Region 12 (Soccskargen, Mindanao)	3.51	Cotabato City 2.52, South Cotabato 3.25, North Cotabato 3.61, Sultan Kudarat 3.65, Sarangani 3.98
ARMM (Autonomous Region of Muslim Mindanao)	3.52	Sulu 2.70, Tawi-Tawi 3.52, Maguindanao 3.58, Lanao del Sur 4.23
Region 5 (Bicol)	3.64	Albay 3.27, Camarines Norte 3.51, Camarines Sur 3.52, Catanduanes 3.79, Sorsogon 3.89, Masbate 4.32
Region 8 (Eastern Visayas)	3.81	Southern Leyte 3.15, Leyte 3.47, Biliran 3.77, Eastern Samar 4.04, Western Samar 4.35, Northern Samar 4.51
Region 4 B (Mimaropa)	4.17	Marinduque 4.01, Oriental Mindoro 4.13, Occidental Mindoro 4.23, Romblon 4.40, Palawan 4.41

Source: Philippine Statistical Authority. [http://web0.psa.gov.ph/sites/default/files/attachments/hsd/article/Technical%20Note\\_0.pdf](http://web0.psa.gov.ph/sites/default/files/attachments/hsd/article/Technical%20Note_0.pdf)

experience in several specific groups of Filipina women: unmarried women, women at both ends of reproductive span, women with too many children, women who already achieved the son-daughter balance among their living children, and women with pregnancies that come too soon after the previous birth (Palomo-Nacionales 2008). Abortions are illegal in the country, nevertheless, a number of women—an estimated 600,000 in 2012—choose this solution to avoid giving birth to another child, but often at the risk of their own lives in unsafe conditions (Juarez et al. 2005; Singh et al. 2006; Gipson et al. 2011; Padilla 2015).

### ***6.1.5 The Role of the Catholic Church in High Fertility Rates***

Efforts to control the Philippines' population growth have long been hampered by the influence of the Roman Catholic Church (Youngblood 1998), which counts about 80% of Filipinos as followers and which disapproves of all forms of artificial birth control (Hunt 1992). Cultural factors have long been shown (Jennings 1970) as having an effect on reproductive patterns of populations. Human fertility remains high in many Muslim countries because cultural values influence parents to procreate many children, especially amongst the poorer populations. The role of the Catholic Church seems quite prevalent also in the Philippines. Studies (Lacar 1974; Johnson and Burton 1987; Mathews 1996) have shown that Protestant students, a minority, adopt much more easily contraception than their Catholic counterparts at the same level of education, and that the extended family is the cornerstone of Philippine society, both among Christians and Muslims (Lacar 1995). However, as happened in other countries such as Spain, societal trends (Angsioco 2014b) go against the teaching of the Catholic church, with the rise of single parenthood, extramarital sex and the growing acceptance of LGBT.

Largely due to the influence of the Catholic Church, the Philippines is the only country in the world where divorce remains illegal (Conde 2011), while abortion is also outlawed and contraceptives are not freely available for the poor. The bishops have long viewed the problem of fertility control as primarily one concerning the individual couples who have the basic right to determine the size of their family (Gorospe 1969). Consequently, they assign a subsidiary role to the government in this regard. Widespread adoption of artificial birth control methods has hence been slow to occur in the country, contrary to Vietnam or Thailand.

As the country was celebrating its 100 millionth babies in July 2014, the head of the commission on family and life of the country's Catholic bishops, Father Melvin Castro, praised the ballooning population (Santos 2014) as there would be more "young workers" to power the economy: "We need enough young population to sustain the economy. Because of a young population, we can actually be economically strong. Having such a big population should not be seen as a problem. Unfortunately, we have been brainwashed [to think] that a bigger population is equated with poverty, which is [not true]". A few months earlier, the Bishop from Daet (Camarines Norte), Mgr. Gilbert Garcera, had advanced the idea that "over-population has been advantageous to the Philippines and to the world because it has

increased the number of overseas workers and migrants who could send remittances back home while taking care of ageing people abroad and spreading the Christian faith” and that “the huge Philippine population could be part of God’s plan for Filipinos to be caregivers to ageing nations whose populations had become stagnant”. He added that “many Filipino women would make good wives for foreigners in countries that have low population growth” (Soltes 2012). Ideas which of course infuriated women’s groups and associations, who have long criticized the excessive control of the male-dominated church over women’s bodies and women’s rights (Ruiz Austria 2004).

This is a classic debate in developing countries where, if population growth is outpacing economic growth, the unmet need for reproductive health care, especially voluntary family planning, remains great.

### ***6.1.6 Fertility and Infant Mortality***

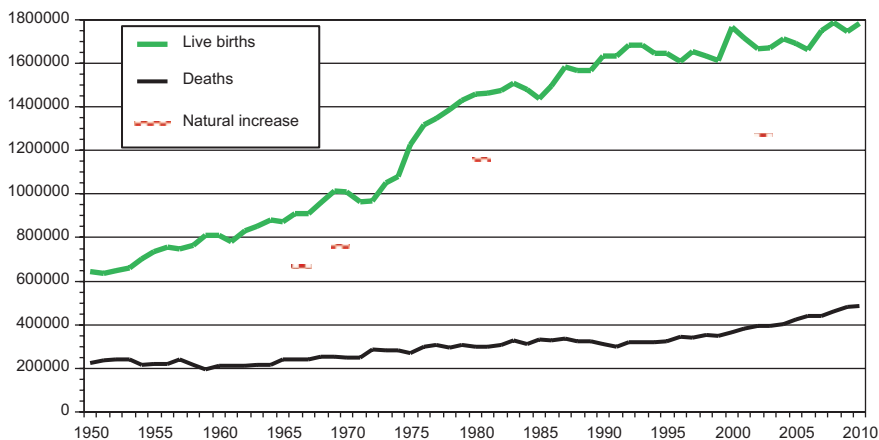
Many authors have discussed the possible link between infant death rate and high fertility in developing countries (Plank and Milanese 1973; Scrimshaw 1978; Bongaarts 1987; Dollfus et al. 1990), arguing that in a context of high child mortality, the reproduction of the family can only be guaranteed by giving birth to numerous children, so that some can survive to adulthood and take care of their aging parents. In the opposite, multiple births may strain too much the family’s capacities, both for food and health care, leading in turn to higher death rates amongst young children (Miller et al. 1992). Analysts have also discussed the possible links between these two indicators, pre-term births, the spacing of births and the related practice of breastfeeding, interrupted too soon if the mother gets pregnant again soon after the birth of her latest child (Cabigon et al. 1994; Cabigon 1997).

A child born in the Philippines is at greater risk of dying than children born in other Southeastern Asian countries, according to the latest results from the 2003 National Demographic and Health Surveys (NDHS) conducted by the National Statistics Office. In the Philippines for every 1000 births, 29 children will die before their first birthday (infant mortality rate), and 40 will die before age 5 (under-five mortality rate) (Table 6.1). Although the infant mortality rate in the Philippines has decreased slightly since 1998, it is still high compared to other countries in the region—Vietnam, Brunei, Singapore, Thailand, and Malaysia.

## **6.2 A Slower Population Growth and Its Expected Benefits**

### ***6.2.1 A Fertility Transition Underway***

If the Philippine population is still rising at a fast pace, the country is nevertheless well engaged in the “demographic transition”. In conformity to this classic model of demographic evolution, data indicate that the Philippines have experienced in the



**Fig. 6.4** Number of registered live births and deaths in the Philippines, 1950–2010. Source: Philippine Department of Health data

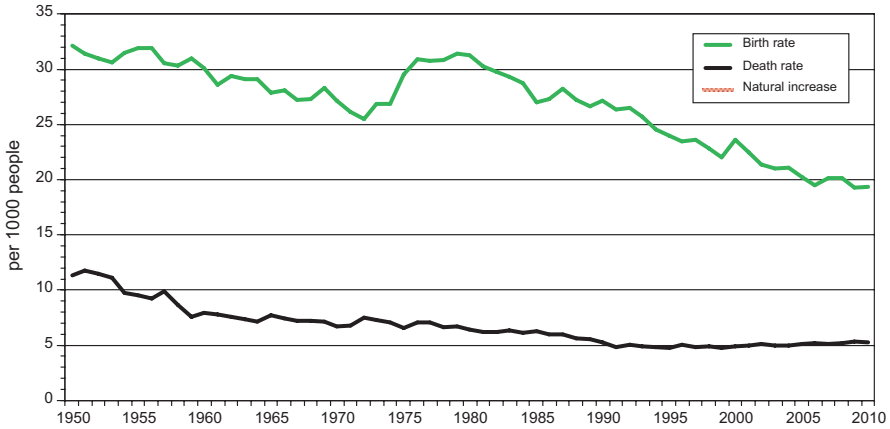
last half-century lower death rates as well as a diminishing fertility rate. All three classic indexes, the crude birth rate, the crude mortality rate and the rate of natural increase show a clear downward trend since the 1950s (Fig. 6.4).

Statistics on live births and deaths show that both numbers are growing, however the annual growth of population has stabilized around 1.3 million per year since the mid 1990s. In absolute numbers the country is growing at a steady pace, but in relative numbers the growth is slowing down, carried mostly by the momentum of a large base of potential parents (Figs. 6.5 and 6.6).

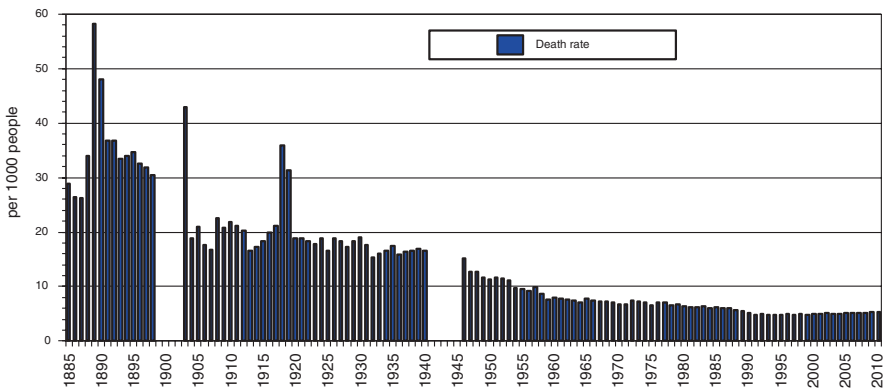
Birth rates and death rates are currently evolving in opposite directions, leading to a narrowing of the gap, synonymous with a demographic transition underway. As stated by the classic demographic transition scheme, the high death rates of the Spanish era (Smith and Ng 1982) have dropped considerably during the twentieth century, largely due to efforts by American authorities to control disease. The epidemic death spikes still observed in 1889–1890, 1903 and 1918–1919 have not reappeared since then, and death rates have gradually dropped from about 15 p. 1000 in the 1920s to 8 p. 1000 in the 1960s, bottoming out at 5 p. 1000 in the 1990s and showing a classic tendency towards a slight rise in the early years of the twenty-first century, due to a slightly larger proportion of elderly people in the population.

The Philippines has accomplished phase 1 of the demographic transition (high birth rates, lower death rate) and has entered phase 2 (lowering birth rates) in the 1980s. The rate of population growth was maximal in the 1970s and is now slowing, as predicted by the demographic transition model (Concepcion and Smith 1977).

The projected changes in the population pyramids of the country reflect this transition underway (Fig. 6.7).



**Fig. 6.5** Evolution of birth rate and death rates in the Philippines, 1950–2010. Source: Philippine Department of Health data

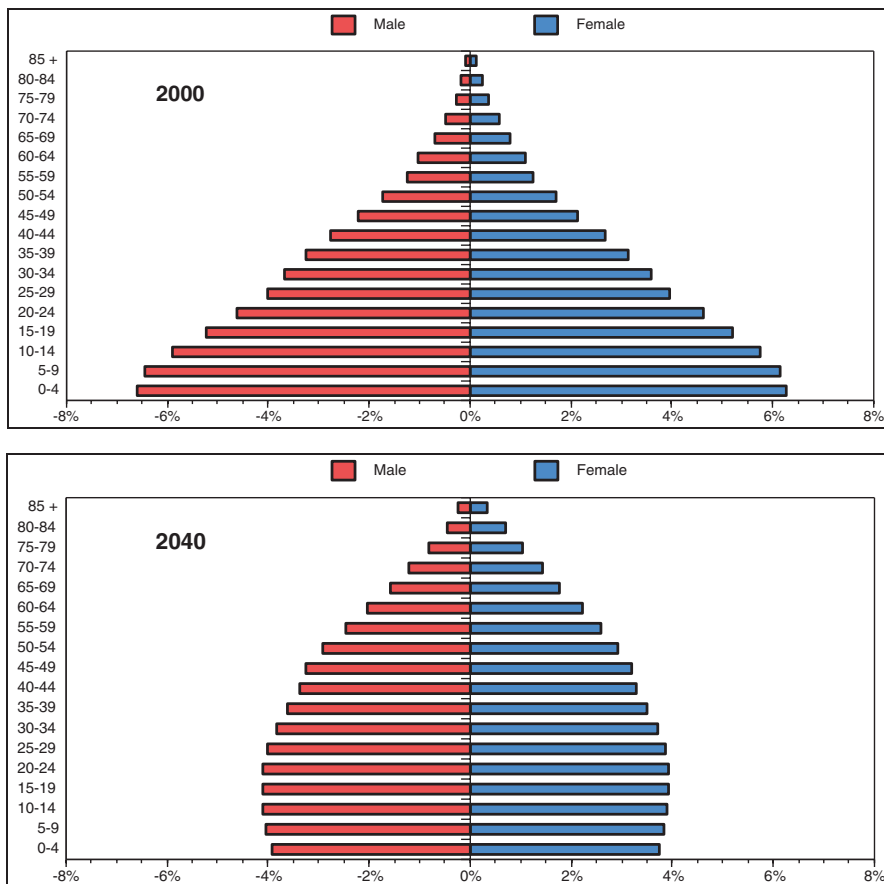


**Fig. 6.6** Evolution of death rates in the Philippines, 1885–2010. Sources: Concepcion & Smith for data before 1950, Department of Health for recent data. Missing data for the periods of the Philippine-American War (1899–1902) and World War II (1941–1945)

### 6.2.2 The Society Debate Around the RH Bill

Contrary to what has happened in other Asian countries, political leadership about family planning has been weak in the Philippines. In 1971 President Ferdinand Marcos issued an executive order establishing a national population program that would provide family planning information and services and conduct advocacy for a small family norm. It did not lead to any changes in reproductive behaviors in the 1970s, since the birthrate reached its highest value at that time. Later





**Fig. 6.7** Changes in the Philippine population pyramid, 2000 and 2040

presidents—Corazon Aquino, Fidel Ramos, Joseph Estrada and Gloria Arroyo—did not follow a continuous policy. They emphasized a range of policy goals, from achieving the desired family size to protecting maternal and child health to limiting population growth and back to promoting health, most in keeping with the wishes of the Catholic Church and the catch-all slogan of “responsible parenthood”, but without national funding (Mello et al. 2006). President Arroyo announced in 2002 that her government would promote responsible parenthood by funding only natural family planning (David 2012), which the Catholic Church endorses. Her successor Benigno Aquino changed the direction of population policies in the Philippines by pushing vigorously the adoption of a law encouraging easier birth control.

First introduced in the Philippine Congress in 1998<sup>1</sup>, and discussed for many years (Lopez and Hozaga 2013), a major law on birth control, the RH Bill,

<sup>1</sup>House Bill 8110 or “Integrated Population and Development Act” was filed in the lower house of 11th Congress, proposing to establish an integrated population and development policy. It was followed by

“Responsible Parenthood and Reproductive Health Act”, was finally signed into law on Friday 21 December 2012 by President Benigno Aquino. It had been passed 4 days earlier by both chambers of Congress (Ager and Santos 2012; Herrera 2012) (13-8 in the Senate, 133-79 in the House of Representatives)<sup>2</sup>.

It covers a wide range of health-related issues affecting women, and thereby directly affecting all Filipino families. It is the first Philippine law that directly intends to control the population growth of the country: it calls for sex education in schools and government subsidies to make contraceptives available to all Filipinos through public health centers. It seeks to empower couples in responsible family planning and prevent unwanted pregnancies, guaranteeing everyone’s right to choose how they build their respective families. It also requires the government to “promote and provide information and access, without bias, to all methods of family planning, including effective natural and modern methods, which have been proven medically safe, legal, nonabortifacient and effective in accordance with scientific and evidence-based medical research standards.” This includes the enforcement of an age-appropriate curriculum for elementary schools.

The Philippine Catholic Church and like-minded opponents (Pro-Life Philippines, National Coalition for Family and Life, Abay Pamilya, Philippine Nurses Association) have stalled this legislation for 14 years (Lontayo 2011; Baring 2012). Following Vatican’s doctrine, Philippine bishops have vehemently opposed any “artificial” measures to prevent pregnancy, sanctioning only natural means such as periodic abstinence from sex (Weiss 2012). The church’s position puts it at odds with many of its followers in the Philippines. In a country where 80% of people are Catholics, polls show that 70% of the population supports the RH Bill.

The battle over public funding of birth control has been quite intense due to the church’s wide reach and influence (Wetzlmaier 2012). Some of its representatives made incendiary statements about the proposed law. For retired Lingayen-Dagupan Archbishop Oscar Cruz, “contraceptives are a first step towards killing the unborn and are instruments of abortion. Contraception and abortion are intimate partners” (Baklinski 2008). For his successor Socrates Villegas, “the use of government and taxpayers’ money to give out contraceptive pills is corruption” (Alave 2012). Bernardo Villegas, vice-president of the University of Asia and the Pacific, stated that RH Law would lead to the same demographic suicide as China and Thailand (Villegas 2013). Manila’s Auxiliary Bishop Broderick Pabillo stated that “pornog-

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The Reproductive Health Care Agenda Act of 2001 in 12th Congress, The Reproductive Health Care Act in the 13th Congress (2005), The Reproductive Health and Population and Development Act of 2008. All failed before the RH Bill introduced in 2009 by Senator Miriam Defensor-Santiago started to gather support with the election of president Aquino.

<sup>2</sup>The 13 senators who voted in favor of the bill were Miriam Defensor-Santiago (its main sponsor), Edgardo Angara, Joker Arroyo, Alan Peter Cayetano, Pia Cayetano, Franklin Drilon, Francis “Chiz” Escudero, Teofisto Guingona III, Panfilo “Ping” Lacson, Loren Legarda, Ferdinand “Bong-Bong” Marcos Jr., Francis “Kiko” Pangilinan and Ralph Recto. The eight who voted against it were: Senate President Juan Ponce-Enrile, Senate Pro Tempore Jose “Jinggoy” Estrada, Majority Leader Vicente “Tito” Sotto III, Senators Gringo Honasan, Aquilino “Koko” Pimentel III, Manuel “Manny” Villar, Ramon “Bong” Revilla Jr., and Antonio “Sonny” Trillanes IV.

raphy thrives in the Philippines due to the government's support of the Reproductive Health law, whose provisions include the promotion of contraceptives. It is saddening that the government said it would combat pornography but it promotes pills and condoms that encourages relationships outside marriages and extra marital affairs." After being elected president of the Bishops Conference, Cebu Archbishop Jose Palma declared that "lawmakers supporting the reproductive health bill being debated in Congress were no better than terrorists because the measure would result in the death of innocents" (Pangco-Pañares 2011; Yu 2011). When Benigno Aquino was elected president in 2010 after pledging to sign the bill into law, Bishop Nereo Odchimar, then president of the Catholic Bishops Conference, suggested Aquino might be excommunicated if he followed through on his commitment. Lipa's Archbishop Ramon Arguelles stated that it was an "act of war" against the Church when President Aquino included a reference to responsible parenthood in his State-of-the-Nation address (Pangco-Pañares 2012). The irony is that this expression "responsible parenthood" was first advanced by the Catholic Bishops' Conference of the Philippines (CBCP) itself on the heels the publication of Pope Paul VI's 1968 encyclical "Humanae Vitae" (Dionisio 2012).

Priests have denounced the reproductive health bill during Mass. Some churches have posted billboards with gruesome images of aborted fetuses and the message "NO to Reproductive Health Bill—YES to the Gospel of Life". Lawmakers said the church threatened to deny them Communion if they voted for the legislation and threatened to remind voters of the choices of the senators during the next election campaign (Rosales 2012). Bishops organized popular rallies against the law in symbolic places such as the EDSA Shrine commemorating the popular toppling of Ferdinand Marcos and the rise of People's Power (Barcelo 2012), when cardinal Jaime Sin had been so instrumental in the political upheaval, but this time they fell quite short of the crowds they hoped for.

The continued population growth and the rise in teenage pregnancies were factors in the passage of the bill, as was the end of American support to population control in the Philippines. For almost 40 years, the U.S. Agency for International Development, was a major donor of contraceptives to the Philippines, but the conservative administration of George W. Bush phased out the program in 2008, arguing it was time for the Philippine government to take full responsibility. Then-President Gloria Macapagal Arroyo, deferring to bishops who had supported her election, stalled the national legislation, with the result that affordable contraceptives became scarce. In 2000, then-Manila mayor Jose "Lito" Atienza enacted a municipal ban (Executive Order 003) on modern contraceptives, favoring the promotion of "natural" family planning in order to advance "morals". A founder of the Buhay ("Life") Party, an anti-abortion organization that "acknowledges the sanctity and value of human life", he is an active participant of the "pro-life" movement, opposing birth control. This contraceptive ban led to a significant increase in family size and a further deterioration of the quality of child education in the city's classrooms (Demeterio-Melgar and Pacete 2007; Dumas and Lefranc 2013). The same measure was implemented in 2011 in Alabang, a fast-growing Manila suburb (Rauhala 2011). Former senator Francisco Tatad stated that the RH Law legalizes

mass killings and violates a family's freedom of choice (Canlas and Sampan 2013). During the final weeks of debate, Senate President Juan Ponce Enrile, criticizing the wording of the text, asked what illnesses were being treated by condoms or intra-uterine devices to qualify them as essential medicine, saying he could not understand why those contraceptives aimed at preventing pregnancy were being considered medicines (Ramos-Araneta 2012c). This led to widespread ridicule of the 90 year-old statesman.

Proponents of the bill included the business community of the Philippines (Tubeza 2012). As early as 2004, several business executives called for a national campaign on family planning (Tarmann 2004), citing the need to check the rapid growth of the Philippine population in order to stimulate economic growth, create more jobs, reduce poverty, and improve health (Quismorio and Medenilla 2011). For them, population growth was not expanding markets anymore, it was reducing the purchasing power of families. Their involvement was also motivated by the resistance of the Church and its effective lobbying towards lawmakers. In 2012, as the crucial vote in Congress was approaching, the Philippine Chamber of Commerce and Industry (PCCI), the Employment Confederation of the Philippines (ECOP), the Makati Business Club (MBC), the Management Association of the Philippines (MAP) and the Philippine Business for Social Progress (PBSP) signed a "manifesto of support" to the law and promised to "mobilize investments for family planning and other reproductive health services" and implement family planning programs for the poor "as part of their corporate social responsibility". Pharmaceutical companies and their political benefactors in the government were both pushing for the passage of the bill.

Most newspapers published editorials in favor of RH Bill (Jimenez-David 2012; Ronquillo 2013; Angsioco 2014c), including some from clerics disagreeing with the Bishops Conference (Bernas 2011, 2012) and academics from Catholic institutions (Castro-Guevara et al. 2008; Muñoz-David 2012). The National Council of Churches in the Philippines, the Iglesia ni Cristo, the Philippine Council of Evangelical Churches and the Interfaith Partnership of Responsible Parenthood all officially endorsed the bill, and the most authoritative body of Islamic Clerics in the Philippines, the Assembly of Darul-Iftah of the Autonomous Region in Muslim Mindanao, had issued a religious ruling giving Muslim couples a free choice on whether to practice family planning, particularly child spacing (Jimeno 2011). Outside of the Philippines, United Nations representatives also made statements in favor of RH Bill (Antiporda 2011). The Philippine Catholic Church found itself quite isolated (Balana and Burgonio 2011).

Once adopted, the law was challenged by the Catholic Church as being unconstitutional. In its original form, the law would have also allowed minors access to birth control without parental consent, and imposed penalties on health care providers who refused to provide information about contraceptives on the basis of religious belief. These and six other clauses were removed as unconstitutional by the Philippine Supreme Court in April 2014, but the law itself was deemed constitutional. Both sides accepted the verdict as their own victory (Avendaño 2014).

The adoption of RH Bill appears clearly as a threshold (Parmanand 2014), which explains the fierceness of the debate around it (Esmaquel 2012). It was a defining moment for the role of the Church in Philippine society (Bautista 2010; Wetzlmaier 2012; Ongpin 2014), it was hailed as a major advance for womens' rights (Oliveros 2012; Reckordt 2012), and it may accelerate the demographic transition towards a more mature Philippine population. However, opponents to the law still have the power in Congress to reduce its scope by slashing funds allocated to contraception programs (Bolido 2016).

### **6.2.3 A Demographic “Sweet Spot” for the Philippine Economy ?**

The “demographic window” or “sweet spot” is that period in an economy’s history where the working-age population (15–64 years old) is proportionately larger than its dependents (those who are either too young or too old to work). Having a large working-age population translates to more production, consumption, increase in investments and savings, more purchasing power, and to an expansion of the tax base, thus accelerating the economic growth. This “demographic dividend” (Makabenta 2014; Angara 2015; Caraballo 2015) or “window of opportunity” had a positive impact on economic growth in all Southeast Asian countries except in the Philippines. Countries that had open economies and excellent human capital benefited most from the “window of opportunity”.

These dividends come in two phases (Mason and Kinugasa 2008). In the first one, lasting about 30 years, the working-age population begins to outnumber dependents, this leads to increases in overall productivity per capita. In the second one, lasting possibly forever, longer life expectancies encourage people to save and rapidly accumulate wealth that could later be reinvested to spur even more productivity growth.

United Nations projections show that the working age population of the country is expected to rise by over 40% from 2010 to 2030. The demographic profile of the country is shifting (Remo 2012; Dumlao 2012; Caraballo 2014) from having many dependents to having more workers and fewer dependents until the population gets older, as happens now in other countries of the region (Japan, Korea, Taiwan, Hong Kong, Singapore, Thailand and China). Provided jobs can be found for these people, a rapid increase in the working age population can boost growth by increasing the productive potential of the economy.

The Philippines is therefore set to follow the path of neighbors like Malaysia and Thailand in experiencing the economic benefits (Ordinario 2015) of a significant proportion of working individuals who can fuel consumption to the advantage of businesses. Consumption is already a key driver of economic growth for the Philippines, but its contribution will be even more pronounced in coming years as more young and educated Filipinos enter the workforce.

However, this demographic dividend may become a curse if the job creation does not follow the growth of the available workforce, leading to massive unemployment (Montealegre 2014).

### 6.3 The Health Status of the Philippine Population

As a developing country, the Republic of the Philippines still shows disappointing numbers in terms of public health (Lapeña 2012). The health system is underfunded, especially after being decentralized (Bossert and Beauvais 2002): the Local Government Code of 1991 splintered services by allocating services for various levels to the national, provincial and municipal institutions. This ended efforts by the national government to integrate the public health care and hospital systems. Provincial governments are now responsible for maintaining hospitals and providing tertiary health services. Municipalities are in charge of building and maintaining health clinics, purchasing medicines and equipment and supplies, implementing programs on maternal and child health, and on disease control and prevention. City governments are mandated to deliver the same services as the provincial and municipal governments. This has led to more inequality in the access to health care between regions of the Philippines (Akin et al. 1986). At the household level, health insurance coverage is insufficient (Tobe et al. 2013; Banzon 2016) while medicine is too expensive for many poor families. This leaves many people helpless in case of severe illness or accident, and with the practice of upfront payment, some people are unfortunately denied medical care (Ico 2008).

Infant and child mortality remain higher than in most countries of the region, due to the excessive number of malnourished children (Delfin 2013; Lozada 2014a, b) and the spread of insect-borne diseases and gastro-intestinal troubles linked to unsanitary environments. The insufficient number of medical personnel and facilities is a handicap for the country (Umil 2015), which needs to increase its effort in the domain of public health (Salamat 2011). For example, only 607 of the 1646 towns and cities of the country have maternity clinics, which means that given the poor condition of many roads, many women, especially rural women, must give birth at home (Ramos-Araneta 2012b). The strong demand for Filipino nurses abroad (see Chap. 13) led to a situation where nurses working overseas (177,414 of them in 2013) outnumber those who work in the country (only 38,488 nurses) four to one<sup>3</sup>. There is also a dearth of doctors and pharmacists (Hicap 2013), especially outside of the large cities and in poorer municipalities<sup>4</sup>.

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<sup>3</sup>National Database of Human Resources for Health Information System, as reported in *Philippine Daily Inquirer*, February 26th, 2014.

<sup>4</sup>According to data from the Philippine Food and Drug Administration, 70% of drug stores in the “Camanava” area of Metro Manila (Caloocan, Malabon, Navotas, Valenzuela) operate without a resident pharmacist, which makes them illegal.

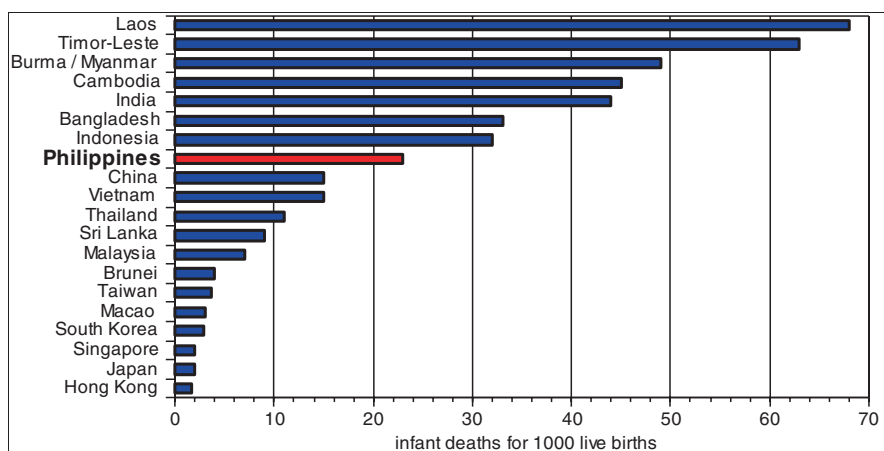
Women’s rights advocates such as Gabriela Women’s Party denounce the lack of a genuinely accessible and pro-poor health care system in the country, leading to many private dramas. Maternal deaths by bleeding appear on the rise both in the countryside and in Metro Manila (Ramos-Araneta 2012a).

### 6.3.1 Mortality and Life Expectancy

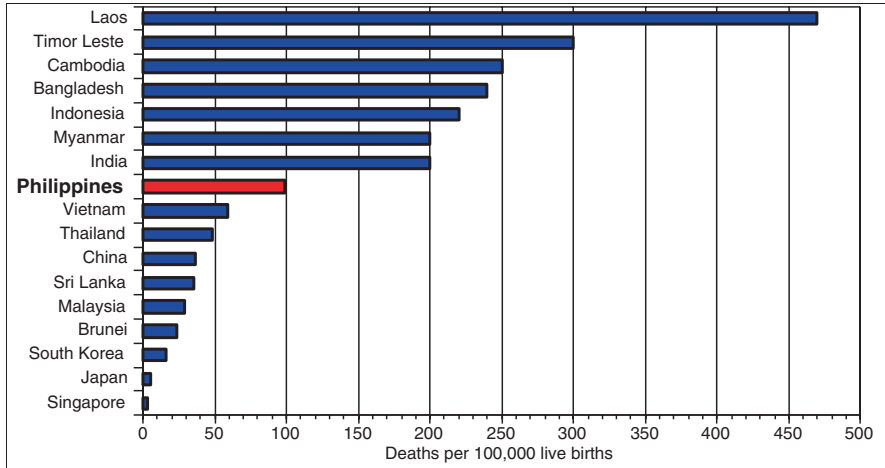
The Philippines appears to be “in the middle of the pack” in East and Southeast Asia in regard to infant mortality and maternal mortality rates. However, it ranks lower for the life expectancy at birth of both male and female children (Figs. 6.8, 6.9, 6.10 and 6.11).

### 6.3.2 Improving Children’s Health

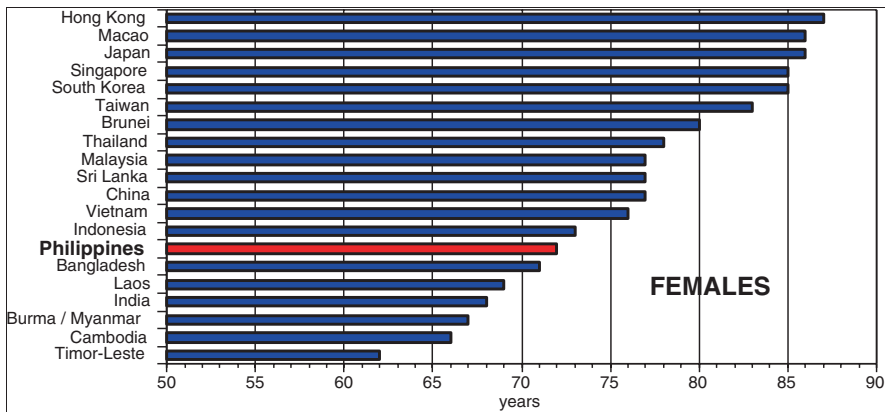
One of the major health—and population—worries of the country is the well-being of its children. Mortality rates of children remain relatively high, even if lower than in less-developed economies. Breastfeeding, despite its proven benefits for young children, is receding (barely 1 in 4 Filipino mothers breastfeeds her baby), partly due to the poor health (40% of pregnant women are anemic) (Chan Vasquez 2010) of many mothers and the (costly) availability of (imported) infant formula milk (De la Cruz 2002; Hengstermann et al. 2010; Sobel et al. 2011, 2012; Olea 2015). Many children are undersized (Almario 2012; Uy 2012; Lozada 2014a, b), underweight,



**Fig. 6.8** Infant mortality in Asian countries (2013 data). Source: Population Reference Bureau, <http://www.prb.org/DataFinder/Topic/Rankings.aspx?ind=5>



**Fig. 6.9** Maternal mortality rates, selected Asian countries. Source: Index Mundi, <http://www.indexmundi.com>

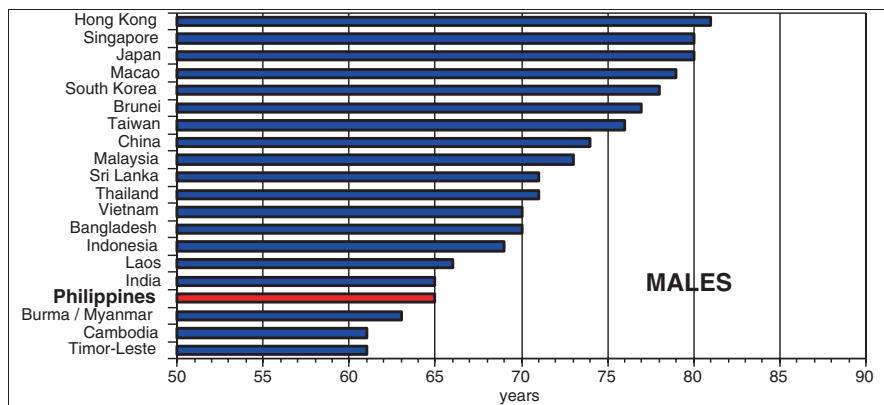


**Fig. 6.10** Girls' life expectancy at birth, selected Asian countries. 2013 data, Population Reference Bureau, <http://www.prb.org/DataFinder/Topic/Rankings.aspx?ind=5>

underfed: it is estimated that 35% of children age 5 are shorter than normal (Pasion 2016), and 20% underweight<sup>5</sup>. They are more prone to disease and less able to have a normal school time and progress towards good jobs. Many children have to skip school because their parents do not have enough money to afford a visit to the doctor

<sup>5</sup>On the other end of the spectrum, about 5% of Filipinos children are deemed overweight, and the American-inspired diet of fast food items and soft drinks leads to widespread diabetes and the rise of obesity (15% of adults) in the population. (Yoon 2006; Higuchi 2010; Gavilan 2015).





**Fig. 6.11** Boys' life expectancy at birth, selected Asian countries. 2013 data, Population Reference Bureau, <http://www.prb.org/DataFinder/Topic/Rankings.aspx?ind=5>

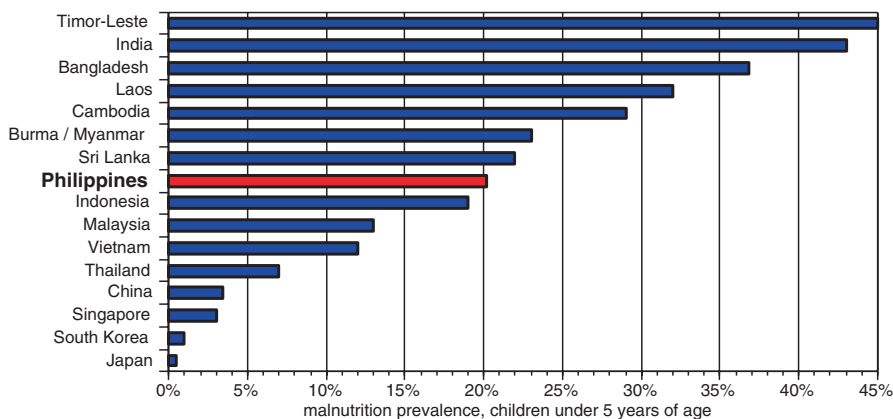
or the needed medicines to control disease faster. Poverty is a major issue, which has effects on the ability to purchase food and especially diversified food (Rodriguez 2014a, b, c, d). Local efforts by NGOs encourage people to use low-cost solutions, such as home-based vegetable gardens, as a way to have a healthier, more balanced diet (Cadiz 2015). Education is also a factor, since parents may call upon an *albularyo* (herborist, healer) for remedies which may not be always effective (Fig. 6.12).

### 6.3.3 Controlling Infectious Diseases

Three categories of disease have a profound impact on the health of Filipinos, especially children and elderly people. Water-borne disease include endemic diarrheal disease and occasional bursts of cholera. Major mosquito borne diseases are malaria, now on the decline, and dengue, which has progressed rapidly in recent years. Finally, tuberculosis, traditionally a disease associated with poverty, is still strong in the country. Insufficient vaccination rates for diseases such as measles (Ortuoste 2014; Wakefield 2014) and the lack of medical personnel are also factors in increased child mortality, as well as neglected research for tropical diseases (Geronimo 2015).

#### 6.3.3.1 Waterborne Diseases

In the Philippines, exposure to water pollution and poor sanitation conditions and hygiene practices account for one-sixth of the reported disease cases. Statistics show that the country is the second largest contributor to diarrhea morbidity in the world, next to China. Diarrhea causes the death of about 10,000 Filipino children



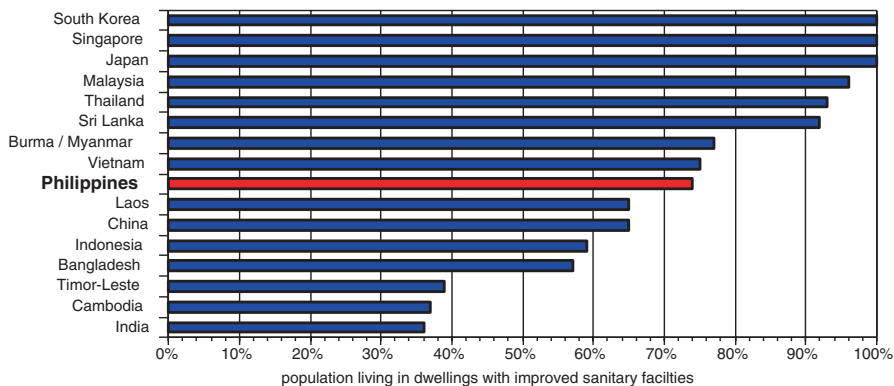
**Fig. 6.12** Prevalence of malnutrition among young children, selected Asian countries

every year. It is the third leading cause of illness among the children. The ratio of diarrhea cases in the Philippines is almost double the figure for other Southeast Asian countries such as Vietnam, Malaysia, Laos or Cambodia. 10–20%—or 1.5 million children—under the age of five suffer from diarrhea. A 2004 UNICEF study shows that 70 % of children aged 3–12 suffer from intestinal worms<sup>6</sup>. Most diarrheal hospitalizations (80% are for children under 2) are due to rotavirus, for which the development of immunization appears as a necessary public health policy (Paje-Villar et al. 1994).

The prevalence of the illness is linked to poor hygiene (Libre 2008), especially in slum areas (Auer 1990) and among street dwellers (Baldo et al. 2004). 25 million people living in households without sanitary toilet are at high risk that human waste will not be safely removed from the house. One in ten Filipinos has to defecate in the open, and the ratio reaches half in poor areas like the island of Masbate (Esguerra 2014). Not washing hands before meals and after use of sanitation facilities is a well-known risk factor contributing to diarrheal disease that cause many Filipino children to miss school and endangers their life if not treated. Diarrhea, if untreated, can lead to severe dehydration, which needs to be addressed with urgent medical care and intravenous fluids, something that is usually out of reach in poor areas. The highest number of diarrhea cases emerge from April to June due to the scarce potable water during the height of dry season.

The incidence of diarrhea (Adkins et al. 1987) could be lowered by 40% just by having kids wash their hands with soap and water. To speed up progress, an NGO sponsored by a major media company, GMA Kapuso Foundation, has teamed with UNICEF to teach Filipino children about life-saving health practices such as hand washing and tooth brushing, and some alternatives to soap, toothbrushes and toothpaste. The “Linis Lusog Kids” (clean and vigorous) pilot project in Sarangani, Antique, Negros Oriental and Camarines Norte provinces aims to teach 6000 chil-

<sup>6</sup>[http://www.unicef.org/philippines/mediacentre\\_10168.html](http://www.unicef.org/philippines/mediacentre_10168.html)



**Fig. 6.13** Percentage of population living in dwellings with improved sanitary facilities, selected Asian countries. 2012 data World Bank. <http://data.worldbank.org/indicator/SH.STA.ACSN/countries>. *NB* no separate data available for Hong Kong, Macau and Taiwan

dren in ten schools about health habits that will help keep them safe from diseases such as diarrhea and dental cavities (Fig. 6.13).

The country is still short of its objectives (Baltazar et al. 2002) for improving access to sanitary facilities and clean water. Even if other countries are worse off than the archipelago in this domain, the Philippines still lag behind Sri Lanka or Thailand, which have greatly improved their population access to safe water. Reducing the disease burden will require providing access to safe water and sanitation services to every Filipino, especially in areas that lag behind in terms of providing these basic services. Improvements have been slow and inconsistent, and clearly outpaced by the country's population growth. In the Philippines, communities in waterless villages are getting water mostly from deep wells. This has led to the demand for alternative water sources like refilling stations, bottled waters, and water peddlers. Locally, water trucks come once or twice a week to refill the jerrycans of clean water kept by households for drinking water and cooking.

Of all regions, ARMM, the Autonomous region in Muslim Mindanao, has the poorest access to both safe water and sanitary toilets, at 55% and 34%, respectively. It is no surprise that it has also the highest incidence of water pollution, and sanitation- and hygiene-related diseases in the country. There is also a stark contrast between rural and urban households, with only 59% of rural households having access to basic sanitation as compared to 80% coverage among urban households (Morton et al. 2006).

Water also harbors snails, which are vectors of schistosomiasis/bilharzia (Blas et al. 2004; Alviar 2013; Olveda et al. 2014; Gordon et al. 2015). Severe morbidity is present in many endemic areas, particularly in remote villages with poor treatment coverage. In addition, children may suffer from growth retardation, malnutrition, anemia, and poor cognitive function. There is strong evidence that large mammals (carabao, cattle) contribute significantly to disease transmission, hence complicating control efforts.

Another waterborne disease in the Philippines is leptospirosis (Weil's disease) (Umil 2012), an infectious disease caused by *Leptospira spirochete* bacteria, which is common to rats. Leptospirosis can be acquired by wading in floodwaters contaminated by urine of animals such as pigs, cows, goats, horse or any wild animal infected by *Leptospira* bacteria. People with wounds who bathe in floodwaters easily get the disease. The bacteria can also penetrate through the mouth, nose or the eyes. The symptoms of leptospirosis include fever, severe headache, chills, muscle aches, abdominal pain, vomiting and nausea, diarrhea, and rashes. The areas most at risk are slums in cities of developing countries around the world, largely due to deficiencies in the sanitation infrastructure of slum environments—open sewers, refuse, and inadequate floodwater drainage (Reis 2008; Amilasan et al. 2012). City governments, such as trendsetter Caloocan (NCR) try to fight the disease through education and information campaign to reduce the exposure of people, the distribution of antibiotic medicines (doxycycline capsules) among residents and monitoring of flooded areas during the rainy season (Calalo 2012).

### 6.3.3.2 Mosquito-Borne Diseases

Dengue and malaria are two common diseases transmitted by mosquitoes (Taclo 2015), alongside lymphatic filariasis (Kron et al. 2000), Japanese encephalitis (transmitted by *Culex* mosquitoes) (Lopez et al. 2015), chikungunya (Crisostomo 2013; Lazaro 2014), the West Nile virus (Mackenzie et al. 2004; Barboza et al. 2008) and the newest threat “zika” (Uy 2016).

Malaria, which affects millions of people around the world and is leading cause of death, has been known in the Philippines since the arrival of Americans in 1898. The disease was most likely present already when Magellan touched the archipelago in 1521, but Spanish records barely mention it (Russell 1936). The disease did not have the serious impacts seen in Batavia (Jakarta) or in India. The two largest cities, Manila and Cebu, were malaria-free for most of the Spanish period. Swampy areas were not the most malaria-prone areas, but rather well drained areas in the foothills<sup>7</sup> colonized by *Anopheles minimus flavirostris* and *Anopheles maculatus*. The band of foothills infected by malaria-carrying mosquitoes may be a factor explaining the perpetuation of the separation between ethnic groups of the Philippines until the American period, lowland farmers and mountain tribes, all deterred from expanding towards hills or plains by mosquito-borne disease.

The fact that cities were not subject to malaria may explain why Spanish authorities were seeing the Indios as lazy in the farmlands they were working with little energy, perhaps tired from the disease. American statistics from the second colonial period saw a rapid drop in mortality after the diffusion of quinine and mosquito nets throughout rural communities: 662 malaria deaths for 100,000 people in 1905, 297 in 1915, 218 in 1925, 77 in 1932 (Russell 1936).

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<sup>7</sup>As was shown also by Pierre Gourou in French Indochina.

After Philippine independence, the centralized operations of sanitation of malaria-prone areas was replaced by a decentralized system of malaria control, recentralized under Marcos, and then de-centralized again (Espino et al. 2004). It has been hampered by poor management, lack of thorough statistical information and insufficient funding. In 2014, according to WHO data<sup>8</sup>, there were 6514 registered cases of malaria in the Philippines (12 deaths). It compares favorably with Myanmar (333,871 cases, 236 deaths), Thailand (33,302 cases, 37 deaths), Cambodia (21,309 cases, 12 deaths) and Vietnam (17,128 cases, six deaths), even taking into account the respective populations.

The country has clearly made progress in reducing malaria (Downing and Lee 2012), almost island by island, as also observed in Fiji (Cotter et al. 2013). Of 53 provinces endemic for the disease, 27 have already been declared malaria-free. But the disease is still strong in the southwestern part of the archipelago (Palawan, Sulu, Tawi-Tawi, Maguindanao), which is also the poorest (Ona 2012).

Malaria has been around for a long time and seems relatively controlled, but dengue has burst onto the scene as a major public health problem in the Philippines in recent years (Oishi et al. 2006; Edillo et al. 2015). Dengue is the world's fastest-spreading tropical disease and represents a pandemic threat (Ménard 2003; Guha-Sapir and Schimmer 2005). The Republic of the Philippines is one of the most affected countries in the world, where 75% in the cases are in Southeast Asia (Mateo 2011; Bravo et al. 2014). Dengue is the most important mosquito-borne disease in the Philippines, especially in Metropolitan Manila where communities are socially and economically diverse, and city governments struggle to provide basic services such as continuously available, piped water supply to residents (Table 6.9).

Dengue is transmitted by the bite of a white spotted *Aedes aegypti* mosquito infected with one of the four known dengue virus serotypes, all found in the Philippines. It is a febrile illness that affects infants, young children and adults with symptoms appearing 3–14 days after the infective bite. Symptoms range from mild fever to incapacitating high fever, with severe headache, pain behind the eyes, muscle and joint pain, and skin rashes. Severe dengue (also known as dengue hemorrhagic fever) is characterized by bleeding that usually involves the gastrointestinal tract, skin and the nervous system, with symptoms of abdominal pain, persistent vomiting and breathing difficulty. A drop in blood platelets leads to costly blood transfusions. It is a potentially lethal complication, affecting mainly children. It typically starts when the fever has already subsided. In recent years, transmission has increased predominantly in urban and semi-urban areas and has become a major international public health concern. Dengue fever is typically acknowledged to be a childhood disease and is an important cause of pediatric hospitalization in Southeast Asia (Oishi et al. 2006) There is, however, evidence of increasing incidence of dengue hemorrhagic fever among older age groups, indicating clearly an epidemiological change in dengue infection (Bravo et al. 2014).

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<sup>8</sup> [http://www.who.int/malaria/publications/world\\_malaria\\_report\\_2014/wmr-2014-profiles.pdf?ua=1](http://www.who.int/malaria/publications/world_malaria_report_2014/wmr-2014-profiles.pdf?ua=1)

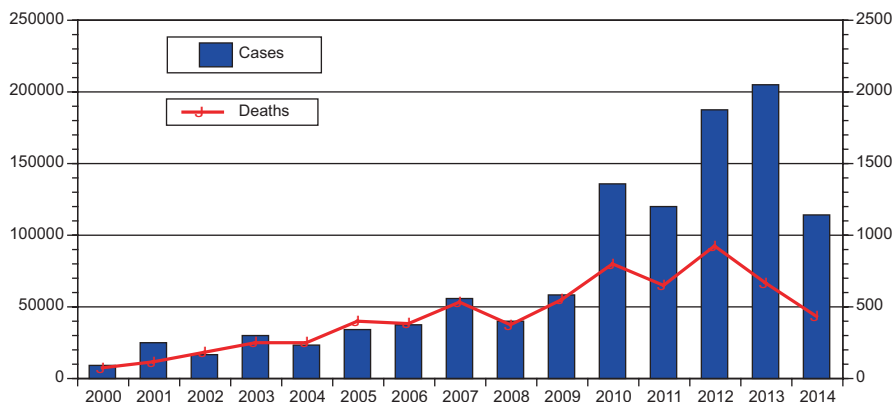
**Table 6.9** Dengue statistics for Asia, 2010

	Number of cases		Number of deaths		Case fatality rate
Indonesia	155,777	Indonesia	1358	Sri Lanka	1.01%
Philippines	135,355	Philippines	793	Bhutan	0.90%
Vietnam	128,831	Sri Lanka	346	Indonesia	0.87%
Thailand	116,947	Thailand	139	Brunei	0.67%
Malaysia	46,171	Malaysia	134	Philippines	0.59%
Sri Lanka	34,105	India	96	India	0.33%
India	28,292	Vietnam	55	Cambodia	0.30%
Laos	22,929	Laos	46	Malaysia	0.29%
Myanmar	16,529	Cambodia	38	Maldives	0.22%
Cambodia	12,500	Bhutan	8	Nepal	0.22%
Singapore	5364	Singapore	6	Laos	0.20%
Maldives	917	Brunei	2	Thailand	0.12%
Nepal	917	Myanmar	2	Singapore	0.11%
Bhutan	887	Nepal	2	Vietnam	0.04%
Timor Leste	745	Maldives	2	Myanmar	0.01%
Bangladesh	409				
Brunei	298				
Japan	243				
China	202				

Source: Regional offices of the World Health Organization. [http://www.searo.who.int/entity/vector\\_borne\\_tropical\\_diseases/ReportedCasesDeaths.pdf](http://www.searo.who.int/entity/vector_borne_tropical_diseases/ReportedCasesDeaths.pdf). [http://www.wpro.who.int/emerging\\_diseases/DengueSituationUpdates/en/](http://www.wpro.who.int/emerging_diseases/DengueSituationUpdates/en/)

Severe dengue was first recognized in the 1950s during dengue epidemics in the Philippines and Thailand. The dengue viruses probably originated in monkeys and independently jumped to humans in Africa or Southeast Asia between 100 and 800 years ago. Dengue remained a relatively minor, geographically restricted disease until the middle of the twentieth century, even if records from the US armed forces indicate that American soldiers were sick from dengue in different areas of the world, from Cuba to Vietnam (Gibbons et al. 2012). The disruptions caused by World War II—in particular the coincidental transport of *Aedes* mosquitoes around the world in cargo—are thought to have played a crucial role in the dissemination of the viruses<sup>9</sup>. The incidence of dengue has grown dramatically around the world in recent decades (Gonzalez 2011). Before 1970, only nine countries had experienced severe dengue epidemics. This viral disease is now present in more than 125 countries—significantly more than malaria, historically the most notorious mosquito-borne disease, in the WHO subtropical and tropical regions of Africa, the Americas, the Eastern Mediterranean, South-East Asia and the Western Pacific. The epicenter of the dengue epidemic is clearly in Southeast Asia, which has the highest

<sup>9</sup>Center for Disease Control, Atlanta USA, <http://www.cdc.gov/dengue/epidemiology/index.html#global>



**Fig. 6.14** Number of reported dengue cases and deaths in the Philippines, 2000–2014. Source: World Health Organization & Philippines Department of Health

number of cases and the largest fatalities numbers. Dengue fever cases and resulting deaths may be much higher than are currently being reported (Van Steenwyck 2012), since some of the symptoms resemble flu or malaria (Fig. 6.14).

Dengue used to hit during the rainy season (Schultz 1993), when there is a lot of water in canals, gardens and other places, but dengue is now a year-round threat. It is also believed that dengue-carrying mosquitoes breed in clean water. *Aedes aegypti*, being the primary dengue virus vector, was known to be the most common source of dengue infections in humans, and its behavior to be active mostly in daytime. Studies have shown that another variety of “dengue lamok<sup>10</sup>”, *Aedes albopictus*, the “tiger mosquito”, known as a secondary vector of dengue virus, presents a danger to humans as well. *Aedes albopictus* is now present in places where humans are staying, especially urban areas (Li 2014), and this mosquito bites most aggressively from late afternoon hours until nighttime. The co-presence of both *Aedes aegypti* and *Aedes albopictus* in places where people live makes dengue a round-the-clock threat (Chan Vazquez 2012). Historically, dengue fever has been reported as occurring predominantly among urban populations where density of dwellings and short flying distance of the vector create the right conditions for transmission. However, dengue transmission and, in some cases, outbreaks also occur now in rural settings. The incidence and, in particular, epidemics of dengue have been commonly associated with the rainy season (Sia Su 2008), and the El Niño/La Niña climate patterns have been incriminated in the increases/decreases of dengue in specific years.

The only effective way to prevent dengue (and malaria) virus transmission is the removal of the breeding places of disease-carrying mosquitoes (Mahilum et al. 2005; Van den Berg et al. 2012). The Philippine government is urging the public to rid their backyards of places where mosquitoes can breed in stagnant water (Van

<sup>10</sup>Lamok is the Tagalog word for mosquito.

den Berg et al. 2012), including flowerpots in cemeteries (Schultz 1989). National authorities call on local government units to intensify information campaigns on dengue emphasizing the importance of eliminating the breeding places of mosquitoes and to mobilize the community to actively participate in environmental sanitation activities (Espino et al. 2012; Yboa and Labrague 2013). Measures to implement are simple. Vessels containing clear and stagnant water should be emptied regularly, since dengue-carrying mosquitoes lay their larvae in clear and stagnant water such as those found in flower vases, pails, soft drink bottles, cans, and drums. The Philippines' Department of Health has established a Dengue Control Program in light of the increasing number of cases in the country. Crucial to this is the 'Four O'Clock Habit', a continuous and concerted effort to eliminate the breeding places of *Aedes aegypti*: people across the country are encouraged to clean their surroundings and drain water at 4 p.m. every day. Self-protection measures against dengue, such as wearing long-sleeved shirts and long pants to avoid mosquito bites, and the use of mosquito repellent, are also recommended. Mosquito nets ("kulambo") and mosquito coils ("kato") are useful devices to reduce the risk of mosquito bites, even if *Aedes aegypti* is not active at night (Fig. 6.15).

At the same time, a participative web site<sup>11</sup> for the surveillance of the disease has been set up by the Philippine Department of Science and Technology to help the public monitor mosquito infestations in their communities. It features a Philippine map with red and white balloons, which will help health workers to monitor possible dengue-prone areas in the country. Red balloons indicate "alert" which means that the population density of dengue-carrying mosquitoes in a certain area is too much and interventions are needed promptly. White balloons mean the population of the dengue-carrying mosquito is too sparse, or none at all, to cause any dengue incident. To feed data to the website, 'Ovicidal-Larvicidal' (OL) Traps developed by DOST-Industrial Technology Development Institute were installed in schools nationwide. The trap kits consist of a black container, a plywood paddle where mosquitoes lay their eggs, and a pack of pellets used to make a solution that kills the eggs and mosquito larvae. The mosquito population will be monitored weekly by students in schools nationwide and they will report to DOST the number of traps that contain mosquito eggs and larvae (Lopez 2013). Municipal authorities have started anti-mosquito campaigns, such as Navotas, Malabon and Taguig in the National Capital Region or Lucena (Quezon province): misting and larvicidal operations, barangay-level lectures on dengue prevention, clean-up drives, de-clogging of creeks and canals (Calalo 2011; Chavez 2012; Santos 2012). In Las Piñas (NCR), experiments have included the planting of citronella plants alongside the bamboos in the riverbank, to help stop soil erosion, add a greater expanse of greenery on the riverbanks, mitigate global warming and eliminate mosquitoes (Requintina 2011).

Since mosquitoes may travel with bus or plane passengers, there are now programs implemented to control this kind of diffusion of the disease by spraying every day in bus terminals and provincial buses (True 2014) with environment-friendly

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<sup>11</sup> "Dengue Vector Surveillance", <http://oltrap.pchrd.dost.gov.ph/>





**Fig. 6.15** Warning about dengue carrying mosquitoes, UP Diliman campus (April 2011) Confront issues and challenges. Eliminate larvae to suppress dengue. Recommendations include removing all breeding sites for mosquitoes. A sudden high fever may be a symptom of dengue and can be reduced with paracetamol. Consult a doctor or visit the nearest health center if one has fever for more than 2 days

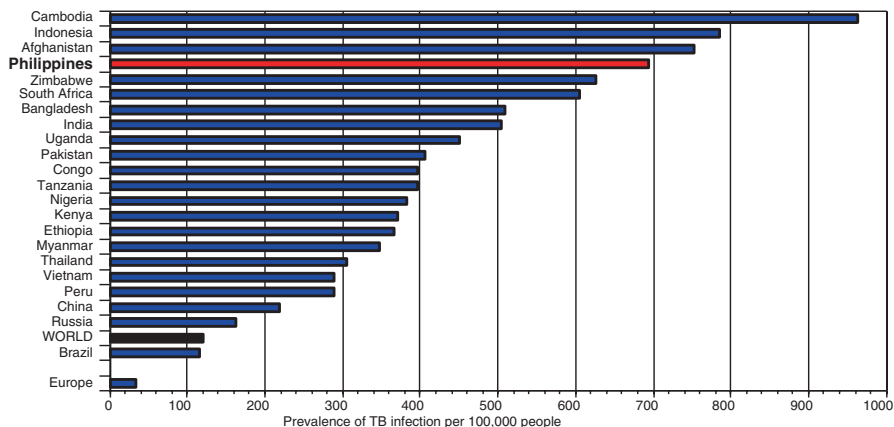
chemicals approved by the Food and Drug Administration as part of the DOH's Anti-Dengue Ultra Low Volume Spraying and Disinfection Operations.

To fight dengue, some plants such as “tawa-tawa” (*Euphorbia Hirta*) leaves (Orendain 2015; Uy 2015) appear to have a positive effect. However, scientists have long been stumped by dengue, which has four separate strains, forcing researchers to find a drug able to fight all of them at once. Medical research may soon lead to a decline of the disease, since it was announced in 2014 that a long hoped-for dengue vaccine (Deroeck et al. 2003; Guy and Almond 2008; Palanca-Tan 2008) tested in the Philippines and four other Asian countries (Indonesia, Malaysia, Thailand, and Vietnam) showed promising overall efficacy and would be available in the national health department's vaccine program by July 2015 (Geronimo 2014). In the Philippines, clinical study of the vaccine was done in Barangay Guadalupe, Cebu City, and in San Pablo, Laguna. The CYD-TDV vaccine developed by the French pharmaceutical group Sanofi Pasteur has shown 56.5% protection against dengue (Ingham 2014). It would significantly contribute to the Philippines achieving its Global Strategy for Dengue Prevention and Control Goals by 2020, according to the Department of Health. In December 2015 it was announced the vaccine would go for sale in Mexico and the Philippines.

### 6.3.3.3 Tuberculosis

Tuberculosis (TB) is the sixth leading cause of death in the Philippines, with more than 60 Filipinos dying from it every day (Ong 2012). The World Health Organization lists the Philippines as one of the 22 countries that carry much of the burden of TB cases on the planet (Dye et al. 2006). Four of those are in the Western Pacific (Cambodia, China, the Philippines, Vietnam) and six in the WHO Southeast Asia region (Bangladesh, India, Indonesia, Myanmar, Pakistan, Thailand). The foremost challenge for health workers is to detect the cases (Belizario et al. 2014; Reyes and Amores 2014) in order to cut the chain of transmission of this highly contagious disease, to improve testing and treatment among high-risk populations, especially in high-density Metro Manila slums (Wallerstein 1999; Tupasi et al. 2000). In the country's slums, more than a third of children aged between 5 and 9 are already infected—which is twice the national average. Poor ventilation, overcrowded housing, low immunity owing to malnutrition, delayed diagnosis, and overpriced drugs are all factors in the increasing incidence of tuberculosis (Fig. 6.16).

The public health threat (Peabody et al. 2005) is real, both for the Philippines and for countries with a large immigrant Filipino population, such as the United States (De Jesus 2013). Filipinos living in crowded places, especially those in shanty communities or prisons, are more likely to develop and transmit TB (Rodriguez 2014a, b, c, d). To minimize the spread of tuberculosis and an outbreak risk, the government should work on providing a screening for people in gathering places such as schools, hospitals, prisons, homeless shelters and nursing homes, since inefficient case finding has shown to be an important stumbling block to successful control of tuberculosis (Auer et al. 2000). Better education of the public about TB and “weak lungs” diseases (Nichter 1994; Navio et al. 2002) should also be provided.



**Fig. 6.16** Prevalence of Tuberculosis infection, selected world countries (2013). Source: World Health Organization

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## Chapter 7

# The Diversity of the Philippine Population

**Abstract** A country of many islands, the Philippines is also a country of many languages. The Tagalog language of Manila has been chosen as the base of the national Pilipino language, even if Cebuano counts as many speakers. The languages of the Philippines have common grammatical structures, but wide differences in vocabulary. Contrary to Latin America where Spanish and Portuguese became the dominant languages, Spanish did not dominate the local languages, since colonial priests preferred to learn local languages rather than teaching Spanish to their flocks. English, as the second colonial language, is spoken much more, since the Americans educated Filipinos in English as part of their “benevolent assimilation” policy. Today, there is debate about the role to give to English, a colonial language, in the educational system, while English is a definite asset for the Philippines in the global economy. The Philippine diversity is also ethnic, with many tribes of “indigenous people”, mostly located in remote hilly areas. Legislation tend today to protect their customs and lifestyles, even if it seems too late for many of them. Other minority groups include the Chinese and Koreans, who play an important role in the country’s economic life.

**Keywords** Languages • Diversity • Indigenous people • Chinese

The country has a rich cultural mosaic of populations due to various historical contributions: from pre-Malay populations to the established sultanates of the fifteenth century in the Sulu archipelago and the island of Mindanao, then two colonizations: first the Spanish between 1565 and 1898, then the Americans between from 1898 to 1946. The ethnic, linguistic and religious mix of the population is directly derived from these torments of history, where “East” and “West” interact in a way that is quite unique in Asia.

This is the only predominantly Christian Asian country (92% of the population) and the third largest Catholic nation in the world after Brazil and Mexico. It is also the most eastern country reached by the historical expansion of Islam, neighboring the most populated Muslim country in the world (Indonesia). Islam itself is dominant in parts of Mindanao (Stark 2003), while there are also pockets of strong Muslim presence in Metro Manila (Watanabe 2007). The specific question of Mindanao will be covered in depth in Chap. 19.

If foreigners are few, the Chinese minority (“Chinoy”) plays a major economic role, while pre-Hispanic autochthonous populations are relegated at the bottom of the social scale and often subjected to racial discrimination. A complex pattern of historical settlement, coupled with the archipelagic organization of the country, has created a rich fabric of languages and dialects. Tagalog has been promoted as the base of the national Pilipino language, itself in competition with English, or mixed with it in the Taglish mode of speaking, but regional languages are alive and well, creating some challenges for national unity.

## 7.1 The Linguistic Diversity

The diversity of the country expresses itself through its rich array of languages. The Philippines is the tenth most linguistically diverse country in the world (Nolasco 2007). The linguistic diversity of the Philippines arises from natural processes related to language evolution and a divergence between linguistic communities caused by lack of communication, especially acute in an archipelagic country and in mountain areas (McFarland 2004a, b). Whereas the Japanese language has unified the northern archipelago, the Philippines remains a multilingual country (Tan 2015a, b).

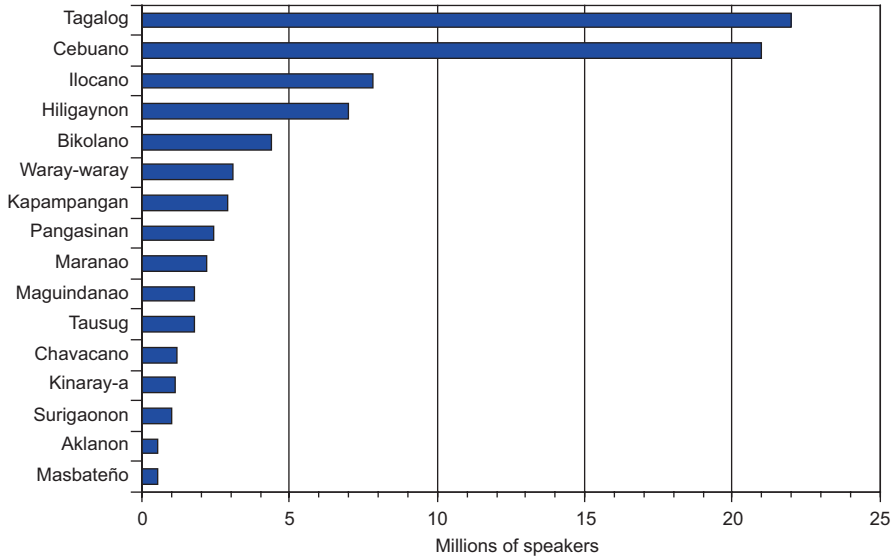
According to the National Commission for Culture and Arts, there are 52 major ethno-linguistic groups in the Philippines and 144 languages or dialects. According to the website “The Ethnologue”,<sup>1</sup> the number is even higher: “The number of individual languages listed for Philippines is 186. Of these, 182 are living and 4 are extinct. Of the living languages, 41 are institutional, 72 are developing, 46 are vigorous, 13 are in trouble, and 10 are dying”. They can be grouped into several regional sub-groups (Thomas and Healky 1962; Llamzon 1966; Reid 1974; Himes 1998; McFarland 2004a, b), including a northern group (Ilocano, Pangasinan, Kapampangan in Luzon), and a central group (Tagalog and Bikolano of Luzon, Hiligaynon/Ilonggo of the western Visayas, Cebuano of the central Visayas, Waray/Winaray of the eastern Visayas). The five most important (in number of speakers) are Tagalog, Cebuano, Ilocano, Hiligaynon and Bikolano. The central island of Masbate is at the intersection of the Tagalog, Hiligaynon, Cebuano and Winaray realms and has local “Bisakol dialects”, mixing Bisayan/Cebuano and Bikolano elements.

Almost all Philippine languages belong to one branch of the Malayo-Polynesian/Austronesian group of languages,<sup>2</sup> which extends from Madagascar to Easter Island

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<sup>1</sup><http://www.ethnologue.com/country/PH>.

<sup>2</sup>The term “Malayo-polynesian” was first used by linguist Wilhelm Von Humboldt in 1836 as he tried to establish a link between Indonesian and Polynesian languages. In 1876, Friedrich Müller coined the expression “Austronesian” which is now more widely used. Malayo-Polynesian tongues make up three quarters of all Austronesian languages. Almost all local languages of the Philippines belong to this grouping, except for Chavacano dialects, which are derived from Spanish: 700,000 speakers of Zamboangueno (Chabacano de Zamboanga) and 200,000 of Caviteño (Chabacano de Cavite) (Frake 1971).



**Fig. 7.1** The main languages of the Philippines, according to the number of speakers (mid 1990s)

in the Pacific (Figs. 7.1 and 7.2). This branch of the Austronesian family is limited to the Philippines, which would indicate that the Philippines, like Madagascar, was initially populated by a single group of settlers whose descendants subsequently spread over the archipelago as their language differentiated. But the actual demographic history of the Philippines was completely different, since the original Austronesian settlers came to a land already occupied by the “Negritos”, who later adopted the Austronesian speech of the newcomers (Lopez 1967).

Some of the specific grammatical features of the Philippine languages, which are agglutinative as most Malayo-Polynesian languages (adding elements to form longer words from a basic root word) are the complex system of affixes, especially of verbal affixes denoting a special relationship between the verb and a particular noun phrase in the sentence. This relationship as actor, goal, or referent in the sentence is usually marked by an affix in the verb. Other prominent features of the languages are the reduplication of a syllable in a word in plural form,<sup>3</sup> the placing of the adjective-verb in front of the noun, and the use of particles between words and phrases.

If grammatical structures have many commonalities (Constantino 1965; Lopez 1965; Longacre 1968; Reid and Liao 2004) and many words are similar by the different languages, there are also very strong differences in vocabulary, making these languages of the archipelago foreign to each other (see for example in the table the tagalog and cebuano words for dog, cat, city, river, coconut). If an Ilocano (resident of Ilocos in northern Luzon) speaks Ilocano (his language) to a Cebuano (resident

<sup>3</sup>*Mabait ang bata*, the child is nice. *Mababait ang mga bata*, the children are nice. There is also a pattern of repeating nouns to indicate a large quantity, for example when talking about *sari-sari* stores or *ukay-ukay* shops, or the *halo-halo* dessert.

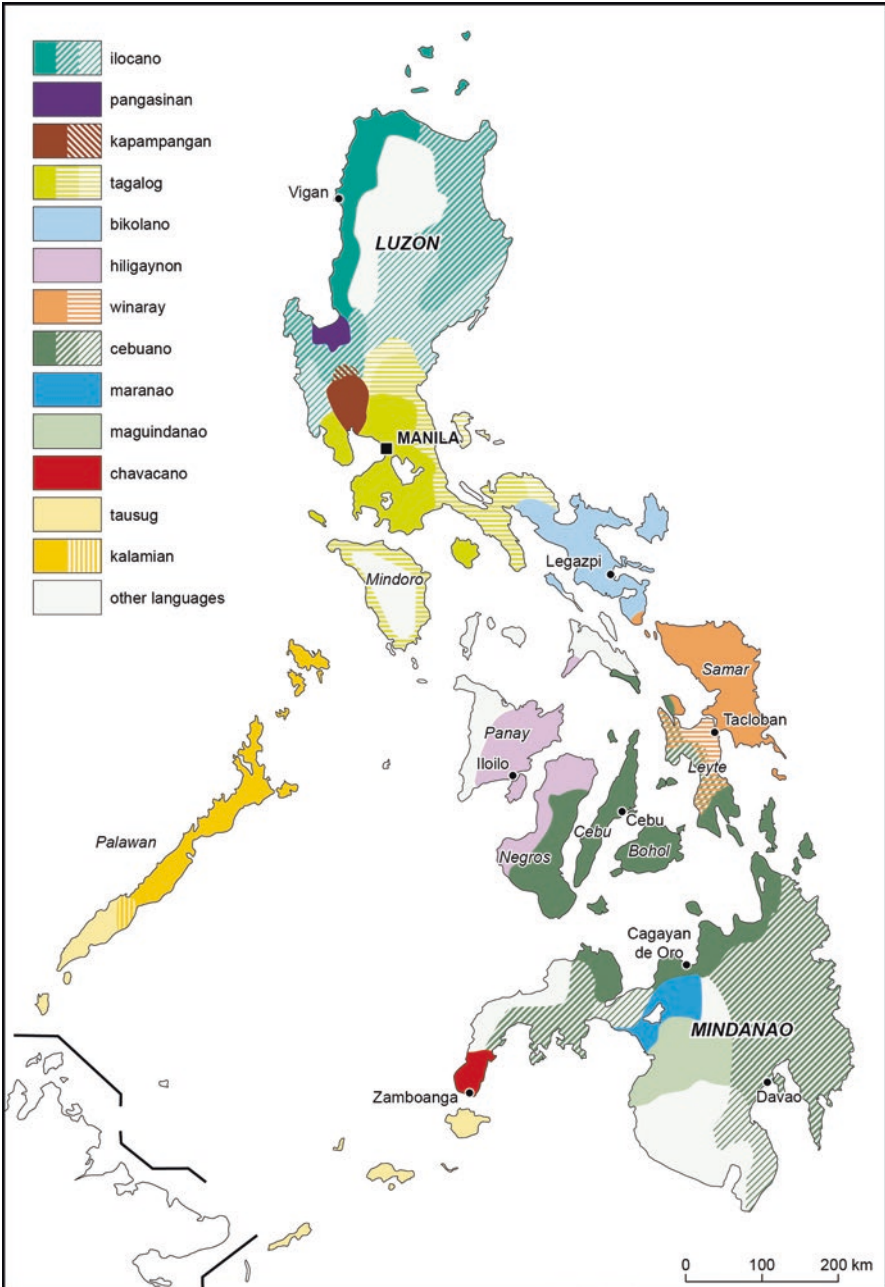


Fig. 7.2 The geography of Philippine languages

of Visayas, in central Philippines), they won't understand each other (Table 7.1). However, it seems that the people of the Philippines are experiencing today a period of language convergence, with high levels of borrowing from English, Tagalog and

**Table 7.1** Similarities and differences in vocabulary between seven Philippine languages, Malay and Bahasa Indonesia

	Ilocano	Pangasinan	Kapampangan	Tagalog	Bikolano	Winaray	Cebuano	Malay	Indonesian
1	Maysa	Metung	Isa/Metung	Isa	Saro	Usa	Usa	Satu	Satu
2	Dua	Adwa	Adua	Dalawa	Duwa	Duha	Duha	Dua	Dua
3	Tallo	Atlu	Atlu	Tatlo	Tulo	Tulo	Tulo	Tiga	Tiga
4	Uppat	Apat	Apat	Apat	Apat	Upat	Upat	Empat	Empat
5	Lima	Lima	Lima	Lima	Lima	Lima	Lima	Lima	Lima
6	Innem	Anam	Anam	Anim	Anum	Unom	Unom	Enam	Enam
7	Pito	Pitu	Pitu	Pito	Pito	Pito	Pito	Tujuh	Tujuh
8	Walo	Walu	Walu	Walo	Walo	Walo	Walo	Lapan	Delapan
9	Siam	Siyam	Siyam	Siyam	Siyam	Siyam	Siyam	Sembilan	Sembilan
10	Mafulu	Apulo	Apulu	Sampu	Sampulo	Napulo	Napulo	Sepuluh	Sepuluh
House	Balay	Abong	Bale	Bahay	Harong	Balay	Balay	Rumah	Rumah
Dog	Aso	Aso	Aso	Aso	Ayam	Ayam	Iro	Anjing	Anjing
Cat	Pusa	Pusa	Pusa	Pusa	Ikos	Uding	Iring	Kucing	Kucing
Water buffalo	Nuang	Duweg	Damulag	Kalabaw	Damulag	Karabaw	Kabaw	Kerbau	Kebo
Mosquito	Lamok	Agueyet	Amuk	Lamok	Namok	Namok	Lamok	Nyamuk	Nyamok
Day	Aldaw	Agew	Aldo	Araw	Aldaw	Adlaw	Adlaw	Hari	Hari
City	Ciudad	Baley/Siyudad	Balen	Lungsod	Ciudad	Siyudad	Dagbayan	Bandar	Kota
Province	Provincia	Luyag	Lalawigan	Lalawigan	Provincia	Lalawigan	Lalawigan	Provinsi	Provinsi
River	Karayan	Look	Pampang	Ilog	Salog	Salog	Suba	Sungai	Sungai
Mountain	Bantay	Palandey	Bunduk	Bundok	Belud	Bukid	Bukid	Gunung	Gunung
Sea	Baybay	Dayat	Dayat	Dagat	Dagat	Dagat	Dagat	Laut	Laut
Coconut	Niog	Niyog	Ngungut	Niyog	Niyog	Lubi	Lubi	Kelapa/Nyior	Kelapa/Nyior
Paddy rice	Pagay	Belas	Pale	Palay	Paray	Paray	Palay	Beras	Beras



regionally important languages. In this process, for better or worse, some languages are abandoned altogether and become extinct (Mansueto 2013).

There are clearly both similarities and differences in the vocabulary of Philippine languages, with comparison to Bahasa Melayu (Malaysia) and Bahasa Indonesia.

Winaray appears to share many elements with Bikolano or Cebuano. One can easily see the difficulties in understanding each other when very common words are sometimes very different, just like with Cantonese and Mandarin in the Chinese realm.

The status of these languages is quite uneven, and linguistic expression has always been a very political issue in the Philippines (Hidalgo 1998; Gonzalez 2000; Jubilado 2004). The Spaniards, contrary to what happened in America, did not impose Castilian as the language of colonization. There was no real effort to teach Spanish to Indios.

On November 13, 1936, Commonwealth Act No. 184 created the National Language Institute, with the goal of studying and surveying every existing native language in the Philippines, to choose the one most fit to serve as the base for a standardized national language. The three main contenders were Tagalog, Visayan, and Ilocano.

On December 13, 1937, President Quezon's Executive Order 134 proclaimed the national language ("*wikang pambansa*") would be based on the Tagalog dialect,<sup>4</sup> even as a majority of Filipinos did not speak it. This choice (Llamzon 1968) was widely contested by speakers of other languages, for whom a new imperialistic language was forced as the national language in order to institutionalize the rule of the capital on the rest of Philippine territory. Many Filipinos denounced "Imperial Manila" in the highly centralized unitary system of governance that concentrated political power and financial resources in the national government. They denounced the choice of Tagalog as working against most local governments and the people nationwide, who were made dependent on the patronage of national government leaders and agencies, in a language unknown to them.

Indeed, for Filipinos from other parts of the country, Tagalog is not their first language and Filipino culture is not just Tagalog culture (Gunigondo 2013). They must however learn to speak it because it is constitutionally the national language and taught in schools.

In 1946, as the country became independent, it kept as national languages the two colonizing languages, Spanish and English, alongside the national language based on Tagalog, renamed Pilipino in 1959, then Filipino in 1973 (Tupas 2015a, b) in the Marcos new constitution, which also dropped Spanish, spoken by barely 2% of the population, as a national language. Against English, 'p' was appropriated through the renaming of Tagalog as Pilipino; against all other Philippine languages, 'f' was institutionalized through Filipino to symbolize the multilingual nature of the national language.

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<sup>4</sup>In the same way, Indonesia would build "bahasa indonesia" from Javanese after 1945, with the major difference that Javanese was the mother tongue of a large majority of Indonesians, which is not the case of Tagalog in the Philippines.

Spurred on by President Marcos and his dream of a “New Society,” nationalist academics focused their efforts on enriching the vocabulary and replacing words of foreign origin. A much-derided example was “*salumpuwit*” (“that to support the buttocks”) supposed to replace the well-established, Spanish-derived “*silya*” for “chair”. It was a failure, since the word had been in use for centuries.

The 1987 Constitution clearly defines Filipino as the country’s national language (Atienza 1994). It also acknowledges that Filipino is evolving, and that it shall be developed and enriched on the basis of other existing dialects and languages. The Constitution also directs the government to take steps that will initiate and sustain the use of Filipino as the medium of official communication and as a language of instruction in the educational system (Tan 2014). However, most laws and judicial decisions are written in English (Pefianco-Martin 2012).

Since 2009, the policy in Philippine schools is to use multilingual education: The 1974 Bilingual Education Program of the Philippines (BEP), where English is the medium of instruction in science and mathematics and Pilipino or Filipino, the national language, in all other subjects, is now replaced by a new order from the Department of Education (DepEd) supporting the implementation of Mother Tongue-Based Multilingual Education (MTBMLE) in all levels of education. It assumes that mother tongues (regional languages) are most effective to facilitate learning in primary education. It also challenges the idea that using only two languages in Philippine education—English and Filipino—facilitates learning among Filipinos and the development of a national identity (Tupas 2011, 2015a, b; Tupas and Lorente 2014).

The role of English is debated (Abueg 2015). Some argue that English is essential to economic progress because it opens the Philippines to communication with the rest of the world, facilitates foreign commerce, and makes Filipinos desirable employees for international firms both in the Philippines and abroad. Today, English is a primary language in secondary and university education, business, media, entertainment, advertising and justice. But there is nationalist resistance to this colonial language. In 1987, President Corazon Aquino established bilingual school teaching in English and Filipino. In 1998, President Estrada introduced the Filipinization of school education. Presidential candidates in 2010, however, pushed for all English and one candidate for English and Spanish. In a context of globalization, and to attract tourists, English should not be neglected, because it has become an asset for the country’s economy,<sup>5</sup> especially for call centers (see Chap. 12), and because many Korean, Chinese and Japanese students come to the Philippines to learn English! (foot note 6).

Tagalog is the language spoken around Manila and Laguna de Bay. Its literal meaning is “from the river”, probably referring to the speakers hailing from the Pasig river that runs from Laguna de Bay to Manila bay. Today, this Malayo-Polynesian language contains many borrowed Spanish words, as well Chinese,

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<sup>5</sup>The Hong Kong example, where the declining level of English speaking since the 1997 Chinese takeover is seen as a danger for the future prosperity of the territory, is closely watched in the Philippines.

Indian and Arab contributions (*salamat*, thank you, which is a semantic deformation of “*salam*”, salutation, peace, in Arabic) (foot note 6). Spanish is an essential component of Tagalog vocabulary: if the words expressing feelings and emotions (cold, hungry, wet, tired, happy...) are mostly malayo-polynesian, many objects and things introduced in colonial times have kept their Spanish names. A Spanish speaker can undoubtedly learn Tagalog faster!

### Borrowed from Spanish

*Tinidor (fork), kutsara (spoon), kutsarita (dessert spoon), kutsilyo (knife), plato (plate), kotse (automobile), treno (train), gasolina (gasoline), baryo (village, neighborhood), lugar (place), kuwarto (room), mesa (table), bintana (window), tiyo (uncle), tiya (aunt), estudyante (student), pensyonado (retiree), karne (meat), asukal (sugar), prutas (fruits), pinya (pineapple), mantikilya (butter), serbesa (beer), sapatos (shoes), kabayo (horse).*

Counting is done with Spanish words, albeit spelled differently: *Uno, dos, tres, kuwatro, sinko, seyis, siyete, otso, nuwebe, diyas, onse, dose, trese, katorse, kinse, disiseis, disisyete...* The money used in the Philippines is the peso, a name also used in many Latin American nations (Argentina, Chile, Colombia, Cuba, Dominican Republic, Mexico and Uruguay): “20 pesos” is “*beynte pesos*”. Parallel to Spanish numbers, Filipinos still use local words, especially for small numbers (“*dalawang tao*”: “two people”, and English words and numbers for large quantities (hundreds, thousands, millions)

The days of the week are of Spanish origin (except for Sunday): *Lunes, Martes, Miyerkoles, Huwebes, Biyernes, Sabado and Linggo*. Months of the year are also from Spanish: *Enero, Pebrero, Marso, Abril, Mayo, Hunyo, Hulyo, Agosto, Setyembre, Oktubre, Nobyembre and Disyembre*.

Time is expressed in Spanish: “15 minutes” is “*kinse minutos*”, “3.30 pm” is “*a las tres e medya*”, 1.50 pm is “*a la una singkuwenta*”

When greeting people with “how are you”, the Tagalog equivalent “*kumusta?*” is clearly derived from the Spanish “*como esta?*”, while people sometimes bid farewell with very Spanish “*Adiyos*”.

The Spanish “*gustar*” for “like” is widely used as “*gusto ko*” (I like)

“Filipino”, “Pilipino” and “Tagalog” share identical grammar. They have the same determiners (ang, ng and sa), the same personal pronouns (siya, ako, niya, kanila, etc), the same demonstrative pronouns (ito, iyan, doon, etc), the same linkers (na, at and ay), the same particles (na and pa) and the same verbal affixes -in, -an, i- and -um-. In short, same grammar, same language. Some linguists differentiate them by considering Tagalog with “purist” usage, keeping Austronesian words, and Filipino with “non-purist” usage, introducing many borrowed words from English. To them, “*pulong*” (meeting), “*gurô*” (teacher) and “*talatinigan*” (dictionary) are Tagalog words, while “*miting*”, “*titser*” and “*diksiyunaryo*” are Filipino words.

The American influence has infused Tagalog with many English words, especially for technologically advanced objects (elevator and computer, have become “*elebaytor*” and “*kompyuter*”). Almost nobody uses “*salipawpaw*” for “airplane” or “*paliparan*” for “airport” in daily life. But a strong trend observed is the interspersing of Tagalog and English elements within the same sentence, people using alternately one or the other in what is called “Taglish”. It is most commonly spoken in the Manila area, for convenience. Because Tagalog/Filipino words are often longer or less familiar than their English counterparts, the English words are used instead, such as “homework” or “assignment” for students. Reversely, English can be used by foreigners with inserted Tagalog words, in this case it is called “Engalog”. The merger of languages can go further when English words are used as roots for new Tagalog expressions, such as the verbal form “*mag-Internet*” for “surf the web” or “*mag-ski*” for skiing. Journalists, politicians and weathermen in Manila are known for their routine use of this code switching between languages.

This leads to sentences mixing elements of three languages: Tagalog, Spanish and English

- **Pwedeng** i-explain mo sa akin? Can you explain it to me?
- *Paki-call ang taksi drayber.* Please call a taxi driver
- *Mayroon ka bang ng **kuwarto** na* for rent? Would you have a room for rent?
- **Gusto kong maupo sa may bintana.** I would like a window seat
- **Gusto kong magreserba ng mesa para tatlong tao a las otso.** I would like to reserve a table for three at 8 pm
- I went to school, **pero wala pa palang pasok....** I went to the school, but there were no classes
- *Sa tindahan na shopping mall ng mga kompyuter ang **gusto ko.*** I want to go to the computer store in mall
- *Anu anong mga isyu ang hinaharap ng **komunidad na ito?*** What are the main problems of the local people?

## 7.2 Indigenous Minorities in the Philippines

### 7.2.1 *The Diversity of Indigenous Minorities*

The indigenous peoples of the Philippines consist of a large number of tribal groups<sup>6</sup> who are the descendants of the original inhabitants of the Philippines. Having avoided or resisted (Scott 1970) most of the Spanish and American colonial rule, they were able to preserve their ethnic practices freely. Their lifestyle was largely based on hunting and tropical forest-based foraging, but some of them had developed elaborate agricultural systems (Ifugao terraces) and most groups had some trade exchanges with other tribal groups (Junker 1993) and with lowland farmers (Junker 1990, 1996).

Most of them have their own dialects and ethnic writing different from what ordinary Filipinos use. There are officially 110 major Indigenous groups in the Philippines, about 27 of which are known as “Negritos”, who clearly preceded the Austronesian groups in the Philippines. Most of the Indigenous Peoples depend on traditional swidden agriculture, utilizing available upland areas, which they claim as part of their traditional territories (Landa Jocano 1958). Their total number is about eight million (Cariño 2012).

They display a great variety of social organization, linguistic (Reid 1994) and cultural expression and artistic skills, showing a high degree of creativity in creating and decorating utilitarian objects, such as bowls, baskets, clothing, weapons and spoons. Most of them are animist, even though Christianity (in the north of the country) and Islam (in the south) are progressing within these populations.

Today, because of historical discrimination and exploitation, they are considered as highly marginalized and vulnerable. Spanish and American colonial periods’ attempts to divide the population into “civilized Christian groups” versus “pagan ethnic groups”, were reinforced by the work of anthropologists in the early American period, leading to the emergence and deepening of stereotypes around “natives,” now more commonly referred to as indigenous peoples (IPs).

They are among the poorest and the most disadvantaged social group in the country. Illiteracy, unemployment and incidence of poverty are much higher among them than the rest of the population. Indigenous settlements are often remote, without access to basic services, and are characterized by a high incidence of morbidity, mortality and malnutrition. They often face exclusion, loss of ancestral lands, displacement, pressures to and destruction of traditional ways of life and practices, and loss of identity and culture. The opening of roads and environmental pressures are jeopardizing not only the lifestyles but also the very existence of these ethnic groups (Eder 1987), despite the relative protection offered by a specific status awarded to a number of groups and the establishment of tribal territories akin to US Indian

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<sup>6</sup>At one time the expression “tribal groups” was employed by lowland Filipinos in a pejorative sense, but in recent years it came to be used with pride by natives in the mountain region as a positive expression of their ethnic identity.

reservations. Native groups such as the Bukidnon in Mindanao have intermarried with lowlanders for almost a century. However, others such as the Kalinga in Luzon, famous for their elaborate body tattoos (Salvador-Amores 2002) and their basket-making skills (Silvestre 2000), have remained isolated from lowland influence.

Long considered as “savages” (Slotkin 2000), the indigenous people of the Philippines are now recognized as having a rich culture, that guidelines from the Department of Education encourage to present in a positive way, with expressions such as “ethnic costumes” to be replaced with “ethnic clothing” (Tan 2015a, b). Tribal schools have been set up in different parts of the country, in an effort to instill pride in their heritage among children (Ellao 2015). However, some schools have been attacked and burned in Mindanao within the larger context of land and mining conflicts.

The officially registered indigenous people are most numerous in northern Luzon (1.044 million in the Cordillera Autonomous region, 991,000 in region I, 987,000 in region II, 572,000 in region IV, 276,000 in region III) and Mindanao (1,793,000 in region XI, 556,000 in region X, 497,000 in region IX, 494,000 in region XIII). They are very few in region V (Bicol, 22,000) and the ARMM Autonomous Region of Muslim Mindanao (24,561).

The largest Luzon group (about one million) is made up of the various “Igorot”<sup>7</sup> tribes in the Cordillera Central of Northern Luzon, a group that includes the Bontoc, Ibaloi, Ifugao, Isneg, Kalinga and Kankanaey, who built the famous rice terraces (Table 7.2). Other mountain peoples of Luzon are the Isneg of northern Kalinga and Apayao provinces, the Gadang of the border between Kalinga, Apayao and Isabela provinces, the Ilongot of Nueva Vizcaya Province and Caraballo Mountains, and the Remontados of Rizal province (Gatchalin 1969). They all developed hunting and gathering lifestyles, moving to agriculture, farming cultivation, while keeping until the twentieth century their headhunting warrior traditions (Scott 1974; Vicuña Gonzalez 2009).

In the southern Philippines, minority groups can be found in Mindoro, Palawan and in Mindanao. The Mangyan group (Tweddell 1970, Helbling and Schult 2004, Rodriguez 2015), about 50,000 people living Mindoro, is subdivided into several groups, Iraya, Alangan, Hanunoo, Batanga, Tagaydan, Ratagnon and Buid. Their traditional livelihood is from the sea but the migration of local and foreign settlers has pushed them to move towards the interior of the island, often practicing shifting cultivation (Conklin 1957). The Batak (Eder 1978, 1987, 1988), Tau’t Batu and the polyandrous Tagbanua (Dressler and Turner 2008) live in Palawan. Due to their unique and extreme difference, the Tau’t Batu cave dwellers of the Signapan Basin

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<sup>7</sup>The pejorative word “Igorot” has a disputed etymology. For some authors, it comes from the old Tagalog “I-golot” (people from the mountain range). For others, it comes from the Ilocano word “gerret” which means to “cut off” or to “slice” (the head). It refers to the “unhispanised” and “tribal” people of the Cordillera in Northern Luzon who, until the first three decades of the 20th century, still widely practiced headhunting. Because of its initial association with relentless killings and cutting of heads, the word today still conjures up images of “savageness” and “primitiveness” to the general public. However, the concerned tribes have adopted it today as a symbol of their identity. (Scott 1962; Finin 2006; McKay 2006).

**Table 7.2** Indigenous groups in the Philippines, ranked by number of people

Tribe name	Negritos	Number	Provinces	Islands
Mandaya		574,944	Davao oriental	Mindanao
Ibanag		531,815	Cagayan	N. Luzon
Kankanaey		473,641	Benguet, Mountain	N. Luzon
Bukidnon		361,905	Bukidnon	Mindanao
T'boli		347,212	South Cotabato	Mindanao
Higaonon		312,960	Agusan del Norte, Agusan del Sur	Mindanao
B'laan		227,595	Davao del Sur, Sarangani, South Cotabato	Mindanao
Ibaloy		221,063	Benguet, Baguio City, Pangasinan	N. Luzon
Tagakaolo		184,199	Davao del Sur	Mindanao
Tagbanua		181,567	Palawan	Palawan
Ifugao		174,631	Ifugao	N. Luzon
Tinggian		172,509	Abra	N. Luzon
Ati	X	130,388	Romblon, Iloilo, Antique, Negros Occ., Capiz, Aklan	Western Visayas
Sama		129,738	Tawi-Tawi	Sulu archipelago
Kalibugan		120,667	Zamboanga del Sur, Zamboanga del Norte	Mindanao
Yakan		120,165	Basilan	Sulu archipelago
Agta	X	117,841	Cagayan, Quirino, Isabela	N. Luzon
Itawes		111,848	Cagayan	N. Luzon
Dumagat	X	110,748	Isabela, Cagayan	N. Luzon
Bagobo		100,116	Davao del Sur, Davao City	Mindanao
Samal/Badjao		94,531	Tawi-Tawi, Basilan, Sulu Archipelago	Sulu archipelago
Aeta	X	90,588	Zambales, Bataan, Tarlac, Pampanga	C. Luzon
Bago		88,742	La Union, Ilocos Sur	N. Luzon
Alangan Mangyan		79,231	Mindoro Oriental	Mindoro
Yogad		64,098	Isabela	N. Luzon
Ilianen		57,359	Agusan del Norte, Agusan del Sur	Mindanao
Ata/Matigsalog		44,851	Negros oriental, Davao City, Davao del Sur, Davao del Norte	Negros, Mindanao
Bontok		44,274	Mountain	N. Luzon
Maeng		33,747	Abra	N. Luzon
Aeta-Remontado	X	33,666	Rizal, Laguna, Quezon	C. Luzon
Manobo/Biit		30,969	South Cotabato	Mindanao
Iraya		30,597	Mindoro Occidental, Mindoro Oriental	Mindoro

(continued)

**Table 7.2** (continued)

Tribe name	Negritos	Number	Provinces	Islands
Abelling		29,963	Tarlac	C. Luzon
Manobo/Ubo		27,989	Davao del Sur, Davao City	Mindanao
Remontado		25,680	Rizal, Laguna, Quezon	C. Luzon
Sulod		23,113	Panay	Western Visayas
Aeta-Abiyan	X	20,786	Camarines Norte, Camarines Sur	S. Luzon (Bicol)
Inlaud		20,690	Abra	N. Luzon
Bantoanon		20,672	Romblon	Western Visayas

live in an area that the government has declared off limits to strangers to prevent them from unreasonable exploitation. The most important groups found on Mindanao include the Manobo and Bukidnon of Bukidnon Province, the Bagobo, Lumad, Mandaya, and Mansaka, who inhabit the mountains bordering the Davao Gulf (Parades 2013); the Subanon of upland areas in the Zamboanga; the Mamanua in the Agusan-Surigao border region; and the Bila-an, Tiruray and Tboli in the region of the Cotabato province.

The Aeta or Negritos<sup>8</sup> (also called Ayta Magbukun in Bataan, Agta in Bikol, Dumagat in Eastern Luzon mountains, or Ati in the Visayas) (Balilla 2013) are the aborigines of the Philippines who were called Negritos by the Spaniards. They comprise a diverse group of populations (Padilla 2013) speaking over 30 different languages (Reid 2013), and are spread all over the archipelago, mostly in marginal areas of Luzon, the central Visayas islands, and Mindanao. Their distinguishing features are shorter stature, darker skin and curly hair. In Ilocos, they are called Pugot, a name used by Ilocanos for anyone with dark skin. In their dialect, it also means “goblin” or “forest spirit”. Due to their adaptation to tropical forests (Balilla et al. 2012), they have been compared with the Pygmies in the equatorial jungles of Africa. Some of them were employed by the US army to teach their soldiers how to survive in the jungle. They formerly dominated the highlands throughout the islands for thousands of years, but have been reduced to a small population. Most of them now live in the Pampanga and Zambales provinces of central Luzon, particularly on the slopes of Mt. Pinatubo, while others inhabit the coastal fringes of Northern Luzon and the mountains of Negros, Samar, Panay and Leyte. As a result of their nomadic life, they live in houses built out of grass and tree branches to easily vacate upon scarcity of surrounding food. Body decoration is a traditional practice of most Aeta groups, mostly through scarification on their backs, arms, legs, hands, calves, and abdomen. The Dumagat disfigure their teeth during late puberty and dye them black after a few years. Human rights violations, territorial encroachment (Headland and Headland 1997; McHenry et al. 2013), environmental changes (McHenry et al. 2014) and industrial developments, as well as Mt. Pinatubo’s eruption in 1991 (Seitz

<sup>8</sup>Not to be confused with the Andaman Islands Negritos, which appear to have little in common with Philippine Negritos except for size and skin color (Endicott 2013; Stock 2013).



1998; Gaillard 2002, 2006a, b), have severely impacted their existence (Headland 1989). The exploitation of forests (Headland 1988) by lowlanders leads these tribes to migrate from place to place for survival, or to big cities as beggars and scavengers. The impact of Mount Pinatubo's 1991 eruption on the traditional use of natural resources by the indigenous Aeta was devastating, resulting in a sudden disconnection of traditional knowledge from the erased biological resources. The relatively slow ecosystem recovery hinders the transfer of traditional knowledge to younger generations of Aeta. This traditional knowledge may soon disappear, even if the choice of tribal members to enter foreign-designed ecotourism enterprises, as mountain guides (Marler 2011), may be a slim hope.

### 7.2.2 *The Indigenous Peoples Rights Act of 1997*

Indigenous people had for a long time invoked a plurality of legal systems (customary law, international law, principles of human rights, conflicting Philippine national laws) to assert their claims on "ancestral domains". In 1909, the US Supreme Court indeed stated that lands in the Philippines that had been occupied by mountain and forest people for centuries were presumed to never have been public land. However, since the arrival of Magellan, the Spanish practice had been to claim all lands in the archipelago as territories of the Spanish crown: communal lands became part of the public domain. Being independent of Spanish colonial rule, indigenous peoples did not register their lands nor acquired titles. Even though they had occupied their ancestral lands since time immemorial; they were denied any legal rights on the places where they lived.

In the twentieth century, the construction of dams, the development of commercial farming, and logging concessions progressively spurred indigenous groups to be more vocal in defending their rights on lands threatened by deforestation, flooding and dispossession (Prill-Brett 1994).

The 1898 acquisition of the Philippines by the United States signaled a period of high anthropological interest in the archipelago (Bernstein 1998). In 1901, a "Bureau of Non-Christian Tribes"<sup>9</sup> under the Department of Interior was created for the purpose of helping the indigenous people. It was abolished in 1936 and transformed into a "Commission on National Integration" (CNI). In 1904, on the occasion of the St Louis World fair, Igorot warriors were exhibited as a testimonial of the American civilizing influence on the archipelago. The American colonizers essentially retained the concept of the Regalian doctrine and passed more laws such as Public Land Acts, Land Registration Acts and Mining Acts that reinforced the state's control over the public domain. In 1972, the CNI was abolished. In its place, President Marcos created the Southern Philippine Development Authority (SPDA)<sup>10</sup>

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<sup>9</sup> Modeled after the Bureau of Indian Affairs (Barrows 1901, Rodriguez 2010).

<sup>10</sup> An agency to implement programs for the Filipino Muslims, which later became the Ministry of Muslim Affairs.

and the Presidential Assistance on National Minorities (PANAMIN) to implement programs for the non-Muslims or other tribal groups. In 1984, the Marcos administration created an Office for Muslim Affairs and Cultural Communities (OMACC) catering to the needs of both Muslim and Non-Muslim minorities communities.

In January 1987, the new Aquino administration abolished the poorly conceived OMACC and created three distinct offices, as follows, the Office for the Muslim Affairs (OMA), the Office for Northern Cultural Communities (ONCC) and the Office for Southern Cultural Communities (OSCC), all attached directly to the Office of the President. A revised Philippine Constitution recognized the ancestral land rights of indigenous people. Ten years later, the ONCC and OSCC were merged into a new National Commission on Indigenous Peoples (NCIP) with the Republic Act 8371 of October 1997, which aimed at recognizing the rights and welfare of indigenous communities. The Indigenous Peoples' Rights Act (IPRA) was modeled on the 1989 UN Draft Declaration on Indigenous Peoples' Rights. A landmark piece of legislation (Castro 2000; Chauhan et al. 2008; Erasga 2008), it guaranteed the rights of Indigenous Peoples to self-governance and empowerment, social justice, human rights, and cultural integrity. It recognized the "ownership" of the Indigenous Community over their traditional territories, including land, water bodies and all other natural resources therein. It provided tenure security to the community with issuance of an ownership Title (Certificate of Ancestral Domain/Land Title, CADT) to the concerned Indigenous clan or community and requested the "free prior and informed consent" (FPIC) of Indigenous Peoples before any land operation (mining, forestry, agriculture, infrastructure building) to be realized on ancestral lands: in the absence of such a clear level of consent, a project could not proceed. In practice, however, this was regularly violated (Villareal 2013), including by national legislation, such as the 1995 Mining Code. The NCIP has been underfunded, and was not able to prevent mining companies, backed by powerful politicians, to encroach on areas supposedly under tribal control. Indigenous Peoples communities and organizations, and their supporters, including NGOs, have been quite vocal in fighting for their legal rights and the respect of their lifestyles for many years, and the struggle continues (Contreras 1992; Cullen 2013; Ayroso 2014), using modern tools (Hirtz 2003) such as Internet to advance the cause of indigenous communities rights, and linking up with other native groups around the world.

### 7.3 The Chinese in the Philippines

Chinese Filipinos (Pacho 1986) are one of the smallest overseas Chinese communities in Southeast Asia. Currently, about 1.5 million Chinese-Filipinos reside in the Philippines, half of them in the National Capital Region.

When the Spaniards settled in the Philippines, they needed skilled laborers and recruited Chinese immigrants from Hokkien, working mostly as traders and artisans. Most of the Chinese living in the Manila area, nicknamed "Sangley",<sup>11</sup> settled in the

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<sup>11</sup> Etymologically, it comes from the hokkien word *sengli* (*sheng-li* in mandarin), meaning "business".

Parían area close to the walled city of Intramuros, where the Spaniards resided. The Spanish encouraged the Chinese to convert to Catholicism. Most of the immigrants were male sojourners who returned to China both periodically and on retirement, hence the maintenance of highly localized chains of migration over long periods of time and the high rates of turnover within local Chinese communities in the Philippines (Doeppers 1986). However, some of these Chinese men married native women, giving rise to the mixed-blood *mestizo de sangley* (also designated as *chino mestizo* ethnic group in the Spanish period. Cantonese migrants arrived later to the Philippines and integrated first through a tight professional association network before opening more widely to Filipino society (Yap 1998, Wickberg 2000, Guéguen 2012a, b).

Today, they are commonly called Chinoy or Tsinoy (Ang See 2004, 2005) in the Philippines. Chinoy, from the word *Chinese-Pinoy*, refers to Chinese people with Philippine nationality or Chinese people with Chinese nationality but born in the Philippines. They are sometimes differentiated into the *Lan-lang/Lang-nang* (the Hokkienese whose ancestry is from Fujian province), and the Cantonese or the *Keng-tang-lang*, whose ancestry is from Hong Kong or Guangzhou.

If their demographic weight is insignificant, their influence over the country's economy is quite important (Palanca 1977), since Chinese-Filipino families run many of the largest national corporations (Hodder 2007). For example, the Sy family owns the SM Group of companies, and the Gokongwei family controls many important companies like Cebu Pacific Airlines. The most renowned national hero, Jose Rizal, had traces of Chinese blood that runs through his veins. So did Ferdinand Marcos. Different local terms are used to designate Filipinos with Chinese ancestry. Among them, "Bisteks" (*Bisayang-Intsek*), the Chinese people in Visayas/Mindanao region or with mixtures of Visayan/Mindanaoan blood. Most of them live in Cebu, Tacloban, Bacolod and Davao. The Chinese have developed a very efficient network of associations giving them a certain influence in neighborhood activities (Guéguen 2008a, b).

However, almost all Chinese-Filipinos in the Philippines are culturally Filipino (De la Cruz 2015), even if they still maintain some traditional rituals and customs passed down from their ancestors. Many still speak Hokkien, a Southern Chinese dialect from Fujian province and have retained physical features separating them from the Filipino Austronesian majority. In the Church-controlled Spanish Philippines, ethnic Chinese were not able to build places of worship. It is only during the American period that they were able to express their Buddhist and Confucian beliefs and to build some temples (Dy 2012).

In colonial times, Chinese people were relegated into specific neighborhoods, "Chinatowns" (Santos 2015). Widely known as the oldest Chinatown in the world (Raitisoja 2006; Cerda 2013), the "Little China" in Binondo, Manila was established as early as 1594. Across the river from Intramuros, it was intended to replace the Parian where the Chinese were first confined. The Spaniards awarded to a group of Chinese merchants and artisans a land grant in perpetuity, tax-free and with limited self-governing privileges. Binondo's Chinatown was not established because the Chinese wanted to isolate themselves. Rather, they were grouped in one place, outside the walls of Manila, across the river, in a way that would prevent them from

disturbing the lifestyle of the Spanish elite in Intramuros. Streets and places in Binondo were given different Chinese names, some of which have been kept to this day. Binondo became the main center for business and finance in Manila for the ethnic Chinese, Chinese mestizos and Spanish Filipinos. It is still today a bustling, high-density area, one of the most dense districts of Manila, prone to fires in poorly constructed buildings difficult to reach due to the narrow streets encumbered with commercial activities and traffic (Madrid 2012).

The Chinatown in Quezon City is far younger than its Binondo counterpart. In 2005, the city council decided to develop Banawe Street as a special economic growth area, as several Filipino-Chinese businesses had already sprouted there. Two landmark arches were constructed to mark the establishment of the street as a new Chinatown. However, most residents of the area are not ethnic Chinese, and the Chinese population is now much less concentrated in Binondo than it was before (Guéguen 2010).

In Iloilo City (Panay island), three streets (Iznart, J.M. Basa and Aldeguer) in Iloilo City are collectively known as the “Chinese triangle” of the city, with a significant number of businesses run by Chinese-Ilonggos. Cebu City is the only major city with no defined Chinatown. However, the Chinese presence has been felt in the whole city since the sixteenth century. Cebu was historically the center of maritime trade within the Philippines and because of this, many Chinese families chose to make Cebu their home and integrated themselves into the community, learning to speak Cebuano.

Since the 1990s, the number of migrants from Mainland China has increased in the Philippines archipelago (between 60,000 and 100,000 persons), especially towards the area of the Divisoria market in the heart of Manila city. Most of those new comers are from Fujian, which is also the motherland of more than 90% of the local Chinese community (Guéguen 2008a, b, 2012a, b).

Newer migrant communities currently settling in the Philippines are the Japanese (Molina Azurin 2007; Fresnoza-Flot 2008; Ubalde 2013) and the Koreans (about 100,000 people) (Kutsumi 2007; Miralao 2007; Guéguen 2013). Some of them work for Korean companies established in the Philippines, others have opened shops as import traders and resale of used computer equipment. Many of them have settled with a Filipino wife. They appear to concentrate in large provincial cities, such as Cebu, Dumaguete (Makil 2007), Davao and Baguio, as well as the Manila area and Angeles City.

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**Part II**  
**The Philippines in the Global Economy**

## Chapter 8

# Emerging Tiger? The Paradoxes of the Philippine Economy

**Abstract** The Republic of the Philippines is an exception in the East and Southeast Asia realm. One of the richest countries of the region at the end of World War II, its rankings have slipped, and its growth rates have been weak for several decades. We examine the main causes of the mediocre economic performance of the country since the 1950s. Many analysts have pointed out an excessive bureaucracy, high levels of corruption and the lack of industrial investment in a country dominated by landed interests. After the high debt incurred during the Marcos administration, Philippine leaders have made every effort to improve the debt situation, choosing to pay back loans, but under investing in infrastructure and under spending for education. The current situation of the universities and research in the Philippines is not conducive to the creation of modern enterprises. The economy, with a small industrial sector and much larger tertiary sector, appears split between a wide informal sector, symbolized by the ubiquitous sari-sari stores, and a “world-class” western segment (huge shopping malls of Manila). Since the mid 2000s, growth rates have been much higher, but poverty has not diminished. There is a typical pattern of growth without development.

**Keywords** Economic growth • Globalization • Universities • Informal sector • Poverty

During his August 2011 state visit to China, President Benigno Aquino asserted that “it was time for Chinese companies to invest in the Philippines, the northern gateway to Southeast Asia and an emerging economic power” (Mañares 2011). Is the Philippines really an “emerging country” (Boquet 2011), “new industrialized country”, “second-generation dragon”, “rising tiger” (Lim Ubac 2013), “emerging Asian tiger” (Estacio 1997; Estanislao 1997), “future tiger cub” (Arroyo 2010), “future economic tiger” (Crismundo 2012), “Asia’s new darling” (Cervantes 2015) to be showcased to international investors (Mercene 2015)?

The Philippines appear, behind the larger BRICs (Brazil, Russia, India, China) in the list of the N11, “11 large developing economies” or “next emerging” developed by *Goldman Sachs* in 2005 (Wilson and Stupnytska 2007; Villegas 2010), the “20 emerging markets” (*Price Waterhouse Coopers* 2008), the “13 countries with strong potential” (*Crédit Agricole* 2009), the 21 “emerging markets” of *MSCI/Morgan*

*Stanley* (2010), the 35 of *Dow Jones Group* (2010) or the 26 “emerging markets” identified by *The Economist* magazine (2010), next to nations as diverse as South Korea, Bangladesh, Iran, Ukraine or Turkey. The country is listed within a recent group of “neo emerging economies”, the PPICS (Peru, Philippines, Indonesia, Colombia, Sri Lanka), imagined in 2014 by the French insurance-credit group *Coface* (Gradt 2014; Mabasa 2014). It is also part of the new acronyms “TIP” (Thailand, Indonesia and Philippines, all referred to by investment bank *Morgan Stanley* as the next “Breakout Nations”) and “TIMP” (Turkey, Indonesia, Mexico and the Philippines), while *HSBC* sees the archipelago inside “Asia’s growth camp” (Jose and Divina 2016).

But these rankings are fickle: the country is not listed in the “8 emerging economies” of *Ernst & Young* (2008), or in the “14 rapid growth economies” of *Boston Consulting Group* (2008), while the ranking of 65 nations over ten millions people done in 2010 by *HansaGCR*<sup>1</sup> places the Philippines at a mediocre 47th place, behind Mozambique and Madagascar, barely ahead of Senegal and second to last amongst Asian countries (Nepal is 63rd), when Cambodia is 29th and Sri Lanka 37th. The 2009 group of favored emerging countries, called CIVETS (Colombia, Indonesia, Vietnam, Egypt, Turkey, South Africa) by Richard Ward (*The Economist*), did not include the Philippine archipelago (Greenwood 2011).

In the past the Philippines, alongside Thailand and Indonesia, may have been considered as second-generation “tiger” or “dragon”, but the World Trade Organization does not list the Philippines among of the six “East Asian exporters” (Hong Kong, Singapore, South Korea, Malaysia, Thailand and Taiwan). However, neither the Philippines nor Indonesia appear in the official list of the “lesser-advanced countries”, which includes Bangladesh that some have listed as an emerging country.

The economy of the Philippines has been for many years an exception (Pinches 1992), a mystery (Nelson 2007), “the least-understood phenomenon on the planet” (Mangun 2015), a “puzzle” (Rivera 1994; Balisacan and Hill 2002, 2003), in the dynamic Asia-Pacific region (Balisacan 2000). The country has a weak manufacturing sector and an economy based more on consumption than production. Under a dominant neoliberal ethic (Bello 2009a, b), it is profoundly engaged in globalization (Tan 2015) through call centers (see Chap. 12) and labor export (see Chap. 13), but few Philippine brands have any world recognition. A leader in some farm exports, the country is also a top importer of rice, the main staple of daily Filipino diet.

## 8.1 A Laggard Country

Rich in human and natural resources, with a more westernized and English-speaking population than anywhere else in Asia, the Philippines is ideally located in a central position on the Asian Pacific Rim, half-way between Singapore and Japan, close to Taiwan and Hong Kong.

<sup>1</sup>[http://www.hansagcr.com/about\\_us/pdf/ranking\\_emerging\\_markets.pdf](http://www.hansagcr.com/about_us/pdf/ranking_emerging_markets.pdf)

Yet it has lagged behind those economies. The Philippine economy is quite small: the Philippine companies' weight on the MSCI<sup>2</sup> Emerging Markets Index remains insignificant (below 1%). It is a "sleeping dragon" (Giri 1997), "Asia's under-achiever" (Briones 2009), the "sick man of Asia" (Kind 2000). According to the IMF (2013 data), the Philippines GDP ranks only as the 40th largest in the world. Indonesia is 16th, but much smaller countries (in size and population) are well ahead of the Philippine archipelago: Taiwan 27th, Thailand 30th, Malaysia 35th, even tiny Singapore 36th and Hong Kong 39th. The GDP per capita is even more revealing: the Philippines ranks only 127th, well behind Singapore (8th), Brunei (22nd), Hong Kong (25th), Taiwan (39th), Malaysia (67th), China (83rd), Thailand (93rd) and Indonesia (116th). It ranks behind Bolivia (126th), just above Vietnam (134th) and India (143rd).

From a position as one of the wealthiest countries in East and Southeast Asia after World War II, second only to Japan, the Philippines is now one of the poorest, passed by Taiwan (Ranis 1997), South Korea (Habito 2016), Malaysia, Thailand (Ysaac 1989), China. These countries are characterized by a dynamic agricultural sector (exporting high-value agricultural products from high-yield/high productivity farms) and the growth of industrial exports (components and parts) within the global division of labor (Kay 2010). They enjoy comfortable financial reserves and high savings rates, which have allowed them to invest heavily in transport infrastructures, human capital and education. These countries undergoing rapid economic growth have also experienced over the last 30 years a rapid demographic transition, which gives them today a slow population growth.

What a contrast with the Philippines!

The Philippines has failed for decades to achieve a sustained period of rapid economic growth and has suffered recurring economic crises, going into a seemingly endless cycle of boom and bust. And even as economic growth, measured by GDP performance, seemed to be back in the 2010s, such as in the first quarter of 2013 (a remarkable 7.8% growth), unemployment remains high, many Filipinos have a hard time finding food, and schools are overcrowded. The country's HDI ranking has slipped from 70th in the world in 2001 to 117th in 2014 (Makabenta 2014). Exports per capita (543 US dollars in 2013) are very low compared to many neighboring countries (Malaysia \$7662, Thailand \$3351, Vietnam \$1479), lower than Indonesia (\$734) and even Cambodia (611\$) and barely above Laos (\$390).

Why this paradox? Why this contrast? Why this failed take-off? (Angeles 1992) Why such a failure? (Heydarian 2013a, b) Why a laggard? (Arillo 2015) If Hong Kong, Korea, Singapore, and Taiwan, the first group of "Newly Industrialized Countries", "Minidragons" or "Tigers" have transformed themselves from technologically backwards and poor economies to relatively modern, affluent economies, followed by Malaysia and Thailand, why not the Philippines? (Litonjua 1994) Can the Philippines still become an "Asian Tiger", or is it too late? (Williamson and De Dios 2014). Is it the "dark horse of Asia", with unrecognized potential? (Bautista 2011)

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<sup>2</sup>Morgan Stanley Capital Index.

The “Asian Miracle” is generally explained through two growth theories (Nelson and Pack 1998). “Accumulation” theories stress the role of capital investments in moving economies. High investment rates, through forced savings and major borrowing, are the source of rapid development sustained by quality infrastructures. If a nation makes the investments and marshals the resources, development will follow. “Assimilation” theories stress entrepreneurship, innovation, learning and education as fundamentals for mastering the new technologies adopted and adapted from more advanced industrial nations. These two general bases for growth seem to have been missing in the Philippines.

What has held back Philippine competitiveness and growth for several decades is a combination of low savings rate, high population growth rate, and an extremely low productivity shaped by culture and history (Yap et al. 2011). Is there something in the Philippine culture and society that has blocked the economic rise of the country? (De Dios 2011). Was Max Weber right in the case of the Philippines when he argued that Catholic countries were less efficient in economic take-off than Protestant ones? (Weber 1905). Does the Hispanic past of the country make it more of a Latin American country, with the same economic weaknesses as Mexico, Argentina and Peru (Nelson 2007), than an East Asian nation? Did the Philippines trade places with Chile, the Latin American economy that most resembles a fast-paced Asian tiger, and turn into a slow-walking llama (Lao 2012) instead, as the “Latin American of Asia”?

The common Spanish and Catholic colonial history may have given rise to cultural attitudes that now stand in the way of freer markets and a more successful political democracy. The control of land and politics by the same families and the policies of favoring friends in business deals (cronyism, quite prevalent under Ferdinand Marcos) may have been a factor (Khatri et al. 2007; Begley et al. 2009; Habito 2015a, b). Cronyism weakens institutions and encourages inefficiency and mediocrity (Hutchcroft 2000).

International experts meeting in Washington DC have identified some of the main weaknesses of the Philippines (Hofman et al. 2012). They see a “system designed against development”. The roots of underdevelopment lie in the underlying structure of the Philippines’ economy, which is mostly rural, agricultural, and suffers from low productivity, when China owes much of its recent growth to the migration of rural workers from rural inland provinces to highly productive coastal regions. Commercial, regulatory, and labor market distortions have prevented a similar transition from taking place in the Philippines. High minimum wages and “regularization” policies prevent companies from firing employees in the formal commercial sector, hampering its growth. These policies results in two classes of workers, a few who can enjoy the benefits of regulations in the modern sector and the vast majority with low productivity jobs in the informal and agricultural sectors. The agricultural sector suffers from a weak land reform (see Chap. 10). The government has transferred some land to poor Filipinos, but the recipients are not allowed to sell their land or buy additional land. Most beneficiaries then resell their land through shadowy arrangements to agricultural elites, maintaining centuries-old inequalities. Too little growth has occurred in the modern sectors, and the growth

that has occurred in manufacturing has been capital-intensive, producing relatively few jobs. At the same time, the low-quality education received by many workers excludes them from accessing higher-paying jobs (Schwalbenberg 1989).

Foreign investors are also worried by the volatile and unpredictable shifts in national politics, annoyed by the many holidays reducing overall productivity (Velasco 2014), and bothered by rampant corruption and mediocre infrastructure (transport, energy and communication).

In a sequel to *The Protestant Ethic*, Weber, in *Confucianism and Taoism* (1916), tried to differentiate China and the West by examining how Confucianism emphasized “adjustment” to the world, as opposed to Western rationality emphasizing “mastery” of the world. Weber’s writings inspired many others to develop theories about the correlation between culture and economic development, a trend that has continued until now with the promotion of “Asian values” in Singapore and Malaysia, discussions about the root causes of the “Asian miracle” (Krugman 1994; Seong 2003) of which the Philippines was not part, and reflections about the links between authoritarianism and entrepreneurialism in the Chinese realm (Redding 1990; Bernard et al. 1999; Cheung and King 2004; Singh 2007; Rutten 2008, 2013).

Geographic, climatic and environmental factors are added difficulties: as an archipelagic nation subject to regular typhoons, the Philippines suffer from costs linked to its spatial configuration and expenses associated with the effects of disasters on the population.

## 8.2 A Declining Position in Asia

As a legacy of the Spanish and U.S. colonial periods, oligopolies have dominated the economy (Krinks 2002), particularly in agriculture, where farmland continues to be concentrated in large estates established since the Spanish times. During the American years, the Philippines was an economic vassal to the world superpower, forced to import most manufactured items from the U.S. and supplying the U.S. with mainly agricultural and forest products. Industrial growth virtually grounded to a halt during this period. At the end of the American colonization (1898–1946), the country, despite the destruction of most of Manila during the war with Japan, looked good, with abundant natural resources: water, wood, land, raw materials, and it had the guaranteed support of the United States in their strategy of containment of communism in Asia.

After independence was gained in 1946, the country tried to become an industrialized nation with the policy of import substitution (Hutchcroft 1989), where domestically manufactured goods are substituted for imports. This strategy, encouraged by the United States (Jenkins 1954; Maxfield and Nolt 1990), required protectionist measures (Sicat 2008; Gatbonton 2015), which led to inefficiencies and the misallocation of resources (Araneta 1953). President Carlos Garcia’s “Filipino First” policy heavily favored Filipino businessmen over foreign investors (Takagi 2014). Filipino industrialist Salvador Araneta, one of the founders of the National

Economic Protectionism Association (NEPA), was a lifelong crusader for protectionism, both on the economic and cultural fronts: as Secretary of Economic Coordination during the Quirino administration, he sponsored the import control policy and a total ban of imported elementary textbooks and supplementary readers. Although some trade protectionist measures were relaxed in the early twenty-first century, the Supreme Court continues to support restrictions on foreign ownership of land and other assets in effect since the constitution of 1935. These restrictions, plus widespread graft and corruption, have greatly limited inbound FDIs (McIsaac 2002; Cuaresma 2015a, b; Primor 2015).

In the 1970s, the annual growth of the Philippine GDP (6.25%) was slower than in neighboring countries (Hong Kong 12.6%, South Korea 10.9%, Singapore 8.4%, Malaysia 8.1%, Thailand 7.4%, Indonesia 7.2%). The 1980s were particularly lackluster, both under the dictatorship of Ferdinand Marcos and the presidency of Corazon Aquino. The average annual GDP growth between 1985 and 1994 was 8.6% in Thailand, 7.8% in South Korea, 6.1% in Singapore, 6% in Indonesia, 5.6% in Malaysia, 5.3% in Hong Kong, but a mere 1.7% in the Philippines (Canlas 2003). The phenomenon was even more pronounced when comparing annual increases of GNP/capita since 1970, South Korea 7.6%, Singapore 6.6%, Hong Kong 5.8%, Indonesia 5.7% Malaysia 4.9% Thailand 4.4%, against only 1.4% in the Philippines. While in 1978 the GNP/capita of the Philippines was comparable to Thailand's and Malaysia's, these countries had 60 and 100% higher values in 2009 than the Philippines, also overtaken by China whose figure was half of it 30 years ago.

Plunging into a recession in the 1980s, the Philippines suffered at that time from “crony capitalism”, as President Marcos built up a system favoring his relatives and associates (Kang 2002). The nation was heavily indebted (Erbe 1982; Jose 1991), had problems making payments on its international loans, and poverty was endemic as economic and democratic institutions collapsed (Litonjua 2001; Mendoza 2016). The practice survived the collapse of the Marcos dictatorship. In 2014, *The Economist* ranked the Philippines sixth in the world (Diola 2014) for having huge crony-sector wealth, created by rent-seeking practices of the wealthy, who endeavor to “grab a bigger slice of the pie rather than making the pie bigger”. Philippine crony capitalists did not learn from South Korea, where, in the wake of the Asian financial crisis, the Korean government dismantled several *chaebols* (industrial conglomerates) and their political patrons were punished for large-scale corruption.

Marcos's removal from office ushered in the seemingly more progressive Corazon Aquino administration, which introduced reforms such as a liberal Foreign Investment Act, a Comprehensive Agrarian Reform Law, and the privatization of public companies. Then, under Fidel Ramos, the government developed the ambitious ‘Philippines 2000’ plan, which enhanced privatization in key industries like banking, electricity, telecommunications, shipping and oil, following the recipes recommended by the Washington institutions, World Bank and IMF. However, the costs of opening to the world economy were magnified by policy inconsistency, structural bottlenecks and budget constraints. Opening to the world without sufficient freedom for businesses inside the Philippines led to stagnation (Intal 2002).

The economy slowly stabilized in the post-Marcos years and unlike other countries in the region, the Philippines contracted less dramatically during the Asian crisis of 1997, though inflation soared. The situation has eased since then and progressively improved. After the brief Estrada interlude, Gloria Arroyo, an economist trained in the United States, continued this adherence to neo-liberalism (Bello 2009a, b), but results were disappointing in comparison to neighboring nations such as Thailand, or Vietnam, with its “*doimoi*” policy of opening to the world, following in the footsteps of China’s “open-door policy”, and in sharp contrast with massive state involvement central to the economic development strategies of countries such as Japan (MITI), Singapore (EDB) or Mohamed Mahathir’s Malaysia. Although trade barriers were scaled back, industrial cartels split up, and limited reform measures taken in the late twentieth century, political instability, continuing high levels of corruption, and resistance to reforms by entrenched interests have prevented the Philippines from pursuing a consistent and effective economic course (Ringuet and Estrada 2003).

According to Walden Bello,<sup>3</sup> the Philippines was too good a student of the IMF in 1980–1990, after the fall of dictator Marcos, repaying its debts instead of investing (Bello 2005). Savings rates and foreign exchange reserves were much lower than in neighboring nations, which had the effect of drying up sources of cash needed for the major infrastructure projects the country needs. A national rate of savings of 15–18%, well below the average for the East/Southeast Asia region, has contributed to current account and budget deficits, even if the Arroyo government strived to eradicate the foreign debt. A historically low rate of taxation in the Philippines—only about 15% of gross domestic product (GDP), partly as a result of widespread tax evasion (linked with corruption of the elites, as demonstrated by many financial scandals affecting high-level officials from the national government to the Parliament and the Supreme Court)—also led to underinvestment in infrastructures (roads, port facilities, airport facilities, electricity) (Whaley 2014; Cerojano 2015; Lim 2015; Tiquia 2015) and uneven economic development.

Small harbor facilities, a congested and obsolete airport, insufficient roads and basically no rail service at all (see Chap. 15) are powerful deterrents to the installation of foreign companies, even as the Philippines, like most countries, have established a number of free-trade zones to attract foreign investment. Electricity generation and the electric grid are insufficient,<sup>4</sup> causing blackouts and untimely cuts (Flores

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<sup>3</sup>Director of “Focus on the Global South,” a think tank based at Chulalongkorn University in Bangkok, Philippine sociologist Walden Bello, professor at the University of the Philippines and former director of the Institute for Food and Development Policy (Food First) in Oakland, California, also a former member of the Philippine parliament, is well known for its proposal to de-globalize the world economy, as globalization has impoverished the a large part of population in a majority of world countries. He advocates a new economic thinking based on fulfilling the needs of the masses at the local level before embarking on global economic circuits.

<sup>4</sup>Even more considering the difficulty to link many islands and the impossibility to connect the Philippines to the electric grid of other countries. The physical setting limits the size of rivers, while the seismic nature of many parts of the country is a deterrent to the building of major hydro-electricity dams.



and Damaso 2014), “brownouts”, while prices per kilowatt-hour are the highest in Asia (Diaz 2011), which does not encourage the implantation of large energy-intensive industrial plants.

Japanese investments, which had been quite useful in the economic take-off of countries such as Thailand (Toyota’s Bangkok auto manufacturing cluster) were particularly low in the Philippines. The country, in political turmoil after the murder of Benigno Aquino and the subsequent overthrow of the Marcos regime in the EDSA revolution, failed to attract foreign investment (Lopez 2016) at a time when Japan, hit by the rise in the value of the yen and extremely high land costs, began to massively relocate its factories to emerging nations. Between 1985 and 1990, while Japanese FDI reached \$3.7 billion in Thailand, \$3.1 billion in Indonesia and \$2.2 billion in Malaysia, the Philippines received only \$748 million, five times less than Thailand (Bello 2005). Capital was avoiding and even fleeing the country (Beja 2005).

In the first decade of the twenty-first century, the GDP growth of the Philippines remained in a range of 4–6% per year, far behind the Chinese (8–12%) or Vietnamese (7–9%) performance, but near the average value of the other economies of Southeast Asia.

In a global economy where Asian exports are so important on world markets, the Philippines is characterized by a perennial trade balance deficit. From 1990–2010, except for 1999 and 2000, the Philippines imported more than it exported, 19 years out of 21.<sup>5</sup> Trade deficits were particularly pronounced with neighboring Southeast Asia (Indonesia, Thailand, Vietnam, Singapore, Malaysia), with China, Korea and Taiwan, as well as the Gulf oil states. The Philippine trade balance has remained positive, however, with Japan, Hong Kong and western countries in North America and Europe.

The National Capital Region around Manila produces about 36% of GDP with only 12% of the population. It is much more prosperous than rural areas, where much of the population depends on subsistence living. The traditional lack of job opportunities has led many Filipinos to come to Greater Manila, accelerating the spread of substandard housing in the metropolitan area, or to seek employment outside the country, notably in North America, the Middle East or Hong Kong. Remittances from OFW (Overseas Foreign Workers, see Chap. 13) to family members back home are now the biggest source of money from abroad, equivalent to 10% of GDP.

### 8.3 A Country Perceived as Difficult to Do Business In

The World Bank, in its 2015 ranking of 189 countries for “the ease of doing business”, places the Philippines at a mediocre 103rd place<sup>6</sup> in the world. In contrast, as they have for many years, Singapore and Hong Kong are among the best places in the world for business (first and fifth), according to the World Bank. Malaysia is

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<sup>5</sup> Source: National Statistics Coordination Board, [http://www.nscb.gov.ph/secstat/d\\_trade.asp](http://www.nscb.gov.ph/secstat/d_trade.asp)

<sup>6</sup> It has improved from earlier years (134th in 2011, 136th in 2012, 138th in 2013), however the 2014 result (94th) was better than 2015.

18th, Thailand 49th, while former communist countries such as China (84th) and Vietnam (90th) fare better than the Philippines. The country appears quite weak in many components of the index: getting credit, paying taxes, registering property, dealing with construction permits, trading across borders, enforcing contracts, protecting minority investors and resolving insolvency (Cagahastian and Ordinario 2015; Montecillo 2015a, b). US-based CNBC business television channel ranks the Philippines as “Asia’s most difficult place to do business”, ranked even behind bureaucratic and corrupt India and Indonesia, adding that “foreign businesses are wary of the Philippines’ unstable legal system, violence, and bureaucracy”.

A 2007 Asian Development Bank study highlighted barriers to higher economic growth in the Philippines: (1) tight government finances due to weak revenues, (2) inadequate infrastructure, especially in electricity and transport, (3) weak investment due to poor governance and political instability, and (4) a small and narrow industrial base due to various market failures (Habito 2015a, b). Since then, progress has been made on items 1, 3 and 4, but the country remains in a poor situation in terms of infrastructures.

According to the Swiss institution IMD (Institut de Management et Développement), which conducts an annual World Competitiveness Yearbook survey of countries, the perceived high level of corruption in government remains a major hurdle for the ability of the Philippines to compete in the global stage, which leads them to rank it last among the 13 countries of Asia-Pacific analyzed.

The Corruption Perception Index<sup>7</sup> established in 2010 by Transparency International puts the Philippines in an uncomfortable position: 134th out of 178 countries, while Singapore is the country considered as the most honest in the world along with Denmark and New Zealand. Asian neighbors of the Philippines—where corruption is certainly not absent—are also better placed: Hong Kong 13th, Japan 17th, Taiwan 33rd, South Korea 39th, Malaysia 56th, China 78th, Thailand 79th, Indonesia 110th, Vietnam 116th. Only Cambodia and Laos do worse in Southeast Asia. According to World Bank representatives in the Philippines, corruption at all levels is a major cause of the low level of foreign direct investment in the country. The Philippines resembles many poor developing countries of Africa and Latin America where corruption is the norm, even if a successful country such as South Korea is not immune from massive corruption (Wedeman 1997).

IMD also lists the poor quality infrastructure (many of the country’s roads remain unpaved; Manila’s airport is operating beyond capacity), an undeveloped financial system and difficult access to financing for small and medium enterprises (SMEs) as constraints to the country’s competitiveness. In addition, the frequency of typhoons creating havoc in some regions, with heavy damage to infrastructures and crops, worsens the situation of millions of poor Filipinos.

On another front, critics deplore the atmosphere of insecurity in the Philippines, with a relatively high crime rate and an increase in the number of businessmen kidnappings, especially among Chinese and Korean nationals. From time to time, country warnings by the US Department of State, the French Ministry of Foreign Affairs, and their counterparts in Canada, the United Kingdom and other nations include the

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<sup>7</sup>[http://www.transparency.org/policy\\_research/surveys\\_indices/cpi/2010/in\\_detail#1](http://www.transparency.org/policy_research/surveys_indices/cpi/2010/in_detail#1)

**Table 8.1** Standard & Poor's credit ratings of select Asian countries (August 2014)

AAA	Extremely strong capacity to meet financial commitments	Hong Kong, Singapore
AA	Very strong capacity to meet financial commitments	China, Japan, Taiwan
A	Strong capacity to meet financial commitments, but somewhat susceptible to adverse economic conditions and changes in circumstances	Malaysia, South Korea
BBB	Adequate capacity to meet financial commitments, but more subject to adverse economic conditions	<b>Philippines</b> , Thailand
BBB–	Considered lowest investment grade by market participants	India
BB+	Considered highest speculative grade by market participants	Indonesia
BB	Less vulnerable in the near-term but faces major ongoing uncertainties to adverse business, financial and economic conditions	Bangladesh, Vietnam
B	More vulnerable to adverse business, financial and economic conditions but currently has the capacity to meet financial commitments	Cambodia, Pakistan, Sri Lanka
CCC	Currently vulnerable and dependent on favorable business, financial and economic conditions to meet financial commitments	
CC	Currently highly vulnerable	
C	Currently highly vulnerable obligations and other defined circumstances	
	Not rated	Burma, Laos

entire Philippines in their recommendations. The threat of terrorism is not limited to the area of Muslim rebellion in western Mindanao, but it is also perceived across the entire archipelago with attacks attributed to the Marxist revolutionary New People's Army movement from mining sites to large agricultural haciendas and to the heart of the capital, with a bomb explosion in a Manila bus in January 2011.

Credit ratings by agencies place the Philippines in a middle position, “lower medium grade” (Cuaresma 2015a, b), currently BBB for Standard & Poor's, BBB– for Fitch, Baa2 for Moody's, which means the country is not considered a speculative risk, but the investment recommendations are lukewarm (Table 8.1).

## 8.4 Innovation and Higher Education: A Mediocre Performance in International Surveys

The Philippines ranks quite low as a country of innovations. The Asian Development Bank (ADB) has developed an “index of creative productivity”<sup>8</sup> with *The Economist's* Intelligence Unit to assess innovation and creativity in Asian economies. The index

<sup>8</sup> *The Economist/Asian Development Bank* (2014)—*Creative Productivity Index. Analysing creativity and innovation in Asia*, 88 p., [http://www.adb.org/sites/default/files/publication/59586/creative-productivity-index\\_0.pdf](http://www.adb.org/sites/default/files/publication/59586/creative-productivity-index_0.pdf)

uses a battery of 36 indicators to measure capacity and incentives for innovation, including how many “global top 500 universities” a country has, the urbanization rate and spending on research and development, the number of patents filed, value added to agricultural commodities and the number of books and films produced. Japan was ranked the most efficient of 22 countries (South Korea 2nd, Taiwan 3rd) while Burma (Myanmar), Pakistan and Cambodia were the least efficient. The Philippines ranked a pale 16th, behind Vietnam and Kazakhstan.

The analysis for the Philippines indicates some weak points (p. 72): “On the input side, the country’s performance is average on most dimensions, but is behind on firm dynamics, owing to rigid labor markets and financial institutions, which prevent firms from accessing credit. The low-medium output score is driven by the low levels of scientific output and creative-sector goods (books and films)”, while reviewing some positives: “The country’s best scores are for competition and human capital. Despite the fact that policymakers are broadly in favor of private enterprise and competition, concerns linger over the sanctity of contracts and the influence of the country’s family-owned conglomerates. On the labor side, the Philippines scores relatively well for the enrollment ratio of students in technical and vocational programs, and of tertiary students in science. However, this masks the fact that the country suffers from brain drain, with many technically skilled Filipinos emigrating to work in countries where wages are higher.”

It is reflected, for example, in the number of technical and scientific papers published in academic journals (Fig. 8.1), where the comparison with other countries is quite damaging for the Philippines. Scientific production is low, and has not experienced the same growth in recent decades as in Thailand and Malaysia.

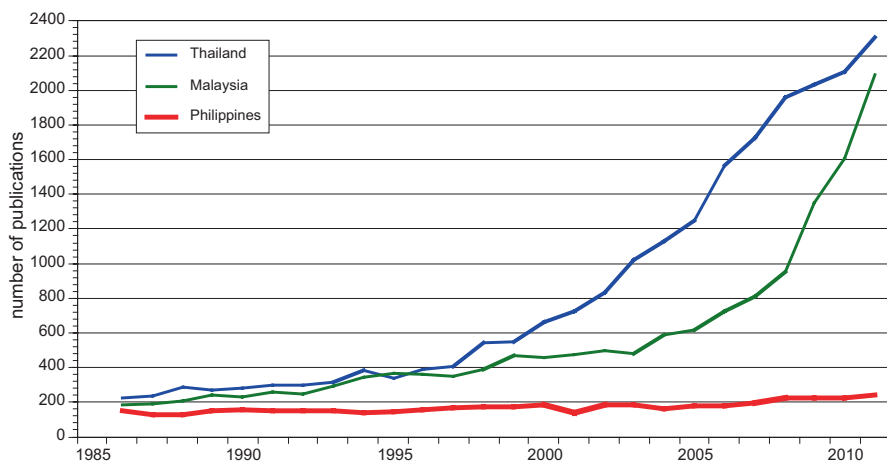
Despite their long and rich history, Philippine universities have not achieved high recognition worldwide. International rankings place them well behind other universities in Southeast Asia (one Philippine university in the world’s top 500 according to Quacquarelli Symonds QS World University Rankings,<sup>9</sup> vs. 2 in Singapore, both very highly rated, 5 in Malaysia, 2 in Thailand, 1 in Indonesia) and Asia at large (13 in Japan, 11 in China, 8 in South Korea, 6 in Hong Kong, 6 in Taiwan, 5 in India) where technology-oriented universities abound. Only five universities from the Philippines appear in the top-300 list for Asia. Research is one of the main reasons why Philippine colleges and universities have gone down in international rankings in recent years (Flores 2013a, b; Danao 2014). No Philippine-based university was ranked in the 2014 “Shanghai ranking”<sup>10</sup> of the top 500 world universities, vs. 32 in China, 19 in Japan, 10 in South Korea, 7 in Taiwan, 5 in Hong Kong, 2 in Malaysia, 2 in Singapore. There was none in the *Times of Higher Education*<sup>11</sup> ranking of the top 400 world universities, vs. 12 in Japan, 11 in China, 8 in South Korea, 6 in

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<sup>9</sup>The QS World University Rankings are based on four key pillars: research, teaching, employability and internationalization, and methodology. Rankings are presented in annex.

<sup>10</sup><http://www.shanghairanking.com/ARWU2014.html>

<sup>11</sup><http://www.timeshighereducation.co.uk/world-university-rankings/2014-15/world-ranking>



**Fig. 8.1** Number of technical and scientific papers published in academic journals from 1986 to 2011. Source: World Bank; <http://data.worldbank.org/indicator/IP.JRN.ARTC.SC/countries?page=1>

Taiwan, 6 in Hong Kong, 4 in India, 2 in Singapore, 4 in India, 1 in Macau, 1 in Thailand.

Webometrics<sup>12</sup> measuring the quantity and quality of work published online by faculty rank UP Diliman (Quezon City) only 1356th in the world and 34th in the Southeast Asia region, behind 15 universities in Thailand, 8 in Indonesia, 7 in Malaysia, 2 in Singapore (ranked 1 and 3) and 1 from Vietnam. De la Salle University is 62nd in Southeast Asia (2076th in the world), UP Los Baños 70th (2268th), UP Manila 114th (2932nd), Ateneo de Manila 12th (3119th), University of Santo Tomas 177th (4596th).

Standardized international tests, often highlighting the skills of Asian students in science, are also quite discouraging for the Philippines. In a survey<sup>13</sup> of business executives around the world to rate the quality of education in their respective countries, Singapore ranked 1st in the world, Taiwan 5th, Hong Kong 11th, South Korea, 12th, Malaysia 23rd, Japan 24th, Brunei 25th and China 31st in perceived quality of Math and Science education. Indonesia (53rd), Vietnam (59th), Thailand (60th), Cambodia (97th), as well as Bangladesh (106th) all fared better than the Philippines (115th of 142 countries). No Filipino scientist has ever won a Nobel prize or a Fields medal (mathematics).

The mediocre rankings of Philippine universities in academic comparative surveys, even if criteria and methodologies have been criticized, may be attributed to the lack of research citations and international faculty, two of the main indicators used in ranking universities. The other indicators are academic reputation, employer reputation, faculty/student ratio, citations per faculty, international faculty and

<sup>12</sup> <http://www.webometrics.info/>

<sup>13</sup> World Economic Forum's (WEF) Global Competitiveness Report for 2011–2012 (Tandoc 2012).

international students. Faculty in top Philippine academic institutions is poorly internationalized. Foreigners cannot get tenure at the public University of the Philippines (UP). Looking in detail at the rankings, UP gets its best score (ranked 151–200) in agriculture/forestry and environmental science.<sup>14</sup> Prestige and most sought-after disciplines are law, theology, political science, social studies and tourism. The reputation of the leading universities in the Philippines remains good among international academics, but on the rest of the indicators, Filipino institutions must improve their influence in research and in the ability to attract international faculty.

This is generally considered as a key element of competitiveness for the country (Tan 2011; Maca and Morris 2012), as stressed in a 2012 speech by the architect of Malaysia's economic take-off, Dr. Mahathir Mohamed (De La Cruz 2012). To be one of the emerging Asian tigers, the Philippines should invest in knowledge creation to fuel and sustain its economic growth. *“To increase the revenue of the people, [the] government [should] spend almost 25 percent of the national budget on education and training. Thus foreign as well as local investors were assured of a supply of educated and well-trained staff [...] Industrialization became necessary because agriculture could not create enough jobs for the growing population. But how do we industrialize when we had no technology or manufacturing know how, no capital, no knowledge or experience in managing big industries and no knowledge about the markets for manufactured goods?”*

However, in an effort to trim down the national budget deficits, the Philippine government has slashed funding to state-owned universities and colleges (De La Cruz 2011). Educational expenses have accounted for a declining share of the overall national budget, dropping below 15% for the first time in 2013, when it accounted for 30.8% of the total budget in 1955. The country currently spends less than 2% off its GNP on education, when the United Nations recommends at least 6% (Ambanta 2013). The results are understaffed and under-equipped public schools and universities across the country (Aquino 2011), and a growing gap between the Philippines and other Asian countries (Maca and Morris 2012) at the international level, public institutions and richer private universities on the domestic side. The Philippine state failed to exercise strong central control of the education system, which was not harnessed to promote economic development. Even at the flagship UP Diliman campus, students often make do with dilapidated facilities and out-of-date technology in the classrooms. Those who venture abroad for further education are amazed at the technology available in other higher education campuses (Wong 2011). Adding to that, salaries paid to faculty in Philippine state universities and colleges

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<sup>14</sup>The top five journals for scientific publications are *Philippine Agricultural Scientist*, *Asia Life Sciences*, *Philippine Journal of Crop Science*, *Journal of Environmental Science and Management* and *Philippine Journal of Veterinary Medicine*. They are all based in UP Los Baños, in Laguna province, the hub of agricultural research. Source: BKRBlog, “Research Productivity: Philippines’ Most Productive Institutes and Researchers in 2011”, July 6th, 2012—<http://blog.bahaykuboresearch.net/>

are the lowest in Asia, which encourages them to seek greener pastures abroad and does not entice the arrival of foreign faculty (Herrera 2011).<sup>15</sup>

The current weakening of Filipino universities when their counterparts in other Asian nations are progressing is one of the negative elements that will hamper future independent growth in the Philippines (Heydarian 2013a, b). In a competitive world market, not only the Philippines universities are not very attractive at this time, but Filipino graduates may not be well equipped for good-paying skilled jobs, and the country is therefore at risk of remaining a low-skill dependant nation. Various development agencies, especially the Asian Development Bank (ADB), have stressed the lack of inclusive development in the country, where unemployment and poverty affect a large part of society. Much of the attention among development experts has shifted to the need to revive the manufacturing and agricultural sectors to address this anomaly. There was, however, relatively little attention to the education crisis in the country.

## 8.5 An Unusual Structure of Employment

Employment patterns in Asian countries reveal the odd character of the Philippines, where the service sector is much more developed than in neighboring nations (52% of jobs vs. 38% in Thailand and 26% in Vietnam, 55% of GDP vs. 43% in Thailand and 38% in Vietnam), but where the secondary sector is far behind (15% of employment in the Philippines against 36% in Malaysia and Taiwan, 20% in Thailand and Vietnam; 31% of Philippine GDP, but 47% in Indonesia, 45% in Thailand, 41% in Malaysia and Vietnam) (Table 8.2).

Historically, the agricultural sector in the Philippines has underperformed, considering that it employs about 33% of the labor force even while contributing just 14% to the Gross Domestic Product (GDP). Rice and corn are the basic subsistence crops, while sugarcane, tobacco, pineapples, bananas and coconuts are the most important cash crops (see Chap. 9). The Philippine archipelago is the world's leading producer of coconut products and the second for pineapple, and in the top 5 for bananas. Most commercial production is done on large estates controlled by the local elites or major fruit companies such as *Dole* or *Del Monte*, especially in the southern islands (Negros, Mindanao). This success in farm products exports has its dark sides: the Philippines may be first in the world for coconuts and second for pineapple, but under-investment in subsistence crops at a time the population was growing fast has also led the Philippines to become the largest rice importer in the world. Environmental degradation is widespread (see Chap. 22): due to massive deforestation—which is one the major reasons for landslides and increased flooding in plains and cities—the Philippines has turned from being one of the world's biggest

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<sup>15</sup>A UNESCO study indicated that the average faculty salary in 2009 was 9200 US dollars per year in the Philippines, compared to 11,400 in Malaysia, 26,300 in Japan and 30,400 in South Korea.

**Table 8.2** Employment structure and GDP structure in selected Asian countries

Employment	Agriculture (%)	Industry (%)	Services (%)
Bangladesh	45	30	25
Cambodia	58	16	26
China	38	28	34
India	52	14	34
Indonesia	38	13	49
Japan	4	26	70
Malaysia	13	36	51
<b>Philippines</b>	<b>33</b>	<b>15</b>	<b>52</b>
South Korea	7	24	69
Taiwan	5	36	59
Thailand	42	20	38
Vietnam	54	20	26
GDP	Agriculture (%)	Industry (%)	Services (%)
Bangladesh	19	28	53
Cambodia	33	21	45
China	10	47	43
India	19	26	55
Indonesia	15	47	38
Japan	1	25	74
Malaysia	11	41	48
<b>Philippines</b>	<b>14</b>	<b>31</b>	<b>55</b>
South Korea	3	39	58
Taiwan	1	31	68
Thailand	12	45	43
Vietnam	21	41	38

Source: CIA World Factbook 2010

<https://www.cia.gov/library/publications/the-world-factbook/fields/2048.html>

<https://www.cia.gov/library/publications/the-world-factbook/fields/2012.html>

exporters of tropical hardwoods in the 1970s to being a net importer of forest products by the 1990s.

## 8.6 The “Informal” Economy

“Informal” employment in the Philippines is a way of life for many Filipinos (Sale 2007). Many workers who cannot find a “formal” job, for lack of opportunities or educational achievement, or who have lost their salaried jobs, must still earn some income to feed themselves and pay for other life necessities (clothing, housing, education, health). They borrow to eat (Rodriguez 2015) and find refuge in the “informal” economy, seeking short-term or temporary employment, or creating employment for themselves for survival or to increase their income (Pastrana 2009).



Most developing countries are characterized by such a dual economic and social structure, with a coexistence of “formal” and “informal” sectors, “the two circuits of the urban economy of underdeveloped countries” (Santos 1975). The first one is described as legal and privileged with abundant capitalization. The second, often running outside legal standards, is based on the abundance of a poor workforce (Chickering and Salahdine 1991). These two sectors, the formal and informal, often opposed, are in fact interdependent (Chen 2005). Many authors have argued that in many poor countries, a heavy burden of taxes, bribes, and bureaucratic hassles drives many producers into an informal sector (De Soto 1989; Marcouiller and Young 1995). Producers in the informal sector avoid much of this burden, but they receive less assistance from public services than is available to producers in the formal sector. These public services include the protection of property rights by the police and the courts as well as public utilities, such as roads, electric service, potable water, and sewage disposal.

The term “informal sector” refers to small businesses which are not: (a) recorded in official statistics; (b) legal, (c) regulated and/or (d) taxable or taxed (Friedman et al. 2000). It can be subdivided into a “visible” informal sector, an “invisible” informal sector (illegal activities and socially devalued), and a domestic sector within the household. These micro-businesses offer no social protection and involve people working for their own account or from the same household. The vocabulary is rich: the black market (Pissarides and Weber 1989), hidden economy (Isachsen and Strom 1985), underground economy (Castells and Portes 1989; Pozo 1996), shadow economy (Schneider 2005).

Independent, self-employed small-scale producers and distributors of goods and services are for the most part not registered or recorded in official statistics, and are beyond the reach of social protection and labor legislation. The informal sector has grown worldwide in recent decades (Gërkhani 2003), due to the rapid population growth in developing countries and the lack of jobs in the formal economy leaving out people who have not achieved a sufficient level of school education, especially women (Gallaway and Bernasek 2002). The informal sector in the Philippines was estimated in 2012 as 10.8 million self employed workers (10.816 million) and 4.1 million unpaid family workers (4.127 million).

Women are more likely to move in and out of the labor force due to the demands of domestic and child rearing activities on their income generating activities.<sup>16</sup> Needing to balance their roles as productive workers and mothers (Pineda Orfeneo 2010), they may tolerate the small income, poor working environment, and exploitative work arrangements usually experienced in the informal economy.

The informal sector, traditionally considered a source of income for the poor (Kim 2005), tends to be associated with unproductive workers and people excluded from modern society. However, the informal sector represents a reservoir of productivity by the dynamic nature of micro-enterprises that make up this sector (Roldan

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<sup>16</sup>PCW (2008)—“Enacting a Magna Carta of Workers in the Informal Economy”, Manila, Philippine Commission of Women, [http://pcw.gov.ph/sites/default/files/documents/laws/wpla/2013/October/webmaster/magna\\_carta\\_workers\\_informal\\_economy.pdf](http://pcw.gov.ph/sites/default/files/documents/laws/wpla/2013/October/webmaster/magna_carta_workers_informal_economy.pdf)

2015). The informal sector is not only a survival mechanism for the poor, but also the means by which educated and skilled individuals may avoid tax on income and reinvest in more lucrative activities approaching the formal economy (Frianeza 2003)

The retail sector in the Philippines is a good example of this duality. Metropolitan Manila is home to some of the largest shopping centers in the world, developed by the *SM Group* (Mall of Asia in Pasay, SM Megamall in Mandaluyong, SM North in Quezon City), in competition with the *Ayala* and *Robinson* groups shopping facilities. Supermarkets now account for the majority of food purchases for Filipinos, especially in the middle- and upper-class (Digal 2015). At the same time, a majority of Filipinos’ daily needs are provided by the systematic use of neighborhood proximity shops, the ubiquitous sari-sari stores (McIntyre 1955; Dannhaeuser 1980; Sanchez 1991; Chen 1997; Turgo 2013; Boquet 2016), which are the basic element of the commercial infrastructure of the Philippines and allow millions of families in both rural and in poor urban neighborhoods to earn some income by selling toothpaste, shampoo, snacks or soft drinks for a few pesos to their immediate neighbors. Usually they resell for a small 1-peso profit items bought in bulk in supermarkets and packaged in small sachets rather than bottles (shampoo for example) (Ang and Sy-Changco 2007; Sy-Changco et al. 2011). Most stores are run by women (Bonnin 2006). These two extremes of the Philippine retail system, however, are linked by the supplying of sari-sari store merchandise by supermarkets and training efforts of the micro-sellers by large retail companies (Digal et al. 2009) (Fig. 8.2).

For the families managing sari-sari stores, and especially women, it is an element of economic stabilization in a context of great uncertainty in the labor market. They appear as a way for women to enhance their family financial security. For those who cannot hope for a good salaried job, it may appear more attractive than factory work, since they can work at home and keep an eye on their young children. If they lose a factory job, family savings may allow them to start a shop. In case of broken families, the stores provide financial independence to women if they do not have a partner to bring a salary home.

These local shops are not totally disconnected from the global economy, since remittances of Filipino emigrants allows them to fund the start of family shops. If sari-sari stores are most obvious in the non-metropolitan areas where there are few supermarkets or shopping malls, they have also grown in the National Capital Region. Some authors have seen in the urban sprawl of Manila and the gradual distancing between habitat places and workplaces one of the sources of the development of sari-sari stores. The nearby shop, and in general the growth of informal work, would be both the result of the dualization of globalized economies of large cities and a response to the loss of time due to traffic congestion (Shatkin 2009).

The development of a sari-sari store, especially with quality training provided within the framework of corporate *Hapinoy* and *PureGold* programs, is another strategy of resilience to shocks of globalization (Lim 2000) or family problems (death, separation). And when drama happens, such as at the time of catastrophic typhoons, one of the first forms of revival of local life is the start or re-starting of family shops.



**Fig. 8.2** Rural sari-sari store in Santa Elena, Camarines Norte

Located alongside the main road to Bicol region, this store is typical of the myriad of home shops found across the Philippines. Advertising from major brands of soft drinks and cell phone services add to its revenues. Goods can be seen hanging inside the store and transactions are done through a little window

The exact number of sari-sari stores is not known. Estimates vary from 100,000 to 750,000, a wide gap reflecting the characteristics of the under-registered informal economy. The lifespan of shops is highly variable. Many barely start and close after a few weeks, due to insufficient income or management mistakes by owners who have often a limited formal schooling.

The same can be said for another typical activity in the Philippines, tricycle driver. These vehicles (see Chap. 15), where a passenger cabin is affixed to the side of a motorcycle, operate as taxis. They are theoretically registered but many are operating for hire without a license: they are used as family vehicles but also as supplementary income, hoping that the police will not find out they did not register as public transport. According to motor registration statistics, more than 3.4 million of these vehicles ply Philippine roads, with only 650,000, less than 20%, registered for hire, which seems a low percentage.

Sari-sari stores and tricycles are two of the most visible elements of the Philippine informal activities. Some are deliberately hidden, such as the sexcam shows condemned by the Catholic ethic and combated by the police with raids on “studios”, which maybe sometimes the bedroom of a simple house in the countryside.

Other informal/illegal jobs (Milgram 2014) are in repairs (“vulcanizing shops” and micro-garages alongside the main highways), street food stalls (“*carinderias*”, “barbecues”) (Yasmeen 2001), street vending of cell phone covers, brooms, water bottle or any small object to be sold, or backroom contract work for industrial companies. Individually weak due to poverty and lack of education, these street vendors, as well as “barkers” for jeepneys and buses, play a major role in the street scene of Philippine cities, and are a powerful political force when they band together in associations (Milgram 2011) to defend their collective interests and when they get the ear of local politicians ready to pay them for the right vote!

According to the National Statistics Office’s, workers in the informal economy reached 16.1 million in 2013, or a staggering 42.5% of the country’s working population of 37.8 million workers. To some extent, this condition must have helped keep the economy resilient as laid-off/unemployed workers easily shift to small-scale household production to earn a living.

## 8.7 Growth Without Development?

The economic growth during the presidency of Benigno Aquino is based mainly (Flores 2013a, b) on the fragile service sector and the foreign-dependant remittances of overseas Filipino workers (see Chap. 13). The economy is so dependent on external economic factors that the country cannot control its economic future, especially at a time the global economy is weaker in America and Europe. Despite the expansion of the GDP, the industrial and agricultural sectors, twin pillars of a strategic and stable economy, are experiencing negative growth. This is why imports outpace exports. The Philippines is fast becoming a nation of consumers dependent on the international markets, and a hostage of international conglomerates. What will happen if the outflow of Filipino workers reverses and many return home?

Concerns remain over the country’s ability to sustain its growth (Llanto 2016), especially as the U.S. remains the Philippines’ largest investor with more than \$6.5 billion in total Foreign Direct Investment (FDI). Moreover, with one of the highest population growth rates in Asia, this middle-income country is finding it increasingly difficult to lift its millions out of poverty. Urbanization has accelerated at an alarming pace, and being placed on the Pacific Ring of Fire has meant that the Philippines has to cope with natural disasters like typhoons, volcanoes, landslides and earthquakes on a frequency that would test even the most developed and mature economy.

Is it all negative? The Philippine paradox is that the country has many strengths (Venida 2015). Its geographical position puts it near the center of the East Asia growth area, on the Singapore-Tokyo axis, just 2 h away from Hong Kong or Taipei by plane, 3 h from Bangkok, 4 h from Singapore, Shanghai, Seoul or Tokyo. As a founding member of ASEAN and APEC, it is not isolated politically or economically, as other countries may be or may have been (North Korea, Burma, even China under Mao’s regime). It has not suffered widespread warfare since 1945, contrary to

Vietnam. It will benefit from a young and abundant work force for many years, due to its demographic evolution contrasting with neighboring countries (Whaley 2012; Aldaba 2014).

Certainly, the country is not outside of globalization patterns. It lives in the Internet age, Filipinos speak English, many of them live and work abroad, but the classic criteria for emergence are not all there. Looking at “emerging countries” as places of economic opportunities for investors shows the Philippines having clear advantages for the development of agricultural resources and tourism. Land is not very expensive, but it cannot be acquired, according to Philippine laws, by non-Filipinos and the tourism potential is not well developed. The country is a cultural melting pot, with an English-speaking population immersed in North American culture, but also Latino—Catholic (four centuries of Spanish colonization) with relatively well integrated Chinese ethnic minorities. Political and academic institutions are modeled on the American model and many Filipinos have completed their studies in the United States. The Philippines and its population appear more open to the world, which is not the case in Korea, Japan or China, and is probably more comfortable in relations with the West.

Different strategies for the globalization of the Philippine economy have been attempted to enhance these assets, with the recent creation of several agencies<sup>17</sup> seeking to stimulate the economic development of the country but whose skills sometimes overlap (Patalinhug 2003; Aldaba 2014), however they never achieved the effectiveness of the Japanese MITI or Singapore’s Enterprise Development Board. The Board of Investments (BOI), as the national investment promotion agency of the government, reflects the country’s keen interest in keeping its doors open to investors—both foreign and domestic. The new president elected in 2016, Rodrigo Duterte, hinted he could open wider the doors to attract new foreign investment (Alzona and Mercene 2016; Fernandez 2016; Ordinario et al. 2016).

The current socio-political control by the families of the landed oligarchy can only be transformed through a complete overhaul of the Philippine social model. If President Aquino, when he was elected in 2010, vowed to address the many challenges the country faces (poverty, crime, unemployment) with a strong anti-corruption drive (“*kung walang corrupt, walang mahirap*”: without corruption there will be no poverty), the many scandals at the highest level of the country have shown the deep entrenchment of corruption, while repeated incidents in the Manila metro system have highlighted the mediocre quality of infrastructures.

Macroeconomic indicators have certainly improved in the early years of the twenty-first century, with an average growth rate of 4.8% in the 2000s, much better

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<sup>17</sup>Industry Development Council (1996), Philippine Economic Zones Agency, Board of Investment, BCDA, ... The Board of Investments (BOI), as the national investment promotion agency of the government, reflects the country’s interest in keeping its doors open to investors—both foreign and domestic. BOI’s efforts are “based on the government’s set goals of encouraging more economic activities that will take the country to a higher level of global competitiveness, and opening more opportunities that will generate more gainful employment for the people”. The BOI also handles industry development that includes Iron and Steel and many other industries.

than the meager 2.9% of the 1990s. During President Aquino presidency, numbers have been even better.

However, this high growth has not translated in the creation of many jobs for the poorer segments of society (Tiongson 2012). To create quality employment poses the greatest challenge as about 40% two-fifths of those working within the country are vulnerable workers (self-employed and unpaid family workers) largely in the informal sector. The unemployment rate in the Philippines rose to 7.5%, while the underemployment rate was at 19.2%. Poverty continues to affect about one quarter of the population, which is not able to feed itself adequately, to pay for correct health care or for the schooling of their children. Income inequality is increasing (Baldo 2012). The GINI Index was 45 in 2012 (43 in Singapore and Thailand, 40 in Cambodia, 39 in Indonesia, 38 in Malaysia and Vietnam, 33 in Laos). Many Filipinos are looking abroad for better opportunities; college graduates have to settle for sales jobs in shopping malls with a master's degree; certified nurses end up in call centers.

The Philippine economy, despite a robust expansion in the early 2010s, lacks the features that normally goes with such growth. It is driven by consumption, fueled by earnings from tourism, business process outsourcing companies, remittances from migrant Filipino workers and sometimes by political dole-outs before elections. But the contribution of the manufacturing sector, usually the growth driver in emerging economies, is weak and provides little to boost employment and investment.

Construction of shopping malls and luxury apartments across Manila and its suburbs has also been a contributor to the growth (Wootton 2013), possibly fueling a real estate bubble (Velasco 2013) that would later deflate brutally as it happened not too long ago in Japan or Thailand. This is not a healthy growth, not a sustainable growth (Roc 2014).

Meanwhile, if glitzy symbols of a globalized consumer society, such as the aisles of the Mall of Asia leading to an ice rink, continue to expand, they are never far from slum areas where people barely survive with one euro per day.

The country has experienced a top-heavy growth, when there are bottom-heavy needs. The economy has been too narrow (Ordinario 2015a, b), too shallow (Tiglao 2015) and too hollow (Habito 2010). Narrow: growth has been sustained primarily by a few leading sectors and has benefited few geographic areas. Shallow: the dynamic segments have weak linkages to the rest of the economy, the country is consuming in shopping malls without producing much. There is westernization without western prosperity (Heydarian 2015). Hollow: it has been a jobless growth for most Filipinos, except college graduates finding work in call centers and people ready to expatriate. Increasing growth has been accompanied by increasing poverty. Many Filipinos are engaged in a spiral of debts they cannot escape by taking more high-interest loans from slightly wealthier neighbors (Ordinario 2015a, b).

Economic growth, in the various manufacturing sectors and in the flamboyant BPO and high-end retail sectors, appears heavily concentrated in the Manila area (Dumlao 2010). The National Capital Region alone accounts for more than 35% of the national GDP. Various development agencies, especially the World Bank (Chua 2014) and the Asian Development Bank (ADB), have stressed the lack of inclusive

**Table 8.3** Unemployment in Southeast Asian countries, 2005–2014

	2005 (%)	2006 (%)	2007 (%)	2008 (%)	2009 (%)	2010 (%)	2011 (%)	2012 (%)	2013 (%)	2014 (%)
Cambodia	1.3	0.8	0.5	0.2	0	0.4	0.3	0.2	0.3	0.4
Thailand	1.3	1.2	1.2	1.2	1.5	1.0	0.7	0.7	0.8	0.9
Laos	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Malaysia	3.5	3.3	3.2	3.3	3.7	3.4	3.1	3.0	3.2	2.0
Vietnam	2.1	2.3	2.3	2.3	2.4	2.3	2.0	1.8	1.9	2.3
Singapore	4.1	3.6	3.0	3.2	4.3	3.1	2.9	2.8	3.1	3.0
Myanmar	3.4	3.4	3.4	3.6	3.6	3.5	3.5	3.4	3.5	3.3
Brunei	3.2	3.2	3.2	3.2	3.5	3.7	3.7	3.8	3.7	3.8
Indonesia	11.2	10.3	9.1	8.4	7.9	7.1	6.6	6.1	6.0	6.2
Philippines	7.7	8.0	7.4	7.3	7.5	7.3	7.0	7.0	7.3	7.1

Data: ILO International Labor Organization

development in the country (Mendoza and Mahurkar 2012; Diokno 2015), where unemployment and poverty affect a large part of society. Economic growth has failed to trickle down to those sectors that need uplift the most (Wootton 2016). Decades-old problems linger and are seemingly unsolvable, the most pressing being poverty and lack of infrastructure (Velasco 2015). According to a survey by the Quezon City-based research group Social Weather Stations (SWS) (Flores 2015; Villamente 2015), the country’s unemployment rate reached 27%—equivalent to 12.4 million jobless Filipinos—in the last quarter of 2014. The fourth quarter dismal adult joblessness rate consisted of people who resigned or voluntarily left their old jobs (14%, or 6.5 million adults), who involuntarily lost their jobs due to economic circumstances—previous contracts not renewed<sup>18</sup> (Torres 2016), employers closed operation—(9%, or 4.3 million adults), and those who were first-time job-seekers (3% or 1.5 million adults). Official data give much lower numbers of unemployed people (7.3% in 2013) according to the International labor organization, using Philippine government data, but the Philippines has the highest unemployment rate among ASEAN member nations (Santos 2014; Yap 2015), while Indonesia, another long-time laggard, has slashed its rate almost by half (Table 8.3).

The Philippines is one on the few countries in the world that will fail to meet the United Nations’ Millenium Development Goal (MDG) target on poverty reduction. Its Asean-6 neighbors—Singapore, Malaysia, Indonesia, Thailand and Vietnam—have halved the poverty rate years ago. In the Philippines, there has been economic growth without development, according to Norio Usui, Senior Economist of the Asian Development Bank (Dumpit-Murillo 2014).

<sup>18</sup>The practice of “endo” (end of contract) by which companies fire employees just before the end of a 6 month contract to avoid being covered by the labor code requirement to regularize employment after that period, has been widely denounced and was part of the debate about the new directions to give to the Philippine economy during the 2016 presidential campaign (Elemia 2016; Schnabel 2016; Tupaz 2016).

Much of the attention among development experts has shifted to the need to revive the manufacturing and agricultural sectors to address this anomaly. There was, however, relatively little attention given to the education crisis in the country, which has been plagued by underinvestment (Montecillo 2015a, b), reputation decline and stagnation by regional standards.

The situation does not seem to have changed much since opposition Senator Benigno Aquino, wrote the following words: “*Foreign gadgetry and other luxury goods continue to flood the cities, and more people travel, despite current government restrictions. But this only serves to dramatize the great disparities and chronic inequities of Filipino society. Indeed, the Philippines is a land of traumatic contrasts. Here is a land in which a few are spectacularly rich while the masses remain abjectly poor. Gleaming suburbia clashes with the squalor of slums. Here is a land where freedom and its blessings are a reality for a minority and an illusion for the many. Here is a land consecrated to democracy but run by an entrenched plutocracy. Here, too, are a people whose ambitions run high, but whose fulfillment is low and mainly restricted to the self-perpetuating elite. Here is a land of privilege and rank-a republic dedicated to equality but mired in an archaic system of caste*” (Aquino 1968).

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## Chapter 9

# Farm Productions and Rural Landscapes

**Abstract** Farm landscapes in the Philippines are dominated by rice and coconuts in most provinces. In a country of generally small farm holdings, rice, the staple food, is cultivated across the archipelago, even if corn plays a bigger role in the southern part of the country. In the mountains of northern Luzon, the Ifugao tribe have developed over several centuries a remarkable landscape of rice terraces on steep slopes, but most of the rice is grown in the plains of Central Luzon around Manila. The coconut “tree of life”, most abundant in Quezon and Bicol, is used in many different ways, from food to construction materials. Bananas and pineapple are the leading export productions, mostly grown on large plantations in Mindanao. Beef production is small, but hog raising, done in small farm pig houses, provides most of the meat consumed in the country. A trend is underway towards the development of large hog raising facilities, a trend also observed in the poultry business. The carabao, or Philippine water buffalo, is used as a working animal both in the rice fields and for pulling carts.

**Keywords** Farms • Rice • Coconuts • Bananas • Carabao

Agriculture is still a major segment of the Philippine economy and of Philippine life. Although its contribution to GDP has declined from 24% during the 1985–1990 period to 20% in 1995–2000 and 12.2% in 2012 (a ratio comparable to Thailand 12.2%, but lower than Indonesia 14.4% or Vietnam 19.7%), the sector was contributing for 40% to total employment during 1995–2000. Today, most citizens still live in rural areas and support themselves through agriculture, fishing and aquaculture. The number of farmers and fishermen continues to grow (9.7 million in 1990, 12.1 million in 2012). The country’s agriculture sector employs 32% of the workforce in 2012, twice as much as the manufacturing sector.<sup>1</sup>

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<sup>1</sup>This average hides major regional differences (see Chap. 14). If, as expected, the agricultural/fishing employment rates in Greater Manila (0.7%) and the neighboring provinces of “Central Luzon” (21.1%) and “Calabarzon” (15.2%) are much lower than the nationwide average, the opposite occurs in “Mimaropa” (50.2%), northern sections of Luzon (48.3% in the Cordillera region, 58.3% in Cagayan Valley), the Eastern Visayas (Samar & Leyte: 44.5%) and in Mindanao (“Northern Mindanao” 43.3%, Zamboanga Peninsula 47.6%, “Soccsksargen” 50.1%, and a remarkable 70.1% in the southwestern ARMM Muslim autonomous region).

## 9.1 Farms and Crops

The Philippines' tropical climate with its year-long warm temperatures, abundant rainfall and a high relative humidity ranging from 71% during the dry season to 85% during the wet season, allows for the cultivation of many crops without seasonal gaps, especially in Mindanao, where the dry season is less pronounced than in Luzon and typhoons much less frequent.

The extent of land under cultivation has increased, from 5.7 million hectares in 1950<sup>2</sup> to 9.7 in 1980 and 10.2 in 2010. About 32% of the country's total land area (300,000 km<sup>2</sup>) is agricultural lands. Of this, 51% and 44% are arable and permanent croplands, respectively.

Meanwhile, the number of farms has increased (2.2 million in 1961, 3.4 million in 1980, 4.8 million in 2002), and the average size of farms has dwindled from 3.6 ha in 1961<sup>3</sup> to 2.02 in 2002, a phenomenon also observed in other Asian countries such as India or Pakistan (Nagayets 2005). The farms are especially small in northern Luzon (average size 0.76 ha in Ilocos Norte, 0.77 in Ilocos Sur, 0.85 in La Union, 1.01 ha in Abra, 1.09 in Benguet), the Visayas (1.22 ha in the central Visayas including 0.94 ha in Cebu and 0.82 ha in Siquijor, 1.35 ha in the western Visayas) and periurban provinces near Manila (1.37 ha in Bulacan, 1.49 ha in Tarlac, 1.68 ha in Pampanga to the North, 1.23 ha in Batangas, 1.50 ha in Cavite, 1.63 ha in Laguna on the South side). They appear somewhat larger in Bicol (Camarines Norte 3.37 ha, Masbate 3.50 ha), Mindanao (2.69 ha in Lanao del Norte and Bukidnon provinces, 2.76 ha in Surigao del Sur, 3.30 ha in Zamboanga del Sur, 3.25 ha in Basilan) and Palawan (3.23 ha). The Philippines is indeed a country of very tiny farms.

The most important crops are rice, corn (maize) and coconuts. These three crops taken together occupy 82.3% of cultivated land, well ahead of bananas, sugar cane, tobacco and cassava, but in many areas the crops are interspersed: corn under coconut trees, banana or coconut trees on the edges of rice fields. Other crops, often found in tiny backyard plots for home consumption (Devendra and Thomas 2002), are vegetables (*calabasas*, squash; *kangkong*, a form of spinach; *okra*; *ampalaya*, a bitter melon; *pechay*, Chinese cabbage; *talong*, eggplant; *labanos*, white radish; *kamunggay*, a leafy plant used in salads), and root crops (*gabi*: taro; *kamote*, sweet potato; *tugi* and *ube*, yams), as well as fruit trees (mangoes, papayas, goyaves, *calamansi*, rambutan, lanzones, *langka*, *atis*, *chico*, *dalandan*) providing some variety in the diet.

Hog and chicken raising often complement the income of family farmers, while on seaside communities a number of people combine fishing and farming. As in most of eastern and southeastern Asia, fisheries are an important source of jobs, revenues and food, including in fish farming and shrimp farming (see Chap. 11) (Tables 9.1 and 9.2).

<sup>2</sup><http://www.nscb.gov.ph/peenra/Publications/asset/soil.pdf>

<sup>3</sup>In 1903 the average size was 3.47 hectares. The huge expansion of farmland during the twentieth century, therefore, did not alter much the average size of farms in the Philippines.



**Table 9.1** Top crops in Philippines according the cultivated area (2012)

	Crop	Total acreage (ha)	Share of cultivated land (%)	Cumulated share (%)
1	Rice	4,689,960	35.6	35.6
2	Coconuts	3,573,806	27.1	62.7
3	Maize	2,593,824	19.6	82.3
4	Bananas	454,179	3.4	85.7
5	Sugarcane	433,301	3.3	89.0
6	Cassava (manioc)	217,798	1.7	90.7
7	Mangoes	188,617	1.4	92.1
8	Rubber/heveas	176,244	1.3	93.4
9	Abaca	138,523	1.1	94.5
10	Coffee	119,999	0.9	95.4
11	<i>Kamote</i> (sweet potato)	100,736	0.8	96.2
12	Pineapple	58,442	0.4	96.6
13	Oil palm	53,015	0.4	97
14	Mongo beans	44,324	0.3	97.3
15	Tobacco	34,025	0.3	97.6

Source: Philippine Statistics Authority, <http://countrystat.bas.gov.ph/?cont=3>

**Table 9.2** Top crops in Philippines according the crop value (2012)

	Crop	Value (millions pesos)	Share of total crop value (%)	Cumulated share (%)
1	Rice	292,125	36.6	36.6
2	Bananas	108,128	13.6	50.2
3	Corn	94,067	11.8	62.0
4	Coconuts	88,829	11.1	73.1
5	Sugarcane	42,497	5.3	78.4
6	Rubber (hevea)	21,622	2.7	81.1
7	Mangoes	19,520	2.5	83.6
8	Pineapple	17,742	2.2	85.8
9	Cassava (manioc)	15,628	2.0	87.8
10	<i>Kamote</i> (sweet potato)	6145	0.8	88.6
11	Coffee	6108	0.8	89.4
12	Onions	3886	0.5	89.9
13	Eggplants	3601	0.4	90.3
14	Tobacco	3427	0.4	90.7
15	<i>Calamansi</i> (small lemon)	2931	0.4	91.1

## 9.2 Rice in the Philippines

Rice is the most important food crop in the Philippines, a staple food in most of the country. The Philippines islands, where rice is a very important element of both diet and culture (Aguilar 2005, 2013), are indeed part of what French geographer Pierre

Gourou called “the civilization of rice” (Gourou 1984). Few areas, other than the highest altitude mountains, are restricted in rice production for climatic reasons, since the Philippines is a tropical country with abundant rainfall.

### 9.2.1 *Rice Eating in the Philippines*

Filipinos are among the top rice-eaters in the world. Rice provided 50% of the calories and 37% of the protein in their diet in 2007 (FAOStat 2011). The individual consumption of rice in the Philippines varied in 2008 from 95 kg per year in the central Visayas (Cebu, Bohol, Negros oriental) to 145 kg in the ARMM (Autonomous region of Muslim Mindanao) for a national average of 128 kg.<sup>4</sup> A study conducted by the Southeast Asian Regional Center (SEARCA) for Graduate Study and Research, commissioned by the Philippine Rice Research Institute (PRRI) indicated that Filipinos’ high rice consumption appears fueled by the poor, who will increase their consumption of rice in hard financial times, while skipping other, more expensive, foods at the risk of an unbalanced diet.<sup>5</sup> Demand for rice, contrary to what happened in many other Asian countries (Japan, South Korea, China, Vietnam, Thailand, India, Indonesia and Bangladesh) over the last 30 years, has generally shown an increase (Rasco et al. 2012) in the Philippines (105 kilos in 1999, 128 in 2008), while the consumption of other staple foods has diminished (corn 10.9–7.1 kilos, –35%, kamote/sweet potato 7.4–4.1 kg/year/person, –45%).

Today, rice is the main element of everyday diet in the Philippines, often consumed three times a day in the morning, mid-day and evening meals. Filipinos have developed a rich vocabulary about rice, using different names according to the stages of preparation and consumption, as well as the varieties of dishes made with rice.

#### **The Words for Rice**

The five stages of rice are: “*palay*” (unmilled rice, grown in field), “*bigas*” (milled rice, sold in stores), “*kanin*” (cooked rice), “*tutong*” (burned rice), “*bahaw*” (leftover rice). There are different varieties of rice: “*malagkit*” or “*pilit*” (glutinous rice), “*denorado*” or “*rosa*” (fragrant, often unpolished, rice). “*Pinlid*” refers to crushed pieces of ground rice, “*pasi*” to stray unhusked rice found in milled rice, “*ipa*” to rice husk, “*darak*” is rice bran.

These are just names for rice in tagalog. Other languages of the country also have a rich vocabulary (Doyo 2008).

<sup>4</sup> <http://www.rappler.com/rich-media/13748-infographic-how-much-rice-do-filipinos-consume>

<sup>5</sup> <http://www.rappler.com/business/13323-pinoys-high-rice-consumption-fueled-by-the-poor>

Rice is central to a meal. What goes alongside rice is called “*ulam*”, whether it is meat or vegetables. For many Filipinos it is hard to imagine that Westerners may spend several days without eating rice.

Some rice dishes have retained their Spanish names: “*arroz caldo*” (rice porridge), “*champorado*” (sweet chocolate rice porridge), “*paella*”, while there are also many local dishes: “*bibingka*” (a rice cake topped with cottage cheese, a salted egg or grated coconut meat), “*biko*” (sticky rice cooked in coconut milk), “*goto*” (thin rice porridge cooked with bits of ox tripes, ginger, garlic onions and *calamansi* juice), “*lugaw*” (rice porridge), “*lumpia*” (spring rolls made with rice flour wrappers), “*palitaw*” (flat sweet rice cake to be eaten dipped in coconut grate), “*pansit*” (noodles made from rice flour), “*puso*” (rice filled pouches made from coconut strips), “*puto*” (a pudding made with soaked rice, sugar and coconut milk, then steamed), “*sinangag*” (garlic fried rice, often eaten for breakfast with dried fish, egg and tomatoes), “*siopao*” (small meat dumpling made with rice flour), “*suman*” (sticky rice cooked with coconut milk and wrapped in banana leaves).

As in Chinese, where “*Ni chi fan le ma?*” (have you eaten <rice>?) is a common greeting, when somebody has a long trip ahead, well-wishers may tell them “*Marami ka pang bigas na kakainin*” (You’re going to have to eat a lot of rice).

In Filipino-style fast-food restaurants, the roll of rice wrapped in paper plays the same role as a portion of French fries in a US-style establishment.

Rice is not eaten with chopsticks in the Philippines, but with spoon and fork, and in family/informal settings often eaten using only fingers.

### 9.2.2 *The Geography of Rice in the Philippines*

There were five types of rice culture systems at the start of the twentieth century (Jacobson 1915):

- Forest clearing for shifting cultivation (“*caingin*” or “*kaingin*”, comparable to Indonesia’s “*ladang*” or Thailand’s “*ray*”) (Tamesis 1963; Spencer 1966; Olofson 1980; Rasul and Thapa 2003): During the dry season the underbrush was cut down and, when dry, burned. Then the larger trees were cut down and also burned. When the rains began, rice was planted by making a hole in the soil with a pointed stick, dropping in several grains therein, and then covering with soil. A second crop was not planted until several seasons had elapsed, and after a long fallow the process was repeated. This system could only work in low-density areas, generally upland areas, where the demand was low, often practiced by ‘tribal’ minorities such as the Manobo on the Bukidnon Plateau of central Mindanao (Allison 1963). It was estimated that there were still half-a-million “mainliner”

families in 1980 (Duldulao 1980), even as the practice had long been<sup>6</sup> decried as a “problem” and a major contributor to deforestation (Pflueger 1930; Maturan 1976) leading to soil erosion (Scott 1979, 1981). This despite the well-recognized intimate knowledge of natural resources from the forests by mountain people (Conklin 1954).

- Upland or “*secano*”: The soil was plowed and harrowed during the dry season, and the seed sown at the advent of the rainy season. This system was practiced on hilly lands and no water-retaining dikes were provided.
- “*Sabog*” or “*pangas*”: It was practiced in lowland areas with water-retaining dikes. The soil was plowed repeatedly until it reached the consistency of gruel. Then the seeds were scattered, and water provided, if available, in sufficient amounts to maintain a submerged condition of the field after the plants had acquired sufficient growth. If rains failed, the crops suffered.
- Paddy rice, transplanted or Chinese rice culture: In this method known as “*tanim*” or “*tubigan*” (from the tagalog word “*tubig*”, water), rice was first planted in a seedbed/nursery (“*akatan*”) with seeds sown very thickly, before being transplanted by hand about 6 weeks later into the main ricefield (“*palayan*”, literally the place of *palay*), with a spacing of young rice plants 10–25 cm apart. Collective village work was common during transplanting and harvest. Weeds were removed by hand and in some places irrigation supplemented the natural rainfall. It was used for about 80% of the annual crop. At that time, only 50,000 ha (125,000 acres) were under irrigation.
- The Ifugao rice terrace culture (see below, Sect. 9.2.3).

Since that time, *sabog* and *secano* have all but disappeared. *Kaingin* has regressed considerably (Lawrence 1997; Olofson 1980), partly because the deforestation rates are too high to allow for the continuous use of this method of cultivation, leading to increased risks of landslides on mountain slopes in rainy seasons, also because the higher population density makes it more difficult. Rice is not a part of the remaining shifting cultivation system in hill areas (Kummer 1992), mostly organized nowadays around corn and tubers such as sweet potato (“*kamote*”), taro (“*gabi*”) and yams (“*ube*”).

Rice cultivation has expanded, from 0.6 million hectares in 1903 to 4 million a century later. Rice lands have increased sevenfold, but the population has also grown faster, from 7.6 millions in 1903 to 76.5 millions in 2000 and 92.3 million in 2010. Since 1970, rice-cultivated areas have not grown much, but the effective harvested rice fields area has grown due to intensification. More intense rice cultivation has four dimensions: (1) an increase in the number of yearly harvests (from 1 to 2 in the Philippines), (2) a greater use of external inputs (fertilizers, water, energy, pesticides), (3) a decrease in the number of rice varieties, (4) a trend towards rice monoculture (Cassmann and Pingali 1995). Rice cultivation is now mostly irrigated (more than 70%), and yields have improved over time, due to the introduction of

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<sup>6</sup>The Spanish Forest Laws edicted in 1856 already tried to restrict *kaingin*, with stiff penalties for violators.

high-yield “green revolution” rice varieties (see chapter 10) (Pingali et al. 1990). They have grown from 0.83 tons/ha in 1903 to 1.22 in 1965, small progress during this period of time, before increasing sharply to reach 3.27 in 2002, and 3.59 in 2009, which represent a threefold increase in the last 50 years. In some areas, yields have shown even greater progress in a short period of time, such as in Laguna province (2.53 in 1966, 3.95 in 1975, 4.75 in 1984). However, they still remain below world average (4.24 in 2009) and do not allow enough production to feed a rice-hungry population, hence the need for imports, as it was 50 years ago.

Today, rice is produced extensively in northern Luzon (the top four provinces produced 26% of Philippine rice in 2013), the Western Visayas (Iloilo), also in Southern and Central Mindanao. Rice is grown on over half of all the farms in the country, more than any other single crop (Figs. 9.1 and 9.2).

About 70% of the harvested rice area and three-quarters of domestic rice output are attributed to irrigated production, first introduced by the Spaniards around Manila, then strongly developed after World War II and the independence of the Philippines, through the efforts of a government agency, the Quezon City-headquartered National Irrigation Administration, established in 1963. Rice fields generally provide two harvests per year, using the classic East Asian system of seedbeds and replanting. Irrigated rice is grown with at least one crop per year. Rice varieties grown in these areas are usually of short duration and responsive to fertilizer nutrients. On most farms, the accessibility of irrigation water coupled with high solar radiation and low incidence of pest and diseases results in higher yields. As of December 2012, about 1.6 million hectares (55.4% of the 3.1 million hectares of land deemed irrigable) were in fact equipped with canals and drains.<sup>7</sup>

On the other hand, farms in the rain fed ecosystem rely on the availability of rainfall for water supply. The risk of drought is significant; hence, considerable crop management adaptations and/or the adoption of suitable technologies are needed. Dry soil preparation and direct seeding are common practices in these fields. The productivity of rain fed farms is constrained by adverse climate, poor soils and lack of suitable modern technologies.

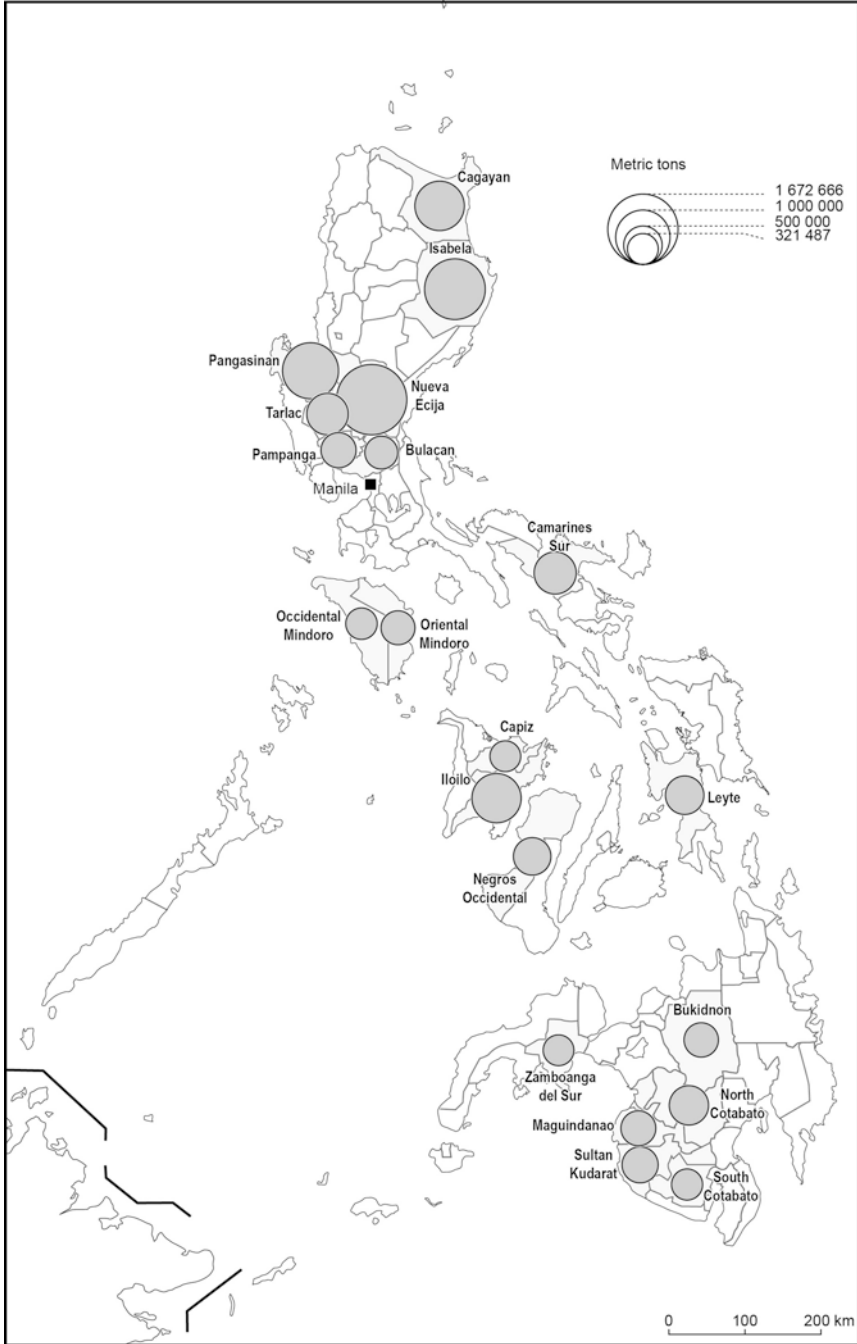
Some rich rice areas in central Luzon (Tarlac, Pampanga, Bulacan) are now threatened by rapid expansion of the Manila metropolitan area, while the world-famous rice terraces of the Northern Cordillera are endangered by neglect and abandonment despite their recognition as world heritage sites.

### 9.2.3 *The Ifugao Rice Terraces of Northern Luzon*

The most famous rice producing areas of the country, if not the most productive, are the rice terraces gracing the steep slopes of the Cordilleras of Northern Luzon. These terraces are located at altitudes between 700 and 1500 m above sea-level and

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<sup>7</sup>National Irrigation Administration, <http://www.nia.gov.ph/publications.php?option=faqs#faqs>



**Fig. 9.1** The top 20 rice producing provinces in the Philippines in 2013. These 20 provinces provide two-thirds of all rice grown in the Philippines. Source of data: <http://countrystat.bas.gov.ph/selection.asp>

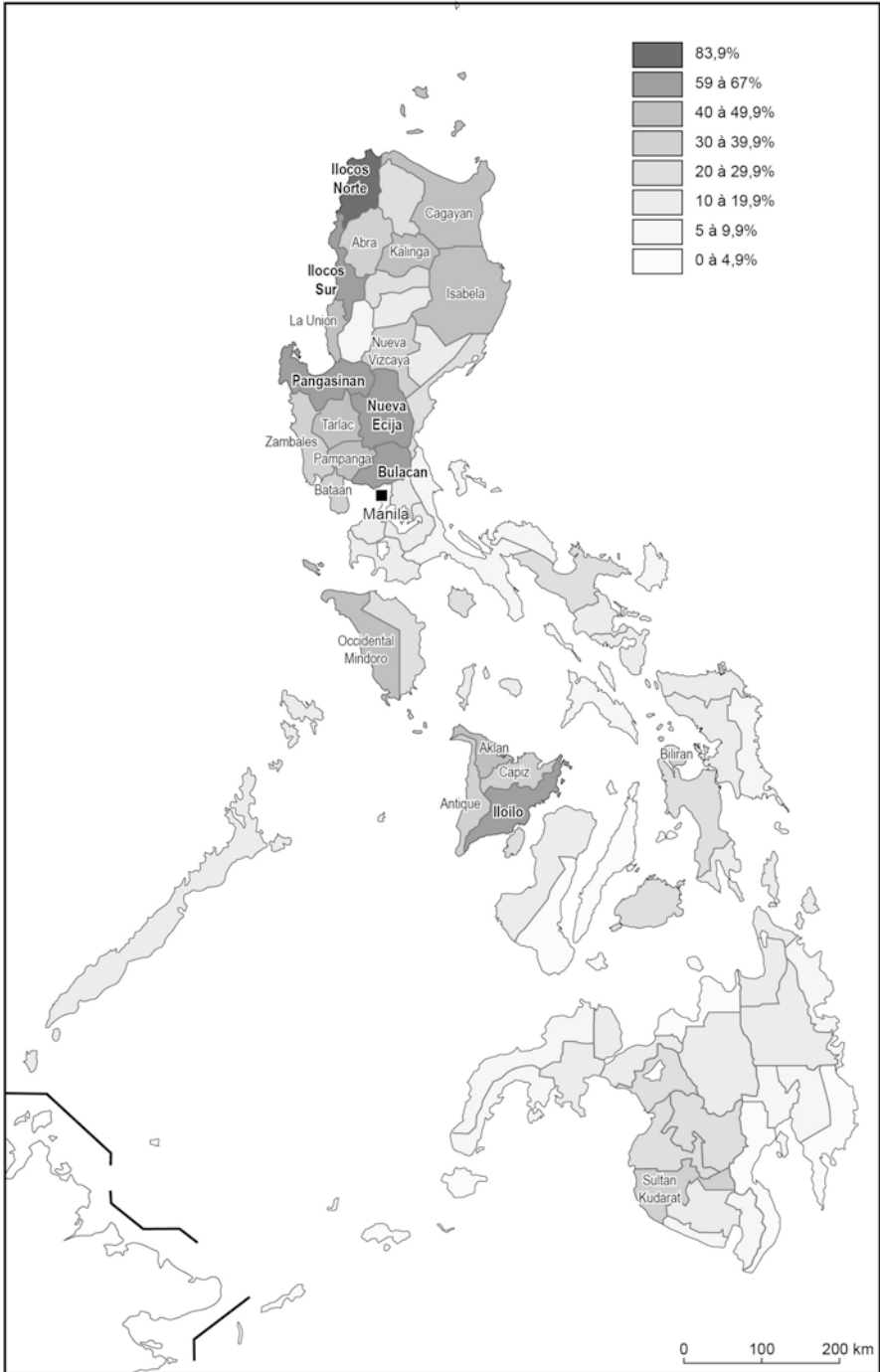


Fig. 9.2 Share of rice in farm land use. Source: <http://countrystat.bas.gov.ph/selection.asp>

spread over most of the 20,000 km<sup>2</sup> land area covered by the provinces of Kalinga, Apayao, Abra, Mountain Province, Ifugao and Benguet. Such landscapes of rice terraces covering entire mountain slopes are found also in other parts of Asia: prominent areas are in Southwest China (Guangxi, Guizhou and Yunnan provinces), Northern Vietnam (Sapa), Nepal and Indonesia (Bali). Steep slope agricultural terracing was also observed in the pre-Hispanic Inca region of the Andes. The principal differences between the Philippines terraces and those elsewhere are their higher altitude and the steeper slopes (70° maximum as compared with 40° maximum in Bali).

They have been recognized worldwide as a wonderful landscape and touted as a showcase of highland people's ingenuity. Filipinos proudly refer to them as the "Eighth Wonder of the World", whilst the Spanish colonizers thought they were steps to heaven. The terraces are an element of the design on the current Philippine 20 pesos bill and are considered as one of the most powerful symbols of the country (McKay 2005). These rice terraces are a cultural landscape (Mananghaya 2012), not just an agricultural landscape, and are part of a larger set of values and traditions emphasizing agricultural cycles, rice divinities and the role of cooperative systems in creating and maintaining both the rice terraces and the surrounding forests.

The common narrative, popularized by American anthropologists Roy Barton and H. Otley Beyer, theorizes that these rice terraces were built over two millennia by the mountain tribe Ifugao, handing down the traditional methods of terrace building and rice production from one generation to the next (Barton 1922, Beyer 1955). However, according to other scholars, their building started only in the sixteenth century A.D., probably by peoples retreating inland and upland from the Spanish (Acabado 2009). Taro may have been the first crop grown on these terraces, before rice conquered the slopes (Acabado 2012).

The Ifugao rice terraces are supported by indigenous knowledge management of *muyong*, a private forest that cap each terrace cluster (Peñafliel 2006; Acabado 2010; Jang and Salcedo 2013). *Muyong* (or *pinugo*) is an indigenous system of sustainable forest management, conservation and utilization over a small area of forestland: it includes underbrushing, thinning, enrichment planting, cutting of poisonous trees and climbing vines, pruning of shrubs and excess/overcrowding branches, selective cutting and debranching of trees before felling. Adapted since time immemorial, the *muyong* covers clan-owned woodlots or forests located above the rice terraces. It is maintained as forest cover for the watersheds that supply the irrigation water of the terraces. The *muyong* is a source of food, fuel, lumber for housing and woodcarving, medicinal plants, botanical pesticides, irrigation, domestic water, and cash for Ifugao households. The *muyong* and *pinugo* are therefore an essential part of the agroforestry system in the steep mountainous region, protecting lower farmlands from runoff and erosion. The communally managed forest areas on top of the terraces contain 264 indigenous plant species which are mostly endemic to the region. The terraces form unique clusters of micro-watersheds and are part of the whole mountain ecology (Soriano and Castro 2012). They serve as a rainwater and filtration system and are saturated with irrigation water all year round (Fig. 9.3).

In addition, the *muyong* serve as the best preventive measure against soil erosion. Individual terraces are privately owned and protected through the rigorous





**Fig. 9.3** Ifugao terraces in Banaue, Ifugao province (October 2011)

enforcement of ancestral rights established by tribal law (Barton 1919) and is administered by *mumbaki* (holy men). The ownership of terraces and *muyong*, the private forests capping each terrace cluster, can only be transferred to next of kin by inheritance. The Ifugao also tend their *muyong* at times when their rice fields do not require labor.

The religious dimension of Ifugao rice growing is expressed in tribal myths and the carving of wooden *Bulol*, anthropomorphic statuettes symbolizing Ifugao rice gods or guardian spirits (Roxas-Lim 1973; Zarate and Hughes 2013). They also mean fertility and are sometimes believed to house spirits of ancestors. *Bulol* are involved in the ritualistic aspects of rice production, from rice planting up to the safekeeping of the harvest in rice granaries. The process of creating a *bulol* includes the *baki*, a ritual by the *mumbaki* to ensure its power. Wood is carefully selected and the *bulol* is consecrated with pig's blood. According to the Ifugao myth of creation, the Ifugao are the direct descendents of Wigan, the god of the *Kabunyan* (Skyworld), whose son and daughter became the first parents of the Ifugao. Legend has it that the god Matungulan gave the first sacred rice to the Ifugaos. One of their traditional rice varieties is called *ipugo*,<sup>8</sup> "rice of the god", a variety that still flourishes in the harsh

<sup>8</sup>The name Ifugao is derived from Ipugo. Two interpretations conflict about it: does the tribe's name refer to the rice, or does it mean "from the hills"?

climatic conditions of the mountain range. Liddum, another major god of *Kabunyan* (Skyworld), traded his aromatic large grain rice variety *tinawon* to Wigan for fire. Tinawon rice is actively promoted today as an authentic “native” rice with distinct flavor and rooted in history and the Ifugao territory (Druguet 2012), a symbol of rootedness in a globalizing world. The challenge is to sustain the continuity of the landscapes in the face of social and economic change

### 9.3 Corn: The Second Staple Crop

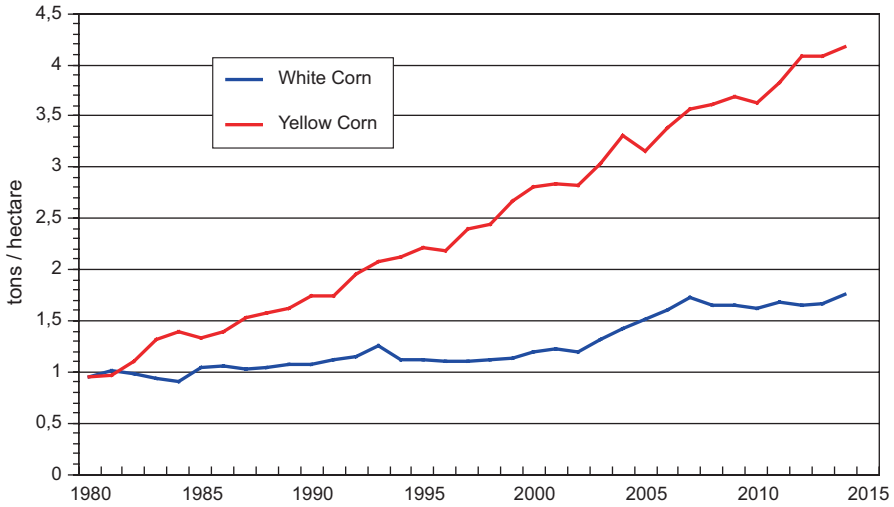
The Philippines rank 15th among world corn producers. Most of the corn grown in the Philippines, about two thirds, is feed corn, used to feed animals: yellow corn accounts for about 50% of livestock mixed feeds. In a rice-dominated food landscape, corn is also the second most important staple crop consumed by Filipinos, particularly in the Visayas and Mindanao. Some 600,000 Filipino farm households depend on corn as a major source of livelihood, in addition to transport services, traders, processors and agricultural input suppliers who directly benefit from corn production, processing, marketing and distribution.

Corn (maize) was most probably introduced in the Philippines during the 1570s by Spanish colonizers (Spencer 1975), even though some researchers (Uchibayashi 2005) have advanced the idea that corn may have been already present in China and the Philippines before the arrival of Europeans and the “Columbian exchange” (Crosby 1972; Nunn and Qian 2010). Given the special links between Mexico and the Philippines, it is no surprise that this meso-American crop made its way across the Pacific (Bentley 1999).

The geography of corn (see Fig. 9.2) shows a clear dominance in the Cagayan valley as well as Cotabato and Maguindanao provinces. In 1993, the corn consumption per capita in the Philippines as a whole was only 30 g per person per day, but regional differences were clear: less than 10 g per person in the regions of Luzon, less than 20 in the western and eastern Visayas, but 150 in the central Visayas (Cebu in particular), 117 in western Mindanao, 100 in southern Mindanao and 90 in Northern Mindanao (Aguilar 2005, pp. 12–13). The high level of production in Isabela is not linked to local consumption but is a response to high demand in Cebu, where farmland availability is scarce.

The upland regions of Mindanao have the most area planted with maize, and the highest production in the Philippines. Maize is also grown in the rain fed lowlands, where it is planted during the dry season after the rice crop has been harvested. The production of maize after rice increases the productivity of irrigation systems during the dry season, while supplying needed grain during an otherwise lean period.

Corn had been touted as a “poor man’s rice” for years. The rice shortage in the 1960s that forced many Filipinos to eat inferior rice mixed with rough corn grits left a harsh memory. Except probably in the Visayas, where white corn is a staple food



**Fig. 9.4** The growth in yields for white corn and yellow corn, 1980–2014. Source: Gerpacio et al. 2004

of 14 million or 20% of the population, many Filipinos will eat corn in a form of “corn rice”, where corn is cooked the same way as rice in a rice cooker.

However, in a country where most people are rice-eaters, the demand for rice increases significantly each year, exceeding the supply, which leads to major rice imports (see Chap. 10) to fill the gaps. Consequently, the Philippine government has encouraged farmers to develop other sources of staple food crops to lessen the demand for rice. Corn (maize) is not only readily available and cheap but most importantly, as nutritious as rice. Climatic conditions in most of the Philippines are favorable for rice, and its culture does not require horizontal terrain like irrigated rice, which makes corn quite suitable in hilly areas. One of the areas of recent expansion of corn, at the expense of rice, has been the Ifugao province, where corn is now dominant in places like Alfonso Lista, where large agricultural companies (*Monsanto*) have followed initial efforts by the Philippine government and are now expanding the culture of transgenic maize, with the risk of increasing dependency of the farmers on their seeds suppliers and monocropping (Bagyan and Gimenez 2005) (Fig. 9.4).

Yellow corn, which is mostly used for animal food, has progressed considerably since 1980, while white corn used for human food, has stagnated. Gains in production have not been realized through new land development; in fact the areas cultivated in white corn have regressed substantially, while the gains in yellow corn land have been modest. Most of the increased production has come from improving yields, mainly in yellow corn, which have quadrupled in 30 years, since its industrial

uses have attracted more attention from large agricultural firms than white corn for human consumption. White corn yields have increased at a slow pace and remain far below world averages (Gerpacio et al. 2004).

White corn has been the most potential source of a staple food in the Philippines. Various programs have been mandated by the government to support the production of white corn and expand its promotion at a national level. There have been a range of projects formulated, dedicated to establishing a more stable supply of white corn, and at the same time, continuously establishing new varieties to diversify the preferences of each region. Agricultural research centers such as the Agricultural Systems Cluster (ASC) in the University of the Philippines Los Baños (UPLB) have been active in the development of white corn (Battad 2012).

The Philippine Department of Agriculture (DA) currently pushes for an expansion of corn growing areas in order to meet the growing requirement of the local livestock and poultry sectors, and make Philippine corn competitive for the implementation of free-trade agreements in the Southeast Asian region. The Philippine government aims at making the country one of the main exporters of corn in the Southeast Asian region, since it can produce corn all year round (Galvez 2012). Malaysia, which currently imports American corn, is one of the target markets for corn expansion, alongside South Korea and Taiwan (Galvez 2014).

There also seems to be a need for improving the yield, since the production levels per hectare appear quite low in comparison to other countries. In 2005, the average yield for yellow corn in the Philippines was only 3.16 tons/ha and 1.51 ton/ha for white corn. The best results were in Ilocos and Central Luzon region (5.03 and 4.71 for yellow corn, 2.84 and 1.73 for white corn. They were lowest in the eastern Visayas (1.55 and 0.73) (Tanchuling 2007).

## 9.4 Three Major Export Crops

The Philippines is a country of rice farmers trying to feed their families, but it has also developed several commercial farm productions where it plays a major role on world markets: coconuts, bananas and pineapple. The Philippine islands, despite a propitious climate, have not become—at this time—a major player in the production of rubber (9th), coffee (15th), palm oil (18th) (Dy 2013a, b), tea or cocoa (Domingo 2015; Juan 2015). We can just mention that the Philippines is currently (2012 FAO data) the largest world producer of abaca (*Musa textila*, Manila hemp), a tiny market in itself, 11th for ginger, 12th for okra, mango and papaya, 17th for tobacco, 19th for sweet potatoes. We will therefore focus on the three products where the country plays a role on the world stage, and which are also important products in the Philippine societal and cultural context: coconuts, bananas and pineapple. We will reserve the presentation of sugar for the next chapter on controversies challenges in agriculture, since sugar plantations are at the center of the land reform issue.

### 9.4.1 Coconuts

One of the distinctive landscapes of the Philippines is the coconut landscape (Spencer and Horvath 1963), quite prevalent in many parts of the Southern Tagalog region and the western part of Bicol. The coconut (from the tree *Cocos nucifera*) industry is another dominant sector of the Philippine agriculture and has been for a long time (Hicks 1967; Tiglaio 1981). But it is also affected by four paradoxes (Habito 2010). A paradox of poverty: coconut is the largest commercial crop of the Philippines, yet its farmers are the poorest. A paradox of wasted opportunities: the coconut is extolled as the most versatile crop in Philippine agriculture, but exports concentrate on only a small portion of the coconut products. A paradox of myopia: it is a long-duration crop, slow to grow, but there is no real government strategy for the coconut sector. A paradox of perverse budgeting: rice has received much more state support than coconuts, for poor results, when coconut growers have given to the government through taxes without receiving anything (Fig. 9.5).

Tracing its history, its center of origin or birthplace is uncertain. It is believed to have been the islands of the South Pacific, but the coconut itself is a colonizer,



**Fig. 9.5** A typical coconut and rice landscape (Santa Elena, Camarines Norte, August 2014) Rice parcels are interspersed with coconut groves and occasional banana trees. Coconut trees cover a major part of the hills in the background.

since it (the coconut itself) floats and may have traveled around the world by itself. The buoyant nuts can float for long distances on ocean currents and if they are washed ashore on a beach in a suitable climate, the plant will become established and colonize the area (Harries 1978). DNA analysis, however, strongly suggests the coconut was brought under cultivation in two separate locations, one in the “Malesia” biogeographic area of the Southwest Pacific basin (Thailand south of the isthmus of Kra, Malayan peninsula, Indonesia, Timor, New Guinea, and Philippines) and later in the Indian Ocean basin (Van Steenis 1951; Gunn et al. 2011).

In the Philippines, the coconut was first a colonial crop forced on the natives by an edict issued by Spanish Governor General Sebastian Hurtado de Corcuera in 1642 (Picazo Muntaner 2013), who ordered each native to plant 200 coconut trees primarily for satisfying the galleon trade requirements (for drinking) and its husks for caulking the galleons and making ships’ rigging. Coconuts were also sold in China, as early as the tenth century, but large-scale exports of copra (dried coconut meat from which oil is extracted) began in the late nineteenth century, in response to demand from European and North American manufacturers of margarine and soap. The first mills for extraction of coconut oil in the Philippines were established early in the twentieth century. The archipelago was already providing a third of the world’s copra in the 1920s, with a huge market for coconut oil in the United States (Borja 1927). The increased profitability of coconut exports stimulated rapid acreage growth. From 1 million hectares in the 1950s, the area planted for coconuts rose to 2 million hectares in 1971 and 3 million hectares in 1979. Much of this growth occurred on the land frontier, notably on logged-over virgin lands in Mindanao.

The country is currently the second largest world producer of coconuts after Indonesia (Table 9.1), and the top exporter of coconut products. In 2011, the Philippines sold on world markets 109,000 tons of dessicated coconuts (more than Indonesia and Sri Lanka combined) and 827,000 tons of copra oil (more than Indonesia and Malaysia combined) (Table 9.3).

**Table 9.3** Top coconut producing countries in 2012

Rank	Country	Production (thousand tons)	World share (%)	Cumulative share (%)
1	Indonesia	18,000	31.2	31.2
2	Philippines	15,862	27.5	58.7
3	India	10,560	18.3	77
4	Brazil	2889	5.0	82
5	Sri Lanka	2000	3.5	85.5
6	Vietnam	1250	2.2	87.7
7	Thailand	1100	1.9	89.6
8	Mexico	1050	1.8	91.4
9	Papua New Guinea	900	1.5	92.9
10	Malaysia	606	1.1	94

Source: FAOStats, <http://faostat.fao.org/site/339/default.aspx>

Coconut growing is widespread in the Philippines, with production in 1195 of the 1491 municipalities of the country and 70 of the 81 provinces. In 2011, 3.6 million hectares were planted in coconut groves, representing 26% of the total agricultural land of the country.<sup>9</sup> Although coastal sandy soils are quite suitable for coconuts, many trees are grown on hills. There are around 340 million coconut trees in the country, about 85% of which are considered productive. Coconut farms are widely distributed nationwide, largely in regions of Southern Luzon (Quezon province being the national leader with 9.1% of coconut-planted area and 7.3% the national production in 2012),<sup>10</sup> Leyte in the Visayas, and Mindanao (Davao Oriental, Zamboanga del Norte), where the yields are sometimes double the national average (4.44 tons/ha), such as in Davao del Sur (9.22 tons/ha) and Lanao del Norte (7.59 tons/ha). There are 3.5 million coconut farmers in the Philippines, and about 25 million Filipinos are directly or indirectly dependent on the coconut industry.

### The “Tree of Life”

The coconut tree is regarded by farmers, manufacturers and consumers as the “tree of life” (*puno ng buhay*). From the roots to the leaves, the coconut tree (*Cocos nucifera*) has been used as a wood source (trunks used as poles for wooden houses), fuel, fiber and raw material for a multitude of products (handicrafts, ropes, nets, mats, brushes) and much more (Garcia et al. 2009). The leaves’ midribs can be made into the hardy broom called *walis tingting*. The coir from husks can substitute for peat moss in gardening and is used as isolation material. It can stop soil erosion when braided and can also be used as stuffing upholstery for seats. The shell can be processed into charcoal.

The endless culinary uses of the coconut water, milk meat, sugar and oil have propelled it to its present day importance as an agricultural product. As in the case of rice, a rich vocabulary has developed around the forms and uses of coconut.

The heart of palm (“*ubod*”, “palm cabbage”) is the bud of a mature tree, which is a prized delicacy as collecting this, actually terminates the tree’s life. It is used in salads and spring rolls.

Newly germinating mature coconut contains a roundish, soft sprout with an unusual crunchy but marshmallow-like texture. A healthy liquid collected from the immature flower clusters is drunk as “*tuba*” in the Philippines. Resulting products from its fermentation include coconut vinegar, palm wine and a vodka-like distilled alcoholic drink called “*lambanog*”. Non-fermented products include coconut sugar and coconut nectar, which are considered by

<sup>9</sup> Philippine Coconut Authority, <http://www.pca.da.gov.ph/cocostat.php#area>

<sup>10</sup> Philippine Statistics Authority, <http://countrystat.bas.gov.ph>

natural food advocates as a “next generation sugar” due to its low glycemic index as well as high levels of nutrients.

Coconut leaves are not eaten but are woven into small to large parcels and used to cook and serve foods from rice to fish to sweets; in Cebu, rice is wrapped in coconut leaves for cooking and subsequent storage; these packets are called *puso*.

As for the coconut fruit (“*buko*” if a young coconut with soft green shell, “*niyog*” if a mature one with harder brown shell), its water as well as the soft gelatinous meat of the immature fruit are remarkable sources of nutrients. Coconut water, commonly known as “*buko juice*” can be drunk on its own straight from the fruit. Rich in vitamins B and C, as well as potassium, it is known to have therapeutic benefits (Villariba 2011; Afinidad-Bernardo 2014; Blado 2014), such as reducing kidney stones, fighting urinary tract infections, or as a natural oral re-hydration therapy, even possibly limiting the incidence of Alzheimer disease (Benaning 2012). The meat is usually grated from the shell then used in a variety of ways. Drying yields dessicated coconut used in savories and desserts. Squeezing the liquid out from the meat yields coconut milk (“*gata*”) which is used in countless ways, such as preparing “*bibingka*”, a rice cake eaten around Christmas, “*buko pie*”, a specialty of Laguna province, “*palitaw*” (a rice cake dipped in grated coconut) and many dishes called “*ginataan*”<sup>11</sup> (“*ginataan hipon*”, shrimp cooked in coconut milk, “*ginataan alimango*”, crab cooked in coconut milk, etc). *Filipino Ginataang Halo-halo* is a snack made with *gata* (coconut milk), *saging na saba* (Cardava banana), *kamote* (sweet potato), sago (tapioca earls), *bilo-bilo* (sticky glutinous rice balls), and *langka* (jackfruit). Many regional dishes incorporate coconuts in their recipe. A variation of it is Cebu’s *binignit*, a warm soup of tubers (taro, purple yam, sweet potato) mixed with bananas, jackfruit, sago, tapioca pearls and sugar, cooked in coconut milk and thickened with milled glutinous rice. Chicken cooked in coco milk (*hinatukang manok*) is a Leyte specialty. Boiled in buko juice and served inside the coconut itself, it is the *binacol* recipe of Panay and Negros. “Bicol Express” (*sinilihan*) is a spicy stew of chiles, coconut milk, shrimp paste, garlic, onion and pork.

Coconut oil (Florentino and Santos Ocampo 2004; Juliano 2007) can be extracted from the milk in a variety of ways but the accepted best method is cold pressed which yields virgin coconut oil used by raw food chefs due to its healthy fat, bad cholesterol reducing properties and for frying, cooking, and making margarine.

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<sup>11</sup> *gata* (coconut milk) with the passive-marker affix *-in*, meaning made with



Even if coconut trees grow spontaneously in different parts of the coastal Philippines, the growth of the coconut industry is mostly a twentieth century phenomenon. In 1905, the Philippines counted 42 million coconut trees (12% of the current number) on just only 210,000 ha of coconut land (6% of the current amount).

Around 1840, coconut products were only traded in small quantities with Chinese/Malay traders, and Spaniards used coconut fibers and coconut oil in rigging the ships and as food for sailors plying the Manila-Acapulco Galleon trade. After 1898, the increasing demand for soap and the invention of margarine led to the export of Philippine copra and coconut oil to Europe as raw material ingredients for these products. The US market developed after the transfer of the Philippines from Spain: by 1926, more than 90% of US demand for desiccated coconut was supplied by the Philippines in a typical colonial trade of raw materials. US preferential treatment for coconut export and the duty-free entry of coconut in Europe encouraged further growth of the coconut industry and investments in land, improvements in coconut plantations, coconut oil milling, refining and product processing. At that time there were six big coconut oil mills, with 46.5% American capitalization, 29% British, 11.8% Chinese, 7.6% Filipino and 4.6% Spanish (Guerrero 1985).

Today, the average coconut farm is a medium-sized unit of less than 4 ha. Owners, often absentee, customarily employ local peasants to collect coconuts rather than engage in tenancy relationships. The villagers are paid on a piece-rate basis. Those employed in the coconut industry tend to be less educated and older than the average person in the rural labor force and earned lower-than-average incomes. However, young men are required to climb up the tree to cut the coconuts, unless they use a long bamboo pole with a sickle attached at one end.

In 1973 the Marcos martial law regime merged all coconut-related, government operations within a single agency, the *Philippine Coconut Authority* (PCA, or “*Philcoa*”). The agency was empowered to collect a levy (“coco levy”) of 0.55 pesos per 100 kg on the sale of copra to be used to stabilize the domestic price of coconut-based consumer goods, particularly cooking oil. In 1974 the government created the *Coconut Industry Development Fund* (CIDF) to finance the development of a hybrid coconut tree. To finance this project, the levy was sharply increased to 20 pesos. Also in 1974, the *Coconut Producers Federation* (Cocofed), an organization of large planters, took control of the PCA governing board and in 1975 *Philcoa* acquired a bank, renamed the *United Coconut Planters Bank*, to service the needs of coconut farmers. PCA’s director Eduardo “Danding” Cojuangco,<sup>12</sup> a business associate of Marcos, became its president. By early 1980, the *United Coconut Oil Mills*, a PCA-owned firm, controlled 80% of the Philippine oil-milling capacity. Defense Minister Juan Ponce Enrile also exercised strong influence over the industry as chairman of both the *United Coconut Planters Bank* and *United Coconut Oil Mills*, and honorary chairman of Cocofed. In this highly monopolized industry controlled

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<sup>12</sup>A cousin of Corazon Cojuangco-Aquino, “Danding” Cojuangco later became the chairman of the San Miguel conglomerate, the largest food and beverage corporation in the Philippines and Southeast Asia.

by Marcos cronies (Clarete and Roumasset 1983; Buschena and Perloff 1991; Boyce 1992), the coconut farmers were supposed to be the beneficiaries of the levy, whose benefits included life insurance, educational scholarships, and a cooking oil subsidy, but few actually benefited. When coconut prices began to fall in the early 1980s, pressure mounted to alter the structure of the industry. In 1985 the Philippine government agreed to dismantle the *United Coconut Oil Mills* as part of an agreement with the IMF to bail out the Philippine economy. The Marcos regime has fallen, but entrenched interests in the Philippine coconut economy have proven quite resilient, since 30 years later, the question of the use of the coco levy is still a regular news item. In 2012, the Philippine Supreme Court finally ended two decades of litigation and ruled that the 83 billion pesos that originated from the Marcos-imposed coco levy imposed were indeed government funds that could be used only for the development of the coconut industry and the welfare of coconut farmers and workers (Canlas 2012). But 56 billion pesos had been allocated to the National Treasury, 14 billion pesos were used by UCPB bank to purchase a third of the shares of San Miguel corporation, and 13 billion were unaccounted for (Tiglaio 2014). This led to profound discontent and requests to redistribute the money accumulated in the coco-levy fund to farmers who were the intended beneficiaries (Cruz 2014). Some peasant activists have been harassed and even murdered (Ellao 2014). In March 2015, president Benigno Aquino finally allowed the use of the multibillion-peso coconut levy funds to empower coconut farmers who are among the country's poorest (Gutierrez and Ranada 2015), but through a privatization process, sure to unleash vehement protests by farmers representatives (Mallari and Yap 2015).

Although coconuts are one of the most productive industries, the coconut regions host the largest number of rural poor. Around 60% of the sector's farmers and workers live below the poverty line (Dy 2013a, b; Suarez 2013; Jadina 2014). Despite their important contribution, the coconut farmers are considered among the poorest of the poor in agricultural communities. The coconut value chain is riddled with poor quality of planting materials, low farm productivity, low capacity utilization of processing plants and no price premium over the leading vegetable oil, which is palm oil. There is also little research budget and worse, no dedicated research institute such as those for coffee, palm oil and rubber in Malaysia, Thailand and Vietnam.

Problems (Aldaba 1995) vary from poor farm management practices, excessive deforestation reducing the hygrometry, natural calamities, land conversion, as well as pests and diseases, such as the Coconut Scale Insect (CSI)—*aspidotus rigidus*, commonly known as “Cocolisap” (Watson et al. 2015)—which has infested more than a million coconut trees around the Southern Tagalog region, Batangas, Laguna, Quezon, as well as on Basilan island—and the coconut leaf beetle (*Brontispa longissima*) (Herrera 2012). Both pests can and do spread to other crops such as bananas, other fruit trees (lanzones, mangosteen) and vegetables (Pangco Pañares 2014). To control the cocolisap infestation, the government has belatedly (Kritz 2014) promoted the use of systemic pesticides, which could have an adverse environmental impact, especially on bees, which are needed in pollination

(Andrade 2014) and may affect future organic certification for the industry (Murcia 2014). In 2013, the Department of Agriculture granted UPLB's College of Agriculture a 2 million pesos research fund for mitigation measures, a sum negligible in regard to the money potentially available from the coco levy fund and to the economic impact of the infestation, which, combined with the effects of typhoons such as Haiyan/Yolanda, has significantly reduced the volume of Philippine copra exports (Estrada 2014; Mallari 2014).

Another challenge of the coconut industry is the general aging of the trees (Benaning 2011; Cariño 2012; Suwannakij 2013), which reduces their yield and makes them less resistant to disease and typhoons. About 15% of the trees are considered "senile", i.e. over 60 years of age, and produce less than 15 nuts per year, when a younger healthier tree, aged 7–25, typically yields 45–60 fruits. The Philippine Coconut Authority has launched a 5-year nationwide coconut rehabilitation program (Samson 2013), which may cost more than 15 billion pesos, to sustain the country's status as a top exporter of coconut products in the world market. The plan is to plant 20–30 million coconut seedlings every year to replace the older trees (Alvarez 2011). It takes up to 7 years before a native coconut begins to bear nuts from the time it is planted, while a hybrid variety can start bearing nuts in about 4 years. However, PhilCoA cannot deliver enough hybrid varieties to realize the rejuvenation program at the desired speed, which means that a number of the new trees will be grown from traditional cultivars.

In the wake of the destruction of coconut groves by typhoon Yolanda in Leyte, rehabilitation experiments have shown that coconut farmers could benefit greatly from diversification (Sarian 2015a, b) in the form of intercropping. In the town of Javier, farmers were trained on improved vegetable production, using the latest varieties and other technologies. They cultivated the spaces between the coconut trees so they could plant high-value vegetables like tomatoes, eggplant, peppers, okra, ampalaya and many others. In the process, the land was enriched because of the inputs of organic fertilizers. This did not only improve the harvest of the vegetables but also the yield of the coconuts. Coconut farmers should not depend only on coconut for their source of income. They can increase revenues by planting in between the coconut trees high value crops like cacao, coffee, banana and in some places abaca. Diversification could also come in a better valorization of coconut products, away from the excessive reliance on copra, and more efforts to promote by-products for export (Doyo 2014). Advocates of fresco (or fresh) processing, among them the Philippine Coconut Society, argue that the coconut farmer will earn more by not producing copra, but by selling whole nuts for fresh processing. Copra making is an old, dirty technology, a remnant of a feudal system where the farmer is paid too little. The "New Coconut Economy" would be an integrated system that develops all the potential values of the coconut fruit: fresh coconut meat (chunks, grated, grains), fresca (granulated coconut meat cleanly dried within a few hours after the fresh nuts are opened), fresh coconut oil, fresh coconut milk (whole or skimmed), coconut water (beverage, cider vinegar and concentrate) and coconut flour.

### 9.4.2 Bananas

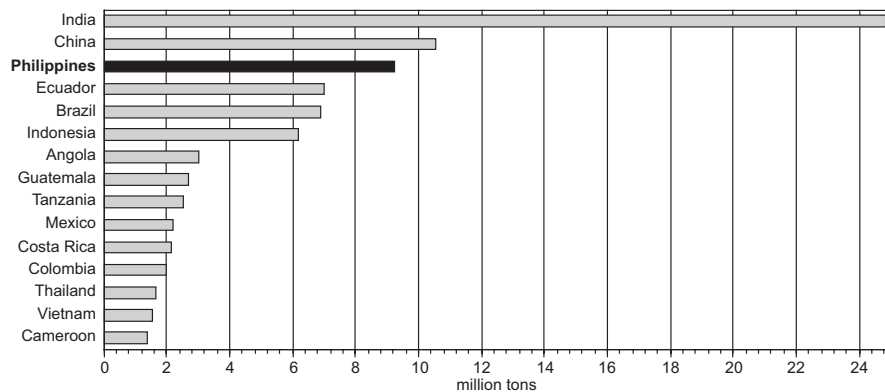
The Philippines is one of the world's largest banana producers and exporters. In 2012, it ranked third in the world for the production and second in exports behind Ecuador, the only major player on world markets other than Latin American countries.

In the Philippines, there are about 80 banana cultivar varieties available for planting.<sup>13</sup> The generic name for “banana” is *saging*.<sup>14</sup> The most popular varieties grown in the archipelago (Calderon and Rola 2003; Macabasco 2011) include the world-dominant Cavendish cultivar (*bungulan*), as well as the local *saba/kardaba*, *lakatan*, *latundan* and *señorita* (also known as *monkoy* or *cariñosa*), *morado* (with a bright red color skin), *inabaniko* (vivid green skin) or *pitogo* (a bunch of pear-shaped bananas). Cavendish is the fresh export variety. Saba is processed into banana chips, which is also an export product. It is likewise made into banana cue and *turon* (banana fritter), which are popular snacks in the country. It can also be made into *maruya* (fried banana with flour breading), *nilupak* (mashed), or boiled. In some parts of the country, *saba* is cooked and eaten as a staple in place of rice. The other varieties are mainly table varieties. Cavendish production comes mainly from commercial plantations in Mindanao, while *latundan* and *akatan* varieties are produced mostly by small farmers for the local consumers of Luzon and Visayas regions. Bananas are easily grown in the countryside either as a mono crop or as intercrop, which is usually planted under coconut trees.

In 2012, the Philippines realized 94% of all banana exports from Asia, having carved itself a niche market in the global banana business. Fresh Bananas rank second in the country's top agricultural exports next to coconut oil, and followed by pineapple and its products. Japan has consistently been the largest importer of Philippine bananas, accounting for more than 60% of the country's total fresh banana export and about 15% of banana chips export, Korea and China being the second and third largest export markets for Philippine fresh bananas. The prospect of Philippine bananas in the domestic and foreign market is still promising. In this export market, “Cavendish” type is grown for the fresh fruit market and “Saba”/“Cardaba” for chip-making and staple food. Top export markets for chips and crackers are Japan, Vietnam, China and the USA, while the top destinations of dried bananas for export are Vietnam, Japan, and Saudi Arabia. To reduce its dependency on the narrow markets of Japan and Korea the country is looking for new markets (Regalado 2012), particularly in China (Rada 2012), the Middle East (Lopez 2011; Padin 2015), where many Filipinos reside, and the United States (Mabasa 2013; Rueda 2013), traditionally importers of Latin American bananas.

<sup>13</sup> <http://www.philmech.gov.ph/phindustry/banana.htm>—<http://pbgea.com/>

<sup>14</sup> The generic name for “banana” is *saging* in tagalog, cebuano, hiligaynon and winaray, *sagin* in kapampangan, but a very different *batag* in bikolano, *abat* in ifugao, *gayod* in ivatan, *saba* in ilokano, *seba* in pangasinan, *busag* in tausug, *amas* in maranao. Journalists have resorted to the play on words “the banana business is sagging” in times of depressed prices on world market.



**Fig. 9.6** Top banana producing countries in 2012. Source: FAO Stats

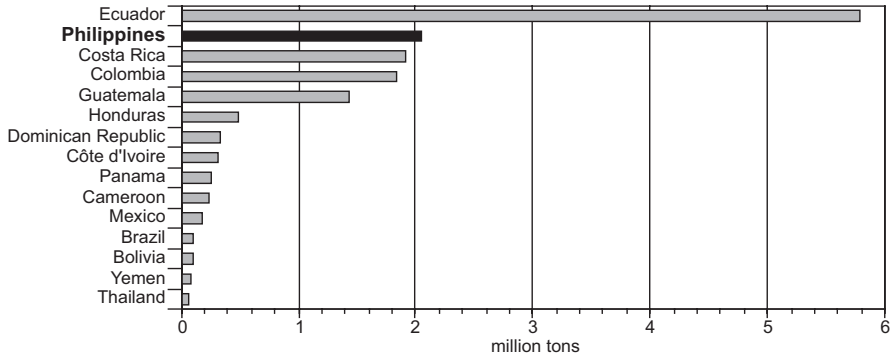
Banana production in the Philippines is extensive and ubiquitous. The crop is grown along the road side, on mountainside, on home lots and in small farms. Bananas are an important food item for Filipinos, a source of employment (30,000 Filipinos employed on plantations in the Philippines) and income for local farmers and also a major foreign exchange earner for the country. For these reasons, significant tracts of land are devoted to banana production in the regions of Southern Mindanao, Southern Tagalog, the CARAGA, and Western Visayas.

The development of the large-scale banana production in the Philippines began in the 1960s when *Standard Fruit Corp.*, a subsidiary of *Castle and Cooke*, an American corporation, brought the first Cavendish banana to the Philippines, sold under the brand “Dole”. By 1968, *Standard Fruit* (known as *Stanfilco* in the archipelago) was joined by *Del Monte* and *United Fruits*. The export of Philippine bananas to other countries intensified in the 1960s when the plantations, particularly in the Davao region, established decades earlier, continued to expand.

Large contiguous areas are devoted for commercial production in Mindanao through a system of large foreign-controlled plantations. In 2012, more than 80% of the bananas (and 99% of the Cavendish cultivars) were produced on the southern island, with Davao, Northern Mindanao and Soccskargen as the top regions and Davao del Norte, Compostela Valley and Bukidnon as the top three provinces<sup>15</sup> (Figs. 9.6 and 9.7).

Unlike coconut, which utilizes more than 3 million hectares of land, bananas only account for 20,000 ha, largely concentrated in the “banana belt” of Davao del Norte. This means that bananas contribute more dollars per hectare than any other Philippine agricultural product. Export-directed plantations are composed of different stages of growing and ripening, traversed by irrigation systems and banana rails to the pack houses, and with harvests ranging from 2000 to 2500 boxes of 13 kg per hectare.

<sup>15</sup><http://www.promusa.org/Philippines>



**Fig. 9.7** Top banana exporting countries in 2012. Source: FAO Stats

In the value chain of the banana, the major players are the multi-national banana traders who own and operate plantations at the same time. Historically, banana production in Davao Region has benefited from the efforts of these big players, who targeted Davao as an export banana production area with Japan as the main target market. They have developed the infrastructure not only for cultivation and post-harvesting, but also for road to port, shipping facilities of the port, and ocean going vessels specialized for banana transportation, among others. They buy bananas from growers or produce bananas through leased lands from landowners and sell them to the end-user market. They have provided contract growers with farm inputs, infrastructure development, and cultivation technology. The institutional buyers of Cavendish and other bananas for export are *Dole-Stanfilco* (US-based, established in 1968), *Del Monte Fresh Produce* (United Arab Emirates/Mexico), *Sumifru* (*Sumitomo Fruit*, Japan), and *Unifruitti/Chiquita Brands International* (USA). Their strategies are somewhat different. *Chiquita*, through its subsidiary *Mindanao Fruits Corporation*, deals with only one grower, the *Tagum Development Corporation* (TADECO).<sup>16</sup> *Del Monte* (*Philippine Packing Corporation*) has entered growing and marketing arrangements with several agro-corporations (*Hijo*,<sup>17</sup> *Marsman*, *AMS*

<sup>16</sup>This company, based in Davao, was founded in 1946 by Antonio O. Floirendo, who first developed an abaca plantation before turning to bananas in 1971. It has since then expanded into a diversified holding company, *Anflocon*, with interests in packaging (*Davao Packaging Corporation*), port management (*Davao International Container Terminal*), pineapple (*Davao Agricultural Ventures*, a joint-venture with *Del Monte*), property development (*DamosaLand*), road transportation (*Panabo Trucking Services*), automotive supplies (*Pioneer Trading and Supply Company*), tourism (*Pearl Farm Beach Resort*), livestock operations (*Nest Farms*: swine, cattle and goats), consumer credit (*United Financing Corporation*) and a charity foundation (*AOF Foundation*).

<sup>17</sup>*Hijo Resources Corporation* (HRC), established in 1959, is a Davao-based diversified corporation with business interests in Leisure & Tourism, Agribusiness (bananas, coconuts and fruits), Property Development and Port Operations. HRC operates Lanikai and Banana Beach Resort. Its two main shareholders are the Tuazon family group and Japanese-based *Fuji Fruit*. The company is expanding its agri-ventures outside of bananas, through its Twin Rivers brand, which includes coconut sugar and calamansi juice—Carmencita CARILLO (2015)—“Banana exporter Hijo resources expands coconut sugar business”, *Business World Online*, March 18th, 2015.

*Farming, Lapanday, Dizon Farms, Evergreen, Delta Farms, Farmingtown, Nova Vista*), operating on plantations of more than 200 ha. *Dole-Stanfilco* has the most complicated operation, using four complementary strategies: contract growing schemes for small farmers, joint-ventures with three corporate growers (*Checkered Farm, Golden Farms, Diamond Farms*), leasing of two banana farms and an arrangement with another plantation for the direct marketing of its fruits to Hong Kong. Banana plantations have continuously expanded over the last decade: 20,264 ha in Davao del Norte (the top province) in 2001, 35,359 ha in 2010. *Chiquita Unifrutti* is developing a 4000 ha new plantation in Camp Abubakar, Maguindanao, despite threats from Islamist and communist insurgents (Cheshire 2014), while *Dole Philippines* is looking at Negros occidental for new plantations of bananas and pineapples to be less vulnerable to the strong typhoons that have hit Mindanao in recent years (Ellera 2014) (Fig. 9.8).

Small- and medium-scale farmers producing bananas for export either sell to multinationals or directly to traders. The average annual land yield of the Philippines has risen from 9.4 tons/ha in 1999 to 15.8 tons/ha in 2006 and 20.3 tons/ha in 2010 (+74%). Some of the commercial Cavendish farms in Mindanao can generate as high as 70 tons/ha, while in Bicol it is around just 3 tons/ha, indicating very limited care given to the local banana trees. Yields are much lower for the homegrown varieties: 14.2 tons/ha for saba and 16.3 tons/ha for lacatan.

Bananas, as the most important fruit crop in the country in the volume of production and export earnings, contribute significantly to the national income in terms of export earnings but also to employment. However, banana production, not only has negative effects on the health of its workers but also to the environment. The reason is a widespread use of pesticides to achieve high productivity and low cost to meet the demand. Philippine bananas contain measurable levels of benomyl, thiophanate-methyl, TBZ, and mancozeb. Workers engaged in banana production in the Philippines are directly exposed to the chemicals. In 1986, a leader of the Filipino banana workers' union visited Japan to relate to consumers' groups the plight of chemical applicators on the banana plantations in the Philippines, which led to the "Stop the Philippine Banana Pesticides Campaign" in Japan to pressure multinational corporations to improve working conditions on banana plantations by changing pesticide use. They first targeted *Sumitomo*, which operates banana plantations in Mindanao through a joint-venture with *Davao Fruits Corporation* (DFC). Thirty years later, the problems still persist, even as a ban on aerial spraying of farms has been decreed in Davao, which has affected production. Another particularly contentious area for the industry is the haphazard implementation of land reform on banana plantations (Ang 2001), which explains why plantations are regularly attacked by Maoist NPA insurgents and Islamist rebels (Cadelina-Manar 2010; Lim 2012, 2014; Aptan 2014; Jacinto 2014; Serrano 2014). For the underground Communist party of the Philippines, "The punitive attacks against the multinational plantations have long been demanded by the indigenous people and peasant masses in Bukidnon and other parts of Mindanao whose ancestral lands have been seized, plundered, despoiled and poisoned by big foreign multinational corporations."<sup>18</sup>

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<sup>18</sup> [http://www.philippinerevolution.net/statements/20130220\\_cpp-congratulates-npa-raid-on-foreign-owned-plantations](http://www.philippinerevolution.net/statements/20130220_cpp-congratulates-npa-raid-on-foreign-owned-plantations)

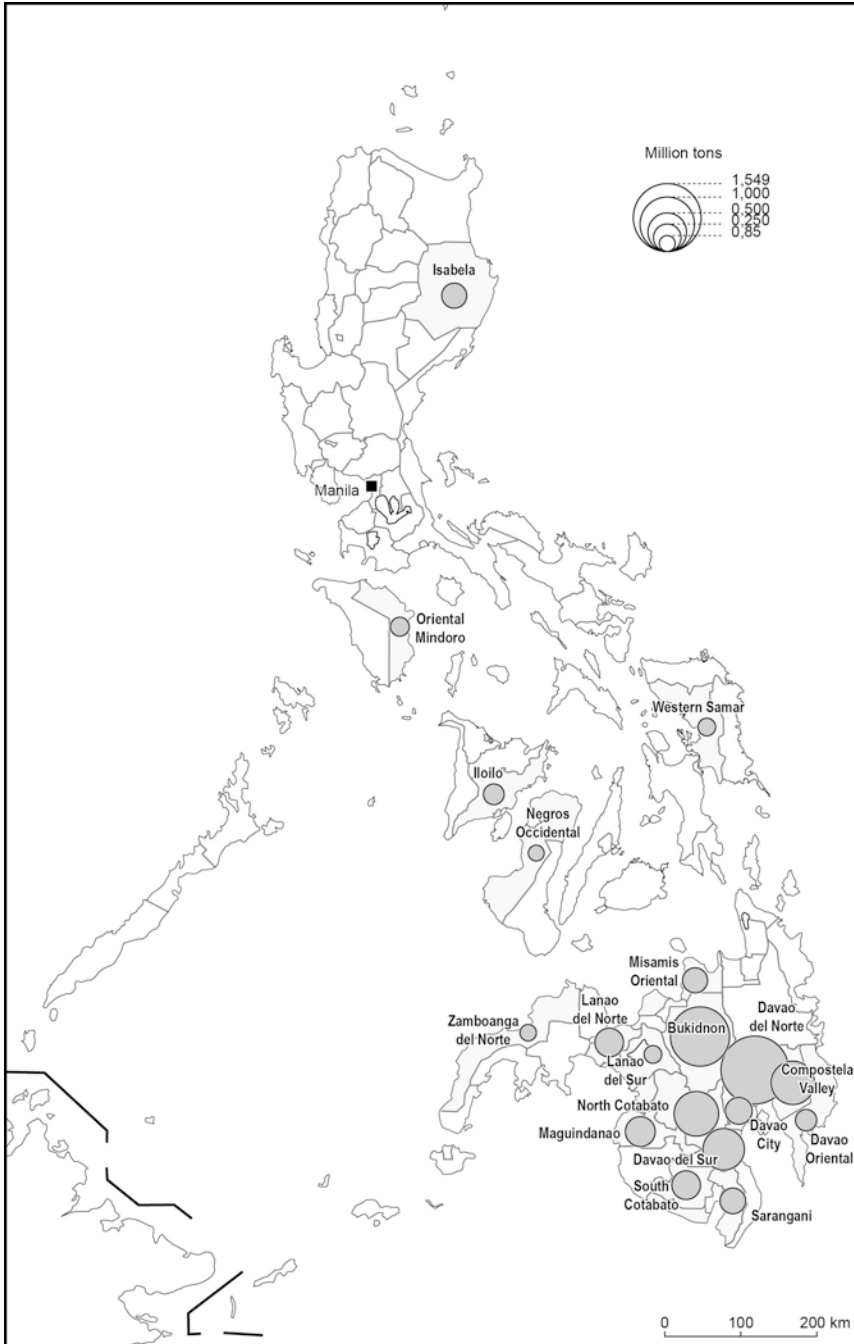


Fig. 9.8 Banana production in the Philippines (2014): a heavy concentration in Mindanao

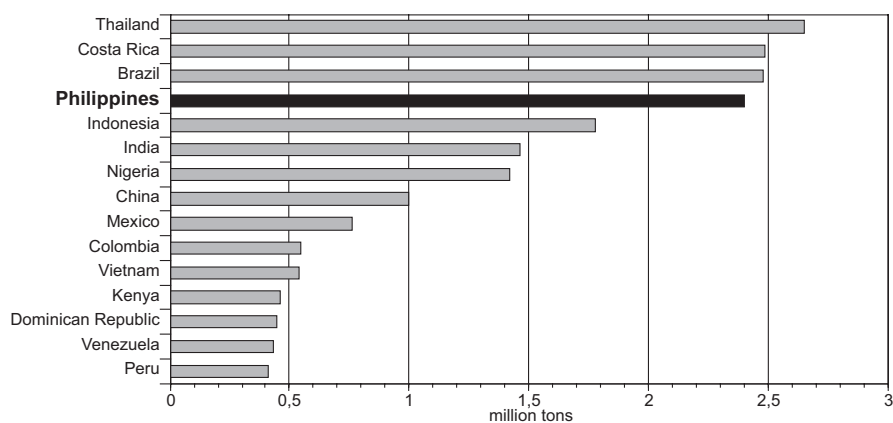


### 9.4.3 Pineapple

The situation for pineapple (Balito 2011) is quite similar to that of the banana. Here too, multinational firms have established a powerful export base in Mindanao. The Philippines is currently one of the top four large producers of pineapple, and a leading power in fresh pineapple and pineapple juice concentrate exports.

Pineapple is believed to have originated in Southern Brazil and Paraguay and spread throughout the continent by native populations. Spaniards introduced the pineapple into the Philippines and may have taken it to Guam early in the sixteenth Century. The variety first cultivated in the Philippines was the *Bromelia Pigna*, known as Red Spanish. As early as 1911, the smooth Cayenne pineapple from Hawaii was introduced to the Philippines by the American Bureau of Agriculture. Since pineapple is primarily prized for its fruits, which can be eaten in slices or crushed for its juice, this variety with big fruits became popular. Meanwhile, the industrialization of the pineapple production had started in Baltimore on the east coast of the United States, using fruit imported from the Caribbean.

The export-based Hawaii pineapple industry (Bartholomew et al. 2012) was then started by a group of California entrepreneurs who arrived in Hawaii in 1898–1899, as the kingdom became a US territory. The well-connected James Dole founded the *Hawaiian Pineapple Company* in 1903 and developed both plantations on several islands and canneries to export the fragile fruit. The industry in Hawaii, based on the “Smooth Cayenne” cultivar, grew rapidly from there. By 1930 Hawaii led the world in the production of canned pineapple and had the world’s largest canneries. Production and sale of canned pineapple fell during the Great Depression. However, the formation of an industry cartel to control output and marketing of canned pineapple, aggressive industry-funded marketing programs, and rapid growth in the volume of canned juice after 1933 restored industry profitability. The production of canned pineapple in Hawaii peaked in 1957, but the stage was set for the decline of the Hawaii industry when the large pineapple companies started to develop plantations and build canneries in the Philippines and Thailand (Fig. 9.9).



**Fig. 9.9** Top pineapple exporting countries in 2012. Source: FAO Stats

“Calpak” (California Packers), which was to be re-baptized *Del Monte* in 1967, was the first Hawaiian company to establish a foreign plantation, either for lack of land for expansion in Hawaii or because of the spread in Hawaii of the devastating mealybug wilt. Calpak began with exploratory plantings in Mindanao in 1925, then found a suitable site in Bukidnon, at an elevation of about 600 m. The Hawaiian ‘Smooth Cayenne’ clones grew well there and the fruit quality was comparable to that of fruits produced in Hawaii. Calpak established the *Philippine Packing Corporation* (PPC) in 1928, and by 1930 a cannery had been built at Bugo on the Mindanao north coast, near Cagayan de Oro, to process the first harvest. The expansion of PPC after World War II was followed by the establishment of plantations and canneries by *Castle and Cooke’s Dole* division in 1964 (and in Thailand in 1972). This sped the decline of the Hawaiian pineapple industry, mainly because these foreign-based canneries had labor costs approximately one-tenth those in Hawaii. In the mid 1980s, the Philippine reached the number 2 spot in the world for fresh pineapple, behind the Ivory Coast and also for canned pineapple, the leader being this time Thailand.

Today, *Del Monte Philippines* has two main shareholders, the *Macondray Philippines and Co. Inc.*, a subsidiary company of the *Philippine Lorenzo Group* also engaged in the banana agribusiness, and the *Cirio Del Monte NV*, headquartered in Italy. Both companies control *Del Monte Pacific Limited*, a Singapore holding company, which owns the *Del Monte* trade mark in the Philippines as well as the license to manufacture market and distribute *Del Monte* products in the Indian sub-continent. *Del Monte Philippines* is not an American company anymore, but a globalized corporation. The complex web of companies makes it difficult to know how much land *Del Monte* exploits in the Philippines, possibly 25,000 ha. It may not be so important, since, as in the banana business, *Del Monte* and its main competitor *Dolefil* use more and more the system of “Contract Growing”, which gives them a considerable right of disposal on pineapple production and marketing without the rights of ownership. Long-term contracts of 10 years or more are often signed, in which the farmers must follow specific orders (type of fruits, use of fertilizer and pesticides), when they want to sell their fruits to the multinational company. The farmers are equipped with the necessary “inputs” and are allowed to sell only to the contract company. The main *Del Monte* plantation, which is open for tourists, is located in Manolo Fortich, Bukidnon, 35 km southeast of Cagayan de Oro. It is one of the most productive plantations in the world and its size is over 9000 ha. A 3000 employees cannery is nearby which may well be the largest integrated fruit processing facility in the world (23 ha), processing pineapple and papaya into juices, preserves, canned fruits, all in packaging manufactured on-site. The pineapple waste is fed to 50,000 cattle and the waste of these cattle is used as additional fertilizer. The plantation has schools (also an international school), churches and a hospital, which is cost-free for employees. There is also a lodge, an airfield and an 18-hole golf course. Camp Phillips was originally established by the Americans who ran the *Del Monte* plantation; they built housing for American expatriates as well as the local employees. Today, it is the biggest of the five resorts operated by the company on or around its main plantation.

The American *Dole Company* started its big agribusiness in the Philippines in the 60s and trades under the name *Dolefil*. The center of its activities is on the southern side of Mindanao, in the municipality of Pocolomok, South Cotabato, situated 20 km northwest of General Santos City. It is the place of the main plantation and cannery factory. The company operates on about 15,000 ha as its base plantation<sup>19</sup>: 8000 h of which are leased by the company from the Dolefil Agrarian Reform Beneficiaries Cooperative (DARBC), and about 5000 ha from 1600 individual land-owners. Another 5000 ha are grower plantations contracted with about 1500 pineapple growers. It has also a club house, a hospital and a golf course for executives. Other operations and facilities are located in General Santos City, the municipality of Surallah in South Cotabato, and the municipalities of Maramag and Talakag in Bukidnon. The total pineapple cultivation area of the company is estimated around 20,000 ha. *Dolefil* has been repeatedly criticized for its water resources management and the extensive use of pesticides (Mariano 1999), as well as the shocking differences of salary within the pay scale and the high job precarity of its workers (Webster et al. 2008).

As with banana plantations, pineapple growing and processing facilities have been targeted many times by rebel groups (Betonio 2013; French 2013; Dean 2014), as symbols of the inequalities in rural society and the land grabbing of foreign-controlled corporations (Ellorin 2011; Manlupig 2013). To try to protect their interests, large corporations have hired guards and created what left-wing militants denounce as private armies, which may abuse their power to frighten workers, union leaders and their families.

Importing roughly 65% of fresh pineapple shipments from the Philippines, Japan serves as the biggest export market for the Philippines. The huge demand in China and South Korea for fresh pineapple has prompted Mindanao-based agribusiness companies to expand their capacities. The biggest fresh pineapple exporters are *Dole*, and *Del Monte Philippines*, but also a farmers' cooperative in Basud, Camarines Norte, a Bicol province usually considered as poorly developed. This cooperative is betting on a new "Queen Pineapple" cultivar, which is smaller, but more cold- and disease-resistant than "Smooth Cayenne". Other export markets for fresh Philippine pineapple are the Middle East (Sharjah, Dubai, Abu Dhabi, Qatar and Kuwait), New Zealand, Hong Kong, Canada, Guam, Russia and Germany. The United States is the dominant market for canned fruits, where *Dole* commands a 58% share of the sales.

The older Red Spanish cultivar is still planted in many places in the Philippines because of its long leaves that were sourced for fiber as early as 1591 (Morton 1987). Weaving of "piña" cloth is a traditional countryside industry in the Philippines. Iloilo then was the center of piña weaving. Woven in a labor-intensive process that produced only half an inch a day in the nineteenth century to a meter a day today, it was a textile unique to the Philippines. During the Spanish Period, embroidered

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<sup>19</sup>[http://www.globalgap.org/ar/Profiles/Philippines-Inc./](http://www.globalgap.org/ar/Profiles/Philippines-Inc/)

piña handkerchiefs and *pañuelos*, together with the elegant *camisas* for women and the *barong tagalog*, were regarded fashionable wear for the rich (Roces 2013). Today, “*barong tagalog*” is still worn on special occasions (weddings, baptisms, graduations) and many politicians choose to appear in public wearing these shirts, to affirm their identity as Filipinos, eschewing the western attire of suit and tie.

## 9.5 Animal Husbandry in the Philippines

### 9.5.1 Hog Raising, Between Backyard Pigs and Industrial Swine Production

Within Philippine agriculture, pork production industry is the second largest revenue earner after rice. Pork is by far the dominant meat product, accounting for 60% of total livestock production, with poultry coming second at 27%. Many pork products are integral to Filipino cuisine, with favorites such as *lechon kawali* (fried salted pork belly), *chicharron* (fried pork skin and fat, popular as a snack), *bopis* (spicy pig liver), *dinuguan* (pig intestines cooked in pork blood) and *adobo pork stew*. Annual per capita pork consumption in the Philippines is 15 kg and consumption is likely to grow further as consumers, now 100 million, become more affluent, making the country a promising market for pork (Buranakanonda 2013).

The Philippines is about 98% self-sufficient in pork supply, in an environment where the pig industry has almost no government subsidy applied to it. Most imports are frozen products from the United States or Canada, mainly deboned pork, fats, skin and other pork variety cuts used by the local meat processors to make sausages and other processed pork products. Filipino consumers generally prefer freshly slaughtered warm pork and tend to regard frozen pork as an inferior product. This demand for freshness supports a very strong market for locally produced pork.

The total population of live pigs was officially reported at 11.9 million head in July 2014, slightly down from a maximum of 13.6 million in 2008. The Philippines pig population comprises several breeds<sup>20</sup> that are distributed across the country and exist on different farm types that practice different pig production systems. The pig farming industry (Stanton and SIA Consultants 2010a) comprises two broad sub-sectors today, which are recognized by government statistics: “backyard” pigs (Huynh et al. 2007) and “commercial” pigs.

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<sup>20</sup>The most common pig breeds in use are Landrace, Yorkshire or Large White, Pietrain and Duroc, which are extensively used by commercial swine farms, while the Philippine native pigs (Visayan, Ilocos, Berkjala, Diani, Kaman, Koronadel and Libtong breeds, smaller in size and black coloured or black with a white belly), are commonly raised in subsistence pig farms.

### 9.5.1.1 Backyard Hog Raising

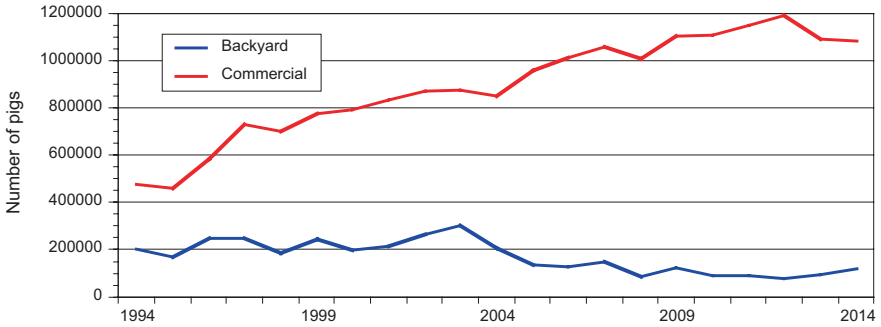
Two thirds of the pigs are raised in the “backyard” farm sector. Throughout the rural areas of the country, except in the Muslim areas of Mindanao, Philippine native pigs are kept either for home consumption or raised for slaughter on special occasions. These pigs are only sold during emergency periods when cash is needed by the household. Many households hold some pigs throughout the year up until June, when they are sold to provide an income for the family to pay for annual school tuition costs. Prices therefore tend to peak in May before dropping in June due to increased supply. The proliferation of backyard pig producers is evidence of the popularity of pig raising in the Philippines

Hog raising in the Philippines has been a profitable business for Filipinos through the decades. Its popularity is evidently seen among backyards of rural families. Subsistence backyard pig producers raise native pigs acquired as piglets within their locality. These pigs are often allowed to roam freely and fend for themselves with very minimal care and management by the owner. Subsistence farms with a larger inventory confine their pigs to simple wooded pens. The most common feed materials for these pigs are kitchen waste, edible farm by-products, cassava, corn and corn by-products, root crops, and other vegetation available near the farm. Health care procedures (vaccination, de-worming) are seldom practiced according to official guidelines in remote rural areas where pig production inputs are not easily accessible, and access to information and other farming support services limited, even from the local government. This increases the risk of disease. The subsistence backyard pig production is usually family operated without hiring paid labour.

An average Filipino family usually raises a small number of pigs (10–20) to augment their daily needs. While both parents are busy with their work, farming, fishing, construction, trisikel driver or managing a small sari-sari store, children may help in raising a few piglets until they reach their marketable age. The initial capital investment requirement is minimal (50,000 pesos for ten pigs), allowing a relatively easy entry into the sector by most rural households. This is a key reason why backyard producers still have a larger share of the national pig inventory than commercial farms today. Another reason for the existence of backyard farms is cultural. Filipinos consume pork on special occasions, such as annual festivities (Christmas and Easter), birthdays, weddings, graduation celebration. A typical menu item for such events is the “*Lechon Baboy*”, namely a whole roasted piglet. This dish is commonplace even amongst poorer households. Native pigs are preferred for preparing *Lechon Baboy*.

### 9.5.1.2 Commercial Hog Farming

The proportion of the pig population raised on commercial farms has risen from 24% in 2004 to 30% in 2008 and 35% in 2014, because of new investments in pig farms which tend to concentrate on a few regions of the archipelago. The most active regions in commercial hog farming are in perimetropolitan Manila and in the agricultural region of Central Mindanao.



**Fig. 9.10** Number of pigs according to farm type, Bulacan province, 1994–2014. Source: Philippine Statistics Authority, <https://psa.gov.ph>

Four provinces close to Manila (Bulacan, Batangas, Rizal, Tarlac) held in 2014 half of the commercial pigs in the Philippines, when their holdings of “backyard pigs” amounted to just 5% of the nation’s total.

“Commercial pigs” represent 93% of the swine population in Rizal province, 90% in Bulacan and Cavite, 78% in Batangas, 76% in Laguna. But in the Visayan provinces of Negros occidental and Iloilo, the third and fourth largest provinces for the total of pigs raised, commercial farms (11 and 17%) are much less important than backyard pigpens (89 and 83% of these two provinces’ pigs). Commercial hog operations have also developed strongly in parts of Mindanao (56% of Bukidnon pigs, 75% in South Cotabato). Commercial farms are negligible in some traditional rural provinces, such as Camarines Sur in Bicol (4%) and even more in Capiz (Panay Island: 1.05% of all local pigs) or Leyte (0.72%) (Fig. 9.10).

Bulacan, just North of Manila, is now the largest hog producer in the country, and is experiencing a phenomenon observed in other parts of the world, such as the American Midwest: the progressive elimination of small-scale family operations replaced by industrial pig farms (Rola et al. 2003). In the greater Manila area, rising land costs also tend to exclude small farm operators unable to stay on lands getting more expensive (Costales et al. 2007).

In the larger agribusiness swine operations there is increasing integration (breeder and feed suppliers, finisher contractors) around the major cities (Manila, Cebu, Davao) and the number of smaller to medium-sized farms is building up. What were once 100-sow farms are now 500- or 1000-sow farms, which may lead to biosecurity issues (McOrist 2011) due to the increased concentration of animals and the risk of faster spread of disease towards nearby farms. There may also be growing environmental issues (Catelo et al. 2008) with the odors generated by large pig operations and the elimination of hog waste, a problem present even in small hog operations (Paraso et al. 2010; Alawneh et al. 2014), but exacerbated by the concentration of animals in industrial piggeries (Catelo et al. 2001).

The commercial pig farming sub-sector has a steadily growing pig inventory. This is in contrast to the fluctuating inventory held by the backyard sub-sector, for two reasons. There is overall a better health of the animals in the commercial pig farming sub-sector; and the strategic investment plans of large commercial companies are a world apart from the month-to-month money needs of poorer families raising backyard pigs.

Pork from the commercial pig farming sub-sector is delivered through diverse channels: traditional wet meat markets in the local urban centers, supermarkets and hypermarkets in urban areas, meat processing plants and food service operators. The core market for this sub-sector today is the Metro Manila conurbation, where an overall richer population consumes more meat and is more demanding about the quality of the meat. Residents in the Philippine urban areas form the largest consumer base for pork, since rural households tend to consume more cereals, starchy roots and tubers, and vegetables than meat, when compared to urban households. Per capita consumption of pork by the upper-middle to high income families in the Metro Manila area is estimated to be higher than 30 kg per head, when compared to the national average of around 15 kg per person. Meat is still not an everyday food in the rural areas, where the pig is reserved for special occasions. The more common meat will be chicken or fish.

Today, commercial pig farming is largely controlled by corporations with large financial resources. Some are big Filipino conglomerates, such as *San Miguel Corporation*, which has diversified out of the liquors business into food processing and corporate farming, mostly by contracting with hog breeders. *San Miguel* has acquired control in 1986 of *Monterey Foods Corporation*,<sup>21</sup> which had began in 1969 with a cattle ranch business in Isabela province, and has become the largest hog breeding, hog growing and cattle fattening operations in the country since its takeover of *Purefoods Corporation* in 2001. The company now controls cattle feedlots in Pampanga, Laguna, and South Cotabato provinces, and more than 300 pig farms all over the Philippines, owned and contracted, 30 of which are hog breeding farms where the company practices artificial insemination. A sister company's (*B-Meg*) owns and manages feed mills around the country. Other integrating operators are foreign companies such as Thailand's *Charoen Pokphand Foods* (CPF), US-based *Cargill-Purina*, China's *New Hope*, or South Korea's *Sunjin*.

Anticipating the implementation of ASEAN's free-trade zone, CPF Philippines started in 2010 with a leased feed mill in Bulacan province. Its marketing network now covers all 38 provinces in Luzon Island. Its core product is CPF brand complete feed for hogs, as well as pelleted and crumble feed for broiler chickens. The Philippines is free of Foot-and-Mouth Disease (FMD) and avian influenza, which makes the country a very good base to exporting frozen or chilled chicken and pork to Japan, Taiwan or Korea. The Thai company imported its first batch of pigs in 2012, arriving from Canada by plane at Clark International Airport (Pampanga). The company is building hog operations in that province and a feed mill in Tarlac,

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<sup>21</sup><http://www.sanmiguelpurefoods.com/page/hog-contract-growing>

a location selected for its proximity to the corn growing provinces of Pangasinan and Isabela, where livestock producers may move in the future to escape the urbanization pressures in central Luzon and Manila.

Commercial pig farming in the Philippines is still highly import-dependent. Significant proportions of feed and other production inputs, breeder stocks and genetics have to be sourced from outside of the Philippines to keep the sector operating efficiently. The challenge is now to develop exports of quality products and improve the ratio of domestic inputs into the hog business, through research in agricultural centers. Development of the Philippines pig farming industry has largely been driven by the large commercial farms, without much assistance or intervention from the government. The National Federation of Hog Farmers (NFHF) has endeavored to protect and promote the interests of the industry in the Philippines, by lobbying about trade policy and related issues. Today, the Philippine government, recognizing the growing importance of the sector, is trying to develop programs to sustain the industry modernization and encourage research on pig-raising.

### 9.5.2 Cattle Raising

Contrary to pork, cattle production in the Philippines is essentially small-scale. The beef market (Stanton and SIA Consultants 2010b), which is the smallest of the mainstream meat markets in the Philippines, appears limited, since beef is more a luxury item because of its high retail price when compared to pork and chicken. The production and consumption of pork meat is about 8 times bigger than beef meat. The inventory of cows was about 2.5 million heads in January 2015, a number equivalent to the much more useful carabao.

The *carabao*, or *kalabaw* (a term derived from the Malay word for water buffaloes: *kerbau*; the female is designated with the Spanish-sounding name *caraballa*) is a domesticated subspecies of the water buffalo (*Bubalus carabanesis*). Water buffaloes were probably introduced to the Philippines by Malay immigrants around 300–200 BC. Later, other sub-species were introduced and sometimes crossbred with local carabaos. Chinese settlers brought water buffaloes referred to as “Shanghai buffaloes”. Early in the twentieth century, water buffaloes were imported from Cambodia for work in sugarcane plantations; those Cambodian carabaos are usually larger and have bigger horns. Some Indian “Murrah buffaloes” were also introduced in the 1910s. The much smaller *tamaraw* (*Anoa mindorensis*) is a related, critically endangered, wild species specific to Mindoro Island (Villegas 1970).

Water buffaloes are widely distributed in the whole Philippine archipelago. Well adapted to the hot and humid climate, these tame and hard-working<sup>22</sup> animals are

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<sup>22</sup>Two common expressions in tagalog are “*nagtatrabaho ako na parang kalabaw*” (I’m working like a carabao) to mean that someone works very hard, and “*kayod-kalabaw and dapat kong gawin*” (My work is a carabao’s work) to mean that somebody is working on a task which requires a lot of patience.





**Fig. 9.11** Carabao used to pull a cart full of coconuts (Calauag, Quezon province, July 2014)

widely used by farmers to pull plows in the rice fields and transportation carts. In the Philippine countryside, it is common to see people riding carabaos to go somewhere or to carry heavy loads: people, items from the market, bamboo poles, etc. The Philippine carabao is put to continuous work from the age of 4 years up to 15 years. It requires little maintenance and depreciates very slowly. The carabao generally enjoys perfect health and a long productive life, leading to the aphorism that “a sick carabao is a dead carabao”. These animals are very vital to the rural economy, providing not only work-power, but also high quality milk and meat. For many farmers, the carabao is the country’s native farm help, while the buffalo is a purebred import that they use to crossbreed livestock for milk or meat (Roque 2015). Carabeef (the meat coming from a carabao) is an important component of sausages, luncheon meat, meat loaf and others. Canned corned beef is partly carabeef. Meat product manufacturers use carabeef extensively due to its inherent high water holding capacity. Products with carabeef are attractive to consumers because they do not lose much of their original form when cooked and are priced lower than beef. Buffalo milk is richer in all major nutrients and Philippine carabaos produce the highest fat and total solids content of any domesticated buffalo. Local soft white cheese is made from carabao’s milk. Hence they are considered a financial asset since they serve as an insurance against the risk of crop failure due to natural calamities (Fig. 9.11).

These are some of the reasons why the carabao is considered as the “national animal” and proposed to be officially declared so by the Philippine Congress,<sup>23</sup> and why there are two lifesize statues of carabaos near the Rizal Memorial in Rizal Park, Manila.

<sup>23</sup>House Bill 3926, “Philippine National Symbols act”, as proposed by Congressman Rene Relampagos in 2014.

In 1993, the Philippine Carabao Research and Training Center<sup>24</sup> was established at Central Luzon State University (Muñoz Science City in Nueva Ecija) to conserve, propagate and promote the carabao and to benefit rural farmers through carabao genetic improvement, technology development and dissemination, and establishment of carabao based enterprises, thus ensuring higher income and better nutrition. The National Water Buffalo Gene Pool in the Science City of Muñoz is a facility for continuous selection, testing, and propagation of superior breeds of dairy buffaloes (Domingo 2012; Roque 2014).

In January 2015, there were 2.8 million carabao buffaloes in the Philippines, with no dominant geographic pattern, since the top three provinces for the total number of carabaos are Leyte (only 4.2% of the national total), Isabela and Negros occidental. More than 99% belong to small farmers with limited resources, low income and little access to other economic opportunities. Industrialized carabao raising has not really been attempted in the Philippines. However, the national herd seems to have declined in recent years (Yap 2014; Quiboloy 2015), due to the rise of motorized tillers replacing carabaos in the rice fields.

The same can be said for beef cattle and dairy cows, mostly zebu cattle with a few farms raising Angus beef, or Jersey or Holstein dairy cows. Dairy products sold in supermarkets are for the most part imported, chiefly in powder form for use by the dairy processing and packaging industry. Major suppliers are New Zealand (46%), the United States (29%) and Australia (8%). The production of raw cow milk is indeed very weak in the Philippines in comparison to other ASEAN countries: in 2008, the Philippines produced only 8197 tons of milk vs. 827,252 tons in Thailand or 240,000 tons in Vietnam! (Stanton and SIA Consultants 2010c; Bondoc et al. 2012; Ang 2013). Two thirds of the milk produced in the Philippines comes from dairy cooperatives, particularly in the Southern Tagalog area (Batangas, Laguna and Quezon provinces) for the Manila market. A rare concentrated dairy farm was established in 2009 in Malilipot (Albay province), using crossbreed Holstein/Sahiwal heifers born in New Zealand, but it remains tiny with only 20 cows, and has had difficulty creating a local market since Filipinos, like many Asians, are not used to consuming fresh milk (Brizuela 2011). The island of Masbate appears as a major hub for cattle ranching since the Spanish arrival in the sixteenth century. Every year it holds a Rodeo Festival.

### 9.5.3 Poultry

The Philippine poultry industry meets about 95% of local demand for chicken and duck products and is steadily expanding (Pe 2014).

As in other countries of Southeast Asia (Aini 1990), the Philippine poultry industry is quite similar to the pork industry, with a dichotomy between two important

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<sup>24</sup><http://www.pcc.gov.ph/>

types of production. a commercial sector, characterized by its use of highly intensive units and the fact that it has developed very rapidly over the past two decades, and a traditional “backyard” village-based system which has been little affected by the increasing numbers of commercial birds (Chang 2007a, b, c). Considering the number of chickens raised, both modes were split about evenly in the early 2010s.

The commercial (broiler and layer) chicken farms are large-scale, highly advanced, geographically concentrated and integrated, with efficient marketing. In 2016, for example, US-based agrobusiness giant *Cargill* teamed up with the leader in Philippine fastfood, *Jollibee*, to build and operate a poultry-processing plant in Santo Tomas, Batangas, not far from Metro Manila (Cabuang 2016). Cutting edge technology has boosted the production rate and modernization has been recognized by foreign observers, for example in 2010 when Bounty Fresh Chicken won the top prize in “Livestock Asia”, the biggest gathering of livestock, egg and meat producers, held in Kuala Lumpur, Malaysia. It was the first ever Philippine brand to be awarded such an honor.

Native chickens and ducks, on the other hand, are produced mainly through a large number of geographically diverse, small-scale, backyard enterprises, and marketing tends to be much less efficient. However, native chickens and ducks have a competitive advantage because of strong consumer preferences for their freshness and taste. The village poultry system relies on minimal resource input and, although secondary to other agricultural activities, has an important role in providing the local population with income and high quality protein. Almost every rural community keeps small flocks of indigenous chickens under a backyard type system. The sheds, when provided, are made from local materials. Whilst the birds are fed kitchen leftovers, sometimes supplemented with cheap, locally available grains, most of their time is spent scavenging. There is no breeding program and close inbreeding occurs among the indigenous stocks. The high incidence of disease is the greatest constraint on rural poultry development.

Poultry integrators in the Philippines exercise both buying and selling power (Digal 2010) as concentration ratio is relatively high, few brands exist, and operations are highly integrated from production to marketing. The major challenge for chicken producers is the rise in prices of grains (soybean, corn and wheat), which are important component of feeds. Bio-fuel production is now competing with the animal industry for raw materials like corn, soybeans and even vegetable oil like palm and coconut oil, pushing up prices. The poultry industry cannot pass on the increase in cost to consumers, because it is competing both with other protein substitutes (pork, fish) but also with imports. Even as some broiler integrators in the Philippines are exporting increasing volumes of broiler meat, importation of leg quarters at dumping prices causes significant price distortion and hurts local broiler producers.

The geography of poultry production in the Philippines is rather similar to that of hog farming, with a strong dominance of perimetropolitan areas, both for chicken egg production and chicken meat, heavily concentrated around Manila (respectively four of the top five provinces and the six top provinces) (Fig. 9.12).

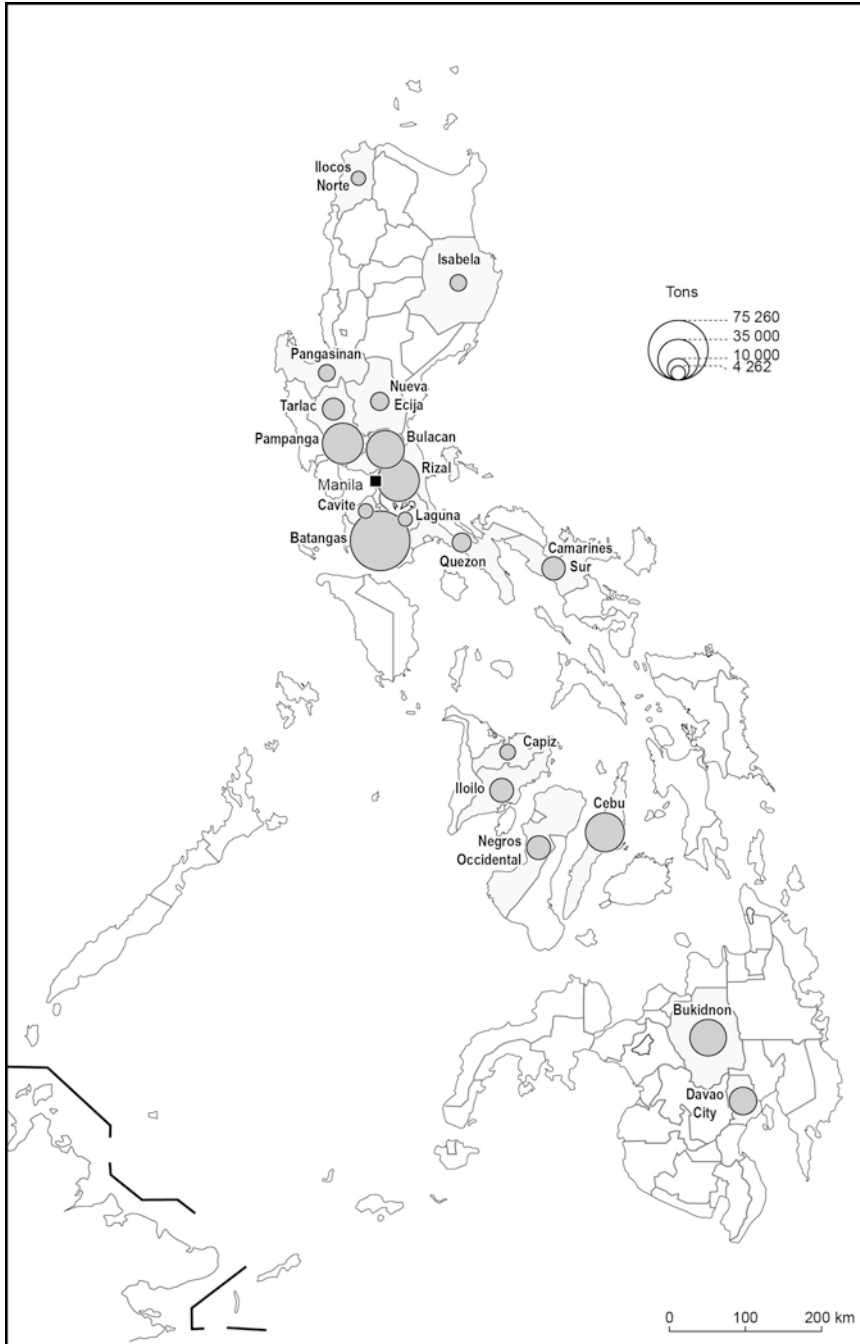


Fig. 9.12 Chicken egg production in 2013, by province. Source: Philippine Statistics Authority, <https://psa.gov.ph>

The Philippine duck industry is small compared to chicken. However, it has a special role in the Filipino culture. Unlike other Asian countries where duck eggs are processed mainly into salted eggs and century eggs, more than 80% of duck eggs in the Philippines are processed into “balut”.

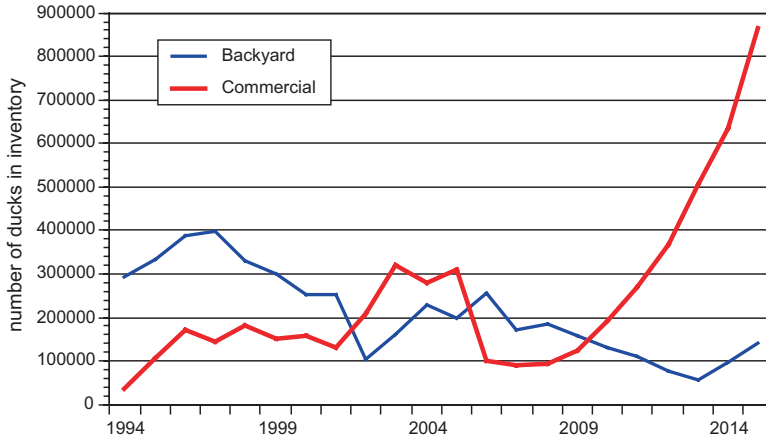
### **Balut**

A famous Filipino delicacy is *balut* (from the Malay/Tagalog word for “wrapped”), which usually generates very strong positive or negative opinions. Also consumed in Cambodia, Laos or Vietnam, balut is an 18-day-old fertilized hard-boiled duck egg with a partially developed embryo inside. At this stage, the bones are soft enough to eat and the feathers haven’t yet developed. It is consumed directly from the shell while it is still warm. Filipinos traditionally season the egg with salt, garlic, vinegar or soy sauce as they eat it. Besides being an element of Philippine culture, often hard to fathom for foreigners, they are also considered as a very nutritious snack: a serving of balut provides 188 calories, 14 g each of protein and fat, 2 mg of iron and 116 mg of calcium. Balut is available only from street vendors and mostly in the late evening. They sell cooked balut from buckets of sand (used to retain warmth) accompanied by small packets of salt, either on streetside/roadside stands or on board provincial buses (Matejowsky 2013).

Seventy percent of ducks are in backyard farms and 30% in commercial farms (Chang and Dagaas 2004). More than half of ducks in commercial farms are raised in just two provinces, Bulacan (28.4%) and Pampanga (25.7%), where the ratio of commercial ducks is 86 and 91%, whereas in Iloilo and Negros occidental, the leading provinces for farmyard ducks, only 0.9 and 2.1% of ducks come from commercial farms. The growth of industrial duck farm has been quite spectacular in Bulacan since 2009, while the number of ducks raised in backyard farms has slowly decreased in the province (Fig. 9.13).

The duck and egg/balut industry had developed for many years along the shoreline of Laguna de Bay because of the abundant fresh water supply and fresh water snails that serve as food for the ducks (Atienza et al. 2015). The municipality of Victoria is the biggest duck raising center in the province of Laguna and probably in the whole Philippines. This “Duck Capital of the Philippines” raises more than 55,000 mallard ducks, celebrated in a landmark sculpture located alongside the National Road at Masapang crossroads.

The native Pateros duck, commonly called *itik*, is the most popularly raised locally. Ducks are used in some farms for an integrated rice-duck agricultural system (Baas and Ramsamy 2013; Carandang 2014), also developed in other Asian countries such as Bangladesh (Hossain and Sugimoto 2005), Korea, China or Vietnam (Bui et al. 2002), that reduces the use of chemical inputs. The integrated rice-duck farming system (IRDFS), introduced from Japan (Asano et al. 1999; Aicher 2013),



**Fig. 9.13** Number of ducks in inventory, according to the type of farm, Bulacan province, 1994–2015. Source: Philippine Statistics Authority, <https://psa.gov.ph>

is about growing rice and ducks together in an irrigated paddy field. The paddling movement of the ducks stimulates the rice plants to produce more grains, while the duck manure fertilizes the soil and eventually eliminates the need for any form of fertilizer. Ducks, scratching the ground with their beaks, oxygenate the water and allow for a stronger growth of rice. They feed on rice pests, worms, green leaf hoppers, golden snails (*kuhol*) and insects that are harmful to young rice plants, therefore acting as a natural pesticide. Farm economists have calculated that IRDFS reduces rice production costs by 30%, while agronomists see a fast increase in rice yield, up to 100%. It is an organic rice farming technology that can successfully be adopted on a large scale. Farm economists have calculated that IRDFS reduces rice production costs by 30%. Farmers gain extra income from the sale of duck meat and duck eggs, and have also found that ducks not only control snails in rice fields but will lay tastier, higher quality eggs when fed with snails (Halwart 1994). Ducks are generally raised for eggs (Chang et al. 2008) but when snail food gets scarce, they are sold for meat.

Integration can be pushed a step further with rice-fish-azolla-duck systems (Cagauan et al. 2000), which are part rice cultivation, and part fish farming.

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## Chapter 10

# The Philippine Agriculture: Weaknesses and Controversies

**Abstract** The sugarcane plantations of Negros Island epitomize the huge inequalities in the Philippine countryside. Landlords have controlled vast estates, the haciendas, since the Spanish colonial period. Despite the pressure of peasant associations, revolutionary agrarian movements (Huks, then the communist NPA) and the church support for poor farmers, most efforts to implement a substantial agrarian reform, including in the Marcos period and the CARP of Corazon Aquino, have failed in reducing inequities and improving the life of poor peasants in the country. Hacienda Luisita, a property of the Aquino family, illustrates the difficulties to implement a true agrarian reform. The Philippines hence appear similar to many Latin American countries. The country also suffers from insufficient rice production. The paradox is that it is one of the top rice importers in the world despite the presence of the International Rice Research Institute in Los Baños. This chapter examines the controversies surrounding the rice import policy and the development of transgenic rice.

**Keywords** Sugarcane • Land ownership • Agrarian reform • Green revolution • Rice imports

At the time the Philippines became American, the country's agricultural potential had not been fully developed, and it was importing much more food than Japan, which had a population five times larger (Waters 1918). Theodore Roosevelt Jr., son of the former president, and governor general in the Philippines (1932–1933), clearly placed some of the blame on the structure of land ownership inherited from the Spanish period (Roosevelt 1934).

In 1950, at the dawn of independence, it was not any better, as the US-government commissioned Bell Report on the Philippines economy indicated: *“The problem of inefficient agricultural production is partly a matter of putting to use better methods of cultivation, partly a matter of giving incentive to those who till the soil. The difficulty is not so much in knowing what to do as in getting it done [...] Whether industrialization is or is not a good thing for Philippine economy today is not, in itself, the chief policy problem facing island leaders. The primary problems of the Philippines today are problems of rural economy, just as the primary problems of China during the 1930s were problems of rural economy. The most pressing policy*

*decision is how to solve the problems of average and numerous small farmers”* (Spencer 1966).

Most of this quote could be written again today. Postwar rural performance in the Philippines has been called dismal in relation to those in East Asian countries and other LDCs (Balisacan 1993a, b). Rural poverty is one of the greatest problems facing the Philippines today.

Despite favorable climate conditions, the Philippine agriculture has a number of weaknesses, highlighted by the excessive number of Filipinos suffering from insufficient and imbalanced food intakes, leading to a higher-than-average (within south-east Asia) incidence of disease, malnutrition and infant mortality.

In 2012, the Philippines had a large deficit in its agricultural trade, exporting for 118 billion pesos (coconut oil, fresh bananas, tuna fish, pineapple products, with the USA as top customer, followed by Japan, the Netherlands and China), but importing for 192 billion pesos (wheat, soybeans, dairy products, rice), mostly from the USA, Australia, Argentina, New Zealand and Vietnam.<sup>1</sup>

Even as the Philippines have carved a world market leadership position on some export products (coconuts, pineapple, bananas), the country’s staple food, rice, is not produced in large enough quantities and the country is one of the largest rice importers in the world. Sugarcane, the main export crop for more than a century, has been the source of huge disparities in rural wealth. Most Filipino farmers are poor and heavily in debt, they do not own the land they cultivate, many food producers go hungry (Javier 2015).

Food insecurity exists at the household level, the regional level (Gavilan 2015) and the national level, since the staple food, rice, is not produced in sufficient quantities.

Agrarian reform has been slow to correct the imbalance between ordinary farmers and landless farm workers on one side, and wealthy landowners on the other side, leading to rural strife and rural-to-urban migration for many decades (Balisacan 1993a, b). The farm population is getting older, as a growing number of young rural Filipinos abandon farm work to move to Metro Manila or take jobs abroad as OFWs (Diega 2015a, b, c; Ordinario 2016). There is a decline of the enrollment in agricultural courses, students of rural origin being more interested in computer related or technology related courses, even at the flagship campus of UP Los Baños, a long-time leader in agronomic research.

Farmers continue to be regarded as among the poorest of Filipinos, alongside fisher folk. The nationwide average poverty-incidence rate among farmers was about 38.3% in 2012, higher than the 25.2% national average. The Autonomous Region in Muslim Mindanao registered the highest poverty-incidence rate among farmers at 58%.

The long-established government’s neglect of agriculture (Araneta 1953; Bello 2013a, b) and farmers may be a major reason behind the difficulties confronting the farm sector of the Philippine economy (Kritz 2015). Governmental underinvestment

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<sup>1</sup> <http://countrystat.bas.gov.ph/?cont=3>

in infrastructures beneficial to agriculture (irrigation, roads, storage facilities) (Teruel and Kroda 2005) and misplaced priorities, such as focusing too much on rice self-sufficiency and planting rice, are pointed out by many observers. There are also strong societal and structural reasons for the weaknesses of Philippine agriculture. The market structure in rural areas is heavily dominated by middlemen. Only a few farmers can really earn from their produce, and the role of large plantations, prevalent since Spanish colonial times, remains an essential feature of the Philippine farm economy. In contrast, nearby countries like Taiwan, Japan and South Korea produce an agricultural surplus despite many geographic disadvantages: land reform there (Apthorpe 1979; Jeon and Kim 2000; Kay 2002) was carried out swiftly and firmly, and beneficiaries were properly supported to give them the best chance to be productive. This did not happen in the Philippines (Borras 2006). The control of the landlord-politicians over the land cannot be eliminated because they are the ones controlling the government both at the national and local levels. However, with a modest improvement in the percentage of funds allocated to farm communities instead rather than the politicians' pockets, farmer education in the basic principles of farming, and access to micro loans, Philippine farmers could contribute substantially more to the wealth of the country.

Sugarcane, one of the leading products since the Spanish colonial era, typifies this imbalance (Sect. 10.1 below). Efforts to redress the social inequalities in the rural world through agrarian reform have been weak and marred by the powerful alliance between political deciders and landowners (Sect. 10.2). As for rice, the major food item, its present and future are subject to controversies, both in terms of agronomic research and trade policy (Sect. 10.3). Two of the most pressing concerns of the agricultural sector are the rampant conversion of agricultural land into golf courses, residential subdivisions, and industrial parks or resorts, especially around Manila, and the lack of sustainability of current agricultural practices (Sect. 10.4 and Chap. 22).

## 10.1 Sugar Haciendas

From the mid-nineteenth century to the mid-1970s, sugar was the most important agricultural export of the Philippines. The principal sugarcane-growing region is the island of Negros (Huetz de Lemp 1983). In 1980 the region accounted for half the area planted in sugarcane and two-thirds of the production of sugar, a much higher geographic concentration than for other major products such as rice or coconuts (see Chap. 8). In 2012 Negros was still producing 55% of all Philippine sugarcane. The second-largest region is central Mindanao, around Bukidnon province (Madigan and Sealza 1985).

Sugar is a classic example of a colonial agro-industry (Bosma et al. 2007) that has shaped the social structure of colonial lands, from Brazil (Freyre 1952) to the Philippines. The international sugar market and local Philippine culture forged two types of rural societies (Larkin 2001), one based on plantation agriculture, the other

on tenant farming. The sugar industry has also led to stunted economic development, wide cleavages among the Filipino people, and an imbalance of political power (Billig 2002). Although there was never a slave trade in the Philippines, the sugar industry here has had its own unique history of exploitation.

Early Spanish chronicles contain details of cane propagation. After the settlement of Manila by the Spaniards in 1572, sugarcane was planted increasingly in Bulacan, Cebu, Iloilo, Laguna, and Pampanga. Sugar was grown as a subsistence crop long before it was exported.

Shortly after Manila was opened to foreign commerce, the first shipment of sugar to the United States was made in 1795 (Nesom and Walker 1912). By the turn of the nineteenth century, the landowner and trader classes began diversifying sugar production. When the galleon trade ended in 1815, those who were formerly engaged in it began investing in large sugarcane plantations in the provinces. Negros became the country's principal main sugar producer, and the Ilonggo planters the wealthiest among the regional elite (McCoy 1992). Nicholas Loney, a British businessman, was the first to recognize its potential as an export crop. He brought in machinery for sugar production in the 1850s, at a time when Visayan ports (Iloilo and Cebu) were opened to foreign trade (1855), one year after the forced opening of Japan (Aguilar 1994a, b).

Originally based in Iloilo, rich mestizo businessmen soon migrated to nearby Negros, which had long been an underdeveloped island (Billig 1992), to take advantage of the fertile land by land grabbing and later began to acquire private landownership. Hacienda-labor consisted of resident or migrant laborers and share tenants. Most of them were immigrants from neighboring islands such as Panay and Cebu. By the 1860s, Negros Occidental had become the leading sugar producing province (Nagano 1982). Sugar served as a symbol for the Filipino elite known as the *hacenderos*. Unlike coconut, corn or rice, sugar cane can only be grown on large tracts of farmland (*haciendas* in Spanish-colonized Philippines). Hence, owning a sugar cane plantation became a status symbol of affluence. The rich sugar families, all of Spanish roots, created a classic *haciendero* system much like the Latin American model. They took paternalistic care of "their" people from cradle to grave, serving as godparents, paying their medical bills, and occasionally bailing them out of jail. In return, they demanded and received complete subservience based on sharecropping and the "company store" model (Aguilar 1994a, b).

Sugar production and exports increased steadily from then on, becoming the top farm export of the country as early as 1844. In the 1830s, the Philippines exported about 15,000 tons/year, this quantity grew to 236,000 in 1914, with Britain and the United States the top export markets at that time, followed by Australia and China (Galloway 1989). By the first decade of the twentieth century and the start of American colonial rule, foreign and domestic investors started constructing modern sugar mills in response to a guaranteed U.S market for the Philippine sugar. First, the U.S. Congress passed the Payne-Aldrich Act (1909), guaranteeing a quota of 300,000 tons of duty-free sugar to the Philippines, just before free trade was established between the United States and its new colony. Producers were assured unlimited access to the large U.S. sugar market, at a higher-than-world-market prices



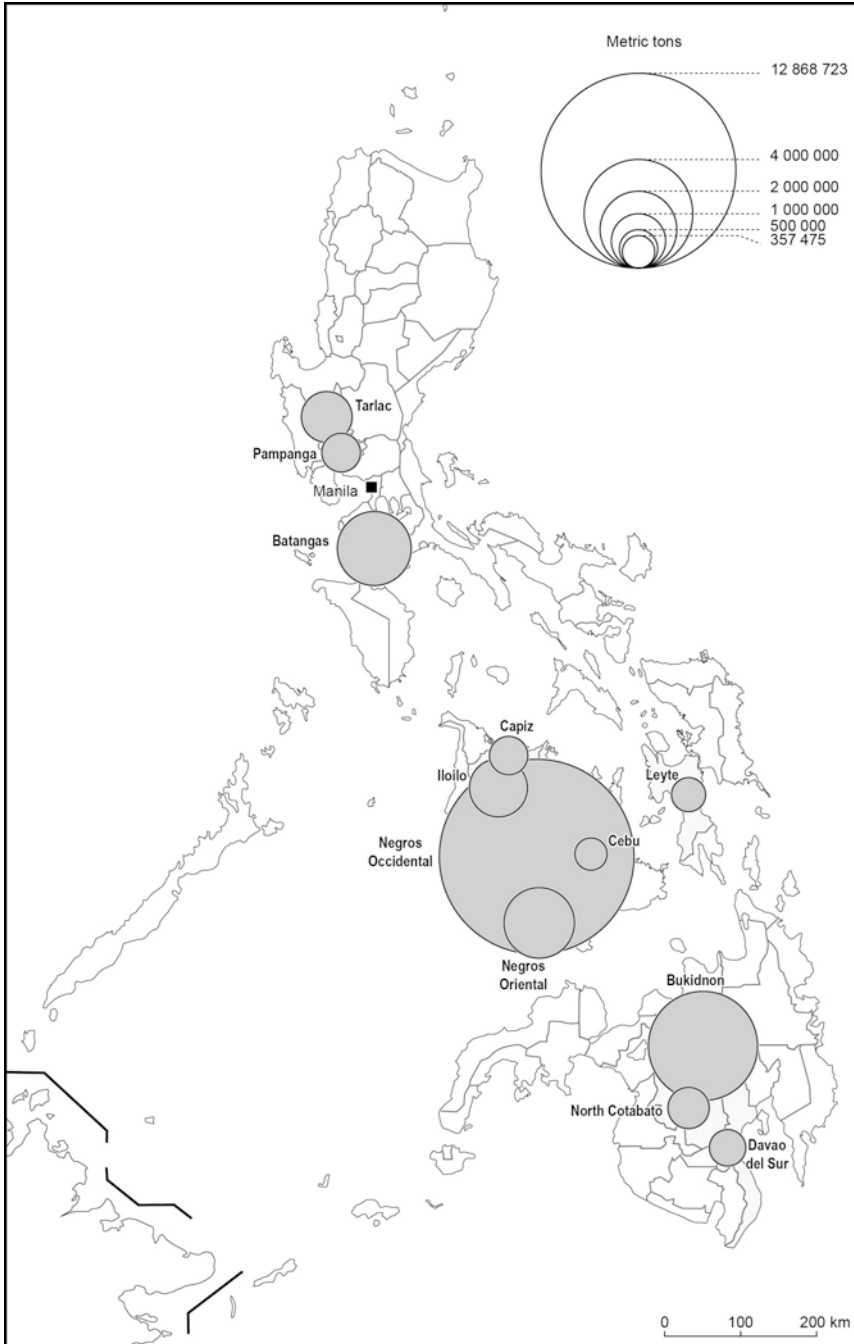
(Giusti-Cordero 2007). To assist in financing the increased requirements of the sugar industry, the colonial government organized the Philippine National Bank in 1916. When the Philippines were granted commonwealth status in 1934, sugar exports became subject to limited quota instead of unlimited free market trade (Jones-Costigan Act) (Poblador 1964). Sugar became a leading export earning crop of the country. The quota policy was later extended under the Laurel-Langley Agreement to last beyond the date of Philippine independence in 1946, and to expire in 1974. This agreement provided for a progressive reduction in the Philippine duty-free quota, and a gradual shift of sugar exports to the competitive world market. In the 1960s, after the United States severed relations with Cuba, and to avoid a sugar shortage, they granted the Philippines an increase in sugar quota despite the provisions of the Laurel-Langley Agreement. The Philippines, in response to an expanded market, launched a crash program to meet the demand. Cultivation was extended to marginal forestlands, and even lands planted to rice were converted to sugarcane. In this sugar boom, the area of lands planted with sugarcane was multiplied by 10. In Negros, the leading sugar producing province in the Visayas, 70% of all agricultural land was turned into sugar lands.

Ownership of land concentrated even more in the hands of a few rich families, which emerged as the dominant political and social forces in the Philippine society, controlling key economic institutions, influencing key government offices and dominating political institutions in the whole country. Wealthy sugar families (Henderson 1999) maintained palatial homes in Bacolod and Manila, traveled in style around the world, and educated their children in the country's top schools. On the other hand, small farmers became landless, merely working as tenants and farm workers (Aguilar 1984; Lopez-Gonzaga 1988a, b), which resulted in extreme poverty of the rural areas (Schul 1967). A survey undertaken in 1990 by the governor of Negros Occidental found that only one-third of the island's sugar planters were paying the then-mandated minimum wage of P72.50 per day.

After 60 years of enjoying the protected American market, the Philippines entered into the highly competitive world market. Before 1974, however, despite the considerable expansion of both sugarcane planting area and milling capacity, the Philippines had experienced difficulties in meeting its expanded quota due to production inefficiencies (Fig. 10.1).

Meanwhile, alternatives to cane sugar had developed in advanced countries (Ilag 1965). The Philippines were now in direct competition with sugar beet producing countries or US-produced corn syrup. With cheaper production cost, market prices were comparatively lower than the Philippine sugar. When world sugar prices peaked in 1974, shortages were felt in the domestic sector. Because domestic sugar was sold at a low price due to price control, amounts intended for local consumption were diverted to the world market. As a result, the Philippine sugar industry started to crash. This led to a decision of the Marcos government to take over sugar trading under the Philippine Exchange Company. Sugar trading for domestic and export markets had always been a private sector concern prior to 1974.

Seeing sugar's major influence on socio-politics as well as for his financial gain, president Ferdinand Marcos created the Philippine Sugar Commission (Philsucom)



**Fig. 10.1** Top sugarcane producing provinces in 2012  
These 12 provinces provide 96% of Philippine sugarcane. The top four alone (Negros occidental, Bukidnon, Batangas, Negros oriental) make up for 75% of the country’s output

in 1974 to solely handle buying and selling of sugar at a time when prices were at a record high of 54 cents per pound. Headed by Marcos' close associate Roberto Benedicto, Philsucom was the only authorized agency to set prices paid to planters and millers as well as purchase companies connected to the sugar industry, then followed a National Sugar Trading Corporation (Nasutra) to handle all domestic and international sugar trading. All buyers of sugar had to deal with it, under the single trading agency/public monopoly concept. The same principle was applied to more than just the sugar industry, but it antagonized many, both rich and poor, in the sugar industry, and it was later a factor in the collapse of the Marcos presidency.

After Marcos was ousted in 1986, President Corazon Aquino established the Sugar Regulatory Administration (SRA) with a mandate to revive the industry with measures such as dismantling the monopoly, privatizing sugar mills and refineries and restoring market forces. But it had no authority to buy, own or manage sugar marketing, contrary to what existed before. SRA's policies resulted in major price fluctuations of raw sugar, at a time the government was still holding—wrongly—to the idea of Philippine competitiveness on world sugar markets. A quick reduction of import tariffs led to an influx of quality sugar from Thailand and Australia (Delmo 2011).

Today, the price of Philippine sugar remains high compared to sugar produced in other countries. An increasing demand for the domestic use of sugar in food and beverages, confectionaries and processed fruits has kept the sugar industry afloat. The Philippine government's commitments to the GATT and WTO, as well as the development of an ASEAN free-market area, are exerting pressure for government to remove protectionist policies.<sup>2</sup> The Philippine Bottlers Association, an organization of soft drinks and cola producers has lobbied for Congress to allow importation of sugar. The Philippine sugar industry is threatened by the entry of cheaper imported sugar and the eventual removal of US quotas (Campos 2011; Streegan 2012).

The powerful sugar elites continue to enjoy strong influence in government. 2003 Government data showed that out of the 618,991 ha planted with sugarcane, 49.41% was owned by about 1807 planters (or 0.03% of the total 46,574 planters) whose land ownership ranged from 50 ha to 100 or more hectares. They also controlled the sugar industry's 28 sugar mills and refineries. The same few also own the fertilizers, pesticides and farm implements businesses. The *hacenderos* are not only the economic elite, they are also the "king makers" in politics. Most of the Philippine political elite, from the provincial level (governors) to the capital (senators), came and still hails from sugar baron families. They are a big power bloc in the national politics, which allows them to continue to circumvent the implementation of agrarian reform.

Many migrant sugar workers ("*sacadas*"<sup>3</sup>) and small farmers have fallen below the poverty line. More restricted production and mechanization would seriously reduce the labor force, and fill the ranks of people moving to the slums of Manila.

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<sup>2</sup>ASEAN agreements plan for the progressive removal of tariffs on sugar: 28% in 2012, 18% in 2013, 10% in 2014, 5% in 2015.

<sup>3</sup>Farm workers in haciendas are divided into two categories: "*dumaan*" (permanent farm workers) who work in the haciendas whole-year round, albeit for 2–3 days a week only, and "*sacadas*" (migrant workers)—work during the milling season only when there is need to harvest the sugarcane faster for milling.

This is a serious problem for the country, given that the Philippine sugar industry employs an estimated 556,000 farmers and 25,000 sugar mill workers, and about five million people depend on the industry directly or indirectly. The sugar industry now faces a seemingly irreversible decline, due to its inefficient organization (Billig 1993) and techniques (Padilla-Fernandez and Nuthall 2009, 2012), leading to low yields,<sup>4</sup> even if there were still some relatively good export years such as 2011 with markets in Asia (South Korea and Japan) (Alave 2011). The high prices guaranteed by the former agreements with the United States have prevented the development of a culture of modernization and a lack of incentives to improve productivity. It may prove difficult to change this, in view of the well-entrenched class struggle between “fascist hacienderos” and “communist peasants” in the cane-growing areas such as Negros (Billig 1992; Aguilar 1998).

## 10.2 Agrarian Reform

Before the Hispanic period, there were no owner-cultivators in the archipelago that became the Philippines. Communal land was managed by the barangay through its system of *datus*, freemen, serves and slaves. The Spaniards created large domains, some of them belonging to the church, in the coastal plains and lands easy to cultivate, while the communal system remained strong in the mountains, especially when the agricultural methods were based on *kaingin* (swidden cultivation). An important legacy of the Spanish colonial period was the high concentration of land ownership, and the consequent widespread poverty and agrarian unrest to demand a more just land distribution. Few issues incite as much passion and interest among the Filipino masses and leftist groups<sup>5</sup> as agrarian reform, because it calls for the redistribution of land to small farmers and landless agricultural workers.

### 10.2.1 Land Ownership Inequalities

*“The most pressing internal problems of the Philippines arise from the dislocation of its agrarian system. The incessant agrarian conflicts, which periodically attain the proposition of local insurrections, are indicative of a fundamental crisis [...] symptoms of a chronically unhealthy agrarian system”.* (Allen 1938)

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<sup>4</sup>The Philippines’ sugarcane production is only at average of 65 metric tons per hectare, well below the cane yields (120–150 tons/ha) achieved in Brazil, India or South Africa (*Manila Bulletin*, June 18, 2013). Research institutes such as the Philippine Sugar Research Institute (PSRI) and the Institute of Plant Breeding (IPB), a branch from the University of the Philippines—Los Baños, are working on the development of higher-yielding sugarcane varieties, with the goal to raise sugar competitiveness in time for a regional free trade in 2015.

<sup>5</sup>Including media outlets such as *Bulatlat*, an explicitly leftist online publication, which is following closely this issue.

**Table 10.1** Size of Philippine farms

	Number	(%)	Total area (ha)	(%)	Average size (ha)
Less than 1 hectare	1,935,874	40.1	232,731	2.4	0.12
1–2 ha	1,349,903	28.0	2,230,295	23.1	1.65
2–3 ha	624,669	13.0	1,365,995	14.1	2.19
3–5 ha	508,880	10.6	1,778,383	18.4	3.49
5–10 ha	303,139	6.3	1,914,396	19.8	6.32
10–25 ha	88,658	1.8	1,192,188	12.3	13.44
More than 25 ha	11,616	0.2	957,187	9.9	82.40

Source: Agricultural census 2002

According to the 2002 Agricultural Census,<sup>6</sup> most farms in the Philippines were very small in size: 68% of farms were less than 2 ha in size (occupying 25% of farmland) and 93% less than 5 ha (58% of farmland). This in sharp contrast with a small number of large farms averaging 82 ha (Table 10.1).

Compounding the smallness of farms, many holdings were fragmented. Only 38.5% of farms were composed of one parcel, but 55.5% contained two or three parcels, and 4.8% were made up of four or five parcels.

The immense majority of farms (99.2%) were family farms (average size 1.95 ha, occupying 96.4% of the agricultural land), but only 47.5% of farmers owned all the land they worked (50.6% of the total cultivated land, for an average ownership of 2.14 ha), while 20.5% were renting it (16.3% of lands, average 1.59 ha). 1.5 million farms (31.1%) were run under different modes of tenure (average size 2.07 ha).

Corporate farms were few (7590 vs. 4,782,541 family farms), but much larger (average size 28.2 ha). There were also 13,629 cooperative farms (avg. size 4.99 ha) and 2673 owned-owned farms (avg. size 2.77 ha only).

Most farmers were middle-aged, with the biggest numbers being in the 40–44 age bracket (12.9%), followed by the 35–39 and 45–49 groups (respectively 12.6% and 11.9%). There were more farmers aged 60–64 than 25–29, indicating, in the context of an expanding Philippine population, a lack of renewal in the profession and an overall ageing of farmers (more aged 70–74 than 20–24).

Looking at gender, registered farm holders were mostly male (88.2%), but in farm households, there were more women (59.4%) than men (40.6%) engaged in farm work.

<sup>6</sup> [http://www.fao.org/fileadmin/templates/ess/documents/world\\_census\\_of\\_agriculture/countries\\_for\\_website/philippines\\_2002.pdf](http://www.fao.org/fileadmin/templates/ess/documents/world_census_of_agriculture/countries_for_website/philippines_2002.pdf). A new farm census was conducted in 2013. Its results have not been released at the time of this writing.

### 10.2.2 Peasant Movements

The issue of land reform (or agrarian reform) in the Philippines has roots that run deep (Allen 1938). The Philippines has long been known for its high inequality in distribution of wealth and income; unlike many of its Asian neighbors characterized by relatively less inequality by international standards, the Philippine economy has often been compared to Latin American countries that are also characterized by high inequality in land distribution. As shown for sugar, a common colonial history of Spanish colonial rule (1521–1898) led to the formation of a small elite of landowners and the establishment of semi-feudal structures in the country. In the traditional tenant-patron relationship, landlords exploited their tenants, but they also provided vital services to them: annual loans for seeds, gifts for weddings and baptisms, access to common lands for fish or firewood. This type of benevolent landlordism limited the development of violent class struggle in the countryside (Kerkvliet 1971). Partly due to this historically high inequality there has long been intermittent incidence of peasant unrest and rural insurgencies in the Philippines.

Many peasant uprisings have occurred across the Philippines. They often had religious, millennial overtones and revolved around a personality cult of their leader. Geographically limited, they were short-lived and easily controlled by the colonial state authorities.

During the American administration that followed (1899–1946), the traditional landlord-tenant relationship gradually eroded mainly in the rice-producing plain of Central Luzon (McLennan 1969), due to the growing commercialization and mechanization of agriculture, the systematic use of sharecropping (about 70% for the owner, only 30% for the farmer) by absentee landlords, and a rise in population. Farming communities came under intense stress, and this created an environment favorable to the rise of class-based solidarity among peasants, who organized themselves in peasant associations<sup>7</sup> to resist unilateral evictions by the landlords. Often ignoring the militant communists who pushed for the assassination of landlords, peasant groups armed themselves in self-protection, and at the time of the Japanese invasion, they were ready to defend their space.

In 1935, a short-lived peasant uprising denouncing both American imperialism and Philippine landlordism was led by the Sakdalista movement in the provinces of Laguna and Bulacan, not far from Manila (Sturtevant 1962; Terami-Wada 1988a, b).

The Hukbalahap (*Hukbo ng Bayan Laban sa mga Hapon*, “The Nation’s Army Against the Japanese”, better known as “Huks”) (Moore 1947; Pomeroy 1978; Kerkvliet 2002), was an active and efficient anti-Japanese guerilla movement formed in 1942 by peasant farmers in Central Luzon (Nueva Ecija, Tarlac, Pangasinan and Pampanga provinces) under the leadership of Louis Taruc (Carlson 2008). In this region, the ratio of tenant farmers to the total population was especially high: the 1939 census placed four provinces in the region above 50%, with Pampanga having the national highest ratio of 70%. In 1946, a few leaders of the

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<sup>7</sup>Union de Aparceros de Filipinas (UAF) in 1919; *Katipunag Pambansa ng mga Magbubukid sa Pilipinas* (KPMP, National Society of Peasants in the Philippines) in 1924.

Huks were elected to the House of Representatives in the first national election of the independent Philippines, but conservative landlords, supported by the United States at that time of cold war,<sup>8</sup> pressed the Philippine government of president Manuel Roxas to deprive them of their legislative seats. This pushed the Huks to become a revolutionary army demanding radical changes of ownership of Philippine farmland, and in 1949 they started a rebellion against the national government, marked by raids, robberies, kidnappings and murders of high-ranked personalities such as former president Manuel Quezon's widow. Women (Lanzona 2009), nicknamed "Amazons" by the Philippine press, played a central role in the Huk rebellion, as spies, organizers, nurses, couriers, soldiers, and even military commanders. This rebellion lasted 5 years, until their leaders, weakened in the field by American anti-insurrection troops and in their legitimacy by their excesses and the reforms started by president Ramon Magsaysay, surrendered in 1954.

The peasant movement reorganized itself in two directions. The FFF (Federation of Free Farmers) (Kimura 2006), formed in 1953 and active in the 1950s and 1960s, was a moderate movement organized by lawyers and intellectuals and sought harmony, instead of conflict, among the classes. Catholic social teaching inspired its ideological foundation, since priests, nuns and seminarians were involved in its organization and activity. This moderate peasant movement, unfortunately, did not succeed in solving the agrarian problems, and its influence waned rapidly in the 1970s.

In reaction, a class struggle-oriented peasant movement redeveloped after the rebirth of the Philippine Communist Party in 1968 (Putzel 1995), at the height of China's Cultural Revolution aura, and the formation of the New People's Army (NPA, *Bagong Bayan Hukbong*) in 1969.

The NPA has devoted herself to a revolutionary land reform program, including reduced rents and the improvement of rural people's living conditions through health and literacy programs. It is estimated to have approximately 10,000 members today, much less than at the time of Ferdinand Marcos, when they had 25,000–30,000 members and were nicknamed with the positive "Nice People Around".

However, in August 2002, in the wake of the September 11 events, the United States listed the NPA among foreign terrorist organizations, a move followed by the European Union in November 2005. Its founder José María Sison now lives in exile in the Netherlands. The organization is accused of being a group of blackmailers, rather than a revolutionary organization. The NPA operates mainly in rural areas around the Philippines, where it is charged with extortions ("revolutionary tax" on shopkeepers, transport operators, farm and agribusiness firms such as Dole, Del Monte or Coca-Cola) (Hernani 2013), destruction of farm equipment or harvests on Mindanao plantations (Solmerin 2011), kidnappings, contract killings of politicians or family members (Pimentel 2013), deadly attacks on military officers, policemen and in some cases U.S. soldiers. In September 2006, several mass graves were discovered in the provinces of Leyte and Samar. It was widely reported that 100 people

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<sup>8</sup>The Huks also opposed a constitutional amendment that would give American businessmen parity rights with Filipinos in exchange for US rehabilitation funding of the war-devastated country.

were executed in the 1980s by the NPA during cleansing operations of “spies” reporting them to the government. According to the Philippine government, the NPA also has contacts with the Islamists groups Moro Islamic Liberation Front (MILF) and Abu Sayyaf in Mindanao. Fighting continues (Tiglao 2013) between the Philippine government and the NPA, with human rights abuses apparently on both sides.<sup>9</sup>

Other organizations, without the direct endorsement of the Philippine Communist Party, have been leading regular protests, both in rural sites and in the capital region, to demand a true implementation of an Agrarian Reform, which was started after the fall of the Marcos government.

### 10.2.3 Land Reform

*“President Macapagal in the Philippines, President Betancourt in Venezuela and Prime Minister Nehru in India have similarly been using agrarian reform in their search for answers to some their countries instabilities”.* (Ladejinsky 1964)

Landownership and control of resources are a central issue for the development of the Philippines (Moreno and Evangelista-Leones 2012). In the Philippines, rural poverty and rural insurgency problems have often been linked to access to land and tenure relations. The level of poverty is high among landless agricultural workers and farmers cultivating small plots of land. In regions where the concentration of land ownership is relatively high, the incidence of poverty is correspondingly high (Piron 1956). Rural unrest and insurgency in these regions happen more often than in other regions.

The completion of agrarian reform is a precondition for an effective reduction of inequality and poverty (Balisacan 1993a, b, 2007), for democracy (Prosterman 1986) and for the achievement of sustained and sustainable development (Bello 2013a, b). The dominant logic of land reform programs in the Philippines, as in many other countries, has been to give the land to small owner-cultivators, assuming that they would use the land more productively than large owners. Both the demand (by peasant movements) for and the resistance (by landed elites) to redistributive land reform indicate the intensely political nature of land reform (Fuwa 2000, Côté 2000).

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<sup>9</sup>For example, in 2010, 43 health workers accused of planning bombings for the NPA under the cover of medical and humanitarian help to the poor were arrested in the city of Morong, Rizal province. Several women in these “Morong 43” were reportedly sexually abused and tortured by the Philippine military. Despite international complaints, it took 6 months to the newly elected president Benigno Aquino to let them free, without compensation, as he was promoting the officers in charge of the arrest.



### 10.2.3.1 Early Attempts at Land Reform

Land reform has been attempted several times in the Philippines (Murray 1972; Bauzon 1975; Overholt 1976; Putzel 1992; Riedinger 1995; Almeda Martin 1999), but often in a very partial way, to protect powerful landed interests (Putzel 2003), and therefore with little success for poor farmers (Hayami et al. 1990).

In the first years of the American colonization, Governor General Taft introduced in the archipelago the idea of redistribution of land to farmers (Escalante 2005a, b), starting with the haciendas that were until then under control of the Spanish friars (Connolly 1988), something that neither the Spanish authorities or the early Philippine government of Emilio Aguinaldo had considered. The implementation of this policy greatly helped in quieting unrest in the Philippine countryside, especially in Cavite province (Escalante 2005a, b). The homesteading system instituted in the Philippines in 1903 was intended to stimulate economic development through increased agricultural output from previously unoccupied lands and also to relieve agrarian problems in densely settled parts of the country (Krinks 1974).

In 1933, Governor Theodore Roosevelt Jr. signed the Rice Share Tenancy Act (Wurfel 1954), which provided for better tenant-landlord relationship, a 50–50 sharing of the crop, regulation of interest to 10% per agricultural year, and safeguards against arbitrary evictions by landlords. Since it was supposed to be approved by local political councils, controlled by landlords, the law had no effect, except in central Luzon, the rice basket of the Philippines, where the law ordered its implementation. In 1946, President Manuel Roxas extended it to the whole country.

The 1935 Constitution of the Commonwealth addressed the issue of foreign land ownership, stating that corporations must have at least 60% Filipino ownership.

In 1952, the Agricultural Credit Cooperative Financing Administration was created to provide small farmers and share tenants loans with low interest rates (6–8%) to free them from loan sharks.

President Ramon Magsaysay pushed for the Agricultural Tenancy Act (1954) providing security of tenure to farmers and establishing a Court of Agrarian Relations to deal with disputes between tenants and landowners. Then the Land Reform Act (1955) created the Land Tenure Administration (LTA) for the acquisition and distribution of large rice and corn lands (over 200 ha for individuals, 600 ha for corporations).

In 1963, President Diosdado Macapagal signed the Agriculture Land Reform Code, establishing an agricultural leasehold system to replace all existing share tenancy systems in agriculture and setting up measures to facilitate credit to farmers and land surveys, among others. It also established the Land Bank of the Philippines to help with land reform, particularly the purchase of agricultural estates for division and resale to small landholders. The law was ambitious in spirit but was weakened by the many amendments introduced by the landed politicians dominant in the Philippine Congress and did not go beyond eight pilot provinces, mostly in Central Luzon (Bulacan, Pampanga, Nueva Ecija, Pangasinan, Tarlac) as well as Occidental Mindoro, Camarines Sur (Bicol) and Misamis Oriental (Mindanao).

### 10.2.3.2 The Marcos Land Reform

In 1971, Ferdinand Marcos created the Department of Agrarian Reform, a cabinet position. Then, one month after proclaiming martial law, he declared the entire Philippines a land reform area and bypassed the landlords by proclaiming Presidential Decree 27 (October 1972) that instituted a land reform program (Kerkvliet 1974; Mangahas 1974; Hanisch 1975; Wurfel 1977). It was the most comprehensive ever attempted in the Philippines, even if covering only rice and corn farms. Rice or corn farms of more than 7 ha were to be purchased and parceled out to individual tenants (up to 3 ha of irrigated land, or 5 ha of unirrigated land), who would then pay off the value of the land over a 15-year period. Sharecroppers on holdings of less than 7 ha would become leaseholders, paying fixed rents. This agrarian reform included an ambitious package of services extended to farmers in the form of credit support, infrastructure, farm extension, legal assistance, electrification and development of rural institutions. Rice and corn production was heavily supported by government financing (the “Masagana 99” program) and other production loans that led to increased rice and corn production (Remo 2008). The country even became a rice exporter during that period.

The Marcos land reform program succeeded in breaking down many of the large haciendas in Central Luzon, a traditional center of agrarian unrest where landed elite and Marcos allies were not as numerous as in other parts of the country. This process caused the socio-political power of landowners to decline in the rural areas of central Luzon, while the gap between the peasants (owner-cultivators, leasehold tenants, and amortizing owners) and landless rural workers widened. Small landowners ventured into piggery farms, poultry raising, vegetable gardening. However, it did not do much for the sugar, coconut or fruit plantation workers.

However, the program failed as a whole. Only 20% of rice and corn land, or 10% of total farmland, was covered by the program, and in 1985, 13 years after Marcos’s proclamation, 75% of the expected beneficiaries had not become owner-cultivators. By 1988, less than 6% of all agricultural households had received a certificate of land transfer.

Political commitment on the part of the government waned rather quickly, after Marcos succeeded in undermining the strength of landed elites who had opposed him. Even where efforts were made, implementation was selective, mismanaged, and subject to considerable graft and corruption. The development paradigm pursued by Marcos had an inherent bias for elite big business concerns that clashed with the distributive justice and equity-based principles originally behind agrarian reform. Leading technocrats like Cesar Virata<sup>10</sup> originally came from the academe but moved to the corporate world, where their minds became focused on the enterprise world rather than concern for small farmers (Tadem 2015).

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<sup>10</sup> He was at the same time Prime Minister, Finance Minister as well as Chairman of the Land Bank of the Philippines, the agrarian programme’s main financing institution.

### 10.2.3.3 CARP

In February 1986, the threat of peasant revolution was much greater than in 1972 and thus there was early talk of more sweeping reform. In February 1987, 3 weeks after the ratification of the new Constitution, agrarian workers and farmers marched to the historic Mendiola Street near the presidential palace to demand real land reform (Tadem 1990). When farmers tried to go beyond the designated demarcation line set by the police, Marine forces fired at them. Twelve farmers were killed and 19 were injured in this incident now known as the Mendiola Massacre, which pushed the president to act more decisively.

The failure of the Marcos land reform program was a major theme in Aquino's 1986 presidential campaign, and she gave land reform first priority (Wurfel 1989): "Land-to-the-tiller must become a reality, instead of an empty slogan." However, unlike Marcos, Mrs. Aquino came from a family of very large landowners, the Cojuangcos. The president declined to launch the reform by presidential decree, opting instead for a seemingly more democratic parliamentary reform (Kasuya 1995). Landlords registered a strong opposition to reform and Congressmen—especially those led by the presidents' brother—were sensitive to the pleadings of landed interests and enacted an unworkable law.

In the 6 years she was president, Corazon Aquino used no less than six Secretaries of Agrarian Reform, when in other government position there was much more stability (only one Secretary of Labor, Interior or Social Welfare & Development, two Secretaries of Foreign Affairs, Health, or Trade & Industry, and three Secretaries of Budget, Agriculture or Finance).

The Comprehensive Agrarian Reform Program (Republic Act No. 6657, June 10, 1988, better known as CARP)<sup>11</sup> was adopted by the Philippines Congress and signed into law by President Corazon Aquino in 1988. Aimed at all kinds of lands in the country, not just rice and corn land, its stated goal was to redistribute 9.8 million hectares (later revised to 8.2 million re-assessments of potential areas) to about five million farmers. The Department of Agrarian Reform (DAR) was to distribute 4.4 million hectares of private agricultural and government-owned lands to some three million farmers, and the Department of Environment and Natural Resources (DENR) 3.7 million hectares of public forested lands (Integrated Social Forestry/Community-Based Forest Management lands) to about two million farms, private or public, and to provide services support (credit, infrastructure, etc.).

Landowners divesting land would be paid by the government through "just compensation", a very vague phrasing, and were allowed to retain not more than 5 ha of land. In an innovative but highly controversial measure, the law allowed corporate landowners to "voluntarily divest a proportion of their capital stock, equity or participation in favor of their workers or other qualified beneficiaries", instead of selling their land to the government for redistribution. In short, the law suggested that farmers could become stockholders of corporate farms, without receiving one

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<sup>11</sup> *Comprehensive Agrarian Reform Law of 1988 (Republic Act 6657)*, 10 Jun 1988. Full text available online: <http://www.chanrobles.com/legal4agrarianlaw.htm#UxHFA3OLGaQ>

square inch of land. This SDO (Stock Distribution Option) was rejected by most family farmers, who only wanted a piece of land for their own needs.

Several reasons led representatives and senators to go along with land reform (Adriano 2009), even if some of their financial interests were threatened. First, it was a way to satisfy their voters, through a measure perceived as populist. Second, the influential Catholic Church, very conservative on moral issues, was, and still is, very much in favor of land reform benefiting the peasant population (Uy 2015), as indicated by statements from the Bishops' Conference of the Philippines as well as the active participation of priests and nuns, sometimes at their life expense, in farmers' struggle in the countryside. There was also a real fear of major social unrest if the nation's militant landless movement became too active and would regroup with the feared NPA. It was safer to abandon some land in exchange for social peace and personal safety.

Criticism of Aquino's plan came from both sides (Perez 2016). Landowners thought that it went too far, and peasant organizations complained that the program did not go far enough and that by leaving the details to a landlord-dominated Congress, the program was doomed to failure.

The results of CARP can be interpreted in very different ways (Africa 2006). On the one hand, despite the loopholes of the program and the highly unequal social structure that constrained the implementation of land reform, most of the land included in the original law of 1988 (82%) has been re-organized, especially during the years of the Fidel Ramos administration. Proponents of agrarian reform used the "bibingka strategy" (Borras 1999), which consists in applying pressure from below (grassroots peasant movements) and from above (influence of NGOs, national media and Philippine government on reluctant landlords), to push for land redistribution. Increased litigation encouraged the Philippine government from 1999 to also implement the agrarian reform program of the World Bank, a mechanism where distribution of land for sale is subject to the laws of the market (Borras 2007; Borras et al. 2007). The DAR and the Department of Environment and Natural Resources (DENR) have reported a cumulative accomplishment of a seemingly impressive 6.4 million hectares—or 79.4% of the target CARP scope of 8.1 million hectares—with 3.8 million farmer beneficiaries from 1972 to June 2005. These figures seem to indicate that agrarian reform in the Philippines was quite successful.

However, this target is much lower than CARP's original scope in 1988. At that time, the target for distribution was 10.3 million hectares, or some 85% of total agricultural land planted to crops and a third of the country's total land area. This was adjusted downwards by 21.7% in 1996 following drastic cuts in coverage of both private and public lands. The downward adjustment allowed CARP exemptions as a concession to big private landed interests. At least 60,000 ha of land in commercial farms and plantations were exempted from 1988 to 1998. The Supreme Court handed down a decision in 1990 sparing commercial livestock, poultry and swine operations from CARP coverage. CARP allows landlords to retain 5 ha of land and an additional 3 ha for each of the heirs, while Marcos' program had a retention limit of 7 ha each. Landlords used these as a loophole, hurriedly subdividing their landholdings and coming out with multiple titles within the limits.

It appears that CARP was not able to address peasant poverty and landlessness because it was never meant to, since it was designed mostly to protect the interests of the landowners, who have ruled the country since the colonial period. Many farmers have been frustrated by the slow pace of the release of lands, and by the many loopholes that have allowed powerful families to retain most of their land, including the Aquino-Cojuangco clan of former President Corazon Aquino and her son president Benigno Aquino, as illustrated by the case of Hacienda Luisita in Tarlac province (see insert below).

#### 10.2.3.4 CARPER

CARP officially expired in December 2008. But since its goals were not fully reached, another law extended it. CARPER (Comprehensive Agrarian Reform Program Extension with Reforms), signed into law by then-president Gloria Macapagal Arroyo on August 7th, 2009, in the last year of her presidency, extended the deadline of distributing agricultural lands to farmers for 5 years and amended several provisions of CARP. It was set to expire in June 30, 2014, but was extended after that date.

The intended beneficiaries of CARPER are landless farmers, including agricultural lessees, tenants, as well as regular, seasonal and other farm workers. Beneficiaries must be least 15 years old, reside in the barangay where the land holding is located, and own no more than 3 ha of agricultural land. The CARPER law favors the selection of organized farmers to be beneficiaries, because it is believed that the success rate of organized farmers is higher and they can make their awarded lands more productive. CARPER contains amendments that are more gender-sensitive, since women also can be beneficiaries and run farms, and the law creates a congressional oversight committee to monitor the implementation of the law.

Surveys commissioned by the DAR in 1990, 2000 and 2006 through the Institute of Agrarian Studies (IAS) of the College of Economics and Management of UP Los Baños have consistently shown that the income of agrarian reform beneficiaries (ARB) were much higher (about 40%) than non-ARBs despite the many loopholes in the CARP Law and insufficient government support to the program. However, the rhythm of land transfer under CARPER has not proven faster due to the heavy bureaucracy involved (Del Mundo 2011; Bello 2014a, b). For militant peasant organizations (such as KMP, *Kilusang Magbubukid ng Pilipinas*, Peasant Movement of the Philippines; UMA, *Unyon ng Manggagawa sa Agrikultura*, Union of Agricultural Workers, NFSW, National Federation of Sugar Workers, or *Task Force Mapalad*) and advocates of genuine agrarian reform, CARP and CARPER failed to address the centuries-old problem of land monopoly in the Philippines (Ocampo 2015).

From July 1, 2009 to June 30, 2014, CARPER has distributed a total of 1,052,259 ha of land to 897,648 farmer beneficiaries of which 43.2% (454,134 ha) are public arable and disposable lands and 22.1% (232,400 ha) are privately owned lands. However, vast haciendas and plantations have remained intact while some lands distributed to “beneficiaries” have been sold back and re-concentrated in the hands of big landlords and foreign agribusiness corporations (Borras and Franco

2005). The distribution process itself is also often hotly contested, with allegations that agrarian reform officers often include relatives or outsiders among the beneficiaries, dispossessing the actual tenant-farmers of their due.

The regions with the biggest land balance for distribution are those with significant haciendero and political clan presence (Lopez-Gonzaga 1988a, b)—the Cagayan Valley of northern Luzon, the Bicol Region, the Western Visayas (Negros, Panay), the Eastern Visayas (Samar, Leyte) and large parts of Mindanao: the Autonomous Region in Muslim Mindanao, ARMM, SOCCSKSARGEN (South Cotabato, Cotabato, Sultan Kudarat, Sarangani, and General Santos City).

The rampant cancellation of certificates of land ownership award (CLOAS) to farmers now covers over a million hectares of land. Indeed, CARP required beneficiaries to pay land amortization; the failure to do so in three cumulative years would result in foreclosures. During Senate hearings in 2015, Land Bank officials admitted that only 10% of farmers have been able to pay these amortizations in full. There is therefore a major risk of default for farmers leading to their eviction (Bello 2011; Olea 2013a, b, c, d; Ellao 2014; Mallari 2014; Evora 2016) from lands awarded to them a few years ago (De La Rosa 2015; Echanis 2015). CARP and CARPER have created a new social class: the landed poor (Fabella 2014). They have failed to improve farm productivity and the quality of life of the beneficiaries, and have succeeded only in redistributing poverty. The 5-ha limit has constrained the efficiency of the best-managed farms and encouraged a flight of capital towards countries with less restrictive regulations on land ownership. Innumerable problems, not least of them land survey issues, resistance from landowners, problematic documents and titles, and concerns of agrarian reform beneficiaries, keep pulling back results to insignificant numbers and impact.

Changes in rural land control are linked to smallholder debt problems and opportunistic local elites seizing on the circumstances of farmers in need of liquidity. The debt problems of smallholders increase with their dependence on the technological inputs marketed by agro food corporations wishing to push exports to urban and international markets.

The academic and political debate is now focusing on a balance to attain between social equity and productivity in Philippine agriculture (Rutten 1966; Sicat 2014; Koirala et al. 2016). The 'free market', export-led development strategy has not delivered its promise of development in the Philippine agriculture. From a net agricultural exporting country, the Philippine archipelago has become a net agricultural importing country. This development strategy has also failed to address the persistence of poverty and growing inequality in the country. In areas of effective land reform, particularly rice-growing areas, the farmers' ventures into secondary, non-agricultural activities, have diminished the inequality between land-owning farmers and landless farmers, and allowed them to better weather the fluctuations of markets (Estudillo and Hossain 2003). New policies need to be set in motion to improve the production and developed explicitly pro-poor land policies, and redirect the agricultural focus from land equity to farm efficiency: the lack of support services to farmer-beneficiaries is seen by many as a major reason for the failure of the land reform program to improve the lives of the poorest of the poor (Borras 2007; Gomez 2015).

Farmers have started new strategies to defend their rights, by mounting Gandhi-style marches to Manila (Niemelä 2010; Olea 2012a, b, 2014) or organizing occupations of lands (Kerkvliet 1993) owned by hacienderos if the landlords continue to refuse to divest their land to farmers. This has happened, among others, in sugarcane plantations of Negros, despite some successful conversions (Yap 2013a, b). In Bukidnon (Ehrhart 2013), where relatively egalitarian corn- and rice-farming areas have given way to a stratified landscape of sugarcane and banana plantations, as former smallholders have been forced to work as wage laborers, collectives try to combat land consolidation with innovative programs of land rehabilitation and reciprocal labor arrangements. Organic farmers promote sustainability and self-reliance to escape the cycle of debt, while NGOs and communities try to fight the spread of cash crop plantations, by promoting instead staple cropping and food sovereignty.

The DAR recognizes that in some areas, tension remains high between previous landowners and beneficiaries, while in other areas, the tension comes from different farmers' groups that have conflicting claims on individual farm lots. Unlike rice lands where tenants occupy specific farm lots, farm workers in sugar haciendas have no permanent farm lots to claim as their own, which leads to conflict in places like Negros, where government officials must assist farmers in their installation to prevent acts of violence against them (Salamat 2014), unless the local officials are working hand in hand with powerful landowners to criminalize the farmers who received land under the CARP/CARPer schemes (Franco and Carranza 2014). Some large landowners send their own workers to harass beneficiaries, or send their own hacienda workers to damage crops on the fields of new small owners or steal their nuts in coconut areas, as shown by repeated incidents in Quezon province (Mallari 2015).

Farmers grassroots movements, which are getting better organized (Franco 2008) and benefit from the help of supporters trained in legal issues, try to focus on their goals by supporting legislators who support the development of a new law, possibly named GARB (Genuine Agrarian Reform Bill) (Olea 2015), but they may have some loose links with revolutionary movements such as the NPA, resulting in locally high levels of violence in many rural areas of the archipelago, with attacks on large farms and plantations (Lopez 2016), and brutal responses of militia targeting and killing farm union leaders and land reform militants, priests, academics or journalists, as well as ... land reform beneficiaries (Franco and Abinales 2007; Olea 2016).

In 2015, a new coalition, the Philippine Land Reform Movement (PLRM), was formed during a meeting at the state-owned University of the Philippines Diliman (Umil 2015a, b, c), attended by more than 500 farmers, including representatives of workers in Hacienda Luisita (Tarlac), Hacienda Looc (Batangas), Hacienda Dolores (Pampanga), Araneta Estate (Bulacan) and Hacienda Yulo (Laguna). Members of the academe, church, scientists and engineers, parliamentarians, artists, peasants, workers, urban poor, youth, women, Moro, human rights and peace advocates joined the PLRM, denouncing the militarization of rural lands, land grabbing by powerful political families and corporations, "cacique-style oppression" and the indifference of the national leaders, including the president, Benigno Aquino, a "haciendero" president in their eyes.

### Hacienda Luisita

The 4916-ha Hacienda Luisita, in Tarlac province, is a part of Philippine economic history. It has become a symbol of the way property relations originating in the Spanish hacienda and the friar estate system have been preserved in Central and Southern Luzon (Lara and Morales 1990), and of the political difficulties with land reform in the Philippines (Castañeda 2004; Olea 2013a, b, c, d).

It was named after the wife of Don Antonio Lopez y Lopez, the founder of one of the greatest Philippine-based companies during the Spanish and American regimes, the *Compania General de Tabacos de Filipinas* or “*Tabacalera*”. Don Antonio established his company in 1882 to take over the Philippine Tobacco Monopoly from the Spanish colonial government. It included several other haciendas in the northern part of Luzon, growing tobacco first, then sugar cane after the takeover of the Philippines by the United States. At one point, Hacienda Luisita supplied almost 20% of all sugar in the United States.

The Huk rebellion in the 1950s led the Spanish owners of *Tabacalera* to sell Hacienda Luisita and the sugar mill Central Azucarera de Tarlac. The president of the Philippines Ramon Magsaysay blocked the sale of the plantation to the Lópezes of Iloilo, one of the wealthiest families in the Visayas and offered the property to Jose Cojuangco, father-in-law of Magsaysay protégé Benigno Aquino, with the condition that the acquisition should be made “with a view to distributing this hacienda to small farmers in line with the government’s social justice program.” The Cojuangcos acquired the property in 1958 and Benigno Aquino Jr., started to run the hacienda, developing a mini welfare state for its workers on the hacienda: free medical care, free food, free education, college scholarships. The managers sustained some losses on this plantation but compensated with revenues of other investments (*Bank of Commerce, Pantranco* bus company). In 1969, after the reelection of Ferdinand Marcos, a family coup transferred the management to cousins of Aquino, such as Danding Cojuangco, while Benigno Aquino was arrested for his opposition to Marcos.

While many haciendas in Central Luzon were dismantled during Marcos’ agrarian reform, Hacienda Luisita remained one block, since its new managers were in good terms with the dictator.

After Cory Aquino became president, the property became Hacienda Luisita Inc. (HLI), which was incorporated on August 23, 1988. Under CARP, about 5000 ha of Hacienda Luisita were distributed to the farmers who were given a shares-or-land option placed under a stock distribution agreement (Perez 2016) between the landowners and farm workers. These farmers-turned-landowners, however, were mostly “left on their own” without the proper resources and skills training to toil their land. The Department of Agrarian Reform did not help beneficiary farmers to shift away from sugarcane to planting rice and vegetables. In the 1990s and 2000s the hacienda lost money, since the owners were very slow in modernizing it and were careful not to antagonize farmers, who were not



interested, most of them, in the stock distribution. In November 2004, several sugar mill workers were killed (Olea and Castañeda 2004) and dozens of others were wounded when police and military dismantled barricades set up by the striking workers in Hacienda Luisita. The protesters were pushing for fairer wages, increased benefits and, more broadly, a greater commitment for national land reform. In 2005, the Department of Agrarian Reform canceled the stock distribution agreement, citing that it had failed to improve the lives of more than 5000 farmer beneficiaries, but in 2006 the Supreme Court stopped the Presidential Agrarian Reform Council from parceling out the land to the workers. Many lots in the estate are still covered by “*arriendo*” (or *aryendo*)<sup>12</sup> through which sugar planters rent the lands of agrarian reform beneficiaries who have received copies of titles to lots in Hacienda Luisita in Tarlac but have not been installed by the Department of Agrarian Reform (DAR).

The Cojuangco family has often been criticized for its management of the estate (Onishi 2010). They are painted as a symbol of the country’s oligarchy, with some of the country’s most powerful figures having stakes in the hacienda (family of presidents Corazon and Benigno Aquino). The 30% of the stock shares given to 6212 farm workers under the Comprehensive Agrarian Reform Program’s stock distribution option scheme has been widely disputed, as well as the “*tambolero*” raffle system to distribute some lands (Cueto 2013), and the family is still in control of the hacienda as of June 2016 (Ellao 2013; Olea 2013a, b, c, d; Herrera 2015).

Farmers and activists had demanded that the land in Hacienda Luisita be distributed, but more than 1400 ha of the sugar estate owned by the President’s family have been turned into an industrial park, a mall, and a posh residential subdivision (“Las Haciendas de Luisita”) built around a golf and country club—all out of reach of the agrarian reform program (Herrera 2011).

The Hacienda Luisita question rose to the top of national politics when President Benigno Aquino successfully pressured the Senate in 2012 to impeach, for alleged corruption, Supreme Court Justice Renato Corona, who had tried to speed up the implementation of CARP on the property and opposed Hacienda Luisita Inc.’s demand to obtain P10 billion as compensation for distributing the family-owned sugar estate under the land reform program (Requejo and Pangco Pañares 2012), while the president, widely considered as a *hacendero* (Ramos-Araneta 2012), requested “just compensation” for the owners, in other terms his own family (Pilapil 2012; Horario 2012).

Tensions remain high around the plantation, with recurrent scuffles between farmers and militants on one side, security forces on the other side, in a climate of intimidation (Manalo 2013) and latent violence.

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<sup>12</sup>An *aryendador* is a rich individual who offers desperate farmers money (at a rate of 7000–10,000 pesos per year per hectare) for control of their land. Often these *aryendadores* are powerful people: a barangay captain, a congressman, an army general, a political ally of the president. The *aryendo* system is strictly “under the table”. The agreement between *aryendador* and farmer-beneficiary is not put on paper, making it hard to prove the abusive system

## 10.3 Insuring Rice Self-Sufficiency for the Philippines

### 10.3.1 Not Enough Rice

Rice, as shown in Chap. 9, is an essential item of the Philippine food system. However, it is a crop with problems and has been the object of active policies<sup>13</sup> from the national government of the Philippines for many years (David and Balisacan 1995; Balisacan and Ravago 2003; Dawe 2015a, b, c; Piadozo 2015), due to the irregular harvests (Homma et al. 2014) and the insufficient supply in front of an ever-increasing demand. The country is perennially short of about 10% of its domestic staple requirements in rice, and has been importing rice for decades (Dawe et al. 2006; Mercado 2011, Davidson 2016). The price of rice is a factor in electoral politics (Intal and Garcia 2008), and the question of imports puts the Philippines in a difficult situation towards its exporting neighbors, while raising the all-important question of food sovereignty of the archipelago (Issaoui-Mandsouri 2011; Ramos 2011).

Rice consumption is increasing faster than production (Mallari 2013) with a fast-growing population and an increase in the average per capita consumption of rice (92.5 kg/year/person in 1990, 103.2 in 2000, 117.1 in 2012) (Danao 2014), which is in sharp contrast with the declining role of rice in the diet of Japanese or Koreans, as well as other Southeast Asians such as Thai, Vietnamese or Indonesians. The high consumption of rice is fueled mostly by poor Filipinos (Lantican et al. 2011), who will focus on just eating rice when they are too poor to diversify their diet. The consumption (average 110.7 kg/person/year) is highest in the poorer areas of the country (Eastern Visayas 121.6 kg/person/year) and lowest in the prosperous Manila area (NCR 87.2 and Calabarzon 96.9) (Fig. 10.2).

The area devoted to rice in the Philippines is very small compared to other major rice-producing countries in Asia. In 2010, the Philippines harvested only 4.35 M ha, much less than in Vietnam (7.41 M ha) or Thailand (10.25 M ha), two countries with smaller populations than the Philippines. There are six people to feed per hectare or cultivated rice in Thailand, 12 in Vietnam, but 20 in the Philippines. Rice production in the Philippines is predominantly on small landholdings averaging 1.7 ha, most commonly operated under owner cultivation (Estudillo and Otsuka 2006).

The country's physiography, with many mountains and few large deltaic plains, limits the land resources needed to produce abundant quantities of rice, the staple food (Dawe 2013, 2015a, b, c). This, as well as relatively low yields, leads to insufficient domestic production relative to utilization, necessitating rice importation. When Thailand, Vietnam and now India are world leaders in rice exports, the Philippines are one of the largest importers (Umil 2015a, b, c). This, despite the

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even exists. The contract binds the agrarian reform beneficiaries to continue farming sugar and prevent them from planting other crops. The *aryendo* system is made possible by the lack of support services, which the CARPER law says should be given to farmers (Orejas 2014a, b; Ranada 2014).

<sup>13</sup> Ceilings on prices paid by rice consumers; a floor on prices received by paddy producers; subsidy on prices paid for seeds by paddy farmers; rice imports quotas (Mariano and Giesecke 2014)—Marc MARIANO & James GIESECKE (2014)—“The macroeconomic and food security implications of price interventions in the Philippine rice market”, *Economic Modelling*, pp. 350–361.

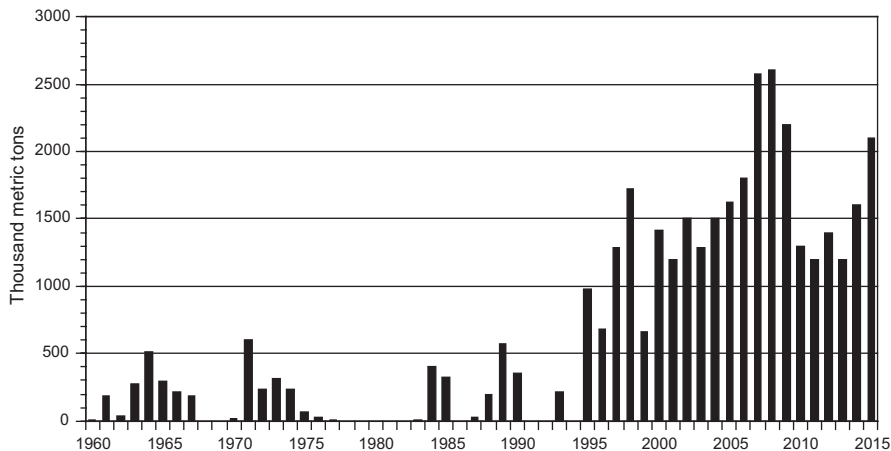


Fig. 10.2 Evolution of Philippine rice imports, 1960–2015. Source: US Department of Agriculture

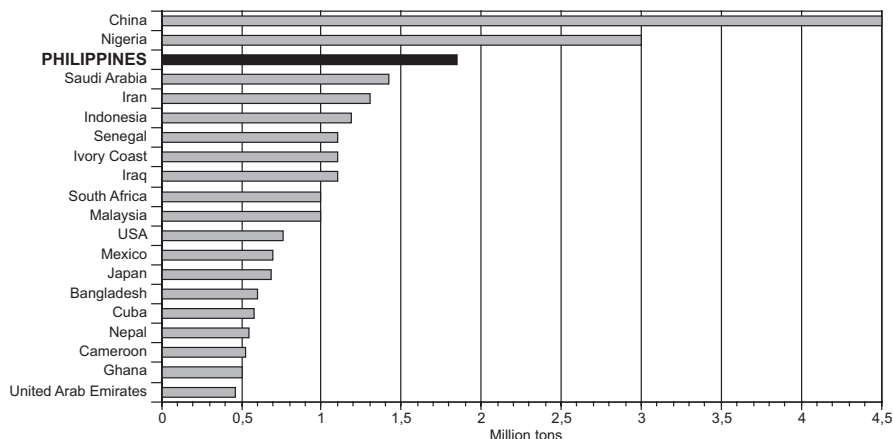


Fig. 10.3 Top 20 rice importing countries in 2014. Source: World Rice Stats, <http://ricestat.irri.org:8080/wrs2/entrypoint.htm>

presence in the Philippines of the International Rice Research Institute, housed on the campus of the University of the Philippines in Los Baños, Laguna, one of the major centers of agronomic innovation for the “Green Revolution” (Halos 2005).

Half-a-century ago, French geographer Pierre Gourou was already commenting on the low yields of Philippine rice cultivation (Gourou 1966): 1220 kg/ha in the Philippines in 1963–1964 vs. 1540 in India, 1590 in Thailand, 2100 in Southern Vietnam, 2290 in Malaysia, 3500 in Taiwan, 5240 in Japan. Only Cambodia had a slightly lower yield for rice (1200 kilos). The Philippines already needed to import rice, due to the conjunction of low yields and a growing population (Fig. 10.3).

The same is still true 50 years later: the Republic of the Philippines is a major rice importer (from Vietnam, Thailand, Japan, India and Pakistan) and the gap between desirable yields and effective yields is still there today (Laborte et al. 2012). Why is a country where rice is so important in the lives of people unable to provide enough rice to its population? Is it only a matter of production not growing as fast as the population? (Padin 2015a, b) Is it due to recurring calamities such as typhoons, and on some years (1998) El Niño-related droughts? (Dawe et al. 2009; De Los Reyes and David 2009; Roberts and Dawe 2009) Why are Filipino farmers less efficient than their counterparts in other Asian countries? In 2015, lower water levels in the country's big dams, because of El Niño, have discouraged farmers from planting rice. Aside from higher rice consumption due to an increase in population, fewer and aging farmers, urbanization and the deterioration of rice farmlands affect the rice market.

The weakness of the rice system is not new. It was already noted in the time of American colonization. First of all, rice was never a priority of landowners, more interested in sugarcane plantations, and later pineapples, for exports. Second, the Philippines, a country of relatively low density at the time, in comparison to China or Vietnam, had not developed the intensive, sophisticated, techniques observed in areas such as China's Pearl River and Yangzijiang deltas (Lu and Li 2006) or in Vietnam's Tonkin or Mekong delta areas (Berg 2002; Nhan et al. 2007; Alave 2012). No rice-fish integrated farming, with mulberry rows, silkworms raising and banana planting, had developed in the archipelago. Subsistence farming was small-scale and often extensive. According to the World Bank, the share of irrigated cropland in the Philippines averaged only about 19.5% in the mid-1990s, compared with 37.5% for China, 24.8% for Thailand, and 30.8% for Vietnam. Insufficient irrigation is a factor in the weak production and the need to import rice (Diega 2015a, b, c). Irrigation is one of the primary factors for the growth of agricultural productivity, however irrigation fees add to the cost of rice production, with farmers bearing the high cost of fuel for water pumps.

What should be the government policies towards rice? (Yao et al. 2007) Should the country aim for rice self-sufficiency, as a way to avoid food dependency on other nations? There would be two ways to achieve this goal: reduce per capita consumption, by limiting waste (Alcober 2011) and encouraging a diversification of agricultural production (Gonzales 1987) and individual diet through the consumption of other staple foods (Gavilan 2014) such as brown rice (Mabutas 2011; Rullan 2013), corn rice (Chikiamco 2014), corn (Reyes et al. 2009) or sweet potato, especially crops requiring less water use (Udtohan 2016). Should the policy be to increase the domestic rice output with higher yields and/or more land devoted to rice, or should the Philippines accept its structural food deficit and negotiate good import deals with neighboring exporting countries within ASEAN?

Like many developing countries, the Philippines pursues a food security strategy (Tolentino 2002; Gonzales 2003) in which self-sufficiency and price stabilization feature prominently, and it subsidizes its rice market (David and Huang 1996). The Philippine government, under both the Arroyo and Aquino administrations, has targeted "self-sufficiency" in rice (Briones and Galang 2014). The Philippine government

has developed a number of policy interventions in the domestic rice market aimed at promoting national food security (Mariano and Giesecke 2014). Three of the main policies are: a ceiling on prices paid by rice consumers; a floor on prices received by paddy producers; and a subsidy on prices paid for seeds by paddy farmers. These programs have been subject to heavy criticism. Not only their effects on the production of rice are subject to debate, as well as their cost for the taxpayers and customers, but some environmental effects are deemed as negative: food policies based on price and trade restrictions may promote the expansion of grain crops on fragile slope lands and therefore accelerate land degradation (Coxhead 2000). Instead of providing needed support to boost local production such as the provision of farm implements, access to improved seed varieties and water supply, the government, by choosing imports to fill the gap, has shown its total dependence on global policies of rice liberalization.

Rice production is mostly done on small farms, which are highly vulnerable to price changes, climate variability and natural calamities (Israel 2012). Should the policy be to develop a politically and socially charged strategy of “block farms” (Padin 2015a, b) to consolidate farmland into larger producing units of 10–20 ha each, where economies of scale would be easier than on a myriad of 1 or 2 ha holdings? Farmers with a small plot of land cannot afford to adopt innovations to make farming efficient and increase their output. To implement such a change would entail training most farmers to other jobs, and find these other jobs to avoid social explosion in the countryside.

### ***10.3.2 Rice Research: Successes and Controversies***

A major factor in the improvement of rice yields has been the set-up of rice research centers in the country (Halos 2005), one of the leaders, with India, of Asia’s “green revolution” (Cullather 2004).

As early as 1949, the United Nations’ Food and Agriculture Organization (FAO) had set up a rice breeding program in Cuttack, India (CRRI: Central Rice Research Institute), on the heels of research done in Mexico by the team of Norman Borlaugh for corn and wheat under the agreement between the Mexican government and the Rockefeller Foundation. In India, local agro-biologists crossed a Japanese rice with a local variety to produce a new rice, ADT-27, that yielded well and was adapted to the Indian environment.

IRRI, the International Rice Research Institute, was established in the Philippines in 1960 by a joint grant of the Ford and Rockefeller foundations, following a search throughout Asia that identified Los Baños in Laguna province, southeast of Manila, as the most advantageous location for an agricultural research program to expand food production in Asia. Los Baños, in a region well-suited to rice (Hayami and Kikuchi 1999), was seen as an emerging hub of agricultural science and economics and the government of the Republic of the Philippines was supportive of research, teaching, and extension programs to improve farm management. The Philippine government set up in 1985 a parallel research center (Garcia 2013), the Philippine

Rice Research Institute (PhilRice), a controlled-controlled agency based in Muñoz Science City, in the top rice-producing province of Nueva Ecija, north of Manila. These two institutions, as well as the Los Baños branch of the University of the Philippines (UPLB, College of Agriculture), are cooperating on a number of programs, with the main goal of alleviating poverty in the Philippines through improved rice production (Flores-Moya et al. 1978). Efforts are in two main directions: improving the rice-farming system and developing new rice varieties through biotechnology.

Among the improved techniques, PhilRice is working with farmers on the following issues (Mariano et al. 2012): direct-seeded irrigated lowland rice, transplanted irrigated lowland rice, hybrid rice (David 2006), rice for adverse environments (impacts of climate change) (Abas 2014), rice-based farming systems, rice and rice-based products, planting and fertilizer management, integrated pest management, technology promotion, environmental sustainability and management. With support from the National Irrigation Administration, efforts have been significant towards an increase in irrigated land.

In 2008, during the rice crisis (Mendoza 2009; Arandez-Tanchuling 2011) caused worldwide by an El Niño event, the Philippine Department of Agriculture and IRRI signed a Memorandum of Agreement on Accelerating Rice Production in the Philippines. Meanwhile, PhilRice has entered research partnerships with parallel institutions in Korea (Korean Project on International Agriculture, KOPIA) and China (Phil-Sino Center for Agricultural Technology, PhilSCAT)

Even if rice is grown today under four different ecologies (irrigated, rain fed lowland, upland, and flood-prone, there was initially only one rice-breeding program at IRRI and breeding materials were evaluated under irrigated and rainfed lowland conditions. Separate breeding programs were organized later for upland (1972), flood-prone (1974), and rain fed lowland (1976) ecologies. Hybrid breeding and wide hybridization programs began in 1979 and 1987, respectively

Filipino farmers have adopted more than 75 IRRI-bred high-yielding rice varieties (“miracle rice” such as IR-8, developed by American and Indian scientists in Los Baños in 1966, then IR-36) since 1960 (Peng et al. 2000). IR-36, developed in 1976, proved highly resistant to a variety of pests and diseases and produced the slender rice grain preferred in many countries. In addition, IR-36 matured rapidly, in 105–110 days instead of the 130 days of IR-8 and 170 days for traditional varieties. That meant that many regions could finally grow two crops a year, instead of one, including in the Philippines (Brennan and Malabayabas 2011). Within a year of its release in the Philippines, IR-36 replaced IR-26, which was the most dominant variety at that time (Khush and Virk 2005). Later, IR-72 was yielding even more than IR-36. Farmers in the Philippine rice belt of Central Luzon and Laguna (Hayami and Kikuchi 1999), especially farmers with larger farms (Bautista 1997), were not slow in adopting high-yield varieties of rice (Antle and Crissman 1990), given the instant gains in productivity they could expect (Koppel 1976). However, it often appeared that the yield improvement was lower than what scientists predicted (Herdt and Mandac 1981) and that efforts still need to be made to convince farmers to adopt newer high-yield varieties (Launio et al. 2008).

Rice farmers have greatly improved their fertilizer and pest management strategies, and are implementing water-saving technologies (Tabbal et al. 2002, Mariano et al. 2010). The International Rice Genebank housed at IRRI keeps 4670 rice samples from the Philippines, including 4070 traditional varieties, 485 modern varieties, and 115 wild relatives.

In 2013, four newly developed varieties of rice were launched by PhilRice to help boost the country's bid in attaining rice self-sufficiency. The four new rice varieties (Tubigan 23, Tubigan 24, Tubigan 25, Japonica 3), which have been registered with the National Seed Industry Council (NSIC), are capable of yields from 7 to 10 metric tons (MT) per hectare. Another interest of three of these four varieties could be direct seeded, or seeds planted on the field, without the need for transplant, which could result in major labor savings (De Vera 2013).

In the year 2000, rice research in the Philippines embarked on a new venture: transgenic rice. Working together, IRRI and PhilRice started field tests of a transgenic rice designed to resist bacterial blight, both at the UPLB Central Experiment Station in Los Baños and at the PhilRice experimental site in Maligaya, Muñoz, Nueva Ecija. This has led to the development of the so-called "Golden Rice",<sup>14</sup> currently field-tested in four provinces (Camarines Sur, Ilocos Norte, Isabela, Nueva Ecija) and scheduled for commercialization possibly in 2016. Supported by the Bill and Melinda Gates Foundation (Corrales 2015; Taclo 2015), the Rockefeller Foundation and the US Agency for International Development, as well as the Bangladesh Rice Research Institute (BRRI), Golden Rice is created from IR-72, which was genetically modified with genes from bacteria and corn. The added genes stimulate the plant's production of beta carotene, which the human body converts into vitamin A. The idea was to supplement this rice for ordinary rice in poorer communities where the average diet is largely made up of starchy foods. IRRI claims that golden rice is the solution to vitamin A deficiency (VAD) (Zimmermann and Qaim 2004; Tang et al. 2009), a leading cause of blindness among children, which also impairs the immune system, aggravates HIV-AIDS, measles and other infections, thereby increasing the risk of death, especially among children. According to IRRI, 1.7 million children aged 6 months to 5 years and one out of every ten pregnant women suffer from VAD, due to a diet too rich in rice and poor in vitamin A.

This GMO rice development is highly controversial (Alcober 2013) in a country where there is strong tradition of social activism, supported by international NGOs such as Greenpeace (Yap 2013a, b).

The "Resistance and Solidarity against Agrochemical TNCs (Resist Agrochem TNCs!)" group has urged President Benigno Aquino to stop the planned commercialization of golden rice and instead promote safe and sustainable food production, while the long-term safety of the genetically modified rice has not been proven (Galang 2014). For this broad alliance of 55 organizations and institutions that promote natural and sustainable farming, golden rice is only a "public relations product

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<sup>14</sup> Golden Rice was first developed in the 90s by Ingo Potrykus of the Institute for Plant Sciences, Swiss Federal Institute of Technology and Peter Beyer of the University of Freiburg, Germany.

of transnational agrochemical corporations to push for genetically-modified organisms (GMO).” For “Peoples Network on Food Security Programs”, the heavy government promotion of golden rice is the wrong way to address malnutrition and hunger in the Philippines (Olea 2013a, b, c, d). It would be better to encourage a diversification of food sources, offering many types of vitamins and minerals. They quote as an example the Bicol region of Southeast Luzon, where golden rice is currently field-tested. In this region, people eat “*laing*” (dried taro leaves cooked in coconut milk), which not only provides vitamin A but also the oil from the coconut milk facilitating vitamin A absorption.

For the “MASIPAG”<sup>15</sup> group (Silverio 2013), vitamin A deficiency has to do with the problem of general lack of food inaccessibility due to poverty and its associated conditions. Filipino families are too poor to have access to food that’s necessary to form a nutritionally balanced diet. The problem on ‘hidden hunger’ is exacerbated by the loss of other food sources due to the mono-cropping agricultural trend developed during the “Green Revolution”.

Meanwhile, a militant peasant group, *Kilusang Magbubukid ng Pilipinas* (KMP: Peasant Movement of the Philippines), also denounced the planned commercialization of golden rice, saying the money spent on his promotion during the government-sponsored “National Year of Rice” would have been better spent in the development and maintenance of irrigation systems, access of farmers to high quality seeds, farm mechanization and reduction of post-harvest losses. Instead, the average subsidy awarded to the 2.7 million rice farmers in 2013 was only 450 pesos, less than 9 euros. A commando raided the Pili, Camarines Sur, golden rice trial planting in September 2013, destroying the test plants. The attack has been referred to as being waged by “militant farmers”, but was in fact carried out by SIKWAL-GMO, which is made up of farmers, students and academics.

The controversy, which is not limited to the Philippine archipelago (Potrykus 2012, 2013; Dubock 2014), or to rice (Francisco et al. 2012; Escano 2013), has led to legal actions by environmentalist groups such as Greenpeace, which has found an unexpected ally in the influential Philippine Catholic Church, as well as farmers organizations (Cabanilla 2007). In December 2015, the Philippine Supreme Court ordered a permanent ban on field trials of GMO eggplant and a temporary halt on approving applications for the “contained use, import, commercialization and propagation” of genetically modified organisms (GMOs) being used on plants due to risks posed to human health and the environment (San Juan 2015). The temporary ban is in place until a new “administrative order” takes effect and includes Golden Rice. However, the Philippine government is challenging this ban on GMO imports ordered by the country’s top court, after the ruling rattled global markets over the threat of disruption to millions of tons of soybean meal shipments (Dy 2016).

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<sup>15</sup>Magsasaka at Siyentipiko para sa Pag-unlad ng Agrikultura—Farmers and Scientists for the Development of Agriculture—“*masipag*” can be translated as “energetic”.



### 10.3.3 Rice Imports Policy

The Philippines has been importing rice since the Spanish period. This continued through the American regime, and still continues until today, despite gains in rice land use, including in upland areas (Jamago and Cortes 2012). The long queues of people buying rice are not new. The same scenario happened in the 1930s, 1970s and in the middle of 1990s brought about by weather disaster (typhoons, El Niño) (Lansigan et al. 2000; Angulo et al. 2012), mismanagement and corruption.

The National Food Authority (NFA), which is in charge of palay procurement, monitors the rice situation on a daily basis, especially when preparing in the spring for the lean months that start in July, as stocks get lower before the fall harvest. The food agency's monitoring teams watch closely the behavior of rice prices and supply, particularly in drought-affected El Niño years (1998, 2015) (Domingo 2015) to avoid the speculative price spikes that often occur during this period. Dry spells hitting the Philippines also impact the production in exporting countries. In 2015, for example, the FAO indicated that Thailand, India and Vietnam were under pressure from a lack of precipitation, at the same time the Philippine archipelago was suffering from the effects of El Niño and not able to irrigate as much as needed (Montealegre 2015; Saclag 2015).

Filipino farmers are encouraged to sell directly to the national agency, at the same time there are also monthly imports, in order to maintain a 30-day buffer stock (Olchondra 2015), while the government is also adjusting the quantity of imports to the predicted output of rice, by direct negotiations with foreign partners. Since 1994, during negotiations for the ratification of the World Trade Organization (WTO), the country has been imposing tariffs, quotas and other quantitative restrictions (QRs) on the production and distribution of rice.

The justification is that rice is not an ordinary commodity but a staple, an absolute necessity in the consumption basket of people. The demand for rice is highly inelastic, therefore supply may be subject to manipulation to the disadvantage of consumers.

The QR on rice had allowed the government to limit the entry of cheaper-rice imports from neighboring Asian countries, such as Thailand, Vietnam and Cambodia. The Philippine government has set a "minimum access volume" (MAV) of rice of 805,200 metric tons (MT) annually, guaranteeing exports to the Philippines for foreign partners. Rice under MAV is imported at a tariff of 35%, while above-MAV rice is charged an entry duty of 40%. The choice for self-sufficiency in rice was reinforced by the Benigno Aquino government's implementation of the "Food Staples Sufficiency Program" which included local procurement of buffer stock to limit the recourse to foreign imports, research on and dissemination of flood- and drought-tolerant varieties. The FSSP covers rice and other staples, including white corn, banana (*saba*), and root crops such as cassava (*kamoteng kahoy*) and sweet potato (*kamote*), traditional staples in some areas in the Philippines, but the overall goal is self-sufficiency in rice.<sup>16</sup>

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<sup>16</sup><http://www.pinoyrice.com/wp-content/uploads/Food-Staples-Sufficiency-Program.pdf>

For the Philippine government the QR policy, albeit costly (Ordinario and Padin 2016), is vital to safeguard the livelihood of rice farmers: keeping rice-import quotas gives 2.4 small-scale rice Filipino farmers time to prepare for stiff competition that may be posed by cheaper rice from other countries. However, it tends to keep prices high for consumers, and the policy of rice sufficiency and capped imports has been widely criticized both inside and outside the Philippines (Tabones 2010; Bello 2014a, b; Kritz 2014; Pulta 2014; Villamente 2014; Ambanta 2015; Coronel 2015; Javier 2015).

Under World Trade Organization (WTO) pressure (Galvez 2012; Pulta 2013; De Vera 2014), rice-trading nations—the Philippines among them—have agreed to eliminate QRs on rice. The Philippines will have to face the deadline for the dismantling of rice QRs in 2017 (Domingo 2014), let go of rice-import quotas and fully open up the country's rice market (Diega 2015a, b, c). High-cost farms and farmers in the less competitive Philippines (Dawe 2015a, b, c) will obviously be hurt by the inexpensive imports from Thailand and Vietnam (Araja 2014). These farms and farmers must be assisted with credit facilities and technical services to improve productivity and become more efficient, or shift to alternative activities.

However, there has been some smuggling of rice from several neighboring countries, an easy task considering the length of the Philippine coastline. Because of the sensitivity of the commodity to farmers and consumers, the National Food Authority (NFA) allows only three modes of rice imports: government-to-government, shipments by the private sector and purchases made outside of the so-called minimum access volume. In all three modes, all rice shipments are governed by the NFA. However, rice smuggling in the Philippines has been going on for decades. Illegal and overpriced rice imports are estimated to cost the country at least P7 billion (140 million euros) in foregone duties every year (Cabacungan 2013), and massive opportunity losses for Filipino farmers (Villamente 2013; Ramirez 2014) whose production is shunned by rice millers who prefer to buy smuggled rice already packed in 50-kilo sacks. The National Food Authority (NFA) has been confronted by the problems of alleged corruption in rice imports, smuggling, price manipulation by private sectors, hoarding and repacking, all resulting to “false shortage,” among many others. Estimates are that up to 75% of NFA rice may be smuggled, while only 25% of its supplies reach the poor (Sapallo 2015). Rice smuggling persists because rice prices, pushed up by production costs, are higher compared to neighboring Southeast Asian countries.

The crisis in rice is also brought about by abandonment, conversion and reclassification of rice lands.

## 10.4 The Issues of Land Conversion and Environmental Degradation

Around the cities of many countries of the world (Azadi et al. 2011), land use is changed from agricultural to urban uses through the process of “land conversion”. The Philippines is no exception, especially around the Manila metropolitan area.

In the specific context of the Philippine archipelago, land conversion is done largely through a perverted use of land reform, and has dire effects on the ability of the country to produce enough rice (Alave 2008), since some of the best rice lands are located north and south of Metro Manila.

Land use changes have occurred a lot around the archipelago since the Spanish conquest in the sixteenth century, with notable conversion of forest to agriculture (Uitamo 1996) and the subsequent rapid decline of forest cover (see Chap. 22), while the areas of intensive agriculture and extensive land uses have continued to increase. Today, as some timid efforts are done to grow back some forests on the hills and mountains, most of the land conversion activity occurs around cities. Although the sale and/or transfer of those lands covered by agrarian reform is strictly prohibited by law, legal maneuvers done by land brokers and real estate developers allows them to take back the rights of the farmers to till their farmland. Land use conversions and large scale real-estate (Alviera project by Ayala land in Hacienda Dolores, Tarlac, or Clark Green City in Pampanga) (Ayroso 2014; Stuart Santiago 2014) and tourism projects (Hacienda Looc in Batangas converted into an agro-tourism complex) (Olea 2012a, b) have resulted to landlessness and food insecurity in diverse parts of the country.

From a gain in cultivated land in the 1970s (from 8.95 million hectares in 1970 to 12.16 million in 1980), the expansion of farmland has first slowed down considerably (13.1 million hectares in 1990), then stagnated (13.1 in 2011).

Rapid economic development and consequent urbanization, growth in the housing demand, land required for large infrastructure projects in urban hinterlands, improved highways bringing urbanization closer to the rural hinterland, all of these factors have expanded the space needed for urban land uses and led to speculative land markets. The lack of transparency in the land conversion process and the valuation of land, complexities in the transfer of titles, have all resulted in the tightening land supply, further accentuating the rise in land prices. Farmers cannot continue to farm with high land costs and the increasingly urban surroundings where carabaos pulling carts appear more and more out-of-place near shopping malls and Japanese electronics factories. Urbanisation seems to lead inevitably to the conversion of agricultural land to non-agricultural purposes.

Studies in Cavite province south of Manila (Cardenas 1994; Kelly 1998) have shown that the process of land use conversion is highly charged politically. National regulations on the land conversion process are undermined by developmental strategies in favor of global industrialization rather than agricultural modernization. At the local level, there is a highly flexible implementation of existing rules to modify land use plans. This flexibility occurs in a context of blurring between public and private roles, while the politics of relations between landlords, tenants and local power brokers largely excludes farmers from defending their legal rights, whether there is land redistribution through the agrarian reform or not. The most adversely affected agricultural activities by land use conversion were livestock raising, coconut and mango farming, while irrigated rice fields suffered less in the first phase of massive land conversion to urban uses. However, conflict rose around the remaining agricultural activities, due to interferences between incompatible activities

(industry and housing vs. farming), the use of water (disturbed irrigation networks, competition with other uses: industrial, domestic, golf courses). A number of farms were made unworkable by the urban expansion, leading to abandonment, while the price pressure on land drove farmers away.

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# Chapter 11

## The Use and Abuse of Sea Resources

**Abstract** As a maritime country, the Philippines is a place of high fish consumption. Many coastal villages are populated by fishermen, who are amongst the poorest of working Filipinos. International comparisons show that the Philippine fisheries sector is mostly characterized by small inefficient fishing vessels, while some of the fishing methods are extremely destructive to the resource. Today, fishing moratoriums must be imposed in some areas to allow the reproduction of the fish. Poaching and illegal fisheries, including by foreign vessels, especially from China, plague the most important fisheries areas. Aquaculture has developed to counterbalance the decline of the natural resource, but it has negative ecological effects, among them the disappearance of mangroves. Today, efforts are underway to protect the marine resources of the country, through the implementation of Marine Protected Areas in this biologically rich area of the West Pacific. Part of the “Coral Triangle” initiative, the Republic of the Philippines encourages local efforts to rejuvenate coral reefs and mangroves, while allowing tourism to cohabit with more established uses of the coastal areas of the archipelago.

**Keywords** Fisheries • Aquaculture • Marine protected areas • Coral reefs • Mangroves

With its 7107 islands and 36,000 km of shorelines, the Philippine archipelago claims one of the world’s longest coastlines. Sixty percent of the Philippine’s population resides in the coastal zone. Marine fishing in the Philippines is more than an industry; it is a way of life. In the present state of the Philippines as a developing country with vast ocean jurisdictions, and dependence on these oceans, fishery resources are critical to the health and livelihood of the greater majority of its people (Encomienda 2014a, b). There are some two million fishermen in the country. Over 50% of the dietary protein requirements of coastal communities are derived from municipal fisheries and shallow coastal habitats (reef fishes, marine plants, and mangroves). In many coastal municipalities the most common job is fisherman. Fishermen’s *bangkas* resting under beachside coconut trees are a classic coastal landscape around the archipelago. If rice is the staple food of the Philippines, fish provides most of the protein and daily diet of rural Filipinos (see Sect. 11.1).

Most men in coastal communities are fishermen, owners of a tiny “banca” (or *bangka*) (Funtecha 2000). This elongated, banana-shaped dugout canoe, of Austronesian origin, has in most cases two outriggers (*katig*) made of bamboo, acting as stabilizers. The small bangkas are usually paddle driven, and typically used in shallow waters. Sometimes the small triangular sail of a *paraw* (Visayas region) helps fishermen to come back faster to shore. Wealthier fishermen have added a single cylinder pump motor to the back of their canoe. Traditional rituals involving bangkas reveal that they are a marker in Philippine society, not just a water vessel (Abrera 2005). From the selection of the tree, its felling, digging it out or hewing it into planks, to the construction and until its launching into the sea, the entire process is wrapped in rituals and religious meanings. The *bangka* directly reflects the indigenous animist belief system, including rituals involved in burial and the use of the *bangka* as a vessel to transport the departed to the next life.

Coastal populations are young and expanding at rates that exceed regional and national averages. It is common for children to work in the fisheries sector in dangerous conditions (Pomeroy 1987). Some of them are immersed in water for about 8 hours throughout the night to get fish to enter nets, while others dive 15 m deep to catch mollusks without protective equipment. These children are exposed to ear-drums damage, injuries from falls, shark attacks, sea snakes bites or drowning.

Many women (Siason 2000) market their husband’s catch, process fish, or gather shells and sea cucumber for sale, once the family food needs have been met. Their knowledge about fishery resources and their fishing activities are mostly associated with the intertidal zone, whereas men’s knowledge is associated with coral reefs and offshore spaces. The progressive socialization of children into fishing reinforces this gender division of labor and space in the coastal zones (Siar 2003) (Fig. 11.1).

Fishing communities remain the poorest of the rural poor, with a poverty level of 39% in 2012 (Quirino 2014), and the resources are over-used (see Sect. 11.2). Prices of staple fish have increased rapidly in recent years: one kilogram of *galunggong* (round scad, *Alepes melanoptera*), “the poor man’s fish” according to former president Corazon Aquino, cost about 87 pesos in 2010, but its price had reached 140 pesos by late 2014 (Gavilan 2015). Data from the Bureau of Agricultural Statistics show that there has been a decline in the production of the *galunggong*, due in particular to overfishing (Muallil et al. 2014a, b).

There is a need to take concerted action—among small and commercial fishers, government, private sector and NGOs to reverse the declining trend in fish catch and save the oceans by putting in place science-based fisheries management, and equally as important, making existing laws work. The crisis in fisheries (Green et al. 2003) has led to the development, as in other Asian countries, of fish farming (offshore, on lakes and inland) and to the adoption of strategies to better protect coastal environments such as mangrove areas through integrated coastal resource management (Fernandez et al. 2000; Parras 2001) (see Sect. 11.3). In some areas, fishermen have been told not to work at certain times of the year, to allow stocks to redevelop. Another way to manage the crisis in fisheries has been to establish a wide network of marine protected areas (MPA). However, such resource-focused fisheries management initiatives may result in further marginalization of the poor fishers and pose serious social problems in coastal communities (Muallil et al. 2014a, b).



Fig. 11.1 Bangkas on the beach, Barangay Mambugalon, Mercedes, Camarines Norte (July 2014)

## 11.1 Fish and Fisheries

### 11.1.1 *The Consumption and Use of Seafood*

The consumption of fish per capita (Tan-Garcia et al. 2005) in the Philippines has been estimated by the FAO in 2011 at 32.7 kg/year, well above the world average of 18.9 kg/year.<sup>1</sup> The Philippines is part of a large West Pacific and East/Southeast Asian domain where consuming fish is common (South Korea 60.4 kg/year/person, Palau 55.9, Malaysia 55.8, Burma 55.3, Japan 51.7, Vietnam 33.6, China 33.5). The country ranks 49th in the world out of 220, behind many small insular nations and territories (Maldives, Niue, Cook Islands, Nauru, Samoa...) and European countries (Iceland, Norway, Portugal, Spain).

Its ranking is much higher (27th) when considering the fish contribution to the total animal protein consumption: 39% (compared to a world average of 17%), higher than in Japan (37%).<sup>2</sup>

<sup>1</sup> <http://www.globefish.org/total-fish-consumption-per-capita-kg-and-fish-contribution-to-total-proteins-percent.html>

<sup>2</sup> The Philippine archipelago is only surpassed in this index by Martinique (79%), the British Virgin islands (75%), the Maldives (72%), Sierra Leone (68%), Cambodia, French Guyana (66%), Guadeloupe (63%) Wallis & Futuna, Kiribati (61%), Tokelau (60%), the Solomon Islands (57%),



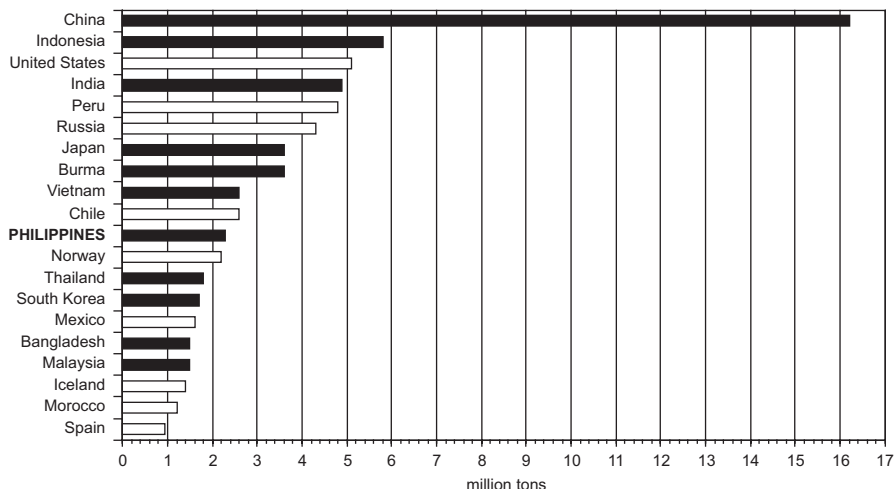
Varieties of fish popular with Filipino customers<sup>3</sup> include tilapia, catfish (*hito*), milkfish (*bangus*, *Chanos chanos*, the “national fish”) (Carbine 1948), grouper (*lapu-lapu*, *Epinephelus fuscoguttatus*, called *pugapo* in Cebuano), mackerels (*galunggong* and *hasa-hasa*, *Rastrelliger brachysoma*), swordfish (*ispada*), tuna, sardines (often consumed as canned fish), as well as other sea foods such as shrimps (*hipon*), prawns (*sugpo*), oysters (*talaba*), mussels (*tahong*), clams (*halaan*, *tulya*), crabs (*alimango*) and squid (*pusit*). As in other Asian countries, condiments are made from seafood: fish sauce (*patis*), fish paste (*bagoong*) or shrimp paste (*bagoong alamang*). Canned sardines and *bagoong* (shrimp paste) are two of the most affordable food items for poor Filipinos.

Fish may be consumed fresh, grilled (squid also), dried salted (*tuyô*) or processed. A common breakfast of poor Filipinos is dried tilapia with rice. The popular *Sinigang na Isda* or Fish Sinigang is a sour tamarind soup of fish. The fish (*isda*) used most often is Milkfish (*Bangus*). This rice water-based broth is flavored with tamarind (*sampaloc*) juice, tomatoes (*kamatis*), onions (*sibuyas*), *kangkong* (water spinach) leaves, sometimes eggplant (*talong*) and calamansi juice, together with fish sauce (*patis*), cooked with the fish cut into several pieces. In Legazpi City, Albay, *cocido* refers to a clear broth fish head soup. Fried calamares are a classic snack (rolled in flour, pepper, salt and coconut oil). *Adobo sa gata*, prepared in coconut milk with soy sauce, vinegar, garlic, onion and ginger can be made with different kinds of fish (lapulapu, tilapia – *ginataan tilapia* –, stingray – *pagi* –...). *Balaw* is a dish of shrimps cooked in coconut milk, with pepper, sili and salt. *Tinumok* is prepared with shrimps, pieces of young coconut and gabi leaves. *Paksiw na Isda* is a dish where fish is poached in vinegar and ginger, and cooked with eggplant and ampalaya. It can be prepared with *bangus* (Milkfish), *biya* (Gobies), *talilong* (Black Finned Mullet), *banak* (Long-Finned Mullet), *buwan-buwan* (Japanese Bigeye), *bidbid* (Ten Pounder) or *kitang* (Spadefish). The well-known *Bicol Express* is a spicy dish of small shrimps mixed with pork and cooked in coconut milk, with a generous amount of pepper and red hot chiles. *Kinunot*, another Bicol specialty, is made with shark or stingray meat in coconut milk, with chile, pepper, ginger, and of course rice. Complex dishes of Spanish influence, such as *paella* or *bacalao a la vizcaina* (Tayag 2015), are usually prepared for special occasions such as fiestas and birthdays.

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Sri Lanka, Bangladesh (56%), Indonesia (55%), Ghana (52%), Sao Tome & Principe, the Seychelles (48%), Gambia (46%), Niue (45%), the Faroe islands (43%), Senegal, Nigeria, Myanmar, Laos (43%), Mozambique, Togo (40%), at the level of Tuvalu and Malaysia (39%).

<sup>3</sup> <http://www.infofish.org/wp-content/uploads/Country-Profile-PHILIPPINES-06-2012.pdf>



**Fig. 11.2** 2012 catch of fish, mollusks and crustaceans. Source: FAO, Fishery and Aquaculture Statistics Yearbook 2012, Table A1-c, <http://www.fao.org/3/a-i3740t.pdf>

### 11.1.2 Fisheries Production and Geography

According to FAO statistics, the Philippines were, in 2012, the 11th country in the world in overall tonnage of catch in fish, mollusks and crustaceans, and ranked 7th within Asia, a continent that dominates the world production. Its production of seaweeds was quite low (26th in the world, even if 4th in Asia, well behind China, Japan and Indonesia).

Fish production in the Philippines is attributed to three main sectors, aquaculture (49%), municipal fisheries (27%) and commercial fisheries (24%). The major fishing grounds include eight seas, ten bays, nine gulfs, three channels (Babuyan, Jintotolo and Maqueda Channels), five straits, and two passages. The largest of the fishing grounds is West Sulu Sea with an area of almost 30,000 sq km, followed by Moro Gulf and South Sulu Sea. The rest of the major fishing grounds have an area of less than 10,000 sq km. Five provinces from the southwestern Philippines (Palawan and western part of Mindanao) account for one third of total catches (Fig. 11.2).

The fishing grounds of the Philippines are found all over the archipelago, while there are many small fishing ports all around the islands, and the main wholesale market for the whole country (Navotas Fish Complex) is located in Navotas, a municipality within Metro Manila, just north of the port of commerce. Major provincial fish markets include Bacolod and Cadiz in Negros, Davao, Zamboanga and General Santos<sup>4</sup> in Mindanao, Cebu, Iloilo (Panay), Mercedes (Camarines Norte), Camaligan (Camarines Sur) and Tacloban (Leyte) (Figs. 11.3 and 11.4 and Table 11.1).

<sup>4</sup>The main port for Pacific tuna fishing



**Fig. 11.3** Fish market in Mercedes, Camarines Norte (July 2014)

Fishing vessels are many and small. According to FAO statistics, the Philippines was the 3rd country in the world (476,178), after China and Indonesia, for the number of fishing vessels, with the lowest percentage of motorized fishing boats in Asia: 39%. Most boats are equipped with sails or moved by paddling. Only some African countries had a higher level of non-motorized fishing boats (Uganda 90%, Egypt 86%, Tanzania 82%, Nigeria 78%, Angola 65%). This reflects the mostly artisanal nature of Philippine fisheries, as shown also by the average quantity of catches by fishing vessel (Table 11.2 and Fig. 11.5).

Most fishermen come back to shore with less than 20 kg of catch per trip. Half of them target pelagic species (jacks, scads, tunas, mackerels, sardines, herrings, anchovies, needlefish), about a quarter each aim for reef-associated demersal species (groupers, snappers, parrotfish, emperors). An enquiry reveals that only 3% of fishermen consider fishing as financially rewarding, while half of them say it is barely providing the needed food resources for their household (Muallil et al. 2014a, b).

Some of the traditional techniques used by local fishermen have proved quite successful, as in the case of tuna fishermen off the coast of Mamburao, southern Mindoro (Evora 2014). Handline fishermen roaming the Mindoro Strait on outrigger boats, catch 70-kg yellow fin tuna using “*kawil*” (hook, line and sinker), attracting pelagic fish such as tuna, marlin and mahi-mahi (dolphin fish) in their “*payaw*” or fish aggregating device: these bamboo rafts attached with palm or coconut fronds and tethered to the sea floor with concrete blocks, provide shelter to the fish and

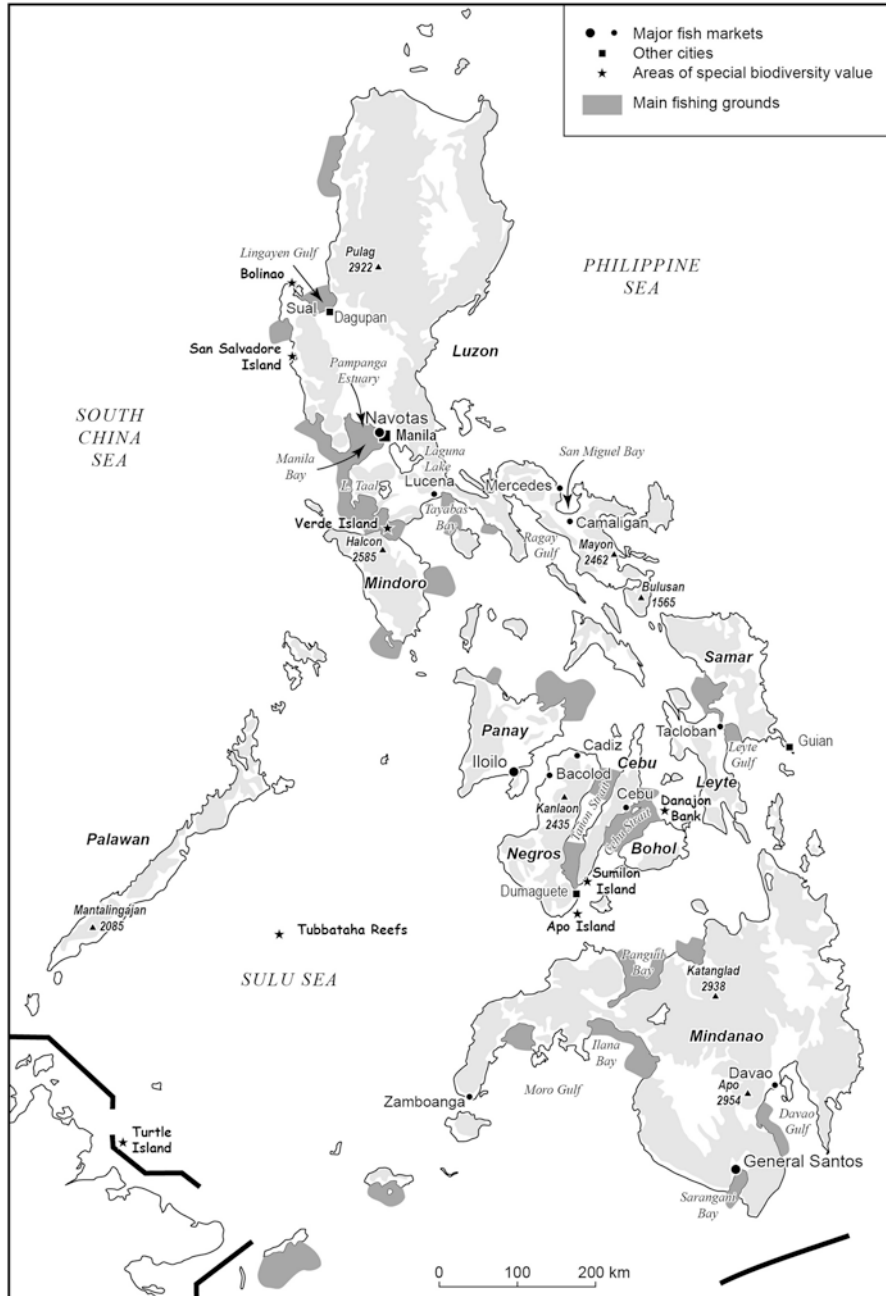


Fig. 11.4 Riches from the sea

**Table 11.1** Top provinces for fisheries production in 2013

		Region	Island	Million tons	Percent of total (%)	Cumulative percentage (%)
1	Palawan	Mimaropa	Palawan	501.5	10.7	10.7
2	Tawi-Tawi	ARMM	Mindanao/Sulu	332.1	7.1	17.8
3	Sulu	ARMM	Mindanao/Sulu	312.8	6.6	24.4
4	Zamboanga City	Zamboanga Peninsula	Mindanao	247.9	5.3	29.7
5	South Cotabato	Soccsksargen	Mindanao	219	4.6	34.3
6	Pampanga	Central Luzon	Luzon	162.4	3.5	37.8
7	Zamboanga Sibugay	Zamboanga Peninsula	Mindanao	138.4	2.9	40.7
8	Quezon	Calabarzon	Luzon	135.3	2.9	43.6
9	Bohol	Central Visayas	Bohol	132	2.8	46.4
10	Pangasinan	Ilocos Region	Luzon	128.5	2.6	49
11	Maguindanao	ARMM	Mindanao	126	2.6	51.6
12	Metro Manila	National Capital Region	Luzon	123.9	2.6	54.2
13	Iloilo	Western Visayas	Panay	115.1	2.4	56.6
14	Batangas	Calabarzon	Luzon	102.5	2.2	58.8
15	Rizal	Calabarzon	Luzon	102.4	2.2	61
16	Capiz	Western Visayas	Panay	97.7	2.1	63.1
17	Zamboanga del Norte	Zamboanga Peninsula	Mindanao	97.5	2.1	65.2
18	Camarines Sur	Bicol	Luzon	97	2.1	67.3
19	Negros Occidental	Western Visayas	Negros	96.2	2	69.3
20	Zamboanga del Sur	Zamboanga Peninsula	Mindanao	90.8	1.9	71.2
21	Antique	Western Visayas	Panay	83.5	1.8	73
22	Lanao del Norte	Northern Mindanao	Mindanao	81.9	1.7	74.7
23	Cebu	Central Visayas	Cebu	76.6	1.6	76.3
24	Camarines Norte	Bicol	Luzon	72.5	1.5	77.8
25	Masbate	Bicol	Masbate	67.2	1.4	79.2

Source: <https://psa.gov.ph/content/fisheries-statistics-philippines>

within reach of their lines. The flesh of yellow-fin tuna caught by “kawil” remains intact and because each fish is caught individually, it hardly has any bruises on the body, which makes it more valuable on global markets.

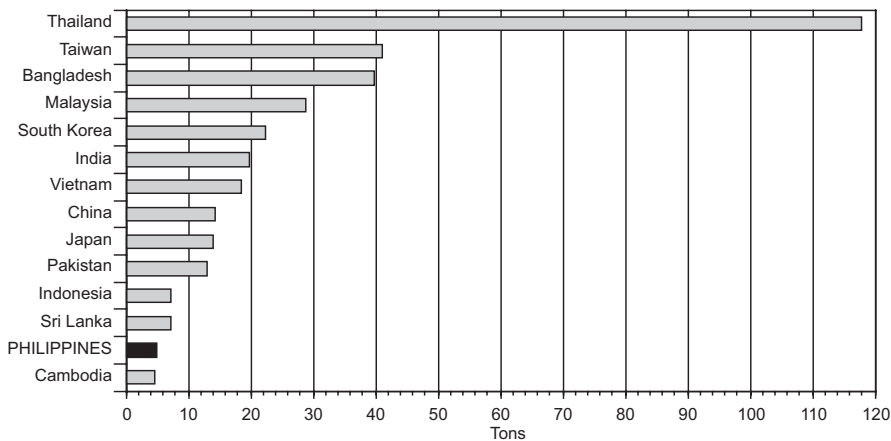
However, the small fisherman in the Philippines (Ranada 2014a, b, c) is usually unable to compete efficiently with modern commercial fleets. Small fisher folk, according to the definition set by the Bureau of Fisheries and Aquatic Resources (BFAR), are those who use fishing boats of 3 gross tons or less. They are also known as “municipal fishers”, in contrast to “commercial fishers”

**Table 11.2** Fishing vessels in Asian countries in 2010

Country	Number of fishing vessels	Motorized fishing vessels	Pct. (%)	Non-motorized fishing vessels	Pct. (%)
China	1,065,645	675,170	63	390,475	37
Indonesia	742,369	430,910	58	311,459	42
<b>PHILIPPINES</b>	476,178	183,998	39	292,180	61
Japan	292,822	283,925	97	8897	3
India	237,321	133,266	56	104,055	44
Vietnam	130,963+	130,963	73 <sup>a</sup>	n.d.	27 <sup>a</sup>
Cambodia	108,145	46,427	43	61,718	57
South Korea	76,974	74,669	97	2305	3
Sri Lanka	54,128	25,973	48	28,155	52
Malaysia	49,756	46,779	94	2977	6
Bangladesh	43,217	21,097	49	22,120	51
Pakistan	35,162	17,205	49	17,957	51
Burma	32,919	15,865	48	17,054	52
Taiwan	20,766	20,327	98	439	2
Thailand	15,381+	15,381	95 <sup>a</sup>	n.d.	5 <sup>a</sup>

Source: FAO, Fishery and Aquaculture Statistics Yearbook 2012, p. 42, <http://www.fao.org/3/a-i3740t.pdf>

<sup>a</sup>Percentages in 2000 for Vietnam and Thailand



**Fig. 11.5** Average catch of fish, mollusks and crustaceans by fishing vessel in Asian countries in 2010. Source: FAO, Fishery and Aquaculture Statistics Yearbook 2012, p. 42, <http://www.fao.org/3/a-i3740t.pdf>

In 2011, there were more than 469,000 municipal fishing boats. Marine municipal fisher folk caught more than 1.1 million metric tons of fish that year. The most common species of fish they catch are frigate tuna (*tulingan*), roundscad (*galunggong*), Indian

sardines (*tamban*), anchovies (*dilis*), squid and yellowfin tuna (*tambakol*). Commercial fishing vessels, on the other hand, are bigger boats—more than 3 gross tons.

While small fisher folk are given priority access to fishing grounds within 15 km from the shoreline, commercial fishing vessels can only fish beyond the 15 km zone reserved for the small fisher folk. Some local governments, however, allow the bigger vessels from 10.1 to 15 km from the shoreline. Enforcing these regulations is tricky because of the “free access” nature of the sea. It has caused many problems for small fisher folk. Many commercial boats cross over to the small fisher folk’s fishing grounds. Often, these vessels use large-scale fishing equipment such as trawlers or fine nets which catch everything in their path—whether mature or juvenile fish. The result is overfishing and, consequently, dwindling fish catch for the small fisher folk who were supposed to be given priority access to their own town’s marine resources. In the 1970s, Filipino fisher folk would catch 20 kg of fish a day. Now, they catch only less than 5 kg a day. Can overfishing be conclusively attributed to the commercial fisheries sector? BFAR data show that although 99% of operators in 2002 were municipal fishermen, commercial fishermen raked in 48%—almost half—of total fish production that year, even if they made up only 1.2% of the total number of operators.

This may also explain why poverty incidence among fisher folk is so high. Almost half (41.4%) of Filipino fisher folk live below the poverty line, earning them the label, “poorest of the poor.”

Overfishing and poverty have forced some small fishers to resort to illegal fishing practices (Muallil et al. 2013) like dynamite fishing and muro-ami. According to the BFAR, some 10,000 incidents of [dynamite fishing](#) are still recorded everyday. Illegal fishing practices used by some commercial fishing vessels are particularly devastating for fish stocks. Some common practices are the use of trawlers, fish nets with holes less than two centimeters, and “payao”, a fish aggregating device that uses bright lights to attract big populations of fish. These are destructive because they catch all kinds of fish, regardless of size and age. Catching juvenile fish reduces the ability of fish populations to replenish themselves. According to the World Fish Center, fish are being caught at a level 30% above that at which they are capable of replenishing themselves.

The Philippine government has been seemingly unable to stop illegal fishing (Adlaw 2015). 10 out of 13 major fishing grounds in the country have already been overfished. Overfishing is just one of the many threats to fish supply and the fisheries sector.

The whole sector suffers from alarming threats to its resource base (Aliño 2002a, b; Silvestre et al. 2004; Ranada 2014a, b, c). Nowadays, Filipino fishermen are catching less from the Philippines’s depleted waters due to decades of overfishing with extremely efficient methods (sonars, Danish seines, known locally as *hulbot-hulbot*,<sup>5</sup> or compressor fishing, a dangerous and unsustainable fishing practice introduced in the 1980s) (Castillo 2011), catching juvenile fish, the use of illegal fishing gear or overfishing by commercial vessels even in restricted or protected areas such as Verde

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<sup>5</sup>This device, made up of a conical net bag with two long wings and long ropes extending from these wings to encircle a larger area, catches even juvenile fish and disturbs the seabed and corals.

Island passage between Mindoro and Luzon (Guieb 2015). From an average of more than 10 kg a day in the 1950s, fish catch drastically went down to less than 5 kg a day due to unsustainable practices. Another problem is that juvenile yellow fin and big-eye tuna gather around fish aggregating devices, and are caught along with skipjack tuna that are the target species. Boom times resulting from efficient fishing practices have led to crises in many fishing communities.

Most of the potential fishing grounds consist of uneven or sloping bottoms unsuitable for trawling and fishing, which can best be fished with traps. Managing small-scale fisheries in a developing country like the Philippines is very challenging because of high pressures from an expanding population, poverty and lack of alternative options (Briones 2007). The National Stock Assessment Program (NSAP) conducted by the Department of Agriculture's Bureau of Fisheries and Aquatic Resources (DA-BFAR) shows that most fishing grounds in the country have been heavily exploited and have reached their sustainable limits.<sup>6</sup> In addition, natural disasters such as typhoon Yolanda have devastated both the resources and the ability of local fishermen to work (destroyed houses and boats) (Millare 2014).

Demand for exports, especially to China (Fabinyi et al. 2012), has been a potent driver in the intensification of sea resources exploitation. Illegal fishing has become rampant. Groups of fishermen volunteers now operate 24-h patrols in some areas, trying to protect their local fishing grounds from poachers (*tulisan dagat*, sea robbers), confiscating hundreds of boats and illegal nets. Indonesia and the Philippines have agreed to common actions to eliminate illegal fishing in their respective waters; many incidents have led to the arrest of Chinese or Vietnamese poachers off the coasts of the archipelago in highly disputed waters of the South China Sea where the Chinese coast guards also routinely detains Filipino fishermen (Datu 2014; Requejo 2014). Giant clams and corals for decorative purposes, sharks for their fins' soup, seahorses and snakes for their supposed medicinal properties, and sea turtles for their meat have been confiscated in recent years by Philippine authorities from Chinese poachers venturing into waters way beyond their shores, as far as the Sulu Sea and even Palau, perhaps laying the groundwork for a future territorial claim over the Pacific Ocean.

### 11.1.3 Reversing the Decline of Philippine Marine Fisheries

As in other parts of the world, several avenues can be explored to revive the fisheries in the Philippine archipelago. Fisheries management efforts should ideally result in "win-win" outcomes, both in improving sustainable incomes for fishers, and

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<sup>6</sup>The same worrying decline occurs also in river fishing, as in the case of the Giant Ludong (*Cestraeus plicatilis*), a mullet famous for its unique taste and peculiar aroma when cooked, which may cost as much as P 5000 per kilo. Fishermen claim the fish is now seasonal and much more difficult to catch. It has almost become an endangered species, according to the Bureau of Fisheries and Aquatic Resources (See 2014).



facilitating recovery and resilience of depleted fisheries. With most of the Philippines' fishery grounds fully exploited or overfished, a reduction of overfishing will involve a rationalization of the fishing industry through a reduction of the number of fishermen and fishing boats (Dorente 2014; Capon 2015; Carillo 2015a, b), and a series of 3-month moratorium on fishing in the most critical areas (Lacson 2014; Rubio 2014; Araja 2015; Carillo 2015a, b; Galvez 2015; Pascual 2015; Yap 2015; Macabalang and Lacson 2016). Fishermen from diverse parts of the Philippines have demonstrated in Manila (Galvez and Badilla 2015) against a measure provision that bans commercial fishers from fishing and using fish nets and other destructive and active fishing gears within 15 km of municipal waters. Nevertheless, authorities are proceeding with operations to eliminate illegal fishing by dismantling equipment such as filter nets ("sanggab")<sup>7</sup> in Panguil Bay (Mindanao).

To put more teeth into existing fishery regulations, the Philippines recently put in place Republic Act (RA) 10,654 in February 2015, amending the Philippines Fisheries Code of 1998 (RA 8550). Its most striking features are much stiffer penalties (Diega 2015) for crimes that fall under illegal, unreported, and unregulated (IUU) fishing. For fishing in marine protected areas, operators large-scale fishing vessels (above 150 gross tons) will be fined P1 million (\$22,400) or twice the value of the ship's catch. For failure to secure a fishing permit before fishing in distant waters (or foreign waters), large-scale fishing vessel operators can be fined P16 million to P45 million (\$358,000–\$1 million) or 5 times the value of the ship's catch. Under the new law, commercial fishers are also supposed to shoulder expensive vessel monitoring equipment to be installed in their boats so that they are easily traced by the government's monitoring, control and surveillance system. The law also makes it unlawful for commercial fishing vessels to fish in municipal waters. If the toughest sanctions are placed on commercial fishing entities, small fishermen are against a provision in the law which disallows fishing using purse seines (*pangulong*) and ring nets (*taksay*) and limits fishing activities 15 km from the shore. A difficulty will be to implement the surveillance, considering that there are only about 800 official enforcers for 36,000 km of shore line and more than a million fisher folk. The government is encouraging the reinforcement of local sea patrols, known as *bantay dagat*.

The government emphasizes its call to eradicate all forms of unsustainable use of marine resources that are detrimental to the ecosystem and to the welfare of fisher folk who depend on these resources, but this policy is not popular among fishers, who complained of not being consulted (Ranada 2014a, b, c), who may be forced to remain idle and get no income for many weeks (Olea 2012). Threats on fishing activity may also come from distant countries: in 2014, the European Union threatened to ban fish imports from the Philippines, giving the Philippines six months to clamp down on illegal fishing or face tough sanctions, a threat lifted a few months

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<sup>7</sup>A filter net, or *sanggab* as the locals call it, is a cone-shaped fine net that is placed and positioned against the current during high tide. It catches even the smallest fry, without escape. About 2000 *sanggab* of varying sizes, length and capacity are spread across the waters of eight municipalities of Panguil Bay (Enerio 2015).

later (Moss 2014; Diola 2015; Ranada 2015a, b). The Philippines was exempted from a ban on tuna fishing in the West Pacific in 2008 by the 25-countries Western and Central Pacific Fisheries Commission (WCPFC), but it may not enjoy this privilege for ever (Espejo 2012, 2015; Galvez 2013). To avert fishery collapse, more than half of the fishing grounds should be protected or half of the active fishers in towns with unsustainable fisheries exit the fishery business (Muallil et al. 2014a, b). Since it will be socially difficult (Muallil et al. 2011, Cruz 2013, Muallil et al. 2013), there is a dire need to provide supplemental or alternative livelihoods for fishers, particularly in the case of small fishers who are mired in poverty and are fishing to survive. Facilitating such livelihood shifts and improving safety nets for coastal communities through skills enhancement (Uychiaoco et al. 2000) should be major elements of fisheries management.

Efforts to reduce pressures on coral reefs often include attracting fishers to non-extractive, non-fishery, supplemental livelihoods. Tourism-based and low-capital requirement mariculture (sea ranching) appears to be a more realistic evolution than engaging fishermen into high-capital aquaculture businesses (Cruz-Trinidad et al. 2009). Policy conservation policies (see section 11.3) have the potential to generate conflicts between groups of stakeholders in terms of perceived benefits and costs of conservation and tourism (Majanen 2007; Lucas and Kirit 2009). Fishing is marked by increasing levels of intensification, while tourism has the potential to exclude fishers from many of its purported benefits after the establishment of marine protected areas by foreign and local conservationists. Dive tourism, which is strongly promoted by conservationists and local governments, arguing that the user fees generated by dive tourism can potentially generate income and satisfactory outcomes for all stakeholders, appears in fact to be a source of increasing conflicts with fishers, as have been shown in Calamianes Islands (Fabinyi 2008, 2010) and in Mabini (Calumpan Peninsula of Luzon) (Oracion et al. 2005), where the coastal economy has two bases, harvest of fish on one coast, and dive tourism for recreationalists from metropolitan Manila on the opposite coast. Subsistence fishers may find themselves as the weakest stakeholders, due to their lower rates of knowledge of and participation in conservation activities. The governance of small fisheries must not only look at the management of fish stock, but also at social inequalities in fishermen communities (Fabinyi et al. 2015). Fishers must be involved in conservation efforts and understand how marine reserves benefit local fisheries and food security (Russ et al. 2004; Abesamis et al. 2006a, b; Cruz-Trinidad et al. 2014), and how habitat protection can lead to improvements in their quality of life (Gjertsen 2005).

They may also oppose any measure banning them from living near the coast in the areas most exposed to typhoons, as has been proposed in Leyte and Samar after the devastation of coastal communities brought by Yolanda/Haiyan in 2013 (Ranada 2014a, b, c). In fishing communities across the Philippine archipelago, most fishermen have their boats by the doorways of their homes. They need only push them across the sand to get to the shore a few meters away.

It is not enough to organize small fishers to better repel commercial fishing boats that intrude into municipal waters, or help them into new sources of income. An improved utilization of harvests is also in order. To reduce the discard of spoiled

products, investments have to be made into the post-harvest facilities (cold chambers) and a better training of fishermen in proper post-harvest handling of their catches. Better transportation facilities will allow a faster transfer of the products from the fishing grounds to major markets such as Manila.

Fishermen's advocates also suggest the creation of a national Department of Fisheries instead of just a Bureau of Fisheries and Aquatic Resources under the Department of Agriculture. This would mean bigger funding for the fisheries sector and better recognition of the role of fishermen in Philippine society and economy.

## 11.2 Aquaculture in the Philippines

According to the FAO, more fish for human consumption now originate from farms than from wild capture fisheries. The total global capture has stopped growing and over 29% of fish stocks are overexploited. A great majority of the future increase in global fish production is expected to come from aquaculture (FAO 2013). By 2030, 70% of the whole fish production will come from fish farming, and some 90% of the growth in global fish production will be from Asia. China will be a key producer, and also a major consumer. It will be a major importer of shrimp, mollusks, crustaceans, tuna and others by 2030.

The Philippines islands appear well-positioned to capitalize on this trend, due to the tradition of fishing, eating fish and developing fish farming for many years. However, the country's aquaculture and seafood exports are among the lowest in the ASEAN: less than 20% that of Thailand, a quarter of Vietnam's, and a third of Indonesia's. The main culprit is low farm productivity and under-utilized resources. The export intensity of Philippines' aquaculture was last among ASEAN peers in 2014, at \$33,300 per km of coastline, to be compared with Indonesia (\$71,200), Malaysia (\$179,000), Vietnam (\$1,518,000) and Thailand (\$1,982,900). The Philippine aquaculture sector, as for many other segments of the archipelago's economy, begs for investments (Dy 2015).

Since capture fisheries, both commercial and municipal, are on a continuous decline due to overfishing, use of deleterious gears, and degradation of habitats that support fisheries, aquaculture, on the other hand, has steadily contributed to food supply in the Philippines, which is one of the few countries where it plays a large role in people's nutrition (Branellec 1984). Aquaculture is viewed as a way to increase fisheries production, address food security concerns, and increase income and employment.

Philippine aquaculture can be traced to the fourteenth century, before the Spanish conquest, with the use of traditional, low-density pond culture of milkfish. Only in the 1940s was aquaculture recognized as an important industry, with 20,000 t of production, and since then has grown rapidly. Total aquaculture production has increased from 0.29 million t in 1980 to 2.54 million t in 2012, comprising 42.5% of total fisheries output in 2013. Its steady growth, together with increased commercial fishery production, allowed the fishery sector to recover from a contraction

in growth the previous year. It has had an average annual growth rate in production volume of 8.6% from 1997 to 2008, and the production value is now nearly triple the amount in 1996.

Philippine aquaculture involves many species and farming systems. There are now 16 reported aquaculture species, among which four are considered most important: seaweeds, milkfish (“bangus”, *Chanos chanos*), Nile tilapia (*Oreochromis niloticus*) and tiger shrimp (*Penaeus monodon*) (Smith et al. 1985).

Seaweeds belonging to the genus *Caulerpa* are all eaten fresh in many parts of the Philippines. *Caulerpa lentillifera* was the first species to be commercially cultivated in brackish water fishponds in Mactan Island (Cebu) in the early 1950s. As a response to strong world demand for phyto-colloid carrageenan, the farming of *Eucheuma* was developed in the 1960s. Its success has made the Philippines the world’s largest producer of semi-refined food-grade carrageenan, alkali-treated chips, and raw dried seaweed, and fourth biggest producer of refined carrageenan, exported to United States of America, Europe, China, France, Hong Kong, and Thailand. Carrageenan, extracted from red seaweeds, is used in making ointments, as additive, binder, and emulsifier in food, pharmaceutical, beverage and cosmetics, and as texture agent in toothpaste and powder. The Autonomous Region in Muslim Mindanao (ARMM) is the largest producer. Seaweed resources have the potential of becoming the most accessible energy source for coastal and island communities of the Philippines, through the techniques of methane fermentation and anaerobic digestion of seaweed biomass (Marquez et al. 2014). In 2011, according to BFAR data, seaweed represented 70.6% of overall production in tonnage (1.84 million t), followed by milkfish, 14.3% (372,580 t), tilapia, 9.9% (257,385 t), shrimps and prawns, 1.9% (50,159 t). Other products amounted to 3.3% (87,162 t).

The production system of aquatic species (milkfish, *Chanos chanos*) relies on a fish /environment symbiosis, for infrastructures (ponds) as for methods (natural feeding). The evolution of this traditional activity is going two different ways: intensification of producing methods or integration in the activity of rural communities. The challenge is to keep aquaculture sustainable (Platon 2003; BFAR-Philmaiaq 2007), both as a way to fill the gap between demand and production of marine products, and to preserve fragile coastline and inland water bodies, even as its productivity is growing (Garcia and Sumalde 2013). Questions have been raised about the ecological impact of aquaculture, in particular with regard to bio-diversity and mangrove destruction, about the equity of its development (Coull 1993, Primavera 1997) and about its food security benefits.

### 11.2.1 Fishponds for Milkfish

For a very long time, aquaculture in the Philippines was virtually synonymous with milkfish culture (Bagarinao 1998; Tacio 2010), specifically in brackish water ponds, using naturally occurring fry (“kawag-kawag”) from tidal waters, since these species did not reproduce in captivity. This involved large crowds of men, women and

children looking for baby fish alongside the shores. There was huge variability in quality and quantity between seasons and regions. In the late 1970s, farmers finally were successful in spawning from milkfish kept in sea cages (Marte and Lacanilao 1986). The eggs would then generate a constant supply for farms. The first phase of the production cycle, henceforth, has nothing to do with farming techniques. It is based solely on availability, in the natural environment, of fry ready for fattening. This interdependence is the basis of the whole milkfish production system. Unlike intensive aquaculture methods that tend to act primarily on the animal (genetic selection, artificial feeding), in an environment far removed from wild living conditions (enclosed pools, high population density), milkfish farming here is based on a symbiosis between the fish and the environment around it. It is mostly a question of monitoring its growth by acting on environmental parameters. At any stage of the bangus' life cycle, fattening methods are based on natural food. They are raised in earthen ponds previously treated with fertilizers to promote the growth, on the pool's bottom, of microorganisms, the "lab-lab" or "lumut",<sup>8</sup> forming a sort of mat where milkfish find their food. This widespread method allows yields of several hundred kilograms to more than one ton per hectare per year, depending on the intensity of fertilization, the quality of ponds and breeding techniques, with no added food.

Fishponds have been mostly developed on lagoons and mangrove areas. The long-standing use of these biologically rich areas has resulted in irreversible changes to the landscape. The aquaculture development of fishponds is done mostly by hand, with teams of men working several months to clear the forest, build embankments, excavate and level these wild lands into a well-organized space structured by channels, dikes and dams.

This same system is used for raising penaeid shrimp (Primavera 1991). Shrimp has always been an incidental harvest in brackish water ponds for milkfish. Due to a marketing campaign in the mid-1970s, black tiger shrimp became popular in Japan. As a trial shipment, 450 kg of black tiger shrimp were exported to Japan in 1975. Before the 1980s shrimp farming had already made some inroads in the Philippines, but the real boom in production began in the mid-1980s, as wealthy families in the Negros Province began converting their sugar plantations in earnest. They saw shrimp farming as a more profitable alternative to sugar. Shrimp became a top marine product export from the Philippines. However, disease problems in the early 1990s caused a significant decline in production, leading to diversification into a shrimp-tilapia polyculture (Cruz et al. 2008).

Filipinos were well aware that their traditional aquaculture was only a stepping-stone towards more intensive aquaculture systems such as Taiwan's. In the early 1970s, Laguna de Bay (Delmendo and Gedney 1976, Israel 2008, Tan et al. 2010), the large lake just South of Manila, saw the development of large fishpens for the breeding of freshwater milkfish, with yields about ten times higher than with the

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<sup>8</sup>"Lab-lab" is a complex of filamentous and unicellular blue-green algae and diatoms benthic algae association and microscopic animal organisms forming a kind of carpet. "Lumut" are filamentous green algae originally planted on the pool bottom.

traditional methods. Similar developments also occurred in the Lake Taal. Both play a major role in the provision of fresh fish for the National Capital Region (Saguin 2013, 2014). In the early 1990s milkfish culture in fish pens spread to shallow marine bays and estuaries, particularly in the Lingayen Gulf area. Milkfish culture soon spread to net cages (Sotelo 2016), which were fixed or floating in both fresh-water and marine water. Fishpens in Lake Taal and Laguna de Bay, as well as Lake Buhi (Camarines Sur), are also used for tilapia farming. Clusters of large-scale, industrial fish and shrimp farming have emerged around Bani (Pangasinan), Macabebe and Sasmuan (Pampanga) (Hejdova 2007), Malolos (Bulacan), Balasan and Ajuy (Iloilo) and Kabasalan (Zamboanga Sibugay).

The intensification of aquaculture in the Philippines was not the product of structural or technological revolutions, but rather obtained by refining the existing techniques, especially through the growing use of fertilizers and artificial food for the fish. For small fish farmers, the increase in natural productivity of ponds was the best way to promote the growth of their fish. There was a “natural” gradual transition from fertilization with organic manure and agricultural waste to a fertilization based on the use of manufactured minerals. Artificial feeding was done by providing fish with agricultural waste products (rice bran) and fishmeal, which had not undergone much transformation. Sometimes it was also the provision of protein-rich plants such as “ipil-ipil” (*Leucaena leucocephala*) or water spinach (“kangkong”, *Ipomoea aquatica*).

The culture of milkfish in cages depended upon and was hastened by the development and marketing of commercial feed by the feed millers. The shift to a truly artificial feeding in the form of so-called compound feed cannot be imagined without a radical change requiring large investments and applied to species of high commercial value.

Only large production units can make such a conversion, for example to develop the production of *Penaeus monodon*, a giant tropical shrimp that sells at high prices on local and international markets. It has caused a number of negative effects in coastal areas: ecological costs (mangrove conversion into ponds; use of antibiotics and chemicals leading to drug resistance; dumping of pond effluents which affect neighboring ecosystems; and pumping of groundwater that causes saltwater intrusion and vulnerability to floods) and social costs (reduction in domestic and agricultural water supplies; decreases in the production of food fish and other food crops; further marginalization of coastal fishermen; displacement of labor; and credit monopoly by big businessmen) (Primavera 1991). The trend is inevitable simply because of the maximum profitability. But in these conditions, it may be done by a handful of large fish farmers (Irz and Stevenson 2012). In 2014, there were 17 operations with fishpond areas over 50 hectares, the largest being 200 hectares, in Iloilo. In this context, traditional fish farming by small producers may have a difficult time to survive, except for local markets.



**Fig. 11.6** Fishponds developed in a mangrove area (Barangay Cayucyucan, Mercedes, Camarines Norte, July 2014)

### 11.2.2 *Subsistence Aquaculture?*

In the Philippine agriculture, most owners of farms are not working them, and most farm workers do not own the land they work on. The picture is similar in aquaculture, where being independent requires initial investment comparable to the purchase of land in the countryside. The people employed in that aquaculture are mostly, salaried employees and “tenants” working on lands belonging to the state. Smallholders are a minority.

There is yet another category of potential fish farmers: farmers and small fishers. Rural communities are tight-knit, and it is conceivable for them to add aquaculture as an additional source of protein needed to balance their diets without totally eliminating the possibility of selling a portion of aquatic products. Aquaculture can provide new employment opportunities for the poor, women and youth, despite constraints that include lack of skills and licenses to fish farms (Fig. 11.6).

For this purpose, various aquaculture experiences were conducted in rural communities. In the inland plains, for example, the option chosen is rice-fish farming (Darvin 1992; Torres et al. 1992; Fermin 1992) that combines fish farming and the cultivation of rice in flooded land. The most suitable fish species for this proved to be *Tilapia nilotica*. This prolific freshwater African fish is now acclimated and

requires only very simple techniques. Now that highly pest-resistant rice species have been developed, the reduced use of pesticides allows to safely<sup>9</sup> introduce fish in rice fields, reviving ancestral practices of rice-fish farming which are part of Asian cultural heritage (Horstkotte-Wesseler 1999), allowing farmers to diversify in major rice areas such as Luzon central plain (Pampanga, Tarlac, Nueva Ecija, Pangasinan) (Katon et al. 2005). In the amphibious delta of the Pampanga river, often flooded, fishponds have largely taken over land previously used as rice fields: since the 1980s a significant proportion of the pond extensions in the Pampanga delta occurred at the expense of 11,000 ha of paddy cropland (Mialhe 2010; Mialhe et al. 2015).

Fish farming can also be integrated into traditional agriculture by increasing the use of environmental resources by the rural poor. In coastal, lake or river villages whose economy is based mainly on fishing, declining catches due to overfishing make fishers more interested in alternative activities, such as fish cages. These units can be small (a few cubic meters) and require low initial investment. The fisher can thus retain the independence inherent to his profession. The manufacture of cages uses local materials (bamboo, plant fibers) that people commonly use. Except for the risk of destruction by typhoons, such a low-scale fish farming can be profitable in a short time.

The significant decrease in the wild mud crab population highlights the need to manage the resources and domesticate crabs. Raising mud crabs in net enclosures set in mangrove areas (Aldon 1997; Quintio et al. 2011) is thus another, non environmentally-intrusive, possible development for small-scale commercial culture.

In all these cases, experience has shown that coastal populations are open to innovation, provided that technical monitoring is properly done. Importing a technique without working with fishers would be a sure way to destroy their receptiveness. There is also the problem of juveniles' supply for rice-fish and fish cages methods. Finally, the most crucial sticking point remains the financial loans to start new businesses, since most of the poor have no savings to invest into this type of innovation. Such an alternative fishing development policy must therefore go hand in hand with a system of loans to small farmers. Although the Philippine government intensified the implementation of nationwide fisheries credit assistance through a program known as "Biyayang Dagat Program" (BDP) in the late 1970s and early 1980s, it reached only 65% of the initial target group.

Nevertheless, even if aquaculture is not an ideal remedy to malnutrition, poverty and unemployment, it remains a thriving sector within in the national economic development of the Philippines. Fisheries, mariculture and aquaculture farming are agriculture-based and will assume a greater role for the future food security of the country as populations rapidly expand and the fisheries wild resource base is unsustainably strained to feed a growing population (Encomienda 2014a, b).

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<sup>9</sup>With the needed control of an indigenous pest, the destructive rice eel ("monopterus albus", *kiwet*), which feeds on fish fry and can bore holes in rice paddy walls, causing irrigation water to flow out. These pests may, however, be exported to Japan as a valuable food commodity (Lagasca 2011, 2013; Roque 2011; Lazaro 2013).



Areas such as Dagupan, Pangasinan,<sup>10</sup> attempt today to promote quality by applying for regional branding and prevent other areas to market their milkfish under the certification of origin “Dagupan bangus” (Sotelo 2012; Cardinoza 2014a, b; Inigo 2015a, b). Looming problems may be the low availability of water in times of drought (Cardinoza 2014a, b; Beleo 2015)—and its opposite the damage to fishponds caused by massive flooding<sup>11</sup>—the sanitary risks associated with epidemics and massive fishkills due to heavy concentration of fish in limited spaces, and the pollution associated with urban and industrial areas. Problems are already evident in Manila Bay<sup>12</sup> (Lesaba 2011; Chavez and Manalo 2012; Inigo 2015a, b) and Laguna de Bay (Molina et al. 2011; Molina 2012; Chavez 2015), which may limit further expansion of the aquaculture industry near the capital city of the Philippines

## 11.3 Protecting a Rich Marine Environment Under Threat

### 11.3.1 Marine Biodiversity

As an archipelagic country located in the tropical zone, the Philippines is richly endowed with aquatic resources (Briones 2007). Philippine waters contain some of the world’s richest ecosystems, characterized by extensive coral reefs, sea-grass beds, dense mangrove forests, lower reaches of rivers and intertidal flats. Information available<sup>13</sup> reveals a remarkable variety of marine life: 648 species of mollusks, 3212 varieties of fish (including 731 considered commercially important), 486 species of corals, 820 species of bottom-living algae and thousands of other organisms. Five of the seven sea turtle species (*pawikan*) known to exist in the world today occur in Philippine waters (Bagarinao 2011). All are on the list of endangered wildlife (Mayuga 2016), whose trade is prohibited under the Convention on International Trade in Endangered Species of Wild Fauna and Flora.

The Philippines coral reef area, the second largest in Southeast Asia, is estimated at 26,000 sq km and holds an extraordinary diversity of species. With the Malay archipelago, Papua New Guinea and Australia, the country forms the ‘Coral

<sup>10</sup>The Province of Pangasinan is one of the main centers of aquaculture production in the Philippines. Aquaculture in marine areas is particularly extensive in the coastal waters of Western Pangasinan where the largest areas of coral reefs and seagrasses in Western Luzon are found.

<sup>11</sup>In Central Luzon north of Manila (Bulacan and Pampanga provinces), fish farming is strongly affected by flood events, but at the same time fishpens in the Pampanga delta are considered as potent factors in flooding since they slow down the flow of water. Government authorities have ordered the destruction of some facilities to better fight the floods in the region (Manuel 2013; Carhiles 2015).

<sup>12</sup>Manila Bay has a wide range of environmental problems that need to be addressed—land-based and sea-based sources of pollution, harmful algal blooms, subsidence and groundwater extraction, overexploitation of fishery resources, habitat conversion and degradation (Prudente et al. 1997; Chang et al. 2009, Su et al. 2009).

<sup>13</sup><http://www.haribon.org.ph/index.php/news-and-media/238-philippine-marine-biodiversity-a-brief-profile>

Triangle,' where some 400–500 species in 90 genera of reef-forming corals are believed to exist (Hoeksema 2007; Veron et al. 2009). One of only two double-barrier reefs in the world is in Bohol province, it is commonly known as the Danajon bank. The Sulu-Sulawesi Sea, a 900,000 sq km marine eco-region that lies at the apex of the Coral Triangle is home to some 2500 species of fish. A 2005 study (Carpenter and Springer 2005) even suggests that the Philippines is not only part of the center but is, in fact, the epicenter of marine biodiversity, with the richest concentration of marine life on the entire planet (Go et al. 2015). Because of its larger area, Indonesia may have a greater overall marine biodiversity than the Philippines but there is a higher concentration of species per unit area in the Philippines than anywhere in Indonesia.

33 species of fish are endemic to the Philippine waters, including the sea catfish (*Arius manillensis*), the blue-spotted angelfish (*Chaetodontoplus caeruleopunctatus*), the Philippine anchovy (*Encrasicholina oligobranchus*), the dwarf sawtail catshark (*Galeus schultzi*), etc.... The entire archipelago is a large marine ecosystem with such biodiversity that has become an important feeding and breeding grounds for high-value commercial fish species such as tuna, endangered marine mammals such as the dugong, the *Butanding* (whale shark, *Rhincodon typus*) (Orante 2015) and the extremely rare planktivorous “megamouth shark” (*Megachasma pelagios*) (Morrissey and Elizaga 1999). 716 species of mollusks have so far been recorded in Palawan and more than 200 species have been recorded in Tubbataha Reefs Natural Park (Dolorosa and Dangan-Galon 2014).

Factors that contribute to this exceptional range of biodiversity include:

- A warm climate and stable water temperatures (rarely below 28° Celsius)<sup>14</sup>;
- Abundant sunlight to fuel the photo-synthesis process that supports the growth of algae, coral, and other organisms;
- Relatively low sediment loads, due to the lack of major rivers, allowing light to pass deep into the water;
- Generally low fresh water inputs that maintain a salinity level between 30 and 36 per thousand;
- Currents, clean water, and hard substrates that provide optimal conditions for corals and other aquatic life to thrive.

Such richness may be explained by the geologic history of the archipelago: the complex events leading to the integration of islands that created the archipelago and the isolation of smaller seas within the central Philippines during the Pleistocene. The accretion of the archipelago has increased diversity, if it is correct to assume that the different elements of the Philippines developed their own endemic biotas.

The barrier reefs off the Philippine islands are amongst the world’s richest marine biodiversity hotspots. The country is trying to capture the best economic value from its biodiversity, such as in the UNESCO World Heritage Tubbataha reefs in the Sulu Sea (Subade 2007). However, the effects of the soaring population of coastal populations

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<sup>14</sup>However, climate change impacts (increased sea surface temperatures (SSTs), ocean acidification) may hurt this biodiversity in coming years.

on reefs have been devastating (Aliño 2002a, b). Coral reefs have sustained serious damage (Gomez et al. 1994; Roberts 1995) from illegal fishing with dynamite<sup>15</sup> and cyanide, indiscriminately killing everything within their reach,<sup>16</sup> and from the *muro-ami* fishing technique by which young swimmers pound the coral with rocks attached to ropes to drive the fish into nets. NGOs have denounced illegal fishing activities, particularly dynamite and cyanide fishing, and commercial vessels are operating with impunity in Tañon Strait, the country's largest marine protected area between Cebu and Negros islands (Murcia 2015). Intense fishing and habitat degradation and subsequent species declines at local scales suggests that this exploitation is having a cumulative effect on the overall species richness of the Visayan region, considered as having the highest concentration of coral reef fishes (Lavidés et al. 2009; Nañola et al. 2011). Today, six of the 27 varieties of lapu-lapu known in Philippine waters are under threat (Domingo 2014). Coral also was damaged by silting from erosion caused by deforestation, and inland freshwater lakes were polluted from industrial and agricultural wastes.

This large marine ecosystem, including its coastal landforms (sandy beaches, rocky headlands, sand dunes, coral reefs, mangroves, seagrass beds, wetlands, estuaries, tidal flats, lagoons) and its fisheries resources are directly exposed to serious threats and degradation on account of human activities: illegal fishing and overfishing, pollution from mineral resources extraction (seabed/subsoil or land-based), excessive soil erosion inland due to unwise farming and logging practices, run-off pollution from rivers and lakes, and international and domestic seaborne trade (shipping). The destruction of beachside nesting grounds, linked to massive land reclamations around the archipelago, is a major cause of the decline of the population of the marine turtles, as well as egg harvesting by ignorant beachgoers.

In addition, the effects of climate change (McLeod et al. 2010; Horigue and Licuanan 2013; Mamaug et al. 2013), global warming and sea-level rise have led to increased beach erosion, cliffs erosion and stronger tropical storms, all affecting the marine and coastal resources.

### 11.3.2 Coastal Resource Management

With fisheries declining, coral reefs battered, mangrove forests under threat, pollution levels rising, and coastal communities experiencing increased poverty, the Philippines faces severe challenges in managing its coastal resources.

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<sup>15</sup>Dynamite fishing became rampant in the Philippines after the Second World War. US soldiers would sometimes throw grenades into shoals of fish, providing local fishing communities with a new means of catching more fish. Today, blast fishermen use powdered ammonium nitrate (usually from fertilizer), kerosene and small pebbles, which are packed inside a glass bottle covered with a blasting cap. A single blast produces shockwave, which can travel up to 1500 meters per second, killing or paralyzing every fish in range, often liquefying internal organs. Coral reefs that have taken hundreds of years to grow, are reduced to pieces in a matter of seconds.

<sup>16</sup>150,000 kg of sodium cyanide are sold yearly and an average of 10,000 blasts occur daily, according to the Bureau of Fisheries and Aquatic Resources (BFAR).

Local anthropogenic threats to the coastal environments include increasing population and coastal settlement, habitat modification & coastal pollution, illegal fishing or destructive fishing. The main changes in land use are the conversion of mangrove areas, the proliferation of fish pens and cages and the construction of houses on stilts on the shoreline. Global threats linked to climate change include higher water temperatures, coral bleaching, ocean acidification, sea level rise, coastal erosion exacerbated by increased intensity of tropical storms leading to more powerful storm surges and bigger waves.

Remedies are well known in principle: addressing immediate anthropogenic threats to the ecosystems, and improving the health of the ecosystems for better chances of recovering from the adverse effects of global change, while adapting the lifestyle of the population to global change and mitigating any harmful effects from global phenomena on local communities.

In the Philippine case, the ecosystems' resilience can be improved by reducing the fishing effort, eliminating destructive fishing, controlling coastal pollution and establishing marine protected areas (MPA) and MPA networks.

The central Visayan region (Negros, Panay, Cebu) is key (Nañola et al. 2011). This part of the Philippine archipelago historically has the highest concentration of coral reef fishes anywhere in the world, but the Visayan region and the southern Philippine Sea region have the lowest species richness in the Philippines. They have unusually low counts of species typically exploited in fisheries and for the aquarium trade. Parallel reports about intense fishing and habitat degradation indicate that excessive exploitation has had a cumulative effect on the overall species richness of the Visayan region. Successes in Marine Protected Areas in this region in increasing species richness at local scales suggests that improved management of these protected areas coupled with much more intensive fisheries management will be key to reviving a healthy biodiversity in the Visayas.

Coastal management efforts in the Philippines started in 1974 with the establishment of small marine protected areas (MPAs) (White et al. 2006a, b). This general term is applied to any defined marine area established for conservation and protection, where activities are managed based on specific rules and guidelines. It includes several types of MPAs

- A Marine Reserve is an MPA where all uses are controlled or regulated to the extent necessary (e.g. Apo Island Marine Reserve, El Nido Marine Reserve)
- A Marine Park is an MPA where multiple uses are allowed through zoning regulations like a marine reserve and where conservation-orientated activities are emphasized (e.g., Tubbataha Reef National Marine Park, Apo Reef Natural Park) (White and Palaganas 1991; Dygico et al. 2013)
- A Marine Sanctuary, synonymous with “No-Take Zones” (NTZs) (Abesamis et al. 2006a, b), may be located within a marine reserve or marine park (e.g., Turtle Island Wildlife Sanctuary, Pulong Bato Fish Sanctuary Verde Island.)

Early models on Sumilon (Cebu, as early as 1974) (Russ 1989) and Apo (Negros oriental) Islands, and others, allowed to develop a framework for coral reef management aiming at enhancing fish yields to traditional fishers (Alcala 1988; Russ and

Alcala 1999) as well as protecting and maintaining near-shore coral reef habitats for biodiversity and multiple economic uses (White et al. 2002). It was a pioneer effort later followed by other tropical countries (Christie and White 1997). A major national policy shift (Alcala and Russ 2006) occurred in 1991 with the passage of the Local Government Code (Republic Act 7160), when the Philippine government transferred many coastal management responsibilities to local government units and fostered increased local participation in the management of coastal resources (White 2006), each municipal authority exercising management powers and responsibilities over their 15-km municipal waters. This management approach through a variety of community-based and co-management schemes (Baticados 2004; Fernandez 2006; Aldon et al. 2011; Casiwan-Launio et al. 2011) has proven successful in gaining community acceptance and achieving local-scale fisheries and conservation objectives (Courtney et al. 2002; Uychiaoco et al. 2005). In Apo Island (Negros), the marine protected area was initiated by Angel Alcala, a marine scientist from Silliman University in Dumaguete, who met local fishermen to convince them of the importance of creating a marine sanctuary in the area. Initially, there was hesitation on the part of the locals, but after three years of discussions, local fishermen and the staff of the university's Marine Laboratory selected an area extending 500 m from 450 m of shoreline as the sanctuary site.

As the number of MPAs increased in the 1980s and 1990s, to reach a total of about 1800 in 2014 (Cabral et al. 2014), their usefulness appeared limited since they were not connected in networks (Horigue et al. 2012). Indeed, if managed in isolation, coastal and marine protected areas (MPAs) are vulnerable to natural resource development and exploitation occurring outside these areas—in particular, overfishing, alteration and destruction of habitats, and water pollution.

Despite considerable success in enforcing regulations associated with small MPAs such as Balicasag and Pamilacan Islands (Bohol) (Christie et al. 2002), a trend of declining fish abundance and species richness among economically valuable species immediately outside the no-take areas highlights the limitations of small and isolated MPAs. Thus, protection of coastal and marine areas—of species, habitats, landscapes, and seascapes—should be integrated into spatial development strategies for larger areas (Lowry et al. 2009), under the umbrella of integrated coastal and ocean management (ICM) (Courtney and White 2000; Balgos 2015). The municipal scale appeared too limited to provide efficient ecosystem-based management of the sea resources, for example on the Danajon Bank double barrier reef off northern Bohol Island (Armada et al. 2009) or in Verde Island Passage (Horigue et al. 2015). In Southeast Cebu, the expansion from a single municipality to a much broader collaboration at the intermunicipal scale has made easier the fight against degradation of key coastal habitats, overfishing, and dwindling fish stocks (Eisma-Osorio et al. 2009). Likewise, the Southern Iloilo Coastal Resource Management Council (SICRMC), with five member municipalities, has implemented a uniform ordinance in order to promote integrated management, reduce conflict, and contribute to efficient fisheries law enforcement (Espectato et al. 2012a, b). In Zamboanga Sibugay province, inter-LGU cooperation for better fisheries control implementation included a color coding of boats, a registry of fishers

and fishing vessels to check permits and licensing, a zoning of coastal waters, incentives and rewards for enforcers; and a list of prohibited acts and penalties (Baird et al. 2013). In the northern part of the country, a bioregional approach was initiated by involving the provincial governments as well as the state universities and colleges to design policies of marine spatial planning (Pajaro et al. 2013).

The need for a convergence of MPAs within Integrated Coastal Management programs appeared necessary around the year 2000 (Cicin-Sain and Belfiore 2005; White et al. 2005; Balgos 2015) and was set in motion by Executive Order 533 series in 2006. MPAs are financed both by government funding and international support, but also through the imposition of user fees. For example, in Tubbataha Reefs National Marine Park (Palawan) (Tongson and Dygico 2004), the entrance fee is a hefty 75 US dollars or 3000 Philippine pesos (no fee for Palawan residents). In Apo Island Marine Reserve, established in 1986 as a fisheries intervention using a community-based approach, protection efforts resulted not only in increased fish standing biomass and harvest but also in the preservation of its coral reefs (Maypa et al. 2002). However, the unregulated number of tourists diving and snorkeling in the sanctuary has raised concerns among members of the community and the Protected Area Management Board (PAMB) of the damage it has caused to the corals. Fees for access to the undersea corals have been set very high to limit the number of visitors: if the general admission is 100 pesos/person/day, with lower rates for local residents and students; there is an extra PHP50/person/day for snorkeling, PHP 300/person/dive for scuba diving and PHP 5000/day for video filming. This puts the coral scenery out of reach for most Filipinos, however it allows the park to experience substantial income every year.

International cooperation in Coral Triangle countries to compare progress and practices, and protect resources on a large scale, both for fisheries and tourism, is increasing (Cabral et al. 2013; Walton et al. 2014; Weeks et al. 2014; White et al. 2014; Pomeroy et al. 2015).

Numerous experiments in coastal management have been conducted that range from broad area management planning for whole bays to small community-based MPA projects. They require a well-articulated process (Fabinyi et al. 2010) that includes community participation and ownership in collaboration with single or multi-municipal governments, the continued active engagement of local non-government organizations, strong support from the national government and from marine science academic and research institutions, the involvement of multiple stakeholders, the influx of donor-assisted marine conservation programs, the creative use of financial mechanisms to create long-term self-supporting MPAs, and the need for localized periodic monitoring and evaluation to provide feedback to managers. Many parameters must be considered (Ratner et al. 2012) to assess the effectiveness of such policies, such as an island location, a small community population size, class, ethnic, and gender differences among fisher folk (Eder 2005), minimal effect of land-based development, application of a bottom-up approach, use of a scientific information database, community empowerment, gender issues (D'Agnes et al. 2005), alternative livelihood schemes (Kühlman 2002), tangible

management results (Weeks et al. 2010), continued involvement of external groups after reserve establishment, and small-scale project expansion (Beger et al. 2004).

Analyses of these policies (Maypa et al. 2012) seem to indicate that, despite the struggle of most MPAs with budgetary constraints or lack of sustainable financing (Milne and Christie 2005), as well as weak law enforcement (Samoilys 2007), they are making progress with notable improvement in management leading to better health of the coral reefs (Alcala 1988; White and Vogt 2000; Russ et al. 2004; Maliao et al. 2009), as shown in the Visayas (Pollnac et al. 2001). Communities have obtained tangible benefits through enhanced fisheries production associated with MPAs (Van Mulekom 2008), revenues from user fees (Samonte-Tan et al. 2007) and enhanced community pride (Lamug 2005), especially if there is trust between stakeholders and effective involvement of the primary users, fisher folk (Andalecio 2011; Bacalso et al. 2013; Chaigneau and Daw 2015), who also need to follow regulations (Baticados and Agbayani 2000). The Marine Conservation Project for San Salvador Island, Zambales (MCPSS) has shown that the use of destructive fishing techniques such as blast, sodium cyanide, and others particular to the site can be stopped by community action (Christie et al. 1994; Katon et al. 1999).

There has been a gradual evolution in fisheries management from a focus on sustainability of a single species or stock and resources to a focus on marine ecosystems, with the promotion of ecosystem based fisheries management (EBFM) on a multi-jurisdictional level, often at the geographical level of the numerous bays and gulfs (Lingayen Gulf, San Miguel Bay, Ormoc Bay, Davao Gulf...) alongside the Philippine coastline (Bundy 1997; Pomeroy et al. 2010). Most recently, with the support of USAID-Philippines, the 5-year, ECOFISH project (Ecosystems Improved for Sustainable Fisheries), building on the earlier FISH project (Fisheries Improved for Sustainable Harvest) (Christie et al. 2007) will work on conserving biological diversity, enhancing ecosystem productivity and restoring the profitability of fisheries in eight Marine Key Biodiversity Areas (MKBA),<sup>17</sup> using the Ecosystem Approach to Fishery Management (EAFM) as a cornerstone of improved social, economic and environmental benefits, to achieve broad-based and inclusive growth. Aquaculture also needs to be included in the definition of coastal zone management policies (Stead et al. 2002).

However, managing small-scale fisheries alongside MPAs in a developing country like the Philippines is very challenging because of high pressures from expanding fishing population, poverty and lack of alternative options (Pollnac and Pomeroy 2005; Segi 2014). Thus, resource-focused fisheries management initiatives such as Marine Protected Area (MPA) establishment or projects such as FISH or ECOFISH may result in further marginalization of the poor fishers, which could pose more serious problems in coastal communities (Fabinyi 2011). MPAs alone may not be enough to avert fishery collapse even if MPA size is increased from the current

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<sup>17</sup>These eight MKBAs are (1) Lingayen Gulf, (2) Verde Island Passage, (3) Calamianes Island Group, (4) Ticao-San Bernardino-Lagonoy Gulf, (5) Danajon Reef, (6) South Negros Island, (7) Surigao del Sur and del Norte, and (8) Sulu Archipelago.

3–15% of the municipal waters, i.e. up to 15 km from the shore, as required by the Philippine law (Muallil et al. 2014a, b).

Since access to food, education, and health services for Philippine fisher folk families is directly dependant upon the fish harvest and related health of the marine environment, a grassroot coalition of more than 6000 village fishers and their families, Pamana Ka Sa Pilipinas, has developed an “ecohealth strategy” linking the health of coastal people and that of their surrounding marine ecosystem. It aims at strengthening food security and nutritional status through empowerment of the small village fishers (Añabieza et al. 2010).

### 11.3.3 Restoring Mangrove Ecosystems

Mangroves are defined by the presence of trees (“piapi”, *Avicennia lanata*, “bungalon”, *Avicennia marina*, “langarai”, *Bruguiera parviflora*, “pagatpat”, *Sonneratia alba*, “bakauan”, *Rhizophora species*, “malatagal”, *Ceriops decandra*, “saging-saging”, *Aegiceras corniculatum*, “tabigi”, *Xylocarpus granatum*, “nipa”, *Nypa fruticans*) (Calumpong and Meñez 1997; Primavera et al. 2004; Juario and Ontoy 2005; Almazol et al. 2013; Benecario et al. 2016) that mainly occur in the intertidal zone in the tropics. The aerial roots of mangroves provide a substratum on which many species of plants and animals live. Above the water, the mangrove trees and canopy provide important habitat for a wide range of species: birds, insects, mammals and reptiles. Below the water, the mangrove roots are overgrown by sponges, algae, and bivalves. The soft substratum in the mangroves forms habitat for various species, while the space between roots provides shelter and food for prawns, crabs and fishes. Mangrove litter is transformed into detritus, which partly supports the mangrove food web. Mangrove forests are known to be the best defense for coastal communities against typhoons and storm surges (Holtz 2013; Lozada 2014), and for erosion control, flood regulation, sediment trapping, nutrient recycling, wildlife habitat (Rönnebeck et al. 1999, Nagelkerken et al. 2008), and nurseries for aquatic animals. Mangrove forests can also reduce carbon emissions as they serve as carbon sink, being five times better in capturing carbon than rainforests (Kristensen et al. 2008). Mangroves produce organic biomass (carbon), contributing 1800–4200 g of carbon per square meter per year. The capacity of mangrove forests to act both as a source and sink of carbon makes them key ecosystems on the mitigation strategies against climate change (Bigsang et al. 2016). Coastal residents who use mangroves and their resources may have considerable botanical and ecological knowledgeable about these forests. A wide variety of forest products are harvested in mangroves, especially firewood, thatch material (*Nypa species*) for homes, mangrove poles for lumber and construction materials, tannins and medicines (Walters et al. 2008; Sinfuego and Buot 2014).

A large proportion of the Philippine mangrove forests were cleared to construct fishponds, seriously damaging the coastal ecological system (Kelly 1993; Walters 2003; Garcia et al. 2014). Heavy cutting of mangroves for the commercial sale of



firewood has occurred since the 1930s. Cutting for domestic consumption of fuel and construction wood by local people has been widespread, although rates of cutting vary according to changing demographic pressures and in response to cutting restrictions imposed by firewood concessionaires and government officials.

If small-scale wood harvesting has weakened the coastal forests (Walters 2005), further impacted by conversion to agriculture, salt beds, industry and settlements, most mangroves were lost due to the creation of fishponds for commercial fish and shrimp farming (Primavera 2000; Walters 2003), especially on Panay island and Pangasinan province (North Luzon). Cutting to make space for fish ponds and residential settlement has dramatically reduced the distribution of mangroves, although coastal forests expand near the mouth of the largest rivers, where soils from deforested hillsides have been deposited as sediments along the coast.

The history of fishpond development in the country includes a government-sponsored fishpond boom in the 1950s and 1960s, a pro-conservation decade in the 1970s followed by a shrimp fever in the 1980s. Often these fishponds were then left abandoned and, by law, they should be returned to the Department of the Environment and Natural Resources for reversion to their previous state. Mangrove forests in the country went down from 500,000 hectares in 1918 to 350,000 in 1950, 250,000 in 1975, 133,000 in 1988, only 117,000 hectares in 2010,<sup>18</sup> a loss of almost 80% in less than a century, according to the Bureau of Fisheries and Aquatic Resources (Visperas 2012; Lacsamana 2014). As of 1990, a total of 230,000 ha of mangrove forests had been converted to fishponds (Honculada Primavera 1995). Of the remaining 117,000 hectares, 95% represents secondary growth and only 5% constitutes old or primary mangroves mostly found in Palawan and Mindanao. Most mangrove areas in Luzon and the Visayas are made up of reproduction brush and young growth. They are of much lower quality than a century ago. Mangrove forested areas in the Philippines have been steadily transferred from a common property resource, of multiple use and benefit to a large number of people, to a private good, principally as a consequence of the emergence of the single use for shrimp ponds, whose profits are narrowly channeled to the benefit of a select few (Nickerson 1999; Cabral and Aliño 2011).

Efforts toward restoring lost mangroves in the Philippines have been immense, specifically since the 1990s. They started often locally, at a small community scale, as in Cogtong Bay (Bohol) (Katon et al. 2000; Maliao and Polohan 2008), but now coastal villages collaborate with the national and local government units in resource rehabilitation. Timber production was the initial motivation for early mangrove reforestation projects: people have responded to declining local forest availability by planting mangroves in order to have a ready supply of posts for construction of fish weirs.

Many mangroves have also been planted to protect fishpond dykes and homes from storm damage, and to establish tenure claims over mangrove areas. Benefits from protection against erosion and extreme weather events and direct improvements in livelihoods and food security are perceived as justifications for such restoration

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<sup>18</sup> Satellite imagery analysis has yielded higher numbers for the remaining Philippine mangroves (about 250,000 hectares), which still would be half of the coastal forest extent in the beginning of the 20th century (Long and Giri 2011; Long et al. 2014).

efforts (Walton et al. 2006). It must be good for the environment, good also for the economy, including at the local scale (Samonte-Tan et al. 2007; Carandang et al. 2013; Samonte et al. 2016). For protection purposes, seafront planting of fringing mangroves is necessary because coastal populations will not move to safer ground by choice, or cannot move due to poverty.

However, in many coastal communities in the Philippines, mangrove rehabilitation projects by replanting from scratch have been slow and poorly implemented (Ranada 2015a, b). There is a widespread tendency to plant mangroves in areas that are not the natural habitat of mangroves (Primavera et al. 2011), converting mudflats, sandflats, and seagrass meadows subjected to frequent inundation and wave action into often monospecific *Rhizophora* mangrove forests. In these non-mangrove areas, the *Rhizophora* seedlings have experienced high mortality. Of the few that survived (often after persistent replanting), the young *Rhizophora* individuals planted in these non-mangrove zones have reached very small sizes in comparison to those individuals thriving at the high intertidal position and natural mangrove sites.

A more rational focus of the restoration effort (Samson and Rollon 2008) should be to replant of mangroves in the brackish-water aquaculture pond environments, the original habitat of mangroves (Abroguena et al. 2012). The adoption of a mangrove aquasilviculture<sup>19</sup> system may be an alternative to the current extensive fishpond practice. It would reverse unproductive, underutilized and abandoned fishpond areas into their former productive and pristine condition when these were still mangrove areas.

The BFAR has undertaken a massive mangrove reforestation project in 62 coastal towns nationwide. Following the catastrophic Yolanda typhoon, the government has allotted P1 billion for mangrove and beach forests development in disaster-risk areas in the country (Jen-Indino 2014). The funds will be used to provide socioeconomic benefits to affected local communities and are part of the long term program to mitigate the negative impacts of climate change (Larano 2013; Green et al. 2014). International cooperations with NGOs (Maluyo 2015) and environmental institutions have been developed. The Community-Based Mangrove Rehabilitation Project in the Philippines (CMRP), based in Iloilo province, led by retired mangrove scientist Jurgenne Primavera and funded by the Zoological Society of London, supports and trains local communities in the central Philippine provinces of Aklan, Capiz and Guimaras to rehabilitate abandoned government-leased fishponds and degraded nipa palm. It has developed the Ibajay Mangrove Eco-Park in Aklan,<sup>20</sup> with over 1 km of boardwalks for visitors to explore the extraordinarily diverse mangrove forest and associated wildlife. Highlights of this eco-park are the centuries old mangroves in the centre of the forest which are over eight metres in diameter. This eco-park is managed by local community groups and helps raise awareness of the

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<sup>19</sup>A mangrove-friendly system of growing fish and other aquatic organisms in enclosed areas within mangrove forests. Unlike in fishponds, the aquasilvi system does not allow the cutting of any mangrove tree so the natural balance among all elements of the ecosystem is not disturbed.

<sup>20</sup>[http://www.ibajay.net/Ibcom/Images/I-Tourism/Katunggan/katunggan\\_Text.htm](http://www.ibajay.net/Ibcom/Images/I-Tourism/Katunggan/katunggan_Text.htm)

importance of mangroves, while providing valuable additional income for the local communities who manage the park. Other mangrove eco-parks have been constructed in Panay (Sarmiento 2011; Umahag 2015), as well as Palawan and Negros. The area of Sabang in Puerto Princesa has among the most diverse mangrove forests in the island with hectares of mangroves thriving lushly and offers tourists paddleboat tours of the mangroves.

Efforts are also underway to revive coral beds. In 2005, two coral nurseries were established in Bolinao, the Philippines, in front of Silaqui Island (Pangasinan province, Luzon), based on the “gardening with corals” concept (Shafir et al. 2006; Shaish et al. 2008, 2010). The first phase is the establishment of in situ nurseries (preferably mid-water floating nurseries in which large numbers of coral fragments are reared to sizeable coral colonies under controlled and favorable conditions. The second phase is engaged with the transplantation of these nursery-grown coral colonies onto denuded natural habitats (Cabaitan et al. 2008). In Bolinao, despite the impact of typhoons, the one-year nursery phase, with a high survival rate of 85%, produced sizeable colonies, especially of branching forms, suitable for transplantation. As in the case of mangroves, community-based coral restoration must involve the local community, with public-adapted lectures on coral biology and ecology, coral transplantation training and actual transplantation done with active community participation.

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## Chapter 12

# Industry vs. Services

**Abstract** This chapter examines the difficulties of the country to emerge as an industrial power, despite the rich mineralization of the country, which has given birth to a proliferation of mines and conflicts focusing on the environmental and social consequences of mining. More than the lack of abundant energy reserves, the choices of the economic and political leaders have not been conducive to an industrial takeoff similar to neighboring countries. The steel and garment industries have never been very strong, the automobile cluster of Laguna province is much less impressive than what is seen in Thailand, and the high-tech industry works mostly for foreign companies, in the absence of any major industrial firm in the Philippines in this economic segment. The main sources of wealth are in the valorization of land holdings, as shown by the assets of the richest Filipinos. Real estate and shopping malls are some of the main drivers of the domestic economy. The country, however, has a leading position in the world of Business Processes Outsourcing, especially through call centers concentrated mostly in the southern part of the Manila Metropolitan area.

**Keywords** Industries • Energy • Automobile cluster • BPO • Shopping malls

The industrial sector continues to decline relative to services, an economic bright spot in which the Philippines apparently enjoys a comparative advantage, although some argue that services represent an employer of last resort. In fact, the Philippines, with a much higher percentage of GDP and employment in tertiary sector activities than in secondary industries, may look like a post-industrial country.

But has it ever been an industrial country? Has the country ever been a member of the flock of “wild geese” examined by Kaname Akamatsu (Akamatsu 1962) in his theoretical model of economic development throughout East and Southeast Asia and re-examined by numerous Western and Japanese authors (Korhonen 1994; Bernard and Ravenhill 1995; Kojima 2000; Schröppel and Nakajima 2002; Kasahara 2004; Li 2007; Kumagai 2008)?

The concept of the flying-geese pattern suggests that a group of nations in Eastern Asia are flying together in layers with Japan at the front. The layers symbolize the different stages of economic development achieved in various countries. In the

flying-geese model of regional economic development, Japan as the leading goose leads the second-tier geese (new industrialized countries) that, in their turn, are followed by the third-tier geese (later developing and least developed countries). Japan made a first attempt to lead Asian countries before the Second World War, when it embarked on an expansionist policy with the goal of creating the “Greater East Asia Co-Prosperity Sphere.” This led to brutal invasions and a hostile attitude toward Western countries, which ended with Japan’s defeat in WWII. After the war, and this time with U.S. support, in the context of the Cold War, Japan made another attempt at regional integration by developing a production network in East Asia. In world system terminology (Wallerstein 2004), Akamatsu’s theory could be seen as making Japan as the centre, Korea and Taiwan a semi-periphery, and the rest of Asia, including the Philippines, as periphery (vast markets and suppliers of raw materials).

In the 1950s, the results proved quite good for the Philippines, rated as second only to Japan in Asia’s industrialization race by the World Bank in the early 1960s, as it was implementing a strategy of import-substitution industrialization (Hutchcroft 1989), the first step in the flying geese model. However, export-oriented industrialization failed to take off in the Philippines in the 1970–1990s. Why the failure? How can we explain the low level of industrialization in the Philippines in comparison to nearby countries? (King 2007; Usui 2011).

How to explain, likewise, the early rise of services in this still poor and developing country, which is at odds with the usual economic path of East and Southeast Asian nations?

## 12.1 The Failed Industrialization of the Philippines

The industrialization strategy in the 1950s, 1960s and 1970s was limited to import substitution, within a Philippine market protected by trade barriers. Unlike the extroversion choice of first-generation NICs (South Korea, Taiwan, Singapore, Hong Kong), Philippine outwards efforts remained very limited, and no major investment in port facilities was undertaken to facilitate exports. A radical shift was initiated under the presidency of Ferdinand Marcos, with a quick opening to foreign markets, but essentially resulted in a widening trade deficit, since the Philippines did not have much to sell the rest the world, while the Philippine elite, often educated abroad, developed a pattern of consumption of imported products.

Observers of the Philippine economy (Bello 2005, Yap et al. 2011) have stigmatized the behavior of the business class, which controls politics and land ownership, and did not seek to develop a high-technology economic base for the future. Most manufacturing remained low-tech (garment industry) and the spirit of enterprise was mostly encouraged at the level of family-run small businesses. The elite chose to invest in real estate (shopping malls, business centers) using land freed by the

withdrawal of US military forces, or long-time held family estates. Land reform, instead of turning the farmlands to small farmers, converted them into golf courses and resorts. This style of economic development is quite different from other Asian countries and resembles more closely what may have been observed in Latin American countries or in sub-Saharan Africa (Giri 1997).

According to R. Ofreneo (2015), the program of Export Oriented Industrialization that the Philippines pursued after Marcos, with the support of international financial institutions, was too narrow, because it focused only on opening the country to foreign investment, without aiming at the development of better quality products. It neglected infrastructure (Canlas et al. 2007) and did not encourage the formation of Philippine-based big industrial companies, contrary to what had happened in South Korea. Three decades of protectionism and import substitution in the Philippines had led to high levels of wealth concentration in the hands of a few wealthy families and to the deterioration of the culture of competition in the country (Aldaba 2003). After the more than 20 years of liberalization that followed protectionism, the overall performance of the manufacturing industry also proved to be under-par. Productivity growth declined and the industrial structure remained “hollow”, since middle and medium enterprises never took off to challenge foreign multinationals or entrenched local companies, due to difficulties in finance and market access.

Where are the “made in the Philippines” products? They are certainly not very visible on world markets, and most goods sold in Manila’s shopping malls are made in China, Indonesia and Thailand, but not in the Philippines. The contribution of the manufacturing sector, normally the growth driver in industrialized and emerging economies, is not a major part of the Philippine economy (Tapang 2014). Its weak performance provided little to boost employment and investment: in the 1980s and 1990s, manufacturing growth was extremely slow, even more in comparison to neighboring countries, averaging only 0.9% and 2.5% respectively. Modest growth was posted in the 2000s at 4.1%.

Industrialization appears geographically concentrated to a few areas. The core of manufacturing activity is the Tagalog region and the Manila extended area. The NCR, Central Luzon and Calabarzon (mostly in Cavite and Laguna provinces) account for 56% of factory jobs in 2014. The only part of the country with significant female labor in manufacturing is the Calabarzon region, South of Manila, where 7.6% of female employment is in factories (44% of all 365,000 female factory workers in the country), almost five times as much as the national average.

The country’s manufacturing export base is little diversified, with exports heavily concentrated (Aldaba 2013) in just three product groups: automotive and electronic parts and components, garments/textiles and machinery and transport equipment. These three are low value-added, labor-intensive production sectors and considerably dependent on imported inputs. In most industrial branches of the classic model of East Asian development, the Philippines showed little success, as we will examine with the textile and garment industry, steelmaking and auto manufacturing.

### 12.1.1 *Mining Potentials and Conflicts*

When it comes to mineral resources, the Philippine archipelago is blessed by its situation along Pacific Ring of Fire, resulting in the formation of rich and abundant metallic mineral deposits (Jimenez et al. 2002). The most important natural resources of the country include non-ferrous metals such as chromium, copper, gold, lead, nickel, silver, and zinc, as well as some iron ore, coal, mercury, limestone, quartz, marble, phosphorus, guano, asbestos and other quarry resources. Almost a third of the Philippine land area has been identified as having high mineral potential, and nearly 4% is covered with mining tenements, often small-scale operations (Diega 2015).

The Philippines' mining history is rich: ancient Chinese traders already called Luzon the "island of gold" (Lusong Dao). Industrialized mining began during the American colonial period, as American investors were granted easy access to Philippine resources, and by 1941, the country was the world's fifth largest gold producer. In 1980, 45 operating mines were responsible for over 20% of all export revenue (Holden and Jacobson 2006).

The Fraser Institute of Canada, a public policy research organization, puts the Philippines among the top ten countries most attractive for mineral development based on mineral potential alone. It is third in the world for gold reserves, fourth in copper and fifth in nickel (Ariillo 2014). Most of the 35 operating metallic mines in the country as of Oct. 2012 based on data from the Mines and Geosciences Bureau are into nickel mining. Wild gold rushes still happen in some spots, such as in Paracale (Camarines Norte, Bicol) in 2014 (Moya 2014). The Philippines has an estimated \$1.4 trillion worth of untapped mineral resources according to the Mines and Geosciences Bureau (MGB). That is 15 times the amount of the country's foreign debt (Table 12.1).

However, foreign-controlled mines have not led to value-enhancing industrialization (Ofreneo 2008a, b), in contrast to what happened in Malaysia, which adopted tin mining to fuel industrialization as one of its strategies for economic development, first as a source of hard currency to pay for imported capital goods and second, as a base of industrialization through the processing of the minerals within the country. Metallic mining in the Philippines boomed in the post-war period, from the 1950s to the 1970s, largely in response to the mineral import requirements of Japan. Most of the mining companies—engaged in copper, gold and iron ore—were developed to produce for export to Japan. Major Japanese ore buyers (*Marubeni*, *Sumitomo*) advanced loans in exchange for copper concentrate exports. Filipino mining companies enjoyed the revenues and did not pursue capital-intensive processing into refined copper or steel. The largest copper mine in Southeast Asia was located in Toledo, Cebu and the Philippines became the biggest exporter of copper ores in Asia, but it is Japan, with few copper resources of its own, which became the world's biggest exporter of copper-based products in the 1970s (Mezger 1980; Lopez 1992). Metallic ores, after mining or extraction, are exported directly to



**Table 12.1** Ranking of the Philippines among top mining countries, 2010

Gold (2010) (t)			Nickel (2010) (million tons)			Copper (2010) (t)		
1	China	345	1	Russia	269	1	Zimbabwe	16,000
2	Australia	261	2	Indonesia	236	2	Chile	5419
3	United States	231	<b>3</b>	<b>PHILIPPINES</b>	<b>173</b>	3	Peru	1247
4	Russia	192	4	Australia	170	4	China	1200
5	South Africa	189	5	Canada	158	5	United States	1110
6	Peru	164	6	New Caledonia	130	6	Indonesia	872
7	Indonesia	120	7	Brazil	109	7	Australia	870
8	Canada	91	8	China	80	8	Russia	703
9	Ghana	82	9	Colombia	76	9	Zambia	690
10	Mexico	73	10	Cuba	71	10	Canada	525
11	Papua New Guinea	68	11	South Africa	40	11	Poland	425
12	Argentina	60	12	Botswana	28	12	Congo	380
13	Brazil	58	13	Greece	16	13	Kazakhstan	380
14	Colombia	54	14	Macedonia	14	14	Mexico	270
15	Tanzania	42	15	Venezuela	11	15	Iran	257
<b>16</b>	<b>PHILIPPINES</b>	<b>41</b>	16	Kosovo	9	16	Brazil	214
17	Chile	38	17	Spain	6	17	Papua New Guinea	160
18	Mali	37	18	Finland	4	18	Argentina	140
19	Kenya	30	19	Zambia	3	19	Laos	132
20	Burkina Faso	25	20	Madagascar	2	20	Mongolia	126
			<b>27</b>	<b>PHILIPPINES</b>			<b>58</b>	

Gold World Mine production, by country, [http://www.indexmundi.com/en/commodities/minerals/gold/gold\\_t8.html](http://www.indexmundi.com/en/commodities/minerals/gold/gold_t8.html)

Nickel World Mine production, by country [http://www.indexmundi.com/en/commodities/minerals/nickel/nickel\\_t10.html](http://www.indexmundi.com/en/commodities/minerals/nickel/nickel_t10.html)

Copper World Mine production, by country [http://www.indexmundi.com/en/commodities/minerals/copper/copper\\_t20.html](http://www.indexmundi.com/en/commodities/minerals/copper/copper_t20.html)

foreign countries as raw materials, since the country has not developed its own minerals processing industry and, thus, cannot maximize the benefits or value added from mining.

There are major struggles over the lands government has approved for mining, including for foreign operators (controversial Mining Act of 1995), since many are ancestral domains of indigenous tribes in the Philippines (Holden 2005; Holden and Ingelson 2007; Wetzlmaier 2012). Indigenous peoples, emboldened and given the protection of domestic and international human rights groups, have demanded compliance by local governments (Lusterio-Rico 2013; Verbrugge 2015), whose leaders are often tempted by the bribes from mine operators, mining companies with regulations requiring the companies to secure the informed consent of their tribes. Militarization and human rights violations (forced evacuation, harassments, massacres of locals opposing mining operations) have been widely reported (Salamat 2013). Tribesmen opposing the dispossession of their lands by mining activities

(Holden et al. 2011), NPA and MILF guerillas have led a number of attacks on mining facilities (Holden and Jacobson 2007; Jacinto 2011), while in the context of widespread corruption in the Philippines, cases of extortion have been numerous and human rights militants summarily executed (Lim 2016).

The mining industry, as a source of the billions that would launch the Philippines on the road to prosperity and solve the problem of massive poverty did not realize that vision. In fact, many mining operations have caused severe environmental damage that may take decades to repair, and the mining industry's windfall to the government budget has been minimal (1.3% of GDP in 2012). Employment is about 250,000 people, 0.7% of the workforce with a job.

As a result, farmers and environmental protection groups, supported by the Catholic Bishops Conference of the Philippines, have denounced the high level of mercury pollution (Appleton 1999; Akagi et al. 2000; Drasch et al. 2001; Cortes-Maramba et al. 2006; Bravante and Holden 2009; Holden and Jacobson 2013) and called for a moratorium on mining (Lansang 2011, 2013; Ellao 2012; Garcia 2012) and the closing of all illegal mining operations. Efforts to develop tourism are also pushing in the direction of more regulation of mining activities, as in Bicol's Caramoan peninsula (Camarines Sur) (Ronquillo 2014). In its drive to eradicate corruption and bring more transparency, the Aquino government has launched an Extractive Industries Transparency Initiative (Executive Order 79), aimed at better controlling the industry (Ordinario 2012; Ranada 2014).<sup>1</sup> Congressional hearings on mining issues may declare at least seven provinces and one provincial district (Cagayan de Oro City, Catanduanes, Nueva Vizcaya, Eastern Samar, Nueva Ecija, Biliran, Davao City and the 2nd District of Sorsogon) as off-limits to mining (Ranada 2015). Therefore, despite the mineral potential, the Philippines is ranked by the same Fraser Institute among the least attractive locations "because of policy and bureaucratic obstructions and the lack of government support for mineral development. Recent Executive Order and required pending legislation creates massive uncertainty for companies involved in exploration and final design stages of mining development." (Wilson et al. 2013)

### 12.1.2 *Energy and Steelmaking*

Countries such as Japan, Korea or Singapore have become major players in basic industries and the transformation of raw materials into semi-finished products (steel) and chemicals, even if their resource base is extremely limited. It has been one of the elements of their growth in the classic Akamatsu model. China and Taiwan have followed the same path, but not the Philippines.

The Philippines is a net energy importer in spite of low consumption levels relative to its Southeast Asian neighbors. The country produces small volumes of oil,

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<sup>1</sup> <http://www.ph-eiti.org/#/EITI-Report/First-Country-Report>

natural gas, and coal. Its lone nuclear plant, in Bataan near Manila, has never been put in service.<sup>2</sup> Geothermal (De Vera 2015), hydropower, and other renewable sources constitute a significant share of electricity generation, with a good potential of growth (Chavez 2015), especially if the Philippine government wants to be serious about its commitments to clean energy and reduction of greenhouse gases emissions. New solar and wind energy facilities (Baclayan in Mindoro, Bangui and Burgos windfarms in Ilocos Norte) (Evora 2012; Distor 2015; Lazaro 2015) have been built in recent years, but the country is still developing coal as a major power source (Guieb 2014), contrary to its engagement on balanced energy provision under the 2015 Paris climate change agreement (Lagarde 2015; Mateo 2015), which has to take into account, however, the needs for electric power (Kritz 2015a, b).

The Philippine oil industry is quite limited. The country has few petroleum resources of its own. In 2013, total oil production was 26,000 barrels per day (bbl/d) while the country consumed 299,000 bbl/d. It was ranked... 79th in the world for the production of crude oil in 2014, barely ahead of Belgium and Singapore and relies mostly on crude oil imported from Saudi Arabia and Russia. The country has only two medium-size oil refineries, much less than its neighbors, and is predominantly a refined products market for major transnational companies such as *Shell*, *Caltex* and *Total*, while the largest reseller nationwide is *Petron*, controlled (51% of the company's shares) by the *San Miguel* conglomerate (Table 12.2).

The Malampalaya gas field, located off the coast of Palawan, discovered in 1992 by Shell Philippines Exploration holds reserves estimated at 3.7 trillion cubic feet (105 km<sup>3</sup>). Currently managed by Shell (45%) with its partners Chevron-Texaco (45%) and controlled-controlled Philippine National Oil Company (PNOC) (10%), it feeds an onshore facility in Batangas, Luzon through a 500-km long underwater gas feeder line. The Malampalaya deep-water gas-to-power project (2001) marked the birth of the natural gas industry in the Philippines. The project delivers a more stable supply of cleaner energy from an indigenous resource with reduced oil imports and meets up to 30% of the country's energy requirements. Palawan natural gas reserves are used in addition to geothermal and hydroelectric power for electricity generation to reduce the environmental impact of coal-fueled thermal plants. Following a 1976 Marcos decree stating that royalties and proceeds from the exploitation of energy resources should form part of a special fund to finance energy development projects, a Malampalaya Fund was created to gather royalties from the gas field operations in the waters off Palawan. In 2009, president Gloria Arroyo issued an executive order expanding the use of the fund for other purposes, apart from energy-related projects. A total of P 900 million was taken from the Malampalaya Fund to assist farmers directly affected by typhoons Ondoy and Pepeng. However, some of the funds appear to have been diverted, and for several years there has been controversy over the use of the fund at the highest level of government (Cabacungan 2013; De Guzman 2013; Requejo 2013; Rufo 2013; Salaverria 2014).

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<sup>2</sup>Built to produce 620 MW of electricity and to become the largest electric plant in the country, it was ready in 1986, but after the fall of Ferdinand Marcos, his successor Corason Aquino, decided not to go forward with the project.

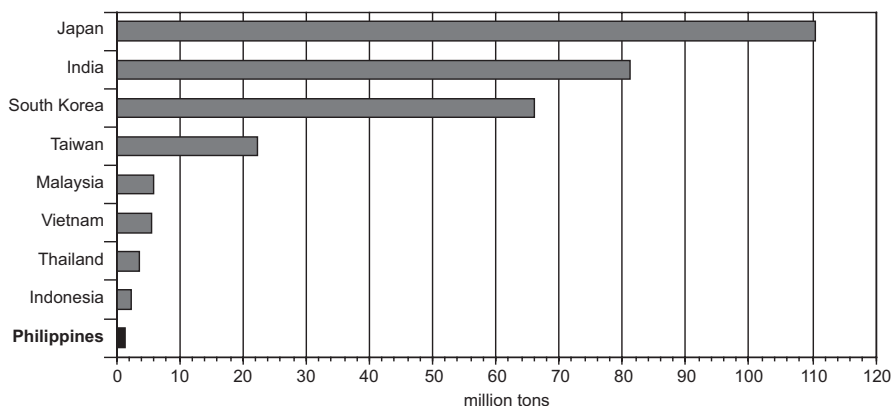
**Table 12.2** Largest oil refineries in Southeast Asia and Taiwan

	Name of refinery		Managing oil company	Daily refining capacity (bbl/day)
1	ExxonMobil Jurong Island	Singapore	<i>ExxonMobil</i>	605,000
2	Shell Pulau Bukom	Singapore	<i>Royal Dutch Shell</i>	500,000
3	Mailiao	Taiwan	<i>Formosa Petrochemical</i>	450,000
4	Cilacap	Indonesia	<i>Pertamina</i>	348,000
5	SRC Jurong Island	Singapore	<i>Singapore Refining Corp.</i>	290,000
6	Thai Oil Refinery	Thailand	<i>Thai Oil Co. of PTT</i>	275,000
7	Kaohsiung	Taiwan	<i>CPC</i>	270,000
8	Balikipapan	Indonesia	<i>Pertamina</i>	260,000
9	IRPC Refinery	Thailand	<i>IRPC PLC of PTT</i>	215,000
10	Taoyuan	Taiwan	<i>CPC</i>	200,000
11	<b>Bataan refinery</b>	<b>PHILIPPINES</b>	<b><i>Petron</i></b>	<b>180,000</b>
12	Melaka II	Malaysia	<i>Petronas</i>	170,000
12	Sri Racha Refinery	Thailand	<i>ExxonMobil</i>	170,000
14	Port Dickson	Malaysia	<i>Royal Dutch Shell</i>	156,000
15	SPRC Refinery	Thailand	<i>Star Petroleum Refining Company</i>	150,000
16	Dung Quat	Vietnam	<i>Petrovietnam</i>	148,000
17	PTT Global Chemical	Thailand	<i>PTT Global Chemical PLC</i>	145,000
18	Plaju (Musi)	Indonesia	<i>Pertamina</i>	135,000
19	Balongang	Indonesia	<i>Pertamina</i>	125,000
20	Bangchak Refinery	Thailand	<i>Bangchak Petroleum of PTT</i>	120,000
20	Dumai	Indonesia	<i>Pertamina</i>	120,000
22	<b>Tabangao refinery</b>	<b>PHILIPPINES</b>	<b><i>Royal Dutch Shell</i></b>	<b>110,000</b>
23	Melaka I	Malaysia	<i>Petronas</i>	100,000
23	Talin	Taiwan	<i>CPC</i>	100,000
25	Petron Port Dickson	Malaysia	<i>Petron</i>	88,000

The Philippines barely show on a world map of steel production (Pillas 2015a, b, c), while Japan, Korea and Taiwan, albeit not rich in minerals, are among the top steel producers in the world. In cement production the Philippines ranked 24th in the world in 2010,<sup>3</sup> with a production of 15.9 Mt. This was, however, less than in smaller Malaysia (19.5 Mt), half of n° 13 Thailand's production (36.5 Mt) and just one third of n°8 Vietnam (50 Mt) (Fig. 12.1).

Should the Philippines, as president Rodrigo Duterte proposed in the 2016 campaign, encourage a revival of the steel industry as a base for a wide spectrum of industries using steel, such as shipbuilding and the automotive industry? (Danao 2016) The fact that the country is the fourth largest in the world in naval constructions, thanks to

<sup>3</sup>Hydraulic Cement: World Production, By Country, 2010 [http://www.indexmundi.com/en/commodities/minerals/cement/cement\\_t22.html](http://www.indexmundi.com/en/commodities/minerals/cement/cement_t22.html)



**Fig. 12.1** Steel production in 2013, selected Asian countries

NB—For chart readability reasons, we have omitted China, which dominates the Asian and world production, with 779 million tons in 2013. The United States produced 87 million tons in 2013 (ranked no 3) and Germany, the top European steelmaker, 42.6 Mt. (ranked 7th). The Philippines did not place in the top 65 producers. Sources: World Steel Association (2014), Lignes (2014)

the large facility of Korean firm Hanjin in Subic Bay, seems to offer some logic to this proposition.

### 12.1.3 *The Textile and Garment Industries*

The textile and garment sector in the Philippines has long been a vital part of the country's economy, as suggested by the flying geese model. It had 320,000 employees in 2006, making it the largest employer in the manufacturing sector with 11% of the national total. An additional 700,000 people are employed as home-workers and small sub-contractors.

The Republic of the Philippines' textile industry (Stifel 1963; Ayal 1968) was established in the 1930s under the classic principle of import substitution industrialization. The textile industry *stricto sensu* comprises fiber production and the manufacturing of yarn, fabric and textile end-products (spinning, twisting, weaving, knitting, dyeing and finishing). The 1936 National Development Company mills were part of a plan by the young Manuel Quezon administration to supply home weavers with yarn at low prices so they would better meet competition offered by cheap imports from China and Japan. Quezon also wanted to create jobs by developing factory employment and to limit imports from abroad by satisfying demand with home-grown production. In 1949, an independent-minded Philippine government implemented rigid import and exchange controls. This strategy was adopted by the government in response to a severe balance-of-payments crisis brought about by huge spending on imports for reconstruction and rehabilitation after the war (Baldwin 1975; Bautista 1989). The supply of imported textiles

dropped by 40% within a year, while their prices rose sharply with import taxes, thus giving a clear advantage to homegrown products. The Philippine Congress also proclaimed textile and garments as a “necessary” (priority) industry and exempted manufacturers from taxes for 4 years, a measure repeated and enhanced several times in the 1950s and 1960s in view of a smaller than expected growth of the sector. For 30 years the industry was dominated by this combination of import substitution, protectionism and government control strategies.

The cotton industry was heavily concentrated in the Manila area. Of the 17 integrated mills registered in 1965, 14 were located in what is now the National Capital Region (Pasig, Marikina, Malabon, Manila, Balintawak QC, Santolan QC, Mandaluyong, Muntinlupa, Valenzuela, Las Piñas) and two were not far from the capital, in Bulacan and Batangas provinces. Only one mill had been developed far from the capital in Davao. It was by far the smallest of all.

Textile manufacturing, heavily protected, was the first Philippine industry to grow, reaching a maximum of 101,000 employees in 1989. Garment manufacturing, which had begun in the late 1950s as a cottage industry that took over home sewing, dressmaking and tailoring activities, also peaked in 1989 with 192,000 employees. It was not as regulated as textile, and was therefore more exposed to foreign competition. In its heyday the textile and garment industry, which employed 80,000 people in 1972, reached a maximum of 293,000 employees in the Philippines (31% of all industrial jobs, much more than in Thailand 23%, Malaysia 13% or Singapore 11%) (Austria 1994, 1996), but since then it has retreated considerably (212,000 jobs in 1998, 182,000 in 2003, 123,000 in 2009).

This has been due mainly to trade policy reform started in the 1980s, to liberalize trade (Pineda-Ofreneo 1982; Kikuchi 1998), then to tougher conditions in export markets, and all along a failure to invest in new manufacturing technology. Exports have been a major source of growth in the past, fitting with the flying geese pattern. The Philippines used to be one of the largest sources of imported garments “made in the Philippines” for markets in North America and Western Europe when exports from its major competitors were held back by quotas. However, the advent of a new world trade regime (Habaradas 2008a, b; Villanueva 2016) has caused serious damage to the country’s international competitiveness. The 1995 World Trade Organization’ 10-year phase-out of the Multi-Fiber Agreement (MFA) put a cap on quotas and preferential tariffs on garments and textile items imported from developing countries by the United States, Canada and some European nations. It opened the playing field to countries with huge manufacturing volumes at much lower costs, such as China, and sidelined smaller countries such as the Philippines. Employment in garments has dropped from one million people in 1991 to 660,000 in 2005 and less than 500,000 in 2011. In that year, the Philippines was only the 43rd largest exporter of textile products, with a declining share (38th in 2010), well behind other countries of the region, China of course, but also Hong Kong, India, Vietnam, Pakistan, Indonesia, South Korea, Thailand, Japan, Sri Lanka, Malaysia, Cambodia and Singapore. Only Myanmar, Laos, Timor Leste and Brunei fared lower in Southeast Asia.

Today, the Philippine textile and garment industry needs to restructure into larger manufacturing units, and to acquire up-to-date machinery in order to improve its competitiveness. There has been a substantial growth in FDI from other Asian producers looking at the Philippines as an attractive location for textile and garment activities. The garment and textile industry has diversified its production coverage from clothes to items with higher revenue potential, such as gloves, hosiery, handkerchiefs, swimwear, sportswear, yarns, stuffed toys, dolls, industrial clothing, or lingerie.

Research and investment is also going into the development of indigenous fibers—such as abaca (“Manila hemp”, of which the country produced 85% of the world’s total in 2011), banana, pineapple and silk—to remedy the country’s lack of locally sourced raw materials such as cotton. Abaca fiber is especially prized for its mechanical strength, buoyancy, resistance to saltwater damage and long fiber length, qualities which can find markets not just in ropes and sacks, but also in automobile fabrics, curtains and furnishings.

The shoe industry had the same general patterns of development, with factories mostly in the industrial suburbs of Manila, such as Marikina (Scott 2005) or Valenzuela, where a catastrophic fire that killed 72 workers in May 2015 revealed the extent of substandard sweatshops, workers’ abuse and hidden subcontracting (Patinio 2015; Talavera 2015) in the metropolitan area and fostered high emotions (Santos 2015), without much change in the regulations affecting labor-intensive industries (up to 12 h a day, or at night, 7 days per week). Both industries have suffered stiff competition from China and were led to lower standards to try to survive in global markets (Beerepoot 2008).

### ***12.1.4 The Philippine Automotive Industry***

The Philippines pioneered the establishment of automotive assembly in Southeast Asia in the 1950s. As early as 1913, *Ford* had even assembled some Model T’s in Parañaque, south of Manila. But the automobile industry, which later became very successful in Thailand and Malaysia, was hampered in the Philippines by regulations on domestic content (Ofreneo 2008a, b, 2016), which were not efficient enough to foster the rise of national car manufacturers or to counter the smuggling of cars manufactured abroad. In 1962, *Delta Motors Corporation* was founded by Ricardo Silverio in Manila to assemble *Toyota* vehicles for the local market. Its attempt at manufacturing and selling its own models was largely a failure. The company went bankrupt in 1984 and sold its facilities to *Toyota*. *Mitsubishi* arrived in 1987 after taking over an assembly plant opened by *Chrysler* in 1963 and has owned a subsidiary, *Asian Transmission Corp*, located in Calamba, Laguna, since 1973. *Ford* was also in Santa Rosa after 1999, however the plant closed down in 2012 (Remo 2012), citing the lack of a supply base, a thin market and economies of scale as the main reasons for the decision (Rada 2012). The plant was re-opened in 2015

by *Mitsubishi* (Directo 2015). Aside from *Ford*, the other automotive companies located in Santa Rosa are *Toyota* (Toyota Vios), *Honda* (Honda City) and *Nissan Motors* (Nissan Almera), making it the “Detroit of the Philippines” according to local boosters of the industry (Mayuga 2012; Ronquillo 2015), despite the low volume of cars made there in comparison to the southeastern suburbs of Bangkok (Ang 2013; Desiderio 2014). Japanese assemblers have now developed global production networks in which the Philippines is mostly a global producer of selected auto parts, even if there are some cars assembled in the Philippines, for local markets, and not for exports as Thai-made vehicles.

Based on data from the Association of Southeast Asian Nations (ASEAN) Automotive Federation, the Philippines is the laggard among five ASEAN vehicle manufacturers in 2013, outpaced even by newcomer Vietnam. 2,457,057 vehicles were assembled in Thailand (n<sup>o</sup>9 amongst world auto producing nations), vs. a meager 79,169 in the Philippines (38th). The Philippines relies on imports to procure many parts, unlike Indonesia and Thailand where automobile manufacturers produce most of the parts domestically. The large number of imported items and little volume of auto production has led to high production costs (Aldaba 2007, 2008). Increasing the ratio of local content, increasing production scale or raising the technology level of auto manufacturing (Machikita and Ueki 2012; Quimba and Rosellon 2012) will directly affect the cost-competitiveness of the Philippines and market growth can be expected (Logarta 2014; Velasco 2014).

In 2014, a jeepney manufacturing company based in Bacolod (Negros) announced plans to develop the first Philippine brand of passenger vehicles, named “Parac” after the two engineers leading the project, Julio Paredes and Mario Racide. Most of the parts would be produced locally except for tires and engines, to be imported from the USA (Yasan 2014). The Philippine government hopes to revive the automobile industry through its CARS (Comprehensive Automotive Resurgence Strategy) program announced in June 2015, a 6-year program designed to build and grow the parts-making capability of the auto industry, including financial incentives to woo General Motors, Toyota, Volkswagen (Pillas 2015a, b, c) and other auto giants to set up shop in the Philippines and a goal of a production of 600,000 vehicles per year in 2020 (Kritz 2015a, b; Pesek 2015; Pillas 2015a, b, c; Aldaba 2016; Remo 2016).

There are efforts to encourage the production of electric vehicles and to make the country a leader for this technology in Southeast Asia, through the tie-up of small local EV entrepreneurs with large international partners (Desiderio 2015). Several Japanese firms (*Bemac Philippines*, *Prozza Hirose*, *Terra Motors*) have already set up operations in the country and offer their various electric tricycles and electric motorbikes in the market. Some commercial and academic institutions are pushing for the use of electric vehicles, particularly e-jeepneys for mass transport (Eco Loop in Filinvest Alabang, De La Salle University e-jeepney Ikot at their Dasmariñas campus, Ateneo De Manila University e-jeepney system) (see Chap. 14).



### ***12.1.5 A Belated Turn Towards High-Technology Manufacturing***

The flying geese model suggests that the typically low-tech textile and garment industries give way progressively to more capital intensive specializations as labor costs increase. American, Japanese and European multinational corporations relocated some of their operations to Singapore, Malaysia and the Philippines in the late 1960s and early 1970s to begin electronics assembly, packaging and testing. This was followed in the late 1980s and 1990s by the relocation of electronics manufacturing from Japanese, European, American, Korean, Singaporean and Taiwanese multinationals to the above Southeast Asian countries as well as Thailand and Indonesia. Singapore has managed significant upgrading to designing and development activities through the provision of grants, incentives, labs and strong infrastructure coordination, but electronics production in other Southeast Asian countries, including the Philippines, has largely remained entrenched in low-end assembly, packaging and testing (APT) activities (Rasiah 2009).

The Philippines was a good relocation site for both US and Japanese firms, due to its quality English-speaking work force, the country's location and attractive government incentives. Since then, the industry has grown rapidly and overtook agriculture as the leading export earning industry in 1996. Electronics equipment production accounted for 70% of all Philippine exports in 2004 and still 49% in 2010, which is the highest level percentage in the world according to World Bank data. However, it is a very small part of the worldwide high-tech industry, as indicated by the value of exports (20.7 billion US dollars in 2012, vs. 128.2 in Singapore and 61.2 in Malaysia).<sup>4</sup>

This industry employed 143,000 people in 2012 (12% of all manufacturing employment).<sup>5</sup> From an end user standpoint, the Philippine Electronics Industry manufactures products for a wide range of end-user segments such as computers, telecommunications and automotive products. It also participates in diversified geographic markets, such as the United States, Japan and Europe. Electronics production in the Philippines, however, is a very small part of the worldwide electronics industry.

The Philippine government hopes that the development of high tech assembly plants in the Philippines will be a steppingstone for the development of a home-grown high-tech industry, but how this technological leap would happen is not clear (Macdonald and Joseph 2001).

Contrary to India, China, Taiwan or Israel, the Philippines still has too few engineers electronics engineers, either trained in the Philippines or Silicon Valley returnees.<sup>6</sup> The country is currently experiencing a dearth of suitable professional

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<sup>4</sup><http://data.worldbank.org/indicator/TX.VAL.TECH.MF.ZS>

<sup>5</sup>PhilippineStatisticsAuthority,<http://web0.psa.gov.ph/content/2012-census-philippine-business-and-industry-manufacturing-sector-all-establishments-final>

<sup>6</sup>In her 2007 book, "The New Argonauts", Annalee Saxenian describes the growth of Asian high-tech companies started in the Silicon Valley, then transferred back to the country their founders

workers in science and technology (managers, supervisors, system analysts, engineers, programmers). The shortages are in large part a result of the migration of workers abroad (brain drain<sup>7</sup>). The lure of higher pay, comprehensive benefits and in some instances lack of job opportunities have strangled the labor market. Most managers in large and multinational companies in the Philippines are foreigners (Americans, Japanese, Koreans, Europeans).<sup>7</sup>

Is the country ready for the development of small and medium enterprises creating new products in the high technology realm? A few did develop, such as *Ionic*, created in 1974 as a semiconductor assembly company, or *Pacific Microwave Corporation* (PMC) founded in 1995, but they are few. Is the country ready to foster the growth of national high-tech champions? Are the major conglomerates of the Philippines ready to diversify into high technologies as Korean chaebol did? Is the capital market inside the Philippines ready to embrace venture capitalism? Will the Philippines follow Malaysia's path towards more sophisticated micro-electronic productions? Or is the country just a paper tiger? (Felker 2003; Wickramasinghe and Ahmad 2009).

## 12.2 The Rise of Services

One of the most competitive aspects of the Philippine economy has been the rapid growth of its services sector since 1980. Contributing to 55% of the GDP, segments such as telecommunications, call centers and financial services have jumped into the limelight.

The relative strength of the tertiary sector masks in fact a weakness of the industrial sector. Industry contributes only for one third of the GDP, with consumer goods such as processed food products, cigarettes and garments dominating the manufacturing sector.

### 12.2.1 Sources of Wealth

A table of major companies in the Philippines or of the richest people in the Philippines shows clearly the pattern of an economy based on consumption (many large shopping malls across the Manila area), but with no real industrial base. The basic source of wealth is not manufacturing or innovation, but land holding. No innovators or captains of industry in the likes of Bill Gates (Microsoft) or Steve Jobs

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came from. Rich in cultural connections in the home country and technical know-how and professional networks in California, these entrepreneurs have helped the economies of India, Taiwan or Israel, even China. But this phenomenon seems absent in the Philippines (Saxenian 2007).

<sup>7</sup>APEC (2012)—Report on Employment Trends and Data Availability in the Philippines, <http://skillsmap.apec.org/home/economies/MTQ%3D>

(Apple), Henry Ford or John D. Rockefeller (Standard Oil). No Akio Morita (Sony) or Soichiro Honda. This is not the classic Asian model of economic development, even is some of the Philippine conglomerates (Prataksya et al. 2015) may bear some resemblance with to Japan's *keiretsu* or Korea's *chaebol*, but without the heavy presence of manufacturing in their portfolios. And there is nothing resembling Singapore's state-owned major companies or the Singapore Enterprise Development Board (Table 12.3).

In a Philippine economy dominated by the service sector, real estate and consumption, the source of wealth is not found in the industrial investment or technological innovation, but on the valuation of land holdings and the values of a consumer society (Table 12.4).

**Table 12.3** Top Philippine companies listed in the MSCI Philippines Emerging Markets Index, with their relative weight in the index

SM investments	13.2%	Holding company with interests in real estate, shopping malls, hotels, banking ( <i>BDO</i> ), gold mining
Ayala Land Inc.	10.1%	Real estate: residential development, shopping centers, hotels, business centers
SM Prime	8%	Shopping malls ( <i>SM</i> )
PLDT	7.6%	Telecom ( <i>Smart</i> ), information technologies
BDO	7.3%	Banking ( <i>Banco de Oro</i> )
Aboitiz Equity Ventures	7.1%	Holding company with interests in energy, banking, real estate, construction, navigation, food industries
Ayala Corp.	6.4%	Conglomerate: real estate ( <i>Ayala Land</i> ), banking ( <i>BPI</i> ), telecom ( <i>Globe</i> ), utilities (Manila Water), BPO and information technologies, automotive retail ( <i>Honda Philippines</i> ), non-profit organizations
URC	5.1%	Food industries
AGI	4.8%	Conglomerate: real estate ( <i>Megaworld Corporation</i> ), tourism, gaming, food and beverages ( <i>Emperador</i> ), fast-food outlets ( <i>McDonald's</i> franchises)
BPI	4.7%	Banking ( <i>Bank of the Philippine Islands</i> )
Aboitiz Corp.	4.7%	See Aboitiz Equity Ventures
ICTSI	4%	Container terminals, Logistics
San Miguel Corp.	3.5%	Beverages ( <i>San Miguel</i> beer), Aviation ( <i>Philippine Airlines</i> ), Oil ( <i>Petron</i> )
EDC	3.5%	Geothermal energy
Jollibee Foods	3%	Fast-food franchises ( <i>Jollibee</i> , <i>Chowking</i> , <i>Greenwich</i> )
DMCI Holdings	3%	Real estate, construction
Globe Telecom	2.5%	Telecom ( <i>Globe</i> network)
Metrobank	1.5%	Banking ( <i>Metrobank</i> )

Source: *Philippine Daily Enquirer*, February 22, 2013

**Table 12.4** The richest Filipinos

	Main sources of revenue
Jaime ZOBEL de AYALA	<i>Ayala Corporation</i> conglomerate (shopping centers, <i>Globe Telecom</i> , <i>Bank of the Philippines</i> , real estate, <i>Honda Philippines</i> )
Henry SY	<i>Banco de Oro</i> + <i>SM Group</i> (shopping centers) retailing, real estate, hospitality, banking, mining, education, and healthcare services
Lucio TAN	Tobacco, beer, <i>Philippine Airlines</i> , <i>Philippine National Bank</i>
Andrew TAN	<i>Alliance Global</i> conglomerate, real estate, casinos ( <i>Megaworld Corporation</i> ), beverages <i>McDonald's</i> franchises, telemarketing
Manuel VILLAR (One of the symbols of the alliance between business and political circles, Manuel Villar, then President of the Philippine Senate, and richest of all parliament members, finished second in the 2010 presidential election)	<i>C. &amp; P. Homes</i> , <i>Vista land and Lifescapes</i> (real estate)
George TY	<i>MetroBank</i> , real estate, <i>Toyota Philippines</i>
Andrew GOTIANUN	Auto loans, <i>Filinvest</i> real estate, sugar cane plantations, biofuels
Enrique RAZON	Logistics ( <i>International Container Terminals Services</i> ), tourism and casinos ( <i>Bloomberry</i> resorts and hotels)
Tony TAN CAKTIONG	Fast food ( <i>Jollibee</i> , <i>ChowKing</i> )
Oscar LOPEZ	Media ( <i>ABS-CBN</i> , <i>Sky Cable Corporation</i> ), construction, energy, real estate ( <i>Rockwell Land Corporation</i> , <i>First Philippine Industrial Park</i> ), health care ( <i>Asian Eye Institute</i> )
John GOKONGWEI	<i>JG Summit Holdings</i> (conglomerate), Electricity ( <i>Meralco</i> ), aviation ( <i>Cebu Pacific</i> ), telecommunications ( <i>Sun Cellular</i> ), retailing ( <i>Robinson</i> malls)

Source: Forbes Magazine

Many are from Chinese descent (Collas-Monsod 2012), as it is often the case in Southeast Asian countries, In that sense, the Philippines resembles Thailand or Indonesia

### 12.2.2 Call Centers Hub: English as an Asset in Globalization

The Philippine government has clearly encouraged the development of BPO operations—Business Processing Outsourcing (Gonzales 2006), also known as “offshoring”: Information technologies outsourcing, accounting, marketing, after-sales services, call centers. It is a powerful job creator and the stated goal of the Philippine authorities is to dethrone India on this economic market (Shameen 2006; Magtibay-Ramos et al. 2007; Mabasa 2010; Yun and Chu 2011). In the early days of Business Process Outsourcing (the 1980s), the industry focused looked primarily for countries with large English-speaking populations and low labor costs (Inventor-Miranda 2015), which mostly led them to India, where places such as Bangalore had the

needed communications infrastructure in place. Business executives say they are now increasingly identifying places best suited for specific tasks. India remains the biggest destination by far for software outsourcing, but the Philippines has taken over as the top country in the world for call centers.

Many Philippine companies have developed to serve the needs of foreign multinationals, particularly North American, but also of Indian companies that have outsourced call centers to the Philippines, with the blessing of the Philippine government, which sees in this economic sector interesting opportunities for university graduates.

Starting with former President Gloria Macapagal Arroyo's BPO-favorable policies, successive governments (Keitel and Ledesma 2013) in the Philippines have cleared the way for the BPO industry's growth. In 2000, the Liberal Party's Mar Roxas became Department of Trade and Industry secretary: using his experience as an investment banker in New York, he broadened tax incentives to attract call centers. President Benigno Aquino, in this regard, continued the work of his predecessor. Gloria Arroyo had pushed on the development of Information Technologies across the country, calling for the set-up of "Cyber Corridor Super Regions", borrowing from Malaysia's strategies. Benigno Aquino continued the drive for the funding of information technology courses through the Technical Education and Skills Development Authority (TESDA), in order to keep the flow of qualified workers from drying up (Remo 2014).

A cultural affinity with North America (Friginal 2007; Lockwood et al. 2008) that helps in communicating and performing customer services and the availability of well-educated manpower are key reasons why BPO companies have expanded their operations in the Philippines (Lee 2015); in addition, Filipinos speak English with an accent that is very understandable by Americans<sup>8</sup> and certainly much less heavy than Indians (Friginal 2009; Diola 2014); this is a major draw for call centers. To the American ear, Filipino speech can sound similar to the Latino accent, a linguistic legacy of three centuries of Spanish colonization. According to the CEO of Aegis Global, an outsourcing firm based in Mumbai, India, which opened in Manila in 2008, "the Philippines has a unique combination of Eastern, attentive hospitality and attitude of care and compassion mixed with what I call Americanization" (Bajaj 2011).

It was estimated that from barely 2400 Filipinos working in this sector in 2004, the numbers grew quickly to 100,000 in 2004, 160,000 in 2006, 500,000 in 2010, 640,000 in 2011 and reached one million in mid-2014 (Amojelar 2011; Barcelo 2012; De Vera 2014).

It has clearly been a booming sector of the Philippine economy, quite competitive in stark contrast to other segments of the economy (Herguner 2013). In 2012, the BPO industry in the country accounted for 5.6% of the country's gross domestic product. Posting annual growth rates of 15–18%, it is growing faster than any other sector of the Philippine economy, and may soon represent 8% of the country's GDP (Corrales 2015).

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<sup>8</sup>There have been a few voices criticizing the excessive mimetism of call-center employees, making themselves pass as Americans, which may be seen as a continuation of the colonial past, the Philippines being subservient to its American master.

It is an economic segment rooted in globalization (Fabros 2006; Batt et al. 2009), which was able to withstand successfully the world's global economic recession of 2008 (Abara and Heo 2013). As each business day begins in New York City's Wall Street, Filipino call-center operators in their 20's, armed with dual monitors and headsets, start their nightshift as the sun sets in Manila. Their life schedules are drastically altered (Fabros 2009; Maclang 2015) in order to accommodate U.S. time zones. They defy time and space, synchronizing their cycles and routines according to the imperatives of globalized production. This synchronization ensures that Filipinos are better suited to assist American and European customers. When it is 9 pm in Manila, it is 2 pm in London and 9 am in New York City. At 3 am in Manila, it is noontime in Los Angeles. Filipinos are trained to acquire American accents and humor, so they can better adapt to customers' needs. Even their holidays are based on the U.S. calendar. They work on Philippine off-days and get holidays on the American calendar: 4th of July, Labor Day, Memorial Day and Thanksgiving. They are also aligned on American weather. When a major snowstorm hits New York City, their company needs everybody to answer customer calls. But when there is a typhoon and Manila is flooded, it's business as usual in America: call centers employees must be on duty (Salamat 2015).

The geography of the call centers in the Philippines clearly highlights a few well-defined areas in Metro Manila (Kleibert 2015). According to an 2010 official database, out of the 1096 Philippine call centers, 353 were located in the municipality of Makati (the "CBD" of Manila agglomeration) and 181 in Ortigas Center, a few miles away, another CBD. There were 35 in Taguig ("Bonifacio Global City"). The two main provincial cities, Cebu and Davao hosted respectively 68 and 18 call centers. Most are located in sites defined by PEZA as IT Parks (Information Technology Parks) or IT Centers, largely dedicated to the use of information technology rather than the production of communication equipment. Most of those are small in area, often less than one hectare. In fact they are mostly high-rise office buildings largely dedicated to BPO operations, or located within shopping malls. There are 119 of them in the NCR (39 in Makati, 25 in Quezon City, 20 in Pasig-Ortigas, 12 in Mandaluyong, 6 in Taguig-Bonifacio, 6 in Muntinlupa-Alabang, 3 in Parañaque, 3 in Pasay, 3 in Marikina, 1 in San Juan, 1 in Manila). IT parks and centers in the Philippines are indicators of progress, both in the technological and economic spheres, which is why some provinces are trying to entice BPO companies to open centers outside of the Metro Manila such as in Ilocos Norte (Domingo 2015), Baguio, Clark (Pampanga) (Pavia 2015), Laguna, Iloilo, putting forward the lower costs of land as well as the need to stem the excessive concentration of activity in the national capital region (De la La Cruz 2015; Pascual 2015).

Boosters of the BPO industry claim that "in grabbing control of the global business process outsourcing (BPO) industry from India, the Philippines may have finally found the key to long-term, sustainable economic growth that will lift the country out of Third World status" (Miraflor 2012) and that it allowed "the Philippine economy to undergo a remarkable transition from a pussycat into a tiger economy over the last decade" (Martin 2014). It was expected that in 2015, the country's BPO industry would generate \$25 billion in revenue, accounting for about 10% of the Philippines' economy and as much as the total amount expected to be sent home by

the 11 million Filipino working overseas (Lee 2015). Entry-level call operators earn an average of 15,000 Philippine pesos per month (350 US dollars), excluding bonuses, allowances and incentives. That is a fairly good salary in the Philippines, where taxes and cost of living are much lower than in Western countries.

However, the BPO industry, even if it can have a significant impact on employment,<sup>9</sup> income and real estate demand in the Manila metropolis (Garcia 2013; Salazar 2014), is not a key sector in terms of stimulating production in other sectors of the Philippine economy (Magtibay-Ramos et al. 2008). Pushing for BPO has been widely criticized as ineffective strategy for the overall development of the country. Other Asian countries such as Korea, Malaysia, Thailand and Indonesia developed first before they tried to learn more English. Being an “English-speaking country” does not guarantee progress, development and prosperity for a country: five of the G-8 countries (France, Russia, Germany, Japan and Italy) are not English-speaking countries. Four of the BRICSAM group of newly emerging industrialized countries (Brazil, Russia, India, China, South Africa, Mexico) are not English-speaking either. Still, there is competition from other countries, such as India and also China (Magtira 2012), where the English proficiency is increasing rapidly among graduate students. Expensive power could also hurt the Philippines’ standing as one of the world’s major hubs for BPO (Guillermo 2014).

Philippine universities have attracted some Asian students (mostly Koreans and Japanese) who come to the country to improve their English speaking skills at the fraction of the cost of a university in the United Kingdom, the United States or Australia. Ateneo de Manila University posted the highest rating of all Philippine schools, ranking 24th in the world in 2012 for English language and literature. The University of the Philippines-Diliman ranked 32nd, while De La Salle University ranked 44th. These were the best university rankings in any academic subject for Philippine institutions (Quismundo 2012). But because of limited educational opportunities, the kind of English (Briones 2014) spoken by most Filipinos (“Taglish”) is not sufficient for them to innovate, create, and produce new technology, create business empires, and manage financial and investment houses. For many Filipinos their English is just enough for them to work as sales people, factory workers and clerks. Problems of endemic, deep-seated poverty prevent young people from finishing their studies or going to the top schools which provide good, useful training in English.

Finally, working in a call center using English is often a “dead-end job” (Beerepoot and Hendriks 2013) with little job security and many restrictions such as the prohibition to form unions (Reese and Soco-Carreon 2013). It does not offer a career path where one can start at the bottom and work his or her way to the top. Many young people consider a call center job as a stepping stone to earn a living before aiming at a better position (Dagohoy 2007), if there is an opportunity. They usually leave after a few months because job-related stress and the health risks are high (Ofreneo et al. 2007; Mangosing 2014), leading to a high turnover rate (Jamandre 2011; Hechanova 2013).

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<sup>9</sup>More than 60,000 jobs at *Convergys*, the largest BPO operator in the country.

An avid consumption of telecommunication technologies by Filipinos.

If the penetration rates of the Internet and mobile phones are not the highest in the region (see Table 12.5), the country is the only one from Asia, where the percentage of users of Facebook social network is higher than of Internet users, and secondly, Filipinos are the biggest emitters of SMS per person in the world (470 text messages per month, up from 191 in 2003, well ahead of n°2 USA 286), enjoying the competition and lower mobile telecommunication fares offered by Smart, Globe and Sun, which dominate the market with a pricing policy oriented towards less affluent populations. The strength of the Filipino family unit, the communal character of social life are additional cultural factors in the massive use of cell phones and social networks, as are international migration (see Chap. 12) and Manila-bound rural-urban migrations which feed the need to “keep in touch”. Throughout the Philippines, even in the “sari-sari” mini-shops of small villages, the blooming presence of “load na dito” (re-load here) markers indicate the importance of information technologies in the lives of Filipinos.

**Table 12.5** Using information and communication technologies in Asia (2010 data)

	Internet users	Facebook users	Cell phones* penetration	Monthly SMS/user
Bangladesh	1.1%	1.1%	46.2%	15
Cambodia	2.2%	2.2%	57.7%	n.d;
China	36.3%	–	64.1%	79
Hong Kong	69.2%	52.6%	190.2%	44
India	8.5%	2.5%	61.4%	34
Indonesia	16.1%	15.8%	91.7%	93
Japan	78.4%	3%	95.4%	109
Laos	8.1%	1.1%	64.6%	n.d.
Macau	49%	36.2%	206.4%	13
Malaysia	58.8%	39.1%	121.3%	220
<b>PHILIPPINES</b>	<b>19.7%</b>	<b>24.9%</b>	<b>85.7%</b>	<b>470</b>
Singapore	77.2%	52.5%	143.7%	98
South Korea	80.9%	7.6%	105.3%	216
Taiwan	70%	43.1%	119.9%	19
Thailand	26.3%	15.9%	100.8%	n.d.
Vietnam	31.6%	1.8%	75.3%	n.d.

\*For mobile phones, the ratio refers to the number of mobile phones compared to the population, it is sometimes more than 100%

Source: Internet World stats (<http://www.internetworldstats.com/asia.htm>) et Union Internationale des Télécommunications (<http://www.itu.int/ITU-D/ict/statistics/>). For SMS data (2011: <http://www.ictdata.org/2012/06/sms-update-2011.html>)



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## Chapter 13

# Global Pinoys: The Archipelago of Migration

**Abstract** The Republic of the Philippines is one of the top exporters of migrant labor throughout the world. Millions of Filipino overseas workers can be found in North America, the Middle East, Western Europe, Australia and Asia (Hong Kong, Singapore, Japan, Korea, Malaysia). Since the 1970s, the Philippine government has encouraged labor migration as a way to alleviate unemployment at home and to gather remittances used to boost spending in the domestic economy. The government's Philippine Overseas Employment Agency manages the implementation of labor agreements with partner countries and exerts some control on the myriad of private agencies recruiting Philippine labor for foreign jobs. Many expatriate Filipino women are employed as domestic workers or nurses, while many men are hired to man ships on the world seas, both in the cargo business and on cruise ships. There are also many expatriate Filipino entertainers and technicians. Migration brings remittances for the families and the country's economy, but critics deplore the brain drain suffered by the country, the disruptions of family life and the persistence of the image of the Philippines as a servant, even a "slave" nation.

**Keywords** Emigration • Remittances • Brain drain • Sailors • Domestic workers • Nurses

In the late twentieth century/early twenty-first century, the Philippines was a major participating country in global migration flows (Aguilar 2002, 2003; Hugo 2005; Capones 2013; Boquet 2016), and migration was a powerful engine of change for the Philippine economy and society (Aguilar 2014; Opiniano 2015). With an annual deployment of well above one million newly-hired workers, the Philippines was the world's largest exporter of government-sponsored contract labor, collectively known as OFWs, Overseas Filipino Workers, or OCWs, Overseas Contract Workers. From a daily average of 2500 in 2009, the number of Filipinos leaving for work abroad went up to 4018 in 2010; 4624 in 2011; 4937 in 2012; 5031 in 2013; 5054 in 2014; and to 6092 in 2015, enough to fill up 20 planes of 300 seats each.

Few countries of the world indeed have so many of their citizens living abroad as the Philippines, or depend so much on migration for their economic vitality. It is estimated that about 15% of working-age Filipinos have a job abroad (Tan 2006a, b), and in most families there is at least a brother, an uncle, a niece, a wife, or a

cousin working far away. There are twice as many Filipinos as Indonesians working abroad, despite the much larger population of Indonesia, while countries such as Thailand and Vietnam are insignificant in current global workers flows. The English-speaking capabilities of Filipinos are certainly a powerful factor for their employment, especially in service activities.

If the country's industrial products are barely visible on world markets, Filipino workers, skilled and not skilled, are considered as possibly the major "export" of the country (Magalit Rodriguez 2010; Wiley 2012). From maids ("domestic helpers") in Hong Kong to airport shop employees in Dubai, from nurses in Libya to janitors in California, from math teachers in the Bahamas (Novio 2014) to caregivers in Taiwan, Israel or Italy, from plumbers in Qatar to electricians in Madagascar, from flight attendants on Saudi Airlines to sailors on cargo ships and cruise ships all over the world (Semyonov and Gorodzeisky 2004; Terry 2014), a growing number of Filipinos have chosen temporary or long-term expatriation to insure a better future for their family, due to the low incomes and high unemployment in their home country (Orbeta and Abrigo 2009). They leave behind their families and sacrifice long years in a foreign land just to send money to their loved ones (Lauby and Stark 1988; Gatbonton 2015), money that they can never hope to earn if they stay in the archipelago.

Contrary to Mexicans going mostly to the United States, Philippine citizens working abroad can be found in a wide array of countries, in North America, the Middle East, Southeast Asia, East Asia, Europe...forming a diaspora (Okamura 2000; Llorente 2007; Rodis 2015), not in the sense of a dispersed group longing to come back to an idealized country that they had to leave forcibly (Butler 2001), but rather as an imagined community where Filipinos, wherever they may be in the world, have a collective consciousness of their Filipinoness, maintain a strong relationship with the homeland where they will return soon, and bond with other expatriate Filipino/as around a shared culture, national identity, custom and tradition. (Aguilar 2015; Alguila 2015; Okamura n.d.). They affirm their identity as Filipinos through religious festivals and fiestas (Oracion 2012; Saint-Blancat and Cancellieri 2014), also sharing a typical *lechon* (McKay 2010) on special occasions such as Christmas, even it is sometimes difficult to do in Muslim Arab countries (Hosoda 2013; Ahmed 2015). They also keep in touch with the home country, since they are often on limited contracts with no possible overstay in the host country. Internet and social networks, especially through Facebook and Skype, have allowed the rise of "Filipino cybercommunities" important elements of contact between expatriated Filipinos and their families and friends in the archipelago or other countries around the world from Korea to Canada (Tyner and Kuhlke 2000; Tsujimoto 2016). More than immigrants (except in North America), overseas Filipinos are transmigrants (Schiller et al. 1995), temporary migrants, who have little contacts with the host country's society, for both cultural (language barrier, religion) and social reasons (they are employees, seen as inferior by their employers) and must therefore find solace in reinforcing bonds with fellow OFWs (Sills and Chowthi 2008).

A culture of migration (Asis 2006a, b) has emerged with the encouragement and support of the Philippine government (Tigno 1990; De Guzman 2003; Ogena 2004;



O'Neil 2004; Santo Tomas 2008; Orbeta and Abrigo 2011), which tries to organize orderly migration flows, as a tool for economic development (Wiley 2012), and to defend the rights of Filipino workers in host countries (Ragazzi 2014). A specificity of this Philippine migration is that a majority of Filipino OFWs are in fact Filipinas: contrary to most work migration flows worldwide, women represent the largest part of the country's workforce abroad (Tyner 1996a, b).

The effects on the Philippines are mixed (Bagasao 2004; Pernia 2011). On the positive side, a steadily growing flow of remittances allows for domestic expenditures by families of expatriate workers and for good macroeconomic numbers. In the 1990s, officially recorded remittances amounted to about 20% of the country's export earnings, more than any other source of foreign money, and 5.2% of GNP. They provided a lifeline for many families in a poor country with little economic growth. Returning Filipinos and Filipinas bring back newly acquired skills (Siar 2011).

At the same time, this massive outmigration creates some problems for the country: long-lasting brain drain (Pernia 1976); some social destructuration in this family-oriented society when a mother leaves her children in the care of their grandparents or of her husband; an excessive vulnerability to international events, especially in war-torn Middle East countries.

Section 2, Paragraph (c) of the 1995 Migrant Workers Act declares that "While recognizing the significant contribution of Filipino migrant workers to the national economy through their foreign exchange remittances, the State does not promote overseas employment as a means to sustain economic growth and achieve national development." However, this hemorrhage of brain and brawn clearly denies the country human capital that could otherwise contribute to its progress.

## 13.1 A Worldwide Filipino Presence

Even if in 1973, T. M. Burley could still write in his geographical account of the Philippines that the level of emigration was low, Filipino worldwide migration has a long history.

The first wave of Filipino labor migration began from the introduction of *polo y servicio*, or *repartimiento*, by the Spaniards in the Philippines. This system forced Filipino men from 16 to 60 years old to provide labor for the construction of houses, churches and roads, the building of ships, and the cleaning of streets. Each man was to work for 40 days every year, reduced to 15 days in 1884. This labor system was presented by Spaniards as a national responsibility, and refusing was a source of problems with authorities. Often, Filipinos were required to leave their families to work in shipyards to build Manila galleon ships that would ply the trade route from Manila to Acapulco, and to also serve as sailors on those ships. Once in Acapulco, many of the Filipino seamen chose not to return to Manila but instead to work on other ships that traveled to Spain and other ports in Europe. In 1892, writer Graciano Lopez Jaena noted the large presence of Filipino mariner communities in cities throughout Europe and the United States (Philadelphia, New York, New Orleans).

This mostly US-oriented outmigration became a worldwide migration in the early 1970s, and several major labor migration fields can be identified (Tyner and Donaldson 1999).

### ***13.1.1 The Geography of Philippine Expatriation***

According to the Commission on Filipino Overseas, there were 10.5 million Filipinos living in other countries in December 2012, more than twice the 4.9 million registered in December 2004. Of those, 4.4 millions were living in the Americas, 2.8 millions in West Asia, 1.6 million in East and South Asia, 768,000 in Europe, 460,000 in Oceania and only 61,000 in Africa. In addition, there were 367,000 sea based Filipino workers.

47% of these workers were living permanently in host countries, 40% were staying on temporary contracts (OFWs including sailors) and 13% were on irregular status. A more detailed examination of the numbers show clearly differentiated patterns in the international migratory movements of Filipinos. In the United States, Canada, Australia, the United Kingdom and Germany, most Filipinos are permanent settlers (between 74 and 89%), while contract workers (OFWs) represent less than 15% of the Philippine migrants. On the contrary, in Gulf countries and Hong Kong, temporary status is the dominant form (78–97%). In some countries, irregular status dominate (65% in Malaysia, partly due to the uncertain status of southern Filipinos in northeastern Sabah). Within the European Union, contrasts are strong: mostly permanent migrants in Germany and the UK, half of Filipinos under contracts in Italy and Greece (domestic helpers in Italy, and possibly in the cruise industry), few settlers and contract workers in France. As for the tiny Vatican, Catholic Filipinos are 3525, including 3520 contract workers and 5 permanent residents! There was 1 lonely Filipino contract worker in Armenia and the island of St Helens, 5 in Montenegro, 7 in Bhutan, 8 in reclusive North Korea and 11 in war-torn Somalia (Fig. 13.1 and Table 13.1).

### ***13.1.2 A Growing Trend of Philippine Expatriation***

Government statistics indicate that in late 2011, 10.5 million Filipinos, more than 10% of the country's population, were living abroad, residing in about 200 countries and territories. Many opinion surveys (Asis 2006a, b) indicate a wish to live abroad across all segments of Philippine society, about one third of adults expressing the desire to find a job outside of the country, and more than half of the children dreaming of leaving the country for better life. The country of first choice is usually the United States of America, where the highest number of expatriate Filipinos live, but most regions of the world—Middle East, Hong Kong, Singapore, Europe and Australia have become the objects of Filipino dreams.

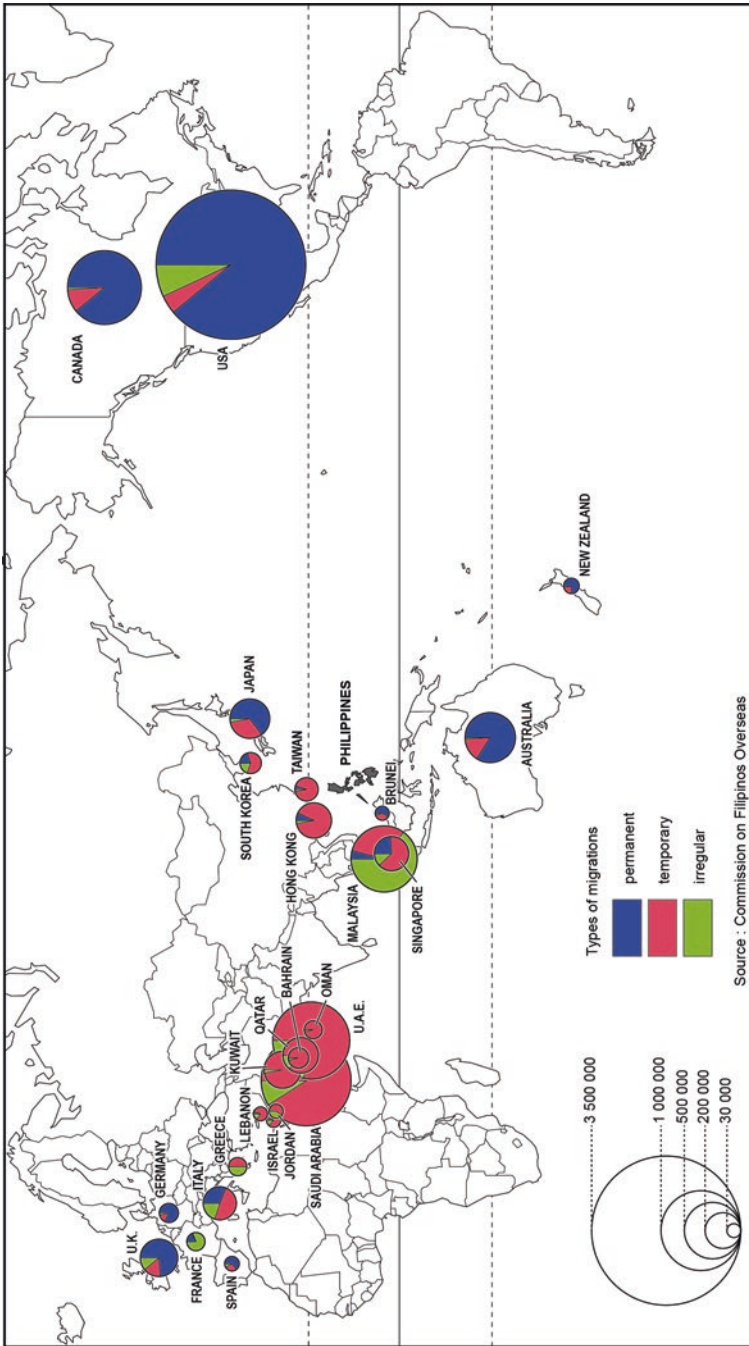


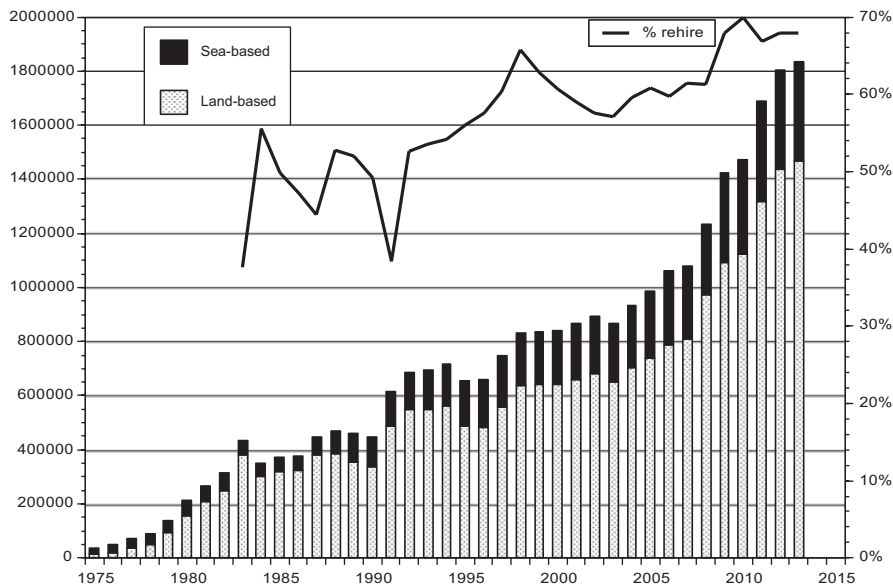
Fig. 13.1 The geographical distribution of expatriated Filipinos (more than 30,000 people)

**Table 13.1** Top 30 countries of expatriation for Filipinos in December 2012 and types of migrations

	Total	Status		
		Permanent	Temporary	Irregular
World total	10,489,628	4,925,797 (47%)	4,221,041 (40%)	1,342,790 (13%)
1. United States of America	3,494,281	3,096,656 (89%)	126,625 (4%)	271,000 (7%)
2. Saudi Arabia	1,267,658	354 (0.03%)	1,159,634 (91%)	107,670 (9%)
3. United Arab Emirates	931,562	1711 (0.2%)	722,621 (78%)	207,230 (22%)
4. Canada	852,401	759,802 (89%)	87,304 (10%)	5295 (1%)
5. Malaysia	686,547	26,006 (4%)	212,951 (31%)	447,590 (65%)
6. Australia	391,705	329,348 (84%)	58,637 (15%)	3720 (1%)
<i>Sea-based workers</i>	366,865	–	366,865 (100%)	–
7. Japan	243,136	158,798 (65%)	77,248 (32%)	6910 (3%)
8. United Kingdom	218,777	160,881 (74%)	32,896 (15%)	25,000 (11%)
9. Kuwait	213,638	502 (0.2%)	207,136 (97%)	6000 (3%)
10. Qatar	200,016	16 (0.0%)	172,000 (86%)	28,000 (14%)
11. Hong Kong	195,128	13,251 (7%)	176,877 (91%)	5000 (3%)
12. Singapore	184,498	44,102 (24%)	118,946 (64%)	21,450 (12%)
13. Italy	172,148	53,819 (31%)	83,509 (49%)	34,820 (20%)
14. Taiwan	84,953	4521 (5%)	78,207 (92%)	2225 (3%)
15. South Korea	68,911	13,942 (20%)	41,354 (60%)	13,615 (20%)
16. Bahrain	66,491	91 (0.1%)	63,715 (96%)	2685 (4%)
17. Germany	56,986	46,790 (82%)	8116 (14%)	2080 (4%)
18. Greece	52,288	121 (0.2%)	26,167 (50%)	26,000 (50%)
19. France	51,785	8687 (17%)	1008 (2%)	42,090 (81%)
20. Oman	51,065	140 (0.3%)	48,835 (96%)	2090 (4%)
21. New Zealand	37,116	28,120 (76%)	7771 (21%)	1225 (3%)
22. Spain	33,274	21,380 (64%)	8969 (27%)	2925 (9%)
23. Israel	32,357	2000 (6%)	25,857 (80%)	4500 (14%)
24. Jordan	31,224	110 (0.4%)	18,344 (59%)	12,770 (41%)
25. Brunei	30,707	17,658 (58%)	11,399 (37%)	1650 (5%)
26. Lebanon	30,291	1198 (4%)	24,593 (81%)	4500 (15%)
27. China	29,133	1848 (6%)	24,725 (85%)	2560 (9%)
28. Norway	23,376	18,379 (79%)	4997 (21%)	0 (0%)
29. Cyprus	23,623	2707 (12%)	18,816 (79%)	2100 (9%)
30. Papua New Guinea	21,888	781 (4%)	20,157 (92%)	950 (4%)

Source: Commission on Filipinos Overseas

Millions of Filipinos appear eager to work abroad (Ang 2015) despite the risks and vulnerabilities they are likely to face. Their numbers are growing year after year. Today, about 4000 Filipinos leave their country to work overseas each day. In post-catastrophe times, such as in the aftermath of typhoon Yolanda, numbers surge for several months as families look for jobs abroad to rebuild their lives faster.



**Fig. 13.2** Number of expatriate Filipinos in government-approved temporary contracts, 1975–2013. Source of data: POEA

In this precise case, recruitment companies have noticed a clear increase in applicants to the Middle East from the islands of Samar and Leyte, the hardest hit by the typhoon (Lowe 2014) (Fig. 13.2).

Official data show that the numbers have grown steadily: the flow of Filipinos OFWs with temporary contracts was 36,000 in 1975, 214,000 in 1980, 372,000 in 1985, 445,000 in 1990, 653,000 in 1995, 842,000 in 2000, 988,000 in 2005, 1,470,000 in 2010, 1,802,000 in 2012. At the same time, more than two million Filipinos have settled abroad, mostly spouses and family members emigrating to Anglo-Saxon countries (United States 63%, Canada 18%, Australia 6%) and Japan (6%).<sup>1</sup> Some Filipina women are looking for foreigners, especially of European origin, to marry and escape poverty by marriage (Lauser 2008; Bulloch and Fabinyi 2009). More recently, Italy has become another place to settle, tying with Japan and Australia in the early 2010s, and trends indicate that South Korea may follow. Spain, the long-time former colonial power, has attracted few Filipinos (less than 0.6% of Filipinos settled abroad).

During the twentieth century, international labor migration from the Philippines has shown several major changes in its geography and gender composition. If early Philippine immigration was mostly consisting of male laborers going to the United States, today’s flows are very diversified, maybe more than for any labor exporting country in the world, each flow revealing specific gender characteristics (Tyner 1999).

<sup>1</sup> Source: Commission on Filipinos Overseas, <http://www.cfo.gov.ph/>



**Fig. 13.3** Faces of migration: Filipina OFWs at Singapore’s Airport, transferring from Oman to Manila (December 2012)

Women are very visible in international migration from the Philippines (Husson 2003, 2007). They not only compose the majority of permanent settlers, as part of family migration, with many Filipinas marrying foreigners, but they are as prominent as men in labor migration. Since 1992, female migrants have outnumbered men (Piper 2008) among the newly hired land-based workers who are legally deployed every year. The majority of female OFWs are in domestic work (maids, nannies, domestic helpers, cooks), health care (“caregivers” and nurses) and “entertainment” (“hostesses” and “entertainers” in Japanese or East Malaysia club, often sex workers in fact<sup>2</sup>) (Tyner 1996a, b, 1997; Fuwa 1999; Da-Anoy-Satake 2000; Salazar Parreñas 2001a, b; Salazar Parreñas 2011; Abe 2009; Hilsdon 2009). Male deployed workers include construction workers, technicians in the oil industry, gardeners, security guards, private drivers (Hong Kong) and most specifically seafarers, who account for some 20% of all OFWs leaving the country every year. Filipinos dominate the industry: 25% of the world’s seafarers are from the Philippines, the highest number on a par with Chinese sailors (Fig. 13.3).

A powerful image of female Filipino migration is the “Filipina maid” or “nanny” (Mozère 2002, Busch 2013), since it is the statistically (Jackson et al. 1999) most important job (see Table 13.2): half of the Filipina women deployed abroad under temporary contracts are household workers. They stay in their employers’ residences and perform chores such as cleaning, cooking, serving, dish-washing and

<sup>2</sup> *Japayuki* is a slang term coined in the 1990s (Mackie 1998). For Filipinos, a *Japayuki* is a Filipina entertainer who works in Japan. For the Japanese, the word refers to a Southeast Asian prostitute in Japan. When Japan opened its doors to the world in the late 1890s, many unsuccessful geisha worked as prostitutes abroad, and they were called “*Karayuki*” (miss Overseas). The newer term *Japayuki* is slang for the opposite of *Karayuki*.

**Table 13.2** Deployed OFW in 2010, according to job and gender

	Total	Men	Percent	Women	Percent
<b>Service workers</b>	<b>154,535</b>	<b>19,367</b>	<b>12.6%</b>	<b>135,168</b>	<b>87.4%</b>
Domestic helpers and related household workers	96,583	1703		94,880	98.2%
Janitors and cleaners	12,133	2612		9521	78.5%
Caregivers and caretakers	9293	543		8750	94.2%
Waiters and bartenders	8789	4393	50.0%	4396	50.0%
Housekeeping and related service workers	4799	701		4098	85.3%
Cooks and related workers	4399	2281	51.8%	2118	
<b>Production workers and transport operators</b>	<b>120,647</b>	<b>97,629</b>	<b>80.9%</b>	<b>23,015</b>	<b>19.1%</b>
Factory workers	27,152	15,286	56.3%	11,865	
Wiremen electrical	8606	8576	99.7%	30	
Plumbers and pipefitters	8407	8391	99.8%	16	
Laborers and helpers, general	7833	6998	89.3%	835	
Industry laborers	7578	2557		5021	66.2%
Welders and flamecutters	5059	5037	99.6%	22	
Bricklayers, stonemasons and tile setters	4505	4478	99.4%	29	
Carpenters	4417	4402	99.7%	15	
Machine fitters and precision instrument makers	3950	3865	97.8%	385	
Supervisors production and general foremen	3423	3110	90.9%	313	
Operators earthmoving and related machinery	3347	3329	99.5%	18	
Dockers and freight handlers	2655	2474	93.2%	181	
Drivers	2214	2016	91.1%	198	
<b>Professional technical and related workers</b>	<b>41,835</b>	<b>24,470</b>		<b>17,365</b>	
Professional nurses	12,082	1828		10,254	84.9%
Engineers	6463	6192	95.8%	271	
Engineering technicians	6023	5969	99.1%	54	
Engineering technicians electronics	3486	3455	99.1%	31	
Composers, musicians, choreographers, dancers, singers	1968	515		1453	73.8%
<b>Clerical and related workers</b>	<b>10,706</b>	<b>5192</b>	<b>48.5%</b>	<b>5514</b>	<b>51.5%</b>
Bookkeepers and cashiers	1542	268		1274	82.6%
Receptionists and travel agency clerks	1494	504		990	66.3%
<b>Sales workers</b>	<b>7242</b>	<b>3744</b>	<b>51.7%</b>	<b>3498</b>	<b>48.3%</b>
<b>Administrative and managerial workers</b>	<b>1439</b>	<b>849</b>	<b>59.0%</b>	<b>590</b>	<b>41.0%</b>
<b>Agricultural workers and fishermen</b>	<b>1122</b>	<b>1047</b>	<b>93.3%</b>	<b>75</b>	<b>6.7%</b>
<b>TOTAL land-based OFW</b>	<b>340,275</b>	<b>154,674</b>	<b>45.5%</b>	<b>185,601</b>	<b>54.5%</b>

Source of data: POEA.

childcare (Asis 2005). Female OFWs can also be found in factory work, sales, aviation (flight attendants on many Middle Eastern airlines, where local women cannot work due to Islam's requirements) and nursing. Filipina nurses are highly regarded for the care they give in hospitals and retirement homes (caregivers), so that an "industry" of nursing schools has developed in the country, to provide the requested number of medical helpers in different countries. In California, 20% of all registered nurses are Filipinas (Rodis 2013a, b).

The gender distribution of Philippine OFW varies greatly from one country to another: from almost entirely female in Hong Kong (Torres 2013) or Cyprus (predominantly maids), as well as Israel and Kuwait, to exclusively male in Africa's construction sites (Madagascar, Angola, Algeria, Mozambique), depending on the jobs offered (Table 13.3).

In the top receiving country (Saudi Arabia), 11,238 of the 44,469 Filipino women (25.3%) were household workers, 7494 professional nurses and 5043 janitors, while in Hong Kong 28,154 out of 28,237 (99.7%) were domestic helpers. In the United Kingdom, 253 of the 319 Filipina OFWs (79.3%) were nurses. Among the top ten destinations of OFWs, Hong Kong, Kuwait, Singapore, Italy, United Arab Emirates, Japan, and Taiwan are dominated by women OFWs.

### ***13.1.3 Filipinos in North America***

Most Filipinos abroad live in North America (Boquet 2013), mostly permanent residents who have settled as many other immigrants from around the world. US- and Canada-based permanent Filipino migrants represent 3/4 of the Filipinos living abroad for a long period of time. Their presence in the cultural landscape (Cheng 2009) is much more discreet than other groups such as Chinese or Mexicans (Coloma 2012). Their Hispanic names may also make them less visible minorities, especially in the state of California, where most of them live. Filipinos have blended in without creating strong ethnic neighborhoods or ethnic commercial districts (Fawcett and Gardner 1994). Nevertheless, they keep a very active Filipino culture, through associations, churches, newspapers and contacts with the motherland. Filipinos are somewhat of a puzzle for many Americans, since they transcend the "boundary" between Latinos and Asian-Americans (Ocampo 2014). Filipino activists (Del Rosario and Gonzalez 2006) are active in defense of workers' rights in North America and other places of diaspora, and are also in advocacy for better politics and policies in the Philippines (Table 13.4).

For much of the twentieth century, "international migration" for Filipinos meant going to the United States and its Pacific territories. After the Philippines was annexed by the U.S., more than 125,000 Filipino workers were brought by the Hawaiian Sugar Planters Association to work on the sugar cane and pineapple plantations of Hawaii. The first batch of Filipino workers arrived in the U.S. territory of Hawaii on December 20, 1906 (Alcantara 1981; Sharma 1984). Approximately



**Table 13.3** New Filipino hires in 2010, by gender, top 25 countries

	Total	Men		Women	
Saudi Arabia	119,275	74,806	62.7%	44,469	37.3%
United Arab Emirates	46,779	14,409	30.8%	32,370	69.2%
Qatar	36,794	22,350	60.7%	14,444	39.3%
Hong Kong	28,794	557	1.9%	28,237	98.1%
Taiwan	27,844	9663	34.7%	18,181	65.3%
Kuwait	27,110	2951	10.9%	24,159	89.1%
Singapore	6447	1755	27.2%	4692	72.8%
Bahrain	5307	1607	30.3%	3700	69.7%
Madagascar	3350	3336	99.6%	14	0.4%
Canada	2954	1126	38.1%	1828	61.9%
Oman	2800	872	31.1%	1928	68.9%
Malaysia	2778	1433	51.6%	1345	48.4%
South Korea	2305	1937	84.1%	368	15.9%
Angola	1697	1685	99.3%	12	0.7%
Brunei	1691	947	56.0%	744	44.0%
Algeria	1621	1620	99.9%	1	0.1%
Cyprus	1619	74	4.6%	1545	95.4%
Israel	1473	219	14.9%	1254	85.1%
Italy	1303	469	36.0%	834	64.0%
Japan	1287	237	18.4%	1050	81.6%
United States	1080	496	45.9%	584	54.1%
Equatorial Guinea	1040	1025	98.6%	15	1.4%
United Kingdom	517	198	38.3%	319	61.7%
China	512	269	52.5%	243	47.5%
Mozambique	412	411	99.8%	1	0.2%
Rest of the world	13,486	10,222	75.8%	3264	24.2%
WORLD	340,275	154,674	45.5%	185,601	54.5%

Source of data: POEA

120,000 Filipino workers came to Hawaii between 1906 and 1934, and 30,000 in California and other states.

A small number of scholars, known as *pensionados*, also immigrated to the United States before the 1920s. They were either sponsored by the U.S. government or by missionary-related programs. Some were sent by rich families to study and a few were self-supporting students. Those who returned assumed important positions in Filipino society while others remained in the United States.

More workers, mostly single men, followed; others left Hawaii to work in agriculture in California's Central Valley, Oregon's Willamette Valley Washington, or the salmon canneries of Monterey (California), Washington and Alaska (Buchholdt 1996), arriving in California in large numbers after the 1924 Immigration Act excluded the Japanese. By 1930 there were about 35,000 young, single, Filipino men from Luzon working at all sorts of odd and low-paying jobs in California. On the mainland, low-wage service work in the cities—waiters, busboys, or domestic

**Table 13.4** Top 10 countries of permanent residence for Filipinos in 2012

	Number of permanent residents	Share of overseas Filipino permanent residents (%)	Cumulative share (%)	Share of Filipinos in the host country (%)
1. United States	3,096,656	62.9	62.9	89
2. Canada	759,802	15.4	78.3	89
3. Australia	329,348	6.7	85.0	84
4. United Kingdom	160,881	3.3	88.3	74
5. Japan	158,978	3.2	91.5	65
6. Italy	53,819	1.1	92.6	31
7. Germany	46,790	0.9	93.5	82
8. Singapore	44,102	0.9	94.4	24
9. New Zealand	28,120	0.6	95	76
10. Malaysia	26,006	0.5	95.5	4

Source: Commission on Overseas Filipinos, “Stock estimate of overseas Filipinos as of December 2012”, <http://www.cfo.gov.ph/images/stories/pdf/StockEstimate2012.pdf>

work—provided alternative jobs between agricultural seasons or when other jobs were not available.

Since the Philippines was a U.S. colony, the movement of Filipinos to the United States was considered internal migration and Filipino migrants were “nationals” (but not citizens) (Aguilar 2010). As nationals, Filipinos were entitled to American passports and could enter and leave the country freely. It was not until the passage of the 1934 Tydings-McDuffie Act, which provided for the granting of Philippine independence in 10 years’ time, that the Philippines became subject to immigration quotas. The 1934 law limited the Philippines to 50 visas per year, and migration dropped off dramatically. But there was an exception clause: in case of a labor shortage, the governor of Hawaii was authorized to hire Filipino workers.

World War II intervened and further migration to the United States stalled. Between 1946 and the mid 1960s, about 10,000–12,000 Filipinos went to Hawaii as workers, military personnel, and war brides (Yea 2008).

Some 4000 Filipinos had been employed in the merchant marine, but this employment possibility ceased with the 1937 passage of a law requiring the crew of U.S. flag vessels to be at least 90% American citizens. However, after WW II, and through the 1950s and 1960s, tens of thousands of Filipinos were recruited to work on U.S. Navy ships as stewards. After the liberalization of U.S. immigration laws in 1965, at least 50,000 Filipino professionals and petitioned relatives of immigrants annually migrated to the U.S. Today, most Filipino-Americans live in California (Daly City, a San Francisco suburb, is the most Filipino city in the United States) or Hawaii (where Filipinos are the first ethnic group) (Advincula 2014; Abinales 2015), but there are also pockets of Filipino presence in other parts of the country, such as New York, Chicago, Washington DC, Seattle or Las Vegas (casino employees) (Eljera 2015).

It was not until the 1965 Immigration and Nationality Act, when nationality-based restrictions were struck down, that Filipino immigration grew and diversified. Other countries of settlement also dismantled their pro-European immigration policies in the 1960s and 1970s, paving the way for Filipinos to enter Canada, Australia, and New Zealand under family or skills-based provisions. The Philippines eventually became one of the top ten sending countries in these traditional immigration countries.

In just a few short decades, Canada's Filipino community has grown from less than a thousand residents to become one of the country's largest sources of immigrants. At present, over 650,000 Filipinos call Canada home, and this number is increasing rapidly.

Philippine migration to Canada (Aranda 2014; Aranda 2016a, b) has long remained limited, partly because the Canadian immigration policy only encouraged the migration of professionals and skilled workers (Li 2003). The first Filipino migrants reportedly arrived in Canada in 1930, mostly women working as nurses or teachers, especially in the Winnipeg area. A major difference between Filipinos and other Asian immigrants to Canada is that the early Filipino migrants came from the United States (Chen 1998) and that women were a large majority, in contrast to what was observed in the first waves of Filipino migration to the United States. Sometimes unable to renew their residence permits in the United States, they had learned that visas were available for qualified technicians in Canada, especially in Toronto and Winnipeg. In the 1960s, there were nurses, technicians, employees and textile industry workers (Buduhan 1972).

In the early 1970s, especially after the 1972 implementation of martial law by Ferdinand Marcos in 1972 and the development of the OFW policy, Canadian-based Filipinos sent for their families and encouraged others to migrate directly from the Philippines. Canada's immigration policy in the 1980s gave special importance to family reunification, and an increasing number of Filipinos have taken advantage of these provisions. During the 1980s and 1990s, this second wave of Filipino immigration (characterized by a more balanced sex ratio and significant increase of the average age of migrants, due to family reunion) was mostly centered in Toronto and Vancouver. Since 1990, there has been a steady stream of Filipinos entering Canada (10,000–20,000 per year). Of the 232,670 Filipino immigrants in Canada reported in 2001, 96% arrived after 1970. In 2010, 2011, 2012 and 2014, Filipinos were the top immigrants in Canada (Aranda 2015a, b), and were still in 3rd place in 2013 with 29,539 entries, just behind the Chinese (34126) and the Indians (33085),<sup>3</sup> while they were in 4th place (55,441 immigrants) in the United States in 2012 behind the Mexicans (145326), Chinese (78184) and Indians (63320).<sup>4</sup>

Canada's immigration policy is currently maintaining a high level of immigration. Temporary workers and foreign students may be admitted into the "Canadian

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<sup>3</sup>Source: Citizenship and Immigration Canada, <http://www.cic.gc.ca/english/resources/statistics/facts2013/permanent/10.asp>

<sup>4</sup>Source: Department of Homeland Security, [http://www.dhs.gov/sites/default/files/publications/ois\\_yb\\_2012.pdf](http://www.dhs.gov/sites/default/files/publications/ois_yb_2012.pdf)

Experience Class” (CEC). In 2013, the Federal Immigration Department admitted about 55,000 “federal skilled worker component” (FSW), including their spouses and dependents, in order to facilitate the recruitment of people who have the skills to meet the needs of the Canadian labor market (Barcelo 2015), for example with Live-in Caregiver program, which has attracted a number of Filipinas, quite adept at adjusting to subtle shifts in immigration policies (Gardiner Barber 2008). In addition, popular immigration programs such as the [Quebec Skilled Worker Program](#) award high points to nurses, while many “Provincial Nominee” programs have created special programs targeting healthcare workers, skilled tradespersons and food service managers. Many Filipinos have come to Canada within the framework of these programs. The Philippine Overseas Labor Office (POLO) in Toronto is helping Filipinos to apply to Canada’s “Express Entry” program, formerly referred to as “Expression of Interest”, which is the fastest and easiest way to work and stay in Canada.

### ***13.1.4 Filipinos in the Middle East***

The geography of temporary migration is quite different, since the Middle East largely dominates (four of the top six destinations) with several Asian countries or territories. The US and Canada rank only 7th and 9th.

Saudi Arabia and neighboring countries (United Arab Emirates, Qatar, Bahrain, Kuwait, Oman) are leading providers of jobs for Filipinos, with more than three quarters of all contracts for many of the top jobs taken by overseas Filipinos. Philippine migration to the Middle East is quite diversified and dominates the advertisement for deployment jobs in the archipelago (Mabasa 2015). Employment in these countries is greatly dependant on their immigration policies that may change rapidly, as in Saudi Arabia (De La Cruz 2015a, b) (Tables 13.5 and 13.6).

The Philippines’ development as a major labor exporter in Asian countries (and worldwide) is based on several factors. When large-scale labor migration flows from the Philippines began to grow in the 1970s, the “push” factors were very strong but made worse by the oil crisis in 1973. Domestic economic growth could not keep up with population growth. The country needed to provide jobs to its population and had serious balance of payment problems. At the same time, oil-rich and population-poor Arabian Gulf countries needed workers to realize their ambitious infrastructure projects. Large-scale migration from Asia to the Gulf countries (Bahrain, Kuwait, Qatar, Oman, Saudi Arabia, and United Arab Emirates) developed rapidly after the oil price rises of 1973. In the 1970s, this involved mainly male migrants for construction, initially from Egypt and Palestine (Kapiszewski 2006), then India and Pakistan, later from the Philippines, Indonesia, Thailand and Korea. Many of these projects were led by Korean construction companies (Arnold and Shah 1984).

With supply and demand factors converging, the Philippines was ready for massive labor migration, an opportunity recognized by the Marcos government (see Sect. 6.2). It was supposed to be temporary, but the continuing demand for workers

**Table 13.5** Top 10 countries of temporary residence for Filipinos

	Number of permanent residents	Share of overseas Filipino permanent residents (%)	Cumulative share (%)	Share of Filipinos in the host country (%)
1. Saudi Arabia	1,159,634	27.5	27.5	89
2. United Arab Emirates	722,621	17.1	44.6	89
3. Malaysia	212,951	5.0	49.6	84
4. Kuwait	207,136	4.9	54.5	74
5. Hong Kong	176,877	4.2	58.7	65
6. Qatar	172,000	4.1	62.8	31
7. United States	126,625	3.0	65.8	82
8. Singapore	118,946	2.8	68.6	24
9. Canada	87,304	2.1	70.7	76
10. Italy	83,509	2.0	72.7	4

Source: Commission on Overseas Filipinos, “Stock estimate of overseas Filipinos as of December 2012”, <http://www.cfo.gov.ph/images/stories/pdf/StockEstimate2012.pdf>

**Table 13.6** Share of Middle East countries in OFW contract jobs (new hires 2010)

	Number of OFW jobs in Saudi Arabia	Number of OFW jobs in other Middle East	Number of OFW world jobs	Share of Saudi Arabia worldwide (%)	Share of other Middle East (%)	Total share Middle East (%)
Domestic helpers	11,582	60,138	96,583	12	62	74
Nurses	8513	1859	12,082	70	15	85
Janitors	6869	5115	12,133	57	42	99
Engineering technicians	5967	2651	10,123	59	26	85
Engineers	3214	1585	6452	50	25	75
Housekeepers	3133	1428	4799	65	30	95
Caretakers building	2303	321	2657	87	12	99
Cooks	1778	1901	4399	40	43	83
Laundrers	1095	310	1476	74	21	95
Shopworkers	1193	3720	5097	23	73	96

Source: POEA

in the Middle East, including Libya, and the opening of new labor markets in other regions, especially in East and Southeast Asia (Japan, Korea, Taiwan, Hong Kong, Singapore), fueled more migration (Gardner 2012).

On the supply side, the push factors inherent to the republic of the Philippines have not abated since the 1970s. With a lack of sustained economic development, continuous political instability, a growing population, high unemployment levels,

and low wages, Filipinos and Filipinas look beyond the archipelago for improving the economic well being of their families. Domestic helpers (Jarallah 2009) are the dominant group, especially in the United Arab Emirates, followed by nurses and technicians. Many medical jobs (midwives, dentists, anesthetists) are taken up by Filipinos in the hospitals of the region.

Today, in several host countries, Filipinos have become essential workers. In Libya, where about 13,000 Filipinos were deployed in 2014, it is estimated that 3000 health workers (doctors and nurses) from the Philippines account for sixty percent of the medical personnel in this country, alongside Indians (twenty percent). Political turmoil may force the sudden departure of these foreign specialists for safety reasons, as in Libya, with increasing rates of criminality, resurging civil war and anarchy and the rise of terrorism in the post Gadhafi years: hospitals in Libya were paralyzed, and possibly the whole medical system of the country, after a massive strike of expatriated Filipinos following the gang rape of a Filipina nurse in Tripoli, coming days after the abduction and beheading of a Filipino construction worker in Benghazi (Calleja and Yap 2014).

In these Middle Eastern countries, where the population is small, immigrants now represent a majority of the population. From the mid-1980s, as living standards rose, there was a progressive feminization of Asian migrant labor in the Gulf (Shah 2004), with a growing demand for domestic workers, nurses, sales staff and other service personnel. Females now account for about 40% of Asian migrants in the Gulf countries, as they diversify their economy their economy away from the excessive dependence on petroleum and gas towards service, as exemplified by the emirate of Dubai (Malecki and Ewers 2007). Immigrant from non-Muslim countries such as the Philippines have to adjust to social codes quite different from what they are used to in the archipelago (Quismorio 2011), and at the same time the host countries are confronted, sometimes reluctantly, with elements of western culture that come in conflict with Islamic values (Nagy 2006).

## 13.2 The Role of the Philippine Government in International Migration

The development of a culture of migration in the Philippines has been greatly aided by migration's institutionalization (Ball 1997; Santo Tomas 2002; Acacio 2008). The Philippines is probably the only country in the world that has institutionalized the deployment of its people to work overseas, from professionals and skilled workers to domestic help. It started in 1974 with the adoption of the Labor Code of the Philippines, which provided what became the government's overseas employment program. For more than 25 years, export of temporary labor has clearly been a government response to high unemployment rates. With its low rate of foreign

investment and a steady reduction in development assistance, the Philippine government relies on overseas employment as a strategy for survival. After years of denying that it was promoting overseas employment as a job policy, the government finally set a target in 2001 of deploying a million workers overseas every year, a goal that has now been reached. The 2001 National Economic Development Plan stated that overseas employment is a “legitimate option for the country’s workforce” and outlined a four-point strategy for promoting the employment of Filipinos abroad.

The failure of providing enough good jobs inside the country has been astutely converted into a celebration of Filipino workers. Even if voices, such as Senator Sonny Angara’s (Ager 2015; Ramos-Araneta 2015), arose against the mass migration of Filipinos, migrants are highly valued: Each year, the president of the Republic of the Philippines celebrates Migrant Workers Day by awarding the “Bagong Bayani” (modern-day hero) award to 20 outstanding migrant workers who have demonstrated moral fortitude, hard work, and a track record of sending money home (Bordadora 2011; Encinas-Franco 2013, 2015).

Remittances are a critical source of foreign exchange, and the government actively encourages migrants to send money home. They are issued an identification card that is also a Visa card linked to dollar or peso-denominated savings accounts in a consortium of banks. The card enables remittances to be sent at \$3 or less per transaction.

The remittances sent home by workers have become a pillar of the country’s economy and the families resources, as the ubiquitous agencies of *Western Union*, *LBC Express* and other money transfer companies (*Lhuillier*, *Cebuana*, *Smart Padala*...) in Philippines cities and towns, as well as Internet money transfer services (London-based *Worldremit* or *Azimo*, for example) clearly show. The *Puregold* supermarket chain started in 2015 its own remittance service, *PurePadala*, where families in the Philippines can pick up the money sent from abroad and use it directly in the supermarket (Remo 2015). The government encourages migrant workers to send remittances through banks. The *Bangko Sentral ng Pilipinas* is working on enforcing minimum standards for banks and other players in the remittance business to protect OFWs and their families from shady operators, excessive fees, unfair foreign currency conversion, and delivery problems.

For the families of migrant workers, remittances are generally spent on fulfilling the basic needs of the family, better housing, educational opportunities for children, and starting or investing in small businesses, such as sari-sari stores or local transportation (purchase of a jeepney or a motorized trisikel). Many jeepneys are decorated with flags of foreign countries or pictorial representations of ships, planes, monuments, or landscapes reminiscent of the country where the money that allowed the purchase of the jeepney was earned.

### 13.2.1 *Organizing Migration*

Governmental promotion of labor migration (Gonzalez 1998; Tyner 2009; Magalit Rodriguez 2010) from the Philippines began in the mid-1970s, when Ferdinand Marcos saw an opportunity to export young men left unemployed by the stagnant economy and established a system to regulate and encourage labor outflows.

Under Marcos, the shift towards export-oriented industrial production led to the creation of several state agencies. NEDA (National Economic Development Authority) was modeled after Japan's MITI, in charge of selecting the best industries to develop for world markets, attract foreign investment and prospect new markets. EPZA (Export Processing Zones Authority) was to help foreign companies to set up operations in the Philippines. It is at that time that specific agencies, the OEDB (Overseas Employment Development Board) and the NSB (National Seaman Board), were created to encourage Filipinos to take jobs abroad and send part of their good salaries back home, through a system of mandatory remittances.

After Marcos' fall from power, the successive Philippine governments have continued to develop a sophisticated policy regime to promote and regulate labor emigration (Acacio 2008; Agbola and Acupan 2010). It is actively involved in promoting, recruiting, managing, and overseeing the deployment of overseas migrant workers. The official discourse has evolved, invoking the pride of showing the value of Filipinos around the world, the personal sacrifice for national good by achieving a "global presence" of Filipino labor and the need for Filipinos to send money back home to help the development of the country (Solomon 2009). As 'new national heroes', migrant workers are extended particular kinds of economic and welfare rights while they are abroad even as they are obligated to perform particular kinds of duties to their home state (Magalit Rodriguez 2002).

This system is a public-private partnership. On the private side, the government issued licenses to Philippines-based agencies to recruit labor for employers in Saudi Arabia, Kuwait, and other destinations. On the public side, an agency that would become the Philippines Overseas Employment Administration (POEA<sup>5</sup>) in 1982 was created as a portal to the world's labor markets, providing contract labor directly to foreign employers, maritime agencies, and governments. The work of Filipinos abroad is therefore under the authority of the Philippine government. Whether recruited privately or by the government agency, workers and recruiters enter into a contract that is enforceable under Philippine law. The government facilitates migration, regulates the operations of the recruitment agencies (Calleja 2014a, b), and looks out for the rights of its migrant workers and to avoid unauthorized extension of their stay by Filipino migrants in host countries, where they would be illegal workers subject to harsh punishment (Silverio 2012a, b).

The process begins with securing access to foreign labor markets. The Philippine government has made temporary labor migration a foreign policy priority in bilateral (Blank 2011) and regional trade negotiations. This strategy is employment-

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<sup>5</sup><http://www.poea.gov.ph/>



driven: encouraging its citizens to settle permanently abroad has never been a priority of Philippine governments. Host countries that have specific labor shortages but discourage permanent immigration, such as Middle Eastern countries, are good partners in this strategy. Most overseas contracts are typically for 2 years and are usually open to renewal. For the vast majority of positions, overseas workers must go alone because they are not permitted to bring family members with them.

The government also tries to prevent its citizens from using unregulated channels to migrate. In order to leave the country to work, Filipinos must be recruited by a licensed recruiter or a government agency, or must have their contract approved by the POEA and enroll in the official benefits program. The government prohibits its citizens from overstaying a visa in a host country and maintains a list of workers banned from future contracts, in part to support its efforts to market Filipinos abroad as a high-quality “brand name” of migrant labor.

In the same logic of temporary migration, the government has made support of the return of migrant workers part of its policy priorities. Privileges granted to returning migrants include tax-free shopping for 1 year, loans for business capital at preferential rates, and eligibility for subsidized scholarships.

Official migrants receive a number of subsidized benefits: pre-migration training (Martin et al. 2004) on social and work conditions abroad through country-specific PDOS (Pre-Departure Orientation Seminars), life insurance and pension plans, medical insurance and tuition assistance for the migrant and his or her family, and eligibility for pre-departure and emergency loans. They get basic lessons in the local languages (Arabic, Mandarin Chinese or Cantonese, Japanese, Korean...). Domestic helpers are taught how to cook Arabic style or Korean-style and their training also involves introducing poor rural women to the working of appliances they had never used before (dishwasher, washer/dryer, vacuum cleaner, microwave oven). At the time of departure from—and return to—the Philippines, their cases are handled in specific immigration lines at Manila’s International Airport. Registration for these benefits is compulsory. This is paid by the recruitment agency out of the worker’s wages.

The Philippine Overseas Employment Administration (POEA) is the government agency responsible for processing workers’ contracts and predeployment checks, as well as for licensing, regulating, and monitoring private recruitment agencies (Tyner 2000a, b). When the overseas program started, the government participated directly in recruiting and matching workers and employers. Due to demand for workers and the large numbers involved, the government relinquished the placement of workers to private recruitment agencies in 1976. There are more than 1000 government-licensed recruitment agencies in the Philippines (and many number of unlicensed ones) that match workers with foreign employers looking for land-based migrant workers.

Agencies are heavily concentrated in the Manila area (Tyner 2003), especially in the Manila CBD (Ermita/Malate), near the harbor, in Makati, the main office center of the Philippines, as well as the Shaw-Ortigas area of Mandaluyong and Pasig (close to POEA’s headquarters), and the Cubao area of Quezon City. In the provinces, Cebu and Davao host only a few agencies, while other cities have at best one

or two. Manila is clearly the center of the labor export system of the Philippines, and may be considered as a unusual world city, which is not only a recipient of investment in industry and real estate, but also a emitting center of global labor.

In order to be licensed, a recruitment agency must be Filipino-owned and meet capitalization and bonding requirements. Recruitment agencies charge migrant workers “placement fees” for the service that they provide. Manning agencies (for seafarers) are not supposed to charge placement fees as the principal or employer assumes these fees, but there are cases of known violations.<sup>6</sup> There is a standard placement fee for most destinations, which is equivalent to 1 month’s salary plus about 5000 Philippine pesos for documentation and medical exams, but many agencies violate the regulations. Excessive placement fees put the migrants in a vulnerable situation because they are deeply in debt before they leave. When they are abroad, they go without any salary for a period of time, and must accept difficult working and living conditions in order to repay their loans.

### 13.2.2 *Protecting Workers and Their Families*

Filipino workers abroad are relatively better protected than other national groups because they are more educated, more likely to speak English, and they are better organized. The efforts of NGOs, church-based organizations, and migrants’ organizations, as well as transnational and international efforts directed at promoting and protecting migrants’ rights (Lenard 2014), help provide an “antidote” to the dangers of migration (Ramos-Aquino 2015). NGOs for migrants in the Philippines and their networks abroad provide services and support to migrants (Law and Nadeau 1999), but, more importantly, they advocate for their rights as migrants. Transnational migrant organizations (Huang et al. 2005) such as *Migrante International* have risen to defend the rights of domestic workers. Better organized and better English-speaking Filipinos and Filipinas are usually leading these groups. In Hong Kong, for example—and sometimes in Singapore where regulations and surveillance make it harder to express “political” views (Ueno 2009)—there are regular demonstrations to defend the rights of domestic workers. Filipinas are clearly at the forefront of the fight for better conditions, leading their colleagues from Indonesia, Thailand or Nepal around slogans such as “We are workers, we are not slaves” (Constable 2009, 2010; Hsia 2009; Lopez Wui and Delias 2015).

Since the Marcos era (1966–1986), advocates of the migration policy speak of the OFWs as “new heroes of the nation,” while critics refer to them as “new martyrs”. “Martyrs” because OFWs have suffered in the past and today deplorable liv-

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<sup>6</sup> Despite efforts to clean up the industry, there are still agencies operating illegally and enticing unsuspecting candidates to foreign employment to pay them large amounts of money all the way to the planned day of departure where they confiscate/steal their belongings (luggage, cell phones, money) and papers right at the airport. We have received personal testimonies about these despicable practices and life-shattering misfortunes.

ing and working conditions and various forms of humiliation, sexual harassment and violence. Several cases - especially from countries in the Middle East and East Asia, but sometimes also in Europe (Domingo-Kirk 1994)—have become public and show that OFWs and OWs from other states (such as Indonesia) were held as slaves inside the houses of their employers. In some extreme cases, there were public executions of OFWs in their “host countries” after they had acted out of sheer desperation against their captors who had seriously injured or killed them.

Migrant women face particular vulnerabilities. Their jobs in domestic work (Del Rosario Cuunjieng 2014) and entertainment usually mean long working hours, surveillance and control by employers, and abusive conditions, including violence and sexual harassment (Ramos Shahani 2015). There have been many press reports of sexual abuse of Filipinas in foreign countries, especially in the Middle East, but also in Asian countries (Hong Kong, Singapore, Malaysia). Given the “private” context in which they work, these problems often go unnoticed or unreported by fearful Filipinas who know their families depend on their work abroad. However, the problem is well known, and activists, lawyers, and immigration officials at POEA strive to instill confidence into women deployed abroad and empower the women to defend their rights (Guevarra 2006).

The Philippine government is working to defend its citizens deployed abroad. In case of serious political unrest in host countries, the Philippine government reserves the right to suspend the delivery of exit visas, as has been the case for Libya in July 2014, while it accelerates the return of its expatriates (Calleja 2014a, b; Santos 2014a, b). But the Philippine government is under pressure from multinational companies not to impose travel bans, as they needed a steady flow of workers. In 2011 already, more than 10,000 Filipinos had been evacuated from that country, at the height of the uprising that led to the fall of Gadhafi’s regime.

The National Labor Relations Council handles employment-related problems such as money claims. The Overseas Workers Welfare Administration (OWWA), provides support and assistance to migrants and their families. All processes and requirements up until the point of departure are handled by the POEA, while the OWWA assumes responsibility for the workers’ welfare while they are employed abroad. POEA and OWWA are under the wing Department of Labor and Employment. A separate agency, the Commission on Filipinos Overseas (CFO), provides programs and services to permanent emigrants. CFO was transferred from the Department of Foreign Affairs to the Office of the President in 2004.

The Philippines was first among Asian countries of origin to craft a law (Republic Act 8042, “Migrant Workers and Overseas Filipinos Act” of June 1995) that aims “to establish a higher standard of protection and promotion of the welfare of migrant workers, their families and overseas Filipinos in distress.” Its adoption was precipitated by the national furor over the 1995 execution of Flor Contemplacion, a domestic worker in Singapore, who many Filipinos believed was innocent despite her conviction for the deaths of her Singaporean ward and another Filipino domestic worker. Her trial and execution turned the protection of migrants’ rights into a burning political issue. The incident prompted the Philippine government to temporarily withdraw its ambassador to Singapore, to hasten its ratification of the UN conven-

tion of the rights of migrant workers, and to reiterate the POEA's mandate to focus on migrant welfare and rights—measures that failed to satisfy many of the government's critics in civil society. Thanks to the *Contemplacion* case, Filipino migrant women have received a high level of public and political attention, conducive to enhanced legal protections of their rights as migrant workers and citizens. Today, by migrating overseas, Philippine women may wish to bring to themselves the same kind of political power that migrant women have obtained from the Philippine state (McKay 2012).

The 1995 law main items (Asis 2006a, b) are:

- the deployment of workers only in countries that ensure their protection, including the banning of deployment if necessary
- providing support and assistance to overseas Filipinos, whether legal or in an unauthorized situation. The Office of the Undersecretary of Migrant Workers Affairs, under the Department of Foreign Affairs, provides assistance to migrant workers who encounter legal problems abroad
- the imposition of stiff penalties for illegal recruiters;
- free legal assistance and witness protection program for victims of illegal recruitment; a Philippine consulate verifies the terms of each worker's contract with the foreign employer.
- the institution of advisory/information, repatriation, and reintegration services;
- the stipulation that the “protection of Filipino migrant workers and the promotion of their welfare, in particular, and the protection of the dignity and fundamental rights and freedoms of the Filipino abroad, in general, shall be the his/her priority concerns of the Secretary of Foreign Affairs and the Philippine Foreign Service Posts;”
- the establishment of the Migrant Workers and Other Overseas Filipinos Resource Centers in countries where there are large numbers of Filipinos.

Since 1992, the Social Security System (SSS) has pursued the social-security coverage of overseas Filipino workers, on a voluntary basis (Bugante 2015). It has installed representative offices in Abu Dhabi, Al-Khobar (Saudi Arabia), Bandar Seri Bagawan (Brunei), Doha (Qatar), Dubai, Hong Kong, Jeddah, Kuala Lumpur, Kuwait City, London, Macau, Manama (Bahrain), Milan, Riyadh, Rome, Singapore and Taipei, to bring SSS services closer to Filipinos abroad.

Among origin countries in Asia, the Philippines has been a leader in introducing several migration-related laws. These include:

- the Anti-Trafficking in Persons Act of 2003, which establishes policies and institutional mechanisms to provide support to trafficked persons
- the Overseas Absentee Voting Act of 2003, which gives qualified overseas Filipinos the right to vote in national elections;
- the Citizenship Retention and Reacquisition Act of 2003, which allows for dual citizenship.

In terms of commitments to international norms and standards concerning migrants, the Philippines was one of the first countries to ratify the UN Convention

on the Rights of All Migrant Workers and Their Families and the UN Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children.

In an effort to better monitor the life conditions of Filipinos, and mostly Filipinas abroad, a 2015 POEA regulation requires the use of Facebook to establish a communication platform for domestic workers, recruitment agencies and the government (Jaymalin 2015). All recruitment agencies must have their Facebook accounts and share these with domestic workers they deployed. The accounts can be used to prevent disputes between household service workers and their employers, or the workers can register their complaint to the POEA and recruitment agencies through the Facebook account.

Many of the support services the government provides are aimed at promoting continued ties with the homeland. The government sponsors international tours of Philippine entertainers and supports schools in areas overseas with high concentrations of migrants. Psychological counseling services that emphasize maintenance of “Filipino values” are offered through a network of offices abroad.

Among Asian countries “exporting” workers, only the Philippines offers such a package of programs and services covering all phases of migration, from predeparture to on-site services to return and reintegration, demonstrating the government’s efforts to balance the marketing of workers with their protection. Other countries with large numbers of OFWs, such as Indonesia (Setyawati 2013) or Sri Lanka (Pilapil 2014a, b), are looking at the Philippine example and starting to implement similar programs of their own, such as predeparture orientation seminars for departing workers and the deployment of labor attachés and welfare officers to countries.

### **13.3 Assessing the Impact of International Migration on the Philippines**

Massive work migration abroad is one of the main elements of the social and economic life of the Philippines. However, its effects on the country are mixed. The main issues are brain drain, the impact of remittances, social/family deconstruction and the excessive dependence on foreign countries, as well as the overall image of the Philippines as a “slave nation”.

#### ***13.3.1 Filipino Skilled Mobility or Brain Drain?***

A number of authors have advanced the idea of a long-lasting brain drain (Pido 1977; Gonzalez 1992; Llorito 2006; Tapang 2013; Apolonio 2013) hurting the country since it leads to a lack of qualified workers in many professions important for the country, from doctors and air-traffic controllers to teachers, airline pilots or meteorologists attracted by better salaries in other countries (Harden 2008; Martin 2010; Aquino 2014). Their numbers have increased in recent years (Domingo

2012): according to the Bureau of Labor and Employment Statistics, the number of Science and Technology workers who opted for overseas jobs rose from 9877 in 1998 to 24,502 in 2009. This includes physicists, chemists, mathematicians, statisticians, computing and information technologies professionals, engineers, life science professionals and health professionals (doctors, dentists, nurses and midwives) (Liu 2014). Nurses and midwives represented the biggest group with 60% of the total, followed by engineers (26%). The top ten destinations for these professionals were Saudi Arabia, the United Kingdom, the United States, the United Arab Emirates, Singapore, Kuwait, Libya, Malaysia, Qatar and Taiwan.

De-motivating working conditions, coupled with low salaries, are set against the likelihood of prosperity for themselves and their families, to work in well-equipped hospitals, and the opportunity for professional development. Lack of research funding, poor facilities, poor intellectual stimulation, threats of violence, and lack of good education for children are major factors pushing qualified Filipinos to look abroad, as is the case for other countries such as India or Pakistan (Dodani and La Porte 2005). Even the top-ranked Filipino chess player has chosen to register to US chess federation, since he has lived in North America for many years (Pilapil 2014a, b).

Some highly skilled professions are suffering (Adriano 2008). For instance, in a country regularly hit by typhoons, the steady outflow of weather forecasters leads to vacancies in the critical PAGASA agency (Araja 2013; Villamente 2014; Yap 2014). The Mines and GeoSciences Bureau and the Philippine Council for Agriculture, Forestry and Natural Resources Research and Development also lose dozens of English-speaking highly skilled staff every year, many of them to Canada, the US and the Middle East. Many migrant Filipino scientists take higher-paying work with international aid organizations or private firms involved in information technology, consulting and biotechnology and pharmaceutical research. The World Bank, the United Nations and the United States Agency for International Development have been particularly aggressive in poaching English-speaking Filipino scientists. Philippine universities and trade schools produce about 150,000 science and technology graduates every year, but most of these are in medicine and nursing, and fewer than 2000 receive degrees in basic sciences, such as chemistry and biology. Those low graduation figures have stayed steady over the past 15 years, despite a doubling of overall college enrollment figures over the same period, benefiting mostly law and humanities. Too many university graduates cannot find jobs at their level of education, and are therefore ready to look for jobs abroad (Ruiz 2014). The country seems to be wasting the potential of its diaspora (Kritz 2015a, b).

The number of scientists and engineers engaged in research and development (R&D) activities across the Philippines is about 8800, compared with about 20,000 in Singapore, which has only half the population of Metro Manila or 41,000 in Vietnam with a similar population. That has resulted in lower scientific output. The Philippines rank very low among world countries surveyed for their respective science and technology abilities and scientific infrastructure. The Philippines is lagging behind other ASEAN countries in the number of patents applied for and received.

### 13.3.2 *The Migration of Nurses*

The case of Filipina nurses (Joyce and Hunt 1982) is a perfect example of the mixed benefits of skilled global migration. For decades, nurses have been among the most exportable of Filipino professionals. It is estimated that more than 250,000 Filipino nurses, mostly women, work abroad today. Alongside domestic workers, they represent the most gendered segment of Filipino expatriation (Ball 2004) and are seen as a prime export commodity (Magalit Rodriguez 2008). During the first half of the twentieth century, the Philippines trained its nurse workforce primarily for domestic use, even though Filipino nurses began arriving in the U.S. as early as the turn of the twentieth Century, under the Pensionado Act of 1903, which funded American educations for citizens of the Philippines. However, at the onset of a decolonized Republic in 1946, President Manuel Roxas encouraged the development of nurses training in the Philippines to improve the dismal ratio of 1 nurse per 12,000 Filipinos, and to pursue the efforts to improve the overall health of the country's population. However, the lack of hospitals in the provinces lead quickly to an oversupply of qualified nurses, while the ones finding a job received very low salaries. This situation has not improved half-a-century later. The average salary of a Filipina nurse is about 200 U.S. dollars per month, while it is 3000–4000 dollars in the United States. This huge gap in wages, coupled with the lack of qualified nurses in the U.S. is a powerful engine for nurses outmigration, especially since Filipinas speak English (Davison-Panizza 1999) and salary increases for nurses in the archipelago have been frozen under the Aquino administration (Medenilla 2016a, b). On the receiving side, as more work opportunities began to open to American women, making nursing, with its long hours and high stress, a less appealing option, well-educated and English-speaking Filipino nurses provided the perfect replacement workforce. Without increasing wages, U.S. hospitals were able to fill necessary, but unwanted, jobs with Filipino immigrants. The Philippines is now the major source country, accounting for about 40% of U.S. foreign-educated nurses working in American hospitals. Filipino nurses have become such an integral part of the American health system that they have started their own national organization, the Philippine Nurses Association of America.

For a long time, nurse education and training in the Philippines has been driven largely by the US market and nurse immigration to the United States has tripled between 1994 and 2007, to about 15,000 entrants per year (Espiritu 2005; Aiken 2007). In the 1960s, nurses also sought work in Canada. From later that decade to the present, they have been seeking employment in various countries of the Middle East, particularly in Saudi Arabia and Libya, now Oman and the United Arab Emirates (Fonbuena 2014). In the 1990s, they also started going to the United Kingdom in droves (Mabasa 2014). Now, nurses could be sent to Japan (Kawaguchi et al. 2012; Ogawa 2012; Ohno 2012; Yagi et al. 2014) and Germany (Quismondo 2013), despite the language difficulties. Anticipation of future demand for nurses has resulted in the proliferation of nursing schools and a remarkable increase in student enrollment in nursing programs (Rogado 2009; Ortega 2014). Even doctors are now studying to be nurses to have better chances of working abroad.

To answer the needs of 100 million Filipinos, there should be up to one million doctors in the country, according to the guidelines of the World Health Organization. However, only 70,000 of the 130,000 doctors certified by the Philippine Medical Association are working in the archipelago. About 10,000 of them leave the Philippines every year, attracted by salaries 8–10 times higher in the US, Canada, Australia or Europe (Vartiainen et al. 2016). The country's health situation can barely improve under these circumstances (Aranda 2015a, b).

In a professional branch close to nursing, a growing number of Filipinos and Filipinas seek employment in eldercare (caretakers/caregivers), considering the rapid graying of other countries such as Japan, Taiwan or Singapore (Suzuki 2007; Piquero-Ballescas 2009; Yeoh and Huang 2014; Lambino 2015). It is also a specific niche for Filipinas in Israel. A number of Filipina nurses opt for a double migration first to the Middle East as nurses, then to Canada as caregivers. This illustrates the thin border between skilled nursing work, and less-skilled caregiving or even domestic work for Filipina women who have a good mastery of English and need a job (Brush and Vasupuram 2006). If emigration from the Philippines is mainly economically driven, further migration from the Middle East to Canada is mostly motivated by a desire for Canadian citizenship for the family, as well as the perceived attractiveness of the lifestyle in Canada as compared to the Middle East (Salami et al. 2014; Salami and Nelson 2014). They in turn face themselves in competition with Canadian nurses for access to the highly sought-after Hawaii retirement care market (Victorino Beechinor and Fitzpatrick 2008).

Developed countries facing nursing shortages have been aggressively recruiting foreign nurses, primarily from developing nations, to offset their lagging domestic nurse supplies and meet growing health care demands as their population gets older (Kingma 2002; Aiken et al. 2004; Prescott and Nichter 2014; Morales 2016). The Philippines appear as the sole country with an explicit nurse export policy and is now the world's leading donor of nurse labor (Brush and Sochalski 2007). But it has led serious provider misdistribution and countrywide health disparities inside the Philippines (Carlos and Sato 2008), with high turnover rates among qualified nurses, who leave for a better pay abroad (Perrin et al. 2007). A shortage of highly skilled nurses and the massive retraining of physicians to become nurses elsewhere has created severe problems for the Filipino health system, including the closure of many hospitals (Lorenzo et al. 2007).

With the continued growth of the population, and the expanding flows of nurses finding work abroad, nurse production not only exceeded the country's numerical requirements but focused largely on preparing practitioners for the health care needs of aging developed nations rather than the public health needs of the local population, especially in remote areas far from Manila (Brush 2010), raising ethics questions about the validity of an labor export strategy in the field of health services (Kaelin 2011). Philippine transnational nurse migration may be seen as a serious global health issue which hinders national development goals (Prescott and Nichter 2014). The Philippine government is well aware of this "care drain" problem and has established a Health and Human Resources Commission; a number of recommendations have been made to encourage retention of nurses and reinvestment by foreign recruiters in nurse education in the Philippines.



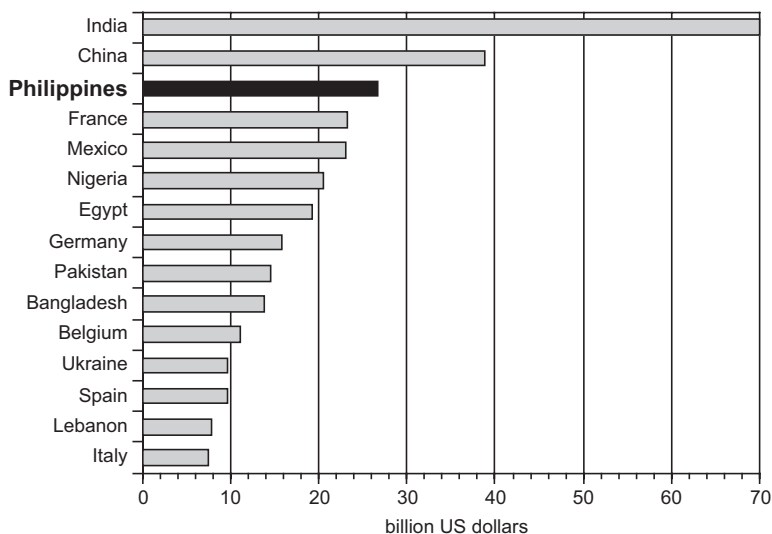


Fig. 13.4 Top remittance-receiving countries in the world in 2012. Source: World Bank

### 13.3.3 Remittances

In 2012, the Philippines was the third largest recipient country in the world of money transferred by its citizens working abroad. India was first with 70 billion dollars, followed by China (66 billion), then the Philippines and Mexico (24 billion), followed by Nigeria, Egypt and Pakistan (Fig. 13.4).

The Philippine economy has become strongly dependant on the steadily growing money flows from its OFW towards the home country (Romero 2014; Herrera 2015). In contrast to permanent emigration, which leads to family reunification and therefore generates much smaller flows towards the families (Tan 2006a, b), temporary labor migration generates clear gains to the country.

The families of OFWs also depend on it. The Philippine government considers remittances a significant source of human capital development (Advincula-Lopez 2005), since remittances go straight to households. In the well-established Philippine cultural tradition of solidarity within family members (McKay 2007a, b), having remittance-income influences households to allocate more on basic daily needs (such as fuel, light, water, food, transportation and communication), minor housing repair and improvements, as well as health care and education expenses (Simmons and Garcia 2008; Tabuga 2008; Eversole and Shaw 2010; Ducanes 2015). In some households, remittances are also used as investments in entrepreneurial pursuits (purchase and operation of trisikel and jeepneys for hire) and technology transfers (Ang et al. 2009). Migration leads to higher levels of life satisfaction if remittances are large enough to compensate for the psychological distress caused by the migration (Yoon 2014). The money spent contributes to the overall growth of the Philippine economy, with positive effects on the real estate market (Maca 2010; Gorayeb 2012;

Miaflor 2012): Manila malls are full to bursting and expanding their size, while blocks of apartments are going up that are being marketed solely to OFWs.

However, some authors argue that the Philippines-generated income is reduced by the departure of an active family earner (Rodriguez and Tiongson 2001), and that a good part of the remittances are used to fund conspicuous consumption (smart-phones) by poor Filipinos used to survive on a day-by-day basis, rather than invest for a stable future (Ang 2009). Surveys indicate that expatriated Filipinos prefer to renew contracts abroad than to come back and invest in their home country (Jaymalin 2011a, b). To counter this, economic “reintegration” programs (Weekley 2004) promoted among migrant domestic workers in Hong Kong include training in savings and investment, business planning and entrepreneurship, to help them to achieve steady income rather than still working overseas. The long-term objective may be to channel migrant savings into national economic development “back home.” An ideology of popular capitalism encourages citizens with protected rights to become entrepreneurs responsible for their own success or failures.

A more recent trend is the use of remittance money to invest in real estate, especially for the purchase of condo apartments or suburban houses in the Manila area, therefore feeding the construction boom and contributing to a rise in property values (Faier 2013).

Expatriated men appear to send more money back home than do women (Semyonov and Gorodzeisky 2005), even when taking into consideration earnings differentials between genders. In consequence, the income of households with men working overseas is much higher than in of households with women working overseas. Gender inequality in the global economy has therefore some consequences for the economic inequality among households at the local level, adding to the fact that earnings generated in the global labor market tend to be considerably higher than that of households without labor migrants, forming a new source of economic inequality between households in the Philippines (Gorodzeisky and Semyonov 2014).

Aside from the money transfers, Filipinos abroad send goods and items to their relatives, using the “balikbayan box” system. “Balikbayan” is the person returning to the country (Szanton Blanc 1996). In airports of cities with a large expatriated Philippine population, such as Hong Kong (Alburo 2002, 2005; Camposano 2013), registration counters for Philippine-bound flights are encumbered by huge boxes, extra luggage. The same boxes can be shipped by sea at discounted prices. These balikbayan boxes—which come in three standardized sizes—are filled with gifts from abroad: toys, used and/or designer clothing, shoes, toiletries, household/kitchen accessories, electronics, and specialty treats that are hard to find in the Philippines (everything from cans of Canadian sockeye salmon to Swiss chocolate bars, depending on where they are in the world). In times of rapid increases in the cost of rice, some families have even received rice purchased abroad! (Young 2008) It is also part of the common cultural *pasalubong* practice, where travelers (within or outside the country) are expected to bring home gifts to family, friends and colleagues. Balikbayan boxes can also be sent at regular intervals, either to provide the family with needed items, to act as a replacement of the not-yet returning outmigrant, or to help a business of resale of used items on Philippine flea markets (*ukay-ukay*) (Abueg

2005; Locsin 2007). In August 2015, the mere mention of a possibly tighter control of balikbayan boxes by Customs officials (Araneta 2015; Depasupil 2015; Kabling 2015; San Juan 2015a, b) raised the ire of many Filipinos, upset with the comparison to illegal smugglers of undeclared goods, and it may have been a factor in the failure of president Aquino to see his friend Mar Roxas succeed him: the candidates most identified as the anti-Aquino—Mr. Duterte for the presidency and Mr. Marcos for the vice-presidency—won the overseas voting. (Ronquillo 2016).

World Bank data<sup>7</sup> indicate that in 2012, remittances amounted for 9.8% of the Philippine GDP,<sup>8</sup> compared to 1.3% in Thailand, 0.8% in Indonesia and 2% in Mexico. In Southeast Asia, only Vietnam had a relatively high rate of remittances/GDP, albeit half of what is observed in the Philippines.

Even if the share of remittances in GDP (Table 13.7) has somewhat receded since the high of 2005, they remain an essential element of the national economy (Seriño 2012), and their absolute value continues to increase (Montecillo 2014). According to NEDA (the National Economic Development Authority) officials (Ordinario 2012), the inflow of remittances is about 30% the earnings of the exports sector, in nominal terms. It is higher than the foreign direct investments into the country. Because of remittances, the country's international reserves remain at comfortable levels, which implies less vulnerability of the country to external shocks, lesser reliance on foreign savings, and availability of more currency that will help the country service its debts and pay its imports. The Philippines, which under Marcos was suffering from chronic deficits of its balance of payments, is now enjoying strong surpluses year after year. The rising current account surplus, in the face of a negative trade balance and fluctuating capital and financial flows, can be traced to the rapidly accelerating inflow of remittances from overseas Filipino workers (Paderanga 2009). However, economists consider that the excessive dependence on remittances exposes families to powerful fluctuations in exchange rates (Yang 2008) and political events abroad, and alters the value of statistical economic growth, while the competitiveness of the country in the export of manufactured products is negatively impacted by the inflation induced by large inflows of foreign money (Bayangos and Jansen 2011).

At the regional (Pernia 2008) and local level, remittances appear to raise average incomes for all income groups (Quisumbing and McNiven 2010) but much more so for the richer households than for the poorer ones (Capistrano and Santa 2007). Remittances also contribute importantly to regional development (Pernia 2008). The debate about the links between international migration, remittance and poverty

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<sup>7</sup><http://data.worldbank.org/indicator/BX.TRF.PWKR.DT.GD.ZS>

<sup>8</sup>Countries with higher values than in Philippines were mostly former Soviet or Yugoslav republics (Tajikistan 47.5%, Kyrgyz Rep. 30.8%, Moldova 24.5%, Armenia 19.2%, Kosovo 16.4%, Georgia 11.2%, Bosnia Herzegovina 10.9%), small Central and South American countries (El Salvador 16.4%, Honduras 15.7%, Guyana 10.7%, Guatemala 10%), small African countries (Lesotho 23.8%, Gambia 15.4%), some Middle East areas (West Bank & Gaza 20.1%, Lebanon 16%, Jordan 11.3%) and tiny island nations (Samoa 23.2%, Bermuda 21.8%, Haiti 21.1%, Jamaica 14.5%, Tonga 12.6%, Sri Lanka 10.1%), as well as Nepal (25%). Only Bangladesh (12.2%) has a higher population than the Philippines.

**Table 13.7** Personal remittances, received (% of GDP)

	Philippines	Thailand	Indonesia	Mexico	Vietnam
1980	1.9%	1.2%		0.5%	
1981	2.2%	1.4%		0.5%	
1982	2.8%	1.7%		0.7%	
1983	3.4%	2.1%		0.9%	
1984	2.3%	2.1%	0.1%	0.9%	
1985	2.6%	2.3%	0.1%	0.9%	
1986	2.9%	1.8%	0.1%	1.4%	
1987	3.1%	1.7%	0.1%	1.3%	
1988	3.3%	1.5%	0.1%	1.3%	
1989	3.2%	1.3%	0.2%	1.2%	
1990	3.3%	1.1%	0.1%	1%	
1991	4.1%	1%	0.1%	1%	
1992	4.8%	0.4%	0.2%	0.8%	
1993	4.8%	0.9%	0.2%	0.8%	
1994	5.4%	0.9%	0.3%	1.3%	
1995	7.2%	1%	0.3%	1.2%	
1996	5.9%	1%	0.4%	1.2%	
1997	8.3%	1.1%	0.3%	1.2%	
1998	7.1%	1.3%	1%	1.3%	
1999	8.1%	1.2%	0.8%	1.1%	
2000	8.6%	1.4%	0.7%	1.1%	4%
2001	11.5%	1.1%	0.7%	1.4%	3.1%
2002	12%	1.1%	0.6%	1.5%	4.7%
2003	12.2%	1.1%	0.6%	2.3%	4.9%
2004	12.6%	1%	0.7%	2.6%	4.7%
2005	13.3%	0.7%	1.9%	2.6%	5.5%
2006	12.7%	0.6%	1.6%	2.7%	5.7%
2007	11%	0.7%	1.4%	2.6%	8%
2008	10.9%	0.7%	1.3%	2.4%	6.9%
2009	11.9%	1.1%	1.3%	2.5%	5.7%
2010	10.8%	1.1%	1%	2.1%	7.1%
2011	10.3%	1.3%	0.8%	2%	6.3%
2012	9.8%	1.3%	0.8%	2%	
2013	9.8%	1.5%		1.8%	

World Bank data

reduction (Adams and Page 2005) remains open in the Philippines, as it is in other western Pacific nations (Samoa, Fiji...) also engaged in this “MIRAB system” (Migration-Remittances, Aid and Bureaucracy) (Bertram and Watters 1985; Connell and Conway 2000; Brown and Poirine 2005; Bertram 2006).

### 13.3.4 *The Case of Filipino Sailors*

Shipping, which transports 90% of goods in global trade, employs about 1.2 million seafarers, many of them from the Philippines, which is one of the world's leading supplier of ship crew or about 30% of the world's seafarers (Berger 2009), manning container ships, oil tankers, luxury liners, and passenger vessels worldwide. In one of the world's most globalized industries, it is a curious fact that almost one in every three workers at sea is from the Philippines. Filipino seafarers working in various international shipping vessels were about 400,000 at the end of 2011. On KLM flights between Amsterdam and Manila, many passengers are Filipino sailors whose ship is berthed in Rotterdam, the top European port, which may explain why KLM has remained the lone European airline serving the Philippines.

Domestic shipping in the Philippine archipelago may have contributed to its development, but the recruitment of seafarers in the global labor market progressed rapidly since the 1970s (57,000 in 1980, 111,000 in 1990, 198,000 in 2000, 347,000 in 2010). Many Filipino seafarers come from the poor maritime areas in the Visayas and Mindanao. They were born in large families, and their parents were either fishermen, farmers, or self-employed workers. The choice of a seafaring career is a way out of poverty, with the added benefit of "seeing the world for free", as claimed by the brochures of maritime training schools. Filipino sailors are appreciated for their work ethic, respect of hierarchy and a pleasant sense of humor even in difficult situations. However, this situation is fragile.

The growth of the Philippines seafaring labor force was stimulated mainly by global demand. As a result, Philippines policies for the crewing industry, maritime education institutions and government agencies has been largely shaped by the requirements of the competitive global shipping industry (Amante 2009). Why did the Philippines emerge as the dominant developing country to provide ship crews? The influence of American colonial institutions and language probably played a major role. In 1899, the American colonial government had set up the Philippine Nautical School (PNS), to train sailors in the English language. In 1963, it was renamed the Philippine Merchant Marine Academy (PMMA) and reorganized its curriculum, training and certification to fit the needs of the US shipping industry. In the early 1970s, when foreign shipping firms started to look for cheaper labor, they were attracted to Filipinos for their English-language training and certifications based on American standards (McKay 2007a, b). The country is now home to 90 maritime schools graduating every year about 40,000 seafarers. About 400 manning agencies regulated by POEA are in the business of finding jobs for these Filipino sailors. The Philippine state, in its effort to harness the resources of the diaspora (remittances), celebrates the sacrifice and hard work of the seamen, hard-working "heroes" of the country, who are away and facing danger for about 6 months of the year.

The standard employment contract for Filipino sailors incorporates the regulations of POEA, but in a globalizing shipping industry, the competition of sailors from other countries may play against the hiring of Filipinos, since ship owners are looking for more flexible labor and cutting costs of manpower by recruiting more

Chinese or Bangladeshi crews. The ships may be Greek-, Japanese- or European-owned, but the laws observed on board follow those of the “flags of convenience” (Panama, Liberia, Bahamas...), which places Filipinos in a tense position between the workers rights protection supposedly guaranteed by the Philippine government, and the real-world pressure of ship owners, on cargo ships as well as on cruise ships (Terry 2007). To keep their jobs, Filipino sailors are often forced to lower their salary expectations and their hopes of becoming rich by sailing away from the archipelago (Zhao and Amante 2005).

Seeing the world is often limited to docking at the ports and staying on board when countries such as the United States have established strong barriers to entry. This leads the Filipino sailors to adopt attitudes which are well-liked by their superiors : *pakikisama* (be a good companion), *pasyensya* (patience) and *matiisin* (work without complaining) (Jimenez 2012). On board ships with multinational crews (Couper 2000), Filipinos, often smaller in size than other sailors, find strength in their group (Paragas 2010), with the risk of being perceived as staying by themselves and not mingling enough with other crew members. In a macho world of sailors, Filipino crewmen, whose soft voice and mannerisms may make them seen as effeminate or gays by other crewmates, which forces them to assert a group cultural identity (Dimayuga 2008) based on religion, friendship, family and music, but also to defend their masculinity by adopting a very active sexual and drinking behavior when they are allowed to disembark at port of calls (McKay 2007a, b).

Their recruitment by shipping companies is threatened by a lack of skills. The local training centers and maritime schools in the Philippines have failed to satisfy international maritime standards set by the European Maritime Safety Agency (EMSA) (Bordadora 2014; Camus 2014). The failing mark given by EMSA automatically questions whether or not European manning agencies will prefer to board Filipino seafarers and whether or not European ports will be permitted to receive Filipino-owned and manned ships as a result of the assessment. The Philippine Overseas Employment Agency (POEA) and the Maritime Industry Authority (Marina) are pressed to improve the skills training and certification for Filipino seamen.

Due to the perceived low skills, Filipinos rarely reach the upper echelons of responsibility on board ships. In the same way as the Filipina maids, most of the Filipino crewmen toil in non-glamorous duties : deck hands, engine room oilers, cabin cleaners and cooks (Morella 2015), waiters and kitchen assistants on board cruise ships. A glass ceiling prevents most of them from becoming officers.

Another risk faced by Filipino sailors is piracy and terrorism. They are exposed to incessant kidnap-for-ransom activities by pirates off African waters in the Gulf of Aden and the Arabian Sea, or around the Malay waters, two of the world’s major trading routes. Piracy and ransom kidnappings of Filipino sailors by Somali pirates in the dangerous Somali waters, particularly in the Gulf of Aden, have long been a problem for the Philippine government as it lacks the capacity to monitor their

movements when at sea. While no clear solution is in sight to end piracy attacks, there is a need for proper skills training and education for sailors before boarding vessels that will pass through African waters. In response to increasing attacks, the Philippines has incorporated anti-piracy modules in the training of its seafarers and dispatched a naval liaison officer to Manama, Bahrain, the base of a multinational government maritime fleet, to coordinate actions of navies deploying military vessels to protect merchant shipping.

### ***13.3.5 Social and Family Destructuration***

Within the Philippines, there have been debates about the social costs of migration (Rodriguez 1996): the problems encountered by migrants, such a loneliness (Ayalon and Shiovitz-Ezra 2010) or poor living accommodations (Sison 2014), the destabilizing impacts of migration on families (Nguyen et al. 2006), apprehensions about materialism induced by remittances.

Advocates for migrants claim that the government's efforts to protect official migrants have ignored for too long the abuse and trafficking of irregular migrants, that monetary benefits offered by overseas work must be re-considered by looking at the extended absence of migrant parents, which has deprived millions of Filipino children of parental support and guidance (Alipio 2015): a UNICEF-commissioned study estimates that roughly one in every four kids (about 9 million children) have at least one parent working abroad. The psychological burden is heavy both on the child in the Philippines (Asis 2006a, b) and the parent, mostly a mother, working abroad, and torn between labor and love (Salazar Parreñas 2001a, b; Ambrosini 2008; Pratt 2012). Studies tend to indicate that children of migrant mothers are more likely to lag behind in school compared to children with migrant fathers (Battistella and Conaco 1998; Cortes 2015) and their overall health may be affected (Smeekens et al. 2012). The husbands of women abroad have to re-define their role in the household and rely on other women in the family to manage the daily chores related to children (Salazar Parreñas 2005; Fresnoza-Flot 2011). Wives of men abroad tend to withdraw from the official labor market to give more time to children, therefore reducing the locally-based income and being more dependant on foreign-generated family revenues (Cabegin 2013), even if some time take on small-scale farming activities (Lukasiewicz 2011).

The migration of women engaged in transnational domestic work at the global scale intrudes into the micro-world of families and households (Porio 2007): daughters remitting funds to their parents are empowered to make decisions in family-level income management. Family membership becomes multisited or transnational, with members dispersed in space, even if social networks such as Facebook allow for continuous contact across the oceans or continents (Uy-Tioco 2007; Pilar Aguila 2008). This migration/separation challenges the very notions and ideals of "being family" (Asis 2004; Pinzon 2013). The migration of domestic workers has some

distinctive characteristics, since women are moving between their families and their employers' households, where they play the role of second mother (Salazar Parreñas 2000) even as their own children are far away (Asis et al. 2004; Pirovani 2008). Domestic helpers are in an uncomfortable position between their own family and their host family (Constable 1999; Fresnoza-Flot 2009; Gardner 2011). However, if the distance is a source of stress, many cope with spirituality (Constable 2010, Van der Ham et al. 2014), wherever it is possible, and social networks, and for some of them, a stay abroad represents also an opportunity to escape stifling conservative traditions (Salazar Parreñas 2007), experience new forms of sexuality (Tyner 2002; Escoda 2012) and have affairs, even if married in the Philippines. Some Hong Kong Filipinas increase their income by part-time, occasional, prostitution on their off-days (Chang and McAllister Groves 2000). A less religious, more cosmopolitan and worldly approach to life, acquired abroad (Reiterer 2008), may cause some difficulties readjusting to a return in the Philippines (Soco 2008; Yu 2015), especially for women hailing from rural areas of the country.

Even by official estimates, undocumented workers constitute a large percentage of Filipinos abroad, and most of them work in extremely vulnerable sectors, such as domestic work. Many female migrants have become victims of traffickers, both in the Philippines and in the host country, and are forced into the sex industry in Japan, Singapore, the Middle East.

If work abroad is viewed as the only way up, only the best-educated young Filipinos are often found working abroad. The poorest Filipinos are rarely able to migrate and migration aggravates income inequality in the Philippines.

### 13.4 The Risks of Dependence: A “Slave Nation”?

The strategy of dependence on remittances as a source of foreign capital and foreign jobs as a policy against unemployment is not without risks (Aranda 2016a, b). It exposes the Philippines to be impacted by chaotic events in other countries, as events in Syria, Egypt or Libya have shown in recent years. Political vagaries or political choices (Mercene 2015) half-a-world-away may impact directly the daily lives of Filipinos in the archipelago if their source of revenue has to come home earlier than planned.

Filipinos working and living abroad bear the burden and shame (Aguilar 1996) of coming from a country with a reputation of being poor, weak and corrupt. News reports about the Philippines often show children digging into smelly garbage cans to find scrapes of food. Up to one third of all Filipinos may not eat correctly and present diet deficiencies lead for example to early tooth decay, even as Filipino dentists are very much in demand on the world stage.

The deskilling of some Filipinos (Siar 2013), such as school teachers choosing to become domestic workers in Hong Kong to earn five times more, or registered nurses employed as simple caregivers in Singapore (Amrith 2010), has given some host countries the impression that Filipinos are ready to submit themselves to any



situation, just for the sake of a job. Some in Hong Kong or Singapore have developed overtly racist comments about Filipinos, calling them slaves, loud and misbehaved. In Singapore, some local citizens have suggested separate city buses for Filipina domestic workers (Hozaga 2014), accused of disturbing the peaceful journey to work with their loud laughter. In the same country, reports of employment agencies advertising “discount Filipino household helpers or maids” in malls are an appalling demonstration of the advanced level of commodification of the Philippine-born workforce (Esmaguél 2014).

Filipina domestic workers experience contradictory class positions (Arnado 2007): in the Philippines, First World employment augments their social standing because they are a major source of money for the family. However, their social status in receiving countries declines because their “dirty” work is defined as “lower class,” and their racialized due to ethnicity, class, and nationality.

Hong Kong columnist Chip Tsao stirred anti-Filipino feelings in 2009 when he wrote in *Hong Kong Magazine* about a “nation of servants” which should not irritate China about islands in the South China Sea: “don’t flex your muscles at your master, from whom you earn most of your bread and butter... I summoned Louisa, my domestic assistant who holds a degree in international politics from the University of Manila, hung a map on the wall, and gave her a harsh lecture. I sternly warned her that if she wants her wages increased next year, she had better tell every one of her compatriots that the entirety of the Spratly Islands belongs to China”.

In 2014, a reading book for Hong Kong children depicted Americans as businessmen, Britons as professors, Japanese as sushi restaurant owners, Australians as airline pilots, all positive images of foreign nationals, but Filipinas as domestic helpers, a poorly ranked job. In other textbooks presenting foreigners living in Hong Kong, Filipino/as are completely omitted. Hong Kong labor laws also work against domestic workers. Foreign Domestic Workers (97% Filipinas and Indonesians) must leave the territory within 2 weeks of terminating a contract, and efforts to obtain permanent status have been denied for thousands of them. Crude wordplays opposing “made in Hong Kong” and ““maid in Hong Kong” (or in Singapore) (Gomes 2011) lead to an affirmation of the identity of Filipinas and their assertion of rights, in a mix of alienation and resistance (Lindio-McGovern 2004).

The usually invisible Filipina maids are a major part of the cultural landscape of Hong Kong on Sundays (Law 2002; Husson 2013), when they gather by the thousands in the otherwise deserted central business district for picnics on the sidewalk, remittance sendings, dancing, flea markets and open-air Catholic mass, just below the office buildings of banks and in front of luxury shops (Gucci, Cartier). Their joyful presence has become a tourist attraction for Westerners.

Indebtedness is another form of dependency (Basa et al. 2012; Fabunan 2014). Going abroad requires an initial cash outlet that may be quite high for people from poor families. In the hope of escaping debt, candidates for foreign jobs must increase their level of debt, and the retention of salaries until the end of their stay abroad makes things very hard for the family at home, which has to confront the high demands and loan sharks not willing to wait for a reimbursement 2 years later.

In the Middle East, the situation may be even worse (Olea 2008). The high demand for Asian domestic workers, Filipinas as well as Indonesians or Sri Lankans, and the increasing dependence on them in the Gulf countries for many years, where they are still perceived as ‘others’ (Diop et al. 2012) and routinely discriminated against (Jureidini 2003), has excluded them from labor laws (Bernal 2014; Santos 2014a, b) and thus rendered more susceptible to exploitation and various abuses (Jarallah 2009). Under the *kafala* sponsorship system<sup>9</sup> in Arab countries (Khan and Harroff-Tavel 2011; Pande 2013; Roper and Barria 2014; Malit and Naufal 2014), a migrant worker’s visa status is dependent on his or her employer. The threat of deportation looms and is dependent on his or her boss. News reports of rape, torture and sexual enslavement (Atieza 2014; Ellao and Ayroso 2015) of poor Filipina domestic workers by their very rich Arab employers (masters? owners?) have been unfortunately very common. However, for Muslim Filipinas, employment in Saudi Arabia is very sought after (Johnson 2011), since it is a place where their middle-class aspirations may be realized and their religious affiliations as Muslims fulfilled, in a delicate balance between emancipation as foreign workers away from their husbands and the expected submissiveness in the Saudi context (Johnson 2010; Pingol 2010). Another element of dependency is the ever-present risk of seeing the Filipino workers replaced by more docile and less demanding workers, such as possibly Ethiopian maids in Saudi Arabia (Fernandez 2011; Mabasa 2011), or eliminated altogether due to general policies of the host country, such as the much talked-about attempts at “Saudization” (Carcano 2011; Jaymalin 2011a, b; Ople 2013; Reyes 2013a, b; Angeli Sabillo 2014) in the biggest job market for Filipinos. Suddenly losing the jobs in Saudi Arabia would be devastating for the Philippine economy and society (Amolejar 2011; Aning 2011; Reyes 2013a, b; Badilla 2016). Diplomacy is needed to pursue agreements with the host countries (Del Callar 2012; Mabasa 2012; Ellao 2013a, b, c), a diplomacy sometimes threatened by incidents involving OFW (trials for murders and execution), which jeopardize the position of the Philippine government as a protector of its citizens abroad (Sabater-Namit 2013).

Tensions between the Philippines and another country may also lead to non-renewal of Filipino/as OFWs and their progressive replacement by workers from other countries, such as Vietnamese, Cambodians and more recently Burmese in Taiwan (Barcelo 2013). On the opposite, relatively good relations between countries, such as South Korea (Ybiernas 2013), may help in making Filipinos’ deployment easier, while thorny questions of citizenship may be solved in favor of Filipinas married to foreign citizens, as in Japan (Ball and Piper 2002).

Is migration good or bad for the Philippines and for Filipinos? Is it a sustainable way to promote development in the country (Castles 2009), considering the extreme

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<sup>9</sup>A foreign worker can only work in the Arab Gulf states through a *kafeel* (sponsor). The essence of the *kafala* system is the relationship binding employee to the employer, which has often been criticized as “slave-like”, since the employer can dictate the recruitment process and working conditions. The *kafala* is not a law but a tradition that seems to be at the root of abuses of workers’ rights.

dependency of the migration movements to local legislations and political/economic situations abroad.

A major recipient country that was known as OFW-friendly, Canada, may limit migrations with the implementation of a new rule taking effect on April 1st, 2015. Under the “4 and 4 rule”, temporary foreign workers who have been working in Canada for 4 years or more must leave the country and will be barred from returning to work there for another 4 years. Under previous regulations, workers could simply reapply for another work permit to continue their employment.<sup>10</sup> Those most affected by the new ruling are 70,000 low-skilled workers employed in industries such as agriculture, fishing, food and beverage, retail, construction and personal services, including caregivers, the largest group being Filipino citizens.

Sinking oil prices may reduce the number of jobs available in the Middle East, at a high cost both to Filipino families and the nation’s economy (Dumlao-Abadilla 2016; Medenilla 2016a, b). The huge influx of refugees from war-torn countries (Syria, Iraq) during 2015 and 2016 is also reducing the prospects for Filipinos in Europe (Kritz 2015a, b). With the slowdown of the Chinese economy also threatening the jobs of Pinoy sailors on cargo ships, should OFWs prepare for unemployment in the jobs-starved Philippines? (De La Cruz 2015a, b)

There is an essential dilemma between the Philippine state’s market-driven migration policy logic and its logic of protection and care for its deployed migrant workers, that leaves migrants vulnerable to abuse and exploitation (Tigno 2014).

According to activists at Migrant International, “large scale migration is a symptom of underdevelopment in the sending country. The structural causes of underdevelopment driving migration and exposing migrants to vulnerable situations must be addressed”. Even as the government of the Philippines vows to fight the exploitation of expatriated Filipinos, activist groups consider the government as an accomplice in human trafficking (Ellao 2013a, b, c) by negotiating the massive sale of labor to countries well-known for lack of adherence to human rights principles, and for failing to defend adequately the citizens of the archipelago. There remain the social costs that parents with children continue to endure, as well as illicit labor migration arrangements (contract substitution, illegal recruitment, trafficking) that continue to dupe aspiring Filipino migrants. Filipinos abroad should be seen not just as a remittance sender but more of an active participant in the Philippines socio-economic-political development (Zhu 2007; Brinkerhoff 2012).

With interactive news websites, cable TV programs, social networks like Facebook and Twitter, cell phones, Skype, e-mails, teleconferencing, it is not necessary for Filipino expatriates to be physically in the Philippines to acquire a thorough knowledge of Philippine political life and participate in Filipino life. Overseas Filipinos are well aware of what happens in the Philippines, but Filipinos in the Philippines may know less about what is going on in the Filipino diaspora (Rodis 2013a, b). Many are unaware of abuses and that some Philippine diplomats, instead of protecting OFWs, prey on them and demand sex in exchange for emergency

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<sup>10</sup><http://theorigami.ca/2015/03/29/mass-exodus-temporary-foreign-workers-looms/>

housing and funds to return back to Manila. The Philippine Catholic Church has been relatively silent on these abuses (Ramirez 2014).

After the fall of Ferdinand Marcos, it took 17 years before the Philippine Congress passed an Overseas Absentee Voting Act, allowing expatriated Filipinos to vote on national elections. However, this law contained an article requiring absentee voters to sign an affidavit of intent to return to the Philippines within 3 years or face penalties of up to a year in jail. This clause was eliminated only in 2013. In a classic contradiction between lofty words and grim realities, the “heroes” of the country were for many years barred from participating in Philippine elections! Heroes without political power: despite the sheer number of expatriate Filipinos, they are not represented as such in the Philippine Congress. There is no Congressman explicitly representing the interests of Filipinos living abroad, who could be their official spokesman in Manila, a role currently assumed by associations but without the weight of an official position within the structure of power (Rannveig Agunias 2009). The closing of several embassies and consulates at a time when there are more and more Filipinos abroad has been denounced as a policy of neglect towards the OFWs (Silverio 2012a, b). Internet voting could be offered to land-based OFWs and even more to seafarers unable to visit a Filipino consulate abroad. However, this has not been established by Benigno Aquino, who blatantly ignored the OFW in his 2014 State of the Nation Address (Faraon 2014).

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**Part III**  
**Regional Organization and Spatial**  
**Planning**

## Chapter 14

# Spatial Structures of the Philippines: Urbanization and Regional Inequalities

**Abstract** This chapter examines the fundamental spatial structures of the Philippines. It defines the role and organization of the different levels of the administrative hierarchy (provinces, regions, cities and municipalities) down to the barangay and sitio/purok levels. This leads to the definition of the “urban” in the Philippines and the rise of urbanization in recent decades, from the original urban settlements of the Spanish era, with their patterns following the same rules as in Latin America (fort, church and plaza), to today’s cities. Forms of housing have evolved over time, from the archetypal bamboo/nipa hut (bahay kubo) and the urban stone and wood house of the elites (bahay na bato), now in decline but patrimonialized, to today’s urban condominiums, suburban gated communities and slums. The last part of the chapter examine the profound spatial inequalities observed in the country, in terms of urbanization, wealth, economic structure, and it highlights the dominance of Metro Manila within the archipelago.

**Keywords** Local government units • Urbanization • Housing • Regional inequalities

Previous chapters of this book have looked at the general features of the Philippines. However, data at the national level tend to blur internal, regional differences in population, health, economic dynamism, urbanization and the environment in this country of 7107 islands.

The National Capital Region, the smallest of the country’s administrative regions, has a completely urban landscape. Central Luzon and the Calabarzon region south of Manila experience high industrial growth due to their proximity to the capital region. In contrast, the geographically large Cagayan Valley Region is mostly rural. The Central Visayas Region contains several small island communities yet is experiencing rapid urbanization around Cebu City, while the eastern Visayas, western Mindanao and to a lesser extent the Bicol area are laggards in many areas of development.

The archipelagic nature of the Philippines and the many spatial discontinuities created by water bodies made difficult the emergence of clear regional structures. Contrary to the easy-to-understand geographical organization of countries such as Thailand or Burma, organized around a central plain drained by a large river, where

most of the population is concentrated and the historical capitals located, either in the center of the plain or near the coast, with less developed mountain areas on the periphery, populated by minority tribes, the Philippine islands are more complicated to analyze in terms of spatial structure.

In this chapter we will first examine the administrative structure of the country, from provinces and regions to cities and municipalities and their component elements *barangay*, *purok* and *sitios*. We will then focus on the urbanization of the country, looking at the changes in the dynamics of urban growth, urban landscapes and the modes of housing. We will end with an assessment of the disparities within the country, in terms of population densities, average income and regional influence of the main urban centers.

## 14.1 Administrative Divisions of the Philippines

The territorial organization of the Philippines is made up of four layers of Local Government Units (LGU): provinces, cities, municipalities and barangays (McMillan 1952).

Spain had established a centralized colonial government composed of a national government and the local governments that administered provinces, cities, towns and municipalities (Laurel 1926; Ocampo and Panganiban 1985). The American era did not change much this highly centralized politico-administrative structure. During the Commonwealth period (1935–1946), local governments in the Philippines were placed under the supervision of the President who, by statute, could alter the jurisdictions of local governments and create or abolish them. In 1959, the first local autonomy act<sup>1</sup> vested in city and municipal governments greater fiscal, planning and regulatory powers. It broadened the taxing powers of the cities and municipalities within the framework of national taxing laws.

The imposition of martial law by Ferdinand Marcos in 1972, which abolished local elections and vested in the dictator the powers to appoint local officials who would support him, was a major setback for the local autonomy movement in the Philippines.

The excessive centralization of the Marcos regime was replaced in 1987 through a new Constitution, and the adoption of the Local Government Code by Congress in 1991 (Tapales 1993), which devolved powers and authority to local governments, gave them wide latitude to make vital decisions in governing their communities (Legazpi 2001) after 470 years of centralized governance. It revolutionized the local government system through the devolution of basic services from the central government to the local government units at all levels, an increase of the financial support to LGUs by raising their share of internal revenue collections from 20 to 40%, and the institutionalization of people's participation in local governance with the

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<sup>1</sup>RA 2264: "An Act Amending the Laws Governing Local Governments by Increasing their Autonomy and Reorganizing Provincial Governments".

creation of a new administrative layer, the *barangay*, below the municipality's level. Not all legislators in Manila, however, have been happy with this devolution (Eaton 2001), since it deprives them of some of their power to directly channel funds<sup>2</sup> to their favorite projects.

### 14.1.1 Provinces

Provinces (*lalawigan* in tagalog, cebuano, kapampangan and winaray, *provincia* in chacavacano zamboanga, *probinsya* in bikolano, *probinsia* in ilokano, *luyag* in hiligaynon/ilonggo) are the primary political and administrative divisions of the Philippines.

Each province has its own legislative body, the *Sangguniang Panlalawigan* and an elected governor. The map and number of provinces have evolved over time. They were 52 in 1952 (McMillan 1952), but there are currently 81 of them, not including the National Capital region, which was carved out of Rizal province in 1975. In 2012, the Supreme Court, for example, agreed to a separation of Dinagat Island from Surigao del Norte, even if the modest size of the island (802 km<sup>2</sup>) was below the theoretical threshold of 2000 km<sup>2</sup> required for the establishment of a new province) (Torres 2012).

Most provinces are named after geographic and topographic features like rivers, lakes, islands, most often with local vernacular words in the various languages of the country. Some evoke an abundant flora and fauna (Antique<sup>3</sup>, Batangas<sup>4</sup>, Bulacan<sup>5</sup>, Capiz<sup>6</sup>, Tarlac<sup>7</sup>, Tawi-Tawi<sup>8</sup>), ethnic groups (Bukidnon<sup>9</sup>, Ifugao, Kalinga<sup>10</sup>, Negros<sup>11</sup>,

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<sup>2</sup>“Pork barrel funds” is a US politics metaphor relating to a legislative appropriation of government spending for localized projects secured solely or primarily to bring money to a representative's district. It is designed to benefit the politician's constituents and yield in return good political support. In the Philippines this money is allocated to a representative or Senator for spending as he/she wishes, without going through the normal budgetary process or through the Executive Branch. It can be used for buildings, roads, scholarships, medical expenses, jobs and can be considered part of the entrenched corruption in Philippine political life. (Tamayo 2011).

<sup>3</sup>From the kinaray-a word “hamtik”, red ant. The name of the province does not refer to a special time frame...

<sup>4</sup>From the tagalog word “batang”, tree log.

<sup>5</sup>From the tagalog “bulak” (cotton) or “bulaklak” (flower).

<sup>6</sup>Oyster shells, a word of hiligaynon origin.

<sup>7</sup>An Aeta word describing a certain type of grass.

<sup>8</sup>A Sinama word for banyan tree. The repetition indicates a huge quantity of these trees.

<sup>9</sup>People of the mountains (“bukid”), in Cebuano.

<sup>10</sup>A word meaning “enemy” or “headhunters” used by the Gaddang and Ibanag tribes from the Cagayan valley of northern Luzon in reference to the mountain tribes nearby.

<sup>11</sup>A derogatory term used by Spaniards to describe the local “negrito” tribes and their dark skin.

Zambales) or individuals (Aurora<sup>12</sup>, Isabela<sup>13</sup>, Quezon<sup>14</sup>, Quirino<sup>15</sup>, Rizal<sup>16</sup>, Sultan Kudarat<sup>17</sup>), Spanish cities or provinces (Nueva Ecija, Nueva Vizcaya), historical events (La Union<sup>18</sup>) or bear an older name of unknown origin (Bataan, Batanes). In several provinces<sup>19</sup>, the main city bears the same name as the province.

### 14.1.2 *Regions*

Since September 1972 and Ferdinand Marcos' presidential decree n°1 (Integrated Reorganization Plan), at the beginning of the martial law period, Philippine provinces have been grouped into regions based on geographical, linguistic, historical and ethnic characteristics. Unlike the French regions grouping several départements, a Philippine "Region" is not a Constitutional form of government<sup>20</sup> and is used only for administrative management or statistics reference by the Executive branch. The "regional centers"<sup>21</sup>, often the largest in their region (but not always) are places where a number of central administrations, such as the Philippine Overseas Employment Administration, have located offices for the convenience of regional constituents who do not need to go anymore to the Manila area.

The map of regions is also evolving: from eleven in 1972, their number has grown to eighteen, the latest change being the 2015 creation of a Negros Island Region (Bueza 2015; Espina 2015): the province of Negros oriental was previously

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<sup>12</sup> Aurora Quezon, wife of the Commonwealth president.

<sup>13</sup> Queen Isabela II of Spain, who was the monarch of the colonial power at the time the province was created (1856).

<sup>14</sup> Previously called Tayabas, after one of its oldest cities, the province was renamed in 1949 to honor the first president of the Philippine Commonwealth, Manuel Quezon.

<sup>15</sup> Elpidio Quirino, president of the Philippines from 1948 to 1953.

<sup>16</sup> In honor of the writer and national hero Jose Rizal.

<sup>17</sup> Muhammad Dipatuan Kudarat (1581–1671), a Sultan of Maguindanao who fought the Spaniards.

<sup>18</sup> The 1854 merging of several towns in southern Ilocos Sur and northwestern Pangasinan to create a new province.

<sup>19</sup> Batangas, Cavite, Cebu, Iloilo, Masbate, Romblon, Siquijor, Sorsogon, Surigao, Tarlac.

<sup>20</sup> With the major exception of the Autonomous Region of Muslim Mindanao, which has an elected regional assembly and its own governor, in addition to provincial governors.

<sup>21</sup> Manila for the National Capital Region, San Fernando (La Union) for Ilocos / Region I, Baguio for Cordillera Administrative Region, Tuguegarao for Cagayan Valley / Region II, San Fernando (Pampanga) for Central Luzon / Region III, Calamba (Laguna) for Calabarzon / Region IV-A, Calapan (Mindoro oriental) for Mimaropa / Region IV-B, Legazpi for Bicol / Region V, Iloilo for Western Visayas / Region VI, Cebu for Central Visayas / Region VII, Tacloban for Eastern Visayas / Region VIII, Pagadian (Zamboanga del Sur) for Zamboanga Peninsula / Region IX, Cagayan de Oro for Northern Mindanao / Region X, Butuan for Caraga / Region XIII, Davao City for Davao Region / Region XI, Koronadal (South Cotabato) for [Soccksargen](#) / Region XII, Cotabato City for the ARMM. In the case of Negros / NIR or Region XVIII, the central government has not yet decided if the capital of the new region would be Dumaguete (Negros oriental) or Bacolod (Negros occidental), even as the latter's population is four times bigger than the other's.

part of the central Visayas with Cebu and Bohol, while Negros occidental and Bacolod City were part of the western Visayas with Panay and Guimaras. Most regions are designated with numbers, starting from the North<sup>22</sup> (Ilocos = region I, Cagayan Valley = region II, Central Luzon = region III, etc...) but the cold bureaucratic appellation has often given way to acronyms such as Calabarzon (CAvite-LAguna-BAtangas-Rizal-QueZON for region IV-A located south of Manila), Mimaropa (MIndoro, MArinduque, ROmblon, PALawan for the islands constituting region IV-B) or the hard-to-pronounce **Soccksargen** (region XII : SOuth Cotabato, Cotabato, Sultan Kudarat, SARangani, GENeral santos) in Mindanao. Three sections of the Philippines are not numbered: the National Capital region (NCR, Metro Manila), the Cordillera Administrative region (CAR) of Northern Luzon, of low population density, difficult access and high proportion of native tribes, as well as the ARMM, Autonomous region of Muslim Mindanao, in the southwestern part of the country (Fig. 14.1).

### 14.1.3 Cities and Municipalities

Philippine provinces are subdivided into municipalities and cities. Cities and towns first developed in the Philippines (Doeppers 1972) as a product of Spanish rule and Roman Catholic mission activity. In this context a new hierarchy of settlements was established above the preexisting village level.

A municipality or town (*bayan*, sometimes *munisipyo* or *munisipalidad* in Tagalog, *balen* or *balayan* in Kapampangan, *lungsod* in Cebuano, *banwa* in Hiligaynon, *banwaan* in Bikolano, *ili* in Ilocano, *munisipalidad* or *bungto* in Winaray) is a LGU that has been granted corporate personality, enabling it to enact local policies and laws, enforce them, and govern its jurisdiction.

Many municipalities are organized around an urban center inherited from the colonial period (see below), the *poblacion*, which has a much larger population than the other parts of the municipal territory, which is made up of rural areas with several smaller population nodes, isolated farms and roadside ribbon settlements.

Cities (*lungsod* or *siyudad*, in Tagalog, *lakanbalen* in Kapampangan, *dakbayan* in Cebuano, *dakbanwa* in Hiligaynon, *syudad* in Bikolano and Winaray, *siudad* in Ilocano) are in the same hierarchical level as **municipalities**, but larger in demographic and economic size. Under the Local Government Code of 1991, they are given special treatment in terms of bigger share from the internal revenue allotment (IRA) which forms part of the city's budget. An Act of Congress can convert growing municipalities into cities. The latest example (January 2016) is General Trias<sup>23</sup> (Cavite), a fast-growing suburban locality south of Manila.

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<sup>22</sup> Being the latest-created region, Negros, Region XVIII, has broken the system of North to South numbering.

<sup>23</sup> <http://www.psa.gov.ph/content/general-trias-now-city>.

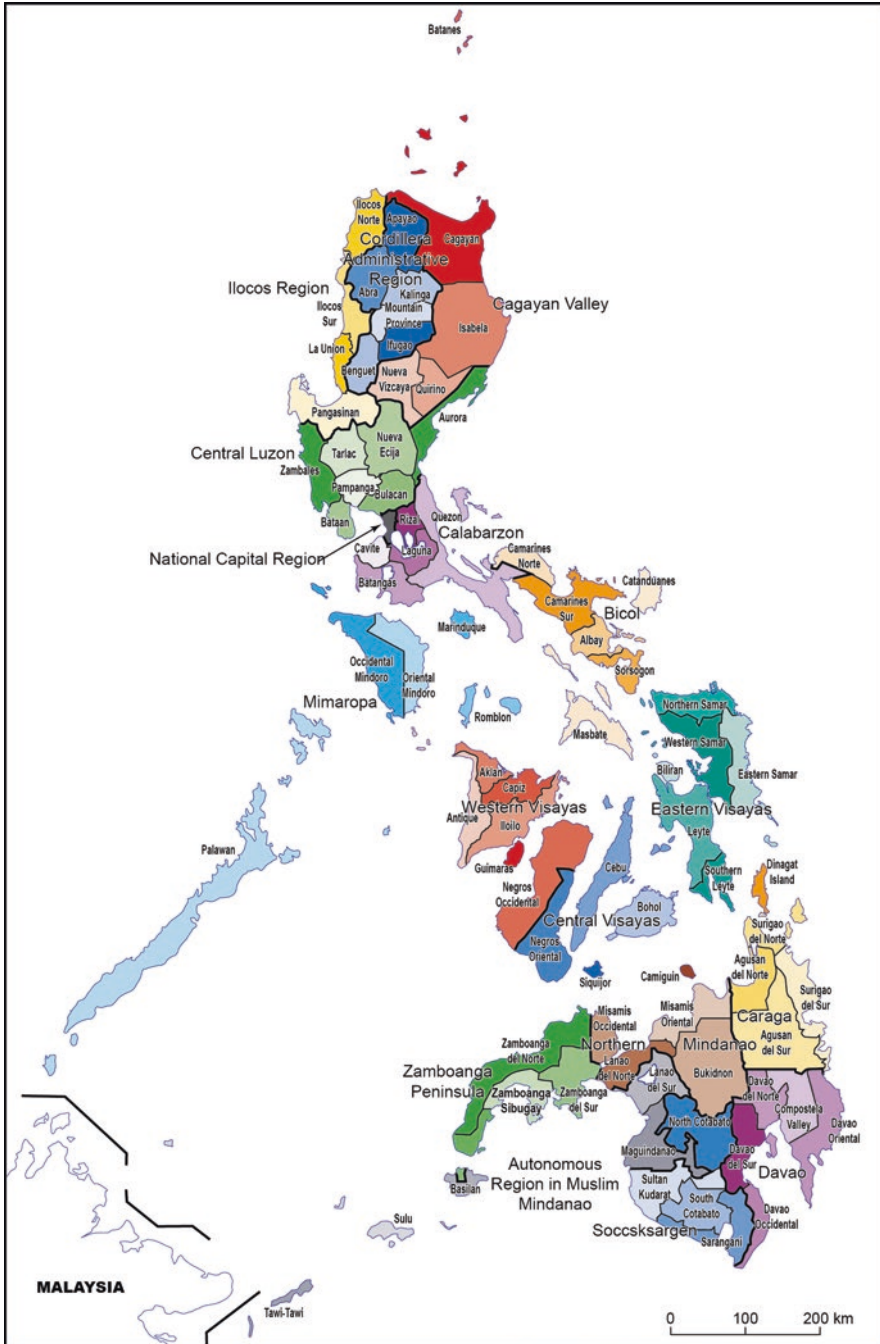


Fig. 14.1 Provinces and regions of the Philippines (as of 2014)

Cities, like municipalities, are composed of barangays (see next section) and are governed by elected officials, a mayor as local chief executive, a vice-Mayor, and eight councilors as well as appointed officials in charge of local offices.

38 cities<sup>24</sup> in the country act independently from any province and are self-governing as decreed by Philippine Law through an Act of Congress. They are classified as chartered cities and send their own Representatives to the Philippine Congress. Their municipal council, the *sangguniang panlungsod*, can pass local legislation without provincial control, even if the provincial government is often located in these cities<sup>25</sup>. Their tax revenue is not shared with the province, and the direct supervising authority over the municipal government is exercised by the president of the Philippines and not the governor of the province. Most of them (33) are classified as Highly Urbanized Cities, with a minimum population of 200,000 inhabitants, as certified by the National Statistics Office, and an annual income of at least 50 million pesos, as certified by the city treasurer. Among the Highly Urbanized Cities, only Lucena (Quezon) and Mandaue (Cebu) allow their residents to vote and run for elective positions in the provincial government. Five other<sup>26</sup> are “Independent Component Cities”: the charters of three of them prohibit their voters from voting for provincial elective officials.

Some situations may appear confusing. In the north, the relatively small city of Santiago (130,000 inhabitants) is an interesting case of an independent city located at the border of two provinces, Isabela and Quirino. In the south, Cotabato City is the regional center of the ARMM, to which it does not belong, but the city is administratively part of the SOCCSKSARGEN region, and distinct from Cotabato province.

The other chartered cities (107 of them) are component cities of the province in which they are geographically located.

Cities are also classified in six classes by the NCSB (National Statistics Coordination Board, now named PSA, Philippine Statistics Authority) according to their average annual income based on the previous three calendar years. First class cities have an income above 400 million pesos<sup>27</sup>, second class between 320 and 400 million, third class between 240 and 320 million, fourth class between 160 and 240 million, fifth class between 80 and 160 million, and sixth class below 80 million pesos. Similarly, there are six classes for the 1489 municipalities of the country. First class above 55 million pesos of annual income, second class from 45 to 55

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<sup>24</sup> Angeles (Pampanga), Bacolod (Negros), Baguio, Butuan (Mindanao), Cagayan de Oro (Mindanao), Cebu, Cotabato (Mindanao), Dagupan (Pangasinan), Davao, General Santos (Mindanao), Iligan (Mindanao), Iloilo (Panay), Lapu-Lapu (Cebu), Lucena (Quezon), Mandaue (Cebu), Naga (Camarines Sur), Olongapo (Zambales), Ormoc (Leyte), Puerto Princesa (Palawan), Santiago, Tacloban (Leyte), Zamboanga City, as well as the cities of Metro Manila (Caloocan, Las Piñas, Makati, Malabon, Mandaluyong, Manila, Marikina, Muntinlupa, Navotas, Parañaque, Pasay, Pasig, Quezon City, San Juan, Taguig, Valenzuela).

<sup>25</sup> This is the case in Bacolod (Negros occidental), Cagayan de Oro (Misamis oriental), Cebu City (Cebu), Iloilo City (Iloilo), Lucena (Quezon), Puerto Princesa (Palawan) and Tacloban (Leyte).

<sup>26</sup> Cotabato, Dagupan, Naga, Ormoc, Santiago.

<sup>27</sup> [http://www.nscb.gov.ph/activestats/psgc/articles/con\\_income.asp](http://www.nscb.gov.ph/activestats/psgc/articles/con_income.asp).



million, third class from 35 to 45 million, fourth class from 25 to 35 million, fifth class from 15 to 25 million, and sixth class municipalities below 15 million pesos. These statistical thresholds are periodically revised upwards.

#### 14.1.4 *Barangay*

The *barangay*<sup>28</sup>, also known in its former name<sup>29</sup> *baryo* (from the Spanish “barrio”, village), and abbreviated Brgy or Bgy, is the smallest local government unit in the Philippines, found in both urban and rural areas, as components of municipalities and cities. As of January 2016, there were 42,036 barangay across the country for a total of 1634 cities and municipalities (average 26 per municipal unit)<sup>30</sup>. Barangay are numbered in many parts of Metro Manila but most of them bear the names of famous people or places<sup>31</sup>.

Before the arrival of the Spanish colonizers, local villages were autonomous territorial and political units of 30–100 families headed by a monarchical chieftain called the *datu*, *pangino*<sup>32</sup> or *pangolo*<sup>33</sup>. Most villages were located on the banks

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<sup>28</sup>The name *barangay* is derived from *balangay*, a Malay word meaning “sailboat” (see Chapter 4 on the pre-Hispanic Philippines). As in Hawai’i, this connection between community and boats supports some theories of pre-colonial history of the Philippines dealing with the question of how the individual coastal barangays have arisen. There is a clear possibility that each of these coastal barangays may have been initially settled by colonizing maritime nomads who came by boat from other places in Southeast Asia (Peterson 2007).

<sup>29</sup>Ferdinand Marcos, in his efforts to restructure the administrative organization of the country, imposed this term barangay in 1975 to replace barrio, a move that was confirmed under the 1991 Local Government Code.

<sup>30</sup><http://nap.psa.gov.ph/activestats/psgc/default.asp>.

<sup>31</sup>Among the most common names of barangay, names of saints, mostly male, emerge (San Pedro, San Isidro, San Agustin, San Francisco, Santo Tomas, San Roque, Santa Ana, Santa Maria) as well as Santa Cruz and Santo Niño, presumably due to the presence of a church as a barangay focal point. All 24 barangay in San Nicolas (Ilocos Norte) are named after saints, while Camaligan (Camarines Sur) is the only town in the Philippines that honors all four evangelists through their barangay: San Marcos, San Lucas, San Mateo and San Juan. Santo Tomas (Batangas) has 26 barangay named after saints, from Agustin to Teresita, and only four are not named after saints, they are Barangay I, II, III, IV in Poblacion, the town center. The local political culture can play a role in naming some barangay: the city of Marcos (Ilocos Norte) has barangay names Ferdinand, Imelda, Pacifico, Elizabeth and Fortuna (all the close family of the late dictator). Many barangay in Mindanao bear the name of a Muslim chief of the past (sultan or datu). Jose Rizal and Manuel Quezon have been popular names (Bgy Rizal, Bgy Quezon), as have been Jefferson, Washington, Franklin or Lincoln for American counties and cities. Bagumbayan, the place where Rizal was executed, is also a classic barangay name. Some names, finally, have amusing meanings: The city of San Jose del Monte has a barangay named Gaya-gaya (copycat). Santa Maria (Bulacan) has Mag-asawang Sapa (husband-and-wife creeks). Pandi (Bulacan) has Mapulang Lupa (Red Earth), Siling Bata and Siling Matanda (young and old chili pepper) (Tan 2014).

<sup>32</sup>From “ginoo”, Sir or Mister.

<sup>33</sup>*Pangulo* is the title for president, from “ulo”, head.

of rivers or alongside the shorelines. The sea and rivers were the main source of proteins in this country of sailors and fishermen.

With the arrival of the Spaniards, these tribal organizations were adapted by the colonial authorities to become administrative units each headed by the *cabeza de barangay* whose main responsibility was collection of taxes. As they expanded and grew, some barangays evolved into pueblos. *Pueblos* were composed of *poblaciones* (town centers), *barríos* (rural settlements) and *visitas* (municipal districts.). Most barangays became part of the pueblos or municipios. This means that the formerly decentralized barangays were put under the control of the *gobernadorcillo* who headed the pueblo or municipio. Thus, the structural political powers of the *datus*, now under the jurisdiction of the *gobernadorcillo* diminished, even as they retained some prestige as *Cabeza de Barangay*. This general structure did not change with the American colonization or after the independence of the Philippines.

According to the 1991 Local Government Code, the barangay, with an average population of 2500 people<sup>34</sup> (and in many cases barely 1000), serves as the primary planning and implementing unit of government policies, plans, programs, projects, and activities in the community, and as a forum wherein the collective views of the people may be expressed, crystallized and considered, and where disputes may be amicably settled<sup>35</sup>. The significance of the barangay lies in the opportunity to preserve an effective community at the local and daily scale of activities (Kendall 1976). It is a good scale for monitoring the health of the population and the aspects of poverty, as recognized by many social researchers (Reyes et al. 2004a, b; Reyes and Valencia 2004; Bautista 2007) (Fig. 14.2).

Each barangay is headed by a chairman (*Punong Barangay* or *Barangay Captain*) leading the Barangay Council (*Sangguniang Barangay*), composed of seven other barangay Counselors (*Kagawad*, abbreviated as Kgwad, or *konsehal ng barangay*). Their names figure prominently on welcoming signs at the entrance of the barangay in cities and in the countryside. Each barangay has a barangay hall, equivalent to a city hall in a municipality. Barangay officials, by law, receive honoraria of at least P1000 per month (20 euros) for the Punong Barangay and P600 per month (12 euros) for the Sangguniang Barangay members, barangay treasurer and barangay secretary. Barangay officials enjoy special privileges—free hospitalization in a government hospital and free tuition in state universities and colleges for their dependents (Go 2013; Ong 2013). Meanwhile, the officials can opt to have their leave benefits in cash, and they also receive bonuses. Each of the eight members of the barangay council is assigned a specific domain of responsibility (De Guzman 2010; La Viña 2013), with the assistance of three other citizens forming a committee: law

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<sup>34</sup>However, in high-density urban settings, some barangay may have the population of very large cities. The 2010 census showed Caloocan's Barangay 176 as having 243,980 residents ! Seven other barangay, in Metro Manila or adjacent suburbs, had more than 100,000 residents.

<sup>35</sup>Minor disputes and criminal offenses are supposed to be "amicably settled" by the *barangay* leader, or captain, without the presence of lawyers. The importance of this *barangay* system of justice based on traditional socialization patterns, leads to a low rate of utilization of juvenile courts and correctional institutions (Shoemaker 1996).



**Fig. 14.2** Barangay entrance sign in the Ermita area of Manila (July 2015)

The sign is sponsored by an organization promoting foreign jobs—Photo YB n° 5729

and order<sup>36</sup>, finance<sup>37</sup>, infrastructure<sup>38</sup>, education<sup>39</sup>, health<sup>40</sup>, agriculture<sup>41</sup>, tourism<sup>42</sup>, sports and youth<sup>43</sup>. In some cases, the functions of one kagawad may be different

<sup>36</sup>Maintenance of peace and order in the community, breaking up fights between neighbors, fire prevention, traffic rules and regulations, issuance of residence certificates, small local jail to detain petty criminals or debtors not paying their owes. Adult men from the barangay may be asked to take turns in nighttime security patrols to deter crimes such as burglaries.

<sup>37</sup>The barangays' Appropriations, Finance and Ways and Means Committee is responsible for matters related to local taxation and fiscal administration.

<sup>38</sup>The infrastructure committee is responsible for the construction, repair and maintenance of roads, bridges and other government infrastructure projects and public works such as drainage and sewerages, flood control and protection, irrigation and water facilities.

<sup>39</sup>The Education Committee is responsible for the establishment and maintenance of educational facilities for both formal and non-formal education.

<sup>40</sup>The Health Committee looks after health, sanitation or hygiene, garbage collection, cleanliness and beautification of the community. It is in charge of barangay health center and day-care center; medical records, vaccination and health education campaigns. Barangay health workers play a crucial role in the delivery of basic health services to their communities (Sumaylo 2013).

<sup>41</sup>The Agriculture Committee supervises livelihood programs and activities, including fisheries. It provides agricultural support services such as a planting materials distribution system and the operation of farm produce collection and buying stations.

<sup>42</sup>The Tourism Committee is responsible for the promotion of local tourism through the establishment of all kinds of trade and industry, and is in charge of organizing local festivals.

<sup>43</sup>The Youth and Sports Committee attends to matters relative to sports and youth welfare and development.

**Table 14.1** Medical care delivery according to administrative levels in the Philippines, after the 1991 devolution

Level of government	Medical policy and facilities	Type of care
<b>Central government</b>	<ul style="list-style-type: none"> <li>– Health policy</li> <li>– Regulation and quality assurance</li> <li>– Training and medical supervision</li> <li>– Medical schools</li> <li>– Regional hospitals</li> </ul>	Tertiary care
<b>Local government units (LGUs)</b>		
Provinces	Provincial/municipal or district hospitals	Primary/Secondary care
Municipalities	Rural health units	Primary care functions <ul style="list-style-type: none"> <li>– Delivery of maternal and child health programs, nutrition programs</li> <li>– Control of communicable diseases</li> <li>– Medicine procurerment, inventory, dispensing, financing</li> </ul>
Cities	<ul style="list-style-type: none"> <li>– City health offices</li> <li>– Hospitals in highly urbanized cities</li> </ul>	Primary care/Secondary care
Barangay	Barangay health stations	Primary care

Source: Kelekar 2012

and focus on a specific issue such as violence against women and children, disaster preparedness, environmental protection (Solar 2003) or cultural affairs. In urban neighborhoods, there is indeed no need for an agriculture kagawad! The barangay council members may edict regulations as they are at the same time legislative and executive power within the barangay.

In addition, each barangay has an elected Youth Council (*Sangguniang Kabataan* or SK, mandated since 1991) directing youth-oriented activities in the barangay such as basketball teams. The SK chairperson is an associate member of the Sangguniang Barangay and is him/herself the leader of a council of seven other members (all aged 15–18 when elected). SK elective membership is usually a first step for aspiring politicians.

The *Liga ng mga Barangay* (League of Barangays), formerly Association of Barangay Captains (ABC) represents in Manila all the country's barangay, making it the largest grassroots organization in the Philippines (Table 14.1).

All services, programs, and offices within the barangay are paid from three sources of revenue. The local revenue comes from taxes on stores or retailers with fixed business establishments and yearly gross sales of P 50,000 or less in cities, and P 30,000 or less in towns and rural municipalities. The rate cannot exceed 1% percent of gross sales. Some of the income comes from fees for the use of barangay property or facilities, barangay clearances, charges for billboards, signboards, neon signs, and other outdoor advertisements, fines for the violation of barangay ordinances, road tolls, and many

others. The second source of barangay revenue is the 20% of the total Internal Revenue Allotment of the local government unit. The amount of each barangay's IRA is determined at 60% by its population and 40% through equal sharing. The third source of revenue is the Real Property Tax: 25% of a province's RPT collection go to the barangay where the property is located, and 30% of the proceeds of the city's and municipality's RPT are distributed among the barangays where the property is located (50% goes to the barangay where the property sits, the other 50% percent is distributed equally among all the barangays of the city or municipality). As in the case of provinces, cities, and municipalities, some barangays have huge IRA funds while others have barely enough for their basic services. Like all local governments, barangays do have the power to create their own sources of revenue and to levy taxes, fees, and charges.

Studies have shown a number of weaknesses in barangay governance (Balce-Oco 2004; Layug et al. 2009). There is sometimes too much dependence on IRA funds and not enough on local finance sources. Many barangay, possibly for lack of competence of its officials, or due to corruption, fail in their mission of offering basic services (health, education, waste management) to their constituents.

In order to prevent a monopoly on local power, limit the corruption of entrenched leaders (Burgos 2013; Chanco 2013; Gianan and Bongac 2013)<sup>44</sup> and promote a larger participation in the political process, barangay elective officials cannot serve for more than three consecutive terms of 3 years in the same position. Critics such as netizens or respected politicians such as former Senator Aquilino Pimentel (Pimentel 2011), the author of the Local Government Code which provided for the layer of SK in governance, reject the SK (Danao 2013) and the Sangguniang barangay elections today because they have become a breeding ground for corruption, are marred by high emotions (Villarica-Mamba 2013) and gun violence and have become very expensive to organize nationwide with controls by Comelec, the National Commission for Elections (Bacani 2013; Guanson-Apalisok 2013; Jocson-Gaudia 2014).

### 14.1.5 *Purok and Sitio*

Despite being the smallest administrative units and components of the municipalities, barangays can still further divide into *puroks* and *sitios*, mostly in rural areas. Not all barangays have puroks or sitios. If created and given a mandate by an ordinance of the barangay, municipality, or city, a purok can perform government functions with the coordination and supervision of the local officials. As an example, Batangas City (Batangas province) has 105 barangays. One of them, Bgy Bilogo, contains seven purok and three sitios.

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<sup>44</sup>There are many examples of local officials awarding maintenance contracts or fictional jobs to relatives or friends, or taking a commission on every contract. Corruption also takes the shape of vote buying for barangay elections, as the barangay chairman may for example provide financial support of 1000 pesos for a sick member of the community, expecting in return a vote in his favor under the principle of "utang na loob" (debt of the heart).

The purok is a small community, which usually consists in small (typically 20–50 families) clusters of households. A purok leader/president leads the community and is often a member of the barangay council. The purok leader has his own set of officers representing the whole purok. The purok system is supposed to generate participation and promote ownership and the sense of pride of the local citizens. It can empower people to manage programs and projects using local talents, skills, and resources. In larger puroks an election of purok kagawad reproduces the barangay system at a lower level, with possible distribution of funds from the center of the barangay. In small-size barangay, a purok leader may become one of the seven members of the barangay, or a barangay kagawad may be in charge more specifically of one specific purok in addition to its thematic attributions.

A sitio is similar to a purok, but more isolated, usually far from the center of the barangay itself and more rural, whereas puroks are closer to the center of the barangay's center and its barangay hall. The sitio has too small a population to become a barangay. A small building, called the barangay outpost, usually houses an office of the barangay within the sitio. Sitios date back to the Spanish colonization, when the colonial authorities implemented the *reduccion* policy (see Chap. 4) to regroup isolated houses around a chapel. Far-flung hamlets were named and organized in sitios for easier control and governance. The sitio, as the purok, is not a self-governing entity, contrary to the barangay<sup>45</sup>. Most public statistics are published down to the barangay level, even if one can locally (barangay level) access more detailed data on sitios and purok.

## 14.2 From Rural to Urban: Patterns of Urbanization in the Philippines

### 14.2.1 Urbanization Rates

According to the standardized data collated by the United Nations<sup>46</sup>, the archipelago was the most urbanized area of Southeast Asia (except for tiny Singapore and Brunei) after World War II, with an urbanization rate of 27.1% in 1950, much higher than in Malaysia (20.4%), Thailand (16.5%), Indonesia (12.4%) or Vietnam (11.6%). In the following decades it grew to reach 48.6% in 1990 (about even with Malaysia, 49.8%, and still much higher than Indonesia, 30.6%, Thailand, 29.4% and Vietnam, 20.3%). However, UN data curiously show a decline in the urbanization rate of the Philippines since 1990, even as other countries continue to increase

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<sup>45</sup>This hierarchical administrative structure leads to addresses such as Sitio Mambani, Barangay Cayucyucan, municipality of Mercedes, province of Camarines Norte (in the Bicol region of Luzon island, Republic of the Philippines).

<sup>46</sup>World Urbanization Prospects 2015 (<http://esa.un.org/unpd/wup/cd-rom/>). This set of data, allowing interesting comparisons between countries, is also used by the World Bank (<http://data.worldbank.org/indicator/SP.URB.TOTL.IN.ZS>).

their percentage of urban dwellers. As of 2015, the numbers are down to 44.4% in the Philippine archipelago, well below Malaysia (74.7%), and now behind Indonesia (53.7%) and Thailand (50.4%). Only Vietnam still shows a more modest urbanization rate (33.6%). Data from the Asian Development Bank show a slightly higher urbanization rate (48.9% in 2010), which has also remained stagnant since 1990 (48.6%). This is in sharp contrast with everyday impressions in a country where cities are expanding rapidly.

However, a look at the raw numbers of urban dwellers, and not at the rate of urbanization, indeed shows a rapid growth of cities: five million urban dwellers in 1950, 11.8 million in 1970, 30.1 million in 1990, and 45.2 million in 2015. In the last 25 years, the urban population has grown by half. The explanation for the apparent stall in the urbanization rate lies in a still buoyant growth of the rural population (31.8 million in 1990, 56.6 million in 2015). The rural-to-urban migration has not emptied the countryside as it has happened in other countries, which in addition have experienced an impressive slowdown of their population growth and a decline of their rural population (Thailand).

Projections for the future indicate the probable continuation of the rapid urban growth. According to the United Nations, the urban population of the Philippines may amount to 59 million by 2030 and 88 Millions in 2050. In these coming decades, the rapidly slowing growth of the rural population (68.6 million in 2030, 68.7 million in 2050) may again push the urbanization rate upwards (46.3% in 2030, 56.3% in 2050), eliminating the oddity of the 1990–2015 period.

What does the Philippine government call rural and urban? The official definition<sup>47</sup> of urban and rural is done at the barangay level.

According to these definition, 3992 barangay (13.6% of all barangay<sup>48</sup>), were classified as urban in 2010; a sharp increase from 2007 (3143, 11.5%). Their total population, in the eyes of the Philippine Statistics Authority, was 41.9 million people (45.3% of the total population). Of these barangay, 2586 had the required popu-

A barangay is classified as urban if it meets any of the following criteria:

- It has a population size of 5000 or more;
- It has at least one establishment with a minimum of 100 employees;
- It has five or more establishments with 10–99 employees, and five or more facilities within the two-kilometer radius from the barangay hall.

<sup>47</sup><https://psa.gov.ph/sites/default/files/attachments/hsd/article/Explanatory%20Text.pdf>.

<sup>48</sup>Excluding the 1705 barangay of Metro Manila, which are all ranked urban.

The following facilities were considered in the classification of a barangay into either urban or rural under criteria three: town/city hall or province capitol, church, chapel or mosque with religious service at least once a month; public plaza, park or cemetery, market place or building where trading activities are carried out at least once a week, public building like school (elementary, high school, and college), hospital, puericulture or health center, or library, landline telephone system or calling station or cellular phone signal, postal service or public fire-protection service, community waterworks system or public-street sweeper, seaport in operation

A barangay which does not satisfy any of the criteria above is classified as rural.

lation (criterion 1, housing 89.6% of the total urban population), 798 satisfied criterion 2 (6.2% of the urban population), and 608 criterion 3 (4.2% of the urban population).

The definition of “urban” has been modified since the 2000 census<sup>49</sup>, which counted 9950 urban barangay for an urbanization rate of 48%. This may also explain why the data transmitted to the UN oddly indicate a decline in the urbanization rate.

Other than Metro Manila, all cities and almost all municipalities of the Philippines still contain some rural population<sup>50</sup>. Cebu City is “only” 93.5% urban, while neighboring Mandaue has a 98.9% rate of urbanization, and Davao City still has 13.4% of its residents

<sup>49</sup>In the 2000 CPH, barangays were classified into either urban or rural by considering the street pattern, presence of facilities and amenities, population density, presence of establishments, and type of occupation engaged in by the residents. – <https://psa.gov.ph/content/philippines-urban-population-was-registered-480-percent#sthash.RxTWEK4I.dpuf>. The 1970 definition considered an area urban if: In their entirety, all cities and municipalities have a population density of at least 1000 persons per square kilometer; Poblaciones or central districts of municipalities and cities, which have a population density of at least 500 persons per square kilometer; Poblaciones or central districts (not included in the first two points), regardless of the population size that have the following: Street pattern (i.e., network of streets in either parallel or right angle orientation); At least six establishments: commercial, manufacturing, recreational and/or personal services; At least three of the following: A town hall, church or chapel with religious services at least once a month; A public plaza, park or cemetery; A market place or building where trading activities are carried out at least once a week; and A public building such as schools, hospitals, health center and library. Barangays having at least 1000 inhabitants which meet the conditions set forth above and where the occupation of the inhabitants is pre-dominantly non-fishing.

<sup>50</sup>This reminds us of the large rural/farm population of Chinese cities such as Beijing or Shanghai, leading to similar difficulties to assess the real extent of urbanization.



in rural barangays, even if this is a “highly urbanized city”. The urbanization rate of 100% can be found only in six municipalities of the country, four of them close the capital: Cainta and Taytay (Rizal), Cabuyao and Kalayaan (Laguna). The other two are Jolo (Sulu) and the surprising Talaingod (Davao del Norte)<sup>51</sup>.

The demographic and urbanization dynamics of Philippines appear to be closer to the Latin American situation than to East Asia. In the Philippines, as in Latin America, the rapid urbanization process is based on high rates of natural increase in urban populations as well as rural-urban migration.

### ***14.2.2 Migration and Urbanization***

During the Spanish colonial era, the towns set up to serve as regional centers did not grow much, due to a lack of an economic base. Substantial urban development in the provinces appeared only with the rise of commerce and commercial agriculture during the nineteenth century. Given its long history as the country’s trade center, Manila developed at a faster rate than the other cities in the country. It had achieved early predominance as a combined result of its ecclesiastical-administrative position and its role as the main entrepot in the trade of Mexican silver for Chinese goods through the galleons system. Despite the collapse of that trade, Manila retained its primate position by becoming the chief point of import and distribution for western manufacturers as well as a major collecting area for the export of agricultural commodities. With agricultural produce coming primarily from Central Luzon and manufacturing output from Calabarzon, Metro Manila continues to be the premier urban area in the country.

Three major streams of migration have been observed in the Philippines during the twentieth century (Smith 1976; Costello 1990). The first one was mostly rural-to-rural, with the movement of settlers from densely settled agricultural areas in Luzon and the Visayas (Cebu in particular) towards lightly populated, frontier, regions in the Cagayan Valley, Mindoro, Palawan and Mindanao (see Chap. 19). These migrations climaxed between 1945 and 1960. They have since been reduced to a trickle and are not statistically significant anymore. A second stream of migration was the international migration movement that has grown considerably since the start of the Overseas Foreign Workers program in the 1970s. It is especially important in Luzon. The third one is the classic rural-to-urban migration that has swelled the numbers of residents in Greater Manila and at a smaller scale in Cebu, Davao and regional centers such as Iloilo, or Cagayan de Oro, leading to the fast spread of slums (Ulack 1976). The income and employment opportunities commonly perceived to exist in cities are the top reason why migrants are willing to risk their future on such a move. With urbanization, the benefits of economies of scale can also result in more efficient and effective delivery of public services, which is an added element of attraction.

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<sup>51</sup> <https://psa.gov.ph/content/urban-barangays-philippines-based-2010-cph>.

However, since the late 1960s, urban regions, especially the Manila area, have had difficulty absorbing migrants. The population growth of cities has been faster than the creation of jobs or the construction of adequate housing, resulting in high unemployment rates, significant levels of urban poverty, the explosion of informal activities and the proliferation of slums. Philippine cities, especially Manila, are now among the most densely populated anywhere in the world (Leyco 2015). The policy response could be to slow down the rate of urbanization by improving the rural economy, as well as improving the performance of city systems.

These migrations have reduced the regional differences in densities observed earlier in agricultural areas, but at the same time they have sharpened the differences between large cities and small countryside communities. They have set the foundation for the emergence of Metropolitan Manila as a national primate city and a megacity of demographic magnitude among other urban areas in the world showing the classic urban diseconomies of air pollution, traffic jams, inadequate city services and problems with garbage or sewage disposal (Padilla 1989). The Manila urban area had 56 percent of the urban land in the country and more than 70 percent of the country's urban population in 2010. It was spatially seven times larger than the second-largest urban area, Angeles City, and ten times more populous than the second most populous urban area, Cebu (Baker et al. 2015).

The larger regional centers have grown faster than other cities, except that in recent years the growth has been mostly in their suburban peripheries, with the rise of what American researchers have called boomburbs in the US context (Lang and Simmons 2001; Lang and Lefurgy 2007). As an example, in the vicinity of Cebu, Mandau's population has jumped from 58,000 people in 1980 to 331,000 in 2010, Talisay from 69,000 to 201,000 and Lapu-Lapu from 98,000 to 350,000, while Cebu City itself has "only" increased its population by 76% (from 490,000 to 866,000) and has now much less population than its suburbs. The phenomenon is even more visible around Manila (see Chap. 16). Other cities with higher growth than average are the ones located along a major road, especially if they are also coastal cities with inter-island transportation activities at their port (Te 1983) or provincial capitals such as Lucena (Quezon).

Urban migration is related to the lack of an effective land reform program in the country. Most of the migrants reaching cities are farmers who lost their land and chose to move to the city in order to support their families. As in most countries of the world, the people most likely to move to cities from a rural background are young adults, which would theoretically lead to a higher proportion of potential parents in cities and a higher fertility rate (Jones 2005). Demographers, however, have found no conclusive evidence that the migration of individuals to cities has led to higher levels of fertility, since the number of children depends on many variables such as the family structure or the education level. In the Philippine context, migrations to big cities such as Manila or Cebu are for some the first step to a career in the case of high-mobility, high-aspirations students and young urban professionals, who tend to participate actively in urban life and may wish to postpone birth giving

to later years. The same can be said of those getting ready to move abroad as OFW. The feminization of migration may, however, increase the ratio of childbearing age women in cities and reduce it in a more masculine countryside.

The population pyramid in Philippine cities may indicate a high proportion of youth, but it is not a sure indicator of higher fertility (Hendershot 1971; Hiday 1978; Jensen and Ahlburg 2004; Gultiano and Xenos 2006). Indeed, in 1980, the total fertility rate was lower in the National Capital Region (3.54 children per woman of childbearing age) than in any other part of the country (average 4.96), with values ranging from 4.23 in region III (Central Luzon) to 6.32 in region V (Bicol) (Cabigon 1985). In 2011, as the average number of children was down to 3.1, urban households had 2.7 children and rural households 3.6. The lowest rates, without surprise, were observed in the NCR (2.5) and neighboring provinces of Central Luzon (region III, 2.8) and Calabarzon (region IV-A, 2.9), while Mimaropa and Bicol had the highest fertility rates (4.1 and 4)<sup>52</sup>.

## 14.3 From the Colonial to the Modern City: Housing Forms and Urban Landscapes

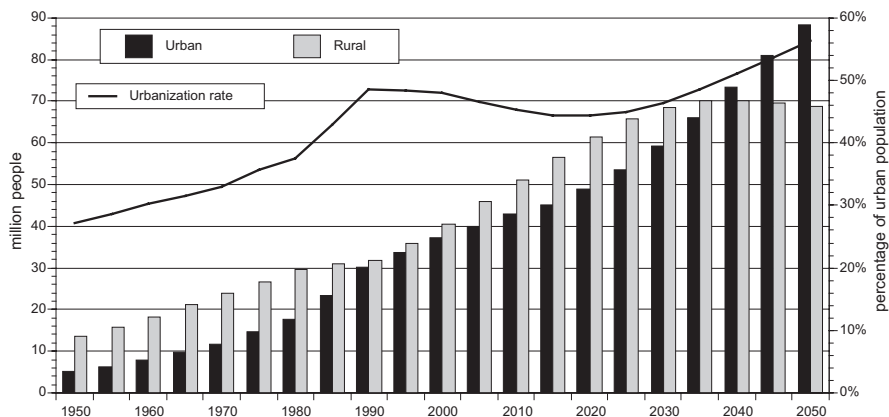
### 14.3.1 Colonial Cities from the Spanish Area

The Spanish colonization of the Philippines was accompanied by urbanization, as the colonizers tried to regroup scattered population settlements into population centers, and as shipping allowed the emergence of port cities around the archipelago. As they had done in the Americas, the Spaniards followed a set of rules edicted in Spain (Leyes de Indias, book 4) (Nuttall 1922; Stanislawski 1947; Wyrobisz 1980; Del Vas Mingo 1985) to organize the structure of urban settlements. The Philippine ordinances proposing the formation of uniform settlements as the colonization process progressed were typical of the learning accumulated since Spain began its Caribbean conquests.

*Poblacion* (population) is the term commonly used in the Philippines for the center of a municipality, which is usually the neighborhood that gives it its name and is the seat of government. The typical *poblacion* inherited from the Spanish times consists of a square *plaza* (Low 1993), a Catholic parish church, a public market, a primary and a secondary school, as well as a town hall. It is considered as the center of commerce and industry of the city or municipality. Most nearby residents in other neighborhoods flock to the *poblacion* on market days (which varies according to local ordinance established by the local government) (Fig. 14.4).

The buildings around the plaza of each *poblacion* reflected the hierarchy of status in colonial society with the church, the *convento* (priest's house) located at one of the four sides of the plaza, usually the one at a higher elevation. When the *muni-*

<sup>52</sup>National Statistics Office, 2011 Family Health Survey.



**Fig. 14.3** Urban and rural population in the Philippines, 1950–2050. Source: World Urbanization Prospects 2015



**Fig. 14.4** Church and plaza: Vigan, Ilocos Sur (April 2016)

*cipio*, or seat of civil authority (town hall) was constructed, it was usually located directly opposite the church, dominating the square. The remaining two sides of the plaza were occupied by permanent stores and the magnificent houses of the *principales*, the town’s most influential citizens. In coastal communities, the plaza was near the landing of the port, with the church clearly visible from the water. In these towns the solidly constructed stone church served as a protective building against pirates and Moro raids. The plaza was the location of almost all public affairs and of religious events not held in the church, such as religious plays.

Since Spain's colonization was political, religious, and military, town centers almost always had three main elements—the civil government, the religious center and the military fortification (Jimenez Verdejo et al. 2017), taking the shape of the *municipio*, the church and the fort. sixteenth-century settlements were always at risk of being attacked, and that is the reason why most old towns (and cities) had military forts. In Manila, Cebu and Zamboanga, the forts are still there, now as tourist attractions (Fort Santiago, Fort San Pedro, Fort Pilar). The plaza and the public market were the public spaces completing this triumvirate.

Town streets were laid out in a grid pattern centered on the plaza. As the city grew, secondary business centers and their surrounding neighborhoods were called *barrios*, a Spanish word close to the tagalog word *barangay*. Today, many towns in the Philippines, especially in Luzon, still show that pattern. Sometimes a Main Street leading to the plaza central served as a guiding element of the town's growth, as in Dagupan, Pangasinan (Dannhaeuser 2000). This was particularly the case of cities located alongside a major transport route, such as Marilao (Bulacan) or Sariaya (Tayabas, now Quezon, Province) (Chias and Abad 2012).

### 14.3.2 *Traditional Philippine Houses*

Traditional Philippine houses arose from a rural setting (Deocariza 2000; Villalon 2003). Architecture historians<sup>53</sup> have recognized two major types of traditional, vernacular (Klassen 1986), houses in the areas of larger population density, while regional and ethnic differences also allow to identify typical Batanes or Ifugao houses, for example. The two distinctive models of traditional architecture for most Filipino architects are the *bahay kubo* and the *bahay na bato* (Zialcita et al. 1980; Rodell 2002; Tettoni and Reyes 2013; Antonio 2014; Laya et al. 2014). Even modernist architects always refer to the significance of these models as the traditional architectural heritage of the Philippines, both for climatic reasons and for cultural reasons (Manahan 1978; Nierras 1978). The *bahay kubo* is the most indigenous domestic house and the *bahay na bato*, which appeared in the nineteenth century as the domicile of choice among the wealthy, is a product of the three centuries of interchange between the Filipino and Spanish peoples.

#### 14.3.2.1 *Bahay Kubo*

The *bahay kubo* (Perez et al. 1989) (literally, “cube house<sup>54</sup>” as derived from the Spanish “*cubo*”, *payag* in Cebuano language) is an indigenous, pre-Hispanic<sup>55</sup>, dwelling common in the Philippine lowlands and similar to traditional Malaysian

<sup>53</sup><http://digitaleducation.net/epa-web/philippine-architecture-forms-and-types/>.

<sup>54</sup>The word *bahay*, “house”, is quite similar to the word *buhay*, “life”, while the word *bahay-bata*, “house of child”, means “uterus” (where life begins). *Balay* is a variant of *bahay*.

<sup>55</sup>Already described by Spaniards during the Magellan expedition. “*Their houses are constructed of wood, and are built on planks and bamboo, raised high from the ground on large logs, and one*

huts and other traditional tropical houses throughout Southeast Asia. As its name suggests, the modestly sized bahay kubo is square/rectangular in form. It is traditionally a lightweight structure made of wood and bamboo, and raised on stilts or wooden posts that rise from the ground. A typical *bahay-kubo* is 80-percent to 90-percent bamboo, a plant known for its fast growth, its strength, lightness and flexibility. Concrete may also be used for the foundations of the house, to insure stability on soft grounds and so that insects are not able to eat into the house's foundations.

The basic house is very simple: usually a square or rectangular structure of thatch that encloses a single room. But it can be extended with successive additions and become large enough to sleep the patriarch and matriarch of an extended family including their children and their children's families.

The main space consists of the raised floor, which is composed of two or more rooms, according to the scale of the house. The space beneath the hut ("*silong*") is usually left open to the elements with the living area provided on the raised level. It protects the inhabitants from most of the flooding during the rainy months and from the entry of animals, and allows the use of underhouse space as a storage place or sometimes a chicken coop. The hut is covered with local materials or products such as wood, bamboo, nipa<sup>56</sup> palms, anahaw<sup>57</sup> leaves and cogon grass woven into the wood roof framing, and as such has the advantages of preventing moisture, as well as protection from mosquitoes and sudden floods due to torrential tropical rains. The open area beneath the house allows air circulation and passive cooling because the floor inside the house is made of woven bamboo slats ("*sawali*"). Air cooled under the house can come through the house, while large open windows permit more airflow if they are not closed with a framed woven mat of flattened bamboo. Proper orientation of the house towards dominant wind directions (*amihan* and *habagat*) may also be helpful when the site permits. The steeped roof of the bahay kubo allows the hot air to rise away from the house residents. Wide overhangs provide shading for the entire house, as well as its surroundings. It is also quite common to have a small porch area (*beranda*, *balkon*) on the front of the house, that serves as a foyer and helps keep the house cool thanks to the overhanging roof so that the house itself does not receive direct sun rays. A separate area is reserved for cooking (in the *kusina*, kitchen, usually with a distinct roof, or completely separated from the house to prevent fire and reduce smoke inside the dwelling). There is usually a small outhouse in the backyard. An open-air back porch (*batalan*) serves as a cleaning or washing area. The house is entered through the front porch or through the *batalan* via a removable bamboo ladder, which can double as a barrier to prevent toddlers from leaving the house (Fig. 14.5).

The social space (Boncan-Buensalido 2015) within a typical *bahay-kubo* adapts to the Filipino family values of being together and sharing their lives with one another (Flores Bonifacio 1977). Filipino families need to be surrounded by people

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*must enter them by means of ladders. They have rooms like ours; and under the house they keep their swine, goats and fowl.*" (Pigafetta 1525).

<sup>56</sup> A palm tree from the mangrove biome. *Nypa fructicans*.

<sup>57</sup> Roundleaf fountain palm, or footstool palm (*Saribus rotundifolius*); *Anahaw* or *Luyong*.



**Fig. 14.5** Bahay kubo, barangay Cayucuyan, Mercedes, Camarines Norte (July 2015)

This particular house was built in 2013 in a rural setting by a family and is expanding as the family grows with new babies. It contains all the traditional elements described in text and shows that old housing forms and traditions can still be preserved if there is a will to do it

all the time regardless of all the chaos. Comforting moments in childhood make many Filipinos afraid of being alone, since they grew up in a very social house where they played under the supervision of their *lolas* (grandmothers) (Costello 1994) and *titas* (aunts) cooking, singing, playing cards or gossiping. The idea of family as a single unit dictates that the common spaces of the house are the most important ones. Unlike the western concept of space where each space is assigned a function—sleeping, dining, cooking, etc, Filipino house space (Hila et al. 1992) is open and multi-functional. A regular bedroom is unknown in the rural areas. The central multi-purpose *bulwagan* (hall) serves as dining, work and play area during the day, and at night sleeping mats are rolled out for the family to sleep together in the room. Turning one's back on the central shared space of the room creates privacy: walls are not necessary for privacy.

Filipinos love to entertain and have friends and extended families over, thus spaces have to be designed to accommodate large or small groups, and spaces have to be able to open up to each other. The *bulwagan* opens up to the front porch, about 15 cm lower (1 step) than the floor of the *bulwagan* and overlooking the garden or an outdoor patio. In a traditional *bahay-kubo* community, Filipinos share their big common space with their neighbors, opening the house not only to their family but also to the community, for eating, drinking, singing karaoke...until late in the evening. These activities take place on the *balkon*, whose windows are wider and often decorated with elaborate latticework.

House forms and materials vary, depending on the local terrain and climate. In areas frequently ravaged by typhoons, such as Bicol, houses tend to be low and squat, elevated by about half a meter. Where heat and humidity are more oppressive, as in the Tagalog country near Manila, houses tend to be taller, with the floor about 2–3 m above the ground in flood-prone areas, and more spacious.

The construction of the bahay kubo is based solely on the local conditions, and a true and strong domestic touch can be seen in the bahay kubo, which has attracted the attention of modernists due to its good adaptation to the tropical weather (Gavieta 1991) and the use of local materials, making it an environmentally friendly house, quite in touch with preoccupations of sustainable development. It can be easily repaired or rebuilt after the frequent typhoon, flood or earthquake using simple tools and native materials. The contemporary *bahay kubo* may use more modern materials that are still sustainable and environment-friendly.

These traditional Filipino houses are still built today in rural areas by family members and friends/neighbors in a matter of a few days. The simple and light structure of this hut enables a group of residents to move to a location that is more beneficial.

Usually owned by peasant families and other low-income groups, the bahay kubo houses, lining the coasts and riverbanks, strung alongside the roads or clustered in fields or under coconut groves, represent an ideal of peace and prosperity in the middle of the fields. The typical bahay kubo is surrounded by a garden area where the families, urban (in the old times) or rural (up until now), grow a variety of plants to insure a diversified diet and an immediate supply for daily needs. Chicken, sometimes goats and pigs, are also raised around the house. There is a traditional song, entitled “Bahay Kubo”, to motivate poor households to grow a diversity of vegetables and proteins around their houses. This favorite children song starts with the following words: “*Bahay-kubo, kahit munti, ang halaman doon ay sari-sari*”. [My nipa hut, although very small, the plants that grow there are diverse]<sup>58</sup>.

### 14.3.2.2 Bahay na Bato

When the Spaniards arrived in Manila in 1571, they built their first houses in the local manner. But after several fires, they used volcanic tuff quarried from cliffs in nearby Makati to build adobe buildings, such as churches, government facilities, and houses as they had done in Mexico. However, they quickly learned that stone buildings didn't last very long in an earthquake-prone country. Many of these structures suffered earthquake damage, or sometimes collapsed entirely, as happened in 1645. The Spanish dwellers then tried to adapt their buildings to the

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<sup>58</sup>It continues with an enumeration of the plants found around the house : *sinkamas at talong – sigarilyas at mani – sitaw, bataw, patani – kundol, patola, upo't kalabasa – at saka mayroon pang labanos, mustasa – sibuyas, kamatis, bawang at luya – at paligid-ligid ay puno ng linga* [turnips and eggplants – winged beans and peanuts – string bean, hyacinth beans, lima beans – white melon, gourd, white pumpkin and squash – and there is also radish, mustard – onions, tomatoes, garlic, and ginger – and all around are lush sesame plants].



natural conditions of the Philippines: houses requiring both thermal comfort and structural stability. Little by little, under the triple influence—technical and stylistic—of the local *bahay kubo*, the Spanish experience of stone houses and Chinese merchants bringing techniques from their country, a new Filipino style of house construction emerged, with tiled roofs, balconies, iron grilles and most of all a structural design adapted to the climate and earthquakes.

As towns and plantations grew, more substantial homes were built by the rising Spanish and mestizo upper-class of *principalia* and later *ilustrados* educated in Spain. The *bahay na bato*, "house of stone"<sup>59</sup> served as the model for townhouses from the nineteenth century (Luga 2014) until World War II and for many is considered the quintessential Filipino urban house. It refers to a rectangular detached house that is composed of a stone-walled ground floor and a wood-structured upper floor<sup>60</sup>. The entire house was supported by wooden pillars (*haligi*), following the local tradition of wooden frame structures, allowing the building to sway in earthquakes without collapsing beyond repair. The exterior walls were made of stone, but not carrying the whole weight (Huetz de Lempis 1998). Curved tiles, of inspiration both Chinese and Mediterranean, provided fireproof roofing. However, many people still opted for thick hatch, more combustible but with no risk of damage from collapse in violent storms or seismic events. The wooden upper story had *balcones voladizos* (balconies) projecting over the street, closed with latticework shutters with panes made out of capiz shell.

The composite structure of the *bahay na bato* has an advantage in earthquake conditions due to the light structure of the upper floor. The use of brick and stone is limited to the lower level. The living quarters are on the upper floor, which contains the primary central space of the house.

The *zaguán*, from an Arabic term meaning "passageway", was the ground floor space of the *bahay na bato*, normally having several rooms which served as storage for carriages (*carrozas*), grain storage rooms (*bodegas*), old furniture, and the saints floats used during religious festivals. Protected from intruders by massive iron grilles (*barrigones*), it opened to the street through a huge wooden entrance door. Sometimes it had an *entresuelo* (mezzanine) for offices and servants' quarters. Horse stables (*cuadra* or *caballeriza*) were located outside of the house itself.

A majestic two-flight staircase led from the *zaguán* to the upper story of the house, first to the *caída* (receiving hall, equivalent to the *beranda* of the *bahay kubo*) then to the *sala*, main room of the house (equivalent of the *bulwagan*), which was followed by the *comedor* (dining room), with the kitchen and small bedrooms in the back. A raised stone porch with ceramic canisters, the *azotea*, connected the kitchen to the toilets and the bathrooms. It stood either near a well (*balón*) or a cistern (*aljibe*) and was used for many domestic tasks: food preparation, laundry, cultivating potted plants useful for cooking and healing. Its multipurpose character of the common rooms was another carry-over from the modest bamboo hut to the splendid

<sup>59</sup>Also known as *bahay kastila* (Spanish house) and *bahay na tisa* or *balay tisa* (house of tile) (Zialcita et al. 1980).

<sup>60</sup>"Bahay na bato" suggests an all-stone house, which it is not. "Bahay na bato at kahoy" or the "wood-and-stone house" would be more accurate.



**Fig. 14.6** Syquia Mansion, former house of President Elpidio Quirino in Vigan, Ilocos Sur (April 2016) The lower-level stone structure is clearly visible, as is the upper level lighter wood frame. The windows on the upper level give to the volador running on the entire side of the main room. The largest lower opening is the zaguan. The house contains an inner garden on the top level. An exterior air conditioning unit is a recent concession to “modernity”. As the home a former president, this house is now a museum within a city which is also a UNESCO heritage town

wood-and-stone house. While there are some obvious differences, the fundamental concepts of the *bahay kubo* (simple plan, raised house, light upper floor construction, *sala*) remained visible in the *bahay na bato* structure (Fig. 14.6).

With the upper exterior walls being non-load bearing and lightly constructed, tall and wide wall openings (sometimes more than 50% of the wall surface area) for maximum daylight and cross-ventilation are possible. Such openings are generally composed of an upper part, which is a window with translucent *capiz* (oyster) shells that allows sun light to enter the rooms, and a lower part, which runs from under the windowsills to the ground and is called the “*ventanillas*” (ventilation slits with sliding panels). The *ventanillas* are screened with balusters or grillwork and can be left opened when the large windows are closed such as at night. The *capiz* panels slide wholly into recesses in the walls for maximum ventilation, while the wood jalousies can be adjusted to block the harsh sun. In inclement weather, or for privacy, the sliding *capiz* panels can be completely shut while still permitting daylight into the house. This composite opening is quite unique to the Spanish-Filipino house. In some houses, *voladas* (*galerias voladas*, *corredores*, enclosed wraparound balconies designed for servants to circulate from room to room without disturbing the masters) allowed air to circulate around, and cool, the house. If the *voladas* were larger, women could “*pasear*” (walk around the house while chatting.) These houses with efficient passive cooling system have been described as “*ma-aliwalas*,” which

indicates lightness, translucence, efficient ventilation, spaciousness without extensive physical space. As the *bahay kubo*, they were a practical response to the two-season tropical climate of searing heat of the sun, humidity, rain, occasional typhoons, hurricanes and seasonal floods.

These Spanish-Filipino homes, those of the *principalia*, had esthetic outside additions such as iron grillwork and occasionally terra cotta tiled roofs. A *bahay na bato* was filled with fine furniture and objects to showcase the owner's wealth, personal style, and status in society. Most surviving examples of the *bahay na bato* date back only to the nineteenth and early twentieth centuries, although the form started to develop during the seventeenth century. A heritage preservation movement has led to special efforts to protect them in places like Vigan, Cebu or the Metro Manila area.

The *bahay na bato* as a house form began to decline in the 1930s. But its influence persists to this day. Many urban and rural houses have a ground floor with hollow block walls and an overhanging upper floor of wood. The space beneath the windows in many houses from the 1950s to the present continues to be differentiated from the adjacent wall surface by a frame (and can be used for a *sari-sari* store, which could be considered as a function reminiscent of the storage areas of earlier times).

### 14.3.3 New Urban Landscapes

#### 14.3.3.1 The Decline of the Traditional Urban Landscapes

The development of international trade during the second half of the nineteenth century led to an increase in Manila's population. To house this growing population, existing *bahay na bato* were subdivided to house many tenants. In commercial districts where the *bahay* had an *entresuelo* (mezzanine), that area was rented out to tenants.

Many of the old wooden houses that lined the streets especially in out-of-the-way provincial towns are now disappearing, victims of changing family fortunes and the ravages of nature and time, sometimes from road-widening projects in congested small town centers (Oiga 2015). In their places, new houses are being built of concrete, cinder block and stucco. Roofs thatched with nipa palm or cogon grass are replaced by contemporary materials such as galvanized iron, cheaper but much less comfortable in the tropical climate, and fragile in the midst of typhoon winds ripping away the whole roof. These new houses are not safe from floods, they are oven-hot in the summer and heavy rains deafen the residents as they drum on the thin metallic roof. The dwindling use of wood in construction can be blamed in part on the massive deforestation, but also to an architectural shift toward western influences, both European and American. As in other Southeast Asian countries, "*the hold of modernity as an image for the elites and developers of postwar cities was such that considerations of local identity or regionalism were swept aside*" (Askew and Logan 1994, p 7).

The *bahay na bato* could be a source of identity and pride among Filipinos (Ogura et al. 2002), but instead of continuing with the construction of houses in this tradition, which is perfectly suited to the tropics, they now mostly prefer the "modern Asian" or Japanese style. The fine cultural fusion that is the *bahay na bato* is now consigned to the status of a museum artifact: in the 1980's, First Lady Imelda Marcos had a replica of these houses, the Casa Manila (Valencia 2003), built in Intramuros near San Agustin Church to serve as a tourist attraction. Like endangered species, the wood and stone houses that once embodied the character of the urban landscape and the heart of Filipino life are vanishing toward extinction. Many town entrances look now have cluttered strip malls and subdivisions provide homes without character or sensitivity to the local climate.

The colonial era plaza complexes are remodeled to fit the wishes of commercial establishments and also slowly lose their identity despite efforts to preserve the historical heritage they represent (Matejowsky 2000a, b; Juanico 2013), while the development of automotive traffic has made many town centers quite unpleasant for pedestrians. Calls for pedestrianization have not received much attention from local authorities (Cabraza 2014).

#### 14.3.3.2 The New City: Verticalization and Suburban Sprawl

New architectural styles appeared during the American period and continued well after the Philippine independence: multi-story, multi-units apartment buildings 2-level rowhouses (*acesoria*), mostly for rent to lower middle classes, and single family chalet housing style for purchase. New materials such as reinforced concrete were introduced. Most cities remained small until after World War II, but the subsequent high population growth and the following rural-urban migrations led to a rapid rise in the rate of urbanization, as well as urban sprawl.

In the 1970s the now quite popular condominiums<sup>61</sup> (*condos*) started to appear in Manila then in the larger provincial cities (Feliciano 1991). The growing economy and the increased buying power of the growing population is cited as one of the major factors influencing the development and proliferation of condominiums. They are high-rise apartment buildings with central service cores for elevators and stairways. Units are designed for compact living and are much smaller than traditional houses. This lack of space is usually compensated by the many amenities (air-conditioning, communications equipment, well-equipped kitchens, easy access to business and commercial areas). Condominium units range from small one-room studios to units with a living room, a dining room, and several bedrooms. Condominium units can also used as business offices, and may be owned by corporations rather than by individuals or families. Ownership of a condominium unit means ownership of the residential or office unit itself, and also of a portion of the common spaces (underground parking space, rooftop laundry area, and more recently leisure facilities such as fitness clubs). The growing economy and the increased buying power of the middle-class (young professionals working in the BPO industry, returning

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<sup>61</sup> from Latin "cum," with, and "dominium," ownership.

Filipino expatriates) is cited as one of the major factors fueling the contemporary boom of condominiums and the rapid verticalization of the urban landscape in Metro Manila. A variation on the concept is the *condotel*: it is a condominium project operated as a commercial hotel even though the units are individually owned. Unlike simple condominiums used as they want by owners, hotel-condo units are both investment and residential units. Owners can invest in real estate while having access to hotel amenities (concierge, restaurant, business center, gym, entertainment venue, hotel lobby, front desk, security, room service, swimming pool and spa). The targeted market is people who work abroad and occasionally come home for a month long vacation or less. As the units are rented out, the owners receive a portion of the income.

Today's trend in urban living is centered on commercialization. The 1990s saw the general development of shopping malls, first in the Manila area, then in other urban areas in the provinces, as well as the rise of business districts separate from the traditional urban centers. The current trend is the development of private self-enclosed cities, "townships", including shopping malls, offices, residential apartments and hotels to maximize the value of the properties. For example, the SM Group is building "micro cities" around its shopping malls, and at least fifteen of the SM shopping malls are on large tracts of land that can accommodate high-density and mixed-used developments. Other major real estate players such as Ayala, Megaworld, Vista Land, DMCI and Rockwell have similar strategies.

The physical form of suburbanization in the Philippines borrows both from the United States model of suburban sprawl (Jones 2002) with gated communities for the well-to-do, complete with golf courses, as can be seen on aerial pictures and satellite imagery of Laguna and Cavite provinces, for example, and the Southeast Asian "desakota" model where rice fields are mixed with expanding industrial estates in a complex transformation of land uses (McGee 1991; Ocampo 1995) (see Chap. 16 on the growth of Manila). This trend accelerated in the 1990s when the Ramos administration developed industrial zones in unproductive agricultural areas as both an employment creation strategy and an urban development policy. This led to a frenetic movement of land use conversion from agricultural uses to non-agricultural uses around Manila and other major cities of the country (Malaque and Yokohari 2007).

### 14.3.3.3 Substandard Housing: Slums in the Philippines

The less fortunate (Takahashi 2009) have moved to the cities, where they live in urban versions of the *bahay kubo*, temporary shanties constructed of whatever material they have salvaged (Landa Jocano 1975; Ballesteros 2010; Alcazaren 2011). There is no single specific term to name slums or shanties in tagalog (Ragragio 2003), but the vocabulary, as it is in Latin America and other countries is quite rich to describe these poor dwellings: informal settlements (Shatkin 2004),

*barong-barong*, *dampa*<sup>62</sup>, *estero*<sup>63</sup>, *iskwater*<sup>64</sup>, *eskinitas*<sup>65</sup>, *looban*<sup>66</sup>,... Squatter shanties are built on whatever land the landless poor, generally migrants from the countryside (Costello 1987) who come to the urban areas in search of jobs and a better life, can occupy on public land or idle private properties. The number of dwellings in such settlement ranges from less than ten to several hundreds. In larger settlements, houses are built close together along narrow alleys or around a common space. In villages built on mud-flats or swamps, houses are connected by plank bridges.

*Barong-barong* houses are self-constructed with diverse materials: homemade bricks, cinder blocks, metal plates, scavenged materials, cardboard, plywood, plastic rice sacks. The one-slope roof, is made of scrap corrugated galvanized-iron sheets, flattened biscuit tins, metal sheets from billboards, scrap plywood, plastic sheets secured with fishnets, cardboard covered with plastic sheets, canvas, old mats, linoleum, or nipa. The ceiling, which serves as insulation, is in plywood, styrofoam or plastic sheets. Since roofs (Poethig 1971) are often made of materials that cannot be nailed on, they are held down by improvised weights: rocks, concrete hollow blocks, discarded battery casings, rubber tires, bicycle wheels, upholstery springs, wooden blocks, and plastic jugs. The floor may be the ground itself, sometimes covered with plastic sheets, or an existing pavement. The minimal floor area (often less than 30 m<sup>2</sup>) of the *barong-barong* is matched by its low ceiling. Shanty houses may have only one small window, the house inside being lit by a single flickering light bulb. The prized possession of an electric fan adds some thermal comfort to these hot and damp houses. Only 69% of the households in the country's poorest provinces own a toilet, while 24% share. The remaining 7% have no toilet facilities at all. Most of these toilets have no flush, they are *de buhos* (in need of manual flushing), and a majority of households get their drinking water from pump wells, with 70% doing nothing to make their water safe (Rodriguez 2015). Many people live in at-risk areas near streams overflowing in time of heavy rains (Zoleta-Nantes 2000; Nagai 2012), or in the vicinity of garbage heaps with the danger of landslides (Gaillard and Cadag 2009). Flooding has often been linked with the obstruction of water flow by makeshift dwellings located on rivers and esteros, and their use as trash disposal facilities, leading to some demonization of the poor as guilty of endangering the whole population by neglectful, even criminal, behavior, and proposals to forcefully eradicate these dwellings (Bankoff 2003).

*Barong-barong* sites include bay shores, riverbanks, esteros, strips along railroad tracks, garbage dumps (the infamous Smokey Mountain in Tondo, Manila, or

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<sup>62</sup> Small hut.

<sup>63</sup> For the dwellings located alongside the creeks of a city, narrower than sewers and associated with bad smell.

<sup>64</sup> Tagalog version of squatter referring to a physically disorganised collection of shelters made of light and often visually unappealing materials where poor people reside. Squatter is also in relation with the legal precarity of the dwelling.

<sup>65</sup> Narrow alleys (word of Spanish origin, “esquina” = “corner”) where two people cannot cross each other.

<sup>66</sup> Inner courtyard shanties, invisible from the street (from the tagalog loob, “inside”).

Payatas in Quezon City), abandoned buildings, spaces along high masonry walls, cemeteries, under bridges, and any vacant lot. *Barong-barong* sites are generally near the places of livelihood, and local activities have emerged: planting vegetables, raising animals (chicken, goats, pigs), driving pedicabs or tricycle, small business such as *sari-sari* stores and repair shops, scavenging and recycling from trash heaps (Keyes 1974). The slum areas have also seen the development of strong local organizations (Nakanishi 2006) to defend the rights of settlers and undertake collective actions for property rights.

Not all slum dwellers are “poor” (Laquian 1975; Ulack 1978; Nakanishi 2006). It is estimated than half of them are above the poverty level line (Ambanta 2014). They stay in slums because the real estate industry has mostly focused on the upper middle class and not built enough housing (Ballesteros 2003, 2009; Garcia 2014; Avecilla 2015) for the urban working class, even as the up-market is overbuilt (Olchondra 2012). The government housing policy has focused too much on financing the acquisition of property and not enough on providing dwelling units (Monsod 2011).

The rise in urban land values associated with globalization makes difficult to justify, on an economic standpoint, the use of prime urban land for cheap low-quality accommodation. As in many other Asian cities, this has led to processes of evictions of squatters and conflicts (Korff 1996; Lagman 2012) between the poor and the global classes. Beautification projects and shopping mall or CBD projects have disrupted the lives of the poor, leading to resettlement in distant locales (Oliver-Smith 1991; Rüland 1982; Starke 1996; Yamamoto 1996; Zoleta-Nantes 2006), where the displaced people have no job opportunities. As recommended by social scientists (Guerrero 1977) and pro-poor advocates, the trend seems now to be in favor of resettlement near the former living area or even on-site through mixed-class housing projects if the real estate sector can agree to set aside about 30% of dwellings for social housing and if the government provides adequate financing (Llanto 2007) to the poor for moving into decent housing. The securization of tenure for the poor, which includes ownership through formal land titles, as well as a feeling of safety and the availability of jobs, is indeed a politically charged question (Porio 2002; Porio and Crisol 2004).

## 14.4 Regional Disparities and Hierarchies

Inequality remains high in the Philippines. Eleven Filipino business leaders are listed on the Forbes magazine ranking of the world’s billionaires, while many Filipinos do not eat adequately and cannot get decent medical treatment. Corruption and educational level disparities are the cause. This inequality has also a spatial aspect, with startling differences between the different parts of the country, in terms of economic activity, income and poverty. Socio-economic indicators vary significantly across regions. The provincial Human Development Index ranges from to 0.883 in Benguet (comparable to Germany) to 0.276 in Sulu (comparable to the poor African country of Mozambique)<sup>67</sup>.

<sup>67</sup> 2009 data – Source : <http://hdn.org.ph/wp-content/uploads/2009/05/chapter-3-provinces-and-human-development.pdf>.

Economic development in the Philippines remains very geographically uneven, as is the case in most developing countries. On barely 0.2% of the country's area, the National Capital Area (Metro Manila) produced in 2014 more than a third of the country's added value. In terms of average per capita GDP, Metro Manila's residents are more than ten times richer than in the poorest regions of the country<sup>68</sup>. Despite its many slums, the National Capital Region has much less poverty than most other parts of the country.

#### ***14.4.1 Disparities in the Economic Development and Weight of Philippine Regions, Provinces and Cities***

Regional data from the Philippine Statistics Authority reflect vividly the sharp differences in economic power of the different regions. The National Capital Region is home of 12.8% of the nation's population in 2014 and its share of the national GDP is 37%. Adjacent regions to the north (III, Central Luzon) and the south (IV-A, Calabarzon) add up to give this central area of the country almost two-thirds of its created wealth (Balisacan and Hill 2006). Manila's economic power within the Philippines (Lambino 2010) is evident from many data. Manufacturing jobs, especially those in the larger (and more highly paying) companies have clustered around the Metropolitan Manila region. Professional, administrative and clerical workers are also overrepresented in this most economically developed area of the country (Table 14.2).

Ten of the twelve richest cities in the country (total income in 2014) are located in the Manila metropolitan region and four other in the top 50. There are also 20 cities or municipalities of Calabarzon (Calamba, Santa Rosa, Biñan and Cabuyao in Laguna province, Antipolo and Cainta in Rizal, Batangas and Lipa and Tanauan in Batangas, Dasmariñas, Bacoor, Imus and Tagaytay in Cavite) or Central Luzon (Angeles City and San Fernando in Pampanga, Olongapo in Zambales, Cabanatuan in Nueva Ecija, Tarlac in Tarlac, San Jose del Monte and Meicauayan in Bulacan) in the top 50. They total 34 of the 50 richest municipalities in the country (Fig. 14.7).

The main centers of wealth production away from Manila are in Cebu (and its adjacent metropolitan cities of Mandaue and Lapu-Lapu) and Mindanao (Davao with suburban Digos and Tagum, as well as Zamboanga, Cagayan de Oro, General Santos and Butuan). Other than Cebu, two cities emerge as dynamic regional centers in the Visayas (Iloilo, Bacolod). In northern Luzon, only Baguio emerges in the top 50 cities, while in Bicol, Naga and Legazpi miss the top 50 by a few places; so do Lucena (Quezon) and Tacloban (Leyte), which is clearly the leading city of the eastern Visayas.

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<sup>68</sup>In the United States, the per capita GDP difference between the least productive (Mississippi) and most productive (Delaware) state is a little more than two-fold: \$ 28,944 to \$ 61,183, with the District of Columbia peaking at \$ 145,663 (5 times the level of Mississippi) in 2012.



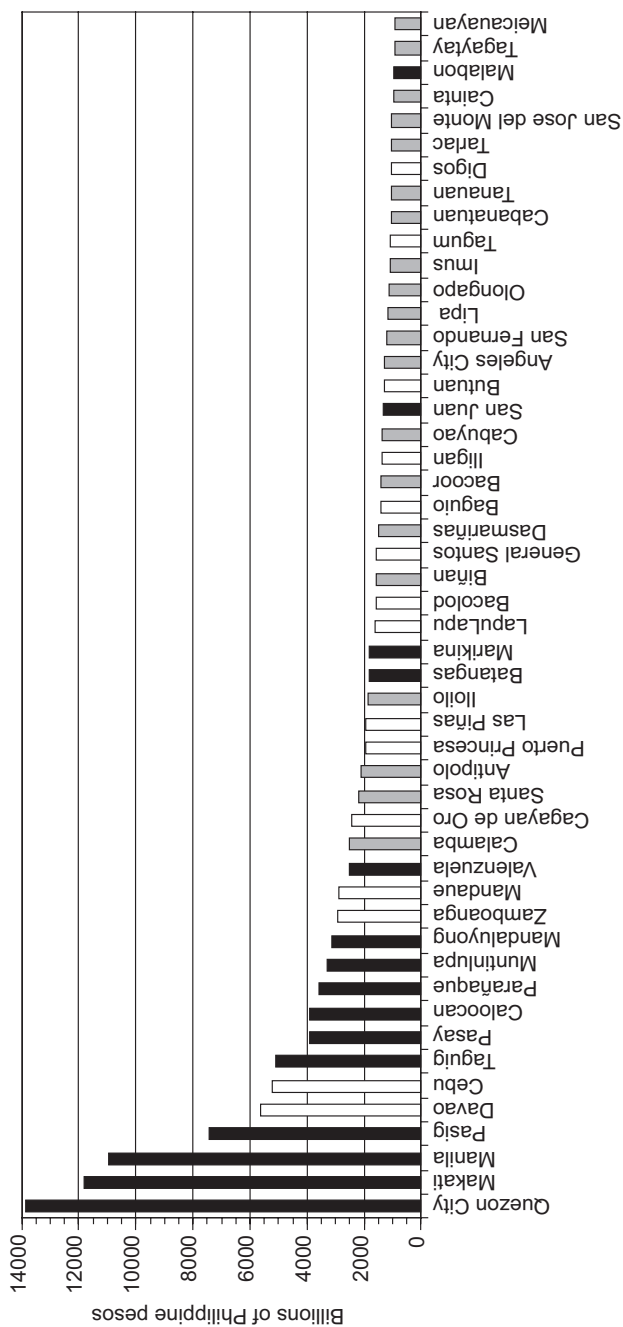
**Table 14.2** Total value added by Regions, in 2014

Region	Share of country's area (%)	Share of country's population (%)	Billions of pesos	Share of national total (%)	Cumulative share (%)
NCR (National Capital Area)	0.2	12.8	4679.8	37.0	37.0
IV-A (Calabarzon)	5.4	14.2	2014.9	15.9	53.0
III (Central Luzon)	7.2	11.0	1147.5	9.1	62.0
VII (Central Visayas)	5.0	7.3	831.8	6.6	68.6
XI (Davao Region)	6.7	4.8	519.1	4.1	72.7
VI (Western Visayas)	6.7	7.5	502.8	4.0	76.7
X (Northern Mindanao)	5.7	4.7	485.7	3.8	80.5
I (Ilocos)	4.3	5.0	390.5	3.1	83.6
XII (Soccsksargen)	6.1	4.5	351.4	2.8	86.4
V (Bicol)	5.9	5.8	264.5	2.1	88.5
VIII (Eastern Visayas)	7.1	4.3	258.7	2.0	90.5
IX (Zamboanga Peninsula)	4.9	3.7	257.1	2.0	92.6
II (Cagayan Valley)	8.9	3.4	234.3	1.9	94.4
CAR (Cordillera Administrative Region)	6.1	1.7	230.7	1.8	96.3
IV-B (Mimaropa)	9.1	2.9	212.2	1.7	97.9
XIII (Caraga)	6.3	2.6	155.3	1.2	99.2
ARMM (Autonomous Region in Muslim Mindanao)	4.2	3.5	106.4	0.8	100.0
Total	100	100	12642.7	100	100

Source: Philippines Statistical Authority

In terms of value added by capita and per square kilometer (Table 14.3), contrasts are also enormous. The NCR's GDP per capita is 12 times higher than in Muslim Mindanao and eight times more than in Bicol, while the economic intensity as measured by the value added per unit of land is exceptionally high in Metro Manila, while only Calabarzon, Central Luzon and the central Visayas (mostly thanks to Cebu) are above the national average. There is clearly a major economic gap between an extended Greater Manila, and secondarily the Cebu area, and the rest of the country. The regional economies have their specificities, as indicated by Table 14.4 and Fig. 14.3.

As expected, the NCR has very little agriculture in its GDP and is heavily dominated by the service sector (82.1% vs. a national average of 57.3% attained by no other region in the country). Farming (11.3% of national GDP in 2014) is the dominant regional activity only in the ARMM of southwest Mindanao (63.5%) but comes close to the service sector in the Cagayan valley of northern Luzon (41.4% of



**Fig. 14.7** Top 50 cities in the Philippines by total income in 2014. Source: Republic of the Philippines Commission on Audit, <http://www.coa.gov.ph/index.php/local-government-units/2014>. Cities of Metro Manila (NCT) in black, cities in regions III (Central Luzon) and IV-A (Calabarzon) in grey, other cities in white

**Table 14.3** Value added per capita and per square kilometer

Region	Value added per capita (pesos)	Region	Value added per square kilometer (thousands of pesos)
NCR (National Capital Area)	365640	NCR (National Capital Area)	7358.2
IV-A (Calabarzon)	141894	IV-A (Calabarzon)	124.2
CAR (Cordillera Administrative Region)	132589	VII (Central Visayas)	55.5
Average Philippines	126579	III (Central Luzon)	53.4
VII (Central Visayas)	113391	Average Philippines	42.1
XI (Davao Region)	107468	I (Ilocos)	30.4
X (Northern Mindanao)	104251	X (Northern Mindanao)	28.4
III (Central Luzon)	104077	XI (Davao Region)	25.6
I (Ilocos)	77931	VI (Western Visayas)	24.9
XII (Soccsksargen)	77665	XII (Soccsksargen)	19.1
IV-B (Mimaropa)	72036	IX (Zamboanga Peninsula)	17.4
IX (Zamboanga Peninsula)	70082	V (Bicol)	15.0
II (Cagayan Valley)	68313	CAR (Cordillera Administrative Region)	12.6
VI (Western Visayas)	66755	VIII (Eastern Visayas)	12.1
XIII (Caraga)	59937	II (Cagayan Valley)	8.7
VIII (Eastern Visayas)	59659	ARMM (Autonomous Region in Muslim Mindanao)	8.4
V (Bicol)	45800	XIII (Caraga)	8.2
ARMM (Autonomous Region in Muslim Mindanao)	30599	IV-B (Mimaropa)	7.7

Source: Philippine Statistics Authority

regional GDP) and Soccsksargen (33%). It is also superior in the share of mining and manufacturing in Bicol and the Western Visayas. The industrial sector is leader in Calabarzon (60.7%) and Central Luzon (42%), since peri-metropolitan Manila is the favored locale of manufacturing investment by multinational corporations, thanks to the proximity of major airports (NAIA and Clark) and ports (Manila, Batangas, Subic Bay). The top ranking of industry and mining in the Cordillera region may be linked to the weakness of the agricultural sector and the presence of mining operations, in a poorly settled region, rather than to the presence of large industrial estates (Fig. 14.8).

If the ARMM is the most agricultural region of the Philippines, two of the top regions for the added value of agriculture in the country are in fact the ones near Manila. Central Luzon (14.5% of the national agricultural product) and Calabarzon are not only major rice and coconut producing areas, but they also provide high quality high value products to the capital region, including through their fisheries and aqua-

**Table 14.4** Structure of regional GDPs

Region	Agriculture, forestry and fisheries (%)	Industry and mining (%)	Services (%)
NCR (National Capital Area)	0.2	17.7	<b>82.1</b>
CAR (Cordillera Administrative Region)	11.0	<b>50.2</b>	38.9
I (Ilocos)	24.5	26.6	<b>48.9</b>
II (Cagayan Valley)	41.4	14.1	<b>44.5</b>
III (Central Luzon)	18.0	<b>42.0</b>	40.0
IV-A (Calabarzon)	5.9	<b>60.7</b>	33.4
IV-B (Mimaropa)	26.5	34.5	<b>39.0</b>
V (Bicol)	26.7	20.5	<b>52.8</b>
VI (Western Visayas)	25.2	19.7	<b>55.2</b>
VII (Central Visayas)	6.8	37.3	<b>55.9</b>
VIII (Eastern Visayas)	21.0	38.9	<b>40.1</b>
IX (Zamboanga Peninsula)	24.7	32.0	<b>43.3</b>
X (Northern Mindanao)	25.2	32.2	<b>42.8</b>
XI (Davao Region)	20.1	29.1	<b>50.8</b>
XII (Soccsksargen)	33.0	30.0	<b>37.0</b>
XIII (Caraga)	23.7	28.7	<b>47.7</b>
ARMM (Autonomous Region in Muslim Mindanao)	<b>63.5</b>	5.9	30.6
Philippines	11.3	31.4	<b>57.3</b>

Source: Philippine Statistics Authority

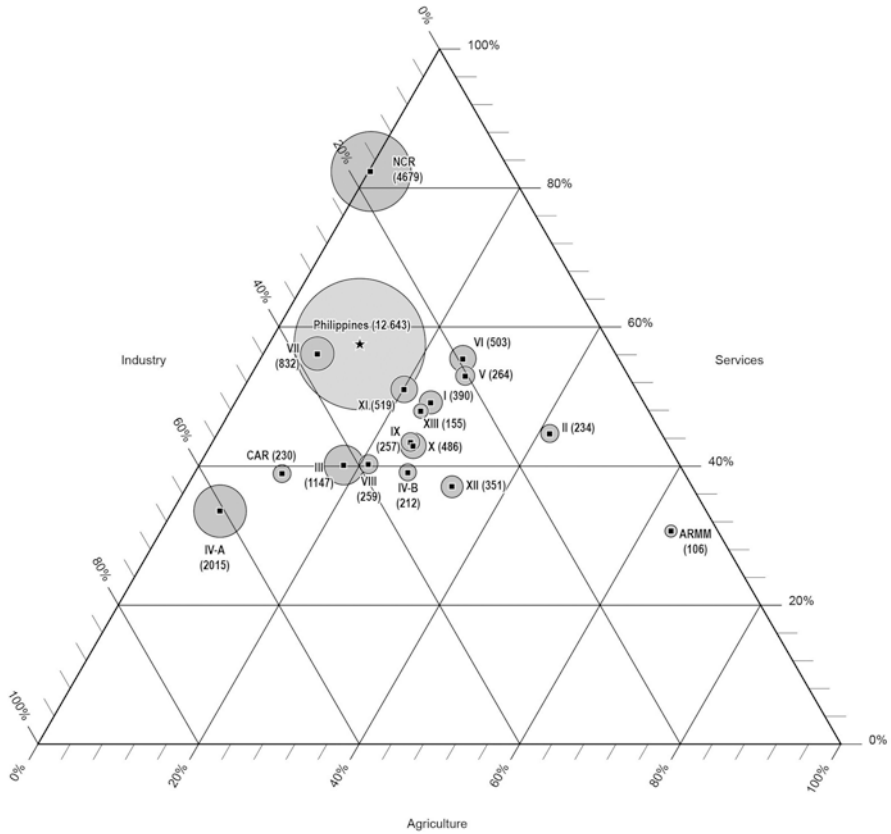
culture (Pampanga delta and Laguna Lake). Other regions of importance for national agriculture are in the Western Visayas (sugarcane), the Cagayan Valley (rice), as well as Soccsksargen and Northern Mindanao (pineapple and banana plantations).

Manufacturing is heavily concentrated around Manila. The NCR and regions III and IV-A provide 74% of the national manufacturing product, leaving far behind the central Visayas (Cebu, less than 7%). The ratio of domination is comparable in the services sector, including the financial sector (68.6% for services and 69.3% for financial services in NCR + III + IV-A, vs. 6.4% and 7% for the central Visayas). The other parts of the country barely register in the manufacturing and services sectors, even if they appear as having some weight in the local economic structure.

All these data indicate a heavy dominance of the Mega Manila area, and a second pole of wealth, much smaller, in the central Visayas around Cebu.

This top-heavy structure where most of the wealth concentrates in one major metropolis, leaving little to the rest, is not unique to the Philippines. Other well-known examples of macrocephaly of the primate city are Bangkok in Thailand, Paris in France, Tehran in Iran, Buenos Aires in Argentina, just to name a few (Table 14.5).

Manufacturing jobs, especially those in the larger (and more highly paying) companies have clustered around the Metropolitan Manila region. Professional, administrative and clerical workers are also overrepresented in this most economically developed area of the country.



**Fig. 14.8** Structure of regional GDPs. Source: Philippine Statistics Authority  
 This graph shows clearly the dominance and specificity of Manila’s NCR (services), as well as Calabarzon/IV-A (industries) and the ARMM (agriculture). The region with the economic structure closest to the country as a whole is region VII (Central Visayas, around Cebu)

It can be easily explained by several mutually reinforcing factors: Metro Manila, as the main transportation and communication hub of the country (see Chap. 15 on transportation, especially the aviation section) is the top mediating site within the Philippines, and between the Philippines and other countries. Second, the concentration of corporate headquarters and financial power in a few areas of the region’s (Makati, Ortigas, Bonifacio Global City) has made Metro Manila a post-industrial production site, while manufacturing looking for available space has moved to the suburbs. Third, the concentration of income in Greater Manila has made it a haven for consumption, as shown by the many shopping malls dotting the urban landscape, particularly in the richer municipalities<sup>69</sup>. Finally, development policies during the twentieth century seem to have favored Manila and the island of Luzon and

<sup>69</sup> The poorer sections of Metro Manila, in the northern cities of Navotas, Malabon, Valenzuela and Caloocan, have not been invested so heavily by large-scale retail companies.

**Table 14.5** Share of the national added value according to economic sectors

Region	Agriculture and forestry (%)	Manufacturing (%)	Services (%)	Financial services (%)
NCR (National Capital Area)	0.7	20.1	53.0	52.4
IV-A (Calabarzon)	8.4	39.6	9.3	8.9
III (Central Luzon)	14.5	14.2	6.3	8.0
VII (Central Visayas)	3.9	6.9	6.4	7.0
XI (Davao Region)	7.3	3.4	3.6	3.1
VI (Western Visayas)	8.9	1.3	3.8	4.2
X (Northern Mindanao)	8.6	3.2	2.9	2.0
I (Ilocos)	6.7	0.7	2.6	3.1
XII (Soccsksargen)	8.1	2.7	1.8	1.8
V (Bicol)	4.9	0.3	1.9	2.1
VIII (Eastern Visayas)	3.8	1.5	1.4	1.4
IX (Zamboanga Peninsula)	4.5	2.2	1.5	1.4
II (Cagayan Valley)	6.8	0.1	1.4	1.5
CAR (Cordillera Administrative Region)	1.8	3.2	1.2	1.0
IV-B (Mimaropa)	3.9	0.4	1.1	1.0
XIII (Caraga)	2.6	0.2	1.0	0.8
ARMM (Autonomous Region in Muslim Mindanao)	4.7	0.0	0.4	0.4
TOTAL	100	100	12642.7	100

Source: Philippine Statistics Authority

discriminated against the peripheral islands (provinces) of Visayas and Mindanao (Balisacan and Fuwa 2004), despite the frontier settlement policy. Railway investment (see Chap. 15) is an example. Reducing the disparities between the center (National Capital Region) and the rest of Luzon and the country (the peripheries) is not easy to accomplish, since the services sector, now the core of Manila's economy, benefits from the agglomeration economies nurtured by liberalization and globalization (Akita and Pagulayan 2013).

The insertion of the Philippines in the deregulated and competitive global economy leads to stronger disparities within the national territory (Clausen 2010), where the “winning territories” have relatively prospered while poorer areas have not offered improvement to the lives of their inhabitants. With the major exception of landlocked Baguio, there is a clear correlation between the proximity to large port-cities that had emerged in the Spanish colonial period (Manila of course, Cebu and Iloilo) and the level of economic development and prosperity. For provinces out of the way, including islands, an improvement in transport infrastructures may be the key to unlock the development potential (Dumlao 2010). The availability of rural financing is also a necessary element to improve the quality of agriculture, fisheries and aquaculture activities in the poorer provinces (Meslier-Crouzille et al. 2012).

Notwithstanding inadequate infrastructures and unhealthy pollution levels, Metro Manila and its adjacent areas (regions IV-A Calabarzon and III Central Luzon) therefore continues to attract Filipinos from all over the country, because this is where money is made. Global investments focus on the Manila area, which has the lions' share of manufacturing, especially in the southern suburban provinces of Laguna, Cavite and Batangas (Calabarzon region). Metro Manila cities and suburban municipalities continue to dominate the annual rankings of the National Competitiveness Council (NCC) (Magturo 2015), with seven of the ten most competitive places in the countries and 16 of the top 30 (Table 14.6).

#### 14.4.2 *Social Inequalities Between the Philippine Regions*

Regional disparities are also evident in the level of income and poverty, and follow the general lines of uneven economic development within the country.

Statistics at the regional level<sup>70</sup> indicate that 19.7% of Filipino families were considered as poor<sup>71</sup> in 2012. Despite the large numbers of people living in slums, the National Capital Area had, by far, the lowest level of poverty, at 2.6%. Poverty levels were lower than the national average in Regions IV-A (Calabarzon, 8.3%), III (Central Luzon, 10.1%) and in Northern Luzon (Ilocos 14%, Cagayan Valley 17%, CAR 17.5%). All other regions had poverty levels above the national average, with the highest rates in Bicol (Region V, 32.3%), Region X (Northern Mindanao 32.8%), Region IX (Zamboanga Peninsula, 33.7%), Region XII (Soccsksargen, 37.1%), the Eastern Visayas (Region VIII, 37.4%) and even more in the ARMM (48.7%).

Efforts to reduce poverty have lowered the national average from 29.7% in 1991 to 19.7% in 2012, with spectacular improvements in the Cordillera Administrative Region (from 36.7% to 17.5%), Ilocos (down from 30.6% to 14%) and Bicol (from 48% to 32.3%), but a sharp worsening of the situation in the ARMM (up from 26.9%; below the national average in 1991, to the highest level, 48.7%, in 2012).

Metropolitan effects are evident if we examine poverty levels at the provincial scale<sup>72</sup>. Provinces immediately adjacent to the National Capital Region had very low poverty levels: Cavite 4.1%, Laguna 6.3%, Bulacan 6.7%, Rizal 7.6%, and rates of poverty increased with the distance to Manila: Pampanga 6.4%, Tarlac 14%, Pangasinan 17%, Nueva Ecija 23% when going north; Batangas 19.4%, Quezon 22.6%, Camarines Norte 24.7%, Camarines Sur 33.5% when going towards south-

<sup>70</sup>[http://www.nscb.gov.ph/secstat/d\\_income.asp](http://www.nscb.gov.ph/secstat/d_income.asp).

<sup>71</sup>The government considers a Filipino family poor if monthly earnings are less than the poverty threshold. In the 1st semester of 2012, the poverty threshold for a family of 5 was at a national average of 5458 pesos per month to meet basic food needs, with variations at the regional scale. If non-food needs (clothing, housing, transportation, health, and education expenses) are added, the threshold in 2012 was an average of 7821 pesos in monthly family earnings. See the Philippine Statistics Authority website (<http://www.nscb.gov.ph/poverty/2009/metadata.asp>) for the methodology on poverty criteria and calculations. (Balisacan 2001).

<sup>72</sup><http://www.nscb.gov.ph/poverty/dataCharts.asp>.

**Table 14.6** Most competitive cities in the Philippines (2015 rankings)

Ranking	Place	City or municipality	Province	Region	Score
1	Quezon City	City	<b>Metro Manila</b>	<b>NCR</b>	18.41
2	General Trias	City	<b>Cavite</b>	<b>Calabarzon</b>	16.22
3	Makati	City	<b>Metro Manila</b>	<b>NCR</b>	16.21
4	Manila	City	<b>Metro Manila</b>	<b>NCR</b>	13.78
5	Cebu	City	Cebu	Central Visayas	13.71
6	Lupon	Municipality	Davao Oriental	Davao Region	13.47
7	Santa Maria	Municipality	<b>Bulacan</b>	<b>Central Luzon</b>	13.46
8	Parañaque	City	<b>Metro Manila</b>	<b>NCR</b>	13.29
9	Cainta	Municipality	<b>Rizal</b>	<b>Calabarzon</b>	12.78
10	Polangui	Municipality	Albay	Bicol	12.23
11	Daan Bantayan	Municipality	Cebu	Central Visayas	12.18
12	Davao	City	Davao del Sur	Davao Region	11.84
13	Taytay	Municipality	<b>Rizal</b>	<b>Calabarzon</b>	11.76
14	Kabacan	Municipality	North Cotabato	Soccsksargen	11.63
15	Polomolok	Municipality	South Cotabato	Soccsksargen	11.42
16	Caloocan	City	<b>Metro Manila</b>	<b>NCR</b>	11.39
17	Malay	Municipality	Aklan	Western Visayas	11.17
18	Pasig	City	<b>Metro Manila</b>	<b>NCR</b>	11.10
19	Kalibo	Municipality	Aklan	Western Visayas	10.95
20	Bauang	Municipality	La Union	Ilocos	10.84
21	General Santos	City	South Cotabato	Soccsksargen	10.83
22	Tboli	Municipality	South Cotabato	Soccsksargen	10.82
23	Binangonan	Municipality	<b>Rizal</b>	<b>Calabarzon</b>	10.74
24	Muntinlupa	City	<b>Metro Manila</b>	<b>NCR</b>	10.72
25	Silang	Municipality	<b>Cavite</b>	<b>Calabarzon</b>	10.59
26	Cagayan de Oro	City	Misamis Oriental	Northern Mindanao	10.58
27	Oton	Municipality	Iloilo	Western Visayas	10.57
28	Mandaluyong	City	<b>Metro Manila</b>	<b>NCR</b>	10.46
29	San Mateo	Municipality	<b>Rizal</b>	<b>Calabarzon</b>	10.36
30	Tanay	Municipality	<b>Rizal</b>	<b>Calabarzon</b>	10.34

National Competitiveness Council, <http://www.competitive.org.ph/cmindex/pages/rankings/>  
 Rankings based on Economic Dynamism, Government Efficiency, and Infrastructure

east Luzon. Record poverty levels are in Eastern Samar (59.4%), Zamboanga del Norte (50.3%), Maguindanao (57.8%) and Lanao del Norte (68.9%) (Ordinario 2013b).

The proportion of households living below the official poverty line has declined slowly and unevenly in the past four decades, and poverty reduction has been much slower than in neighboring countries (China, Indonesia, Thailand, Vietnam). Addressing poverty and inequality across regions in the Philippines remains a challenge. Economists have tried to assess the determinants of change in poverty



levels. They appear to be loosely correlated with economic growth (agricultural improvement, industrial investments, tourism development) (Balisacan 2000; Balisacan and Pernia 2002) and strongly correlated with the uneven demographic transition in a context of unmanaged population growth (Mapa et al. 2006, 2009). The percentage of young dependents aged 0–14 years in the total population hinders the provincial income growth. The level of human stock capital (literacy rate and child mortality rate) and access to infrastructure are statistically significant determinants of provincial income growth rate (Balisacan 2007). Income inequality seems to have a positive effect on the growth of per-capita income, albeit this link between inequality and growth varies according to provinces. Cities, where the income gap is greater, appear to have a higher rate of growth than rural areas where there is more shared poverty (Aldaba et al. 2009).

The high migration rate out of poor areas towards Manila is most prevalent among people with higher levels of education, and therefore income potential, which deprives the poor areas from needed human capital in favor of the national metropolis: the income gap between regions is not closing, it may in fact be widening (Toya et al. 2004).

Income and poverty maps clearly show a north/south gradient, with most of the poorest provinces located in Mindanao while the least poor are mainly in Luzon. The central zone of Luzon around Manila shares the capital's relatively high standing in regard to lower poverty levels. At a finer scale, contrasts are also very sharp. If the mountainous area of Northern Luzon (Cordillera Administrative region) is generally very poor, Benguet province, around the “summer capital” Baguio has a much higher standard of living. In the Visayas, Cebu's region stands out in comparison to the poor farming region of Leyte, Samar and Negros, while in Mindanao, the north-central and southeastern parts of the island have good economic numbers, due to the dynamic agricultural plantations. This export-oriented farming system, however has not erased rural poverty.

The specific context of some regions makes it hard to break the cycle of poverty. In the Eastern Visayas, the lack of manufacturing and the relative isolation from the rest of the country, especially in Samar, are aggravated by the frequency of typhoons destroying homes, *sari-sari* stores, boats and infrastructures, wiping out the livelihood of thousands of fishermen (Ordinario 2013a). According to the National Agency for Economic Development (NEDA), typhoon Haiyan/Yolanda pushed the poverty level in the region from 45.2% in 2012 to 54.9% in early 2014 (Gabieta 2015). In coastal areas of Mindanao, declining fisheries and increased poverty have spurred the out-migration of young rurals to the cities. Families abandon farming and fishing activities that had sustained them for generations to try to enter the urban work market in low-level services. The very young and the elderly stay in the villages while the young men and women try to earn in cities or abroad. Rural regions are hence more and more dependant on city-based incomes (Chaves 2009). The region combining high poverty and lack of economic development is Southwest Mindanao's ARMM, where high population growth and a situation of prolonged rebellion have compounded the economic misery.

At a finer level yet, the 1991 decentralization, by giving more opportunities to local leaders for implementing innovative economic policies, has created new differentials between areas. If the ‘oligarchic’, non-competitive, political system in the Philippines has been a major obstacle for implementing growth-enhancing policy reforms and poverty reduction when “traditional politicians” mostly amass wealth for themselves and their family and close associates, in contrast, dynamic leaders in various parts of the archipelago (Capuno 2011) have taken at heart the task of improving the lives of their constituents and fostered local growth poles, in agriculture, fisheries, aquaculture or tourism.

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## Chapter 15

# Transportation in the Philippines

**Abstract** Linking the islands of the archipelago was traditionally done by boat. Today, ships are still used by millions of people to cross straits between the major islands, since there are no bridges except from Leyte to Samar. Cebu lies at the center of the ferries network, while small bangkas bring people to remote islets or through river mouths and harbors. The implementation of the Strong Republic Nautical Highway aims at speeding up and smoothing transfers from island to island. The port of Manila, a small player in the dynamic West Pacific rim, may be relieved from congestion with the rise of Batangas and Subic. Aviation, centered at the saturated Manila airport, has grown quickly since deregulation pitted new entrants (Cebu Pacific) against the well-established Philippine Airlines. A good part of intercity travel is done with buses, since the country has almost no rail transport today. At the local level, mobility is done with quintessential Philippine vehicles: the jeepney (sometimes transformed in a masterpiece of pop art), the trisikel, the pedicab or the skates. Today, efforts are underway to transform the system by introducing clean electric vehicles and reforming the rules of for-hire transportation, despite strong oppositions.

**Keywords** Ferries • Aviation • Rail transport • Buses • Jeepneys • Trisikel

Transport is a daily problem for poor Filipinos whose mobility is constrained if they do not own a vehicle, car, motorbike or even bicycle. At the same time, many institutions (Miller et al. 2012) and analysts have pointed to the lack of a quality transportation system as one of the root causes of the mediocre performance of the Philippines in the global industrial economy (Habito 2015; Velasco 2015a, b). The country, as an archipelago, may have the initial handicap of a territory being split into many separate sub-units. The territorial discontinuity inherent to archipelagoes makes inter-island linkages difficult (Hope 2008; Guyot-Téphany et al. 2013). The mountainous nature of the islands, such as in northern Luzon, is an added factor to hinder inter-regional mobility.

If the Philippine transportation system (Boquet 2012) is characterized by the importance of shipping and boat travel, the lack of a national railway system is compensated by the prevalence of buses. The Philippines is a country where all modes of imaginable means of motorized public transport coexist with traditional



buses and taxis. They can be automobile-based, as in the case of jeepneys and FX, or three-wheelers of various shapes. The use of iconic transport vehicles (jeepneys, trisikels, habal-habal, kuliglig, bangka, skates...) offers low-tech solutions for the local mobility of Filipinos. A major part of daily transportation of Filipinos is done using these various forms of paratransit, as in many developing nations (Silcock 1981; Shimazaki and Rahman 1995, 1996; Phun and Yai 2015). Bordering on the illegal and informal, often lacking in safety, due to poor regulation and wild competition for passengers, they provide at the same time mobility and jobs, while being major elements in congestion and pollution.

Aviation allows for fast movement across the country but is hampered by the small size of airports, including in Manila. Small underserved islands, without airport or regular ferry service, can suffer from enhanced insularity, as in Japan's Inland Sea (Pelletier 1993).

## 15.1 Navigating the Philippines

Water shipping is logically and historically a major mode of transportation in this Philippine archipelago of 7107 islands, as it is in archipelagic Caribbean, Melanesia or the Greek islands. Shipping services account for about 80% of passenger and goods between the islands of the Philippine archipelago (Basilio and Llarena 2005).

As we have seen in Chap. 4, the Philippine nation itself was born by maritime exploration and overseas colonization by Spain in the sixteenth century, and the trans-Pacific Manila galleons were used to carry goods between China and New Spain (Mexico) (Galvin 1964; Flynn and Giraldez 1996), Manila serving very early as an major entrepot in the Renaissance's first globalization of trade.

Until the development of aviation, navigation was the only way to travel between islands. Today, boat transportation remains a major element of the Philippines transport system, even if the country appears somewhat disconnected from the major shipping routes of the global economy. Most of the leading ports in the world, whether in tonnage throughput or number of containers handled, are located in eastern Asia, mainly between Singapore and Tokyo, but Manila, the main port for international shipping, is not a major global hub despite its location halfway between these two world cities.

Most ports in the world benefit from hinterlands, many suggested by the natural inland routes provided by major rivers (the Rhine for Rotterdam, the Yangzi for Shanghai, the Mississippi for New Orleans, the St Lawrence for Montreal, the Seine for Le Havre,...). However, hierarchies between ports are evolving (Le and Ieda 2010) and "natural" advantages do not always guarantee success. Archipelagic countries such as the Philippines, Indonesia or Japan, do not have major rivers, and the definition of hinterland cannot be identical. In many multiple-islands countries, ports will have a major function as linkage points in a naturally discontinuous territory. Scientific literature has examined this topic in other countries such as Indonesia (Dick 1987; Sjaffrudin et al. 2010), but little (Austria 2003; Boquet 2015a) has been written about the Philippine ports and the country's inter-island transport system.

Many questions can be raised about the organization of the Philippine inter-island shipping system. How important in port activities are the inter-island linkages in comparison to the linkages with the outside world? Are there ports in the Philippines playing a role of gateway or hub? Is a central position such as Cebu's an asset for port development? (Wernstedt 1956) Did the recent wave of globalization increase, diversify, differentiate the maritime activity of Philippine ports? What are the interrelations between the cities and their ports in the republic of the Philippines?

### ***15.1.1 Philippine Cargo Shipping Ports***

There is no accurate statistical number of ports in the Philippines since there are various types of ports ranging from large international container shipping ports to very small facilities catering to local fishing and passenger movements. According to official data from the government of the Philippines (Javier 2008), the country had 2452 ports in 2007. Among these, 421 are fishing ports, most of them under the administration of the Philippine Fisheries Development Authority, 423 are private ports, mostly belonging to private enterprises for their own exclusive use, 1369 are ports handled by the LGUs<sup>1</sup> (Local Government Units) and there also 239 public ports operated by the PPA (Philippine Port Authority): 25 base ports and 214 secondary ports or terminal ports. The main ports for international shipping are those of Manila (Port of Manila and Eva Macapagal Port Terminal). Even cities like Batangas City, Cagayan de Oro, Cebu City, Davao City, Guimaras Island, Iligan, Iloilo City, Jolo, Legazpi City, Lucena, Puerto Princesa City, San Fernando, Subic Bay, Zamboanga City, Matnog, Allen, Ormoc, and Lucena have lively ports. Three major ports are not under the banner of the PPA: Cebu, Puerto Galera and Subic Bay, which explains why their traffic data are not included in official PPA reports and the timing of release of their information differs from other ports.

Looking at the classic indicators of the importance of a port, i.e. traffic throughput and number of containers handled, we find that despite the maritime nature of the Philippines, and the position of the country within the Asia-Pacific realm, only the port of Manila appears of some magnitude in container handling, but at a pale 26th place in Asia and 38th in the world in 2012 (see Table 15.1), while it is not among the top 100 in the volume of traffic measured in tons.

2013 data from PPA<sup>2</sup> complemented by specific data from the Cebu Port Authority, give us a glimpse of the port hierarchies in the Philippines. We have chosen to illustrate it with four maps, built from the data mentioned above, according to the number of ship calls, the volume of output (in tons), the number of containers handled (TEU) and

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<sup>1</sup>Not less than 169 ports in the province of Surigao del Norte, Mindanao.

<sup>2</sup><http://www.ppa.com.ph/ppa%20web/portstat.htm>.

**Table 15.1** Top-ranked ports in the world for container traffic in 2012 (in millions of T.E.U.)

Rank	Port		Rank	Port	
1	Shanghai (China)	32.5	16	Los Angeles (USA)	8.1
2	Singapore	31.6	17	Dalian (China)	8.1
3	Hong Kong (China)	23.1	18	Yokohama-Keihin (Japan)	7.9
4	Shenzhen (China)	22.9	19	Tanjung Pelepas (Malaysia)	7.7
5	Busan (S. Korea)	17.0	20	Xiamen (China)	7.2
6	Ningbo-Zhoushan (China)	16.8	21	Bremen-Bremerhaven (Germany)	6.1
7	Guangzhou (China)	14.7	22	Tanjunk Priok (Indonesia)	6.1
8	Qingdao (China)	14.5	23	Long Beach (USA)	6.1
9	Dubai (United Arab Emirates)	13.3	24	Laem Chabang (Thailand)	5.9
10	Tianjin (China)	12.3	25	New York-New Jersey (USA)	5.5
11	Rotterdam (Netherlands)	11.9		–	
12	Port Klang (Malaysia)	10.0		–	
13	Kaohsiung (Taiwan)	9.8	38	Manila (Philippines)	3.7
14	Hamburg (Germany)	8.9		–	
15	Antwerp (Belgium)	8.6	60	Le Havre (France)	2.3

Source: World Shipping Council

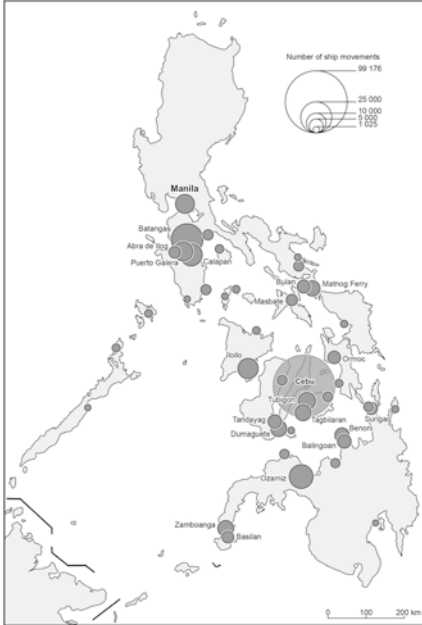
<http://www.worldshipping.org/about-the-industry/global-trade/top-50-world-container-ports>

the total number of passengers, given the importance of inter-island travel in the Philippines.

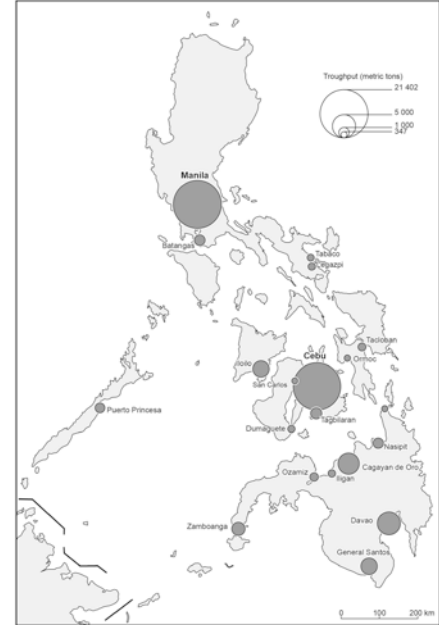
Depending on the indicator used, we see different ports emerging as more or less important in the Philippine system.

Figure 15.1a depicts the traffic activity as expressed by the number of ships entering and exiting ports in 2013. Even if data are presented differently, it appears that Cebu (2012 data) is a beehive of activity, with a total of 100,146 ship movements (average of 274 per day). Far behind, Batangas, with about 1/4 of the number of ships observed in Cebu, is the second busiest Philippine port, mostly due to its role as the southern gateway of Manila for inter-island traffic, which is confirmed by the ranking of Calapan (n 4) and Puerto Galera (n 6), as well as Abra de Ilog (n 19), on the southern side of the straits separating Luzon from Mindoro. The third most animated port is Ozamiz, on the northwestern side of Mindanao, facing southern Negros and southern Cebu. Other ports with intense activity are located in the Visayas archipelago: Iloilo (Panay, n 5), Tubigon (Bohol, n 8), Dumaguete (Negros, n 9), Tagbilaran (Bohol, n 10). For all these ports, international traffic represents less than 1% of the ships (0.97% in Cebu, 0.95% in Batangas). Rounding up the top 10 ports in overall activity is the port of Manila (n 7 with 9453 ships, average 26 per day), but with a distinct characteristic of being less focused on purely domestic shipping (24% of ships on international routes). It is in fact the busiest international port in the country (2296 ships in 2013), ahead of Cebu (970), Davao, on the southern coast of Mindanao (450 international ships out of a total of 1025, for a 44% ration the highest in the country) and General Santos, also in southern Mindanao (242 international ships out of 840, that is 29%, the second highest ratio of international shipping in the country). These two ports are small in the domestic activity,

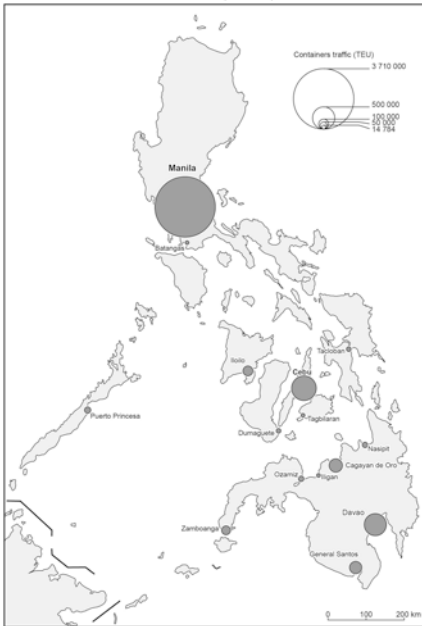
A/ Number of ship movements



B/ Total throughput (in metric tons)



C/ Containers handled (TEU)



D/ Millions of passengers

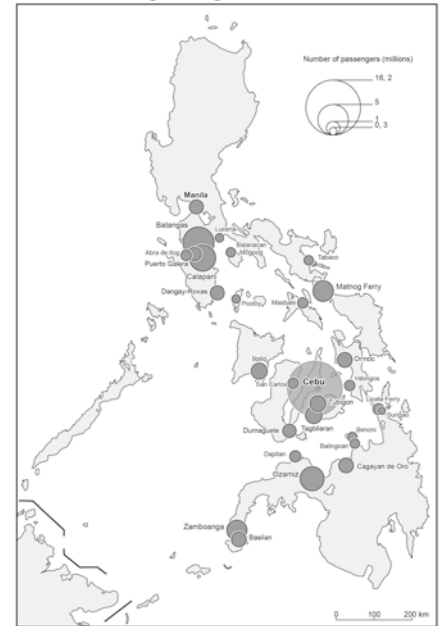


Fig. 15.1 (a-d) Traffic in Philippine ports for the year 2013. Source: Phillipine Ports Authority

since they are on the “wrong side” of Mindanao for inter-island traffic: they rank respectively 53rd and 49th for the number of ships involved in domestic transportation. This first basic approach reveals a certain pattern of ports. Manila in the North, Davao and General Santos in the South are more important in international shipping. Cebu is the dominant port by far for domestic shipping while having some international activity (even if it appears submerged by domestic shipping) and other ports are basically not looking outwards.

Figure 15.1b (total volume of traffic in tons) clearly shows Manila and Cebu are the leaders, even with a small throughput of about 20 million tons each, far behind many ports in the world. Each of these ports manipulated less than one third of Laem Chabang (Thailand), which is 59th in the world, or half of Chittagong (Bangladesh), ranked 95th in the world. The volume of maritime trade is low. The country has not developed a powerful industry that would stimulate traffic of raw materials boosting the tonnage of merchandise in ports: relatively little petroleum or coal or iron ore goes through the Philippine ports, and there is no real PIZ in the country, despite efforts to transform the former US navy base of Subic Bay, north of Manila, into a major industrial facility. It is however home to the 4th largest shipyard in the world, run by Korea-based Hanjin *Heavy Industries*.

Figures 15.1c, d show Manila dominating in container traffic and Cebu being the leading port for passengers, while Manila is ranked quite low. South of Manila, the port of Batangas appears as a feeble actor in volume of traffic and containers handled, but as a major port for passenger traffic, as well as Calapan in the neighboring island of Mindoro. Trans-straits passages evidently play a major role here, in the same way as in Calais and Dover between France and England.

The port of Cebu has very little international traffic. Most of its activity is domestic. Detailed data indicate that the most numerous ships in Cebu are roro ships and fastcraft ships linking other islands to the country’s second city, well ahead of other categories.

### 15.1.2 *Boat Travel: The Philippine Ferries*

Ferries are the backbone of inter-island travel in the heavily populated archipelagic nations of Indonesia and the Philippines with thousands of far-flung islands. It’s almost axiomatic that most of the time Filipinos will take the boat to travel from one island to another island in the Philippines, due to the relatively short distance between islands and the cheap price of the tickets. For tourists, “island hopping” by boat offers more possibilities to communicate with Filipinos and Filipinas. Passenger vessels large and small are used by millions of travelers every year, so much that the ports of Cebu (ranked 3rd in the world), Batangas and Calapan (Mindoro Oriental) are among the top 20 ports in the world in terms of passenger traffic.<sup>3</sup>

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<sup>3</sup> SOURCE Le Marin.

The lack of bridges between the Philippine islands,<sup>4</sup> with the exception of the 1973, 2 km long, San Juanico Bridge over the narrow passage separating Leyte from Samar, on a quite peripheral area of the country, enhances this importance of maritime transportation in the Philippines. The pattern is very different from Japan, which has built many permanent links between its major islands, either in the form of tunnels or bridges.

Many Filipino ports have a very strong activity of ferries and fast catamaran shuttles between opposite sides of the straits separating the islands. Examining schedules and services offered by some of the many companies involved in the maritime transport market in the Philippines (around 600, of which 5 realize 90% of passenger traffic), we can identify three main types of maritime connections:

- (a) trans-straits short-haul shuttles, characterized by high frequency, a short crossing time (1–2 h) and the increasing use of fast catamarans “Supercat” reminiscent of the Hong Kong—Macau shuttles. There are 82 crossings per day in each direction between Batangas (south of Manila, on the island of Luzon) and Puerto Galera or Calapan across the Verde Island Passage between Luzon and Mindoro. Very high frequencies also (more than 30 per day) between Dumaguete (Negros) and Dapitan (Mindanao), Cebu (Cebu) and Tagbilaran (Bohol), Iloilo (Panay) and Bacolod (Negros). Strong activity is recorded also for Surigao at the northeastern tip of Mindanao, close to the southern end of Leyte Island. And of course, Zamboanga, at the extreme southwestern end of Mindanao, is the natural stepping point for Basilan and islands of the Sulu archipelago.
- (b) much longer circuits (2–3 days), lower frequency (often 2 or 3 times per week), provided by ferries with possibility of renting the cabin. These provide more stops in major cities and occasionally in small islands with high tourist activity, as Romblon northeast of Palawan. These routes often start in Manila, with a nighttime sailing out of the capital.
- (c) services to small and very small islands, with random frequency (the boat goes when it is full enough, which is similar to the management of jeepney trips on land), short-term (less than 1 h), most often provided by motorized “pump boats” known as *bangkas*, equipped with outriggers (*katig*) (Fig. 15.2). Derived from fishing boats, these small catamarans that generally cannot carry vehicles, require minimal infrastructure, sometimes none (simply stranding on a beach). If they provide to the people of these small islands—a few dozen people sometimes—a low level of relations with the larger islands, resulting in a certain isolation, these *bangka* services carry conflicting images of irritating travel uncertainty and exotic charm for western tourists yearning for adventure outside of mainstream mass tourism. In parts of the Visayas, *bangkas* are equipped with a triangular sail (*layag*). They are called *paraw*. *Proas* are similar, but with only one outrigger.

Despite the vital importance of sea travel to link the islands, its history is one of lethal accidents (Tiongson 2010). The reputation of shipping companies is severely

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<sup>4</sup>Also in Indonesia, with only one major bridge linking East Java and Madura island.



**Fig. 15.2** Bangka from the town of Mercedes (Camarines Norte) to its barangay Manguisoc across Mercedes harbor (August 2014)

Two similar boats are used for this 10 min crossing of the harbor, at a cost of 8 pesos per person. The capacity is about 30 people and the frequency is about 20–30 min during the day. The last service is at about 10 pm

tarnished, as in Indonesia and Bangladesh (Binlot 2009), by the frequency and severity of deadly mishaps. Between 1988 and 2009, 13 major accidents have cost the lives of over 6100 people (Atienza Maliwanag 2010). 4341 people were killed in the wreck and fire of the “Doña Paz” in December 1987 (collision with an oil tanker between the islands of Mindoro and Panay).

However, the Philippine government has struggled to address the problem. Many accidents are due to poor maintenance (Sigua and Aguilar 2003; Lawson and Weisbrod 2005; Wilson 2009; Dimailig et al. 2011) of many aging vessels (median age of a Filipino ferry: 30 years), overloading of passengers, and imprudence of captains. Prodded by fleet operators to keep on schedule and make money, they take risks by sailing despite bad weather.<sup>5</sup> The lack of respect for safety measures and maintenance schedules and the frequent falsification of seaworthiness documents are also factors in the high accident rate, as it is also the case in Bangladesh and Indonesia.

Rules governing shipping safety are comprehensive, but they are often poorly enforced and weakened by corruption affecting inspectors and managers of quality operations, nepotism, greed and tolerance for incompetence. Despite the regularity

<sup>5</sup>Sinking of the “Princess of the Stars” in June 2008 off Romblon island in the midst of typhoon Fengshen/Frank: 802 dead.

of maritime incidents in Philippine waters there is no full-time independent maritime investigation agency in the Philippines. Marina (Maritime Industry Authority), the country's maritime regulatory body delegates its enforcement functions to the Philippine Coastguard. Inadequate regulation and oversight make it hard to impose changes on the industry. In a country of about 25,000 coastal barangays, it is impossible to monitor the movements of every vessel. The coast guard's staff of about 5000 employees is insufficient to patrol 35,000 km of coastline. The highly centralized nature of the country's maritime policies may also be a factor on these safety issues. Each type of vessel plying the country's archipelagic waters — from small bangkas to large container vessels — has its own modes of operations or practices, while thousands of ports scattered all around the coasts operate under different conditions — from small fishing ports to large industrial ports like those in Manila and Cebu. The system of transportation between these ports is not always clear. Most of the accidents at sea occur with smaller passenger inter-island ferries not equipped with any advanced navigational instruments and designed in such a way that the person who steers and controls the engine is placed at the back of the vessel while a person in front signals the directions. Safety memorandum circulars usually issued by the Maritime Industry Authority, address only container vessels, large passenger ships and bulk carriers, while the small bangkas are mostly unregulated.

Nevertheless, some improvements have been made: all people traveling on open-deck passenger vessels must wear life vests, Marina has launched a hotline for reporting incidents of overcrowding and other safety violations. It also tries to train local government officials to monitor and report unsafe vessels, and ferry captains to avoid typhoons. Ferry operators ignoring rules will face steeper fines and punishment (Zurbano 2013). After a series of 5 accidents between 2008 and 2013, *Philippine Span Asia Carrier Corp* (formerly *Sulpicio Lines*) lost its license to operate passenger ships within the archipelago (Gutierrez 2013; Bernal 2015). The domestic shipping industry has been deregulated since 1994. It has prompted owners to buy newer and bigger ships and to improve the quality of service. However, the rapid development of low-cost airlines has lured away the more demanding passengers, while the best officers and crew are lured away by the pay offered by foreign shipping lines, since the salary of an entry level officer in international vessels is even more than the salary of a captain in local vessels.

### 15.1.3 *The Strong Republic Nautical Highway*

One of the major problems of transportation within archipelagos is the repeated and disruptive time loss induced by transfers from land modes to sea modes. In order to improve land-sea intermodality, both for passengers and freight, Philippine President Gloria Macapagal-Arroyo launched in 2003 the “Strong Republic Nautical Highway System” to maximize the use of the roll-on, roll-off system to connect Luzon and Mindanao through the Visayas islands (Odchimar and Hanaoka 2015). The project involves rehabilitating existing ports and construction of new ones to accommodate



roll-on, roll-off vessels. This RO-RO partnership (Torrevillas 2007; Basilio et al. 2010; Aguilar 2003) involves several shipping companies (*TransAsia Shipping Lines*, *Montenegro Shipping Lines*), motor carriers, truckers and intercity bus companies (including national leaders *Philtranco* and *Ceres Lines*). A presidential decree (Executive Order 170) indicates that there should be no fee for handling goods in ports, as the goods remain in the truck and no dock fees and boarding costs for interprovincial passenger buses.

Its spatial structure (see Fig. 15.3) is a set of three parallel north-south routes linking Manila to Mindanao with improvements on the road network leading to the main transshipment ports on different islands crossings. The main line (western route) connects Metro Manila (starting at Cubao bus terminal in Quezon City) and Cagayan de Ore (Mindanao), building on the ports of Batangas (Luzon), Callahan and Roxas (Mindoro), Catalan and Iloilo (Panay), Bacolod and Dumaguete (Negros), Dipolog / Dapitan (Mindanao).

It is also designed to facilitate the delivery of fresh produce to the capital from other more rural islands. In some ways, the development of a “RO-RO Food highway” is a response to urban sprawl of the capital. While the central part of Luzon around Manila welcomes more than 30% of the country’s population and produces 55% of national GDP, agriculture has declined significantly and it has become necessary to feed the region with agricultural products shipped from remote provinces, mostly from the Cayagan Valley in northern Luzon or from Mindanao. It has become essential to improve the logistics of food transport in the Philippine archipelago to ensure quality supplies to the capital and provide market opportunities for productions in the poorest regions of the country, while encouraging the development of agro-industrial activities. Thus, citrus produced in large quantities in Mindoro can be transported in bulk to Manila or locally processed as fruit juice, which can be easily shipped to Caticlan, answering the demand in Boracay’s beach resorts.

In addition to the main route, two other routes enhance the linkages between Manila and Mindanao and allow selective growth of some ports best positioned along these axes of national transit. The “Central Nautical Highway” connects the southeastern end of Luzon (Pilar port, near Legazpi) to the islands of Masbate (ports of Aroroy and Milagros), Cebu (Bogo and Cebu ports) and Bohol (Tubigon and Jagna ports) to reach the North Central Mindanao (Butuan port). The “Eastern Nautical Highway” connects Masbate (port Milagros), Leyte (Naval and Liloan ports) and the north-eastern tip of Mindanao (Surigao port).

The establishment of the intermodal system aims to reduce the long waits to accompany tourism development (Sorupia 2001) and, ultimately, strengthen national unity (“republic”), reducing the time travel between various parts of the country: the priority of the “Medium-Term Philippine Development Plan” (MTPDP) for 2005–2010 is the development of the Ro-Ro system (Jose 2007). It involves a major effort to upgrade road and port infrastructure, currently with loans from the World Bank and the Asian Development Bank. The results are promising: a reduction of 10 h of travel time, but especially lower costs of about 30% for freight and 40% for passengers using the combined bus-ferry tickets).

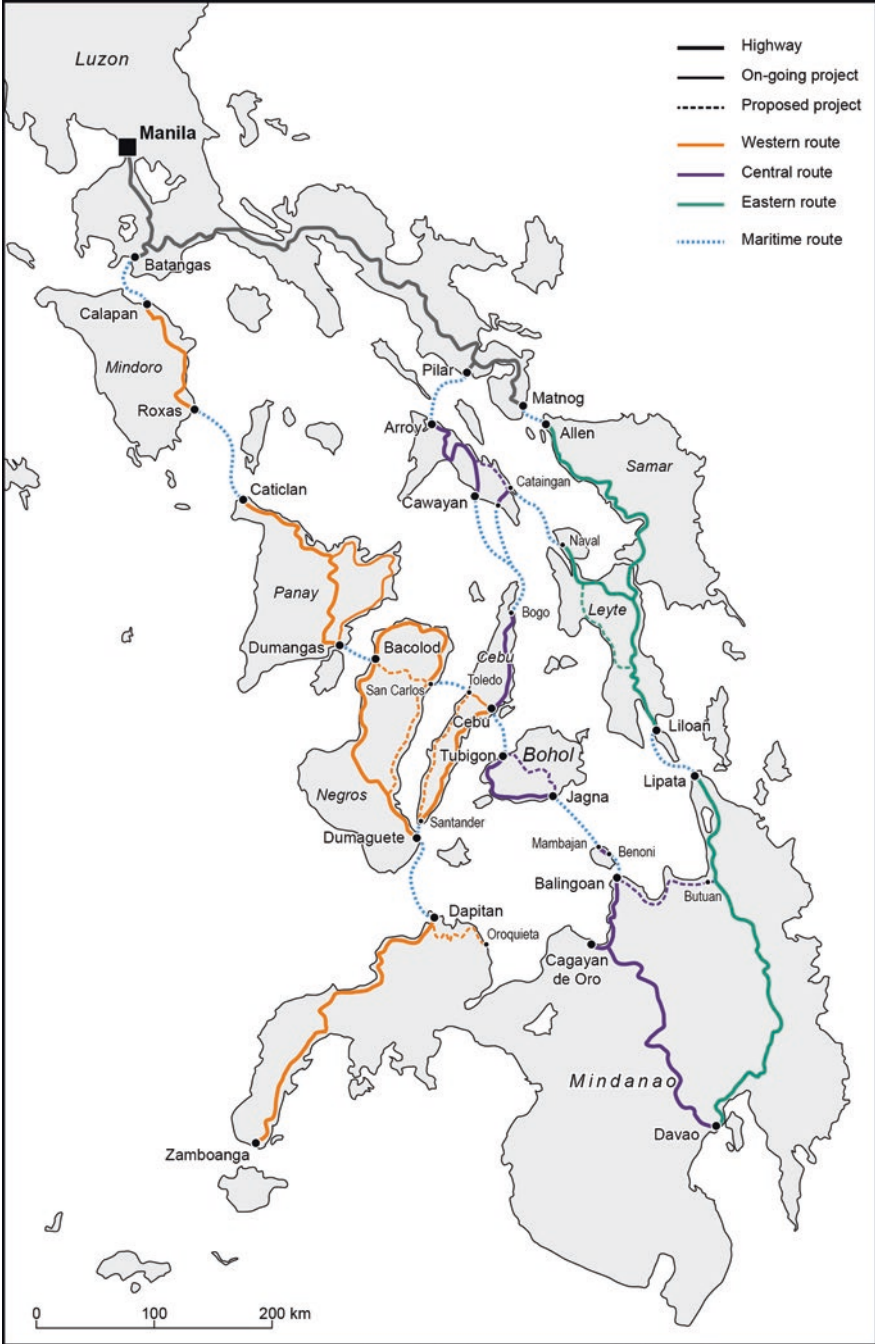


Fig. 15.3 The Strong Republic Nautical Highway

The initial success of the SRNH led to projects in southwest Mindanao towards the Sulu archipelago (Bacero and Tan 2013), and even to discussion within ASEAN for an international ro-ro system (Ascutia 2011; Salaverria 2011; Evora 2013) under the BIMP-EAGA (Brunei/Indonesia/Malaysia/Philippines—East Asia Growth Area) framework.

#### ***15.1.4 The Port of Manila***

The port of Manila currently handles most container traffic in the Philippines. However, its location is far from ideal. Port facilities are near the mouth of the Pasig River, which runs through the Manila urban area. Partly reclaimed on Manila Bay, the southern side of the port is immediately adjacent to Intramuros, the historical walled city of colonial Spanish Manila. On the north side of the Pasig River, the port abuts the extremely dense (more than 80,000 people/km<sup>2</sup>) and poor Tondo neighborhood, with some encroachment of squatter settlements on port installations, with risks of pilferage.

Facilities, especially on the south side, are obsolete: a series of finger piers encumbered by old warehouses. On the northern side, there is a larger container terminal, built as another finger like projection off the shoreline, with a narrow access line. All land access is by roads, since the Philippines has basically abandoned rail transport. There is not enough space for container storage. Large container ships cannot berth in Manila, therefore the city is out of the major shipping routes and served mostly by regional feeder ships, which leads to higher costs since the economies of scale are not reached.

Therefore, truck access to the terminals is part of the notorious traffic woes of the Philippine capital. Trucks contribute to heavy traffic and their movements are impacted by the heavy flow of cars, buses, jeepneys and motorized tricycles. To make things worse, one of the first decisions of the newly elected (summer 2013) mayor of Manila, former Philippine president Joseph Estrada, was to drastically limit the flow of trucks going in and out of the port by daytime, in order to fight street congestion.

The port is also poorly located in regard to the geography of manufacturing areas. Most of the recent growth in industrial zones has been south of Manila, in Cavite and Laguna provinces, with many garment and electronics manufacturers from Japan, the US or Europe. Therefore, access to the port requires crossing a good part of Metro Manila, since the harbor is located towards the north of the urban area.

This port congestion and difficult access is a source of discontent and irritation. Port users have expressed their displeasure with the situation on many occasions, and the critics are getting more vocal, since increased delays in shipments are causing huge losses to exporters (Velasco 2014). Department store merchandise items (apparel, house wares and furniture) cannot go out to foreign markets, and import materials are stuck on piers so the manufacturers cannot finish goods. Ready-to-ship goods are also stuck on the road due to congestion. Supply chains have been

disrupted. This has led some export manufacturers to use air freight rather than shipping to bring Filipino goods to their final destinations, at a much higher cost.

These recent logistical nightmares of Manila's port also delay the delivery of goods and services to the provinces. For instance, there are reports of shortages in medical equipment such as dental needles and anesthetics in Mindanao due to the slow movement of shipments from Manila. The delay in the delivery of shipments of rice, garlic and onions also contribute to the higher prices of such goods in the market. The port has become a national problem.

Therefore, there are now very clear calls (Yap 2015) to decongest the port of Manila and improve deliveries throughout Luzon and the rest of the country by developing alternate ports. Batangas, south of Manila, and Subic Bay, north of Manila, have good nautical characteristics. These ports can handle large ships and their role in the maritime shipping system of the country needs to be enhanced. According to Senator Bam Aquino,<sup>6</sup> "if the cargo is headed to Pangasinan or La Union provinces, it would be wise to have it unloaded in Subic. This way, time and money will be saved. If some cargo is diverted to other ports, the number of trucks roaming around Manila will be reduced, resulting in better traffic conditions. It will be a win-win solution for everybody". This echoes the recommendations of a consulting firm commissioned by the Philippines National Competitiveness Council (Almonte 2012; Amolejar 2012).

It is not healthy for the country if 98% of its international container traffic is handled by Manila, even less when Subic and Batangas are under-utilized, at less than 10% of their capacity. Since major industrial districts are located between Manila and Batangas, it would be logical to use Batangas rather than Manila as their gateway. Efforts should be made to negotiate with shipping lines regular routes from Batangas to Singapore. As for Subic Bay, it appears as a natural outlet for the industrial areas of the Clark economic zone in nearby Pampanga province (see Chap. 18). Given the location of Subic Bay, it would be good to look for regular shipping to Hong Kong, Korea and Japan.

Another proposal is to build a "world-class" port on the eastern side of Luzon, on the Pacific coast, in Dingalan, as part of an overall effort to decongest the Manila metropolitan area (possible transfer of the government functions?). Such a port would be closer to Japan and Korea, and could be a first point of entry in Asia for ships coming from America across the Pacific Ocean. However, the most probable scenario today is a gradual shift of traffic to Batangas and Subic.

Finally, the potential of ports in other areas of the Philippines needs to be recognized. The dual ports of General Santos and Davao, on the south coast of Mindanao, can be linked to a Southeast Asian system pushed by ASEAN with the BIMP-EAGA ro-ro network.

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<sup>6</sup>"Lawmaker wants Port of Manila decongested", *Daily Tribune*, July 6, 2014.

## 15.2 Air Transport in the Philippines

The Philippines have one of the largest domestic air passenger markets (Boquet 2015b) in Southeast Asia, second only to Indonesia, due to the larger geographic size of this other archipelagic nation. According to the Philippine Department of Tourism, 23 million Filipinos traveled domestic in 2010, 17 million of them by air (Ramos-Araneta 2011). Fifteen years ago, only rich people, businessmen or tourists, were able to fly, and the mass of the population used a combination of bus rides and sea crossings to move around the country. Nowadays, however, it has become easy for ordinary Filipinos to travel due to the market entry and rapid growth of low-cost carriers which offer cheap airplane fares, quite competitive to boat fares, and a much more convenient way to travel than the bus-ship combination (Trace et al. 2009). If the Department of Tourism has intensified campaigns overseas to bring more foreign tourists to the country (see Chap. 21), it also recognizes the importance of domestic tourism, which can keep the tourism industry afloat by acting as a buffer against fluctuations in international tourism in difficult economic times worldwide, and will also help the development of outbound tourism for average citizens (Raguraman 1997; Sorupia 2005).

### 15.2.1 Airlines in the Philippines

Aviation developed very early in the Philippines in 1941 with the creation of Philippine Airlines, one of the oldest airlines in Asia, and the establishment of trans-pacific routes by *Pan Am* in 1935, via Hawaii, Midway, Wake and Guam. In a country with poor communications between regions (mountains of Northern Luzon, poorly developed road network, gaps between islands, distance between Manila and provincial cities, especially in the large southern island of Mindanao), planes are obviously more efficient than boats for fast connections, and they are favored by business people, managers, administrators, tourists and balikbayan Filipinos returning home after a time of labor emigration.

For many years, *Philippine Airlines* was the dominant air carrier inside the Philippines. As the flag-carrier, it was, like other airlines around the world, a major actor in nation building and national identity (Raguraman 1997b; Mendoza 2013). The relationship between the state and *Philippine Airlines* (PAL) was mostly symbiotic. The state infused huge investments in the airline, absorbed its losses, and protected it from competition as well as congressional inquiries on the use of scarce public resources in a private company. In return, the airline had to fly to very remote areas, not so much to ferry paying passengers as to link these areas to the center by bringing in mail, medicines, newspapers, and even government personnel and equipment. During President Ferdinand Marcos' long time in power (1965–1986), state-owned<sup>7</sup> *Philippine Airlines* enjoyed a virtual monopoly after the government-ordered

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<sup>7</sup>The airline was nationalized in 1941, privatized in 1965 and re-nationalized by F. Marcos in 1976.

absorption of two privately owned airlines, *Air Manila* and *Filipinas Orient Airways* in 1973, under the official policy of “one country, one airline”. The company’s massive expansion program in the 1960s and 1970s was subsidized by mail freight payments.

The fall of F. Marcos in 1986 after the EDSA revolution led to many changes. In 1988, president Cory Aquino ended the “one country-one airline” policy,<sup>8</sup> paving the way for the development of other carriers in competition with the large, bureaucratic and financially inefficient *Philippine Airlines*, crippled with debt inherited from the massive plane purchases of the two previous decades. In 1992, *Philippine Airlines* was privatized after the government sold 67% of its shares to PR Holdings, headed by billionaire Lucio Tan.<sup>9</sup> With this recapitalization, the airline engaged in a massive program of refueling, purchasing Boeing 747–400 s, as well as Airbus 340, 330 and 320 models.

The most important change came in 1995, when the Ramos government decided to liberalize the Philippine domestic airline industry. Reminiscent of the Airline Deregulation Act of 1978 in the United States, Executive Order 219 reduced regulations on tariffs and fares and on the entry into and exit from the airline industry. New airlines appeared rapidly: *South East Asian Airlines (SeaAir)* and *Asian Spirit* (later called *Zest Airlines*) in 1995, *Cebu Pacific Airlines* and *Air Philippines* (later renamed *Air Phil Express*) in 1996. Less than a year after deregulation, *Philippine Airlines* had to fend off dynamic competitors! (Hooper 2005; Lawton and Solomko 2005; Hanaoka et al. 2014; Pearson et al. 2015) The Philippines has the highest domestic low-cost carrier penetration rate in the world (O’Connell and Vanoverbeke 2015). One of these new airlines, *Cebu Pacific*, has become the new leader in Philippine domestic aviation (Amolejar 2015; Marasigan 2015c). It is also expanding its international network from regional routes to China and Southeast Asia to more distant destinations in the Middle East, and in the future North America and Europe (Lectura 2012; Camus 2014).

The newer airlines were—and are—all taking their cue from low-cost carriers based in North America or Europe, with a business model based on high utilization of airplanes (short turnaround times), reduced on-board amenities, a standard fleet (based on the Airbus 320 family<sup>10</sup>) reducing the costs of training and maintenance, and supplements for special services above the rock-bottom prices advertised. Fares have kept very low due to increase competition (Manuela 2007, 2011). More airlines joined the fray later, only to withdraw service quickly, such as *Spirit of Manila Airlines* (2008–2011), The latest entrants are *Sky Pasada* (2010), *Mid-Sea Express*

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<sup>8</sup>One-airline policy was also followed by deregulation in other Southeast Asian countries such as Thailand (Bowen & Leinbach 1995).

<sup>9</sup>A long-time supporter of F. Marcos, L. Tan made his fortune in banking, liquor, tobacco and real estate industries. According to Forbes magazine, he is currently the second richest man in the Philippines. In 2012 the airline control passed into the hands of another tycoon, Mr. Ong, chairman of *San Miguel* group, famous for its breweries, before reverting back to Mr. Tan in 2014 (Balea 2014).

<sup>10</sup>*Cebu Pacific*, with its planned expansion to distant markets, is now purchasing A 330 s in addition to A 320 s and 321 s, in a marked break with the usual organization of low-cost carriers.

(2011), renamed *FilAsian Airways*, *Skyjet Airlines* (2013) and *Air Asia Philippines* (2013), a subsidiary of the successful Malaysia-based low-cost airline. *Air Asia* has since taken over the routes of *Zest*. The short-lived entry of *Tiger Airways* (Singapore) was followed its transformation in *CebGo*, a subsidiary of *Cebu Pacific*. (Marasigan 2015b). This has led to a fast growth in the number of flights and of passengers carried (Fabian et al. 2013).

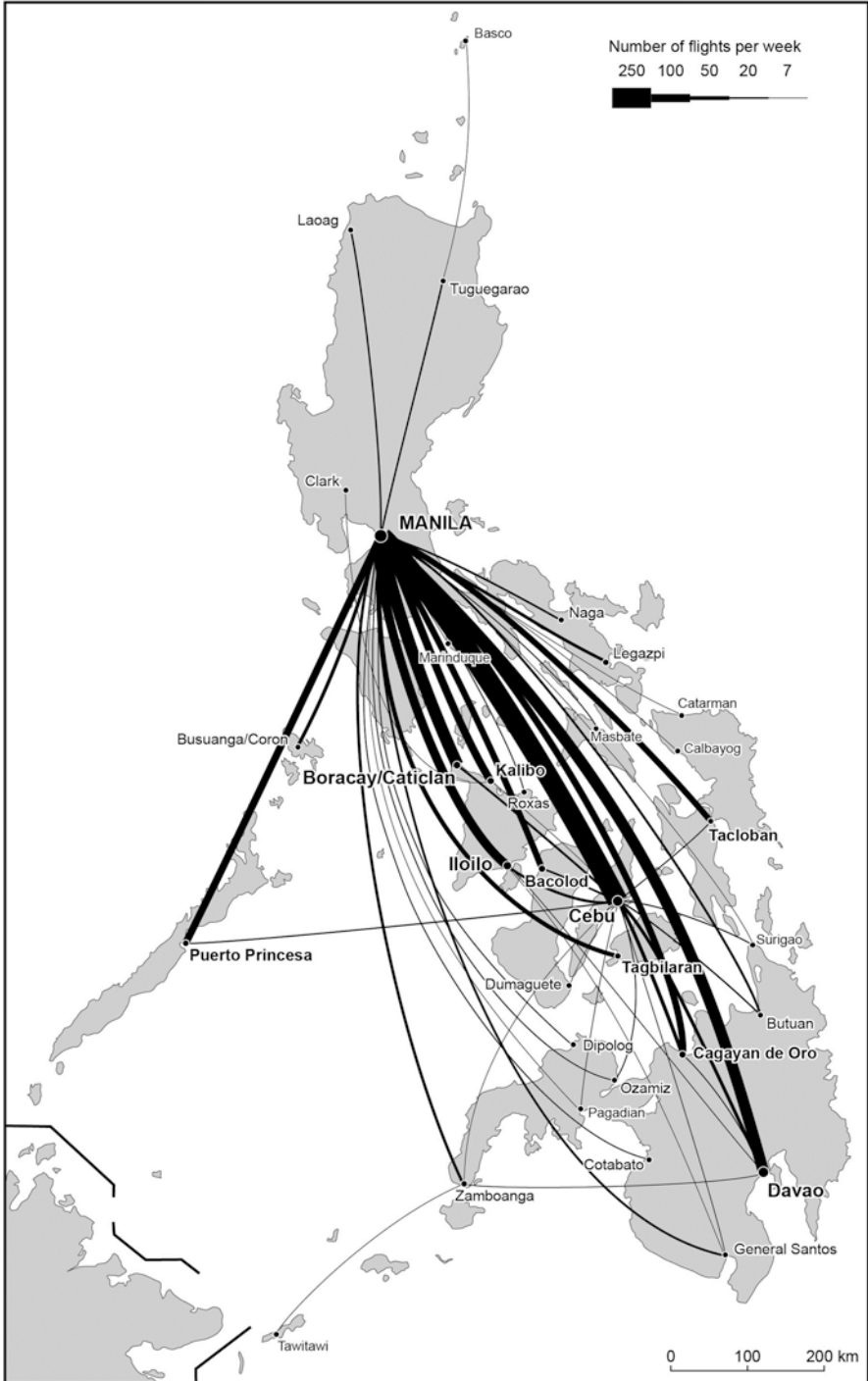
### 15.2.2 *Patterns of Air Traffic in the Philippines*

According to official data, the country has 86 airports. Ten of them have international status: NAIA (Ninoy Aquino International Airport, the gateway to Manila), but also on the island of Luzon the airports of Laoag and the former U.S. military sites—first reused as air cargo hubs (Bowen et al. 2002; Boquet 2009) for *UPS* and *Fedex*—of Clark in Angeles City (Pampanga province) and Subic in Olongapo, Zambales. Clark (DMIA, Diosdado Macapagal International Airport until 2012), has become the entry point for low-cost airlines' international routes as a secondary airport to Manila (*Air Busan* from South Korea, *Air Macau* from the Pearl River Delta in South China). There is also international status for Cebu-Mactan, Kalibo Airport (on the island of Panay, the main gateway to Boracay resort island), Puerto Princesa (Palawan), and the airports of the three largest cities in Mindanao, Davao, General Santos and Zamboanga. 34 smaller airports are open to commercial traffic, and 42 other reserved for light aviation.

Air transport in the Philippines, however, is clearly structured around two major airports: Manila and Cebu, where most of the routes originate from. Statistics for airport total traffic and the frequency of routes show clearly the dominance of these two facilities (Fig. 15.4 and Tables 15.2 and 15.3).

Indeed, all five major airlines in Philippines with regular scheduled service have organized their networks from the Manila airport, and only two have also developed route networks out of Cebu. In many Philippine cities, the only air links are with Manila, and sometimes Cebu. If Ninoy Aquino International Airport (Manila) remains THE heart of the Philippine aviation system, its share of total traffic decreased from 64% in 2001 to 58% in 2010, reflecting a faster growth of provincial airports, particularly Cebu, where international traffic has increased by 136% and domestic traffic by 146%.

Entrant airlines in the Philippines have not followed the same geographic pattern as low-cost carriers in other parts of the world (Zhan et al. 2008). In the United States *Southwest Airlines* has for a long time shunned the major hub airports by using peripheral air fields and created routes outside *Delta's*, *American's*, *United's* or *Northwest's* hubbing systems, providing quicker service between secondary cities. European carriers such as *Easyjet* or *Ryanair* offer flights to small destinations often not served at all by flag carriers, such as Carcassonne or Bergerac in France, also using peripheral airports (Hahn in Germany instead of Frankfurt, Luton



**Fig. 15.4** Top air routes in the Philippines (weekly flights in 2013). Source: Various airline websites, online flight schedules for the week June 28–July 4, 2013



**Table 15.2** The top 15 airports in the Philippines in 2011, ranked by the number of passengers

	Passengers
Manila—NAIA (central Luzon)	29,779,000
Cebu (Cebu)	6,050,000
Davao (Mindanao)	2,629,000
Iloilo (Panay)	1,708,000
Cagayan de Oro (Mindanao)	1,443,000
Kalibo (Panay)	1,378,000
Bacolod (Negros)	1,349,000
Tacloban (Leyte)	1,010,000
Puerto Princesa (Palawan)	989,000
Zamboanga (Mindanao)	804,000
Clark-Angeles (central Luzon)	767,000
Tagbilaran (Bohol)	756,000
Caticlan-Boracay (Panay)	732,000
Legazpi (Southern Luzon)	514,000
General Santos (Mindanao)	493,000

Source: Philippine Yearbook 2012

**Table 15.3** The dependency of provincial airports towards Manila and Cebu

Philippine cities linked only to Manila by airplane	Alcantara (Romblon), Calbayog (Samar), Catarman (Samar), Cotabato (Mindanao), Gasan (Marinduque), Masbate (Masbate), Naga (Luzon), Roxas (Panay), San Fernando (Luzon), San Jose (Mindoro), Tuguegarao (Luzon), Vigan (Luzon), Virac (Catanduanes)
Philippine cities linked only to Manila and Cebu by airplane	Bacolod (Negros), Butuan (Mindanao), Ozamiz (Mindanao), Dipolog (Mindanao), Dumaguete (Negros), Legazpi (Luzon), Pagadian (Mindanao), Surigao (Mindanao), Tacloban (Leyte)
Philippine cities linked only to Cebu by airplane	Bantayan (Bantayan), Del Carmen (Siargao)

Source: author's research from airlines' timetables

and Stansted in the UK rather than Heathrow or Gatwick closer to London, Beauvais instead of Charles de Gaulle for Paris, Charleroi not Brussels in Belgium).

Instead of the monopoly enjoyed by *Southwest Airlines* on many of its US routes, new carriers in the Philippines have gone head-to-head with the long-established *Philippine Airlines* on all the big routes. On the Manila-Cebu run, *Philippine Airlines* flies 84 times per week each way (12 flights per day), *Cebu Pacific* 103 times (15 flights per day), *Zest—Air Asia* 35 times (5 per day) and *SEAir* 28 times (4 per day). Vigorous competition, and high frequency of flights! This pattern repeats on many of the top routes of the country, with three or four carriers in competition (Fig. 15.4).

But this leaves many routes underserved,<sup>11</sup> with little choice for the passenger but to fly to Manila to connect, for example between Tacloban (Leyte) and Dumaguete (Negros). Given the relatively northern position of Manila, this is quite inconvenient for travelers. Most of the routes have a meridian direction, and very few flights go east to west, except for the routes between Cebu and Puerto Princesa (Palawan), a growing tourist destination, Davao—Puerto Princesa or Tacloban-Iloilo, but the frequency of flights remains quite low. Peripheral islands also suffer from infrequent flights: only 3 per week between Manila and Basco (Batanes) in the extreme north of the country, or between Zamboanga and Jolo in the far south. Four flights per week only from Manila to Virac (Catanduanes) or to San Jose (Mindoro, closer to Manila, and well served by ferries).

Given the fact that the networks of all airlines in Philippines focus on Manila (all) and Cebu (*Cebu Pacific*), can these two airports serve as hubs in the flight operations sense, i.e. waves of flights coming in and going out for tightly scheduled connections? In the case of Manila, the off-centered position of the airport seems a handicap to serve a convenient domestic hub, since there are very few domestic flights going north of the Philippine capital. However, it may serve better as an international gateway/hub between domestic flights and international flights if the airport congestion stills allows it. Cebu is ideally situated near the center of the Philippine archipelago (Fleming and Hayuth 1994). But there is no evidence at all of any hubbing pattern by the dominant local airline, *Cebu Pacific*. Flights come and go all day long without specific times of heavy landing or takeoff activity. Many routes are operated only one time per day, contrary to the heavily traveled Cebu-Manila run, operating even at odd hours, with the first flight of the day scheduled at 3.10 am. Cebu cannot be called a “hub” in the operational term; it is merely run as an operational base and a focus point in Cebu Pacific’s network. The same can be said of NAIA. Due to the location of Manila within the archipelago, airlines do not schedule flights for domestic connections. Neither *Philippine Airlines*, *Cebu Pacific* or *Zest Air Asia* operate Manila as a hub with waves of arrivals and departures. Manila, contrary to Bangkok, Singapore or Kuala Lumpur, has not developed into a major Southeast Asian hub (Bowen 2000; Matsumoto et al. 2009).

Airlines in the Philippines have not adopted the hub-and-spoke system after deregulation. Almost all flights within the Philippines reinforce the links of provincial cities with Manila, and sometimes with Cebu, without creating new inter-provincial ties. Is it because the market is insufficient between regional cities to warrant more flights bypassing Manila or Cebu? Is it because the airlines’ fleets are not large enough to allocate planes to secondary routes? Is it because the capacity of airports is insufficient, both in regional airports and in Cebu or Manila? And if this is the case, could improvements in infrastructures allow for hubbing operations or the development of new routes?

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<sup>11</sup>As for the inland city of Baguio, a major tourism center, the difficult approach to its tiny airport makes it unsuitable for the Airbus 320 jets used by airlines, so this airport has a traffic limited to small turboprops with little passenger capacity.

Things may change, however. Given the congestion at the Ninoy Aquino International Airport, *Cebu Pacific* declared in 2015 it would now focus on increasing flights and expanding domestic and international traffic from secondary airports in various parts of the country. It came in the wake of the announcement by the Public-Private Partnership (PPP) Center, that the expansion and modernization of six secondary airports, Bacolod, Iloilo, New Bohol (Panglao), Laguindingan, Davao and Puerto Princesa, would be opened for bidding. At the same time, the private operator of the Mactan Cebu International Airport, the country's second busiest airport, wants to connect Cebu to more key global destinations so passengers from Cebu, Visayas and Mindanao could fly directly to these places without having to go to Manila (Lorenciana 2016). In March 2016, for example, *Philippine Airlines* launched non-stop flights between Cebu and Los Angeles.

The 2014 lifting of European Union blacklisting of Philippine-based airlines may also allow more traffic between Europe and the archipelago, if there is airspace and apron space available and if high taxes on foreign airlines (Common Carrier Tax and Gross Philippine Billings) are reduced or eliminated to make Philippine airports more acceptable to foreign carriers (Arnaldo 2012; Gonzales 2013; Apolonio and Gomez 2014).

The industry growth, sustained by the flows of OFWs (Arnaldo 2015) in and out of the Middle East and Hong Kong (the top foreign destination) should be boosted by the ASEAN open skies agreement negotiated in 2015 and approved in early 2016 (De La Paz 2016) as connectivity will be enhanced. However, due to heavy congestion at the Manila airport, the openness of the Philippines to international traffic outside Asia appears limited, while the expansion of Arab airlines (*Emirates, Etihad, Qatar Airways*) limit the route prospects of Philippine airlines in Europe.

### 15.2.3 Which Airport for Manila?

If many large cities in Asia have built fancy new airports or considerably enlarged existing facilities in the last two decades (Hong Kong, Kuala Lumpur, Bangkok, Beijing, Shanghai, Seoul, Guangzhou....) (O'Connor 1995), airports in the Philippines appear quite outdated to world standards (De La Paz 2015b; Ongpin 2015) and are suffering from congestion as traffic continues to grow. As the dominant airport in the country, Manila is at the center of attention, even if many airports, such as Boracay/Caticlan, are suffering from many weaknesses, the most striking being a lack of nighttime runway lighting, limiting therefore the availability of service in late hours of the day.

Ninoy Aquino International Airport, built in the 1950s in Pasay City, on the southern side of Manila, has been widely criticized (Apolonio 2012; Makabenta 2015b), even ridiculed, as obsolete with decrepit terminal facilities (malfunctioning air conditioning, collapsing ceilings, minuscule dirty toilets) (Alcazaren 2011), and with structural problems of overall design, most importantly two intersecting runways, and four air terminals quite apart from each other and too small to handle the

increased traffic. Landside service is mediocre at best: congested road approach, no urban rail (Mercene 2012; Marasigan 2016), no bus, too few taxis, overcharging limousines, and repeated scandals involving baggage handlers, immigration and customs inspectors, security people<sup>12</sup> and indelicate airline employees. Manila's primary runway is 3737 m long while the secondary, intersecting, runway measures only 2367 m, acceptable for domestic flights using Airbus 320 aircraft, but too short for larger aircraft and long-distance flights. NAIA is designed to handle only 36 takeoffs and landings per hour. However, the current volume is 45, due to tremendous growth of traffic, both domestic and international, in recent years. In 2011, with about 30 million passengers, NAIA ranked as the 46th busiest in the world, 13th in Asia. Peak traffic times are between 7 and 6 pm, since most airlines have their departure and arrival times during this period, due to the weaknesses of provincial airports at night, leading to congestion and increased risk of accidents (Manalo 2012; Sawali et al. 2016). Around 5 pm in the afternoon, domestic flights start coming in to NAIA from secondary airports all over the country without nighttime capability. *Philippine Airlines* has shown some discontent with the perennial delays, up to the point of thinking about a total move away from NAIA towards Clark International Airport in Pampanga province (Magturo and Marcelo 2015).

In order to decongest Manila's worsening air traffic situation, and improve the competitiveness of the country (Luz 2011), many proposals have been floated around to consider other airport sites, such as Clark, Lipa Air Force Base in Batangas province and Sangley Point in Cavite, closer to both Manila and NAIA, as alternative airports to NAIA, or to expand the current facility by adding a third runway after purchase of land adjacent to the airport.

In a move that seems opposite to the stated goal of growth in aviation and tourism, the Philippine Department of Transportation asked local carriers in June 2012 (Cueto 2012b) to reduce their flights in and out of Manila, especially at NAIA Terminal 3 (request of a 30% cut in the number of flights) used mostly by *Cebu Pacific* and *Zest*, in order to accommodate international growth, with the scheduled transfer of several foreign airlines (*Emirates, Delta, Cathay Pacific...*) from Terminal 1 to Terminal 3.

One way to cut back on the number of flights in and out of NAIA is to move light aircraft and helicopter services away from the city. Small aircrafts are those that usually have five or less passengers, accounting once for up to 17% of the total takeoffs and landings at NAIA. NAIA should focus primarily on commercial flights (Angeles 2012b).

There will be no more private aircraft operating at the Ninoy Aquino International Airport (NAIA) Complex as the government gradually transferred their operations to Sangley Airport in nearby Cavite City (Bayos 2013). This move of general aviation to Sangley, however, began only after the 2015 completion of Laguindingan

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<sup>12</sup>Such as the 2015 "tanim bala" scandal, when a number of travelers, Filipinos and foreigners, were accused of carrying bullets in their bags, bullets planted during the routine safety inspections. Victims of the scam were asked to provide big sums of cash to proceed forward if they wanted to avoid detention by the airport police (Logarta 2015).

Airport in Misamis Oriental (Mindanao) to replace Lumbia Airport in Cagayan de Oro for commercial passenger flights. This is because the Philippine Air Force moved to Cagayan de Oro to free up its airbase in Sangley, Cavite City, for the general aviation services moved out of NAIA. Flight schools also had to move to provincial airports to help clear the airspace and runways around NAIA. Food and fresh fish runs were discontinued at NAIA in 2013 (Aning 2013). A rescheduling of flights and revamping of airport slotting is also under study (Apolonio 2015).

Provincial airports may benefit from efforts to decongest NAIA (Apolonio 2011a). Eleven provincial airports have obtained the green light from the Civil Aviation Authority of the Philippines to operate day and night as part of measures to decongest Manila Airport's terminals. They are Puerto Princesa, Cagayan de Oro, Zamboanga, Davao, Kalibo, Laoag, Iloilo, Bacolod, Tacloban, General Santos and Dumaguete. The move is part of the strategy of growth outside of the national capital region and could help to develop inter-regional links providing easier travel within the country without long detours to Manila. It is also an element of the open-skies policy adopted by the Aquino administration: upgrading provincial airports will attract more foreign carriers in cities other than Manila or Cebu.

In October 2011, the Philippine Transportation secretary disclosed a government plan to sell NAIA property to the private sector after transferring international airline operations to Clark Airport, in Angeles, Pampanga (Bayos 2011b). The privatization of NAIA property would be similar to what happened to Hong Kong. Selling Kai Tak Airport paid for the transfer of operations to the new air gateway in Chek Lap Kok. The Philippine government hopes to replicate this scenario in the case of NAIA and DMIA. When Mount Pinatubo erupted in June 1991, a massive ash cloud swamped parts of Luzon island, especially in Pampanga and Zambales provinces, precipitating the closure of American air bases in Clark/Angeles and Subic Bay, which were already threatened by the post-Marcos revision of defense treaties between the United States and the Philippines (see Chap. 18). Clark Air Base, just nine miles east of the volcano, was covered by thick mud. It took years to clean it up and to reopen it as a civilian facility, soon used by *UPS* as its main Asian hub.

Today, even if *UPS* has left the Philippines for Shenzhen, China (Lopez 2010), Clark International Airport is a key element of the government plans to revitalize the Philippine economy. A major logistics hub is under development, with a large free trade zone on the side of the airport, but it could also replace the cramped Ninoy Aquino International Airport as the nation's premier airfield. Supporters of Clark airport, which played a critical role in the logistics of American military during the Vietnam War, expect it to become the national gateway for international tourism and trade.

Manila airport sits on barely 440 hectares, compared with Clark's 2400 hectares, much closer to the usual norm for international airports. In contrast, Clark already has two 3200 m parallel runways, a must for any major airport. Land for expansion of a third runway and future terminals at Clark has already been reserved. For the Philippine government, the transfer makes sense on cost considerations. Expanding the 440-hectare NAIA would be more expensive and time-consuming than moving the commercial flights operation to the under-utilized Clark. Using the existing parallel runways of Clark for international and domestic flights would be much easier

than spending (wasting ?) taxpayers' money to buy out adjacent properties in Parañaque or Pasay City, bury South Luzon Expressway at the eastern end of the main runway, or reclaim coastal areas to expand NAIA's runways and terminals. According to the Philippine Senate president at the time, Juan Ponce Enrile : “*We can transfer the international airport in Clark and leave the present international airport for further development. We need real estate. It is located in the center of the population and it has become valuable and we should now relocate, use it for some other purposes*” (Rosales 2011). Furthermore, closing NAIA airport could help decongest traffic in the metropolis and allow for widening of the road system. Clark is also less vulnerable to flooding. Heavy monsoon rains or hurricane-induced downpours regularly flood much of Manila, hampering transportation to and from the airport.

One of the largest hurdles for Clark is transportation to and from Manila (Montecillo 2012b). The current 2-hours trek is too inconvenient. Clark is more than 100 km away from downtown Manila, and currently can be reached by bus in about 2 hours, in contrast to the relative closeness of NAIA with the CBD's of Makati, BGC and Mandaluyong within the Manila Metropolitan Area. There are no successful hub airports in the world that are located 100 km from the city center. Even Tokyo's Narita Airport is only about 50 km away from the city center. And with the reopening of Haneda (much nearer the city) to international traffic, airlines are scrambling to secure slots there, precisely because passengers prefer the closer option. Montreal's Mirabel was a failure, airlines preferred Dorval. São Paulo's Viracopos never succeeded: Guarulhos remains the main gateway to the economic center of Brazil, served also by centrally located Congonhas.

The eventual transfer, therefore, would only be made after the completion of a high-speed train link (see section on railways) from NAIA to Clark (Apolonio 2011b) to ferry airline passengers from Manila to Clark in less than an hour. But the cost of a new high-speed railway between Metro Manila and Clark, in a country with no culture of rail travel, may be too heavy a burden for the government to carry (Malig 2016). Can a dual airport system succeed, both for airlines and for passengers? (Bael et al. 2014)

A second hurdle would be that a good part of the economic development of Metro Manila is occurring on the south side, in Cavite and Laguna provinces. Placing all the airport activity far to the north would be quite detrimental for foreign companies, which have invested in industrial parks south of Manila in recent years. Therefore, some have suggested to keep the current airport operating, in a two-airport system, comparable to Seoul with Kimpo and Incheon airports, or Tokyo with Haneda and Narita.

In August 2012, *Philippine Airlines*, at the time under control of the *San Miguel* conglomerate, unveiled plans to build what could be the largest airport in the Philippines (Montecillo 2012a), able to handle four times as many flights per hour as NAIA. The new airport would be closer to Manila than Clark International Airport in Pampanga, which the government is grooming to replace Naia.

The prospective location for the new facility was not revealed, but it would need at least 2000 hectares of land for the new airport, to be used exclusively by *PAL* and

its subsidiary *PAL Express* (formerly *Air Philippines*). It would have two parallel runways when it opens, with the option of having two more, allowing for simultaneous take-offs and landings, possibly opening the way for the development of hubbing patterns. A large tract of open land in San Jose del Monte, Bulacan province, 15–20 km north of Manila's EDSA ring road, was mentioned as a possible site. Coastal towns or cities, however, offer a more ideal airport location. An airport in such coastal areas could serve as a full intermodal transportation hub, where buses, taxis, train, ships and ferryboats bring airline passengers to their final destination. The towns of Bulacan, Obando, Paombong and Hagonoy and Malolos City hug the shoreline of Bulacan province and are close to the northern edge of Metro Manila. They could host the future international airport, even if it may require reclamation of parts of their coastal areas in Manila Bay. Another suggestion for the new airport is a waterfront reclamation site along Manila-Cavite coastal road, straddling Parañaque and Las Piñas cities, close to casinos and the booming Cavite industrial corridor, just south of Metro Manila (Austria 2014a, b; Dumlao and Camus 2014; De La Paz 2015a). The airport would be built on the project started by Cyber Bay Corp., which has already reclaimed 157 hectares. The whole project, designed to have four runways capable of handling 150 million passengers annually and could accommodate 250 takeoffs and landings per hour. It would require 1600 hectares of land. *San Miguel* president Ramon Ang, who serves as co-chairman of Cyber Bay Corp., proposed to construct the new airport at no cost to the government, in exchange for operating the facility over a period of time to recover the huge investment.

Another solution floated around is to make a huge intermodal transfer. The port of Manila activities could be shifted to Batangas, 100 km south of Manila, where a major container facility has been developed. Plans for a bridge between Batangas and Mindoro island would expand the role of Batangas as a maritime hub for the entire archipelago. The Subic Bay free-trade port could also be enhanced by the transfer of some of Manila Harbor's activities. Meanwhile, the space left vacant by maritime transportation could be converted into a new airport, with bayside air access to limit noise, either as a secondary airport to reduce congestion at NAIA, or as a close-in airport complementing a larger international facility at Clark.

Another suggestion has been to use Laguna de Bay to build a new airport out of waterspace, close enough to southern MetroManila, and not exposed to oceanic risks.

The latest choice of the Philippine government, subject to financing and further studies, appears to be the expansion of the Sangley Point facility in Cavite (Olchondra 2012; Flores 2015), which would of course require the shutting down of NAIA, due to the excessive proximity of the two airfields. Reclamation on Manila Bay would allow the construction of a modern multi-runways facility. But the cost will be very high, and it will also require the provision of quality transportation to and from the airport to make it a real world-class facility. Both projects (Desiderio 2016) are options proposed by JICA, the Japan International Cooperation Agency, entrusted by the Aquino government to conduct a feasibility study on the location of the new airport (Gomez 2014a).

None of these plans has been implemented yet. But it is clear that the current congestion at NAIA is a handicap for the overall competitiveness of the Philippines as a whole. Philippine authorities need to assess their priorities, in a classic national land use planning dilemma. Should they expand and modernize at high cost the capacity of Manila airport in its current location, find another location, or push for a more decentralized view of the development of the Philippines archipelago? (Jose 2007) Should they encourage airlines to grow outside of Manila, by offering direct flights between provincial cities, developing a major air hub at Cebu, and secondary nodes in places such as Iloilo or Tacloban, also well located for pan-Philippine traffic as well as inter-island traffic?

The development of inter-island fast catamaran ships has already reduced the number of flights between Cebu and Bohol (Diaz and Sorupia 2001). A sound transportation policy could be to consider the whole system of transport inside the Philippines, not just in terms of aviation vs. shipping, but of interlinking between shipping lines and airlines on some of the local routes, the same way European countries have built interconnecting facilities between high-speed rail and airports, for example in Paris Charles de Gaulle and Amsterdam Schiphol, and Chek Lap Kok Hong Kong International Airport set up a network of maritime shuttles to Macau and Shenzhen.

### 15.3 Rail Transport

Most countries—rich and poor—take pride in their railways system. Trains are fast, inexpensive, comfortable and help reduce road traffic and air pollution. But the Philippines is one of the rare countries that has not built a strong, efficient and sustainable railway system, in contrast to its Southeast Asian neighbors Indonesia, Thailand, Malaysia or Vietnam.

Railroads arrived late in the Philippines, half a century after they had appeared in Europe and North America, but about the same time as in other Asian countries such as Japan. A royal decree issued by Spanish King Alfonso XII in 1875 was the start of railroad history in the Philippines. It required the Inspector of Public Works of the Philippine Islands to submit a railway system plan for Luzon. After the approval of the *Memoria Sobre el Plan General de Ferrocarriles en la Isla de Luzón*, the concession for the construction of a railway line from Manila to Dagupan (Pangasinan) was awarded to Don Edmundo Sykes of the *Ferrocarril de Manila–Dagupan* (Manila–Dagupan Railway), which became the Manila Railway Company, Ltd. of London in 1887. Construction began on July 31, 1887 with the laying of the cornerstone for Tutuban Station in Manila, and the 195 km line was built rather quickly in 5 years, with service on the entire line starting November 24, 1892. The first segment, linking Manila and nearby Malabon, was inaugurated in 1888.

The expansion of the Philippine railway network (McIntyre 1907; Corpuz 1999) resumed after the American takeover of the islands, when on December 8, the Philippine Commission authorized the construction of another railway route, the



South Main Line to the Bicol region. By 1916, 792 km of track had been built by the company, which had been reorganized as the *Manila Railroad Company* (MRR). Financial difficulties led to its nationalization in 1917 by the colonial government in the Philippines (Monsalve 2015). During the 1920s, the MRR embarked on a general program of improvements as a result of operating surpluses accrued over much of the decade, allowing for the extension of railway service on the North Main Line from Dagupan to San Fernando (La Union province), the extension of the South Main Line to Legazpi (Albay) and the construction of several spur lines: Tarlac to San Jose (Nueva Ecija) on the North Main Line ; Manila to Cavite ; Calamba to Los Baños, Santa Cruz and Pagsanjan (Laguna province) ; Calamba to Batangas ; and to the port of Tabaco City (Albay) on the South Main Line. There were also spur lines east of Manila to the Rizal towns of Cainta, Taytay and Angono. Regular direct service between Manila and Legazpi was inaugurated in 1938, and by 1941, the MRR operated 1140 km of track, its maximum extension.

In May 1906, the Philippine Commission had granted to another company, the *Philippine Railway Company*,<sup>13</sup> incorporated in Connecticut and predecessor of the current *Panay Railways*, a concession to construct railways on the islands of Panay (Iloilo to Roxas City, 117 km),<sup>14</sup> Negros and Cebu. The *Philippine Railway Company*, along with operating the Panay line, operated a 91 km line in Cebu from 1911 to 1942, when operations ceased because of the Japanese occupation and guerrilla destructions (Bersales 2014). The line ran from Danao south through Cebu City to Argao (Palmera 2014). It was primarily built to facilitate transport of sugar, coal, abaca and copra from all over the island to Cebu City, from where these found their way to the rest of the Visayas region, boosting the traffic of the port and helping Cebu to become the second most important trade center of the Philippines. Other much shorter lines were built and operated to serve sugar plantations and sugar mills, mainly on Negros Island, as well as Luzon, Mindoro, Panay, Cebu, Leyte and Mindanao.

American colonizers did not further develop the railways, all built on narrow metric gauge, preferring to invest mostly into roads and highways. Commonwealth authorities had plans to expand the railways, but the massive destructions of World War II left more than half of the network in ruins. Only 452 km were operational in 1946.

In 1964, MRR changed its corporate name to the present-day PNR (*Philippine National Railways*). Despite financial difficulties from 1957 to 1963, it was able to

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<sup>13</sup> It was part of a “Manila syndicate”, a collection of Philippine infrastructure companies including the *Manila Electric Railway and Light Company*, the *Manila Construction Company*, and the *Manila Suburban Railways Company*, joined later by the *Philippines Railways Construction Company*. Leading American railwaymen such as Cornelius Vanderbilt sat on its board.

<sup>14</sup> This railroad operated from 1907 to 1985 (passengers) and 1989 (freight). Since the end of rail service on Panay, the company, now named *Panay Railways*, still exists and had from time to time suggested it would restart operations, possibly with a connection spur to Iloilo Airport and an extension from Roxas City to Caticlan, where it would connect with ferries serving the resort island of Boracay. The Philippine national government, however, considers such a revival would not be economically viable.

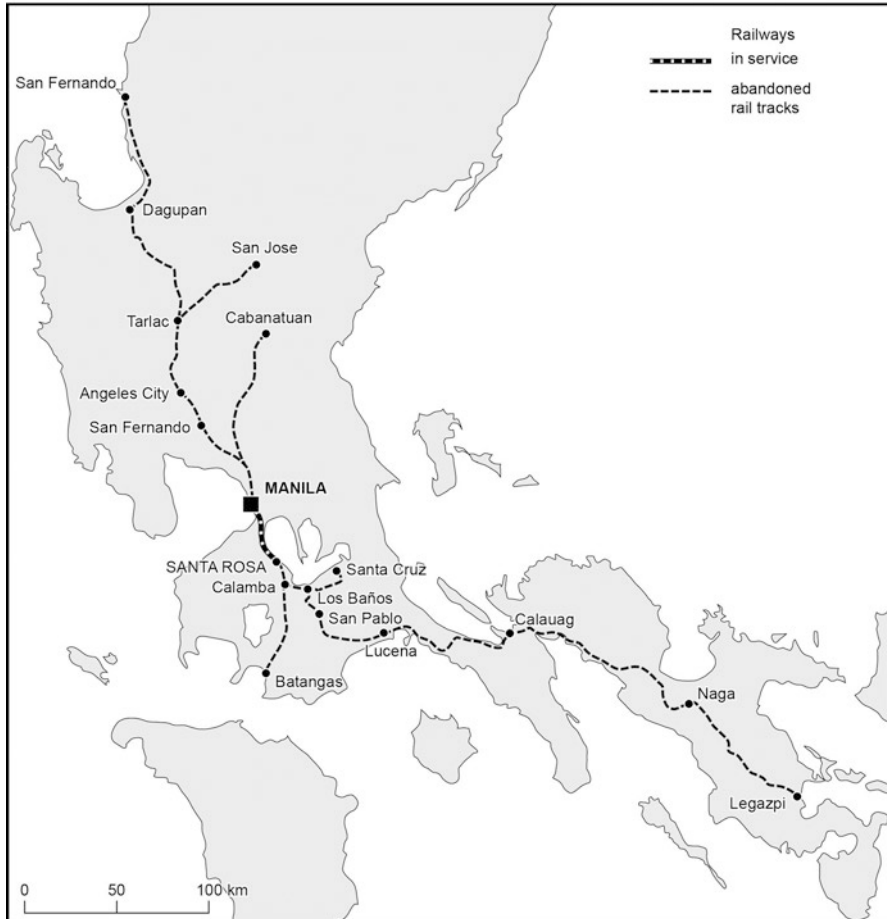
propose four daily runs to the capital from Legazpi: one “ordinary” morning departure, followed in the afternoon by the all-economy *Bicol Express*, the popular *Mayon Limited* 1 h later and finally by the luxury *Prestige*. To the north it was running the *Baguio Express* (to Camp One, La Union, where buses transferred passengers to the high-altitude Baguio) and the *Ilocos Express* to Dagupan. However, train ridership started to decline in the late 1950’s, due to several causes: a growing competition from private automobiles and bus lines, the inefficiency of the company itself and the building of squatter shanties along the railroad tracks, leading to unsafe and slower train travel.

The Philippine railway system shrank enormously when the Mainline North (Manila-Tarlac-Dagupan-San Fernando) closed in 1984, followed in 2006 by the end of service on the Mainline South, due to repeated calamities (floods, landslides, accidents) on both lines. The PNR is currently operating only a 43 km suburban commuters line from Manila to Santa Rosa (Laguna) (about 60,000 passengers per day—20 millions per year—in overcrowded trains running at low speed and frequency: every 30 min to Alabang and only 3 trains per day to Santa Rosa) and a short 35 km segment from Naga to Sipocot in Camarines Sur (2 trains per day). Most rail tracks are abandoned and overgrown with weeds, while old trains stations in disrepair are occupied by squatters (Cruz 2014) (Fig. 15.5).

Successive administrations have failed to restore and expand the PNR services and network. Lack of rolling stock, insufficient capacity, inefficient ticketing system and rundown stations continue to plague the *Philippine National Railways*. The PNR franchise itself was in danger of not being renewed in the Philippine Congress,<sup>15</sup> while many false hopes were raised about a public-private-partnership to revive the La Union-Albay service through the « North-South rail project » (De La Paz 2015c), which would recreate most of the old network (except for the Santa Cruz branch in Laguna province) and possibly build a northern extension towards the Cagayan Valley. Initially, the project involves the upgrading and modernization of the 32-km stretch of the PNR Southline within the Metro Manila area, from Caloocan City to Alabang in Muntinlupa City (Maragay 2005; Olchondra 2007). An interesting part of the Northrail project is the upgrading of the existing single narrow-gauge track to an elevated standard-gauge dual-track system (Gomez 2013), to link Manila to Malolos (Bulacan) and Angeles City (Pampanga) to the Clark Special economic Zone and Clark International Airport (Agcaoili 2014; Basa 2014; Marasigan 2015a). Some have even suggested to build a high speed rail line (Manuel and Leyco 2013; Orejas 2014; Sapnu 2014; Chanco 2015) to help make Clark the new airport of Manila, even if located about 100 km north of the Makati and Ortigas business districts. However, work stoppages, contract disputes with Korean, Japanese and Chinese partners, insufficient funding, corruption, lack of commitment at the highest level (Antiporda 2015), and difficulties to relocate illegal settlers living near the rail tracks (Ugalde 2012; Zuniga 2013; Bayos 2015; Ramos-Araneta 2015) have made progress very slow, while the needs for quality rail transportation

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<sup>15</sup>The *Philippine National Railways* suffers from chronic operating deficit and has largely depended on government subsidies for its operations.



**Fig. 15.5** Railroads in Luzon

are ever higher (Cruz 2015) due to road congestion in and around Manila including the rail city of Calamba, Laguna.

The Manila-Bicol railway is deemed as critical to development as it promotes rural tourism, empowers Bicol labor to compete in the labor markets of Metro Manila and elsewhere in Luzon, and provides a multi-modal transport means for bringing agricultural products and manufactured goods of Bicol to the rest of Luzon. However, efforts to revive the Bicol Express route (Bayos 2011a, 2012b; Gonzalez and Lectura 2011; Hermogenes and Reyes 2011; Ramos-Araneta 2014; Amolejar 2016) have been short-lived, and the planned expansion of the Southern Line from Albay province to the Port of Matnog (Sorsogon Province), a perennial promise of Bicol politicians, has failed, in part due to massive corruption and the misappropriation of funds by corrupt politicians, as well as worries about the safety of the tracks (De Guzman 2011; Agcaoili 2013; Ugalde 2014).

## 15.4 Bus Transport in the Philippines

In the absence of any decent rail transportation network, travel in the Philippines relies heavily on the use of buses, city buses as well as intercity buses. As in many developing countries (Iles 2005) in Latin America,<sup>16</sup> Africa and Asia where the development of railroads has been minimal, buses are a way of life. Since most people do not own a private motor vehicle, it is the only way to travel from one city to other.

The Philippines' bus system (Boquet 2013) covers the majority of extended overland routes. Following the pioneering *Philtranco* (Dabu-Foz 2004), started in 1914 as the Al Ammen Transportation Company between Manila and Naga, dozens of companies provide high frequency connections from Manila to the provinces of Northern Luzon (*Baliwag Transit, Dagupan Bus, Five Star, Florida Transportation, Genesis, Partas, Saulog Transit, Solid North Victory Liner, Solid North*) or south of Manila through the Tagalog country (Laguna, Quezon provinces) towards Bicol (*DLTB, Green Star Express, HM Transport, JAC Liner, JAM, LLI, Lucena Lines, Superlines*). Some companies have entered into agreements with the ferry companies to serve the Visayas and even Mindanao from Manila,<sup>17</sup> while other companies only run on certain islands (*Ceres Liner in the Visayas, Mindanao Star*). The consolidated bus terminals in provincial cities such as Dau near Angeles City (Pampanga) or Lucena (Quezon) are essential points of passage for travelers, especially numerous during holidays. Buses connect Manila to the port city of Batangas, the southern Tagalog provinces of Laguna and Quezon, the Bicol region, the mountain city of Baguio (and onward to Banaue and Sagada) and the northern heritage city of Vigan. From Davao, buses take travelers to other cities in Mindanao. Bus travel, mostly a one-island affair, can cross water from Manila to Davao. The Strong Republic Nautical Highway is supposed to increase inter-island bus travel. Intercity buses leave from bus terminals and continue with only a few rest stops (theoretically) till they reach their destination. In practice, bus drivers pick up and drop off passengers or vendors in many spots along the way (Fig. 15.6).

According to official data, about 25,000 buses (PUB, "public utility bus") ply the roads of the country and the streets of its cities, particularly in megacity Metro Manila. The structure of the bus industry—making difficult the collection of detailed data on traffic, bus loads, revenues of bus companies—is characterized by the high number of private bus companies, some quite large (such as provincial buses companies *Victory Liner*, more than 900 units in its fleet, *DLTB, Dagupan Lines, Philtranco*), but some quite small (owning a handful of buses). Bus companies are awarded franchises to run certain routes by a government agency, LTRFB (Land Transportation Franchising and Regulatory Board). Rates per kilometer are deter-

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<sup>16</sup>In Brasilia, Brazil, a huge bus station serves the needs of poor people going to/from Southeast or Northeast Brazil from/to the pioneer fronts areas of Amazonia and Mato Grosso. However, bus transport is quite often marked by many insufficiencies.

<sup>17</sup>A *Philtranco* bus route crosses the 900-plus mile distance between Manila and Davao with two ferry crossings in between. The trip takes 48 h to finish.



**Fig. 15.6** Lucena Grand Terminal (Quezon province) (December 2012)

Most buses to/from Manila and towards Bicol destinations stop at this facility, located about 4–5 h away from the capital city, on the outskirts of the main town of Quezon province. Passengers can transfer to/from local transport modes (jeepneys and tricycles). The integrated facility with specific areas for buses, jeepneys and trisikel, has several chain restaurants (Chowking, Jollibee), many eateries, vendors of snacks and souvenirs for waiting passengers. Overnight travelers may stay at a hotel on premises. Administrative offices such as Social Security and Bureau of Internal Revenue are also located in the complex

mined by public authorities, therefore limiting competition on price, so that many bus companies try to maximize their revenues by allowing on board more passengers than there are seats, thus forcing people to stand in the aisle, a major safety risk at higher speed travel on the highways than in traffic jams in Manila. Competition is also ferocious for attracting passengers, with on board “conductors” barking the name of the bus destination (“Alabang! Alabang!”) to passengers waiting on the side of the road.

One of the reasons is the “boundary system” mode of payment for bus (and jeepneys, see next section) drivers. In the boundary system, the driver pays his bus company a fixed amount (the “boundary”) every day for driving the vehicle. It is akin to the driver renting the vehicle. His take-home pay is the difference between what he earns from passenger fares above the “boundary” minus what he paid for the gas and oil. If he is lazy, he takes home less money; if he works harder (driving faster and more aggressively, leaving little time for passengers to embark/disembark, racing in crowded streets and cutting off the path of a competing bus to capture more passengers, taking more passengers on board than allowed by law), he earns more, especially if he is on the road for long hours and not limiting himself to

the legal 8 driving hours per day. Drivers are overworked (Salamat 2010a), exhausted and their reflexes get slower, especially after dark, leading to accidents. Operators impose “high quotas” of earnings on newer buses, forcing drivers and conductors to work longer hours just to meet this quota. If not, they may even have to pay for a part, often half, of the cost of the fuel used during the day. The drivers and conductors take out from their own pockets the “illegal exactions” or “tong”, bribes and fines imposed by corrupt traffic enforcers. They also shoulder whatever “terminal fees” they have to pay.

Given the high level of competition between bus companies, and the possibility of hailing an intercity bus (or getting off it) at any point alongside its route, even if there are “official” stops where most buses will make even a short halt, travel by bus is relatively easy and cheap. A 2 to 3 h ride from Manila to Santa Cruz (Laguna) or Angeles City (Pampanga), costs only 120–130 pesos (3 US dollars) on board an air-conditioned bus, and about 90 pesos (2 dollars) on an “ordinary” bus, with no difference in price between operators.

Observing people on board buses shows a frequent presence of families, with 3–4 children, more often with their mother, sometimes the father or grandparents. They would use the bus for longer distances. However, young adults or students appear to use the bus for shorter distances—rather than jeepneys—for instance boarding in large numbers at the UP Los Baños campus in Laguna and getting off at different points alongside the route towards Santa Cruz. On board the buses, many passengers just sleep or at least doze off. Another frequent activity is texting on cell phone. Some will watch the movie broadcast on the TV monitor on-board the bus, most of the time a loud American B-series action movie including a lot of violence (un-censored even in the presence of many children on-board).

For long trips such as between the Bicol region and Manila, lasting 8, 10 h or more, bus drivers will make stops every 2 h or so, allowing passengers to stretch their legs or relieve themselves in “comfort rooms” before boarding again. Those pit stops often take place where food can be purchased, sometimes at roadside restaurants. Different companies will stop at different places: on the Manila-Daet route, *Philtranco* buses do not stop in same spots as *Superlines* or *DLTB* buses.

Bus travel offers many opportunities for vendors. Around bus terminals, many sell different items, mostly food, to impending travelers. Alongside the route, when buses stop at active boarding spots, such as a freeway exit (Calamba, Laguna), four to six vendors also enter the bus, offering water bottles (“tubig ! tubig !”), peanuts (“mane ! mane !”), other foods, sometimes local specialties (“buko pie”, a coconut cake, in the Calamba, Laguna area), on occasions non-food items (towels, brooms). They walk to the back of the bus, then stand in the central aisle, waiting for the next stop, at which point they will get off the bus, cross the road, and wait for the next bus taking them back to the starting point. Many vendors wear uniforms (usually a colored t-shirt stamped with their name or registration number, sponsored by a local politician, congressman or mayor). This practice of on-board vendors is widespread. However, a minority of bus companies have banned it, with a sign on the bus entry door : “no vendors allowed aboard this bus”. It happens mostly on long distance buses with the highest level of comfort (A/C, wifi on board, individual electric

outlets), thereby differentiating the “product” (bus service) as higher quality, the ban on vendors being part of the upgrading of the travel service.

A recent wave of accidents due to reckless driving has led to a stricter control of the bus companies (Diola 2014; Lozada 2014) and some companies with poorly maintained vehicles (Ong 2015) and repeated violations, have seen their operating licences suspended or revoked (Faustino 2014; Gomez 2014b; Murcia 2014; Burgonio 2015), which is a hopefully a good sign for the future. A major move to improve safety would be to abolish altogether the “boundary system” (Cruz 2012a, b; Chanco 2014). There is legislation in the works in the Philippine Congress to reorganize in depth the pay system of drivers, by providing them a fixed salary (Herrera 2014) and wage-related benefits (medical leave, vacation, paternity leave...), instead of the current commission-based system, but at the same time bus companies resist the proposed new rules, since despite the appalling quality of transport services, profitability did not suffer. Operating buses remains a very lucrative enterprise. A hybrid measure introduced in 2012 has theoretically abolished the boundary system for buses, and replaced it with a part-fixed and part performance-based wage system (Angeles 2012a). The fixed component of their earnings meets the minimum wage in Manila, but the performance part, despite wishes from the government that it would be based on safety and environmental criteria, has not reduced the aggressive driving behavior of bus drivers.

## 15.5 Local Transportation in the Philippines

Most mobility occurs at the local scale on a daily basis. Taxis and buses are part of the commercial transportation mix, and cars, as well as motorbikes, are used as personal vehicles, but a large part of daily movements are done on typically Filipino vehicles, the jeepney and the trisikel.

### 15.5.1 Jeepneys

If London has the red double-decker buses, New York the Yellow Taxis, and Japan the Shinkansen bullet trains, the Philippines have the Jeepneys.

The jeepney (Grava 1972a, b) (PUJ/Public Utility Jeepney in bureaucratic terms, *dyipni* or *dyip* in street tagalog), hailed as the “King of the Philippine Roads”, is the backbone of transportation both in cities (about 60,000 in Metro Manila and 220,000 nationwide) and in the countryside. They represent about 25% of all 4-wheels vehicles in the country. This Philippine version of paratransit (Cervero 1992) is also regarded as a truly Filipino cultural icon. It is the most popular and the most affordable (starting price at seven or eight pesos according to locality, about 15 cents of Euro or US Dollar) mode of public transportation in the Philippines and it is a symbol of Filipino’s innovation and ingenuity. The jeepneys, which are a popular way of

mass transport have become a ubiquitous, iconic, symbol of Philippine pop culture (Meñez 1988). In recent years, however, jeepneys have been criticized for being obsolete, an important source of air pollution and a traffic risk, leading to several ideas to replace the jeepney with new transportation choices, either by making them environment-friendly (e-Jeepneys) or by looking to other ways to offer ubiquitous transportation (Make it Davao 2012; Orbuda 2013; Quiboloy 2016).

This popular public transport began as the “AC jeep”, for auto calesa, when hundreds of surplus jeeps used by GIs to liberate Manila in late 1944 were repurposed into people carriers. Instead of uneconomically shipping them back home, US Army jeeps were left behind in the archipelago. During the rehabilitation and rebuilding phase in a country rising from World War II ashes, Filipinos stripped down the jeep and transformed it into the jeepney<sup>18</sup>: the body was lengthened in order to crowd more people aboard, two parallel benches were bolted on the floor, iron sheet roofs were added to ward off sun and rain, and to lug cargo from bushels of vegetables to screaming pigs. To liven up the drab olive colored body of re-used jeeps, Pinoy craftsmen soon transformed its side panels into colorful painted murals designed to grab the attention of potential passengers. They added decorative mud flaps and splash guards, chrome hood ornaments, which became a tableau of kitschy art, the favorite being Mercedes-Benz logos and tin metal galloping horses predating the Ford Mustang’s logo by two decades. The back seat was reconfigured into two long parallel benches with passengers facing each other to accommodate more passengers. The entrance was through an open door at the back of the vehicle, equipped with hand railings, and passengers needed to be aware of extremely low ceilings.

The jeepney was used just as a temporary means of mass transport replacing probably the tramvia since most of the public transport in the Philippines especially in Manila had been virtually destroyed during World War II. Manileños quickly realized that an entirely new sort of vehicle had been born in their war-ravaged city. From an American vehicle it had become a pure Filipino vehicle,<sup>19</sup> with no equivalent anywhere in the world. Recognizing the widespread use of these vehicles and using them to re-establish transport of the “masa”, the Philippine Government began to regulate their use, with the establishment of operation franchises (granted by the LTFRB - Land Transportation Franchises Regulatory Board—as they are for buses), the design of regular route networks and the implementation of fares fixed by authorities.

The size, length and passenger capacity of jeepneys increased as it evolved through the years.<sup>20</sup> The original jeepneys that were refurbished were the Jeep’s

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<sup>18</sup>The word “jeepney” was derived from a combination of the words, “Jeep” and “Jitney.” Jeep is a portmanteau of “General Purpose” or “Gee P”.

<sup>19</sup>It has few equivalents anywhere in the world. If paratransit service is quite common, the elements that make the jeepney a truly Filipino transport vehicles are hard to replicate, even if the “colectivos” of southern South America (Argentina, Chile, Paraguay, Uruguay) had some resemblance, as well as the “chivas” or “escaleras” of rural Colombia and Ecuador and the Haitian “tap-taps”, but without the central role played by Philippine jeepneys.

<sup>20</sup>A movement towards a return to small-size jeepneys has been initiated in Baguio, with the introduction of the “jeepito” resembling an early Jeep, but with the colorful decorations associated with



Willys and Fords, while modern jeeps are manufactured by local body builders from a combination of prefabricated materials and improvisation often with “surplus” Japanese SUVs or light truck diesel engines, transmissions, suspensions, and steering components. The manufacturing of jeeps was pioneered by two motor companies in Las Piñas: *Sarao Motors* and *Fransisco Motors*. Sarao Jeepneys were promoted as the symbol of Filipino culture: one of them was used as an exhibit at the Philippine Pavillon during the 1964 New York World’s Fair as a national image for the Filipinos. In 1971, a Sarao Jeepney traveled from Manila to London and all over Europe as the Philippine icon of the London-Manila Express, a road show sponsored by the Philippine Tourism and Travel Associations to boost the country’s tourism industry. The manufacturing plant in Las Piñas was also open to visitors. They were followed by small jeepney workshops and factories around the country and produced commercial passenger jeepneys as well as owner-type jeepneys used by some families and by farmers to take harvests to markets, for example coconuts or bananas. Churches and schools may also use their own jeepneys to bring people to religious services and children to class. All jeeps are privately owned and operated, and government involvement is minimal. Jeep owners follow the laws of supply and demand (Kurokawa and Iwata 1984), and jeeps run the streets until about 10 pm at night. Jeepneys follow precise routes, with major points clearly marked on the side of the vehicle, and on small signs hanging from the front windshield, but there are no marked jeepney stops. In fact, they stop on demand, weaving in and out of traffic (Regidor et al. 1996, 1999), as do most buses, often by braking violently as soon as the passenger shouts “*para po*” (stop - please). This is a source of many accidents blocking traffic. At some major points along the route, self-appointed dispatchers, the “barkers”, call loudly potential passengers for a particular route or destination, and direct them to specific jeepneys, receiving then small change from the driver for this “service”. Would-be passengers can also flag down jeepneys much like the taxis by waving their arm at the approaching vehicle. Driving under the same boundary system as buses (Luci 2015), jeepney operators also fight to get more passengers, and it is not rare to see one single jeepney blocking the path of a dozen others. At the starting point of the route, they always insist on squeezing 1 or 2 more passengers on each bench, even as the vehicle is clearly more than full. With a full load it feels like a can of sardines with excessively close physical contact between strangers. On the other hand, they will wait for a long time if the vehicle has few passengers (Hosomi et al. 2001), or ride at a snail’s pace in the hope of attracting customers.

The fare payment method, if one is not boarding at the end station of the route, is quite unusual to Western eyes, since the passenger calls the attention of the driver (“*bayad po*”, payment-please) then entrusts his money to his neighbor, who then transmits it to the next passenger, and so on, towards the driver, who while driving also sends back the change (most of the time!) the same way to the passenger.

In the provinces, some commuters, mostly young men, will tend to ride in a jeep clinging at the entrance hand railings, for the thrill of speed, or even on the roof of

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traditional jeepneys. It is to be used to ferry tourists (Comanda 2015).

the vehicle, with total disregard for their safety. This common practice is illegal but jeepney operators appreciate the extra revenue it brings (Figs. 15.7 and 15.8).

One of the famous peculiarities of jeepneys in the Manila area<sup>21</sup> is their exuberant decoration. For many jeepneys, the “visual art” extends to the sides of the vehicle with customized paintings (portraits of Jesus or the Virgin Mary, Sesame Street or Disney characters such as Mickey Mouse or Snow White, Ferrari or Lamborghini race cars, women in various states of undress, scenes of Japanese manga, NBA basketball logos, jumping tigers, astrological symbols, rice terraces, American, Canadian, Australian or Japanese flags, fighter jets, pictures of airliners or merchant ships reminiscent of time spent abroad as an Overseas Foreign Worker, often in an incoherent mix of the spiritual and the profane). The art is usually the handiwork of jeepney artists using colored plastic stickers applied one by one for about 2 weeks before the vehicle decoration is ready. Multiple purely decorative antennas, oversize horns and lights adorn the hood of the vehicle, while above the front windshield a metallic visor often celebrates the name of the wife (“Raquel, Michelle, ...”) or children of the owner, unless it praises God (De Sousa Bastos 2008; Güss and Tuason 2008). At the front of the jeepney, impressive guardrails reinforce the fenders. Inside the drivers section, crosses and statuettes of Mary reminds us it is a very Catholic country. Some jeepneys offer on-board entertainment, with radios, booming stereos with cassettes, or flashing multicolored lights giving sometimes the feeling of entering a discotheque.

Jeepney drivers have gained the negative reputation of being often very sloppy in the way they dress and rude in the way they deal with passengers as well as pedestrians. Campaigns to encourage better hygiene and grooming (Santos 2013) as well as courtesy from jeepney drivers have often fallen on deaf ears. Professionalism and road courtesy cannot be learned overnight, and frequent changes in transport administrations, as well as the “ningas kugon”<sup>22</sup> culture of the Philippines, have not sustained campaigns for the improvement of the jeepney riding experience (Lucero 2007). The negative public image of the jeepney goes with their exploitation by the traffic enforcers asking for bribes whenever there is a violation of some sort—even when there is none. Fights are frequent between drivers, while criminals often associate with unscrupulous jeepney drivers to commit robberies. Their working conditions do not help: a University of the Philippine study (Coz et al. 2015; Adel 2016) has shown that jeepneys manufactured in the Philippines are produced at minimum cost. The vehicles do not undergo proper design planning procedures that other vehicles are subjected to, thus resulting in a poorly designed workspace which is detrimental to the health of the drivers. There is an insufficient distance between

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<sup>21</sup>There are regional variations in jeepneys. In the Visayas (Bacolod, Cebu...), the classic jeepney is running alongside “multicabs” where the vehicle’s inside is arranged like the jeepney but in Cebu the outside “flat-nosed” body resembles more a Suzuki or Toyota minivan, as in Indonesia’s mikrolets. In Iloilo the “passad” jeepney has a much lower profile and in Davao the “uso-uso” has still another style of body frame.

<sup>22</sup>“Burning grass”. Being enthusiastic at the beginning but quickly failing to pursue a certain goal if the result is not immediate.



Fig. 15.7 Jeepney on rural road in Labo (Camarines Norte) (August 2015)



Fig. 15.8 Heavily decorated jeepney in Taguig, Metro Manila (June 2013)

the steering wheel and driver's seat, causing restraint to the drivers' mobility. The limited height of the windshield also blocks the driver's line of sight keeping the drivers leaning forward when looking for traffic signs. Drivers often cannot adjust rear-view mirrors and they have to use the passenger's side when going in and out of their vehicle, since the spare tire (rarely in good shape!) is located next to the driver on the left side, preventing them to easily access their workspace. Jeepney drivers are prone to musculoskeletal discomfort and body pains since they spend an average of at least 10 hours on the road. They are subjected to improper or awkward positions for long periods and vehicle measurements do not suit their needs, which may not make them prone to being friendly and courteous.

With the introduction of rail transit in Manila, the popularity of air-conditioned buses, and the rise of shared taxis (e.g. FX and passenger vans) (Diaz and Cal 2005) offering more comfortable options, the manufacturing of jeepneys has slowed down to only a few dozens a year. Even as some manufacturers have produced larger jeepneys of 30 passengers with better comfort, they still suffer from being exposed to pollution, noise and rain, and have the reputation of being somewhat unsafe due to ease of access (no doors) which allows criminals to hit-and-run for quick robberies. Middle-class commuters and women are ready to pay more for comfort and security (Bayan et al. 1995; Okamura et al. 2013). Colorful jeeps are a disappearing species.<sup>23</sup> Jeepneys today mostly come in one color: silver gray never to be painted over. Many older PUJs show their long life of rusted metal, damaged sections and faded colors covered with heavy layers of soot. Jeepneys are more expensive to operate and repair compared to other vehicles on the market because they are often old and do not have standardized parts easily available. This is a source of many breakdowns during operations, leading to traffic jams and inconvenience for the passengers. Their noisy diesel engines also emit large amounts of carbon dioxide and fine particulates (Galvez et al. 2013) contributing to massive pollution in the Manila metropolis. Many passengers ride on jeepneys with a handkerchief over their mouth and nose to avoid breathing too many pollutants. The jeepney is an uneconomical gas-guzzler since its aerodynamics are eaten up by an unyielding boxy metal shell and its profusion of accessories, mirrors, grills and guards, as well as the constant accelerations and decelerations linked to aggressive driving.

There have been many proposals to eliminate the jeepneys (Lim Chiu 2008). In an age of automotive innovations for fuel efficiency, aerodynamics, safety and comfort, the jeepney is an uncomfortable anachronism, sorely lacking in safety features and inadaptable to seat-belts and universal safety standards (Bacero and Vergel 2009). The Jeepney is a historical figure; should it now be placed in a museum, never to be ridden again? (Pascual 2004; Libot 2014) In 1984, as the Manila Light Rail started, President Marcos asked for a study of the abolition of Jeepneys in Metro Manila. A proposed re-design of the jeepney, known as the "Bagong Lipunan Jeepney", looked like a mini bus with an air conditioning and the passenger's

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<sup>23</sup> However, the Department of Tourism plans to use about 50 repainted jeepneys as ambassadors of Philippine culture. A "Jeepney Arts Festival" was organized in a luxury hotel of Makati to launch the program, which is part of the "it's more fun in the Philippines" campaign (Santos 2012).

entrance at the side of the driver. It was too expensive to build and never got off the production line. Today, in Metro Manila, the increased use of taxis and FX Vans (Shared Taxis) is eating away at the modal share of jeepneys. In 2013, the city of Iloilo planned to ban the entry of jeepneys in its central area (Burgos 2013). The DOTC (Department of Transport and Communication) is now encouraging jeepney operators to switch to LPG fuels (Resurreccion 2011; Bayos 2012a; Cueto 2012a) or use the electric jeepneys, which are more economical on the long term and environment-friendly (Regidor et al. 2009), and to phase out traditional jeepneys despite the resistance of operators and drivers (Badilla 2016).

Electric jeepneys have been tested (Remo 2015) in different areas of the country, such as the Makati CBD, in the richest municipality of the country (“Makati Green Route project”), Quezon City between SM North Mall and the two major universities UP Diliman and Ateneo de Manila, ending at the LRT Katipunan station (Alamon 2013; Ranada 2014a, b; Villamente 2014; Basa 2015), Davao City (Mindanao) and Puerto Princesa (Palawan). E-Jeepneys have the same transport efficiency as diesel jeepneys without emitting pollutants. The GET (Global Electric Transport)<sup>24</sup> COMET (City Optimized Managed Electric Transport) vehicles using Lithium Iron Phosphate batteries are to be produced in Carmona, Cavite, near the center of classic jeepney manufacturing (Tipan 2014). The country, a laggard in the auto industry, may soon find itself to be a leader in the development of electric vehicles for public transportation (Quimba and Rosellon 2012). Meanwhile, the government has ordered additional units in Canada, preparing to deploy them for mass transit on busy routes such as the EDSA corridor from SM North (Quezon City) to SM Megamall (Mandaluyong). In a major paradigm shift, drivers will be paid a regular salary, not based on the number of passengers, the GPS-equipped vehicles will be tracked and the days of “*bayad po*” will disappear because the COMET will employ a cashless system. Passengers buy credit-loaded cards from terminal stations which they tap into the COMET’s built-in scanner when they board the jeep and tap out when they get off (Ranada 2014a, b).

However, even with the progressive deployment of the e-Jeepneys (Regidor and Espiritu 2011), the jeepney will still be around for some time as the most affordable form of mass transportation in the Philippines (Roxas Nacino 2014).

### 15.5.2 *Trisikels and Other Three-Wheelers*

The tricycle and the pedicab are two of the smaller types of public transportation in the Philippines. Cheaper to own compared than a jeepney, these ubiquitous three-wheelers (Calara 2008; Taruc 2015) generally ply a shorter distance than other modes of transportation (Bongulto et al. 2016). Climate is hot in the Philippines, it rains a lot in the wet season, so people do not like walking (Pachoco Cameña and Castro 2016), except the poorest who cannot afford any vehicle ride. For a few

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<sup>24</sup>A joint-venture between US-based *Pangea Motors* (Vancouver, WA, a suburb of Portland, OR) and local investors.

pesos they hire a tricycle or a pedicab for just a few hundred meters, “*tingi*”<sup>25</sup> distances. These three-wheelers rule inner roads and alleys in dense urban neighborhoods, as well as small country roads. Quite versatile, motorized trisikels (“trikes”) can be seen on highways, city streets, inner roads, alleys, dirt paths and even places where there are no identifiable pathways. Where there are no taxis and jeepneys available, tricycles (and pedicabs) are the vehicles used to be dropped off at the front door or to reach remote places unreachable by larger vehicles. *Kanto* (“corner” in English) is an expression used by tricycle drivers in Metro Manila to indicate where passengers should get off to transfer to their next means of transportation, jeepney, bus or rail transit. They can go from one street corner to the next, or one town to the next, slowing down traffic considerably as cars, buses and trucks cannot overtake them on narrow roads.

The pedicab<sup>26</sup> is a three-wheeled, human-powered mechanical vehicle. It is made up of a bicycle attached to a sidecar that can seat up to two people. It may come with a roof for both the driver and the passengers, or none. It can seat at most four people. Pedicabs seemed on the brink of extinction in the 1960s with the rise in income and the spread of motorized vehicles, but the economic downturn under Ferdinand Marcos gave them a second life, both as a very cheap transportation mode for passengers and a low-investment source of income for drivers (Bell and Kuranami 1995).

The Philippine tricycle is defined as a gasoline-run motor vehicle made up of a motorcycle bolted to a roofed single wheel—or two-wheel—sidecar with multiple seating, operated as a public transport for a fee, even if it can be used as a family vehicle. The roof is often used as a baggage compartment, and the back can be extended for the same purpose. Depending on the size of the sidecar and the number of seating places, the typical tricycle can carry five to seven passengers. In provinces and small towns, where road regulation is less strict, overloading is common and trikes can seat an additional four passengers. But often one will see them carrying 10 to 20 passengers, mostly daring students or youths, squeezed in the sidecar and at the backseat behind the driver, some hanging from the rear and side of the sidecar and more (up to five) atop its roof. Tricycles do not drive very fast, but when there is a hole in the road or the concrete road turns into mud, the tricycle bounces a lot and passengers’ heads bang against the unpadded roof. On steep hills, the weak engines of tricycles often stop, forcing passengers to disembark so that the driver—and sometimes the passengers—can push the vehicle to the hilltop. Poorly lit and with malfunctioning headlights, tricycles are more dangerous to ride at night on roads where they have to share space with speeding buses and jeepneys. Usually servicing passengers in a taxi mode, or as ambulances carrying injured patients and

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<sup>25</sup>“*Tingi*” refers to a product or a service bought in very small quantity because the person does not have money to buy in greater quantity.

<sup>26</sup>“*Pedicab*” is a mixture of the words “pedal” (how the bike is powered), and “cab” (the sidecar that ferries people). It is also called “*padyak*” or “*sikad-sikad*”, meaning ‘to pedal’ in Tagalog and Bisaya. Another names are “*traysikad*” in Bisaya language, referring to the number of its wheels, and “*put-put*”.



**Fig. 15.9** Trisikel in Daet, Camarines Norte (August 2015)

More than 80% of the vehicles in the city are tricycle, leading some local residents to self-proclaim Daet as the “tricycle capital of the world”

mothers ready to give birth to hospitals, trisikels can also serve business purposes, carrying loads of market goods, hardware, or furniture and appliances. A specially designed side cage can bring pigs to markets or slaughterhouses. Tricycles are more widespread<sup>27</sup> since they do not require as much effort as the pedicab and can therefore cover greater distances (Figs. 15.9 and 15.10).

The “kuliglig”<sup>28</sup> (with bigger wheels than regular pedicabs, used in the poor Manila neighborhoods of Quiapo, Tondo, Divisoria and the Manila Port area) is a three-wheel vehicle powered by a motor engine originally intended for use in a banca (outrigger) (Cayetano 2013). The kuliglig has also directly evolved from the pedicab, a bicycle attached to a sidecar, so it resembles tricycles, but the concept is different, since there is no motorbike in it. Building a kuliglig is cheaper than buying a motorcycle and a sidecar. The Manila City government declared them illegal in 2010 (Andrade 2010; Salamat 2010b), citing their role in urban congestion.

The pedicab traces its roots to the cycle-rickshaw (rikisha) that was borrowed from Japan, replacing the impractical man-pulled rickshaw. In Asia, the cycle-rickshaw boom began in the 1920s in Singapore (Rimmer 1986). Some would

<sup>27</sup>In 2012, there were over 650,000 for-hire tricycles and motorcycles operating in the Philippines, accounting for two thirds of all for-hire vehicles (970,000). Source: Philippines Statistics Authority ([http://www.nscb.gov.ph/secstat/d\\_trans.asp](http://www.nscb.gov.ph/secstat/d_trans.asp)). Statistics do not differentiate between regular motorcycles and tricycles.

<sup>28</sup>Not to be confused with the rural kuliglig (see 14.5.3.).



**Fig. 15.10** Rural trisikel used to carry pigs to the market (Bgy. Cayucyucan, Mercedes, Camarines Norte)

believe that the pedicab is the precursor to the tricycle, but the exact date of the introduction of both modes of transportation in the Philippines is unknown. The pedicab appeared during World War II from Japanese influence and used as a cheap mode of transportation and the trike had never been seen anywhere in the country before the war. Trikes seemed to be born around the same time US Jeeps were turned into jeepneys. Scrap body parts left after the conversions of Army Jeeps were used to assemble sidecars attached to motorcycles and bicycles to form the early trisikel and pedicabs. Just like the jeepney, tricycles and pedicabs have become Filipino cultural icons, without the rich decorations of the larger “dyips”. They are viewed as an example of Filipino ingenuity, since the vehicles are an amalgam of different parts and materials to create a unique transport mode that is used daily by millions of Filipinos.

The spread of both to different parts of the country resulted in different types and looks so that the modern pedicab and tricycle do not specifically follow a single design. Pedicabs and trikes from various regions in the country do not often look the same. The differences lie heavily in the design and seating capacity of the sidecar. A typical tricycle has a sidecar with a bench for two people facing forward then a space for two passengers to side-saddle behind the driver. The backspace is for the baggage. In Koronadal City and Sogod, Leyte, the sidecar is “baliktarin”: passengers can ride facing the front and there can be two passengers facing the back. On



Panay Island there are two types: the Aklano type with two facing benches in the rear and one bench in front. They offer officially nine passenger places. The Iloilo type has two benches back to back and a small seat in front. Leg room is very limited and getting into the side car is much more difficult. They also transport up to nine people. There is also the Manila-jeep-type sidecar of Bukidnon. In Cagayan, they have tricycles with longer sidecars that can carry up to six people, but passengers can't ride side-saddle behind the driver. Passengers ride facing each other. The sidecar of trisikels in Calapan, Mindoro, almost touch the ground, with a very low center of gravity, while in San Jose, Nueva Ecija, their floor is very high off the ground. The smallest tricycles can be found in Naga City. In El Nido, Palawan, the tricycles are bigger, more spacious, and more comfortable.

In most tricycles, limited space won't allow passengers to stretch their legs. Riding side-saddle behind the driver may be more comfortable, but it can be more dangerous on narrow streets, since the passengers' feet may be very close from other vehicles in motion. Tricycles are built for the (small) size of Filipinos, who still feel their discomfort in terms of their lack of space. Adult passengers have to bend and duck to get into the sidecar. Many foreigners living in the Philippines complain that they just cannot fit inside the tiny sidecar.

The "Motorela" or "rela" of Mindanao, Camiguin and parts of Bohol, feels like a cross between a small jeepney and a Thai tuk-tuk. It is a motorbike with an integrated trailer: the passenger compartment is built around the motorbike and has two facing benches and a seat on each side of the driver. In fact it is four-wheel vehicle (two for the motorbike, two for the passenger carriage).

Habal-habal<sup>29</sup> is an indigenous means of transportation usually used in far-flung barangays where jeepneys and tricycles cannot stand the rough, steep terrain and narrow roads, especially in the Davao area (Guillen 2004; Guillen and Ishida 2004) and parts of the Visayas. It is a highly customized two-wheeled single motorcycle used well beyond its passenger capacity. Since it is used as public transportation (motorcycle taxi), it carries six to eight passengers at least (Carillo 2010). An extended seat protruding over the back wheel can accommodate up to four passengers, minus the driver, or two plank seats parallel to the bike can have three or four each, in addition to the driver and up to three persons seated behind him on the bike itself. It is a big help to locals usually living in mountainous areas where roads are mostly not accessible by four wheel vehicles.

A even more complex form of the habal-habal, nicknamed "skylab",<sup>30</sup> can seat up to 13 persons, including their baggage. It has extensions consisting of wooden planks balanced perpendicularly across the back seat of the motorcycle to form the seats for the passengers. It is as wide as a bus. Drivers must show remarkable ability/skills to balance the weight of the passengers from side to side, front, plus people

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<sup>29</sup>The Visayan term "habal-habal" means literally "pigs copulating from behind". This colorful expression reflects the level of intimacy possibly attained when sharing a seat with four people (Piramide 2009; Walsh 2014).

<sup>30</sup>The extended benches perpendicular to the motorbike evoke the solar panels of spacecrafts.

at his back. Some habal-habal harbor improvised tarpaulin roofs. Both versions of the habal-habal are currently illegal in the Philippines (Bacani 2013). Passengers who are injured or killed while riding them, which is not uncommon, cannot claim benefits because this industry is not covered by insurance.

The national government bares a limited scope of regulation over tricycles. They were legalized only in October 1985 when then-President Ferdinand Marcos released Letter of Instruction No. 1482 recognizing “that the tricycle plays an important role, in the existing public transportation hierarchy in municipalities, where it is, in most cases, the primary means of transportation.” Under the Local Government Code, local governments units (LGUs) are ultimately the ones that grant franchises and supervise operations according to guidelines differing from one place to another. Quezon City has its Department of Public Order and Safety, Makati a Makati Franchising Board, while Mandaluyong supervises tricycles through its Traffic Management and Parking Office. Aspiring tricycle drivers need to meet a set of conditions and secure several documents before they start carrying passengers. They need to show their Land Transportation Office (LTO) registration, a barangay clearance for their area of operation, and pay registration fees. Some LGUs have very stringent requirements. Mandaluyong, for example, mandates that all tricycle drivers must be residents of the city, subscribe to accident insurance, carry garbage receptacles and equip silencers to their exhaust pipes.

Tricycle drivers are only allowed to operate within a pre-determined area, decided according to the different Tricycle Operators and Drivers’ Associations (TODAs) of a Local Government Unit. TODAs essentially are the backbone of the tricycle driving sector: would-be tricycle drivers must secure a TODA’s permission before operating within a boundary, tricycles belonging to the same TODA also share the same colors. Tricycle drivers pay 25 pesos per day (half a euro) to their TODA in addition to the permits delivered at the municipal level and the cost of running and maintaining the trisikel. Although decentralization gives LGU’s direct and greater room for supervision, there are times when the system is exposed to corruption with city government offices.

Tricycle terminals, small and large, operate on a first-in, first-out basis, the same way as taxicabs. All vehicles need to line up to get passengers. That can be a big problem if there is a shortage of passengers and an oversupply of tricycles in a fixed boundary — it boils down to the basic economic law of supply and demand. In such cases, tricycle terminals become bottlenecks. On a normal day, they can make 20 to 30 trips between 5 and 10 p.m., which is not much considering the short distances covered (usually less than 500 m).

Tricycle drivers, like jeepney drivers, have been accused of many ills. They are known to be quite undisciplined and insistent towards potential riders, and to overcharge riders, especially foreigners. There is the constant issue of illegal terminals, which block the flow of traffic when tricycles line up against the flow of traffic and occupy a quarter of the road. Some are *colorum* tricycles operated without a franchise. Some crime syndicates have been known to work with tricycle drivers in order to rob unsuspecting passengers.

There are also issues with tricycle safety and emissions. Because no national design standard exists, the tricycle sidecar fabrication industry is an informal small business enterprise, essentially welding shops. Most tricycles have not been engineered with safety in mind. There is no policy/no regulation on design and consumer welfare on tricycles (Camagay et al. 2005). Being slow and low, a trisikel may be obscured by bigger vehicles and is more vulnerable to collision than is a passenger car (Cervero 2000, 2001). There is a trend to ban them from major highways. Two-stroke engine tricycles and motorcycles are highly polluting vehicles (Biona et al. 2007; Domingo 2013). It is estimated they are responsible for 45% of all volatile organic compound (VOC)<sup>31</sup> emissions and a major source of particulate matter in Metro Manila (JICA and NEDA 2014; Romero et al. 2014). Tricycle drivers often get sick due to the pollution and the long hours of work leaving little money and time for medical care.

A national move to shift to a cleaner, more environment-friendly version of the tricycle has surfaced in the past years, in parallel with e-jeepneys. The e-tricycle (e-trike) is seen as the answer to the noisy, polluting, energy-wasting and more expensive motorized tricycle. The e-trike is a battery-powered mode of public transportation that would serve the same purpose as the motorized trike but will give more benefits to the passenger, driver and the environment. The Asian Development Bank has partnered with the Philippine government in promoting electric tricycles. It launched a pilot project in Mandaluyong in 2011. Under the ADB's program, tricycle drivers are given the opportunity to lease or lease-to-own such electric vehicles at a cost of less than P200 a day.

By the end 2017, around 100,000 e-trike units could be launched in Metro Manila and another 3.5 million will be distributed around the country later (Almendral 2014). As the e-trike project is slowly being implemented, plans for e-trike charging stations are being made, in parallel with the efforts towards e-jeepneys. According to ADB, replacing 100,000 gas-powered trikes will save the Philippines \$110 million a year in avoided fuel imports, while decreasing annual CO<sub>2</sub> emissions by 260,000 tons (Hornyak 2013). The proposal seems good for the environment, and an opportunity for the country to poise itself as a leader in sustainable transport. But the project has some detractors, including among environmentalists. Tricycles inefficiently carry one passenger from door to door, and money would be better spent supporting larger vehicles that can transport people en masse, like buses or jeepneys. The electric tricycles will run on rechargeable lithium ion batteries, the same technology that powers smart phones and laptops, which gets sluggish after just a few years. Finally, the Philippines already has some of the highest electricity-usage rates in Asia, and massive use of electricity to recharge electric vehicles may compound the risk of brown-outs.

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<sup>31</sup> VOCs are a large group of compounds that include benzene, a known carcinogen, and chlorofluorocarbons (CFCs), which destroy the ozone layer. The group also includes carbon dioxide, which significantly contributes to the greenhouse effect, and carbon monoxide, a toxic gas.

### 15.5.3 *Other Idiosyncratic Modes of Transportation in the Philippines*

The inventiveness of Filipinos to adapt to weaknesses of the formal transport modes has led them to develop highly informal ways to move around (Cervero 2000): the skates, the kuliglig and the tricyboat.

Trolley taxis, also known as *skates*, are bamboo platforms with benches fashioned from scrap wood mounted to light metal frames, or trolleys, rigged with roller skate wheels to glide along commuter railroad tracks. They are found along a section of PNR tracks in the low-income neighborhood of San Juan in Metro Manila. Squatter settlements near the tracks provide a ready-made market of transit-dependent customers, with students from nearby PUP (Polytechnic University of the Philippines), also office workers and even sometimes policemen. These skates provide north-south mobility in a section of the metropolitan area of Manila where the few north-south streets are highly congested. Skates are powered by foot, with one or two young men pushing customers sitting sideways on benches accommodating up to eight customers. Currently, there are some 200 skate operators. When a PNR commuter train is nearing the area where skates operate, train engineers blow their whistles and slow down. The skate vehicle stops, customers get off and stand to the side, the operators lift the trolley off the track, and the commuter train passes by. The trolley is then placed back on the tracks, and trolley service resumes. These rides are illegal and dangerous (Favila 2008), but this type of informal transport is quite popular, since it is even cheaper than jeepneys and the speed can be exhilarating. As it is set in motion by the energy of the “driver” pushing it on foot, it is one of the few “green” transport modes in Manila! Skates are also used on portions of abandoned tracks in Laguna and Quezon provinces.

The rural kuliglig<sup>32</sup> is a two-wheeled trailer pulled by a hand tractor. Originally designed for farmers to carry produce from fields to markets, kuligligs became a side business of farmers in Northern Luzon to ferry people between towns. Sometimes considered as a motorized version of what used to be a carabao-pulled cart, they can reach speeds of 30 km per hour. They pose serious safety problems, since many are not fitted with headlights, signal lights, brake lights, or other common safety features. Calls to ban or at least regulate them have failed because rural interests strongly support kuligligs as cheap mobility options.

The amphibious “tricyboat” or “salamander” (Coxworth 2015; Ferraz 2015; Sarne 2015; Tamayo 2016) is a tricycle able to go on water. It is built for *barangay* patrols and rescue agencies so they can carry people and supplies into and out of crowded, flooded areas, as well as small islands with limited access. With over half of the country’s 46,000 *barangays* prone to regular flooding, there’s a market just waiting.

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<sup>32</sup>“Cricket”, referring to its noisy engine and its elongated shape. In some areas, they are named “kubota” from the name of the Japanese company providing engines to farmers.

## 15.6 Towards a Better Transport System?

The Philippine transportation has many weaknesses (Makabenta 2015a): heavy congestion, lack of regard for safety standards, air and noise pollution. Infrastructure choices in recent years have favored the automotive mode, with new freeways (SLEX South Luzon Expressway, NLEX North Luzon Expressway, SCTEX Subic-Clark-Tarlac Expressway, CAVITEX Manila-Cavite Expressway, Metro Manila Skyway) and a backbone of north-south transportation, the Pan-Philippine Highway (Luzon-Samar-Leyte-Mindanao, starting in Laoag, Ilocos Norte and ending in Zamboanga City), also known as the Maharlika Highway in the southern part of Luzon between Calamba (Laguna) and the Bicol region, whose construction started under the Marcos regime.

But in many areas of the country, local roads are barely wide enough for the crossing of two cars, and often they are under extended periods<sup>33</sup> of repair with inefficient methods, substandard materials and obvious corruption (Ramirez 2014). Mountainous areas in northern Luzon (See 2015), Mindoro and Mindanao are particularly hard hit: sparse population not allowing to receive many funds, frequent landslides due to deforestation and heavy rains. Trains have been neglected, airports do not perform as well as they could, some ports have difficult road access, such Magsaysay (Occidental Mindoro) (Evora 2015). In Manila, heavy congestion makes commuting a painful experience. The slow pace and under-investment in transport infrastructures does not allow the Philippines to be as competitive (Guinto 2014; Velasco 2015a, b) as neighboring countries with better roads, ports and airports. Many infrastructure projects take up to three presidential administrations to finish. Rivers and lakes are underused: the efforts to create a Pasig river transport system have been timid, in contrast to the vibrancy of river transport in Bangkok. There is no lake transportation on Laguna de Bay, that could relieve the pressure on the Manila to Santa Cruz, Laguna run, for example. By ferry from the Pasig River, it would be possible to go from Manila to the coastal towns in Cavite, Bulacan, Pampanga, and Bataan across Manila Bay.

Bicycling is a dangerous luxury given the high levels of pollution and the aggressive style of driving by buses and jeepneys. Only in rare green oases such as UP Diliman campus can people enjoy bicycling for leisure and exercise. However, it can play a bigger role in the countryside, for example allowing children and teenagers to attend schools too far away to walk. Bike rental schemes, which are popular in Western countries and have also developed in China, are still a distant dream for Filipinos and Manileños.

However, there are some signs that things may change. Efforts towards e-jeepneys and e-trikes reflect a desire for more environmentally-friendly transport modes. The discussion of possible Bus Rapid Transit corridors in Cebu (Valente 2014) and in the Metro Manila area may lead to a smarter use of bus transport, as shown by the test deployment of Express non-stop buses between Quezon City and Makati in 2015 (Francisco 2015a) and efforts of the Department of Science and Technology to

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<sup>33</sup>Allowing local politicians to prominently display their role as builders through many billboards extolling their activity!

come up with a hybrid bus/train using rails that could be put up on each side of EDSA for mass conveyance of passengers in an orderly and timely way (Ongpin 2016; Ramos-Araneta 2016).

These changes all hinge on the political willingness to reform the organizational structure of transportation, which is a big factor in the current problems, and a difficult system to change, as we have seen for the boundary system governing buses and jeepneys. The entrenched political system leads to the appointment of many incompetent managers at the helm of transportation agencies (Makabenta 2014). Should Metro Manila look at a Singapore-inspired control of the car population and vehicle traffic through a congestion charge plan? The planned transfer of provincial bus terminals towards consolidated facilities in the suburbs and the rise of Batangas as an alternative container port may not be enough to alleviate problems if urban sprawl is continuing to bring more and more private automobiles into the Manila metropolitan area every day.

A major shift in the transportation thinking might be to imagine better coordination between the different modes. The airports are a clear example of that, since urban rail, buses and jeeps do not have direct access to the terminals. Locally, there is some effort towards intermodal seamless transfer. For example, everyday there are a few Manila-bound buses waiting in the port of Mercedes, Camarines Norte, next to the small terminal bringing passengers from Manguisoc, 10 min away by motorized bangka. But in Pasay, it is extremely hard to transfer from a DLTB or JAC bus to a local jeepney, and the planned bus terminals south of Manila are not served by LRT trains. Only in the future northern terminal in Quezon City will transfer from intercity buses to metropolitan rail be relatively easy, if well designed. Jeep routes should be redesigned to serve as feeders, and not competitors, to bus routes (Francisco 2015b).

Transportation is one of the major problems in the Philippines. Neglected for too long, it may become more important to tackle for politicians who want to earn the support of voters excessively fed-up by repeated failures and traffic jams. However, the same politicians know that drivers of jeepneys and trisikel are a big reservoir of votes, and they need to find a way to modernize the transport system without alienating those who are essential in its current organization.

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## Chapter 16

# The Growth of Greater Manila

**Abstract** Manila is one of the largest megacities in the world. It has grown from the original settlements at the mouth of the Pasig River and the walled Spanish city of Intramuros. The American period saw major plans drawn by architect/planner Daniel Burnham to transform Manila in a US-style capital city, while the Commonwealth saw new plans to create a capital, Quezon City, also largely inspired by American models such as Washington DC. Those plans were only partially implemented. Today, Manila has become a complex metropolis, with several business centers taking over from downtown Manila. Among them, Makati, Ortigas and Bonifacio Global City appear as the true engines of economic growth in the country and islands of modern high-rise urban development in a sea of low-level constructions. The transport network organized around radial boulevards and two main ring roads (EDSA and C5) and three elevated rail lines, tries to organize the circulation flows in the city, which is now spreading much farther than the official limits of Metropolitan Manila.

**Keywords** Intramuros • Burnham plan • Quezon City • Polycentric metropolis • Urban sprawl

The National Capital Region of the Philippines is currently home to about 12 million people. One of the most populated urban areas in the world, it is also among the most densely populated. A colonial outpost and center of global trade from the beginning, its population and area size increased tremendously after World War II.

The once-compact city has become a multicentered metropolis with several nodes of economic power and commercial attractiveness. The strong social differentiations already observed in Spanish times have endured with a patchwork of rich enclaves interspersed with vast zones of poverty.

The management of Metropolitan Manila is still currently divided into competing municipalities, while the morphological urbanized area has widely overrun the administrative limits of the national capital region and is encroaching on adjacent provinces through a process of continued urban sprawl.

## 16.1 The Spanish Colonial City: Intramuros

Manila began as a small settlement (Back 1932) on the south bank of the Pasig River near the mouth of Manila Bay. Its name is a composition of two tagalog words, “may” (“there is”) and “nilad” (a white-flowered mangrove plant which grew in abundance along the shores of the Pasig River and Manila Bay). In terms of physical setting there were many similarities between Manila and the Dutch city of Batavia, now Jakarta, which was founded on the banks of the Ciliwung River in 1619 (Doran 1993). The general site of the city is a deltaic floodplain around the Pasig River, which is the only outlet of the brackish Laguna de Bay. Because it is a delta, the fertile land was drained by a number of canals (esteros); many have been covered up today, causing seasonal inundations in the city during the habagat (southwest monsoon) season.<sup>1</sup>

Long before the Spanish conquest, the area was settled by Muslims who carried on a thriving trade with Chinese and other Southeast Asian merchants. The fairly populated Manila Bay area was divided into three tiny barangaic kingdoms. Located in the north side of the Pasig River, was the barangay of Tondo with Rajah Lakandula as the head. South of the river was Sulayman’s kingdom, where the settlement of Maynilad, built around the palisaded residence of its ruler, prospered through the collection of duties from the traders who wanted to sail up the Pasig River. Adjacent to Rajah Sulayman’s barangay was that of his uncle, Rajah Ache, known as Rajah Matanda (“old king”), centered in Malate and Ermita. To the south, Palañac (today’s Parañaque) was a vassal to Rajah Ache’s Kingdom. The Rajahs were in turn related to the royalty of Brunei, a center of Islam in Southeast Asia at the time.

Spaniards first visited Manila in May 1570. Governor-General Miguel Lopez de Legazpi, searching for a suitable place to establish his capital after being compelled to move from Cebu to Panay by Portuguese pirates, and hearing of the existence of a prosperous Muslim community in Luzon, sent an expedition under Martin de Goiti to discover its location and potentials. When the Conquistadores first reached the shore of Manila Bay they saw settlements thriving in the area. These settlements were lined up along coastal areas and the mouth of big rivers or their tributaries. There were also natives settled on higher ground land and on the shores of Laguna Lake (Festin-Baybay and Marquez 2001).

De Goiti anchored at Cavite, and tried to establish his authority peaceably by sending a message of friendship to Maynilad. Rajah Sulayman was willing to befriend the Spaniards, but would not submit to Spanish sovereignty peaceably. The Spanish commander attacked Maynilad in June of 1570, captured it, took formally possession of the city in the name of the King of Spain, then he returned to Panay. The next year, in 1571, the Spaniards returned, this time led by Governor-General

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<sup>1</sup>The name of a street on the northern bank of the Pasig, Estero Cegado (dried up canal) is a reminder of these lost waterways. But some esteros are still open, with sometimes picturesque names like *Tripa de Gallina* (chicken gut), which snakes through the districts of Paco and Sta. Ana, the man-made Canal de la Reina in Binondo and Sunog Apog, which separates Isla de Balut from the rest of Tondo.



Legazpi himself. Seeing them approach, the natives set fire to the town, leveling it to the ground, while the people fled to Tondo and neighboring towns. On June 3rd, 1571, Legazpi sketched a layout for streets and squares in the 64-hectare city (Bernad 1971; Quirino 1971) and proclaimed it capital of the Spanish Philippines. Manila received its royal charter on 24 June 1571; it was given the honorific “distinguished and ever loyal city” (*Insigne y leal ciudad de Manila*) in 1574, then awarded a coat of arms in 1595.

Original plans for the city were refined, based on King Philip II’s Royal Ordinance issued on July 3, 1573 in San Lorenzo, Spain. It was rapidly replete with typical Spanish colonial features. It followed the model used by the Spaniards in the New World: parallel and perpendicular straight streets forming a gridiron. The resulting square or rectangular blocks were divided as well, first in four lots, then in more divisions. The houses were always built constructed in alignment with the street. The cathedral and city hall, made of stone, were erected in the central plaza. Manila thus became the first truly “European” capital city in Southeast Asia, when in Malacca the Portuguese had merely replaced the indigenous rule of an already rich and powerful city-state (Villiers 1987).

In September 1574, Legazpi’s successor as governor general, Guido de Lavezares, ordered the building of makeshift defenses which consisted of board, stakes and boxes and barrels filled with sand. Lavesares began surrounding the city with a palisade, which was completed under the third governor general Francisco de Sande. In 1581, Antonio Sedeño, a Jesuit who had some knowledge of architecture, was asked by Gov. Gen. Santiago de Vera to design a fortification for Manila’s southern and most vulnerable flank (Bunag Gatbonton 2012). Sedeño proposed a circular roofed fortification in the style of medieval towers. The tower was dedicated to the *Nuestra Señora de Guia*, whose image was kept in a hermitage just outside the city walls. Construction of a stone wall was done in earnest between 1591 and 1594, under Gov. Gen. Gomez Perez Dasmariñas. The redesigned *Nuestra Señora de Guia* tower was integrated into the wall system. The fortifications of the city were constantly repaired and improved under different governors general from Dasmariñas’ time until 1872 when the last recorded work on the fortifications was completed, with double walls 8 m thick and up to 22 m in height (Fig. 16.1).

The Spaniards not only created a walled city (Reed 1978; Jimenez Verdejo et al. 2014), they also built a fortress that lies on its northern side to control the mouth of the river. Fort Santiago is where they kept their munitions and where Spanish soldiers rested and guarded the city. It also contained jail cells.

Starting in 1618, a moat was dug along the city’s eastern flank. Twenty years later, the moat was expanded and covered walkways constructed. The *Puerta Real* which was at the end of the *Calle Real del Palacio* (Royal street of the Palace, leading to the governors residence) was also protected by an half-moon shaped outer fortification, the “*Luneta*”.

The Spanish kept to their “*Intramuros*” (within the walls) enclave and sent out their missionaries and armies to conquer the countryside. One of the biggest challenges for the early Spaniards were fires and earthquakes (1601, 1610, 1645, 1683, 1863, 1880) that destroyed large parts of constructions made of ill-suited traditional



**Fig. 16.1** Intramuros walls, looking to the Northeast (December 2014)

The former water-filled moat is now a golf course separating Intramuros from the rest of Manila. The walls are a favorite lunch spot for students of nearby colleges (Mapua, Lyceum, Letran)

materials such as reed and local woods (Bankoff 2007). This led to the development of an “arquitectura mestiza”, where European building traditions mixed with local traditions and the demands of a seismic environment. Early residences patterned after Spanish-Mexican models (two story stone and mortar structures, many vaulted in stone) were dangerous when the earth shook. After 1645, houses were built as *bahay na bato* (see chapter 14), with a lower story of mortar and stone, and an upper story of wood. Stone vaults were avoided and replaced by tile roofs. Public buildings like churches also adopted this method. The only vaulted building remaining in Manila today is the San Agustin church completed in 1604.

Only Spaniards and *Mestizos* (of mixed Filipino and foreign descent) were allowed to take part in political issues and take residence inside the walled city. It was designed to ensure the safety of the colonial rulers and the Spanish population. Meanwhile, outside the fortified enclosure, in an area called Extramuros, rose a multiracial city whose development was also monitored to ensure it do not become a threat to the colonial authorities (Goma 2012). Christian natives and Chinese were also allowed inside, but Spanish officials prevented them living there. The vast majority of the natives (“Indios”) and Chinese residents lived outside the walled city, in the suburbs or “arrabales” of Tondo, Santa Cruz, Quiapo, Sampaloc and Malate. The *sangleys* (Chinese merchants) lived in the parian district of Binondo. This early Chinatown was famously placed within cannonball distance of Intramuros so the Spanish could fire down on the Chinese traders whenever they became too

troublesome. Manila's Spanish population hardly intermarried with the Filipino or Chinese inhabitants, keeping a racial and social distinction.

This foundation of Manila is part of the gigantic process of urban creations by Spain in the New World, its most western extension into Asia across the Pacific. Manila was unique in Southeast Asia, since Spain had, as in America, goals of socio-cultural transformation of the population through urban strategies, unlike the Portuguese in Macau (1553) or the Dutch in Batavia (1611) who had developed commercial warehouses without the initial purpose of conquest or territorial transformation. Manila (and the Philippines) is also the only case of a colony of a colony since the archipelago was in fact conquered by "Mexicans" (Bjork 1998).

The founding of Manila made regular transpacific trade possible and thus forged the missing link in the global trade network (Iaccarino 2008; Tremml 2012). Some have even argued that Manila's foundation was a major turning point in the world's economic history (Flynn and Giraldez 1995a; Clossey 2006; McKeown 2007). A hinge between China and Mexico, Manila was a strategic stronghold, commanding the entry into the Far East from the Pacific Ocean, a springboard to conquer China (or at least evangelize it and trade with it) (Flynn and Giraldez 1995b), a strategic locality to prevent rivals from Spain (Portugal, England, Holland, France) from gaining a stronger influence in Asia. The city was possibly the most cosmopolitan city in the whole Spanish empire. Manila's excellent port and geographical position was a perfect spot for future access to China. However, the decisive impulse to make Manila the headquarters of the Spanish empire in Asia may have come from the rumors about the existence of a Chinese mercantile community in the city (De Souza Pinto 2013). As early as the 1580s the port city had become a clearinghouse for goods from all over East and Southeast Asia. Spices, porcelains, gunpowder, rice, fruits, exotic birds, Chinese silk, Indian textiles, Mexican silver, gold ornaments flowed through Manila Bay, as did Spanish, Malay, Japanese, and Chinese merchants. The *Indios* served as the laborers, shipbuilders, mariners, navigators, deckhands, and soldier; taking on duties the Spanish were either unwilling or unable to fulfill (Peterson 2011). The city many churches were the center of a rich social and cultural life (Fernandez 1988).

As in Macao, the maritime trade was central to the city's economic life. This created a mercantile class that would prosper until the end of the colonial monopoly and the independence of Mexico in the early nineteenth century. Members of that class filled up the posts of the city government and from there looked after the interest of the merchants.

Despite efforts to populate Manila with Spanish settlers (García-Abásolo 1982; 1995), the result was very modest. There were about 2800 Spaniards in 1612, but only about 30 Spanish families in the mid seventieth century, due to the distance from Spain and Mexico, the climate, the very small number of Spanish women in the flow of settlers, the lack of economic incentive and the fear of the Chinese (Mesquida 2009).

The colonial city was indeed frequently the scene of serious social disturbances. The Chinese merchants contested the commercial restrictions placed upon them by the untrusting Spaniards, and rejected the laws forcing them to pay tribute to Spain. This led to several violent uprisings (Ruiz-Stovel 2009; Estrella and Mansujeto

2012), as early as 1574. In 1602, they set fire (Madrid 2012) to Quiapo and Tondo, and for a time threatened to capture Intramuros. In 1662, they again revolted, while in 1686, a conspiracy led by Tingco plotted to kill all the Spaniards. It is no surprise, then, that at various times during the Spanish era, the Chinese were expelled from Manila and decrees even tried to ban them from the entire country.

Near the entrance of Manila Bay, the Spaniards developed the port of Cavite as a shipyard and arsenal. The strategically located island of Corregidor, 50 km west of Manila, South of Bataan peninsula, was given three roles: a fortress of defense able to warn of any approaching ship, a penal institution and a customs inspection post. All ships entering Manila Bay were required to stop and have their documents checked and “corrected” (hence the name “Corregidor”<sup>2</sup>).

However, this dynamic activity of Manila was not encouraging a balanced economic and urban development of the archipelago. Manila rapidly became a dominant city (Huetz de Lempis 2009), preventing cities like Iloilo or Cebu from growing faster. In 1903, the primacy of Manila within the archipelago was well demonstrated by the first American census in the country: Manila had 40% of all industries, 66% of the healthcare personnel, 80% of banks and 90% of newspapers (Bronger and Engelbrecht 1997).

In the early nineteenth century, the agglomeration was composed of the walled Intramuros power center, three districts of the left bank (Ermita, Malate, San Fernando Dilao) and five right bank districts (Binondo, Tondo, Santa Cruz, Quiapo, Sampaloc). From the seventeenth century onwards, descriptions of the city and surroundings rarely used the words “Manila” or “Intramuros”. The most common expressions were “la capital y sus extramuros” or “la ciudad y sus arrabales”. Each of these suburbs was a distinct municipality (pueblo) with its own mayor and parish, but in fact they were functioning already as barrios (neighborhoods) of the central city (ciudad), and the continuity of the urban fabric between these components is clear on the maps of the time. The use of the Spanish possessive “sus” clearly indicates the links between Manila and these other places. It was only during the nineteenth century that the term “Manila” came to designate the whole area, and that the term “Intramuros” came into regular use (Huetz de Lempis 1998) (Fig. 16.2).

## 16.2 American Manila: The Burnham Plans

The United States takeover of the Philippines in 1898 ushered in a new phase of Philippine architecture and urbanism. Americans endeavored to establish an American-style of government and urban planning that would serve the needs of secular education and public services. The new owners of the country wanted to

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<sup>2</sup>“Corregidor” is also a specific position of authority within the former Spanish administrative structure. He is the head of the territorial unit known as “corregimiento”, common in all Spanish colonies.



**Fig. 16.2** A 1898 map of Intramuros and neighboring areas  
Original map by Francisco de Gamoneda—“Plano de Manila y sus arrabales”, with superimposed mention of some of the major esteros. From the collection of historical maps at the Perry-Castañeda Library (<http://www.lib.utexas.edu/maps/philippines.html>). Ricefields were still found in close proximity to the city center

showcase their might as a rising colonial power by transforming Manila into a model “American city” (Evangelista Torres 2011; Morley 2016).

In the winter of 1904–1905, Chicago architect and future co-author of the *Plan of Chicago* Daniel Burnham traveled to the Philippines. He had won a commission from the United States government to develop a new city plan for Manila, the capital of the Philippines, and to create a city plan for a completely new “summer capital,” Baguio City, 155 miles to the north of Manila and 5000 ft above sea level in the mountains of Luzon. Burnham came to the Philippines with enthusiasm and a sense of patriotism, all in the name of the motherland.

At that time, the capital city had a population of only a hundred thousand, but Burnham envisioned it as a metropolis inhabited by millions, with multi-laned avenues radiating from its central districts. He proposed that the old moat around Intramuros be reclaimed, and that the Luneta be enlarged into a 30 acre-park. As had been done in Washington DC with the 1902 McMillan plan rejuvenating the original Pierre L’Enfant design (Peterson 1985; Hines 1991; Stern and Gastil 1991), the capital of the Philippines city was to be a majestic city. The US government in the Philippines was determined to assert its authority over its new colony and hoped that Burnham’s plans would set an appropriate imperial and at the same time, progressive, tone (Morley 2011, 2012). Burnham, a well-known proponent of the City Beautiful movement, believed that an ideal city could be both beautiful and commercially efficient (Klaus 1991).

City Beautiful advocates (Peterson 1976; Wilson 1989) sought to improve cities through beautification, which would have a number of effects: (1) social ills would be swept away, as the beauty of the city would inspire civic loyalty and moral recti-



**Fig. 16.3** The Burnham plan for Manila

From Daniel H. Burnham and Edward H. Bennett—*Plan of Chicago*, the Commercial Club, Chicago (1909)—Map XXXI: “Plans for the development of Manila submitted to the Philippine Commission by D.H. Burnham, 1905. The essential elements of this plan are the government center and system of proposed arteries radiating from it, the railway station and the bayshore road”. Public domain map

tude in the impoverished; (2) American (and Philippine) cities would be brought to cultural parity with their European competitors through the use of the European Beaux-Arts architectural language and (3) a more inviting city center might not bring the upper classes back to live, but certainly to work and spend money in the urban areas. The premise of the movement was the idea that beauty could be an effective social control device. The first expression of this monumental style in the United States was found at the World’s Columbian Exposition of 1893, with the soon-to-be-famous “White City” (Burg 1976), that was to inspire many civic districts in American capitals (Gillette 1989; Montes 2014), and was also to be transplanted into colonial outposts such as the Philippines (Hines 1972).

Burnham designed a plan for Manila (Silao 1969; Palafox 2014a, b, c) with grand boulevards, green spaces and neo-classical architecture, only a fraction of which was ever built. Burnham wanted Manila to be The “City Beautiful of the Orient”, the “Pearl of the Orient”. It was to be a mesh of Rome, Paris, Washington and Venice.

Burnham’s Manila plan drew its influences mainly from his plans for Chicago, San Francisco, and Washington. They all shared some common characteristics like wide radial avenues, landscaped promenades, and, most importantly, a civic core which was envisioned to be the center of the city.

The Burnham’s Plan of Manila was comprised of six major interrelated proposals (Fig. 16.3).

Burnham placed the civic core right in the area fronting the park now known as Rizal Park, as that area was to be the site of the Philippine Capitol Building. Echoing back to his design for Washington's National Mall, he exported that concept in the creation of Manila's own "national mall" with an open green space between the Philippine Capitol and the yet-to-be-built at that time Rizal Monument and some civic buildings surrounding the mall.

Second was to develop the waterfront (Romulo 2013) and the location of parks and parkways to provide recreational areas and ample breathing spaces in every quarter of the city (Palafox 2014a, b). He planned a new Luneta Park that would be placed about 1000 ft farther out in Manila Bay on reclaimed land. Rizal Park was envisioned as a Manila version of the Washington Mall, lined up with museums. An essential element in Daniel Burnham's 1905 master plan for Manila was the coastal boulevard connecting Manila with Sangley Point in Cavite. First named Cavite Blvd, then Dewey Blvd, today Roxas Blvd, it was to be a "parkway," a landscaped linear park for promenading and recreation alongside Manila Bay and to enjoy the sunsets as in Naples, according to Burnham himself (Alcazaren 2013a). The landscape architect would later use it as a model for Lake Shore Drive in Chicago. As an added urban design element, fountains would be found all over the city, as they are in Rome.

The third element of the plan focused on the implementation of a new street system to secure direct and easy communication from every part of the city to every other sector or district. On top of a basic grid, circulation systems would radiate from the government center, as they do in Washington, from the Capitol, with an emphasis on copies of the formal French geometric pattern for gardens, axial streets and *rond-points*, as seen on the Champs-Élysées of the French capital, which at that time was also the inspiration for Latin American cities such as Mexico or Buenos Aires. Burnham insisted that street plans should address requirements of the future and not just the present needs. For densely settled neighborhoods, Burnham recommended a rectangular block system that would allow sunlight to penetrate the building on all sides. At the time the Americans arrived in Manila, the city relied entirely on human and animal power for urban transportation. Traffic was intense and the few bridges were as crowded with horse-drawn carriages (*carruajes de primera clase*, *quilezes*, *calesas*, *carromatas*) (Pante 2012) as the narrow streets where just a few lines of horse-drawn streetcar rails had been laid. One of the major impacts of the US colonization in Manila was the introduction of electric streetcars in the capital city. The Americans were indeed quite frustrated with what they saw as a very inadequate urban transport system and as soon as 1905, an urban network of *tranvia* (Satre 1998) was operated by the Manila Electric Railroad and Light Company (*Meralco*),<sup>3</sup> an American company incorporated in New Jersey. The automobile and the autobus also made their arrival in Manila during this period: mobility and modernity went together (Pante 2014). Transport motorization, which required the wider streets advocated by Burnham, according to hygienic principles regarding the foul atmosphere of confined streets (Pante 2016), also meant the inevitable marginalization of non-motorized modes.

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<sup>3</sup> *Meralco* is now the top electricity provider in the Philippines.

A fourth plan element was to develop Manila's waterways for transportation. As in Venice, the dredged and widened esteros draining into the central Pasig River would be major transport systems with shaded banks, and would also limit the occurrence of flooding in the area. By giving emphasis on the water transportation, Burnham wanted to ensure that Metro Manila's narrow canals or esteros (Huetz de Lempis 2001), with their "stagnant water and unsanitary mud banks" be turned into an element of beauty and economical vehicle for the transaction of public business. The proper widening, dredging, and maintenance of the waterways would save lives during typhoon season. Burnham and his associate Anderson indicated that "amplification of the estero system connected with the Pasig River near Santa Ana and opening into the bay through the San Antonio estero might serve by its independent channels materially to diminish the danger of overflow of the Pasig." (Palafox 2014c) He added that "to develop the full usefulness of the system, certain of the esteros should be filled up and the others widened and dredged to a practical depth; all of them should be provided with masonry banks".

The fifth part of the Burnham plan was the proper location of building sites for various activities. A new hotel was envisioned to be a world-class resort and casino, and boat clubs would be placed on both sides of the new Luneta. The national university's area should be situated in the suburbs, to promote a peaceful atmosphere for learning. The historical Intramuros would be preserved despite objections that its walls obstructed traffic and ventilation. For the buildings themselves, Burnham recommended keeping with the already established Spanish traditions that were part of Metro Manila's built environment. Spanish tiles should be preferred over the galvanized iron to respect the Hispanic architecture. For him, it was clear that "the old Spanish buildings with their wide arched arcades and large wall spaces of flat whitewash possess endless charm, types of good architecture that can hardly be improved upon".

Finally, Burnham pushed for the development of suburban summer resorts in the nearby provinces of Laguna and Bataan, easily accessible from Manila.

Architect William E. Parsons was given the responsibility of providing designs, drawings, specifications, and estimates for public buildings in the city. Their design, as in Washington DC, was inspired by Greek and Roman temples showcasing at the same time monumentality, simplicity, and formality.

The Burnham Plan was approved by the Philippine Legislature, which agreed to set aside two million pesos every year for the execution of the plan. When the fund had reached some 16 million, however, Commonwealth President Manuel Quezon decided to use the money on irrigation projects instead. Quezon noted that rice fields were more important than fine structures for Manila.

Of Burnham's proposed government center, only three units were built: the Legislative Building (originally intended as the National Library, currently the National Museum) and the buildings of the Finance (currently the Museum of the Filipino People) and Agricultural (Tourism Department) departments, which were completed on the eve of the War War II.

By then, Mr. Quezon had doomed the Burnham Plan by creating a new capital outside Manila, which was named after him, Quezon City.



## 16.3 The New Capital: Quezon City

When the Philippines Commonwealth was established in 1935 as a transition towards full independence which occurred in 1946, there was a desire among Filipino leaders, to mark the advent of the new country with a new capital city. The choice was made to keep it close to the traditional power center of Manila, although a little bit off-centered to the archipelago as a whole. Cebu would have been a more central city, but the rich history of Manila as a capital during both the Spanish and American colonial periods made the choice a logical one.

Plans were made to create a new town on the outskirts of Manila, first by assembling land and merging small individual towns such as Balintawak and San Francisco del Monte, later adding Novaliches. In 1938, Commonwealth's President Manuel Quezon created the People's Homesite Corporation and purchased 15.3 km<sup>2</sup> from the vast Diliman estate of the Tuason family. One of the first decisions was to create a large American-style campus to relocate the state-run University of the Philippines from crowded central Manila. The campus opened its doors to students in 1949. UP Diliman is now the largest component of the University of the Philippines system, with more than 22,000 students.

But aside from the flagship university, which was also a common feature among US state capitals (for example in Madison, Wisconsin), the new town named in honor of Manuel Quezon as early as 1939 (its original name was Balintawak), was also the object of careful planning to make it a great capital loaded with symbolism, as most planned national capitals have been (Lopez 1973). Two factors dominated to place Quezon City in an inland position: the lowered risk of flooding and the relative immunity from seaside attacks.

American architect Henry Frost, landscape architect and planner Louis Croft and Filipino architect Juan Marcos Arellano y de Guzmán, who had worked with landscape architect Frederick Olmsted in America and designed many official buildings in Manila (Legislative Building 1926, Post Office 1926, Metropolitan Theater 1935) and several provincial capitols (Bulacan 1930, Misamis occidental 1935, Negros occidental 1936, Cebu 1937) got together to design the general outline of the future capital. Some of the concepts and ideas of Burnham for Manila were obviously recycled into Quezon City general design.

What is known as the Frost Plan was approved by the Philippine authorities in 1941. The Frost plan (Bueza 2014) aimed to develop Quezon City as the Washington DC of the country, a "Garden City" providing for parks, greenbelts, and open spaces throughout. A large quadrangle, about the size of New York City's Central Park, bounded by the North, East, South and West Avenues was at the heart of the city's National Government Center. Bisecting the square-shaped government city were two large avenues, Quezon Avenue (SW to NE) and the NW to SE Liberation Avenue (now known as Epifanio de los Santos Avenue, EDSA, in honor of a famous Filipino intellectual) (Fig. 16.4).

At the northeastern edge of the square, planners called for a vast 26-hectare elliptical center encircled by the wide (8 lanes), 2 km circumference, Elliptical Road,



Fig. 16.4 The frost plan for Quezon City. <http://www.theurbanroamer.com/qc-frost-plan-jpg/>

from which a number of large avenues radiated, akin (in a much larger dimension) to Paris' Place de l'Étoile. In the middle of the Ellipse (a feature found in Washington on the south side of the White House), they planned to build the capitol of the new nation, the presidential mansion and the Supreme Court, as well as a presidential library, a museum, and a theater. Government offices, ministries and agencies were to be located alongside the Quadrangle's avenues, while a park-like space would fill the gaps. On November 15th, 1940, President Quezon laid of the cornerstone of the National Capitol to celebrate the fifth anniversary of the Commonwealth of the Philippines. The university campus was close-by, reached by a majestic entrance branching out of 18-lanes Commonwealth Avenue, the northeastern prolongation of Quezon Avenue beyond the Elliptical Road. A World Fair site was selected for holding the event in 1946 (which never took place). Clearly a grand plan inspired largely by Washington DC (Boquet 2016).

However, when the Second World War broke out, the Japanese occupation government dissolved Quezon City, which was divided into two districts—Diliman and San Francisco del Monte, before the city was re-created in 1948, and officially proclaimed capital of the Philippines.

New plans were drawn, calling, among others, for another National Government Complex location in Quezon City (Comptech Asia 1978), and a Katipunan Parkway (named after the revolutionary movement of the late nineteenth century) encircling the whole city. The Ellipse became Quezon Memorial Circle and was transformed into a park dominated by a Manuel Quezon Memorial Shrine, built slowly between 1952 and 1978. The art deco-themed structure rests on a base in the shape of an equilateral triangle measuring 50 m on each side. From the center rise three pylons representing the three main island groups of the Philippines: Luzon, Visayas and Mindanao. The pylons rise up to a height of 66 m (Quezon died in 1944 at the age of 66). Atop each pylon rests a statue of a mourning angel holding a wreath of sampaguita, the national flower of the Philippines. The sides of the base are lined with bas-reliefs depicting significant events in Quezon's life, as well as in Philippine history. Inside, a museum displays memorabilia of the late president's life. At the very center of the shrine lies the sarcophagus containing Quezon's remains. As in Washington DC's Washington Monument, an observation deck that can accommodate sixty people at the top gives the visitors a panoramic view of the city.

However, the grand idea of having a majestic civic center has disappeared over the years. Today, the Philippine president works from Malacañang Palace, in the heart of Manila, on the banks of the Pasig river. The House of Representatives is installed in Batasang Pambasa Complex, Quezon City, further away to the northeast than what was planned by Frost, within a new National Government Complex proposed in the "Constitution Hills" area, now Batasan Hills. The new 1956 plan proposed by Filipino architect Federico Ilustre included a legislative building whose cornerstone had been laid in 1948 after the conversion of the previous site to a Quezon memorial had been decided. Due to lack of funding, the proposed capitol on Constitution Hills was hardly started. In 1976, it was razed to the ground and a new structure was erected, which opened in 1978. Today, the Philippine Senate sits in a totally different area of Metro Manila, in Pasay City. Since 1976, Manila is again the official capital of the Philippines.<sup>4</sup>

However, a number of features of the 1941 original plan have been retained, since many government offices are indeed located around Quezon Memorial Circle, especially the all important agriculture offices (Department of Agriculture, Philippine Coconut Authority, Sugar Regulatory Administration, Bureau of Agricultural Research, Forest Management Bureau, Agricultural Training Institute, Department of Agrarian Reform, Bureau of Fisheries and Aquatic Resources) and some medical institutions centers (Lung Center of the Philippines, National Kidney and Transplant Institute, Philippines Children's Medical Center, Veterans Memorial Medical Center).

The planned site for the never-held 1946 World Fair is now used by the huge SM North shopping mall complex. The eastern part of the 1941 quadrangle, a triangu-

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<sup>4</sup>Presidential Decree No. 940 of June 24th, 1976, which ignores the previous official designation of Baguio as a the summer capital it had been since 1903; even if the Supreme Court still hold sessions there in the hottest months of the year (April and May).

lar area located between EDSA, North Avenue and East Avenue, is the site of the soon-to-rise Quezon City CBD, which requires the forceful eviction of thousand of poor squatters. Utopian plans born in the minds of American or American-trained planners have indeed proved hard to fit into the reality of Philippine urban life (Gomez 2013) and the combined challenges of housing, flooding and mobility (Boquet 2014).

## 16.4 From Manila to the Megacity of MetroManila

“Manila” is no longer just Manila. The original city of Manila has vastly outgrown its limits. Population data from various censuses show that the city of Manila itself has grown rapidly since the first part of the twentieth century, reaching very high levels of population density, and that its growth has essentially stopped, since most of the demographic increase is now taking place in outlying cities (Reyes 1998). Manila itself is not even the largest municipality of the country, population-wise, since it has been passed by Quezon City and Caloocan (Fig. 16.5).

After the end of World War II in 1945, Manila was in a state of total devastation. With most of the city’s infrastructure in near-complete ruin, the first task at hand for a recovering nation was to start anew, in the midst of meager resources the young government faced at that time. Thus, the dream of a majestic national capital was set aside. Rebuilding was done on an ad hoc basis, without much control from the central government. Manila, which the Burnham and Frost plans had envisioned as a majestic orderly metropolis, became a teeming megacity struggling with its own growth and neglecting its urban heritage, which was in bad shape. Road transporta-

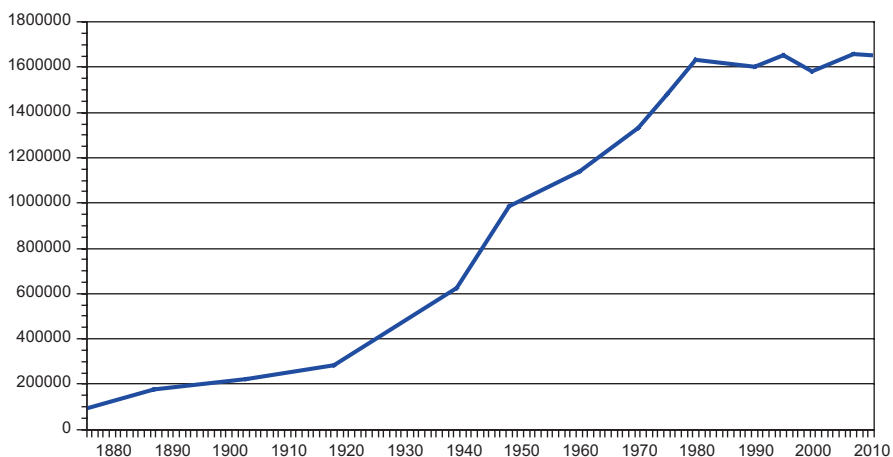


Fig. 16.5 The population of the city of Manila, 1876–2010

tion overwhelmed the streets, squatter settlements spread all over the urban area, which was expanding very fast on adjacent rural land. As a result of Manila's destruction, many who were fortunate to have survived were so traumatized that they fled to the suburbs, trying to escape the nightmares of war still haunting the central city. Suburban areas were perceived as healthier (Savage 1984; Pante 2011), they were less flood-prone than the center city with all its esteros, there was less risk of malaria. The wide open spaces of Quezon City were a choice location for residence, and the suburbanization process accelerated as astute developers offered comfortable housing to the middle and upper class in places like Makati. To further enhance Quezon City's position and jumpstart a new phase for the development of a national government complex, President Elpidio Quirino signed Republic Act No. 333 in July 1948, which expanded Quezon City's territory to more than 150 km.<sup>2</sup> with inclusion of the Novaliches area.

Today, the population density of Manila is among the highest of the major metropolitan areas in the world with a comparable land area. It is almost twice as dense as New York City, for example, and only surpassed by Mumbai, Kolkata and Dhaka.

The official population of Metro Manila (17 cities and municipalities of the National Capital region, 639 square kilometers) was, according to the 2010 population census, approaching 12 million people. The largest city in population (and area) is Quezon City (2.7 millions), followed by Manila *stricto sensu* (1.7 million) and Caloocan (1.5 million). Six other cities (Pasig, Taguig, Parañaque, Valenzuela, Las Piñas, Makati) have more than a half-million residents. Densities are high: 18,113 people/km<sup>2</sup> for the entire National Capital Region, with much higher values in the central area (Manila City 43,079, Mandaluyong 27,138, Caloocan 25,907). Sixteen of the seventeen municipalities of Greater Manila have a population density of more than 10,000 people/km<sup>2</sup>, with Muntinlupa in the south very close to that statistical threshold (9699). At a finer scale, some parts of Manila city are among the densest urban neighborhoods anywhere in the world: 91,637 people/km<sup>2</sup> in congressional district 1 (West Tondo), 51,304 in district 2 (East Tondo), 46,990 in district 4 (Sampaloc) (Fig. 16.6).

What is now the NCR had only 5.93 million people in 1980, but the population—and therefore the density of population—has doubled in just 30 years, and is projected to continue to grow, reaching maybe 16 million by 2020. If the population of Manila city itself has now reached a peak (only +13% between 1980 and 2010), growth has been very strong in other municipalities. Quezon City had 397,990 residents in 1960, 1,165,865 in 1980, reached two millions in 1995, and gained more than 700,000 in the last 15 years.

The dense, congested, urbanized area now spreads well beyond the boundaries of the National Capital Region, towards the provinces of Bulacan to the north, Rizal to the east, Cavite and Laguna to the south. The analysis of satellite imagery shows that Manila's urban built-up area went from 190 km<sup>2</sup> in 1989 to 417 km<sup>2</sup> in 2001 and 777 km<sup>2</sup> in 2014 (Singh Boori et al. 2016) (Fig. 16.7).

Bulacan had 1,096,000 residents in 1980, 1,784,000 in 1995, 2,924,000 in 2010. Its population density jumped from 391 to 1045 in 30 years, with pockets of high density in municipalities adjacent to Metro Manila: San Jose del Monte more than

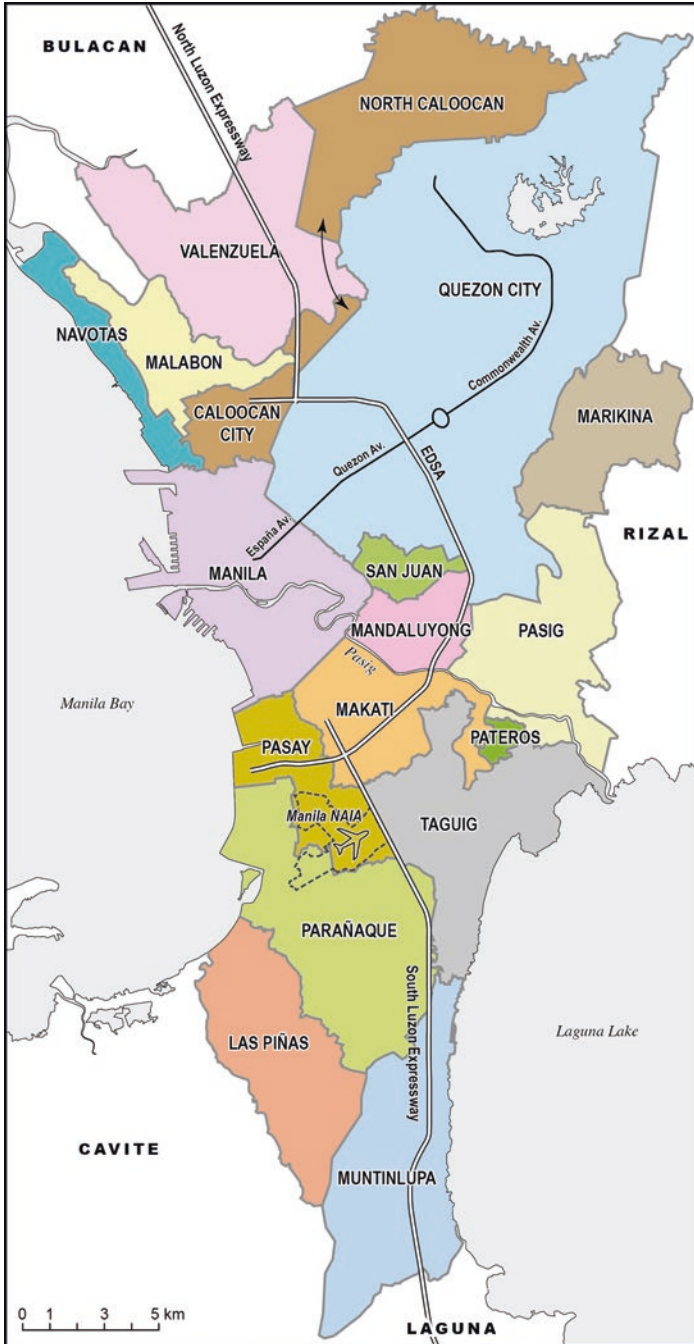
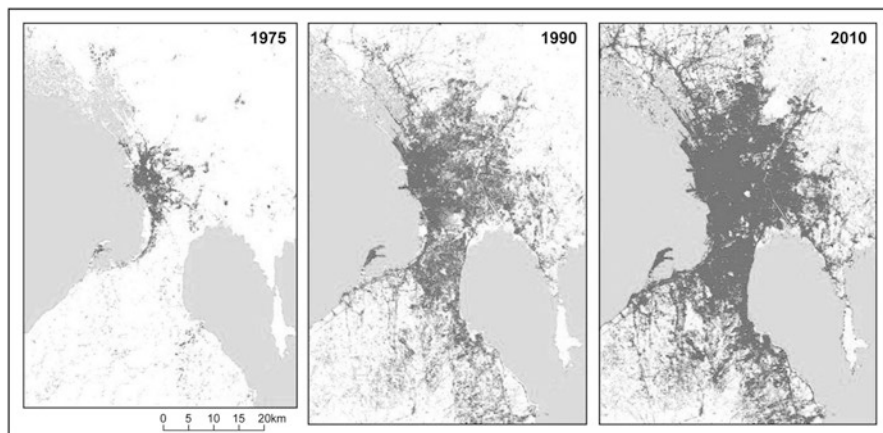


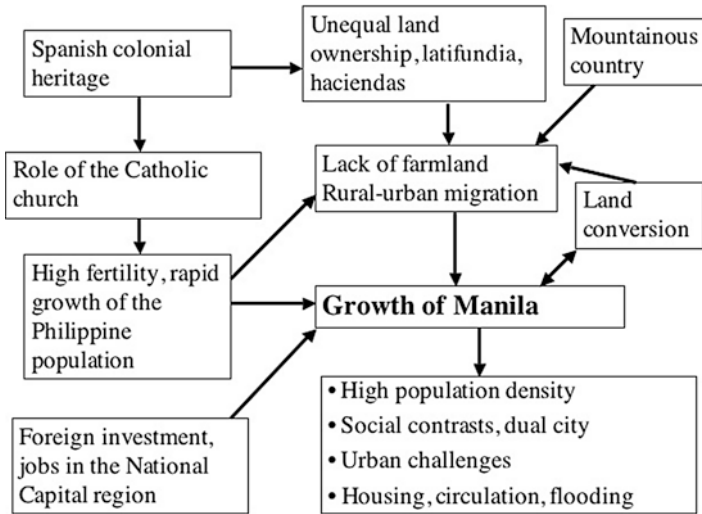
Fig. 16.6 The 17 component cities of Metro Manila



**Fig. 16.7** The sprawling growth of Manila

tripled from 142,047 to 454,553 residents in just 20 years (1990–2010) for a population density of more than 4300 people/km<sup>2</sup>. In Rizal province, Taytay (289,000 residents) had a density of 7447 in 2010, while Antipolo grew from 69,000 to 677,741 inhabitants in 30 years. Looking south, Cavite province went from 1,152,534 to 3,090,691 residents between 1990 and 2010 and Laguna province from 1,370,232 to 2,669,847. San Pedro (Laguna) has a density of more than 12,000. Dasmariñas and Bacoor (Cavite) are home to more than a half-million people each, Calamba (Laguna) to almost 400,000.

Much of this population increase is attributable to massive rural-urban migration since the Second World War. People from all over the country are attracted to Manila by higher incomes and greater livelihood opportunities in the metropolitan area and its surroundings, while new industrial parks and residential subdivisions have sprouted between rice fields on the outskirts of the nation's capital. Maps, aerial pictures and satellite imagery clearly show a pattern largely fitting the *desakota* model (McGee 1991): a vast peri-urban region surrounding the metropolitan core as far as 50 km away from Manila (Calamba is located 55 km away from the historical center of Manila). Areas of intense wet rice agriculture are mixed with nonagricultural activities that often stretch along freeway corridors between cities (North Luzon expressway from Caloocan to Bulacan and Pampanga provinces, South Luzon expressway to Calamba, Manila-Cavite Expressway). Areas formerly devoted to agriculture have been converted into export processing zones (Kelly 2009), golf courses, suburban housing tracts and elite gated communities (ZoletaNantes 1992; Kelly 1999; Murakami and Palijon 2005; Malaque and Yokohari 2007). As the poor concentrate into the heart of the metropolitan area, American-style sprawl replete with shopping malls has seen the upper-middle class move to the suburbs. In the specific context of the Philippines, with vast parcels of land controlled by longtime owners of “haciendas” dating back to the Spanish colonization, the conversion of land can proceed quickly, since real estate development is one of the main



**Fig. 16.8** A systemic graph of Manila's urban growth. Authors' conception

elements of wealth building in the Philippines (Camba 2011). In postwar Greater Manila, the reconstruction process and the role of the government as an enabler of private interest led to an accelerating process of a suburbanization process through the construction of subdivisions by the private sector. Well-connected elites (Kelly 1998, 2003), who owned many of the real estate companies, took the opportunity to expand, to accumulate more land and capital, despite strong resistance by farmers groups (Ortega 2012). Land, then, became a privatized and highly contested commodity that cemented class power in Greater Manila and resulted in the lack of public planning to answer the needs of many inhabitants of Greater Manila (Fig. 16.8).

The dominant patterns of growth are currently: (1) an outward expansion of high- and low-growth clusters; (2) the development of new growth nodes on the fringes; and (3) the recent emergence of high-growth clusters in the core. (Ortega 2014).

It has become obvious that “Manila” is not just the city of Manila alone or Metro Manila (aka National Capital Region), but that the real metropolitan Manila is larger than the official perimeter of 17 cities. “Mega Manila”, including the four adjacent provinces (Bulacan, Rizal, Laguna, Cavite) now has about 25 million people. It is estimated that the daytime population of Metro Manila is now about 16 million people, with massive commuting especially from the south (Laguna and Cavite), and that the functional Manila includes peripheral areas in adjacent provinces and even beyond, since the port of Batangas (to the south) is playing a larger role in the movement of goods, the Clark airport in Angeles City (Pampanga) is now de facto the second airport for Manila and possibly the future major point of entry in the Philippines, while the export processing zones at Clark and Subic Bay (Zambales) are major manufacturing centers. All these places are located about 100 kilometers away from Manila.



## 16.5 Transportation Networks in Manila

For foreigners used to efficient public transport, wide roads and a general sense of order, Manila's transportation appears as chaotic. With massive traffic jams, any trip becomes an exercise in patience and being on time for an appointment is a rare luxury. For Metro Manila's 12 million residents, a common joke is that clogged traffic in the megacity is as much a certainty of life as death and taxes. Meanwhile, frenetically driven jeepneys and buses, overflowing trash, noisy and smoke-belching tricycles make the streets quite hazardous to pedestrians. Sidewalks, when they exist, are narrow and often crammed with street vendors. The metropolitan area has basically ignored bike lanes and walking its streets is exposing oneself to heavy pollution with health consequences such as asthma.

The general appearance of chaos belies the efforts at rationalizing the circulation within the metropolitan area. Authorities have developed a semi-radio concentric network of automobile thoroughfares and built an urban railway network, while trying to regulate and differentiate the use of the different road transport modes.

The most important roads of Metro Manila are organized around a set of 10 radial and circumferential roads.

The North-South Roxas Boulevard, first developed under the Burnham plan of 1904 alongside the shores of Manila Bay, is the core of Radial Road 1 that leads south to the province of Cavite. Parallel to it, slightly inland, Taft Avenue (R2) also links the old part of Manila to Pasay, Las Piñas and several Cavite localities. R3 leads from Manila to the SSE through Makati (Sergio Osmeña Highway) then towards Laguna and Batangas province, as a large modern toll road highway, the South Luzon Expressway (SLEX) opened in 2006. R4 has not been completed. R5 leads from Mandaluyong (Shaw Boulevard) to the eastern suburb of Antipolo in Rizal province. R6, also an Eastbound road, is known as Aurora Boulevard in Cubao, the southern district of Quezon City. Radial road 7 starts from the neighborhood of Quiapo in Manila and leads towards the northeast, under the successive names of España Boulevard, Quezon Avenue, Commonwealth Avenue and Quirino Highway. It was designed as the central axis of the new capital Quezon City in the 1940s (see *supra*). In its Commonwealth Avenue section beyond Quezon Memorial Circle, it is the largest urban road in the whole Philippines, built in the 1960s, with up to 9 lanes of traffic in each direction. Quezon City was then the capital of the Philippines, and embassies were to be put up on both sides of that stretch of highway. It is also the most accident-prone in the country. Leading north of Manila, R8 becomes the North Luzon Expressway (NLEX) leading to Angeles City (Pampanga) through Bulacan province, with R9 (Rizal Avenue, McArthur highway) paralleling it further west. The coast-hugging R10 has not been really developed.

The circumferential EDSA (Epifanio de los Santos Avenue<sup>5</sup>) (Poco 2008; Boquet 2013a), first developed in the 1940s to provide access to the new Quezon City from

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<sup>5</sup>Named after Epifanio de los Santos y Cristobal (1871–1928), a multi-talented intellectual (historian, art critic, jurist, anthropologist, painter, musicologist, poet, journalist, publisher) who was

the south (Makati, Pasig, Mandaluyong), has become the busiest highway in the metropolis. In the scheme of roads this 24 km stretch of highway running from McArthur Boulevard in the north (Caloocan) to Roxas Blvd in the south (Pasay) is known as C4 (4th circumferential) and cuts across the cities of Quezon City, Mandaluyong and Makati, while bounding Pasig and San Juan. When it was completed in 1954, it was approximately marking the limits of the built-up area. Its southwestern end, near the shoreline in Pasay, is the site of the gigantic Mall of Asia. Other segments of roads inside EDSA have been designated as C1, C2 and C3, even if they serve more as local roads than beltways, which is however the role assigned to an outer ring highway, C5, which is a major link between Taguig, Pasay and Quezon City on the eastern side of the metropolitan area, Quezon City and Caloocan in the north. A C6 outer beltway is currently under construction. It will entirely bypass the Manila metropolitan area for traffic between North Luzon and South Luzon.

Most transport investment in Manila has been done for the development of road transportation. Boulevards have been widened and have become highways. A major project currently underway is an urban freeway linking SLEX and NLEX through the center of Manila (Esplanada 2014; Gamil and Camus 2014). Pedestrian overpasses have been built, somewhat belatedly, to allow the crossing of these thoroughfares which are often eyesores cutting through the urban fabric. The clear choice of road-based transport in the post-war Philippines, helped by the lack of trains and the abundance of buses and jeepneys, has led to heavy congestion and timid efforts to regulate traffic. Jeepney routes usually avoid EDSA, except in its southwestern and northern parts, but make heavy use of the radials. Metropolitan bus companies and provincial bus companies are top users of EDSA, which concentrates many private bus terminals, especially in the Cubao sector of Quezon City. Trisikel and pedicabs services, banned from the biggest avenues, are limited to specific sections of municipalities and serve mostly as feeders for other modes of transport from the narrow streets of neighborhoods where other vehicles have no physical access.

In comparison to other Southeast Asian countries' metropolises (Bangkok, Kuala Lumpur), Manila's motorization rate has remained modest. Motorcycles, which have become a dominant mode in countries such as Vietnam, are relatively few in the Philippines. There are in fact more for-hire *trisikel* than individual motorbikes. The reason is probably the ubiquity of buses and jeepneys for everyday transportation.

Urban rail transit has been slow to develop. Only in 1980's did the authorities recognize the need for an alternative to road-based transportation. Three standard-gauge lines have been built so far, all alongside major thoroughfares (Fig. 16.9).

LRT 1 (Light Rail Transit line 1), a fully elevated north-south route, was opened in two stages: 7 km in December 1984 and 8 km in June 1985. One of the first urban rail lines in Asia outside of Japan, anterior to Singapore's MRT or Taipei Metro, it runs from north to south along Rizal and Taft Avenues (15 km, 18 stations). The capacity of the line was increased in 1998. The line runs on a concrete structure 7 m

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also in his youth a member of the Malolos Congress, then governor of Nueva Ecija province, and director of the National Philippine Library and Museum. Some have compared him with Jose Rizal, calling him the "greatest of the great Filipino scholars".



**Fig. 16.9** Map of Metro Manila's urban rail network. Source: <http://www.metroeasy.com/wp-content/uploads/2015/04/manila-metro.png>

above the street, designed to withstand earthquakes. Average station distance is 825 m; stations are only accessible via stairs, with no elevators or escalators. Monumento (northern terminal), Central, Gil Puyat, EDSA and Baclaran (southern terminal) stations function as the main transfer station to buses and jeepneys. Trains operate in 2–4 car units (one unit 29.3 m long, 2.5 m wide), which have roof ventilation. In 2010, the line was extended for 5 km east of Monumento above the section of EDSA between Caloocan and Quezon City. There are plans to prolong the line to the south towards Cavite.

LRT 2 runs from northern Manila (Santa Cruz area) in the west via Quezon City to Pasig in the east. The line is elevated except for *Katipunan* station, which is underground. Construction of this line started in 1998 and it runs along Recto Ave, Magsaysay Blvd and Aurora Blvd. Although called LRT, this line uses heavy rail metro vehicles. A footbridge linking the LRT 2 Recto station to the LRT 1 Doroteo Jose station opened in March 2005. LR2 is the less crowded segment of the metropolitan rail network (196,000 passengers/day in 2013).

MRT 3 (Metro Rail Transit, officially called Metrostar) runs elevated along the EDSA ring road (except for the underground *Buendia* station). The central section

opened in December 1999 and the southern section, which connects to LRT 1, in July 2000. The total length is now 16.9 km. The MRT trains are air-conditioned.... when it works! This line is over-used (up to 600,000 passengers every day), under-sized (trains, platforms, stations) and under-performing (speed, schedules) with an increasing frequency of incidents and insufficient maintenance linked to complex arrangements with the Czech manufacturer in a general context of corruption.

A color-coding system of the lines (yellow, purple, blue) similar to Washington DC's was used on maps but never really caught on for the naming, people preferring to use the terms LRT or MRT. The 2012 change of LRT1 from yellow to green on network maps did not change that.

Street-level passenger trains in Manila, mostly linking Caloocan in the north to Alabang (Muntinlupa) in the south, with a few trains, have a low frequency and a low-speed, due partly to the fact they go across squatter zones encroaching on the tracks, and use old equipment crossing rivers on poorly maintained bridges. Train stations are very small and sometimes hard to reach (ESDA PNR station under the complex freeway interchange EDSA/SLEX) at Magallanes.

## 16.6 A Multicentered Metropolis

Business districts have been around since the Spanish times. At the turn of the twentieth century, more commercial districts close to Downtown Manila emerged. These areas (Divisoria, Avenida Rizal, Escolta, Quiapo, Binondo) saw the rise of hotels, multi-story buildings, hospitals, schools, and banks. Downtown Manila still was the capital's only business district until World War II. But over the next few decades, Manila's real estate industry started to look elsewhere for new land. The capital's increasing population and the Philippines' growing economy needed new business areas.

The Araneta family began developing the eponymous Araneta Center, a 35-hectare commercial area in Cubao, Quezon City. Its centerpiece is the Araneta Coliseum (Arceo-Dumlao 2015), which for a time was the world's largest domed indoor sports arena, and the site of the famous Ali vs Frazier "thrilla in Manila" boxing match. Then came Makati in the late 1960s, a pet project of the influential Zobel de Ayala family. Surrounded by subdivisions or gated communities, Ayala Avenue became home to the country's first true skyscrapers. By the 1970s, Makati was officially the Philippines' financial and business capital. Later came Ortigas Center (Mandaluyong/Pasig) in the 1980s, Filinvest City (Alabang district of Muntinlupa City) in the early 1990s, and Bonifacio Global City (Taguig/Makati) in the late 1990s. All these massive urban projects are now fully-fledged business districts, each housing important institutions, numerous office towers, cavernous shopping malls, and headquarters of multinational and local corporations.

Because the real estate industry's appetite for new land to develop is insatiable, a growing number of master-planned "townships" (MacLang 2015a, b) and business districts—also known as mixed-use projects (Kleibert and Kippers 2015)—are

being rolled out left and right. This building boom further intensified when the government began privatizing idle prime lands.

What has developed is an extended metropolitan region (Eusebio 1997), with multiple cores, including in the central area, where the CBDs of Makati, Ortigas and Bonifacio Global City appear as edge cities larger than the business district of Manila City and dominated by an ethic of privatization of public space in the quest for global city-ness (Shatkin 2008; Hogan et al. 2012; Boquet 2013a, b). In a classic dual-city contrast observed in many world cities, these areas are islands of world connectedness and gentrification (Garrido 2013; Roderos 2013) in a sea of poverty, crime and slums (Hilario 2015).

Approaching Manilas airport from the air, the alert traveler immediately perceives the archipelagic pattern of skyscrapers clusters of the metropolitan area, rising above a vast expanse of slum areas, industrial parks and low-rise buildings. When landing from the northeast with a right-window seat, it is easy to recognize Ortigas Center, then Bonifacio Global City with Makati a little bit behind it, and in the distance the high-rise buildings of Metro Manila. They are, as in other Southeast Asian cities (Olds 1995; Dick and Rimmer 1998; Laquian 2005, 2011; Shatkin 2006), the signs of the impact of globalization on Manila.

A look at the list of the tallest buildings in the Manila metropolitan area confirms a dual pattern of concentration/dispersion of skyscrapers in several clusters. Of the 50 tallest buildings, 19 are located in the Makati CBD (Roxas/Ayala), 9 in Ortigas (Mandaluyong/Pasig), 6 in Bonifacio Global City (Taguig/Makati), and only 4 in Manila (3 in Ermita and one in Binondo/Chinatown). There are seven others in different sections of Makati, including the newest tallest building of the country), three in the Boni area of Mandaluyong, one in San Juan, and - so far - none in Quezon City.

These clusters of high-rise buildings are mixing high-end residential condo apartments and office towers, both for executive functions (headquarters of Filipino corporations and Philippine offices of international firms) and for business process outsourcing activities (call centers). The rapid growth of the Philippine BPO industry has spurred demand for office space (Dumlao 2013) and accelerated the rise of skyscrapers districts busy at all times of the day and night with the odd-hours shifts of personnel. At the same time, shopping facilities have also grown very fast (Rau and Corpuz 2012).

Outsourcing companies have been snapping up office space in many buildings, with a high attraction exerted by the Makati CBD, sites in Mandaluyong (Shaw-Ortigas and Boni-Pioneer), Eastwood Libis (Quezon City), the UP Technohub in Quezon City (next to the campus of the University of the Philippines-Diliman) as well as the surroundings of Mall of Asia in Pasay and the Alabang area in Muntinlupa. Manila City itself is not a major center of business process outsourcing.

Despite the fact that the Philippines is still a poor country with myriads of small-scale, house-based family stores, Manila has emerged in the last 20 years as one of the shopping mall capitals of the world. In fact, just considering the largest malls, Manila is the only city hosting three of the ten biggest retail centers in the world, all run by the SM Group: SM Megamall, in Mandaluyong/Ortigas, SM North Avenue in Quezon City and SM Mall of Asia in Pasig.

Many malls in Manila are much larger than Washington DC area malls, and just as Tysons II is located next to Tysons Corner Center in northern Virginia, we find a powerful shopping magnet in Quezon City, with Trinoma (Ayala Group) located next to SM North (Sy Group). There are not just clusters of high-rise buildings, but also clusters of shopping malls. In Ortigas center, which has developed both on Mandaluyong and Pasig territories, just south of the Quezon City limits, we can find within a 500 m-radius SM Mega Mall buildings A and B (third largest shopping mall in the world), Edsa Central Shopping Mall, Pavilion Edsa Central Mall, Shangri-La Plaza Mall, and Starmall Commercial Complex. Just half-a-mile away lies Robinsons Galleria, the flagship commercial facility of the second largest retailer in the country.

The largest concentrations of skyscrapers usually dominate major commercial areas. The best examples are in the Makati CBD (no less than three major retail centers, SM Makati, Glorietta and Greenbelt) and Ortigas Center. Bonifacio Global City is building as a major business center while expanding its shopping facilities, first Market! Market!, then the high-end SM Aura.

In secondary subcenters such as Alabang in Muntinlupa, the pattern is similar, a large shopping mall surrounded by smaller retail facilities, office towers and residential high-rise condominiums (Fig. 16.10).

Major developers are now focusing on “township” projects. These “live-work-play-learn” master-planned, transit-oriented, mixed-use, self-contained “mini-cities” aim to offer urban dwellers everything they need. Megaworld is building McKinley West and Uptown Bonifacio, while SM is working on reclaiming more land off Manila Bay and expanding the Mall of Asia complex, and Ayala developing the Arca South (Taguig) (Burce 2015), Makati Circuit (Makati), and Vertis North (Quezon City) townships. Federal Land and Vista Land have also started to build townships, with the former building Metropolitan Park (Pasay) and Veritown Fort (Bonifacio Global City, Taguig), and the latter building Vista City (south of Manila).

Today, the largest Philippine developers (Ayala, Megaworld, Filinvest, SM) are using shopping malls as flagships and anchors for their “townships” according to this “Live-Work-Play-Learn” philosophy. Partly because of the BPO connection, Philippine malls tend to have a large number of restaurant and cafe offerings, which serve as lunch venues and as enticements to hang out at the mall outside work hours. The demands of the jobs and the availability of leisure areas nearby make the mall/office complexes a very attractive location to live, especially considering the horrendous traffic often encountered around Manila. Real estate companies have seized the opportunity to develop these self-contained vertical cities (De La Fuente 2012), aimed squarely at expatriates and the young adults working in BPO centers, and to diversify their portfolio of tenants. Demand for middle-income residential properties remains high, due to overseas Filipino workers investing in condominiums. Gains in the residential market used to be mostly in the luxury and high-end properties advertised by Filipino actors, but the growing demand and the shortage of residential units in this sector has led to a shift among developers, who are now catering more to the middle-income sector.

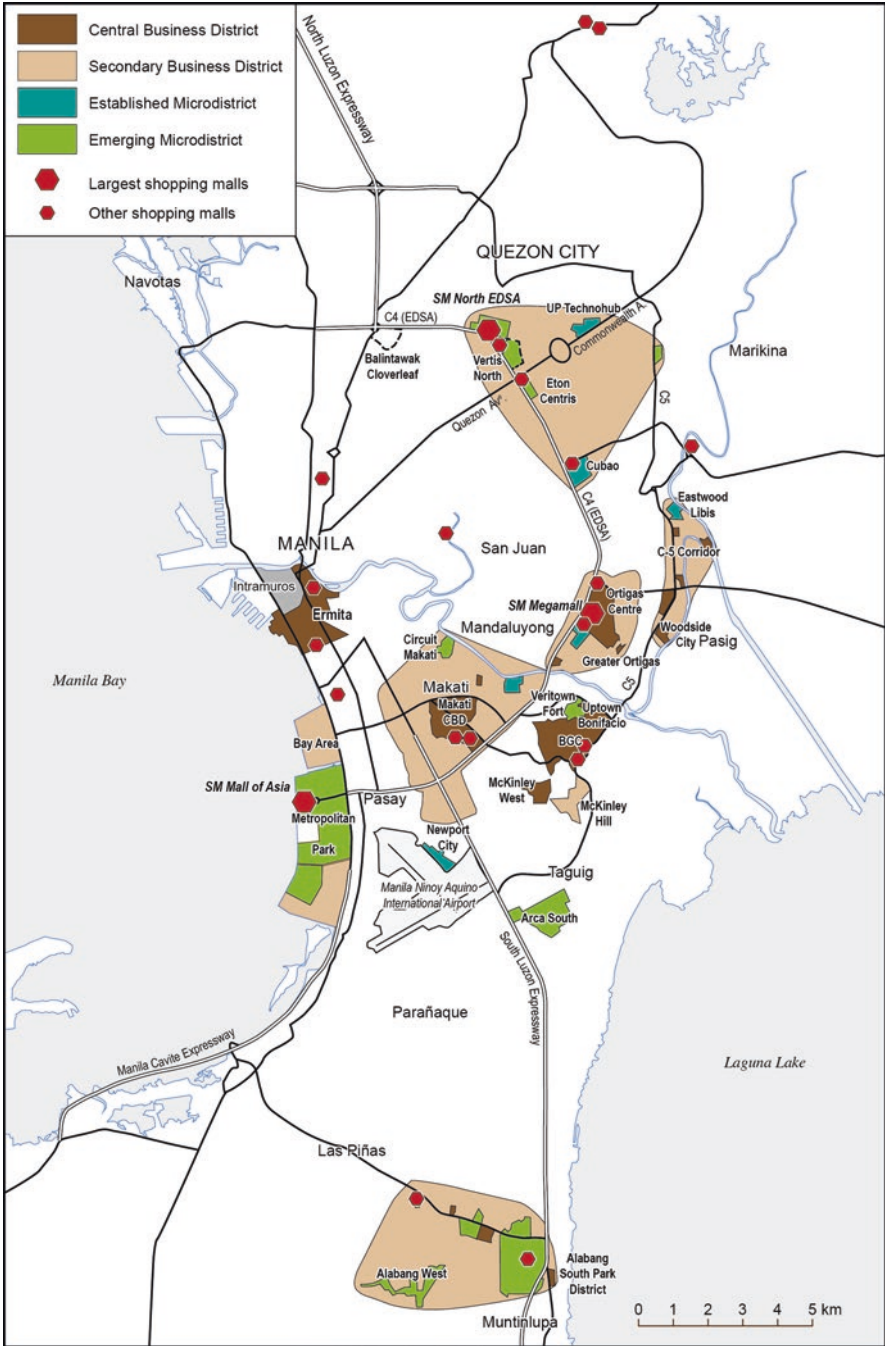


Fig. 16.10 Business centers and shopping malls in Metro Manila  
Map redesigned from a map of Manila's emerging townships [http://kmcgroup.com/media/427952/upcoming\\_townships\\_metro\\_manila.jpg](http://kmcgroup.com/media/427952/upcoming_townships_metro_manila.jpg)

Megaworld started its commercial and retail business when Eastwood City, in Bagumbayan, Quezon City, was established in 1999. Recognized as the Philippines' first urban township and cyberpark, it is now home to almost 25,000 condominium residents and around 70,000 BPO and office workers and houses more than 500 commercial and retail partners. The live-work-play-learn model pioneered in Eastwood City is expanding around Manila and across the country. The Megaworld Group, which includes its subsidiaries Suntrust Properties, Inc., Empire East Land Holdings, Inc. and Global-Estate Resorts, Inc., has integrated urban township developments in Metro Manila, Cavite, Laguna, Batangas, Cebu, Iloilo and Davao. Megaworld-built townships already are home to about 250,000 residents and 150,000 BPO and office workers. The goal of the company is to reach 600,000 and 400,000 by 2020. Its malls and commercial centers in Metro Manila are Eastwood Mall, Citywalk 1 & 2 and Cyber & Fashion Mall in Eastwood City, Newport Mall in Newport City (located next to NAIA terminal 3 and Villamor Air Force base in Pasay), Venice Piazza and Tuscany in McKinley Hill (Bonifacio Global City) and Lucky Chinatown in Binondo, Manila. Condominium residents need not go far to buy groceries and gifts, or watch movies. BPO workers need not take public transportation just to buy food or eat in restaurants. Within these communities, everything is just within reach, and there is no need to confront the harsh realities of life of the rest of Manila: traffic, poverty, and crime.

The township concept also provides a way for developers (Camus 2015) to be part of the solution to the congestion in Metro Manila. These new, transit-oriented (MacLang 2015a, b), microdistricts encourage more Filipinos to “live, work, and play” closer to home.

These upper-end enclaves (Reyes 2015) within the wild and poor metropolis are indeed sold with attractive images of quaint European settings, as exemplified by the elite “The Florence” complex in Bonifacio Global City: “*Imagine waking up each day to the aromatic scents of lush gardens, bathing under the gentle touch of the sun, relaxing in a homey café, and taking a stroll around a secluded community reminiscent of a quaint Tuscan region of Italy, inside the concrete jungle of a central business district*”. This integrated urban township is a place “*where everything is inspired by the lights, sounds, and tastes of Italy*”. It includes McKinley Hill Stadium, a competition-ready football field, and a “Venice Piazza” soon to be the anchor of the Grand Canal Mall, with Italian gondolas, as is already done in the “Venetian” mall-casinos of Las Vegas and Macau.

Another example, the 204-hectare “Aseana City” (Reyes 2014) complex straddling the Pasay/Parañaque border, not far from Manila’s airport, has attracted services firms, banks, finance houses and manpower recruitment. A major locator in this emerging-business district bounded by Roxas Boulevard on one side and Manila Bay on the other, next to the Mall of Asia Complex, is London-based V. Ships, a global maritime-service provider with crewing offices all over the world for filling 25,000 onboard positions a month. With Filipino seafarers experiencing the highest demand in the global market, the company established its second-largest office in Manila, complete with training rooms, engine room simulators and a culinary school to prepare Filipino sailors.



It appears that suburban Manila's many centers share some characteristics with US edge cities, among them Washington DC edge cities. In 2013, the consulting group Jones Lang Lasalle (Salazar 2013a) has identified for the Manila area 3 major CBD ("Central Business Districts": Makati, Ortigas and Bonifacio Global City) and no less than 26 EUD (Emerging Urban Districts). These are located in Quezon City (UP Technohub, Eton Cyberpod Centris, Eastwood City, Araneta Cyberpark, Vertis North, Fairview Terraces), San Juan (Greenhills Redevelopment), Pasig City (Rockwell BPO Complex), Makati (Rockwell Center, Century City, Circuit Makati), Mandaluyong (Edsa Central, Robinsons Cyberpark, Greenfield City), Taguig (McKinley Hill, Arca South) (Mangawang 2015), Pasay (SM Mall of Asia Complex, Newport City, Metropolitan Business Park), Muntinlupa/Alabang (Madrigal Business Park, Filinvest Corporate City), Parañaque (Aseana IT Business Park, Asiaworld City), and further south in Cabuyao, Laguna (Eton City) and Calamba, Laguna (Nuvali Canlubang).

Most of Manila's clusters/townships are located alongside a few major thoroughfares, Commonwealth Avenue in Quezon City in the northeast, South Luzon Expressway in the southern part of the metropolitan area, and most of all EDSA (C4), the semi-circumferential highway, doubled by the MRT 3 mass transit line. The three rail lines are now major anchoring points for real estate projects (Guéguen 2014). Most of the real-estate boom so far has occurred in the eastern and southern parts, as Ninoy Aquino international Airport is located at the border of Pasay and Parañaque on the southern side.

The northern side developments have been few: Caloocan, Malabon, Navotas, Valenzuela seem to be on the "wrong side" of the metropolitan area. This may be changing with the 2015 announcement of "The Cloverleaf" (Andolong 2015, Austria 2015, Ermitanio 2015, Sarmiento 2015) in Balintawak (Quezon City), at the junction EDSA/ North Luzon Expressway near the Caloocan border. 34% of the 11-hectare mixed-use development, which used to be a textile mill property, will be assigned for residences (two towers totaling 2600 units), while 62% will be for retail and office space, including a 40,000 m<sup>2</sup> shopping mall. The Ayala-developed project is also to include a hospital and a landscaped pedestrian promenade. The whole project is to be realized in just 5 years, and is targeting a customer base of "millennials", "early nesters", "start-up families", as well as the Chinese community and residents of Quezon City and "Camanava" (Caloocan, Malabon, Navotas and Valenzuela). The location is very transit-oriented, with direct access to Light Rail Transit Balintawak station, while road travel time to Makati's CBD will be cut to only 20 min after the construction of "Skyway Stage 3", an urban elevated free-way linking SLEX and NLEX.

These townships represent oases of urban quality at the local scale. However, their proliferation indicates that metropolitan planning in Manila is no more than an addition of separate "pockets of development" run by the private sector, rather than a well thought-out pan-metropolitan master plan. Developers are hence able to revitalize locally some derelict neighborhoods and provide quality middle/upper class-friendly accommodations. However, their for-profit concern does not deal adequately with the plight of the millions of poor who live in slums amidst the stench of

garbage-covered waterways. The real estate industry and the public planning authorities have not yet been able to work together on a common development platform for Greater Manila and its inhabitants (MacLang 2014).

## 16.7 Vignettes of the Manila Metropolitan Area

### 16.7.1 *University Clusters*

Even if major provincial cities such as Cebu, Iloilo or Davao have their own institutions of higher learning, Manila is the foremost city for university students, and the number of students in the capital area is disproportionately high. Due to historical patterns (Santos 2008), universities in the Manila area appear concentrated in two major clusters, one in the older part of Manila, with all universities found within no more than 6 km in an irregular crescent shape across seven of the sixteen districts of Manila, the second one in the Diliman/Loyola Heights area of Quezon City (Fig. 16.11).

The “University Belt” is the densest cluster of schools of higher learning in the country, with about 50 institutions no more than 6 km apart in the San Miguel, Sampaloc, Quiapo and Santa Cruz areas, north of the Pasig river. Among the most important schools are the venerable university of Santo Tomas (founded in 1611), Santa Catalina College (1706), National University (1900), San Beda College (1901), La Consolacion College (1902, at the very doorstep of Malacañang Palace, the Philippine White House), Centro Escolar University (1907), the University of Manila (1913), the College of the Holy Spirit Manila (1913), Far Eastern University (1928), Arellano University (1938), the University of the East (1946), Manuel Quezon University (1947) and the Asian Institute of Journalism and Communication (1980).

Manila has a second set of university and college clusters south of the Pasig river, inside the walled city of Intramuros and alongside Taft Avenue in Ermita and Malate, although not as compact as north of the river. Intramuros is the home of Colegio de San Juan de Letran (1620, the second oldest university), Colegio de Santa Rosa (1739), Mapua Institute of Technology (1925), the Lyceum of the Philippines University (1952) and the municipal University of the City of Manila (1965). The Taft Avenue cluster is found in Ermita (Santa Isabel College, 1632, Philippine Normal University, 1901, Technological University of the Philippines, 1901, University of the Philippines Manila 1908, Adamson University, 1932) and Malate (St. Scholastica’s College Manila 1906, De La Salle University, 1911, St Paul University Manila, 1912, Philippine Women’s University (PWU) 1919, Philippine Christian University 1946).

This remarkable collection of universities and colleges attracts more than 250,000 students in these urban campuses located in the heart of densely populated districts. They are well served by several rail transit stations (Legarda and Recto on line 2 for the north side, Central, United Nations, Vito Cruz for the south side).

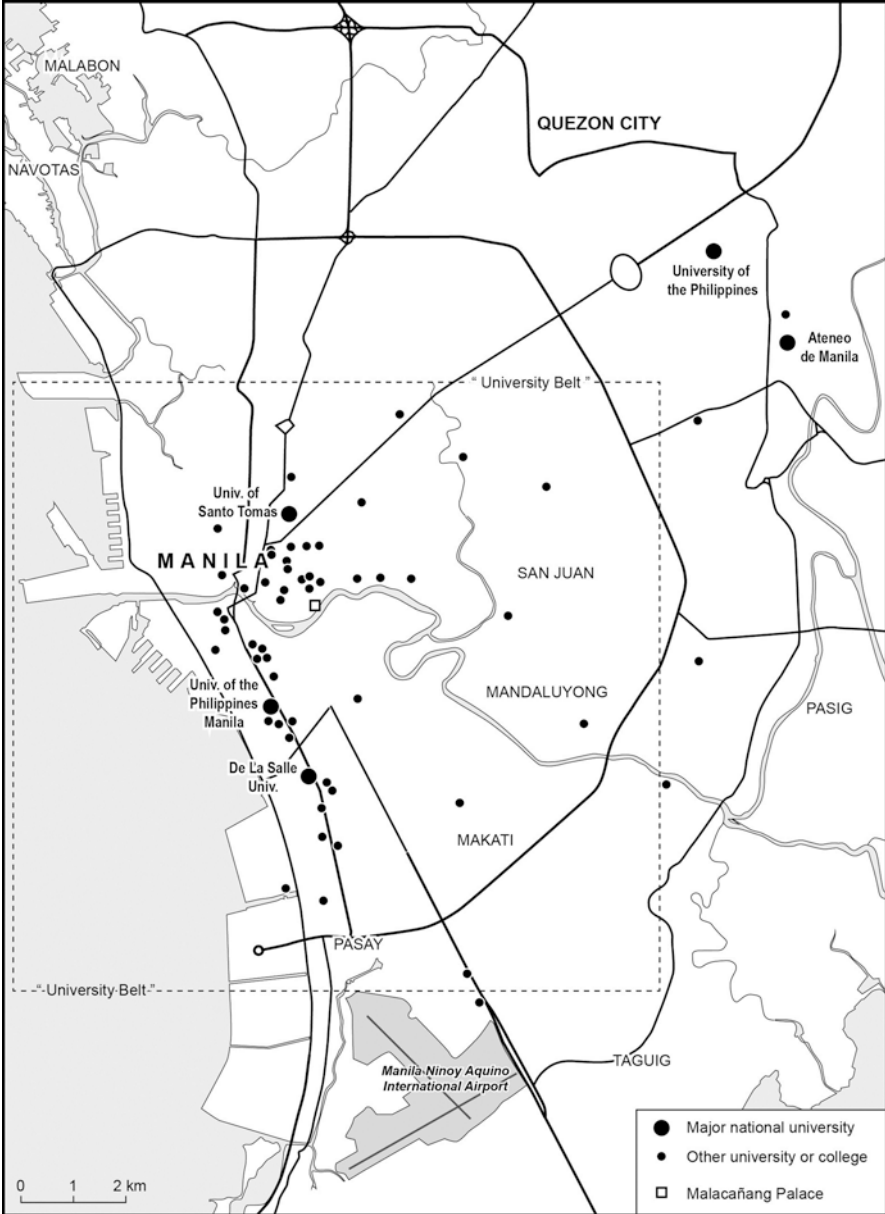


Fig. 16.11 Universities and colleges in Metro Manila

Several of them (Adamson, Arellano, Centro Escolar, Far Eastern, Lyceum, Manuel Quezon, National, University of the East) have pooled together to develop a common research journal, the *University Belt Consortium Research Journal*. Such a concentration of academic institutions has an effect on the local demographics (a population with over-representation of young adults, especially women, since there are also a number of nursing schools in this University Belt) and the local economy, which largely depends on the students, from street food vendors to bars and shops catering to students' needs.

The other major university cluster, in Quezon City, has a smaller number of universities, but some of the top-ranked in the nation, this time in deliberately suburban settings with large green campuses. The top university in the nation (Arceo-Dumlao 2014), "UP-Diliman", the public University of the Philippines is located on the largest campus of the country (493 hectares, opened in 1949) graced with majestic acacia trees and a nature park atmosphere conducive to bird-watching (Ong et al. 1999; Vallejo 2008; Alcazaren 2012; Tan 2014; Vallejo and Aloy 2014). This makes it one of the few green lungs of the whole metropolitan area, which attracts legions of joggers and cyclists on Sunday mornings when motor vehicles, especially jeepneys, are banned from the central area of the campus. It is also known as a "leftist" university, a Berkeley of the Philippines: during the years of the Marcos administration, UP Diliman was the site of much student activism and one of the main centers of political dissent against the martial law. Its neighbor, the Jesuit-run Ateneo de Manila (1859), also very selective, is ranked as the second-best university in the country after UP Diliman. There is a traditional rivalry between the two institutions, both in academic fields such as law or economics, but also in sports. Ateneo is usually deemed much more conservative. It is adjacent to the smaller Miriam College. On school days, Katipunan Avenue (C-5), which separates them from the UP campus, suffers from heavy road congestion, due to the fact that many students come by car or are dropped off by family members. Contrary to institutions in the University Belt of Manila city, there is no easy access from metro stations to the three campuses. It is too far to walk from Katipunan (LRT 2) and even more from Quezon Avenue or North Avenue (MRT 1), so students—as well as faculty and administrative personnel - have to board overcrowded jeepneys. Jeepneys stay out of the Ateneo campus, but three routes enter the UP campus. The busiest one links UP to SM North Mall, which is therefore a favorite of students. The UP Diliman campus also has its own circular jeepney route within the campus, the IKOT, and an experimental track for a university AGT (automated guideway transit) monorail which has been built with much fanfare but little usefulness so far.

Interestingly, the busy business centers on the southern side of the Manila metro area, are not major places for colleges and universities. Mandaluyong has only the smaller Jose Rizal University (1919) and the young Rizal Technological University (1969). The Ateneo de Manila Law School was relocated from Quezon City to Makati in the late 1990s, which until then had just the Don Bosco Technological Institute (1954) and the University of Makati (1972). Pasig can only claim the new (1995) University of Asia and the Pacific, an ambitious name for a school of barely 2500 students.

Taguig has no major university, but it is host to several international schools in Bonifacio Global City: the British School in Manila, the Chinese International School Manila, the International School Manila (U.S.), the Korean International School Philippines and the Manila Japanese School. The Lycée Français de Manille and the German European School Manila are located in Parañaque. The Canadian International school is located in Makati's CBD.

### 16.7.2 *Makati*

Makati is currently the main business center of the Philippines, the “Wall Street”, the “Manhattan” of the Philippines and its richest city (Vilas 2012), with the richest neighborhood, Forbes Park. This has not always been the case (Duldulao 1993; Co 2010).

When the Spaniards arrived around 1570, the area now called Makati was mostly swamp land. Two conflicting theories are proposed for the name of the area. One indicates that it literally means “ebbing tide”, even though it is at some distance from both Manila Bay and Laguna de Bay. However, the Pasig river marks the northeastern limit of the city. The story goes that when Legazpi asked the natives what was the name of the place, they answered him that the river level was getting lower, due to the tides (*kati* in tagalog): “makati, kumakati na”. The other theory advances that Makati got its name from the Malay custom of naming a place after local flora.<sup>6</sup> Makati was covered with *lupang kalabaw*, a variety of cogon grass, which caused itchiness (*makati*) to the touch. Miguel Lopez de Legazpi considered this as a cogon grass covered worthless area.

It was then part of the territory ruled by a chieftain called Lakan Tagkan, who was living in Namayan, now part of Sta. Ana, Manila. From 1578 to 1670 it was considered as an outskirt of the small village of Santa Ana de Sapa, now an eastern section of Manila, under the jurisdiction of the Franciscan fathers. In 1589, a retired Spanish captain acquired more than 4900 hectares of land in Makati to develop a ranch, and a church devoted to the Virgin Mary was built on Guadalupe Hill, a promontory above the Pasig river. “Guadalupe Viejo”, in the northeast corner of Makati, is the original Spanish settlement for the city. Then in 1620 came a second church, San Pedro y Paolo Viejo, a name that led to talk about a Sampiro (San Pedro) de Makati church. Several changes of ownership of the land, which was still mostly a swampy ranch on the foot of the hill with churches, occurred in the eighteenth and nineteenth centuries.

It was only much later that this bypassed area was turned into a social, economic and cultural hub of the country. When the Spanish colonizers gave up the country to the Americans, the Americans established Fort McKinley in the city. With its population of 2500, the municipality of San Pedro de Makati was established in 1901 and incorporated in the Rizal province. In 1914, its name was shortened to Makati, and

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<sup>6</sup>Other examples are Manila (see supra) and Quiapo, named after a kind of water cabbage (*cuyapo*) found on the river banks.

the population had grown to 12,000 in 1916. A City hall was erected west of Guadalupe Hills, giving Makati the shape of an elongated riverside city. Still, the dominant rural form of the hacienda seemed frozen in time until 1935.

When the Philippines became a Commonwealth in 1935, Enrique Zobel de Ayala was appointed by President Manuel Quezon to be part of his team. Don Enrique was a major industrialist of the time, having established factories for soap, bricks, oils, porcelain, glass and tobacco. He was involved in coal mining, sugar, and alcohol before developing interests in insurance and banking. He expanded the Ayala y Compañía's interests in real estate business by developing towns in Rizal province. He also inherited a large tract of land of the hacienda de San Pedro de Makati. He was in charge of building the new capital in the forests of Diliman (see above) and of opening roads and bridges within Rizal Province. The longest of these roads was the highway that was to stretch from Caloocan to Baclaran in the south, named Julio 19 (Rizal's date of birth), then Highway 54, now known as EDSA.

Zobel's proximity to Quezon gave him the privilege to answer an investors' proposal to build an airport. He immediately selected immediately 40 hectares of the Makati hacienda his family had inherited, because it was located on a hard tract of land jutting from rice fields, clearly visible from the air, allowing clear approaches from all sides. Makati's first modern venture was then to be the site of the second airport of Manila after the one developed in Caloocan in 1935. "Nielson Airport" in Makati was built in just 6 months.

After World War II, half a million Manileños were homeless and destitute, while masses of rural migrants were flocking to the capital to look for jobs in the capital of the newly independent nation. From a prewar count of 450,000, Manila's population had vaulted to more than two million by July 4, 1946. Housing was crucial.

As Nielson Field closed down in 1948 after the opening of the newer, bigger airport in Pasay, the plan was set for the building of the central business district. The Ayala family was in control of a large piece of land it could develop as it wished. Master-planned residential areas were established in the 1950s in Makati by the Ayala Corporation, catering mostly to the elites and the upper middle class who wanted more space than in the cramped and damaged old sections of Manila (Viuya 1998). Forbes Park, named after American Governor-General William Cameron Forbes, is well known for housing some of the country's wealthiest families and prominent expatriates, including top diplomats. It is the single richest neighborhood in the Philippines, with an average house price of about five million US dollars. The brainchild of Col. Joseph McMicking, a managing partner at the Ayala y Compañía, it was modeled after the sprawling residential developments in southern California, featuring "Mission-style" houses and open spaces, evoking an atmosphere of peace and relaxation. Some early gated communities (Urdaneta, San Lorenzo San Antonio and Bel-Air Villages) grew into commercial areas and office parks.

The Ayalas transformed the two former intersecting runways into central thoroughfares of the business district, Ayala Avenue and Paseo de Roxas (in honor of the uncle of Enrique Zobel, who had purchased the hacienda), and were in turn intersected by a third essential road, Makati Avenue. The first high-rise buildings of the Philippines arose alongside Ayala Avenue in the 1960's, attracting many corpora-



**Fig. 16.12** Partial view of Makati's skyline (July 2013)

Viewed from Pacific Star Building (offices of the French embassy) towards the east. High rise buildings with hotels and BPO offices tower over the 2-3 level previous building environment. This rapid verticalization of the urban landscape is similar to what can be observed in other Southeast Asian megacities (Kulal Lumpur, Singapore, Bangkok, Jakarta...) and in Chinese cities

tions who moved from the derelict district of Ermita in Manila to Makati to take advantage of the location closer to the airport, of the availability of land, and also because executives lived in Makati. The Makati Stock Exchange was established in 1963. Many embassies have moved to the Makati CBD, including the French embassy, inconspicuously located on the 16th floor of the Pacific Star skyscraper, building, at the intersection of Makati Avenue and Gil Puyat avenues (Fig. 16.12).

By the 1970s, Makati had established itself as a rival financial and commercial center to Manila. Ten years later it was the dominant CBD. Today, the tallest building in the country (PBCom Tower, 259 m) is indeed located alongside Ayala Avenue in central Makati. In a city lacking quality public space, the Ayalas managed to keep at the very heart of the most valuable piece of land in the Philippines a green enclave of 2 hectares, the Ayala Triangle Gardens bounded by three of the four major roads of Makati (the 4th one being Gil Puyat/Buendia Avenue). This "urban oasis at the heart of the central business district" is however a tightly controlled space where "deviant" behaviors are forbidden, including distribution of any printed material, the drinking of alcohol or the use of skateboards.<sup>7</sup>

<sup>7</sup><http://www.ayalatriangle.com/gardens>.



**Fig. 16.13** The globalization of the urban landscape (Makati Avenue)

Ground view opposite the one from high above in Fig. 16.7. Global brands such as McDonalds found local competitors (Jollibee) to provide quick lunches for office workers in nearby office towers

As has been observed in several other CBDs of the world, including Asia, the Makati CBD is no longer a totally quiet place of deserted skyscrapers (Flores 2009b). The financial district has come alive 24 h a day, 7 days a week, since it is largely populated by young urban professionals working and living there. Hotels, cafes, restaurants, convenience stores, parks and other amenities have been developed and are supported by nearby entertainment, cultural and other leisure establishments. Some of those are sex-oriented, in Bel-Air Village in particular, but Makati is evolving into a mecca of culture, art, publishing, jazz, entertainment, Internet and media, clearly following a New York, London, Tokyo's Ginza model of "world-class district", where jeepneys nevertheless are still testimony Makati is indeed in the Philippines (Fig. 16.13).

Older neighborhoods are now feeling the gentrifying effect (Alampay 2004) of the expanding business district of central Makati, with renovations pushing out the squatters and the poor (Silverio 2012) to relocation sites away from the Manila Metropolitan area.

Makati has sometimes been described as a City of three areas: the Old Town or Poblacion area, still marred by poverty and occasional shanty fires, the Central



Business District developed by the Ayalas, and a new development front, the Fort Bonifacio area, which may soon eclipse it as the top business center in the Philippines (De La Cruz 2015).

### 16.7.3 *Bonifacio Global City*

At the present time, the country's fastest-growing business district is Bonifacio Global City (Boquet 2013b), coupled with developments from the nearby McKinley Hill area developed by Megaworld Corp.

Bonifacio Global City (BGC), formerly known as Fort Bonifacio, is a district at the edge of Taguig, about 2 km to the east of the Makati CBD and 5 km to the north-east of Manila's Ninoy Aquino International Airport. Located about 8 km southeast of the city center of Manila itself, it was originally, from 1902 to 1949, developed as a 25.8 km<sup>2</sup> American military facility known then as Fort William McKinley. After the independence of the Philippines from the United States in 1946, American forces retained control of some military lands, such as the naval base of Subic Bay and the Clark Airbase in Angeles City, Pampanga, both located about 100 km North of Manila. However, Fort McKinley was given back to the Philippines as early as 1949, and renamed Fort Bonifacio, in honor of one of the heroes of Philippine uprising against Spanish colonial domination. It became the headquarters of the Philippine Army in 1957, also hosting the Southern Police District. During the Marcos dictatorship years, it was used as a detention facility for political opponents. It is in close proximity to Villamor Air Force base, headquarters of the Philippine Air Force, located at the NAIA airport.

When the Philippine Senate decided to expel American forces from their remaining bases, in 1992, an agency, the Bases Conversion and Development Authority (BCDA), was created with the mandate to transform former US military bases into alternative productive civilian use. BCDA's mission was, and still is, to: "(1) accelerate the sound and balanced conversion of former military base lands into self-sustaining, productive-use, anchored on private sector participation and with the involvement of affected sectors and communities; (2) optimize revenue generation from disposition of - and business developed from—Metro Manila camps to fund conversion and development; (3) create opportunities for investment and employment in Central Luzon; (4) develop a highly motivated professional workforce".

BCDA has become one of the main agents of real estate development in the Philippines (Flores 2009a), teaming up with local governments (provinces and/or municipalities) and the private sector, to foster the growth of new economic zones,<sup>8</sup>

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<sup>8</sup>Six major former military sites are currently owned, maintained and developed by the BCDA :

Clark Freeport Zone in Angeles City, Pampanga (29,213 hectares)

Subic Freeport Zone in Olongapo, Zambales (13,599 ha)

Atmanda Eco Park in Morong, Bataan (formerly known as Bataan Technology Park) (365 ha)

John Hay Special Economic Zone in Baguio City, Benguet (625 ha)

under a national program (PEZA, Philippine Economic Zones Authority<sup>9</sup>), and new business districts.

Approximately 240-hectares of Fort Bonifacio, a rather small portion of the former US camp, were turned over to the Bases Conversion Development Authority (BCDA). The rest stayed under control of the armed forces. Some space is used for leisure activities (Philippine Navy Golf Course) and memorial activities (Manila American Cemetery and Memorial Park, The Heritage Park, Libingan ng mga Bayani/Heroes' Cemetery, comparable to Washington DC's Arlington National Cemetery). The Philippine Army and the Philippine Marine Corps still maintain headquarters there and the Philippine Air Force at Villamor, mostly administrative jobs, while the general command of the Philippine armed forces is located at Camp Aguinaldo in Quezon City, and the Philippine Navy has its main offices on Roxas Blvd alongside Manila's waterfront.

In 1995, Bonifacio Land Development Corporation (BLDC), a consortium led by Metro Pacific, made a the winning bid to become BCDA's partner in the development of what was designated as "Bonifacio Global City". MetroPacific, the Philippine branch of the Hong Kong-based First Pacific Company Ltd., is a conglomerate active in infrastructure projects (road building and management, water works, controlling 84% of Maynilad, one of the two water companies of the Manila region) and hospital management.

In 2003, Ayala Land, Inc., and Evergreen Holdings, Inc. (Campos Group), bought from Metro Pacific a controlling stake in BLDC. BCDA and the two companies now control Fort Bonifacio Development Corporation, which oversees the master planning of Bonifacio Global City. Ayala Land has a well-established track record for creating and sustaining major business districts and large-scale integrated communities, including the Makati Central Business District. The Campos group, through its real estate division, Greenfield Development Corporation, has built many residential communities and resorts in the Manila area as well as Laguna province. This purchase came at a time several other big real estate companies (Robinsons Land, Sta. Lucia Development Corp., and SM Properties) were already positioning themselves at the Global City in anticipation of a boom in business activities there, especially after the Philippine Stock Exchange transfers its headquarters from Ortigas Center to Bonifacio Global City.<sup>10</sup>

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Poros Point Freeport Zone, formerly Wallace Air Station in San Fernando, La Union (236 ha) Fort Bonifacio and Villamor Airbase in the Metro Manila area (900 ha).

<sup>9</sup>PEZA operates 277 economic zones, 65 focusing on manufacturing, particularly in the suburbs of Greater Manila (Cavite and Laguna provinces to the South, Bulacan and Pampanga to the North), 178 information technology parks or centers (mostly in Greater Manila), 17 agro-industrial economic zones (half of them in Mindanao), 15 tourism economic zones and 2 medical tourism parks. [http://www.peza.gov.ph/index.php?option=com\\_content&view=article&id=77&Itemid=84](http://www.peza.gov.ph/index.php?option=com_content&view=article&id=77&Itemid=84), consulted on June 28th, 2013.

<sup>10</sup>The Philippine Stock Exchange was formed in 1992 from the merger of the Manila Stock Exchange (1927) and the Makati Stock Exchange (1963), moving to Ortigas Center at the border between Pasig and Mandaluyong. It will find its new home in Taguig's BGC in 2016 (23-story

After clearing the land of military buildings, a masterplan was developed. From the central area of the acquired land, surrounded by a circular road, the master plan organizes BGC in a core of high-rise office buildings, the Bonifacio Global City Center, designed as a three-by-three matrix of high-tech offices (fiber optics wiring for the whole area) and residential buildings, completed by retail outlets, restaurants and malls. The grid approach ensures that the city center will be easy to navigate. North-to-south avenues are numbered from 1st to 11th, and east-to-west streets from 23rd to 39th, an obvious reminder of New York City's central Manhattan. St Luke's Medical Center is located at the corner of ... 32nd Street and 5th Avenue.<sup>11</sup> Leftovers from the pre-existing circular roads have kept Filipino names reminiscent of the highlights of the national history: Rizal Drive, Katipunan Circle (Fig 16.14).

Bonifacio Global City is now a district with many buildings under construction. It is home to upscale residential condominiums (Essensa, Serendra, Pacific Plaza Towers, Bonifacio Ridge, Regent Parkway) and office complexes such as Net One and Bonifacio Technology Center, home of many call center companies. Office buildings in BGC have already attracted a number of big-name corporate tenants from all over the world, who have set up their regional or national office here: *Accenture* (management consulting, technology services and outsourcing), several banks (*HSBC*, *Deutsche Bank*, *Eastwest Bank*, *ChinaTrust*, *JPMorgan Chase*) and hi-tech and telecom companies (*Fujitsu*, *Hewlett-Packard*, *Ericsson*, *Sony*, *Samsung*, *BitMicro Networks International*), *Cormant Technologies* and *Lawson Software* (business software applications), *Tetra Pak*, *Safeway Inc.*, *Philippine National Oil Company*, *Del Monte Philippines*, *BASF*, *Globe Telecom*, *Astra Zeneca Pharmaceuticals*, etc. A diverse array of companies, most of them in the financial, high tech and business services sectors, characteristic of CBDs.

Four- and Five-star hotels catering to foreign executives are being built. On Fifth Avenue, Shangri-La at the Fort, a complex set of 577 hotel rooms, 97 hotel residences and 96 luxury condominiums, opened in late 2015, is one of the tallest buildings in the Philippines (60 stories high). It will share a block with the new headquarters of the Philippine Stock Exchange, to be transferred from Makati. The Singapore embassy moved from Ayala Avenue in Makati to its current permanent location near the center of Global City in 2008, and a number of international schools have followed.

Two automobile retail centers have been developed: "Bonifacio Stop-over" and "Car Plaza", with Ferrari, Porsche, Maserati and Jaguar showrooms alongside the usual Hyundai, Honda and Toyota dealerships. This reflects the type of population that BGC aims to attract in its upscale residential developments, quite a far cry from the jeepneys and trisikel used on a daily basis by most Filipinos. Many trendy restaurants, bars, clubs, and retail outlets are located alongside "Bonifacio High Street". Originally planned as a "retail promenade", it is a 400-meter-long, 40-meter-

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headquarters and unified trading floor) after it merges with the Philippine Dealing and Exchange Corp. (PEDX), currently located in Makati.

<sup>11</sup> If transposed in New York City, it would be next to the next to the Empire State Building (33rd and 5th).

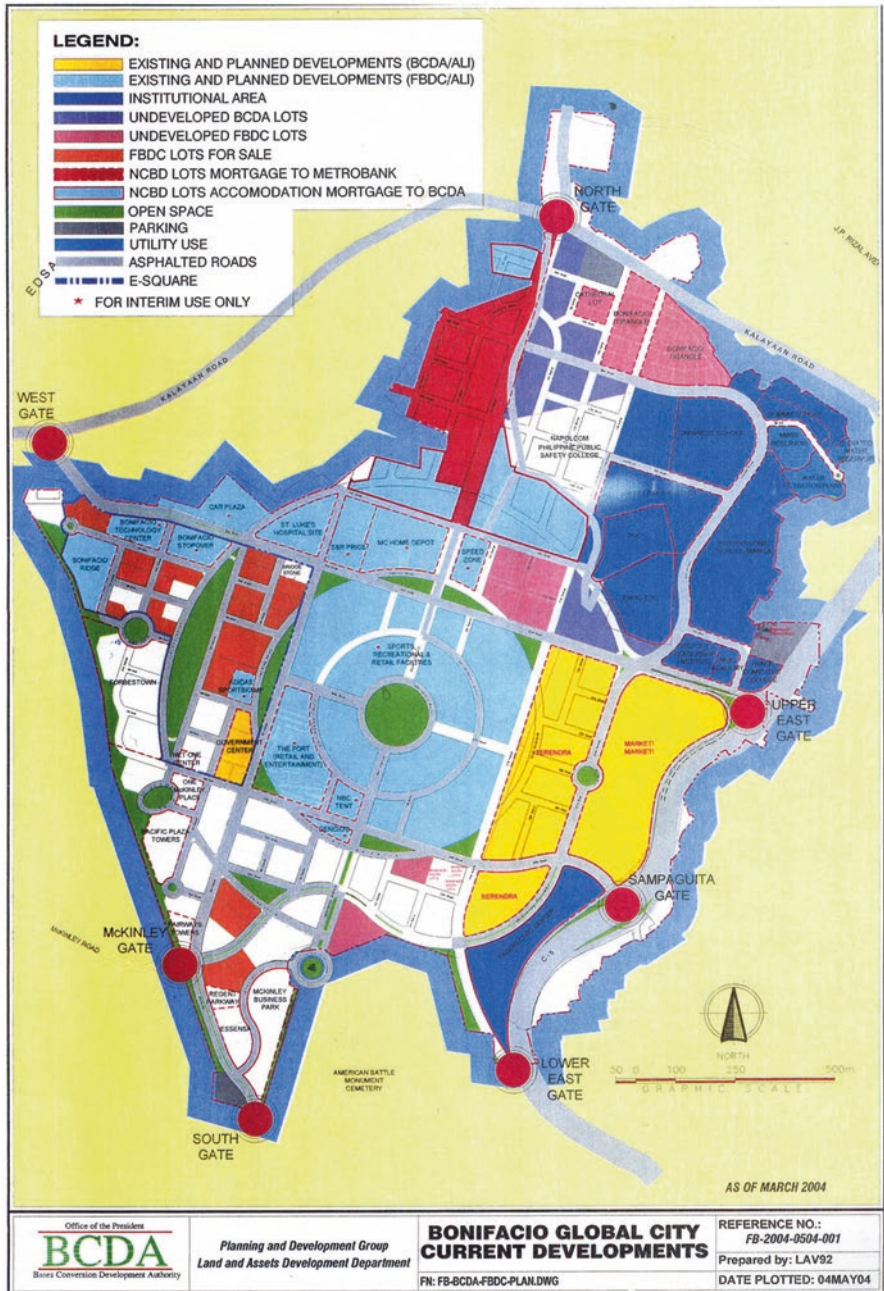


Fig. 16.14 Planning for the development of Bonifacio Global City. Source: BCDA (Bases Conversion and Development Authority)

wide landscaped promenade, alongside what would have been the 29th street, which forms the central linear spine of what will be eventually be a kilometer-long, pedestrian-friendly link between BGC's east (Market Market! and Serendra) and west (the future Mind Museum) ends. Other shopping sections are Serendra, The Fort Square and Fort Strip. However, the highest-volume shopping takes place in two major malls in BGC, "Market Market!" (2003) and "SM Aura" (opened in 2013). When Ayala started the development of its newest shopping center in Bonifacio Global City, "Market Market!", they integrated the concept of a hawker's haven, shopping mall and outdoor wet market in the same place, to make it a catch-all destination. On the northern side, the shopping mall, on five floors, including one mostly devoted to telecom shops, is anchored by Metro, which has developed here its largest department store in the Philippines and a supermarket on ground floor. The main entrance of the mall is flanked, as often the case in the Philippines, by a McDonald's franchise restaurant on one side, and a rival Jollibee franchise on the other side. A central atrium is the site of live television shows on some weekends. A fresh flower market, vegetable stands and booths presenting the diverse food specialties of Philippine regions occupy the south side of the complex. At the junction of both sections, an area with a carousel, water fountains and bushes carved in the shapes of animals (elephant, giraffe) provides playing space for children, while the Ayala group, as in most of its shopping malls, has designed an efficient taxi, jeepney and buses transportation terminal. The complex attracts shoppers from the richest neighborhoods in nearby Makati (Bel Air Village, Forbes Park), the diplomatic communities and middle-income communities in Taguig. It draws huge weekend crowds and is currently expanding to face the competing newcomer. SM Aura Premier opened in June 2013 amidst rave reviews (Arcache 2013) about its elegant and original architecture and its ecological sustainability features (Garcia 2013). Owned by SM Prime Holdings (the largest mall developer in the Philippines, archrival of Ayala Land), it will be part of the upcoming "Bonifacio Civic Center", with a Convention Center / Trade Hall. It houses the fourth IMAX Theatre in the country.

Opened in late 2009, 16-stories high St. Luke's Medical Center - Global City, a branch of the St Luke's Medical Center created in Quezon City in 1903, is widely considered as the most advanced medical facility in the Philippines. It shares top-quality specialists with the Quezon City facility and its twelve specialized institutes (Heart - Cancer - Ophthalmology - Digestive and Liver Diseases - Orthopedics and Sports Medicine - Pathology - Pediatrics and Child Health - Pulmonary Medicine - Radiology - Neurosciences - Surgery - Neurology). It has become the hospital of choice for Filipino politicians, businessmen and celebrities, as well as foreign medical tourists seeking quality care at lower cost than in North America or Europe. It has been designated as one of the two medical tourism economic centers in the country under PEZA.

Central Manila suffers from the constant problems of traffic jams, crime and air pollution. Makati City is, like CBDs, too heavily car-oriented and mono-cultured (offices and hotels). Bonifacio Global City tries to be the perfect combination and antithesis to Manila and Makati, attracting business (global corporations), public facilities (schools and universities), retail and leisure facilities (shopping centers

and restaurants) as well as low-rise and high-rise housing developments and condominiums (Alcazaren 2013b), with provision of open space and greenery in the heart of what will become a dense urban district, thus seeking to become an ideal city (Faix 2007).

The developers seek to make BGC an “orderly, density-controlled development”, in contrast to the chaotic growth of the Philippine capital. It follows the spirit of the “Metro Gwapo” campaign of former MMDA director Fernando Bayani, whose aim was to make the Manila area handsome (gwapo) by cleaning it of trash, graffiti, uncontrolled urination, unregistered street vendors and squatters, to “civilize the city for foreign tourists and businessmen” (Michel 2010). The Ayala planners for BGC have been very meticulous in the design of its buildings: floor-area ratios in the office core range from 6 to 18, residential complexes have a FAR above four, but most retail is to stay below three. Thus the whole BGC will not be a monoblock of high-rise buildings, it will keep a variety in the volume of the buildings.

Since traffic congestion is a huge problem in Metro Manila, Bonifacio seeks to attract its future inhabitants by insisting on traffic solutions (Malubay 2013) on its website page “A city that works”: grid pattern for efficient circulation, precise traffic rules, pedestrian-friendly streets and a privately-managed public transport system (a fleet of about 50 modern air-conditioned buses linking BGC with Ayala Center in Makati every 15 min day and night, and looping around the whole area). Bonifacio Global City, presented as the antithesis to Manila, promises that everything that does not work in the old city or in the Makati business district will work here.<sup>12</sup> It will be clean and efficient, a little Singapore in Manila. Bonifacio Global City insists on its ideal location (“Locate Locally, Connect Globally”) and accessibility between C-4 (EDSA) and C-5 Roads, providing connections to the South Luzon Expressway and the industrial parks in Cavite and Laguna provinces, as well as a fast access both to Makati and the airport (Go 2009). Promotional brochures also insist on the geology and the fact that BGC is above flood-level, another major worry in the Manila area. Nevertheless, an underground drainage detention structure, which can hold more than 20 million liters of water, is in place to prevent any floods in Bonifacio Global City. Liquefied Petroleum Gas (for air conditioning systems and/or cooking needs) is distributed throughout the area by underground pipes. Landscaping around the whole area includes some contemporary Filipino art, and the upscale character of BGC is reflected in some of its mottoes, as reflected on the website: “Art is the city’s heart and soul” (Visconti 2011), “Bonifacio Global City (BGC), the Home of Passionate Minds”. These themes are abundantly used in the promotional brochures for upscale residential developments.

The territorial location of BGC has been hotly contested (Fabella 2013a; Salazar 2013a) between the municipalities of Makati and Taguig, a much poorer city, which hoped to receive abundant financial benefits from the growth of this dynamic urban center. This dispute reached its apex in 2013, when a “banner war” opposing the two cities was waged with unfurled streetside banners claiming their respective owner-

<sup>12</sup>“9 Reasons on why Bonifacio Global City (BGC) is the best location for your condo investment”, <http://triontowers.weebly.com/9-reason-why-fort-bonifacio-global-city.html>.

ship of the area (Cabiao 2013; Santos 2013a), and the harassment of Makati surveyors by Taguig officials (Fabella 2013b; Horario 2013), despite a Court of Appeals decision in favor of Makati (Avenidaño 2013; Fabella 2013c; Merueñas 2013). Tensions subsided later, as Taguig reluctantly acknowledged his loss (Santos 2013b). The municipality of Pateros was also denied to claim ownership of a few parcels of land in BGC (Requejo 2015).

On the other side of C5 from Market Market! and SM Aura, out of view from the shopping mall entrances, another Manila is largely shut off. Squatters in Pinagsama village have not been impacted directly by the construction of the “Global City” of Bonifacio. Manila’s spectacular high-rise districts are only one face of the Philippine metropolis, which is in fact struggling to manage most of its territory.

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## Chapter 17

# Managing Metro Manila

**Abstract** Metro Manila residents are confronted everyday with the challenges of flooding, substandard housing and horrendous traffic. In this low altitude plain, any significant rainfall raises water levels in many small streams, and contributes to traffic jams. The rapid population growth of the metropolis has led to the proliferation of squatter areas, including alongside flood-prone rivers and railroad tracks. The lack of discipline and of decent garbage management contribute in turn to a worsening of floods when streams are covered with litter. The fast rise in motorization rates, coupled with the many imperfections of the public transport system, make Manila one of the most congested cities in the world. Different possibilities to improving mobility are examined, from a reform of the bus system to the redevelopment of the Pasig River. Manila as a “smart and green” city appears as a distant dream only. The daily management of the metropolitan area, entrusted to the MMDA, is difficult due to the fierce independence of local mayors. The management perimeter of the megacity should be reevaluated to include suburban areas in adjoining provinces, due to urban sprawl and increasing commuting flows. Water management should include the entire watershed of the Pasig River and Laguna Lake.

**Keywords** Flooding • Squatters • EDSA • Governance • MMDA

In his 2013 novel “Inferno”, writer Dan Brown describes Manila as “the gates of hell”, a city of “six-hour traffic jams, suffocating pollution [and] horrifying sex trade”. In the most densely populated city on earth, “full of shanty towns made of pieces of corrugated metal and cardboard propped up and held together where babies are wailing and the air is filled with the stench of human excrement”, the central character of the story could only “gape in horror” as she “has never seen poverty on this scale”. In response, the director of MMDA (Metro Manila Development Authority), Francis Tolentino, has not only expressed his great disappointment by this “inaccurate portrayal of our beloved metropolis” and instead called Manila “an entry to heaven” and a “centre of Filipino spirit, faith and hope”, which was deemed equally exaggerated in its rosy picture of the metropolis (Hodal 2013; Torrevillas 2013).

Is Manila a “city of hope”, or a planner’s nightmare? (Chogull 2001; Henares 2012). Over the years many plans have been proposed to control the growth of the Manila area (Encarnacion 1969; Mendiola 1970; Paderon 1970; Faithfull 1972; Jucaban 1976; Ranada 2016), around the classic patterns of polar development, corridor development, peripheric new towns, greenbelts, finger development, dispersal, deconcentration, but most of those plans were hardly implemented and the improvements did not match the population growth.

The National Capital Region of the Philippines is one of the most populated urban areas in the world; it is also among the most densely populated. Greater Manila is a classic case of excessive concentration of people and economic activity on the small territory of a national capital city. It accounts for 35.7% of the Philippines’ economic output, 18% of its population and 28% of its motor vehicles, on barely 0.2% of the country’s land area. The population density of Manila is among the highest of the major metropolitan areas in the world with a comparable land area. It is almost twice as dense as New York City, for example, and only surpassed by Mumbai and Dhaka.

A combination of high density, fast population growth, rapid motorization, and exposure to major risks, present a series of challenges for Metropolitan Manila and appear to be an obstacle to a sustainable development of the urban area (Jimenez and Velazquez 1989; Montelibano 2014), both in terms of the future growth of Manila and the Philippines, and in terms of daily life of its residents.

Metro Manila has serious infrastructure and environmental problems in the areas of land, water, air, sewerage, drainage, waste, and traffic (Edelman 2016). Metro Manila’s water supply system is unsatisfactory. The distribution system does not reach much of the population on the periphery of the city. Water pumps are being used, which is increasing pollution in the water supply. This city also has an extremely inadequate sewerage system. Only 11% of the population of Metro Manila is served by piped sewerage. The majority of sewage is hence untreated and conveyed into Manila Bay through open ditches and canals. Garbage management is inadequate (Alcober 2012).

As a West Pacific rim-of-fire city, Manila is considered as one of the large world cities most at risk for natural disasters. Sitting on top of the West Valley Fault, near the Manila Bay Fault and the Manila Trench, it is at a constant risk of a catastrophic earthquake with a strong potential for tsunamis, and under the threat of two major volcanoes (Heiken 2013): Mt. Pinatubo, which erupted in 1991 in the world’s most powerful volcanic event of the twentieth century, 100 km to the NNW, and Mt. Taal 60 km to the SSE.

Metro Manila is sandwiched between Manila Bay to the west and Laguna de Bay to the east. Both bodies of water communicate through the Pasig River, which runs in the center of the metropolitan area, with numerous small creeks (“esteros”) prone to flooding during the rainy season. The huge amounts of solid waste produced by the city each day often clog the poor drainage pipeline and causes eventual flooding. A first major challenge of Manila is hence to mitigate the risk of flooding, which may be enhanced in the coming years by the effects of global warming (sea-level rise and more intense storms), as in many coastal megacities in Asia (Yeung 2001; Yumul et al. 2011; Porio et al. 2013).

The population growth has been faster than the ability to provide decent housing (Strassmann and Blunt 1993), so many people live in substandard housing units, slums found in all sizes and locations, from university grounds and rail track sides to riverbanks and cemeteries. A second challenge is therefore to develop policies for allowing a decent way of life to millions of people (Reyes 2016).

Manila's congestion is also evident in terms of vehicular traffic, contributing to a high level of pollution with smoke-belching buses, jeepneys and trisikels operated in a myriad of small enterprises, with a certain despise of operators for regulations and safety. Meanwhile, rail-based public transit, both at the metropolitan and inter-regional level, is quite insufficient to solve the current woes of traffic. A third challenge of Metro Manila, therefore, is to improve mobility and air quality for its residents, keeping in sight the co-benefits of smoother traffic, less carbon/GHG emissions and an improved attractiveness for international investors.

These three challenges are linked to each other (Abad et al. 2016). The rapid growth of the urbanized area has reduced the ability of the ground to absorb excess water, since a large part of what is now built and paved in Metro Manila was still farmland—rice growing land—barely 40 years ago. Many squatters have built their houses on the banks or directly on the rivers of the city, impeding the flow of water. The lack of efficient waste treatment has led to a piling up of garbage in the water. Flooding is of course a major contributor to traffic jams, and the building of walls and overpasses, aimed at protecting the walking public from the dangers of motorized traffic, has in turn channeled the flow of water in ways that aggravate locally the flooding events during the rainy season. It is time to “re-engineer” Metro Manila (Luz 2011), with the environmental issues being an engine of the poverty and slums policy (Ballesteros 2013).

How to answer these challenges? (Van Naerssen et al. 1996; Manasan and Mercado 1999) The governance of Metro Manila is multiform. Metro Manila itself is made up of 17 municipalities (Caloocan, Las Piñas, Makati, Malabon, Mandaluyong, Manila, Marikina, Muntinlupa, Navotas, Parañaque, Pasay, Pasig, Pateros, Quezon City, San Juan, Taguig, Valenzuela) with locally strong mayors, who may use their position as a steppingstone to the presidency or the vice-presidency. These municipalities are competing to attract investment and corporations, as indicated by the efforts of Quezon City to catch-up on other cities by developing its own CBD, at the expense of thousands of low-income people whose houses are being torn down. At the same time, a Metropolitan Manila Development Agency (MMDA), is theoretically in charge of many urban problems (disaster management, traffic, sanitation) but has to deal with other agencies, with overlapping mandates. Finally, in the context of a relatively weak government undermined by corruption at all levels, a good part of urban planning is in fact led by private developers who control large tracts of land inherited from the Spanish style of colonization.

The developing extended metropolitan region's multiple cores—CBDs of Makati, Ortigas (Mandaluyong/Pasig) and Bonifacio Global City (Taguig/Makati)—are edge cities larger than the business district of Manila City and dominated by an ethic of privatization of public space in the quest for global city-ness (Shatkin 2006, 2008; Porio 2009; Hogan 2012; Murphy and Hogan 2012; Boquet 2013a, 2016). In a clas-

sic dual-city contrast observed in many world cities, these areas are islands of world connectedness, efficiency, modernity and gentrification (Garrido 2013; Roderos 2013) in a sea of poverty, squalor and slums. Gentrification grounded on neo-liberal and globalizing agendas in the early years of the twenty-first century has led to more displacement of the poor in Metro Manila (Woods 1998; Choi 2016; Ortega 2016). Economic growth in Makati, Ortigas, BGC, is yet to translate to social development and ecological sustainability for most of the metropolitan area (Palafox 2015a).

## 17.1 The Challenge of Floods

Every year, destructive floods paralyze businesses and work in the Philippine capital of Manila and surrounding provinces for several days. Manileños have become accustomed to it (Alave 2010) and have built an image of resilience (Bankoff 2007; Nagai 2012), which is often hailed by political authorities as the “Filipino spirit”. Powerful typhoons such as Ketsana/Ondoy in 2009 bringing huge amounts of rainfall cause widespread damage and can drown hundreds of victims (Lagmay et al. 2010). In August 2013, Metro Manila found itself in an all-too-familiar situation: after 3 days of nonstop rain caused by the southwest “habagat” monsoon, the metropolis was brought to a standstill by widespread flooding. The MMDA estimated that up to 50% of the metropolitan area was flooded. Cities in the southern area of the National Capital Region—Pasay, Parañaque, Muntinlupa, and Las Piñas—were the hardest hit, and placed into a state of calamity by the national government. Schools and universities were closed for a week. Even without a typhoon such as Ondoy/Ketsana (2009), heavy downpours—lasting only several hours but dropping 50–100 mm of rain—cause major disruptions across the sprawling megacity. It happened twice in the summer of 2013, when on June 17th and September 10th, late afternoon torrential rains stopped traffic in many parts of the area.

Metro Manila’s topography makes it a natural target for flooding: it lies in the mountain-surrounded flat area between Laguna Lake in the southeast and Manila Bay in the northwest. There are four major rivers, the Pasig, Marikina, San Juan and Tullahan, plus all their tributaries and the artificial drains, the esteros. North of the city, a good part of Bulacan and Pampanga provinces are also extremely prone to flooding. This already vulnerable topography has been altered dramatically in the past few decades, due to rapid urbanization (Bankoff 2003; Alave 2012; Alcazaren 2013a).

The floods that regularly swamp large sections of the Philippine capital area are less a natural disaster and more the result of poor planning, lax enforcement and political self-interest (Warren 2013). Damaged watersheds, massive squatter colonies living in danger zones (Porio 2013) and the neglect of drainage systems are some of the factors making the chaotic city of 15 million people much more vulnerable to enormous floods (Macaraig 2012). In times of typhoons, storm surges may bring seawater into the city, water flowing upstream in an opposite direction to the main waterway, the Pasig River (Tablazon et al. 2015; Morin et al. 2016).



The plain areas are the easiest settlement areas for people, first for agriculture (rice cultivation), then for urban development. With the development of more housing subdivisions on what were once rice fields, the construction of more office buildings, shopping malls and residential condominiums in the cities, and the paving of more streets and parking lots, a layer of nonporous concrete now covers many more parts of the land. Thus, rain and floodwaters cannot seep into the underground aquifers as they used to do. They have to stay atop all that concrete. The result: runoff and floods.

Buildings, concrete and asphalt combine with heavy pollution from vehicles and factories to trap the heat and increase the temperature in the metropolis, making it an “urban heat island” (Alave 2012). This enhances the intensity of rains over the metropolitan area.

For years, development has proceeded practically unchecked. Zoning laws were ignored, regulations were not enforced, lessons from the past were not learned, and protected areas were built over. In the early years of Quezon City, for example, large open spaces were set aside for watersheds and parks in already identified flood-prone areas, but quickly these patches of green were developed with homes, industrial and business centers, schools and government offices. A ridge along the west bank of the Marikina River, which should have been preserved as a watershed, was paved over as exclusive subdivisions (La Vista, Loyola Grand Villas, Blue Ridge, and Ayala Heights), schools (Ateneo de Manila and Miriam College) or settled as slums. Indiscriminate commercial and residential developments, and road works, have blocked the path of many rivers in Metro Manila, resulting in many occurrences of localized flooding.

Areas in the northern part of Greater Manila (provinces of Pampanga, Bataan, Bulacan, and NCR cities of Caloocan, Malabon, Navotas and Valenzuela) have experienced floods which in recent years appear alarmingly more frequent, higher, more widespread, and take longer to subside than in previous years. Flooding in these areas is largely a consequence of unchecked urbanization (increased paved areas, proliferation of informal settlements), fishponds that block water channels, deforestation, and improper garbage disposal. Excessive groundwater extraction, rise in local sea levels and the subsidence of compacted delta deposits—enhanced by the mass of volcanic ashes deposited by lahar flows after the Pinatubo eruption of 1991—are additional factors contributing to the flooding of areas near Manila Bay (Laquian 2005; Rodolfo and Siringan 2006; Sales 2009).

Another reason for flooding in Metro Manila is intense logging in the mountains. Uncontrolled forestry has left many uphill areas in the Philippines bald (Kummer 1992). Without tree roots to hold the soil together, rainwater easily erodes the mountainsides, carrying topsoil downstream. Over the years, silt has made the waterways shallower so that they can hold less and less water and easily overflow their banks. When the floods recede, they leave a thick layer of mud. The reservoirs of the dams are also now much shallower and therefore can hold less water because much of their watersheds are also denuded; hence they reach their spilling levels faster and go dry faster in summer (Cruz 2013). Silting also affects the drainage system of Metro Manila and the sewer network. Estimates are that capacity has been reduced



**Fig. 17.1** Estero in Taguig (November 2011)

Many small streams (“esteros”) like this one run across the metropolitan area. They are often poorly maintained, allowing for sediments and trash to accumulate. Whenever heavy rain occurs, these quiet waterways become powerful torrents overflowing their banks and creating havoc for nearby populations

by more than half due to silting. On the outskirts of Manila, vital forested areas have been destroyed to make way for housing developments catering to growing middle and upper classes (Macaraig 2012; Suarez 2015).

To the south of Metro Manila, Laguna de Bay is a shallow lake whose capacity to act as a moderator to floods is limited, as shown by the intense flooding in parts of Laguna province and southern sections of Metro Manila in August 2012. When the lake is full, it overflows, since the Pasig River is not powerful enough to evacuate the surplus water brought by all the streams flowing into it (Nauta et al. 2003). Laguna Lake is also now much shallower because of siltation. Therefore, it can hold less of the water flowing down from the mountainsides and the plains surrounding it, including Metro Manila. The lake should be dredged to make it deeper and hold more water (Fig. 17.1).

Several approaches have been attempted to mitigate chronic flooding in Metro Manila. Official responses to floods have pursued two major objectives. The first is to tame nature by reducing the risk of flooding through drainage and other technical measures. The second is to discipline human nature by encouraging civic-minded and socially responsible behaviors and fighting “bad” attitudes and habits deemed to aggravate flooding (Loh and Pante 2015).

The use of GIS has allowed scientists to better pinpoint the areas most at risk with the highest vulnerability (Posnadoro et al. 2014). Local Government Units are improving the quality of esteros, once the pride of Manila but now largely open air sewers (Villalon 2009), by conducting seasonal cleaning of debris (Calalo 2014; Santos 2015a, b), using amphibious trash removal vehicles, church or student volunteer groups (Orozco and Zafaralla 2011) and campaigns such as “adopt an estero” (Mayuga 2015).

The national government has looked at large flood-control infrastructures to protect the metropolitan area.

First of all, a number of dams have been built over the years in the mountains east of Metro Manila, with the multiple goal of providing electricity, guaranteeing water for irrigated rice fields, providing water for metropolitan residents, and retaining excess water in times of heavy rain. They are La Mesa Dam in Quezon City, Angat Dam and Ipo Dam in Bulacan province, and Pantagaban Dam (1977) in Nueva Ecija. However, in every rainy season, there are difficult choices to make about the correct timing to open the floodgates and release millions of liters of water to keep the dams from overflowing.

Between 1980 and 1986, excavation of the 10-km long Manggahan Floodway diversion channel (Horn 1976) was implemented in the southeastern part of the metropolitan area, linking the Marikina River to Laguna de Bay, so that the lake can be used as a temporary catchment basin in times of intense rainfall. The flow of water out of Laguna de Bay has been regulated by the construction of locks (Napindan Hydraulic Control Structure) to control the reverse overflow into the lake. But if the Manggahan Floodway has lessened flood conditions in central Manila, it now contributes to heavier flooding of the coastal areas of Taguig, Taytay, and other towns in Laguna and Rizal provinces alongside the lake, precisely where the metropolitan expansion is now taking place.

In 2012, the Aquino administration proposed three public works projects to reduce the flow of water into Metro Manila. First was to construct embankments and catch basins at the upstream portions and tributaries of the Marikina River to slow down floodwaters cascading from the mountains in Antipolo, San Mateo and Rodriguez (Rizal province) into Metro Manila during heavy rains. This would allow the drainage systems to carry more efficiently rainwater into the sea. Second is to build an 8-km dike along the Meycauayan River and a pumping station in Valenzuela to ease flooding in that city, in Malabon, Navotas as well as Obando and Meycauayan towns in Bulacan. The third project would be a 47 km ring-road dike to address floods in 18 lakeside towns in Laguna province and at the same time provide an alternative transport route to the congested South Luzon Expressway from Taguig (Metro Manila) to its southern periphery (Esplanada 2012; Lim Ubac 2012; Pangco Pañares 2012a, b), bypassing the crowded highway in Calamba and Los Baños to reach the municipality of Bay. However, this PPP project has so far (July 2016) failed to attract bidders, due to its cost and legal and technical complexity (Camus 2015a, b, 2016a, b; De La Paz 2015a, b; Desiderio 2016) and the doubts expressed by hydrologists and geologists about its effectiveness in taming floods and the risks posed by its location atop the West Marikina Valley Fault (Rodolfo 2014, 2016), while fishermen associations want the whole project to be abandoned (Alcober 2016).

Worse, the Manggahan Floodway, like some other water bodies, is one of the sites where informal settlers have established their dwellings. Squatters, attracted by economic opportunities in the city, often build shanties on the banks of the Marikina and Pasig rivers, alongside esteros, canals and storm drains (Capino 2012; Macaraig 2012; Horario 2013; Porio 2013). Their makeshift housing often encroaches onto available waterways, blocking the access of maintenance personnel and equipment and reducing their capacity to handle discharge (Calleja 2013). Even though the urban poor are not the only ones responsible for such encroachments, since governmental, commercial, and industrial concerns also play a significant role, they have been pointed out repeatedly as major factors of flooding. The huge amount of improperly disposed garbage, left on street corners, dumped on vacant lots, or thrown into waterways, clogs the network of drainage canals (Cruz 2012a; Mangunay 2013), and sometimes causes the collapse of retaining walls and dikes, posing a considerable risk to health (mosquito-borne diseases such as malaria or dengue fever, and intestinal diseases) (Tran and Fukushi 2013), and greatly increasing the likelihood of flood. Many canals and esteros are fenced off and signs tell people not to throw their garbage in the water. But people living near the esteros are known to cut out holes in the wire fences and throw their garbage into the canal anyway. A sad example of the lack of civic spirit from people not realizing that they are harming themselves.

Should, therefore, education of slum settlers or the eradication of slums be major policy tools to fight floods in Manila?

## 17.2 The Challenge of Housing: Squatters and Urban Development

Safe and adequate housing is a basic human right, but housing security has been difficult to achieve for too many Filipinos, particularly in the fast-growing Manila region. In 1946, in the wake of the city's war destructions, Manila and its suburbs had about 46,000 squatters, a number which rose in the subsequent decades: 98,000 in 1956, 283,000 in 1963, 1.6 million in 1981. By 2010, at the start of the Aquino administration, that number had become 2.8 million (556,526 families) (Ramos Shahani 2016).

In 2003, slums ("informal" neighborhoods, "squatter areas") were scattered in 526 locations all across Metro Manila (Ragragio 2003). Today they may be home to almost four million people, or one third of the population of the metropolitan area (Arimah 2010; Alcazaren 2011). Their population is growing at an alarming rate of 8% per year (Ballesteros 2010). They are located in central parts of the metro area and on its outskirts, on private or public vacant lands, alongside the many urban bodies of water, also near garbage dumps, along railroad tracks, under bridges, near factories, cemeteries, bus terminals and subway stations, even on the grounds of university campuses (Galeon 2008). The homes are made of plywood scraps, corrugated tin roofs, and plastic tarpaulin. The materials are taken from wherever they

can be found. If significant slums are easily located, the mode of settlement of the poor of Manila is generally dispersed. Some squatter settlements, labeled “looban” (“inside places” in tagalog) are hidden inside housing blocks, while the access to “eskinitas” is possible only through narrow alleyways. The megacity is compartmentalized, fragmented between affluent areas of posh villas protected by armed guards (Rockwell Drive in Makati) and “iskwater” areas (Guadalupe Viejo in the same part of Makati), between international style shopping malls and crowded markets (Pinches 1994; Connell 1999; Gueguen 2007). All Metro Manila municipalities harbor at least 15% of their population in slums, some more than 50% (Pasay) and global investment in Manila often clashes with the residents expelled from slums to make space for high-rise buildings and shopping malls (Sheldon 1998).

In view of the difficult living conditions of slum dwellers (poverty, unemployment, unsafe dwellings, flood risk, fire hazards, domestic violence, prostitution, child labor, crime, drug dealing), the challenges to properly house several million people appear enormous (Starke 1996) and the choices difficult (Werlin 1999; Berner 2000; Porio and Crisol 2004; Llanto 2007; Gonzalez 2009).

Should the policy be to do nothing and consider that shantytowns are only a symptom of untamed population growth and will eventually disappear with the expected decline in fertility? Should it be to “upgrade” slums? Should it be to eradicate slums, either by chasing away their residents, relocating them or developing major programs of public housing in situ (Racelis Hollnsteiner 1975; Guerrero 1977; Santiago 1977)? If the government chooses to regularize the legal status of informal settlements, will it attract more settlers? Should urban squatters receive titles to lands of better value? (Porio and Crisol 2004) Are squatters “parasites” in the city or actors of its development? Are squatters individuals left to themselves or communities with their own solidarities and homegrown economies (Porio 2002; Nakanishi 2006)? Many residents run small “sari sari” stores, carry goods in the market, transport passengers in pedicabs (bicycles with sidecars), sell homemade food to their neighbors or peddle their wares to pedestrians in key areas of the city (near shopping malls, at MRT/LRT entrances, near official buildings or universities (Marcelo 2015)). Some work in factories, as janitors at the airport or in office buildings, as salespeople in malls, even as teachers. Hidden from view, but close to modern business centers, squatters are part of the fabric of the global city (Shatkin 2004).

Slum policies in Manila have been difficult to follow, since they have changed often over time. In 1947, the young Philippine government had created the People’s Homesite and Housing Corporation (PHHC). In the following years, five other agencies were created to meet the challenge of housing: Presidential Assistant on Housing and Resettlement Agency (PAHRA), Tondo Foreshore Development Authority (TFDA) (Lantoria 1975; Estioko 1977), Central Institute for the Training and Relocation of Urban Squatters (CITRUS), Presidential Committee for Housing and Urban Resettlement (PRECHUR), Sapang Palay Development Committee (SPDC). To end the confusion, the NHA (National Housing Authority) was finally created in 1975 by F. Marcos under Presidential Decree 757. The new agency, responsible for the production of housing for low-income families, took over and integrated the functions of the abolished agencies. Three weeks later, under martial

law, F. Marcos criminalized Filipino informal settlers (Presidential Decree 772: “Penalizing Squatting and Other Similar Acts”). This allowed evictions without justification. In 1977, the Law No. 555 (Slum Improvement and Resettlement Program Act) seemed to favor in-situ slum upgrading, while providing for a transfer of residents, but the following year the perspective changed again. In 1978, the NHA was attached to a new ministry, the Ministry of Human Settlements (MHS). Presidential Decree 1396 created the National Capital Region, including 17 towns detached from Rizal province, and Imelda Marcos, wife of the president, became its governor. The same decree created a Human Settlements Development Corporation, responsible for implementing urban renewal policies (slum clearance) and the development of the Bagong Lipunan (“New Company”) relocation sites.

In March 1986, Government Decree No. 10, an early post-Marcos measure, placed the NHA under direct administration of the President of the Philippines. It had to coordinate its efforts with other state agencies, such as the MMDA (Metro Manila Development Authority), the LLDA (Laguna Lake Development Agency), and provincial and municipal governments. The 1992 “Lina Law”, named after Senator J. Lina (Law No. 7279, Urban Development and Housing Act) specified under what specific conditions to undertake evictions and destruction of homes. They could only proceed when (a) people live in places considered dangerous (esteros, railways, landfills shorelines) or in public spaces (sidewalks, roads, parks and playgrounds), (b) public infrastructure projects already funded were ready to be implemented, (c) after a judicial decision ordering expulsion or demolition. The law aimed to “raise the life standard of disadvantaged citizens and homeless in urban areas and resettlement areas” by providing decent housing at an affordable cost and access to basic services and employment. The government supported “priority development sites” identified as “good for social housing”. The Law No. 8368 (Anti-Squatting Law Repeal Act of 1997) abolished the Marcos decree of 1975, decriminalizing the squatters, even if the 1992 text promised severe penalties (fines and imprisonment) for “professional squatters” exploiting the poor by charging exorbitant rents and illegally residing on private or public land even when they could afford to live in legal housing.

In 2008, President Gloria Arroyo (Decree 708) required municipalities to establish local agencies (Local Housing Boards) for the implementation of expulsion procedures, while Decree 803 (May 2009) created a metropolitan agency (MMIAC, Metro Manila Inter-Agency Committee) to coordinate the establishment of shelters for squatters threatened with eviction.

Today, in the Philippines, evictions of informal settlers are controlled and poor people are no longer considered as criminals, even if beggars and mendicants are still seen as nuisances and a symbol of the Philippines imbalanced development (Toohey 1998). Many local NGOs help them to better defend their rights. But if the squatters are tolerated, they are still considered as a “problem to solve” and the trend in the Philippines for the last 20 years is not to improve the living conditions of people in slums but rather the construction of housing replacement to proceed with eviction and demolition.

From 2008 to 2011, 532 demolition operations of squatter sites have been conducted in Metro Manila, affecting 166,092 families (for an average of 312 families by action, which shows the magnitude of the effort). 93 of these eviction events (17%) were justified by the safety of residents (flood or fire prone areas). They involved 75,709 families (46% of total, average 814 families per transaction). The largest number of cases (284, 53% of the total) were motivated by court decisions, disputes about the illegal appropriation of land, affecting 19,747 families (12% of the total, average of 70 families by deportation: ten times less than evictions for safety reasons). 109 expulsions (20%) for 57,850 households (35%) were motivated by infrastructure projects: redevelopment of rail corridors, widening of streets, water projects (average 531 families). Three-quarters of the evictions were ordered by local authorities. The number of evictions appears to have increased after the end of the presidency of Gloria Arroyo, who had signed several decrees allocating government land for the construction of housing for the poor, while her successor Benigno Aquino did not.

In recent years and months, certain operations of evictions have mobilized the interest of the press, due to the violent battles between settlers armed with rocks and Molotov cocktails on one side, and demolition workers supported by police armed with tear gas and water cannons, on the other side. Foremost is the Sitio San Roque in Quezon City, where a large squatter settlement is to be eliminated to make space for the future Quezon City CBD (Lagman 2012), a major real estate operation on a site next to two major shopping malls and important transport terminals, with a completion date around 2020. In Pasay, the eviction of squatters in the Baclaran neighborhood was politically difficult due to the presence of a neighborhood mosque. The expulsion was seen by some as an attack on the Muslim minority. Other showcase evictions were linked to projects to revive rail service (Northrail project in the hyper-dense Santa Mesa neighborhood of Manila, and in Valenzuela and Malabon). In Tondo, the huge squatter settlement adjacent to the garbage disposal site poetically (ironically?) nicknamed “Smokey Mountain” (Abad 1991) was dismantled with a massive operation of transfers of its residents towards a site in Batangas province, 2–3 h south by bus. However most people came back and started to work again sifting through the new pile of garbage nearby, “Smokey Mountain 2”. Public housing efforts in the area were of mediocre quality, and some of the buildings (the Vitas Tenements) had to be demolished due to faulty construction (Herrera 2015). In Quezon City, after a tragic landslide in 2000 killed scores of people in the Payatas landfill, relocation of some survivors was implemented (Gaillard and Cadag 2009), but the area remain quite hazardous (Araja 2015), which did not stop poor people to sift through refuse to get mediocre earnings (Su 2007).

In Manila, a high-density megacity, the question of flood risk and vulnerability has pushed to the forefront the issue of illegal housing built on the edge of rivers (Zoleta-Nantes 2000; Bankoff 2003; Porio 2011; Nagai 2012). Some slums are built in dangerous places, deemed unsafe for regular housing, alongside fault lines, unstable slopes, riverbanks. Their inhabitants are confronted daily with substandard housing and a degraded physical environment resulting from the failure to provide adequate public services (drainage, garbage disposal, electricity, water supply).

Overcrowding increases the risk of respiratory disease, water contamination and poor disposal of household and human waste are sources of gastrointestinal problems (e-coli bacteria), skin diseases, cholera, typhoid and other infectious diseases such as leptospirosis. Living near landfills exposes the poor to harmful bacteria, dioxins, carcinogenic pollutants that threaten people's health from an early age, while standing waters favor mosquitoes carrying dengue fever or malaria.

This environmental dimension (Jimenez and Velazquez 1989) coupled with a growing concern about the health risks is now a growing motivation to evict poor residents in Greater Manila in the name of protection of urban waterways against pollution and flood prevention, especially since the major Ketsana/Onoy typhoon of September 2009 (Ellao 2009; Mabasa 2009).

Some 300,000–500,000 people are affected by the plans to eradicate illegal settlements alongside the rivers of the agglomeration (Pasig, Marikina, San Juan, Napindan, Tullahan, Catmon), the esteros, the shores of Laguna de Bay and the Bay of Manila, as well as the Manggahan Floodway. Squatters in the esteros and alongside the Pasig River use them as a water resource, but also as toilets and dumps. The foul-smelling water surface is littered with trash (Fig. 17.2). It is difficult to treat



**Fig. 17.2** Estero de Paco before rehabilitation (November 2011)

This stream located near the center of Manila City had become a symbol of the neglect of waterways in the metropolitan area, with encroaching squatter houses and the piling up of trash on the water surface. It has not been cleaned up and a pedestrian promenade is under development alongside a section of this estero



these wastes, especially as Manila lacks space for its garbage management. Two-thirds of the solid waste materials floating in the Pasig, blocking the flow of water, are attributed to residents of slums.

In 1999, President Estrada created the Pasig River Rehabilitation Commission, with the mission to restore the river to its original state as a recreational site and an axis of transportation (Lazo 2012; Lopez 2012). This commission works with other government agencies, tracking polluters and squatters, planting trees, controlling garbage and water quality. In 1999 and 2000, 10,000 people were evicted from the banks of the Pasig, but the brutality of evictions led the Asian Development Bank to intervene, threatening to suspend financial support to prevent forced evictions. After he assumed power in 2010, President Aquino reaffirmed the importance of the reconquest of the Pasig River, increasing the budget for the commission and setting an ambitious goal of cleaning up all waterways in Greater Manila by the end of his term in 2016. Some results are already spectacular; alongside the 2900 m of the Estero de Paco (Arboleda 2012), one of the filthiest open-air sewers of the city, the shacks of tin and plywood established on top the river have given way to a tree-lined promenade. The water, although still polluted, is now free of trash, partly because the nearby public market vendors have stopped throwing their garbage into the water. It is already observed that floods there appear less serious than in the past because the flow of water is not blocked anymore by the accumulation of debris.

In August 2012, after a major monsoon flood, the Philippine government announced that it was ready to forcibly evict slum dwellers on the Pasig River because their houses blocked the flow of water and contributed to severe flooding in the city, forcing an emergency evacuation of 350,000 families in the metropolitan area. Interior Secretary Jesse Robredo proposed to forcibly transfer 10,000–20,000 settlers per year from areas with a high risk of flooding, while, according to press reports, Public Works Secretary Rogelio Singson said he had received presidential instructions authorizing him to dynamite the houses of recalcitrant people (Pangco Pañares 2012a, b). Such extreme proposals angered the inhabitants of slums and housing rights activists, quick to note that even Ferdinand Marcos had never considered such measures.

The question remains of what to do with the people evicted. In Makati, due to expensive real estate values, the housing program for informal settlers has relied mostly on relocation to resettlement sites outside of Metro Manila. The Philippine government has selected a number of sites in the neighboring provinces of Metro Manila, for displaced slum dwellers, sometimes even farther away (Zoleta-Nantes 2006). Specific sites have been identified for relocation projects concerning rail tracks, waste dumps or riverbanks dwellers. Calauan, Cabuyao and San Pedro Tunasan (Laguna), Carmona, Trece Martires, Dasmariñas and General Mariano Alvarez (Cavite), San Jose del Monte (Bulacan) and Rodriguez (Rizal) are among the municipalities that have allocated land for the relocation of the people moved from Manila. The relocation sites are often given bureaucratic names (“Phase 1”, “Southville 8C”, “Northville 4”, “Phase 6 Towerville”...), sometimes more positive names: “Bagong Silang” (Renaissance), “Bagong Bayan” (New Village), “Bagong Buhay” (New Life), “Kasiglahan” (Vitality) (Fig. 17.3).

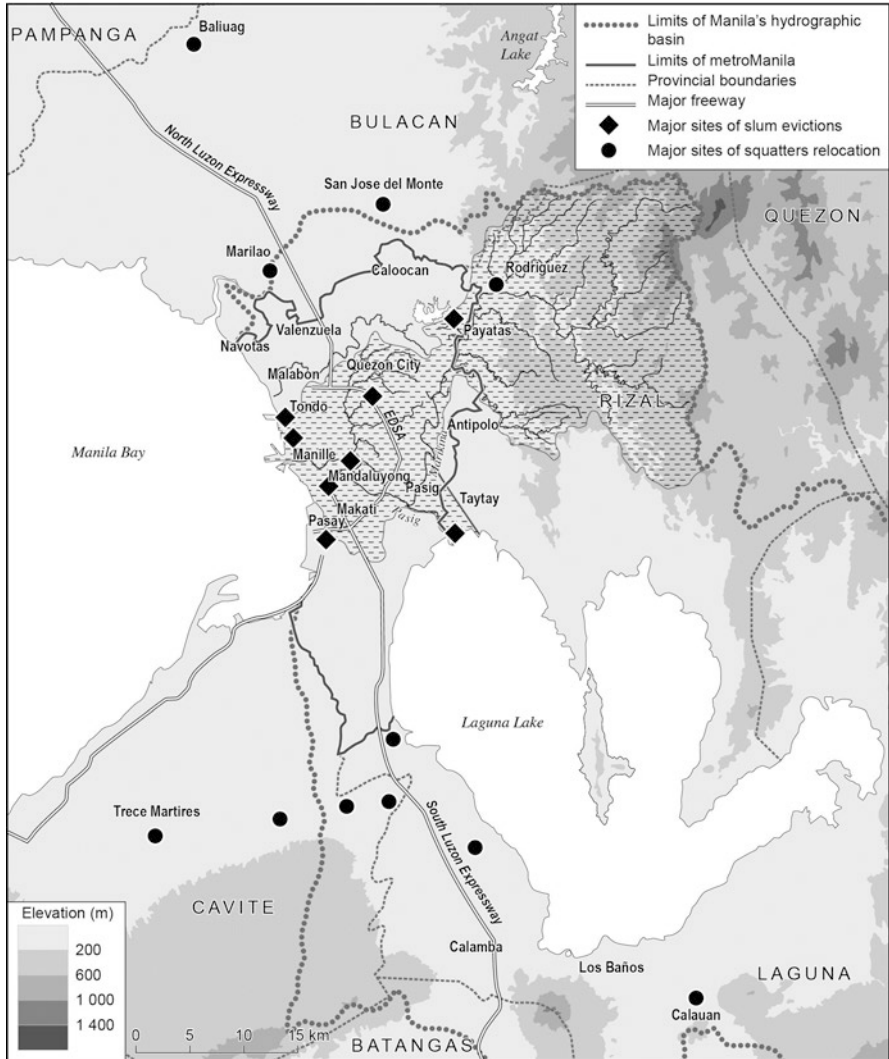


Fig. 17.3 Relocating squatters

These relocation sites, however, have been widely rejected by the affected populations. Relocating the poor outside Metro Manila deprives them of livelihood (Choi 2015) and education and creates many problems rather than being a good solution: a feeling of uprooting, the lack of jobs (leading to long costly commutes to places of work), the lack of food availability, poor quality housing (sad-looking rows of poorly equipped houses), tight regulations prohibiting many activities (hanging clothes, smoking, making any noise after curfew) and giving to the transferred people a feeling of limited freedom. The allocation of mediocre farmland (2 ha per

family) suggested by President Aquino cannot solve problems. These are not farmers who are being relocated out of the city, but long time urban dwellers. Relocating a janitor or a garbage recycler to the rural Philippines does not make him a rice farmer. When, freshly disembarked from the military trucks that transported them from Manila, former slum dwellers realize that water supply is incomplete, there is no sewage, no electricity, unfinished grounds, and no jobs or shops nearby, the illusion of a better life quickly dissipates and a quick return to Manila is the solution (Yamamoto 1996). In some cases, relocation sites are themselves at-risk places (flooding areas, on slopes prone to landslides, near fault lines).

The recent trend is for more housing types, with a growing participation of the private sector (through the funding of resettlement sites by charitable foundations) and the choice of more central locations, as advocated by activist organizations and renowned architect Felino Palafox, who proposes to allocate 10 ha in each city of Metro Manila to build high-rise socialized housing, safe from flooding and close to jobs and shops. The “Medium-Rise Public Housing Program” has selected 15 sites to relocate the people displaced from the Pasig River (5 in Caloocan, 2 in Mandaluyong and Pasig, 1 each in Malabon, Manila, Muntinlupa, Pasay, Taguig and Quezon City) for buildings of 4–5 floors as close to the jobs as possible (Cruz 2012a).

Current urban renewal strategies of “shared growth” (Tomeldan et al. 2014) focus on the role of community-based organizations (CBOs) in setting up self-help and participatory programs by the residents of these areas, who are getting better organized (Berner 1998; Shatkin 2000, 2002, 2003, 2016; Coker 2016) with the support of NGOs and advocates for the poor (Karaos and Porio 2015). Women play a growing role as leaders of the residents’ movements (Jurado 2013) and the struggle for the right of the poor to be part of the city’s social fabric (Goss 1998).

## 17.3 The Challenge of Daily Mobility

“A developed country is not a place where the poor have cars. It’s where the rich use public transportation.” This quote of former Bogotá Mayor Enrique Peñalosa may have some relevance in Manila, known for its horrendous traffic and its poor public transit system.

Traffic in Metro Manila is caused by several factors that need government attention. Among the major causes of traffic (Valderama 2014; Ng 2015) are:

- poorly maintained roads;
- overpopulation of urban areas in Mega Manila;
- inefficient and ineffective mass transportation;
- rapid development of major cities in Mega Manila;
- no alternative mode of private transportation (e.g. bikes, carpools);
- increasing growth of private car usage (including ownership);
- lack of discipline of motorists;
- lack of, or no strict implementation/enforcement of traffic laws.

Many experts have suggested over the years a number of solutions to tame Metro Manila's problematic traffic jams, some focusing on traffic engineering (build more infrastructure), others on traffic management (restrictions on some types of vehicles, road pricing), others on lifestyle, road-safety behavior and habits, some recommending more emphasis on public transport, or advocating comprehensive urban planning to reduce the need for motorized mobility (Dückert 1978; Villoria 1996; Marasigan 2015a, b, c) and improve the overall quality of life in Metro Manila (Ramirez-Villoria 1998).

### ***17.3.1 Road Traffic***

The urban density of Manila is one the highest of the world and the rate of motorization far exceeds the street capacity to handle traffic. Failure to anticipate the needs of an ever-growing population has led to inadequate mass transportation and the consequent continuing growth in private car ownership. The joint processes of globalization, outsourcing, and the relocation of manufacturing activities have been accompanied by a rise in the purchasing powers of many people, as in other developing Asian countries, which has allowed them to acquire motorized vehicles, motorbikes and automobiles, even if profound inequalities exist in regard to the capacity to acquire a vehicle (Cervero 2013). In Metropolitan Manila, according to MMDA data (Vergel De Dios 2017), there are 5034 km of roads (37 km of tolled expressways, 992 km of "national roads", 2366 km of "local roads" and 1639 km of "private/subdivision roads"). In 2008, Manila counted 1.7 million registered motor vehicles, of which almost 10% (163,000) were registered for-hire vehicles: buses, jeepneys and trisikel.

Metro Manila's population has boomed in recent years. The metro is home to about 12 million individuals, or about 12% of the country's total population. But this number swells to over 15 million individuals in the daytime, during which people flock in from nearby provinces (Bulacan, Rizal, Laguna, and Cavite) to work, find work, or do business. However, with an expansive and efficient passenger train system, Tokyo and Seoul prove that large urban populations are not incompatible with a relatively painless commuting experience.

This growth has not been matched by any significant expansion in the road network. It has resulted in a rapidly increasing congestion of the streets, since the urban fabric is traditionally made of narrow roads not suitable for heavy traffic. The density both of roads per square kilometer and roads per resident appears very low in Manila, compared to other metropolitan areas (Boquet 2013b). There are simply not enough roads to allow for smooth traffic. Many parts of Manila experience heavy traffic congestion, especially in areas of high population density (more than 70,000 people/km<sup>2</sup> in Tondo) and narrow streets in old neighborhoods such as Quiapo (Manila) or Guadalupe (Makati). In these areas, street vending encroaches on the limited road space, further slowing down an already busy vehicular traffic, largely made of jeepneys and trisikel. Inadequate flood control (see Sect. 2 of this



**Fig. 17.4** Congestion on EDSA at the Guadalupe bridge (Makati/Mandaluyong) (July 2013)  
Despite the MRT urban rail line running alongside it, this portion of the circular highway linking Metro Manila cities seems perennially clogged. Debates have been animated around the role of buses in congestion (Fig. 17.5)

chapter) has compounded the problem. With inadequate pumps and drains, even brief heavy rain during the rainy season triggers flash floods and can make some low-lying streets impassable and turn Metro Manila into a swimming pool, bringing traffic to a halt (Zoleta-Nantes 2000; Bankoff 2003; Alcazaren 2013a), in what Filipino journalists call “Carmageddon” (De La Paz 2015a, b; Punongbayan and Mandrilla 2015; See and Brizuela 2015) (Fig. 17.4).

Traffic jams increase air pollution. Air quality is poor, as indicated by the very high levels of particulate matters, leading to health problems such as lung disease (allergies, bronchial asthma, bronchitis and recurrent respiratory tract infections); anxiety linked to frustration in traffic jams is leading to higher rates of hypertension and heart disease (hypertension cardiac arrest, strokes, cardiac arrhythmia) (Uy 2015; Delizo 2016).

Economists have evaluated the daily costs of slow commuting in Manila at about 3 billion pesos per day (60 million euros), when taking into account the loss of productivity, the excess cost of fuel and the health impact of traffic (Macaraig 2016). Trying to estimate journey times is a futile exercise and family life suffers (Pedrasa 2015).



**Fig. 17.5** Occupying the road: EDSA near Pasay Rotunda (June 2013)

In this section of EDSA where jeepneys area allowed, they represent the majority of vehicles. Using several lanes of a road encroached by vendors and street kitchens on one lane, they contribute to traffic jams especially when one driver devices to block the path of other jeepneys behind him. Pedestrians carrying children (bottom right) are not safe when trying to board or disembark the jeepneys. It is even worse for bus passengers alighting on the left lanes of the road

There is seemingly no end in sight for Metro Manila’s horrendous traffic (Marasigan 2015b; Zurbano and Cruz 2016), which is especially acute on major thoroughfares: C4 (EDSA) (Alcazaren 2013b) and C5, the SW-NE axis España/Quezon/Commonwealth, the approaches to Manila on the NLEX and SLEX free-ways, as well as the Cavite to Manila coastal road, just to name a few. Construction work designed to provide more road space is making traffic worse, for example near NAIA airport. Metro Manila has the worst city traffic in the world, according to the “Global Driver Satisfaction Index” (GDSI) developed by traffic and navigation application *Waze* (Hegina 2015; Rodriguez 2015). This index, based on six factors,<sup>1</sup> with 50 million users surveyed in 32 countries and 167 metro areas, placed Manila in “first” place for worst traffic on Earth, with Rio de Janeiro, Sao Paulo, and Jakarta

<sup>1</sup>Traffic level by frequency and severity of traffic jams; road quality and infrastructure; driver safety based on accidents, road hazards and weather; driver services like access to gas stations and easy parking; socio-economic including access to cars and impact of gas prices; and “Wazeyness” or the level of helpfulness and happiness within the Waze community.

not far behind. Another group, *Numbeo*, which collects user-contributed data about cities and countries worldwide, pegs Manila as the fifth city in the world with the worst traffic condition<sup>2</sup> after Kolkata, Mumbai, Dhaka and Nairobi (Delizo 2016).

This issue cannot be solved quickly, unless there is drastic redesign of the whole urban fabric, which only China has attempted on a large scale. Congestion not only slows down considerably the speed of travel, and therefore diminishes the efficiency of the overall economy, but also has nefarious effects on the environment (air pollution) and public health (chronic asthma, bronchitis, eye irritation). It also is blamed for an excessive use of fossil fuels.

The setting of the city between Manila Bay to the West and Laguna de Bay to the South limits the opportunities to spread traffic from the south on many axes of circulation. Built in the 1940s, the circumferential highway EDSA seems permanently clogged by traffic, even if the newer C-5 beltway tries to provide some relief. The excellent accessibility of EDSA sites has clearly attracted a lot of commercial investment and strategic implantation. In 2013, there were 31 malls located within or very near EDSA. But this abundance of shopping centers, office plazas, and places of employment generates at the same time an enormous amount of traffic on EDSA (Regidor 2006; Mendoza 2012). According to MMDA data, about 350,000 people use the EDSA roadway everyday (156,000 vehicles, with a density of 565 vehicles/km: the number of vehicles using the highway is just too much. Metro Manila has nearly twice as many vehicles per kilometer of roads as Singapore.

Developing new road infrastructure means investing heavily in state-of-the-art overpasses and urban elevated roads, in the Shanghai mode. Where should these roads be built? Since EDSA is the major metropolitan-wide traffic problem, should it be widened? The concentration of shopping malls and office towers alongside its route makes it difficult, considering that EDSA for most of its length is already a very large roadway, almost a freeway in some sections. Should a super-EDSA, above the current one, be built? There are logistical problems in some area such as Cubao where the LRT 2 already crosses above the MRT, which is itself running above the EDSA roadway. In a metropolitan area potentially prone to major earthquakes, would it be wise to make thousand of cars “fly” on skyways 30–40 m above ground? There is also the classic dilemma of building for more cars, which Allows smoother traffic, for a while, until the new road space fills and the whole process of widening must be started again.

Other reasons why motorists continue experiencing monstrous traffic are the increasing number of road accidents, undisciplined drivers and the ongoing numerous infrastructure and road projects initiated by the government. Traffic snarls in the 2015–2017 period were also a consequence of... major road projects implemented simultaneously, such as the Skyway project to connect South Luzon Expressway on Gil Puyat Avenue in Makati City to North Luzon Expressway in Balintawak,

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<sup>2</sup>Numbeo's Traffic Index is a composite index, using data on time consumed in traffic due to job commute, estimation of time consumption dissatisfaction, CO2 consumption estimation in traffic and overall inefficiencies in the traffic system.

Quezon City, and the construction of NAIA Expressway Phase 2, connecting the airport and the Entertainment City gambling hub.

Blaming traffic solely on bus (Sect. 3.2) or on mediocre rail transit (Sect. 3.3) is an easy way to forget that most vehicles on the roads are private cars (Ramos-Aquino 2015), in a society strongly influenced by the car-centric American culture (Herrera 2014). The Philippines' love affair with cars began with the Hollywood glamorization of cars during the American colonial period in the Philippines. Today, the increasing number of vehicles<sup>3</sup> is the main reason for the worsening traffic in the National Capital Region. It is quite ironic that people bring their children to school or college by car, so that they would not be "stuck in traffic" The scene repeats every morning during the school year alongside Katipunan Avenue (C5) in Quezon City (De Guzman and Diaz 2005; De Jesus 2014; Habito 2015), with two major universities on each side of the avenue: UP Diliman and Ateneo de Manila, where thousands of well-meaning parents (and their children) in their cars are all trapped in a self-inflicted gridlock, aggravated by an increasing flow of trucks.

### 17.3.2 *Bus Transportation and the Traffic Difficulties of Metro Manila*

Buses, provincial and local, represent a large part of the traffic in the Metro Manila capital region, particularly on EDSA, and are routinely blamed on the traffic woes (Cortez 2012; Boquet 2013c), even if they are only 2% of the total number of motor vehicles. Public Utility Buses (PUBs) represent in the eyes of many everything that is wrong with EDSA: congestion, pollution, and lack of discipline. The most common problems are: too many transport providers, unreliable service, irregular and/or unpredictable frequency. City buses are operated on 254 routes operated by 165 bus companies, some with a rather large fleet (*Santrans* 150 buses on 8 different routes, *Pascual Liner* 153 buses on two routes, *RRCG* 163 buses on five routes), some of them very small companies (*California Bus Lines* three vehicles, *Valdez Quirino* only one bus). On the most competitive routes, more than ten bus companies (and up to 20) are fighting for passengers. The sheer abundance of buses and bus companies leaves no choice to the traveler, because there is no need to wait: people will hop on the first bus coming their way (Guariño et al. 2001).

No other metropolis in the world has buses owned by so many private entities. The current system set in Metro Manila—in which different owners operate different bus franchises in the mega city—is viewed by many as a recipe for disaster. There are too many transport providers; they offer unreliable service, and irregular and/or unpredictable frequency. Route coverage is poor, because buses concentrate

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<sup>3</sup>In 2013, the Land Transportation Office registered 7,690,038 motor vehicles in the country. Of these numbers, 868,148 were cars; 1,794,572 utility vehicles (UVs); 346,396 sport utility vehicles (SUVs); 358,445 trucks; 31,665 buses; 4,250,667 motorcycles or tricycles; and 40,145 trailers. The LTO listed a total of 2,101,148 motor vehicles registered in NCR for that year, or 27% of the country's total.



on just a few corridors while neglecting other parts of the city. This results in low profitability, leading to poor quality vehicles, a poor safety performance, exaggerated pollution and mediocre consideration for passengers (Vergel de Dios 2017).

7736, or about 60%, of the 13,067 registered buses plying Metro Manila roads are provincial buses, linking the Manila metropolitan area with regions across the Philippines. EDSA can only accommodate around 1600 buses, but there are 3500–5000 of them traveling alongside the thoroughfare on any given day. Even if some bus terminals are located in other parts of Metro Manila (Gil Puyat LRT 1 in Pasay, Sampaloc near Quiapo: LRT1/LRT 2 junction), most companies have established their terminals (sometimes several per company) alongside the EDSA ringroad corridor, with major concentrations in Pasay (*Saulog, Philtranco, Victory Liner, DLTB, JAC Liner, LLI, Silverstar*), and in the Cubao-Kamuning stretch of Quezon City (*Superlines, Santrans, HM Transit, Baliwag Transit, Dominion Bus, De la Rosa Liner, Dagupan Bus, JAC Liner, JAM Transit, Victory Liner, Philtranco, DLTB, Daet Express, Lucena Lines, Florida Bus, Genesis, Five Star...*).

The PUB industry never seems to run out of potential market entrants despite there being so many existing players already? Is it a very profitable business? A puzzling fact is that most metropolitan PUBs usually run with less than 20% load factors, far below the ideal 60% required for profitability. To remain viable in the face of fixed costs (vehicle purchase, bus depots, regulatory costs for franchises and licenses), high fuel costs in bumper-to-bumper traffic, and low revenues (few passengers), bus companies cut corners in fleet maintenance and keep salaries low through the infamous boundary system. If the oversupply of buses is the main problem of EDSA, solutions will have to start with the effective implementation of safety standards and a tightening of the franchises to weed out the unscrupulous operators. Some operators evade regulatory costs illegally, with practices known as “*buntis*” (pregnant, when up to five buses use a single license plate), “*kabit*” (mistress, where others piggyback on one operator’s government-issued franchise, for a fee of about P 5000 per unit monthly) and “*colorum*” (where buses are fielded even without a franchise, or in routes not authorized by their franchise) (Habito 2011). There may be up to 1500 *colorum* buses (Araja 2012, 2014) not registered with the Land Transportation Franchising and Regulatory Board (LTFRB). Legitimate operators are known to sometimes lease out their franchises to unregistered counterparts for P 5000 per unit monthly. Under government policy, a franchise is issued only to operators who have a minimum of ten buses, in order to protect passengers against “fly-by-night” operators or those who have insufficient funds even for passenger insurance. However, corruption of officials at the LTFRB (Montelibano 2015) has allowed shady deals to continue. Would a merger of companies allow bigger operators to run more efficient networks and have enough funds to invest in new vehicles and quality maintenance? (Araja 2012)

Many bus drivers behave with wanton disregard of traffic rules, and many more with brazen recklessness. Yet bus companies appear to be untouchable and bus drivers are inexplicably arrogant when facing MMDA personnel, who often pretend not to see the traffic violations going on around them. Government authorities need to prioritize the quality of bus service over the ability of bus companies to make money. Solving traffic means revamping in depth the bus system:

A substantial reorganization of the whole bus system (Batalla 2005; Villamente 2014) should be attempted, by encouraging bus companies to regroup into a smaller number of operators (Guariño et al. 2001) able to manage their fleets more efficiently, which would allow them to invest into a reduced fleet of clean, modernized (Amolejar 2015a, b; Marasigan 2016), fuel-efficient clean vehicles, while providing good service to the traveling public. Twenty operators on one route, which share 75% of its length with another route served by 15 other small operators does not make much sense. Three or four players on the main routes would be more than sufficient, and would allow more brand identity and differentiation under public government guidelines. The unique Filipino system of franchising urban bus routes to multiple companies is in dire need of reform: streamlining operations and stopping certain franchises would reduce the oversupply of city buses and the madness of traffic, while reducing congestion and pollution.

Key policy reforms (Brown 2015) could therefore be

- to cancel all existing franchises given to private bus companies and to bid out major routes to one company each per route as it is done in Hong Kong or London (Cupin 2015). The government would accept bids in exchange for very specific performance (keeping strict schedules, providing a minimum number of buses to service commuters). The renewal of a firm’s franchise and even the expansion of its area would depend on the ratings given by government and passengers near the expiration of the franchise term. Done correctly, it would stop the traffic-causing cutthroat competition among bus companies and the “boundary” system<sup>4</sup> that causes traffic jams when competing bus companies force their vehicles to stay too long in one bus stop in the first place. By providing decent wages to drivers and reorganizing the franchise system, irresponsible operators would be weeded out, and passenger safety drastically improved. The Land Transportation Franchising and Regulatory Board (LTFRB), which is under the DOTC (Department of Transportation and Communications), has already imposed a moratorium on new city bus routes (Cupin 2014a, b, c). Future plans to modernize the metro’s buses include incorporating them into the Metro Rail Transit and Light Rail Transit’s single ticketing project. Bus operators would then be obliged to give their drivers and operators a fixed salary, along non-financial benefits.
- a redefinition of bus routes to avoid the overlaps that lead to overcapacity along EDSA. Bus and jeepney routes should be combined under a single plan, to make it possible to travel between any two points in Metro Manila by taking at most two or three rides.
- a reduction or elimination of the provincial bus depots alongside EDSA to reduce the number of buses on this thoroughfare,
- the implementation of specific lanes for express buses which are not slowed down by other buses stopping to pick up local passengers, a system already in place in Jakarta, Indonesia

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<sup>4</sup>In the absence of fixed salaries, bus drivers and conductors are required to pay operators a fixed amount daily. The “boundary system” means drivers and conductors fight tooth and nail to make sure they get the most passengers. See Chap. 14.

- a removal of existing U-turn slots, which are not efficient for heavy traffic flows (Galiza and Regidor 2006). On EDSA and Quezon Blvd, large provincial buses block traffic as they take the direction of their final destination (north or south of Manila), effectively stopping/slowing/blocking vehicles on the thruway lanes. The concrete barricades installed for the U-turn slots reduce the thruway lanes, creating a ‘choke point’/traffic congestion.

The DOTC and LTFRB are intent on requiring GPS devices and speed limiters in buses. GPS devices will allow the DOTC to collect data on commuter behaviors, at least for buses. These data will be used to plan future infrastructures needed to address increases in demand. The GPS devices will also allow commuters to access an smartphone application or website, to monitor the comings and goings of buses, as it is done in Europe or Singapore, a far cry from the unpredictability of today’s Manila buses.

At the current time, Philippine authorities have decided to directly attack the bus problem (Cupin 2014a, b, c) on EDSA with two complementary measures, aimed at providing more fluidity in bus transit.

The first one is to try to put some order in the way people embark and disembark from local buses. Since December 2012, a “bus segregation scheme” (Frialde 2012; Teves 2013) divides metropolitan buses in three groups, A (EDSA-Alabang), B (EDSA-Baclaran) and C (others). Alternate bus stops have been erected alongside EDSA: “A” buses can only pick up/drop-off passengers in “A” designated red stops (colored red), while “B” buses stop at blue B stops. “C” buses may use both “A” and “B”. The hope is to limit the number of sudden stops of buses and the jockeying into position of rival buses. The A, B or C sign is prominently displayed in the front of the bus, and MMDA agents have been deployed to implement observance of the rule by bus drivers, also to control and stop “colorum buses” (Bayos 2014a; Quismorio 2014; Requejo 2014), unregistered and therefore escaping any legislation on safety.

The second measure, which started to take effect in July 2013, is a plan to remove all provincial buses from EDSA by creating integrated terminals on the outskirts of the metropolitan area, where provincial buses will stop and transfer passengers to metropolitan transportation (Santos 2012). The scheme is inspired by what has been done in South Korea (Seoul’s Gangnam district) (De La Cruz 2012; Francisco 2015a) or Indonesia (Surabaya’s Purabaya/Bungurasih integrated bus terminal). They will be nodes of transfer serving as anchors for new real estate and commercial developments. Integrated bus terminals, used by most bus companies, already exist in Philippine provincial cities, often at their edge—Mabalacat-Dau near Angeles City (Pampanga), Lucena (Quezon), but the task at hand is much bigger for the megacity of Manila. The first interim “Coastal terminal” is located near Unionwide Mall, between Mall of Asia and Manila’s airport, in the southwestern part of the metro area (Bayona et al. 2016). The goal is to remove all Batangas or Cavite-bound buses from EDSA, therefore starting to reduce the bus-caused congestion. Buses from the LRT1 and MRT end stations and bus routes leading to “Coastal” will allow transfer between local transportation and provincial buses. Two mixed-use terminals (transportation, offices, shopping) are planned for other routes, including one in the new Quezon City

CBD, where battles about the shantytown of Sitio San Roque are taking place. This “Vertis North terminal” would serve all buses going to northern Luzon.

This will certainly change the habits of people used to hopping on the first bus passing by on EDSA. Under the Korean-inspired (“gangnam-style”) integrated bus terminal system, tickets with designated seat numbers will be issued to passengers (De La Cruz 2012). This is to insure orderly boarding and some safety for passengers, since the identity of fellow travelers will be traceable in case of theft on board the buses. It may also end the practice of buses traveling with too many extra passengers standing in the aisles. Departures and arrival of buses will be synchronized, with a hoped-for 10 min turnaround time of buses, as it is done in Seoul.

There is strong resistance from the bus companies (Requejo 2012) to change their traditional ways of operation, but a corresponding decisiveness from the chairman of MMDA and the transportation minister of the Philippines, pushed to act by the growing impatience of the public about traffic jams. However, a number of unresolved issues remain: the aggressive style of driving of bus conductors (Park et al. 2011; Htun et al. 2012) (despite a 2011 change in the salary calculation, now not allowed anymore to be based on “performance”, i.e. number of kilometers or passengers carried, but rather on a fixed guaranteed base) (Bayos 2014b), oversupply of local buses running half-empty, and poor emission standards for buses. Many bus companies are controlled by well-connected personalities, politicians, military officers, showbiz or sports celebrities, who have the political clout to resist attempts to rationalize the supply of bus service and implement strict norms for buses. Bus operators have managed to dodge various punishments meted for various violations related to their franchise through loopholes in the rules and regulation of various transport laws (Cruz 2012b). The same resistance is seen from the many small operators of jeepneys and tricycle, who are politically powerful as a rich source of votes. Political will is necessary to implement measures aimed at taking out of circulation aging and polluting vehicles to reduce vehicular traffic, both on EDSA and on local roads.

Metro Manila is also taking inspiration from Seoul’s successful bus reform program by introducing express buses from Quezon City’s Fairview to stations in the Makati CBD and Mall of Asia in Pasay City (Francisco 2015b; Lopez 2015) and planning for future bus rapid transit (BRT) routes (Ordinario 2012; Camus 2014, 2015a, b), starting with the Quezon Avenue/Commonwealth Avenue in Quezon City, where the demand is so high that it requires high-capacity modes of transportation (rail transit or BRT) instead of the traditional jeepneys. The width of these two arteries would make it quite feasible.

### ***17.3.3 Decongesting the Roads***

Metro Manila roads are congested, chaotic, and unsafe largely because they have been allowed to be congested, chaotic, and unsafe. Roads, vehicles and traffic have not been managed properly, despite the existence of numerous agencies. Traffic enforcers in the national level agencies and in LGUs are poorly trained and

supervised. Corruption in all traffic and transportation-related agencies is rampant. Most Filipino drivers have paid bribes to a traffic policeman at one time or another. A good way to fight this corruption would be to pay traffic enforcers decent wages so that they'll have less incentive to accept bribes. Driver discipline is all but non-existent because proper enforcement is all but non-existent. Traffic control systems (lights, signage, and road markings) are in poor condition and often employed improperly or hidden from view. Motorists ignore stop signs.

Cleaning up the roads also means eliminating obstructions (Francisco 2015c). They are of many types and shapes: parked vehicles (both legally and illegally parked), crowds waiting in the roadway at bus stops, poorly managed road repair projects. Side streets serve as impromptu basketball courts, *sari-sari* store extensions, and private parking lots for jeeps and tricycles. Pedestrians walk on the street lanes intended for passing vehicles given the many obstructions on the sidewalks: permanent structures, extensions of buildings, sidewalk vendors, utility posts, piles of garbage (Zurbano 2015), homeless people sleeping, tire-fixing and car washing enterprises, business signage, begging children, street food stalls, people just hanging around, overcrowded entrances to rail system stations. In the summer of 2016, after several warnings (Mangunay 2016), the mayor of Manila sent his police to evict hundreds of illegal vendors from several streets which were perennially obstructed by stalls and other traffic-blocking structures in the Ermita (Pedro Gil/Taft Avenue), Divisoria (Juan Luna/Recto Avenue) and Blumentritt areas (Araneta 2016; Clapano and Ong 2016; Santos 2016a, b) (Fig. 17.6).



**Fig. 17.6** Vendors on the road in Buendia (Makati) (August 2015)

Traffic jams create opportunities for the informal economy, which in turn makes slows down traffic even more

To prioritize the free movement of traffic over everything else on the road is essential.

The amount of roadside retail along EDSA should be limited over time. As the primary traffic artery through Metro Manila, it should not be treated/planned like an ordinary road but as an urban expressway.

Starting January 2016, operators of 15-year-old jeepneys are not able to renew their franchises with the LTFRB in a bid to decongest the already clogged roads of Metro Manila and to clean up the air. They are encouraged to switch to e-jeepneys (see Chap. 14).

Reducing the number of cars on the road has been attempted in 2003 with a vehicular license scheme banning on certain days vehicles with certain license plate ending numbers. It is very easy to go around this restriction. Some have suggested using the vehicle type as the base for restrictions: no Toyotas on Mondays, no Hondas on Tuesday... Is it feasible? A Toyota ban on some days would create huge uproar. Would it also apply to ubiquitous Toyota taxicabs? Should access be linked to the number of passengers, following the example of United States HOV (high occupancy vehicle) lanes? In a societal and economic context closer to the Philippines, Jakarta has implemented a system limiting access to its Central Business District (CBD) to cars carrying at least three people. It may be more difficult to implement in Manila since the CBD is in multiple locations. It would really have an impact if all cities with major CBDs (Makati, Mandaluyong, Taguig, Quezon City) were to act together, under the umbrella of the MMDA.

### ***17.3.4 Rail Transit***

What could be the solutions to solve Manila's traffic problems, particularly alongside EDSA, which appears clearly as the major circulation problem in the Manila region? Answers to traffic problems have been considered or experimented with in many cities around the world, and four major possible policy options can be suggested: rebalance the transportation mix in favor of rail-based mass transit, increase the availability of road space, reorganize the bus system (see Sect. 3.2 above) and reorganize city planning to have a better coordination of the transport system elements, and reduce the need for daily movements of millions of people (see Sect. 3.5 below).

Over the last two or three decades, many cities in Asia (Cervero 1998; Ieda 2010; Suzuki et al. 2013) have developed impressive heavy rail transit systems designed to increase the share of rail in the commuter transportation mix. However, Manila has made timid efforts in that regard, with only three lines at this time (two lines of the LRT, Light Rail Transit and the MRT, Metropolitan Rail Transit, running alongside EDSA from Makati to Quezon City), the smallest network of any major Asian city, except for Mumbai and Jakarta, which have no metro rail transit at this time, even though they have suburban trains. Manila's three lines carry only 1.1 million passengers per day, much less than in comparable sized cities in other Asian countries. Trains are smaller and slower than in all other urban rail systems of Asia, and

the small number of units limits the capacity (Palanca 2015), due to excessive intervals, leading to overcrowding of the trains (De Fiesta 2014) and difficult maintenance (Antiporda 2014; Tiglao 2014; Pulta 2015). Any train under repair slows down even further the deployment of the other units. Passenger may have to wait for the fourth or fifth train before being able to squeeze inside the trains. On the LRT 1, passengers have to endure long waits outside of the stations at rush hour to prevent overcrowding on the platforms.

Inter-lining is mediocre at best, with different ticket systems, and difficult connections. There is no common station in Cubao where the LRT 2 tracks fly above the MRT. Passengers have to go back in the streets or a series of shopping centers corridors to transfer between the two lines. The footbridge linking LRT 1 and MRT 3 in Pasay is extremely crowded and narrow when passengers have to fight their way through the crowds of shoppers going to the lower end Metropoint Mall. And in Quezon City, if the tracks on the southeast of LRT 1's Roosevelt station are in continuity with those of MRT 3's North Avenue station, trains leave passengers to fend for themselves if they want to connect, on foot or by bus, between two stations distant about 600 m.

Financial disputes and corruption scandals have tainted and blocked the arrival of new rolling stock to replace aging trains and expand capacity. The Aquino administration was accused of not doing anything, except raising fares, to improve the urban rail system in Metro Manila, which has suffered from many incidents, mishaps, glitches and accidents, thankfully not fatal, especially on the overused LRT1 and MRT3 lines (Bayos 2014c; Love De Jesus and Mangosing 2014; Santos 2014; Kritz 2016).

An expansion of the rail transit system in Manila is desperately needed and advocated by many transport experts, columnists and political figures (Ranada 2014a, b, c; Tapang 2014; Ramos-Araneta 2015). While routes of future new lines have been drawn for a long time, financing for construction has not been secured. Instead of rushing to expand and modernize mass transportation facilities, in the past years Metro Manila's light rail services have turned into a national disgrace—symbols of inefficiency, neglect of ordinary commuters' needs, and corruption. MRT 3, for example, was envisioned to drastically reduce the number of vehicles using EDSA, the idea being to lure motorists into leaving their cars at home and taking what was supposed to be an efficient train system. But today, commuters are literally packed like sardines in the coaches, and the traffic on the street below remains terrible.

There are issues with land ownership along the planned routes, and with clearing the right-of-way where ground-level rail track already exists, since it is often colonized by squatters. Reducing the crowds on EDSA-MRT trains would require a huge effort to develop alternate routes. At the present time, the choice for most people is to either endure overcrowded trains or suffer traffic jams in EDSA-plying buses.

A long controversy has risen over the location of a planned transfer station in Quezon City to connect the future MR7 line (Quezon City to San Jose del Monte, Bulacan, a San Miguel Corporation venture) to the existing LRT 1 and MRT 3. The government originally planned to construct a common station for LRT 1 and MRT

3 patterned to New York's Grand Central Station, to be built in front of SM North EDSA Mall in Quezon City. However, the Aquino Administration decided to move the location in front of competing Trinoma Mall, an Ayala property, prompting SM Prime Holdings to sue the DOTC for breaching a 2009 agreement and payment of naming rights with the LRT Authority (LRTA). The two agencies wanted to transfer the site of the common station from SM North EDSA as specified under the 2009 contract to Ayala Land-owned Trinoma shopping mall. The ideal solution in terms of passenger efficiency would clearly be to have a facility serving all three lines, but an odd compromise was found with the planning of two transfer stations (Austria 2014; Amolejar 2015b, 2016; Bayos 2015, Marasigan 2015a, b, c), one linking LRT 1 and MRT 3 near Trinoma Mall and another one connecting LRT 1 and 7 near the SM North EDSA Mall. It remains to be seen if the proposed provincial buses integrated terminal will be correctly connected with the urban rail lines. The new president Rodrigo Duterte, reversing the choice of his predecessor, pushed for a return to the original one-station plan (Camus 2016a, b), in a clear demonstration of the political dimension of urban planning choices and power plays between government authorities and large corporations.

### 17.3.5 What Role for the Pasig River?

The Pasig River<sup>5</sup> is to Manila what the Thames is to London and the Seine to Paris. A century ago, as its description in Jose Rizal's *Noli Me Tangere* clearly shows, the 23 km Pasig river, which crosses through the Manila area from Laguna Lake to Manila Bay, was the main transport artery for passenger boats that plied the river from the nearby province of Laguna to Manila and back, and for those sailing up its subsidiary the Marikina River. A clear, flowing body of water, it served then as the center of commerce in Spanish colonial Manila, and was the major source of water and livelihood of the many communities, including fisher folk, along its banks. In 1905, the Burnham plan for Manila gave a big role to the river and the esteros, seen as a Venice-like network of waterways.

However, the Pasig River is one of the greatest casualties of the urbanization of Manila. Decades of neglect have killed the once proud river, making it a murky, stinking, unsanitary waterway (Gorme et al. 2010). The demise of the Pasig River started in the 1930s as the riverbanks were increasingly populated by informal settlers. Fish migration from Laguna Lake decreased, and people stopped bathing and washing activities. Rapid population growth, urbanization and industrial activity slowly destroyed the river. Today, when the capital's 12 million residents flush their

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<sup>5</sup>The Pasig River is technically a tidal estuary, whose flow direction depends upon the water level difference between Manila Bay and Laguna de Bay. During the dry season, the water level in Laguna de Bay is low and the flow direction of the Pasig River depends on the tides. During the wet season, when the water level of Laguna de Bay is high, the flow is normally from Laguna de Bay towards Manila Bay.



toilets, the wastewater ends up in the river. By the 1970s, the river had turned black. The Pasig River system serves as a catchment for the wastes produced by about 12,000 industrial and commercial establishments. Factories poured an estimated 50 million liters of industrial waste into the Pasig each year during the 1980s and 1990s. President Estrada, looking across the Pasig from Malacañang presidential palace, once called it “the country’s largest septic tank”. Most esteros are repulsive areas today and the river has been underused as a travel route for many years. It suffers from clogging by floating debris and water hyacinths, and its banks have become quite unattractive over the years, with the development of warehouses and factories. This highly polluted urban river could nevertheless be revived as a pleasant waterway and as a transport artery to alleviate some of the traffic in the metropolis (Cupin 2014a, b, c; Blanco et al. 2016). Clean-up efforts and beautification of the banks are underway, and there are plans to revive ferries alongside the river (Palafox 2015b), maybe to replicate the successful water transport seen in Bangkok.

Rehabilitation of the dead river can be attempted (Yap 2010), as other cities have shown (Suzhou Creek in Shanghai, Cuyahoga River in Cleveland, Ohio, Iloilo River in the Visayas). Established in 1999 through Executive Order No. 54, the Pasig River Rehabilitation Commission (PRCC), with the clear goal of bringing back the Pasig River to Class “C” level—that which can sustain life—by 2014, has tried to revive the river as a clean waterway and has endeavored to relocate the squatter colonies settled on the riverbanks, with financial support from the Asian Development Bank, whose headquarters are about 1 km away from the river. The Pasig’s riverbank easements, 3- to 10-m wide, have been declared environmental protection areas and several sectors already have been turned into public parks and esplanades. An annual footrace, the “Run for the Pasig River” has been launched to raise awareness and funds to help the cleaning of the river. The event has proved quite popular with more than 100,000 participants (Carcamo 2010) including celebrities such as boxing icon Manny Pacquiao. “River warriors of the Ilog Pasig” are volunteers dedicated to fight the degradation of the river. They have built a brotherhood with knighting ceremonies (De Guzman 2010).

The task of cleaning up the river is huge: in the mid 2000s, some 200 tons of solid waste were removed from the river daily (Morella 2007), even as about 330 tons of industrial and domestic wastes were discharged in it everyday.

Navigation on the Pasig has been attempted several times. The *Magsaysay Lines* started operation during the year 1990 and had stations from Guadalupe in Makati down to Escolta in Manila (a total of 15 km) This service lasted only for a year and ended in 1991. In 1996, the *Starcraft Ferry* started operations from Pasig to Manila, but again it lasted just 1 year. A *Nautical Transport Services Incorporated* ferry service started to operate in 2007 along the Pasig River, with two air-conditioned, 150-seater twin-hull catamarans cruising from Barangay Pinagbuhatan in Pasig City to Intramuros in Manila City with 11 stations,<sup>6</sup> thanks to an Asian Development

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<sup>6</sup>Pasig City Pinagbuhatan and San Joaquin (Pasig), Makati City: Guadalupe and Valenzuela (Makati), Hulo (Mandaluyong), PUP Sta Mesa, Sta Ana, Lambingan, Escolta, Lawton, Plaza Mexico (Manila).

Bank-assisted program (De La Cruz 2007; Orendain 2007). Service was suspended indefinitely in February 2011 due to losses. Passenger numbers were too low due to the high pollution of the river and the long intervals between boats, making it useless as a mass transport system. The *Pasig River Ferry* was re-launched in April 2014 by the MMDA and the PRCC. However, the use of small tugboats with a maximum of 40 people was quite laughable as a mass transit option. New private operators such as *Ayala Land* are looking at the possibility of using the river to provide access to some of their new real estate developments, such as “Circuit Makati” (Lowe 2013). However, the unpleasant stench persists alongside the river, while garbage and wayward plants get in the way of the boats’ engines, stalling trips from time to time (Villas-Alaveren 2014a, b).

At this time, river transport is useless to solve traffic woes in Manila (MMDA estimates there are barely 500 passengers per day) and has no chance to attract tourists, even if the route is lengthened with the opening of three stations in Marikina (Villas-Alaveren 2016).

### 17.3.6 *Planning for a Better Manila Mobility*

Many plans have been proposed in the last half-century to decongest Metro Manila (De La Paz 2015, 2016).

In 1972, Japanese consultants proposed a plan imitating the Tokyo radial network of railways, with 11 underground rail transit lines. Nothing came out of it.

Then came the 1975 Metro Manila Transport Land Use and Development Planning Project (MMetroplan) funded by the World Bank (Pinnock 1976). It framed the issue of transport with land use and suggested the LRT Line 1. The original plan submitted over 300 recommendations to address land-use transport traffic development and called for eight at-grade LRT tramway lines to be completed in 15 years, but the result in the 1980s was an elevated LRT. The proposed road pricing for central Manila never took off because the Central Business District was already moving from Manila to Makati, and the technology was not yet there to implement it effectively. It was followed by the Metro Manila Urban Transportation Strategy and Planning Project (1984) and the Metro Manila Urban Transportation Integration Study (1998).

All of these plans from 1975 to 2011 were constrained by small budget envelopes, due to government choices to reduce the national debt at the expense of infrastructure spending, and only small portions of it were implemented.

In September 2014, the National Economic and Development Authority (NEDA) approved the “Roadmap for Transport Infrastructure Development for Metro Manila and Its Surrounding Areas”<sup>7</sup> (Infra Roadmap for Mega Manila), imagined by JICA

<sup>7</sup> <http://www.neda.gov.ph/roadmap-transport-infrastructure-development-metro-manila-surrounding-areas-region-iii-region-iv/>

(Japan International Cooperation Agency),<sup>8</sup> which includes a bold “dream plan” to eliminate traffic congestion by year 2030 (Esplanada 2014; Hegina 2016). This one may fit into the projected budget envelope, but it remains to be seen if it will be implemented fully, given the poor track record of the Philippine authorities in executing transport projects.

The JICA “Dream Plan” (Lopez 2014; Marasigan 2015a, b, c) has five NOs: no traffic congestion; no households living in hazardous conditions; no barriers for seamless mobility; no excessive cost burden for low income groups; and no air pollution. The plan, studied at the scale of the Greater Capital Region (GCR: the three regions of the National Capital Region or Metro Manila, Region III, and Region IV-A) calls for the establishment of a modern, well-integrated and -coordinated, and affordable transport system for Mega Manila (Metro Manila’s 17 component units and the adjacent provinces of Bulacan, Pampanga, Cavite, Laguna, Rizal and Batangas).

The transport system would consist of expressways, new roads (elevated and on ground), railways (elevated and on ground), subways, airports and seaports (transfer of activities from the current Manila harbor to Batangas and Subic, in order to alleviate truck congestion in the metropolitan center). Nine new rail would be built mainly in the metropolis: among them a subway loop linking the top business centers (Makati, Ortigas, Bonifacio, Mall of Asia), the extension of the existing Light Rail Transit (LRT)-1 to Cavite; the LRT-6 to Dasmariñas in Cavite; the Metro Rail Transit (MRT)-7 traversing North EDSA, Commonwealth Avenue, Fairview in Quezon City to San Jose del Monte in Bulacan; the LRT-2 east (Antipolo) and west (Navotas) extension; and the LRT-4 to Taytay. Complementing these are the bus rapid transit (BRT) systems to be set up in C-5 and in Manila, a Manila Bay-Pasig ferry system, and a dual airport system with a brand new facility in Manila Bay (“New NAIA”) and an expansion of Clark in Pampanga, with a fast train linking to Metro Manila. The current airport site (NAIA) would be transformed into a new business district, easily accessible from the South Luzon Expressway. A Japan ODA (Official Development Assistance) grant of 2 billion dollars, the largest that Japan has ever granted to a development partner, shows Japan’s commitment to help the Philippines develop its infrastructure. It will not ensure the completion of the master plan but will hopefully spark a national effort to get started in the work envisioned.

The proposed Dream Plan sees the transport infrastructure as a “catalyst” that will “integrate cities, growth centers, gateways, urban and rural areas within a region; facilitate local economic development; enhance social integrity and promote environmental sustainability; and facilitate planned or guided urban growth and expansion of Metro Manila.”

Real-estate developers have started to integrate transit-oriented developments into their residential portfolios (McLang 2016). These initiatives—such as Megaworld’s Manhattan Garden City in Cubao, Empire East’s San Lorenzo Place in Makati, and Robinsons Communities’ One Centris Place in Quezon Avenue—all

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<sup>8</sup> [http://www.jica.go.jp/philippine/english/office/topics/news/c8h0vm00008wr871-att/140902\\_01.pdf](http://www.jica.go.jp/philippine/english/office/topics/news/c8h0vm00008wr871-att/140902_01.pdf)

have facilities that connect them either to the Light Rail Transit (LRT 2) or Metro Rail Transit (MRT 3) systems, making commuting by train around the metropolis easier and more accessible to their residents. But how else can Metro-wide traffic headaches be solved in chunks?

Voluntary remedial measures such as community carpooling and company-initiated flextime and home office arrangements for affected employees could contribute in easing traffic congestion. Carpooling is a good way to go, but it is not very popular in the Philippines in its western form. However, shared taxis on fixed routes, also known as FX (Diaz and Cal 2005), fill that gap, allowing for example those who reside in the outskirts of Metro Manila (Laguna and Cavite) to come to Makati relatively cheaply and more efficiently than if they had brought their cars, and faster than by bus. Many of the routes depart from major malls in the Manila area and serve suburban locations difficult to reach by other modes of public transport.

The Singapore experience has been studied with attention in Manila. Singapore's land area is 630 km<sup>2</sup>, almost identical to Metro Manila (635 km<sup>2</sup>). But unlike Metro Manila, Singapore has no heavy traffic congestion. Singapore's air is cleaner, thanks to its tough emission laws, its use of clean fuels, and a no-nonsense urban plan implementation. Singapore's owes its success to several policies: a land use and transportation planning that minimizes the residents' need for travel; an efficient public transport systems integrating rail, bus, and taxis; an integrated network of roads and expressways, traffic management including travel demand management and the use of intelligent transport systems, most famously Electronic Road Pricing.

Could Manila do the same? (Llorito 2002) Can Manila implement, as did Singapore, a control on vehicle ownership and a control on vehicle use? Since the 1960s, Manila authorities have responded to the growing motorized traffic by building more roads, a typical reaction of transport planners who did not work with urban planners. In Manila and the Philippines, there has been no comprehensive mobility policy which would encourage a better coordination and hierarchy between the different modes: heavy rail transit serving regional passenger and freight transport demand to and from Metro Manila (see Chap. 14), a much larger light rail transit system network serving commuter travel demand within Metro Manila, buses and jeepneys serving feeder routes to the heavy and light rail transit systems, train stations serving as hubs for buses and jeepneys.

There should also be stricter land use controls when choosing the sites of trip generators like shopping malls and commercial establishments. These establishments should present traffic impact assessments before they are granted building permits.

Policy can be implemented on several fronts, including reducing the demand for car space by imposing higher taxes on the purchase of vehicles (Antiporda 2016) or testing road pricing, for example in the Makati business district (Fabunan 2014) (as well as Ortigas or BGC) as it is done in Singapore, where the authorities made a political choice when charging motorists to finance public transport infrastructure. A congressman from Valenzuela wants to require new car owners to make sure that they have a parking space before they buy an automobile (Zurbano 2014). Jakarta is

now requiring civil servants to use public transportation and not their private vehicles to commute to work.

The Philippine government may not have the “political will” to implement these projects and ideas, and the fractured political structure of Manila makes the implementation of a metropolitan-wide land use scheme quite difficult. Incoming Philippine president Rodrigo Duterte has hinted he would request “emergency powers” to tackle immediately some of the most pressing issues in Manila’s traffic (Suarez 2016).

## **17.4 Manila as a Sustainable And Smart Green City: An Impossible Dream?**

The explosive growth of Metro Manila in the post-war decades has resulted in serious environmental problems including air and water pollution and a lack of adequate urban infrastructure (Zoleta-Nantes et al. 2008). Environmental awareness around the globe has increased year after year, leading to the adoption of legislations to promote clean air and water as well as protect endangered species in the spirit of sustainable development. However, complex challenges remain, with governments often finding the need to balance the demands of economic development and social justice with the preservation of the environment. Quality of Life indexes developed by international organizations do not account adequately for the social inequalities of cities in developing countries, such as Manila (Porio 2015).

As elsewhere in the world, Philippine property developers and government officials have incorporated the concept of green cities into new residential and mixed-use sites that have risen across the country (Reyes 2015), as people realize the value of clean and green communities and property developers see it as a good marketing tool. Many new buildings in Makati and BGC are applying for the Leadership in Energy and Environmental Design (LEED) certification. In order to attract investors and locators, Emerging Urban Districts are planned with high-quality amenities, long-term plans for traffic solution and management, and evolving/flexible development guidelines) (Salazar 2013). The goals of developers are to provide quality access (connectedness, walkability, convenience), a positive image (safety, cleanliness, attractiveness), a diversity of uses and activities (fun, vitality) and sociability (welcoming, cooperation and neighborliness). The ideals of Transit Oriented Development (TOD) are applied in the design of these portions of city (pedestrian paths, bike paths, land-use mix, and urban density).

If constructing eco-friendly buildings and townships is relatively easy, the greening of Metro Manila takes another dimension when it is examined at the scale of the whole metropolitan area. In a 2016 ranking of smart cities in the world done by the graduate school of business of the University of Navarra (Spain), Manila was 145th out of 181 metropolitan areas in the world, well behind Asian leaders Seoul and Singapore, but also well behind Ho Chi Minh City, Guangzhou or Shenzhen

(Ronquillo 2016). It was seen as failing in all ten benchmarks used by the Spanish study: economy, technology, human capital, social cohesion, international outreach, environment, mobility and transportation, urban planning, public management, and governance. Developing green cities may seem an utopian dream for megacities like Manila drowning in urban blight, with large populations of the impoverished, traffic-choked streets and communities depending on scavenging in garbage dumps and making charcoal for their livelihood. Is it possible to redesign a chaotic urban jungle like Manila to make it a beautiful, livable metropolis? (Maclang 2016) How to make it “world class” and humane? (Mercado 1998)

A green city emphasizes ecological balance among social equity, natural environment and economics. It makes sure that production is moved to a sustainable level and at the same time maintaining control of the rising carbon emissions of the city and the rest of the world. Greening Manila (Palafox 2015c) involves lessening its vulnerability to the effects of climate change by considering the site context in the design, taking into account the rising sea levels, storm surges, tsunamis, wildfires, flooding, and other possible disasters. Reducing waste through effective waste management would help clear the waterways, allowing floodwaters to flow out of the city. Waste management also means developing an effective water treatment system, since only 12% of the population of Metro Manila has access to sanitation.

Enhancing public transportation and developing soft mobility modes will be a major move towards a more sustainable Manila metropolitan area. The priority given to moving cars should be changed to insuring the efficient and safe mobility of people. Converting a car-oriented city to a pedestrian-oriented city will not only yield a healthier and more beautiful city, but also come with high economic gains. Metropolises such as Seoul, Singapore and Bogotá have proven that the city could start with urban mobility and mass transportation infrastructure. Mixed-use developments should also be encouraged over urban sprawl wherein low-density houses and closed gated communities are developed. In time, this kind of development becomes a problem in the flow of traffic and the maximization of land. Seoul and Madrid, with their dismantling of urban freeways over the Cheongyecheong and Manzanares rivers, have demonstrated that traffic improvement does not always require new automobile thoroughfares, since the removal of the freeways helped people choose public transit over driving into the city, thus leading to a decrease in traffic jams, pollution and greenhouse-gas emissions. It also showed that it is indeed possible to give back rivers to people, in the form of linear parks instead of sewers and dump sites for garbage. Amsterdam, city of canals and pedestrian areas, may be another model to follow for the estero-rich city of Manila.

Green planning for Manila fringes may have to accept the coexistence of city and countryside, according to the *desakota* mode of development of Asian megacities, and not just automatically adopt the western concept of greenbelts and single-use zoning (Yokohari et al. 2000). Greening the city is also about redeveloping green areas. Green, open spaces should be maximized as areas for recreation, providing clean air to the city, and as potential refuge during and post-disaster, among others. Urban forests improve air and water quality, reduce energy use and help mitigate

greenhouse gas (GHG) emissions by enhancing CO<sub>2</sub> absorption by trees. The amount of green space in Manila is extremely low in comparison of other cities in the world (4.5 m<sup>2</sup> per inhabitant, when Singapore has 66 m<sup>2</sup>, Taipei 50, Kuala Lumpur 44, Bangalore 41, Yokohama 37, London 27, New York City 23, Seoul 23, Wuhan 21, Delhi 19, Shanghai 18, Karachi 17, Paris, Hanoi and Tokyo 11, Mumbai 7, Tehran 6). Only Bangkok, Jakarta and Kolkata, other high-density cities, have even less green space per capita (3.3, 2.3 and 1.8 respectively) (Boselli et al. 2011). The Philippines capital area hence ranks quite poorly in the Siemens Green Cities Index (Busch et al. 2012). However, there have been some efforts to reserve space for green areas, in particular with the only nature park in Manila, the 2700 ha La Mesa Watershed and Ecopark in Quezon City (Morella 2015), a forested area wrapping around a 1929 dam that stores drinking water for the metropolis, where people can ride mountain bikes under thick canopies and walk along 50 km of nature trails. This tropical rainforest within the megacity is the result of a 15-year partnership between the national government, water companies and environmental groups. The original forest around the reservoir had been largely destroyed and replaced with a mix of farms and expanding shantytowns before president Arroyo established the reservation in 2007. Half the area was replanted (750,000 trees), but at the same time it was necessary to provide new (and free) housing for more than 7000 illegal settlers. In order to provide security for the park visitors and to fight illegal wood cutters and the return of shanties, about 60 park rangers have been hired and trained.

Smarting the city is not only applying high-tech, computer-based solutions to all problems in the management of the metropolis, even if GIS monitoring of water levels and traffic, and the analysis of high-resolution satellite imagery is necessary to get a grasp on the evolution of the city at different temporal and spatial scales. It is also about a better governance. “Smart City” has become an indicator of different characteristics to measure the performance of cities towards smart mobility, smart environment, smart economy, smart governance, smart living and smart people.

One of the priorities of smart, livable cities is pedestrianization (development of sidewalks, motor vehicles ban in some areas, easy pedestrian access to other modes of transport, putting an emphasis on walking and biking as major modes of transportation and tools for personal fitness). Metro Manila’s roads are easily identifiable today for being as anti-pedestrian as possible (Abaya et al. 2011; Ranada 2014a, b, c). There are, therefore, many efforts to make Manila a pedestrian-friendly city, even if elevated walkways have been developed in several areas, as they have in Hong Kong and other Asian cities, to provide safety through a separation of traffics. The Ortigas Walkways project, to connect the entire Ortigas Central Business District using walkways, has been approved by the National Economic and Development Authority (NEDA), in partnership with the Asian Development Bank headquartered in Ortigas. Its first phase will be a walkway connecting SM Megamall, Robinsons Galleria and Shangri-La Plaza to the MRT stations Shaw and Ortigas (Ranada 2014a, b, c). Intramuros, Escolta and Binondo, centers of commercial and cultural activities throughout the centuries, have seen their buildings age, while cars and vendors dominate the streets all over these historical district. Pedestrianization, starting with a widening of sidewalks and restrictions on automobiles, would be the



**Fig. 17.7** Pedestrian overpasses in Divisoria, Manila (July 2015)

Crossing a busy street is now easier in parts of the metropolitan area, since the MMDA has erected several overpasses to separate pedestrian and vehicular traffics. This provides more safety for pedestrians and smoothes the flow of vehicular traffic, unless encroaching vendors and waiting jeepneys and trisikel still block the path of incoming vehicles, as can be seen in this high density commercial area

catalyst for urban renewal and revitalization. Reversing the trend of car-orientation towards people-centric streets would create an atmosphere of social interaction and an increase in foot traffic, attracting new economic and business opportunities, and helping in the preservation of monuments and old buildings (Fig. 17.7).

Alongside the infamous EDSA, a hardy group of volunteers from the “Manila hub of the Global Shapers Community” a network of sustainability advocates, walked the entire length of this major thoroughfare in October 2015 (Benitez 2015) to emphasize the need to have a better walking environment, unobstructed and wide enough at least for two people to cross each other. To encourage biking, the MMDA has started in 2015 a bike-sharing project alongside Roxas Blvd on Manila’s waterfront (Santos 2015a, b). It is part of “Bayanihan sa Daan” road-sharing program where people will walk alongside bikers and car drivers from Quirino Grandstand in Luneta (Manila) to Mall of Asia in Pasay City to underscore the importance of road courtesy. Several bike lanes have been planned across the metropolitan area in Manila, Makati, Quezon City and Marikina, with the stated goals of “promoting and enhancing street and neighborhood identity, increasing foot and bike traffic, and reducing vehicle congestion and air pollution along the major thoroughfares as well as promoting healthy living and well-being”. It remains to be seen if these lofty



goals can be accomplished in the current climate of cut-throat competition on the roads. The Department of Energy and Natural Resources made the decision in 2014 to include in the environmental assessment of roads all over the Philippines the provision of sidewalks and bike lanes (Ranada 2014a, b, c). This was a step in the right direction, but the original plan of providing 4-m wide bike lanes and 4-m wide sidewalks (very generous allocations of spaces !) was cut down to 1-m each (barely enough for two bicycles to cross each other).

## 17.5 Towards a Better Metropolitan Governance?

### 17.5.1 *Institutional Gridlock*

Manila's three major challenges, housing, flooding and transportation, clearly reflect clearly the difficulty of planning the metropolitan area for the long term. Manila seems to have largely failed in managing these issues.

It is not for lack of grand plans in the history of the city. The Spaniards had established cities in the Philippines following, as in Spanish America, the guidelines of the *Leyes de India*, with central plazas as the main organizing element of urban space. When the Americans took over, Daniel Burnham came to the Philippines to draw plans for Manila and the summer capital Baguio, following the ideas of the Garden City Movement. At the time of the Commonwealth of the Philippines, president Quezon supervised grandiose plans for the new capital, Quezon City, centered on a large 400-h green space.

But the National Capital Region is actually made up of 17 cities and towns, each with its own government, and they often carry out infrastructure programs—such as man-made and natural drainage protection—without coordination. The NCR is balkanized into several republics (Quiboloy 2015).

The lack of coordination, or refusal to coordinate traffic management or garbage management is also between the Metropolitan Manila Development Authority and the LGUs within its jurisdiction. The local executives of Metro Manila generally refuse to give the MMDA chairman—a presidential appointee—any semblance of higher authority over elected mayors, especially if they belong to the opposition. The problem lies in Metro Manila's poor planning, political gridlock, inadequate or inappropriate urban management, the inadequate implementation of zoning rules and land use plans, haphazard real estate development, and in some cases the clear incompetence and corruption of political appointees (Kapunan 2014; Avecilla 2015; Dulay 2015).

While the MMDA has responsibilities in the delivery of some services transcending local boundaries, many metro-wide services still remain with the national government agencies, because, even as the national government provides subsidies to the metropolitan body, it still allocates a sizeable portion of the budget for metro-wide services to the national government agencies. Consequently, the MMDA has the difficult task of coordinating the sectoral programs of various national

government agencies, including metro-wide services, while at the same time dealing by independent municipalities. One set of rules does not easily pass throughout this collection of 17 local governments. A traffic fine in one city costs triple in another. Some LGUs will tolerate street parking for a fee. Others will tow cars, for a fine.

Like most megacities in Asia, Metro Manila has followed the long outdated Western development model leading to urban sprawl. The megacity has extensively converted porous and water-absorbent land into impervious expanses of concrete generating a tremendous amount of heat. Land conversion and real estate development have been allowed to grow in a haphazard manner, making things worse (Alave 2012).

Trade and tourism suffer from the mediocrity of Manila's urban environment (lack of green spaces, foul air, smelling waterways, frequent flooding). There is no lack of planning at the level of individual local governments (LGU, local government units) and in private master-planned real estate developments. The problem lies in the fragmented and decentralized governance of the metropolis.

There have been a few examples of cooperation between different levels. For instance, the Pasig River Rehabilitation Commission (PRRC) has rehabilitated four of the main creeks in Manila (Estero de Valencia, Estero de Sampaloc, Estero de Paco and Estero de San Miguel) with a coordinated effort including the city of Manila, barangay captains and the Metropolitan Manila Development Authority (Santos 2010, 2015a, b; Villas-Alaveren 2014a, b, c). But there is still much more to do.

Refuse washed ashore during major storms can be blamed on the lack of a comprehensive garbage disposal system by the Metro Manila Development Authority or the national government. Unable to cope with the tons of trash being disposed daily, Congress passed a law mandating recycling and passed on the responsibility of disposing the garbage to the local government units. To each his own garbage management. However, most LGUs in the Philippines are only small towns and cities with no room for garbage dumps or resources to maintain them. They hire contractors to collect the garbage and dispose of it, without any control, leading contractors to dump trash in vacant lots and waterways if they have no sanitary dumpsite. In Metro Manila, cities have bigger financial resources, but the crowding and density are so high that the metro area lacks space also for trash disposal.

And of course flood issues cannot be treated at the municipal scale, since they are part of a natural system extending far away from the limits of Metro Manila.

Individual cities cannot solve the problems alone. To govern properly, it may be necessary to re-draw or overlay existing political boundaries. In 2011, however, the chairman of the Metropolitan Manila Development Authority rejected the proposal to include the suburban municipalities of Bacoor (Cavite) and San Mateo (Rizal) into the agency's integrated urban management program (Araja 2011). The reason was that the two proposals were outside of Republic Act 7924 or the MMDA Charter which encompassed the 17 cities of the NCR and does not allow Metro Manila to step into the affairs of provincial cities.

### ***17.5.2 A Unified Manila Government?***

Most large Asian cities, such as Tokyo, Shanghai or Bangkok, are now run as one political unit with a powerful mayor or governor, who can plan at the metropolitan scale. Not so in Manila. The megacity could be governed as a province, as are many other megacities in Asia, not as a collection of 17 municipalities.

The seventeen towns and cities making up the metropolis of Manila are ruled by fiercely independent mayors (and many of their families, in a political system where close relatives of top politicians are there to replace them when they move up the political ladder). There are powerful hatreds between political clans (the Cojuangco-Aquinos, the Romualdez-Marcoses, the Macapagal-Arroyos, the Estradas, the Binays...). Due to long-term political rivalries at the national level, they rarely talk to each other or cooperate to solve common problems, even if crime, traffic, pollution and floods do not end at political boundaries. But the idea of a merged government has been floated around several times (Manasan & Mercado 1998, Boquet 2014).

As early as 1935, Acting Governor General Eugene A. Gilmore formed a committee to draft a bill creating Greater Manila. This was to include Caloocan, San Juan, Mandaluyong, Makati, Parañaque, portions of Las Piñas and two other sites that eventually would become Quezon City and Pasay City. The bill passed the Senate but floundered in the House. With the coming of independence, the government moved the capital from Manila to Quezon City, created by merging several villages in the suburbs. In 1950 Pasay also became a city. In the following decade, rapid growth pushed President Magsaysay to consider a merger of the three to form a larger city including the small localities of the area (Makati, Mandaluyong...) where real estate interests were starting to develop new business centers. But his untimely death in a plane crash stopped the process.

In 1975, Ferdinand Marcos, by creating the National Capital Region, recognized the need to manage the 17 cities as a whole, but the nomination of the First Lady Imelda Marcos as its first governor, and chairperson of the MMC (Metropolitan Manila Commission) gave it a very political flavor. At that time of martial law, local governments had little say in the management of the metro area. Through partnerships with national government agencies, the MMC started to implement a Metro Manila flood control system, developed a systematic slum policy and started the construction of medium-rise housing throughout the metropolis. It also introduced a coordinated solid waste management system, which included the construction and operation of sanitary landfill sites, and a metro-wide traffic management system. But the population growth made these efforts ineffective for the long term.

After the fall of Ferdinand Marcos in 1986, Corazon Aquino pushed for democratic reforms, including giving more power to local governments. The Marcos-led MMC was eliminated and replaced by the MMDA, with legislative powers over the metropolis given to the Metro Manila Mayors Council, and executive powers to an appointed Chairman (first selected by the mayors themselves, later named by the Philippine president, with cabinet rank). The agency in charge of Metro Manila is

supposed to tackle many issues, transportation, risk management, public health, garbage management, However, its legitimacy is weakened by the fact that there is no Greater Manila official elected by the voters of the entire metropolitan area, and the effectiveness of its action is limited by the overlapping roles of different agencies, quite visible in flood management, housing and also transportation. Powerful politicians from the elite families are very jealous of their prerogatives and not prone to accept interference by an outsider agency (Porio 2012).

As an example, who is really in charge of traffic in Manila? The MMDA? The Land Transportation Office, whose role is to deliver driving licenses and register vehicles? The Department of Public Works and Highways (DPWH), responsible for road construction? The Land Transportation Franchising and Regulatory Board, which oversees bus companies and jeepneys? The municipalities delivering authorizations for commercial trisikels? The Philippine National Police? The local police? Private developers blocking access to some subdivisions and forcing traffic to go around them? Municipal governments? In 2003, when the MMDA implemented a “number coding” scheme of vehicles, it was rejected by the mayors of Makati and Mandaluyong, which are homes to two major business districts. After he was elected in July 2013, the new mayor of Manila—and former Philippine president—Joseph Estrada decided unilaterally to stop all buses without a bus terminal in the city of Manila at the entrance of his city, and forced them, with his local police, to turn around, creating major disruptions on some thoroughfares between Quezon City and Manila, generating much protest from both bus companies and bus passengers, as well as fellow mayors of adjacent cities. MMDA has no power, nor the funds, to build more roads, which is the province of the DPWH. Increasing the NCR’s road-carrying capacity is not its primary mandate. It can direct traffic, but what if the sheer volume of cars has overwhelmed city streets? A good train system would relieve the NCR’s traffic. But the MMDA has no say on the MRT’s operation. Since the devolution of local government units (LGUs) in the 1990s, LGUs have managed themselves without regard for overall public transport efficiency in Metro Manila.

To be truly prepared for floods, the government should go beyond political boundaries and approach disaster risk and reduction management at the regional level. This means including the uplands, like the Sierra Madre mountains as well as Laguna Lake, bordered by Rizal and Laguna provinces. But natural watershed boundaries—a major factor in where and how floodwater flows—have long been ignored in planning and governance.

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## Chapter 18

# Regional Development Policies in the Philippines

**Abstract** Is Manila too big for the Philippines? Should the government encourage the development of other areas to relieve the burden on the capital region? This chapter examines the efforts of successive Philippine governments to implement a policy of regional planning for a more balanced development of the country. Integrated development schemes, for example in the Bicol River basin, have given way to a policy in favor of special economic zones and growth centers away from Metro Manila. Among them, the Subic and Clark areas, long known as gigantic American military facilities, are now the focus of an effort to create better business and living environments. Cebu, the Philippines' second city, is also a recent focus of international development. Future trends are examined with the proposal of the BIMP-EAGA international region in collaboration with Indonesia, Brunei and Malaysia, while there are also calls for a major reversal of the nation's political and spatial organization through federalism to end the domination of "Imperial Manila".

**Keywords** Regional planning • Economic zones • Subic Bay • Clark • Cebu

The concentration of people and activities in the Manila region (Spreitzhofer and Heintel 2002; Cuervo and Ho 1998) has created strong inequalities between the regions of the country. It also presents dangers for Manila itself, which has become an increasingly unpleasant place to live (pollution, traffic, housing crisis) and a risk for the whole country. If a powerful earthquake were to devastate the city and its metropolitan area, which is not a remote possibility, it would create havoc in the whole country's economy, given that so much of the wealth is concentrated on a small portion of the national territory.

Is the country better off with a powerful metropolis (Bronger 1995) concentrating investments, which is the trend of globalization, or with a set of regional metropolises receiving the brunt of new investments from the central government, under the theory of growth poles (Perroux 1964) which was used during the 1960s in France's "métropoles d'équilibre"? Or should the effort be to sustain the local towns and centers all across the country to keep people from overflowing major regional centers like they have done in Manila? (Laquian 1972) Should the country aim for a network of a dozen regional metropolises, or a set of scattered cities and towns? (Bronger 1983) Should it be a metropolitan urbanization or a diffuse urbanization?

(Costello 1998) Should it continue to favor industry and global-oriented services such as call centers, or aim for a more balanced development, focusing on agriculture to solve the food problem, hence improving the Philippines' foreign trade balance and raising income for the country and its citizens? (Mercado 2002).

In the current context of globalization, very large metropolises like Manila forge increasingly tighter links with metropolitan areas that do not belong to their national space (Hong Kong, Singapore, Tokyo, Dubai). The rest of the country must then rely on an ambivalent strategy based both on a consolidation of economic ties with the metropolis and a reduction of this dependence by focusing on increasing exports to other peripheral regions or other national areas. This tension between national metropolis and peripheral areas raises the issue of national territorial cohesion, between the connected, global, "winning territories" and less connected, more inward-looking, "losing territories" (Fontan 2002).

In Southeast Asia (Philippines, Thailand, Indonesia), as in other developing nations, production and infrastructure investments are too heavily concentrated in one major metropolitan area, the "primate city" so large that it dominates the entire whole economy of the nation. The over-concentration of social and productive investments in a few favored locations is not only detrimental to the marginal regions excluded from development, but to national economic progress as well. The inability to mobilize and use resources to develop marginal regions contributes to geographically unbalanced and socially inequitable growth and excludes large numbers of the population from the national system of production, exchange, and consumption.

Secondary cities cannot develop, or grow very slowly. They are too few to act as catalysts for development in marginal regions. In these highly polarized spatial systems, many market centers are small, scattered and poorly equipped to service their rural surroundings. Small towns are not efficiently linked to each other or to larger urban centers, so that marketing networks have not emerged and marginal areas remain marginal. When these low and middle levels of the urban hierarchy are weak and unarticulated, development does not sufficiently reach the rural populations in poor, developing countries (Pernia 1983; Rondinelli 1983). The twin dilemmas of rapid population growth and widespread unemployment have coincided with the growth of industry and cities, which have generated the squalor of urban slums. A possible solution may be found in better efforts to redevelop the rural areas and small towns.

Like many other countries, the Philippines has adopted regional planning as a means to correct or reduce some of the most obvious disparities in socio-economic development within and between regions and reconcile conflicts among advocates and opponents of greater participation in development and regional autonomy. Regional planning may be used for the preparation and execution of a program for developing an ecological unit (river basin, island, mountain range) for the management of the social, economic and physical affairs of an administrative region or a metropolitan area, and in order to qualify for funding assistance from diverse sources, national and international. Regional planning can also fine tune national plans and coordinate local plans, which involves direct coordination between the local government units and national agencies.

## 18.1 The Evolution of Regional Planning in the Philippines

### 18.1.1 *Early Efforts at Regional Planning*

Regional Planning in the Philippines has a relatively short history (Weissmann 1970; Fimalino and Agpalza 1973; Calabia 1990; Cariño 1991). This may be linked with the country's highly centralized form of government. Local governments and field units of the national agencies were for a long time dependent on central authorities for funds, policies and administrative decisions. In addition, there was not really any entity that could effectively coordinate development activities of the agencies and LGUs at the regional level.

In the Philippines, national planning developed much earlier than regional planning. As soon as the Commonwealth was in place, a National Economic Council (NEC) was created in 1935. In the 1950s it performed as the chief planning agency, formulating national economic policies and preparing economic and social development programs. The NEC's role was to study the country's needs and financial resources and to establish development priorities and goals for public and private investments. It was heavily influenced by the "New Deal" in the United States, with a focus on planned mobilization and distribution of production facilities and purchasing power.

Post-war government efforts initially aimed at the reconstruction and rehabilitation of the country, especially in the Manila area. Shortages of food and basic necessities in the 1950s led the government to embark on socio-economic development planning with U.S. assistance.

In the 1960s, policy-makers of the nation started to embrace the idea of obtaining a more diffused rate of growth, which was at the time excessively concentrated in the Manila area. The import substitution strategy in earlier years had encouraged the location of industries in Metropolitan Manila core area: the dependence of the new industries on undervalued exports made locating in the principal port favorable. Manila and the surrounding areas had become an "import enclave," increasing its centuries-old dominance over the rest of the country.

This thinking led to the introduction of regional authorities, a new structure for planning and development, to bridge the gap between the national development policies and the local political efforts. The first of these<sup>1</sup> were the Mindanao Development Authority (MDA) and the Central Luzon—Cagayan Valley Authority, established in 1961. These two Authorities were created to develop the regional frontier resources and to improve the worsening socio-political unrest in these areas. The creation of the MDA was inspired by the experience of the Tennessee Valley Authority (TVA) in the United States (Fimalino and Agpalza 1973; Ng 1981), but, unlike the TVA wherein the river system with well-defined boundaries was the integrating factor for regional development, the MDA aimed at the development of the entire island of Mindanao, including the islands of Sulu and Palawan. The legislative act creating it stated that "the Mindanao Development Authority, a body corporate clothed with the power of

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<sup>1</sup> Earlier, the Tagaytay City Development Commission (1955) and the Cavite Communication and Electricity Development Authority (1959) had been created by law, but their narrow focus hardly qualifies them as regional programs.



government but possessed of the flexibility and initiative of a private enterprise, is based on the proposition that the balanced growth of Mindanao, Sulu and Palawan could be best accelerated and realized through regional development (Antipolo 2001a, b), where the responsibility for administering duly prescribed policies is definitely laid in a specific agency” (Jayme 1961) The MDA emphasized industrial and agricultural development, identifying specific projects like integrated steel mill, aluminum. Fertilizer and plywood plants. The Central Luzon Cagayan Valley Authority (CLCVA), on the other hand, centered its efforts on the development of water resources, with the assistance of Japanese and French experts, to formulate plans for the Cagayan and Pampanga river basins and design provisional studies on irrigation systems and dam sites, particularly the Magat River Multi-Purpose Study, later to be financed by the World Bank. The MDA typified the general-purpose development authority while the CLCVA exemplified the resource-based development authority.

The implementation of the MDA triggered the enactment of similar laws creating other development authorities in the following years (Samonte 1963; Santiago 1983). Thirteen development authorities and regional planning boards with separate geographical jurisdictions were authorized by Congress or the President. They were the Panay Development Authority (1961), the Mountain Province Development Authority (1964), the Northern Samar Development Authority (1964), the Catanduanes Development Authority (1965), the Mindoro Development Board (1965), the Bicol Development Company (1966), the Southeastern Samar Development Authority (1969), the Sulu Development Company (1969) and the Ilocos Sur Development Authority (1969). Special-purpose Development Authorities, with a more limited scope were the Hundred Islands Conservation and Development Authority (1963), the San Juanico Strait Tourist Development Authority (1964) and the Laguna Lake Development Authority (1966).

The MDA law was the model for their structural and functional framework, but variations were introduced. While the Authorities had the similar functions: undertaking economic surveys; irrigation, electric power and flood control projects; conservation of natural resources. They were all entrusted with the task of engaging in industry, agriculture, mining, and other industrial pursuits, three of them focused mostly on the development of ports and another three on the development of tourist areas.

The rapid proliferation of the development authorities reflected the political nature of their creation, where congressmen exchanged promises of support in getting approval of bills creating such authorities. Their influence in the actual organization and operation of the Authorities continued in the hiring of personnel. Nonetheless, their establishment marked the country’s first significant attempt towards comprehensive regional development.

Little was accomplished by most of these Authorities, whose activities were generally limited to preliminary surveys, feasibility studies and project proposals. There were no integrated framework plans proposed, and actual implementation of the proposed projects was minimal. The authorities were generally handicapped by the shortage of funds and lack of qualified personnel to work out development plans, and more importantly, their creation was not preceded by a careful analysis of the problems, needs and conditions of the regions.

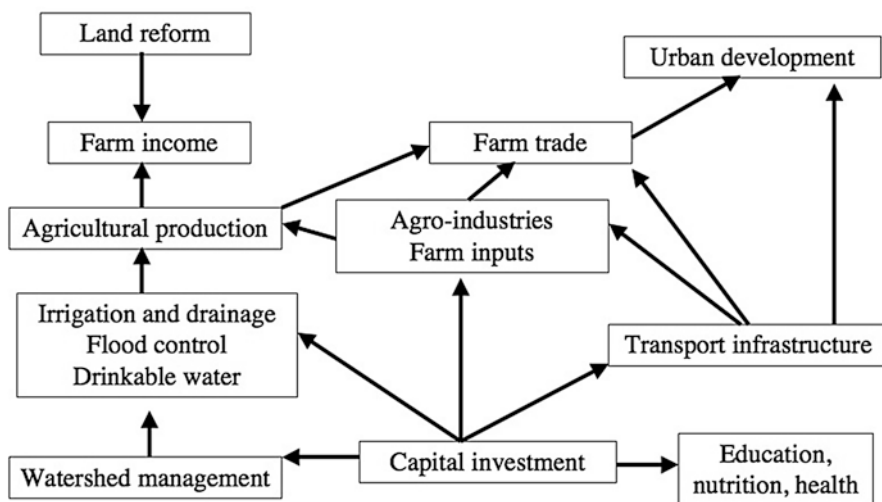


Fig. 18.1 Conceptual framework of the Integrated Bicol River Basin Planning. Modified by author from Astillero (1976), p. 42

Only five of them were actually funded and organized to become operational—the Mindanao Development Authority, the Central Luzon Cagayan Valley Authority, the Mountain Province Development Authority, the Laguna Lake Development Authority, and the Bicol Development Company. The rest remained as authorities on paper (Fig. 18.1).

#### INSERT—Regional Planning in a Rural Area: Bicol

A Bicol Development Planning Board (BDPB) was organized in 1964 upon the initiative of the Governors and City Mayors in this area in Southeast Luzon. Executive Order No. 159 of President Macapagal gave it the function of conducting scientific and systematic surveys of the assets and potentialities of the Bicol region, “planning its development, and pooling the resources of the provinces and cities thereof for the implementation of programs to enhance the social, industrial and commercial development and the general welfare of the region and its people”. It was followed by the creation of the Bicol Development Company (BIDECO) in 1966, which started farm projects such as BISUDECO (Bicol Sugar Development Corporation); the BLADCOR (Bicol Livestock and Agricultural Development Corporation) and the Bicol Swine and Poultry Corporation. However, the 1967 rice program failed after a typhoon washed away grains ripe for harvest. Problems in governance, lack of financing and a typical loss of enthusiasm after promising beginnings led to a revision of the regional plans.

The Bicol River Basin Development Project (BRBD) pilot project, to be implemented by the Bicol Development Company, was seen as a model for the development of regional planning in a poor, rural area (Astillero 1976; Rondinelli 1979, 1980; Sommer et al. 1982). It was also the first exercise in integrated planning in a basin-wide scale in the Philippines. The 312,000 ha Bicol River Basin stretching across the whole Camarines Sur province, as well as parts of Camarines Norte and Albay, manifested the typical characteristics of marginal areas, owed in part to its physical isolation from Manila and other regions of the Philippines and to a rich physical environment (fertile soils and abundant water) that is hostile to productive activity for much of the year (heavy rains and frequent typhoons causing widespread flooding). Income was low and inequitably distributed. Production and marketing technologies were inefficient compared to the rest of the Philippines, infrastructure and capital scarce, local government institutions weak and ineffective. High rates of population growth limited increases in the standards of living, and in much of Bicol the land-tenure arrangements constrained agricultural production. Poverty and the lack of modern sanitation facilities perpetuated widespread health and nutrition problems. The destruction of upland forest cover washed away precious topsoil into an increasingly silted overflowing river system.

The BRB project proposed a general framework for analyzing rural regions and determining the degree of articulation and integration of the settlement system, and the linkages between urban and rural areas. It was thought that a functional analysis of settlement systems could help determine the types of “urban” services and facilities needed at each level of the spatial hierarchy and the means of providing better access to those functions for the rural poor. The scarcity of data and general unreliability of statistics, as in many developing nations, mandated substantial testing through experimental and pilot projects. It was necessary to establish for decision-makers a clear understanding of land use patterns, physical characteristics of the area, cropping patterns, population distribution and rural settlement patterns, role and function of the regional and local central places, linkages with extra-regional centers.

The major plans for the Bicol River Basin included: (a) water resources and land development (water supply, water balance, hydrometeorology, topographic mapping and land classification, comprehensive water resource study, on-farm water management, land consolidation, the Libmanan-Cabusao integrated area development project, barangay water filtration systems); (b) agricultural and human resources development (farm mechanization, aquaculture, upgrading of the Camarines Sur Agricultural College, crop, livestock and fish production, studies on medicinal herbs, compact farm training); (c) transport improvement, both internal and external.

Another significant project was the a survey of the Tiwi geothermal deposits in Albay, followed by establishment of an industrial estate in the Tiwi-Tabaco area, an area chosen because of the Tiwi Geothermal Project and the international port in Tabaco (Camu and Santiago 2000).

### ***18.1.2 NEDA and Regional Planning***

The regional approach to development (Cariño 1991) was given official recognition in the Philippines under Ferdinand Marcos. When he declared Martial Law on September 23, 1972, his first act was to implement, through Presidential Decree No. 1 the government reorganization plan he had submitted to Congress a year before. This decree merged the National Economic Council and the Presidential Economic staff, created in 1966 and renamed them as the National Economic and Development Authority (NEDA).

The *Four Year Development Plan* for 1974–1977 prepared by NEDA, which was adopted by Presidential Proclamation 1157, was carried out on an intraregional basis through each of the Regional Development Councils (RDCs) and supported by the NEDA Regional Offices (NROs) as its Technical Secretariat. It included, among its six objectives, regional development and industrialization. The Plan proposed “a wider distribution of the benefits of economic growth by placing greater emphasis on social development and by integrating the approach to regional development” (Domingo-Tapales 1976). The new emphasis on regional development was based on the NEDA’s recognition of the glaring imbalance among regions in the country, with Manila and its environs dominating the country while other regions lagged far behind.

NEDA’s new thrust on regional development (Mercado 2002) was based on the concern for developing the regions and solving some of the country’s economic problems. Regional Development assumed that it would provide increasing employment opportunities for the growing population, establish a better balance between agricultural and industrial development, and increase exports and widen the market for newly established industries through more internal demand in the country’s regions. It set into motions several of the plans already under consideration, such as in Bicol (Executive Order 412 signed by the President on May 17, 1973 which created the Bicol River Basin Council). Other regional projects proposed by NEDA were the Pampanga Delta ~ Candaba Swamp Development (Bargur 1976) and several transportation infrastructure projects (Zamboanga del Sur Secondary Roads Project, Cotabato Secondary Roads Package, Bukidnon Secondary Road Projects, Metropolitan Manila Transport System Plan, Manila Metropolitan Ring Development, Cagayan Land Reform Infrastructure Package; Iloilo Land Reform Infrastructure Package).

Sectoral programs pushed for efforts in food production, cooperatives, housing, tourism, health, rural electrification, education and manpower development, a boost

to small and medium enterprises (creation of a Development Academy of the Philippines and an Institute for Small Scale Industries, implementation of the Medium and Small Industries Coordinated Action Program MASICAP) and cottage industries, such as abaca handicrafts in Bicol.

The country's program of industrial dispersal had many aspects. On the national government's part, the construction of super-highways, the planned extension of railroad networks, the provision of electricity and water supply facilities, port improvements and the development of low-cost housing projects were aimed at encouraging industries to locate in the rural areas, but it was mostly the creation of industrial estates, the first one in Mariveles, Bataan, that followed the concept of growth centers outside of the Manila area.

### ***18.1.3 Moving Away from Metro Manila: The Growth Centers Strategy***

Dispersal may be key to decongesting Metro Manila and solving many of its problems. Metro Manila is jam-packed because Filipinos cannot find the same opportunities in their regions of birth. Most of the country's national agencies, best facilities, best universities and best hospitals are also found in the mega city. The solution to Metro Manila traffic problems may not be to build more infrastructures inside NCR, but to build more outside the city.

Allocating more funds to regions outside the National Capital area (Colina 2016) would kickstart the development of local economies in provinces outside the National Capital Region (NCR) and relieve the traffic jams in Metro Manila, since there would be fewer reasons to come live in the big city after dispersal of growth (Chanco 2015; Ranada 2016). It seems to be the choice of president Duterte, who is showing a clear spatial bend (Juanico 2016) in his initial approach to the management of the Philippine economy and social problems. Once jobs are created and made attractive in the provinces and towns around Metro Manila, people won't have to come in droves to the cities—which will reduce traffic volume and put less pressure on the housing system. There would be less traffic congestion since the residents from Bulacan, Cavite, Laguna, and Rizal provinces would find jobs in the emerging growth centers. That in turn would help in reducing the risk of flooding.

Senator Cayetano, who ran unsuccessfully for vice-president in 2016 alongside the future president Rodrigo Duterte, has proposed to set up a Philippine Decentralization Committee (PDC), which would study and determine specific programs aimed at enhancing the delivery of goods and services in the countryside, including the relocation of several agencies to other regions (Ager 2015; Mercene 2015). The senator suggested the transfer of the Department of Labor and Employment (Dole) to the Ilocos Region (Region I), which had the second highest unemployment rate in 2015, while the Department of Tourism (DoT) may be relocated to tourist haven Cebu in Central Visayas (Region VII) and the Department of Energy (DoE) to

the Caraga Region (Region XIII), which has abundant renewable energy sources. Some government departments and agencies which are rural-oriented (National Irrigation Administration, Philippine Coconut Authority...) have no real justification for being located in Manila and could be transferred to the heart of rural country, in Central Luzon (Tarlac City?) or Southern Tagalog (Lucena City?).

Creating new “Makati”, “Eastwood”, or “Ortigas” areas outside of Metro Manila, could be the best solution for the next generation of Filipinos, possibly in satellite cities (i.e. Clark, or Tarlac) or in major provincial cities (Cebu, Davao, Iloilo, Tacloban, Lucena...) that would shift the focus from Metro Manila. Another step would be the creation of a new capital city, away from Manila. As northern and southern areas of Luzon develop and create new urban growth centers, population migration towards Metro Manila would slow down, maybe even reverse.

The idea is not new, since it was already tried in the 1980s, at the end of the Marcos era, with the development of urban hinterland centers, known as the Regional Cities Development Project (RCDP), a key strategy applied by the Philippine government and endorsed/financed by the World Bank<sup>2</sup> to rectify the country’s grave regional imbalances. It was a multi-sectoral urban project aimed at stimulating economic decentralization and regional growth in four project cities through the reduction of infrastructure bottlenecks. The project included: (a) construction, rehabilitation or upgrading of urban roads and the provision of road maintenance equipment and vehicles; (b) improvements in drainage, solid wastes management and sanitation; (c) provision or upgrading of municipal enterprise facilities including markets, slaughterhouses, bus terminals and a livelihood zone; (d) improvement of basic social services including shelter, public health, safety, and urban mobility with particular emphasis on the needs of the urban poor.

The Government selected four of the nation’s largest cities—Bacolod, Cagayan de Oro, Davao, and Iloilo—for the purposes of its first major urban intervention outside Metro Manila. These cities had at the time urban populations ranging from about 180,000 to 420,000 persons. The principal criterion for selecting these cities was their considerable economic “take-off” potential as key regional centers. They also had extensive slum dwelling populations requiring the provision of basic services. The cities are either regional capitals (Cagayan de Oro, Davao and Iloilo) or the major urban centers (Bacolod) for the island on which they are located. The cities’ economies were not well developed especially considering their relatively rich agricultural hinterlands. The principal project strategy, therefore, will be to accelerate the economic development of these cities by removing infrastructure bottlenecks. Outside Metro Manila, only Cebu and Zamboanga were larger than any of the proposed project cities. The infrastructure deficiencies of Cebu were to be addressed in part by the Central Visayas Regional Project (CVRP),<sup>3</sup> set in motion in 1993, also with World Bank support.

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<sup>2</sup> <http://documents.worldbank.org/curated/en/1983/03/725587/philippines-regional-cities-development-project>

<sup>3</sup> <http://www.worldbank.org/projects/P004498/central-visayas-regional-project-cvrp?lang=en>

However, RCDP has not markedly altered the distorted growth patterns of the Philippines, as RCDP sites such as Iloilo (Rüland and Sajo 1988) were impeded, as the earlier RDCs, by excessive patronage politics by local oligarchs, severe financial constraints, limited managerial capabilities and the impact of an adverse economic environment in the troubled years of the Marcos-Aquino transition.

In fact, the growth centers strategy, which was very popular worldwide in the 1960s (Darwent 1969), has been criticized as not effective in many countries of Asia and Latin America (Corpuz 1987), for several reasons: (a) the growth center spread effects have not been demonstrated: growth center investments have favored capital-intensive industries and therefore did not create many jobs; (b) private enterprises have their own strategies and do not necessarily locate in specified growth centers; (c) the selection of areas as growth centers and the exclusion of others are too political; (d) the growth center strategy conceived in the 1960s is based on western experiences which differ substantially from the developing world, which is more primate city-oriented, has more monopolistic economies, and has a less capacity to invest in designated growth centers; (e) the growth center strategy facilitates multinational investments which contribute to the maintenance of dependent relationships between less developed countries and the industrial powers.

The National Physical Framework Plan (NPF), first drafted in 1985 and approved in 1992, was formulated as an integrated national land use policy agenda to organize the allocation, utilization, development and management of the country's physical resources. It had a planning horizon of 1993–2022. In 1997, however, it was replaced by the National Framework for Physical Planning 2001–2030, with a vision of national development anchored on sustainable development and growth with social equity (Serote 1990; Villarete 2014).

The NPF specified a pyramidal hierarchy of five levels (Corpuz 1987): metropolitan, regional, subregional, major urban, and minor urban. The first level (Manila, Cebu, Davao) was intended to serve the three principal island groups; the second (regional centers) and third (“subregional centers”) were intended to serve at the regional level, the fourth (“major urban centers”) and the fifth (“minor urban centers”) at the provincial level:

The “regional centers” were the seats of regional administrations.<sup>4</sup> The “subregional centers” had no administrative functions but had complete range of urban services and facilities to support regional centers, (examples: Angeles in Pampanga, Iligan in Lanao del Norte). The “major urban centers” were centers of trade in

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<sup>4</sup>They were originally: San Fernando (La Union) for region I (Ilocos), Tuguegarao (Cagayan) for region II (Cagayan Valley), San Fernando (Pampanga) for region III (Central Luzon), Batangas (Batangas) for region IV (Southern Tagalog), Legazpi City for region V (Bicol), Iloilo for region VI (Western Visayas), Cebu City for region VII (Central Visayas), Tacloban (Leyte) for region VIII (Eastern Visayas), Zamboanga for region IX (Western Mindanao), Cagayan de Oro for region X (Northern Mindanao), Davao for region XI (Southern Mindanao), Cotabato City for region XII (Central Mindanao). Subsequent subdividing of the regions led to changes: in Calabarzon (IV-A), Calamba came to replace Batangas, Pagadian replaced Zamboanga, Baguio became regional center for the CAR, Calapan for Mimaropa (IV-B), Koronadal for Soccsksargen, Butuan for Caraga, Cotabato for the ARMM.

resource frontiers and the nuclei of other leading development areas (examples: Vigan in Ilocos Sur, Bacolod in Negros occidental, Surigao in Surigao del Norte). The “minor urban centers” were mostly agricultural service centers, such as Agoo (La Union), Catbalogan (Samar) or Marawi (Lanao del Sur).

This hierarchy of five levels may be too complicated and the three top levels should be the only ones left to the central government control, while the planning policies at the lower levels may be better left to regional and provincial authorities (Corpuz 1987).

### ***18.1.4 Special Economic Zones***

In their drive to make the Philippines a new industrial country, Philippine authorities have implemented, somewhat belatedly in comparison with their Asian neighbors, a strategy of export processing zones and industrial estates of various sizes along with improved access to credit and technical assistance. The 1972 creation of the Export Processing Zone Authority (EPZA), a government corporation, marked the start of this strategy, which differs from the growth pole strategy by focusing more on job creation. It is supposed to attract foreign investment, especially from Japan, Korea and Taiwan, whose companies may use at their profit the lower wages in the Philippines.

In the mid 1990s the Filipino government of Fidel Ramos adopted a new export-led development policy based (a) on trade liberalization, which accelerated in the 1990s under President Fidel Ramos as the World Trade Organization was being set up and today as the unified ASEAN market is progressing, and (b) on the establishment of economic zones and industry clustering to maximize the effects of industrial agglomeration (Reyes-Macasaquit 2008; Sanders and Brown 2012). To attract new investments and lower unemployment rates throughout the country, the dominant idea was to provide foreign investors more access to Filipino markets and labor by giving them investor tax breaks and lowering trade tariffs. In return, the government hoped that investors would bring large amounts of capital into designated areas thereby creating new jobs and stimulating the domestic economy. Under the 1995 Special Economic Zone Act, EPZA was abolished to be reorganized into the Philippine Economic Zone Authority (PEZA)<sup>5</sup> established to assume jurisdiction over all Special Economic Zones (SEZ) in the country, while the Base Conversion Development Authority (BCDA) created in 1992 managed the transformation of former American military bases (see below, part 2 of this chapter) (Casanova 2010).

Between 1995 and 2005 PEZA and BCDA approved over 200 new SEZ that have created over four million jobs throughout the country. As of December 31st, 2013, there were 66 manufacturing economic zones, 197 IT Parks and centers, 66 manufacturing economic zones, 17 agro-industrial economic zones, 18 tourism economic zones areas and two medical tourism zones. In these Special Economic Zones

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<sup>5</sup> <http://www.peza.gov.ph/index.php/economic-zones/list-of-economic-zones>



(SEZ), foreign companies enjoy tax benefits. This includes a 4- to 8-year exemption from corporate tax, after which a flat tax rate of 5% of the gross income must be paid, while employment and training costs are deductible. Outside these economic zones, companies can also benefit from the exemptions if they invest in eligible sectors (IT and IT-enabled services, vehicle parts, building materials and ecological agriculture) are made. Two other major special economic zones were culled out from former U.S. military bases in the country, namely the Subic Bay Freeport Zone and the Clark Freeport Zone (see part 2 of this chapter).

Economic zones are found all around the country, but many are located in the greater Manila area. Manufacturing zones are numerous in the rapidly growing provinces of Cavite, Batangas and Laguna to the south of the capital, where a number of garment and electronics factories have been developed. Some of the larger zones are associated with resource and mineral exploitation (coal terminal in Villanueva, Misamis oriental, nickel in Claveria, Surigao del Norte and Bataraza, Palawan, natural gas in Tabangao, Batangas). A number of these business parks have been enthusiastically promoted as technology business incubators (TBI)/science and technology (S&T) parks, where transfers of technology would contribute to an economic and social resurgence of the country. Laguna province, south of Manila, prides itself as being “the Silicon Valley of the Philippines”, because industrial parks with specialised infrastructure (pure water, industrial gases, redundant power supplies) facilitated the clustering of Japanese semiconductor and disk-drive assemblers, as well as computer assembly in Subic Bay in the late 1990s (Felker 2003).

The shift of investments from Metro Manila into these perimetropolitan regions indicates that infrastructure development (paved highways and ports) to assist the rise of SEZ increases the probability of FDI location (Makabenta 2002), even if the total amount of infrastructure investment remains weak in comparison to other Southeast Asian nations.

The classic association between research universities and the blooming of high-tech, such as that started in the Silicon Valley from the Stanford University Industrial Park (Saxenian 1978; Leslie and Kargon 1996; Huffman and Quigley 2002) has not been important in the Philippines. However, there are efforts in that direction, such as Ayala-UP Technohub in Quezon City, a high technology business park developed in a joint venture between real estate developer Ayala Corporation and the University of the Philippines, near its flagship campus UP Diliman. In 2006, a zoning change by the Quezon City municipal government allowed for an acquisition of the site by the university, despite protests by students and academics that the university was selling its soul to the private sector. The entire development was listed as an approved IT Park by the Philippine Economic Zone Authority in February 2009. *IBM*, *Nokia*, *HSBC* are among its tenants, so is *Convergys*, a major business services company from Cincinnati, Ohio.

The Philippine Development Plan 2011–2016 (PDP)<sup>6</sup> promotes an “Industrial Cluster Strategy” (Scott 2005; Reyes-Macasaquit 2008; Ignacio 2011) to reinforce the economic strengths of specific geographic areas, boost regional wealth through

<sup>6</sup>[http://www.mlit.gov.jp/kokudokeikaku/international/spw/general/philippines/index\\_e.html](http://www.mlit.gov.jp/kokudokeikaku/international/spw/general/philippines/index_e.html)

exports and foster inter-business cooperation between small and medium companies, according to the concept first popularized by Alfred Marshall then rejuvenated by authors such as Michael Porter or Allen Scott (Porter 1998, 2003; Scott 2002; Vorley 2008; Belussi and Caldari 2009; Cusmano et al. 2015). Clustering priorities are as follows: coffee in the CAR, milkfish aquaculture in region I, dairy products in region II, bamboo and logistics in region III, health and wellness in the NCR, ICT and logistics in region IV-A, ecotourism in region IV-B, wearables and lifestyle [sic] in region V for the Luzon regions. Priorities are more diverse in the Visayas (gifts, toys and housewares, food, ecotourism, ICT, health and wellness) and Mindanao (bananas, mangoes, seaweeds, wood, coconut, mining, ecotourism and ICT). As a development strategy, industry clustering derives its potential effectiveness from taking a holistic view of the supply chain, from providers of raw materials on one end to users on the other, and giving attention to the job-providing, locally based small and medium enterprises, where technology transfers can raise the technical level of artisanal subcontractors (Beerepoot 2004, 2005, 2008; Delgado et al. 2010).

In the Philippines as in other parts of Pacific Asia, the globalization of trade, production and finance underlies an accelerated urban transition focusing on a limited number of mega-urban regions, “global city regions” (McGee and Robinson 1995; Douglass 2000; Yokohari et al. 2000; Scott 2001; Jones 2002; Jones and Douglass 2008; Florida et al. 2008), where governments devote greater amounts of public resources to create built environments attractive to global investment, which in turn continues to fuel migration towards the big city. Metro Manila is obviously one of these, extending beyond the confines of its 17 constituent municipalities (Jones 2005; Racelis and Collado 2008; Ortega 2014; Lanzona 2015), but it can also be said that other mega-urban regions are on the rise in the Philippines. NEDA has identified 12 metropolitan regions of various sizes, populations and densities, where most of the population growth and economic dynamics of the country are taking place (Ortega et al. 2015), even if it can be argued that the Calabarzon hot-growth area (Schnabel 2015; Maclang 2016) is now also clearly metropolitan and globally integrated, much more than Dagupan or Naga (Table 18.1).

The list includes of course Manila, but also Cebu, Davao, Cagayan de Oro, Angeles City, Iloilo, Bacolod, Naga, Baguio (Estoque and Murayama 2013), Batangas, Dagupan and Olongapo, but it leaves on the side large urban areas over 300,000 people such as Zamboanga (Palafox 2016), General Santos, Tarlac, Cabanatuan or Cotabato, and major regional centers such as Lucena, Ormoc or Legazpi (Fig. 18.2).

In the following sections (parts 2 and 3 of this chapter), we will focus on the transformation of the Clark and Subic military bases into major nodes of international investment and deconcentration of Manila, and on Cebu, the Philippines’ second city. These are areas most likely to expand faster (Salazar 2014) and relieve the pressure on Manila.

**Table 18.1** The metropolitan areas of the Philippines

Names of metropolitan areas	Province	Area (km <sup>2</sup> )	Constituent municipalities (provincial capitals are marked with*) <sup>a</sup>	2015 population	Population density per km <sup>2</sup>
Metro Manila	NCR	639	17—Caloocan, Las Piñas, Makati, Malabon, Mandaluyong, Manila*, Marikina, Muntinlupa, Navotas, Parañaque, Pasay, Pasig, Pateros, Quezon City, San Juan, Taguig, Valenzuela	12,832,253	20,081
Metro Cebu	Cebu	1163	13—Carcar, Cebu City*, Compostela, Consolacion, Cordova, Danao, Lapu-Lapu, Liloan, Mandaue, Minglanilla, Naga, San Fernando, Talisay	2,849,213	2450
Metro Davao	Davao del Sur, Davao del Norte	4041	7—Carmen, Davao City, Digos*, Panabo, Samal, Santa Cruz, Tagum*	2,516,216	623
Metro Cagayan de Oro	Bukidnon, Misamis Oriental	1690	16—Alubijid, Baungon, Cagayan de Oro*, Claveria, El Salvador City, Gitagum, Jasaan, Laguindingan, Libona, Malitbog, Manolo Fortich, Opol, Sumilao, Tagaloan, Talakag, Villanueva	1,435,298	849
Metro Angeles	Pampanga	596	5—Angeles City, Bacolor, Mabalacat, Porac, San Fernando*	1,076,852	1807
Metro Iloilo-Guimaras	Iloilo, Guimaras	790	12—Buenavista, Cabatuan, Iloilo City*, Jordan*, Leganes, Nueva Valencia, Oton, Pavia, San Lorenzo, San Miguel, Santa Barbara, Sibunag	946,146	1197
Metro Bacolod	Negros Occidental	858	3—Bacolod*, Silay, Talisay	791,019	922
Metro Naga	Camarines Sur	1242	15—Bombon, Bula, Calabanga, Camaligan, Canaman, Gainza, Magarao, Milaor, Minalabac, Naga, Ocampo, Pamplona, Pasacao, Pili*, San Fernando	763,537	615
Metro Baguio (“BLISTT”)	Benguet	1095	6—Baguio, Itogon, La Trinidad*, Sablan, Tuba, Tublay	551,764	504

(continued)

**Table 18.1** (continued)

Names of metropolitan areas	Province	Area (km <sup>2</sup> )	Constituent municipalities (provincial capitals are marked with*) <sup>a</sup>	2015 population	Population density per km <sup>2</sup>
Metro Batangas	Batangas	387	3—Batangas*, Bauan, San Pascual	487,225	1259
Metro Dagupan (“CAMADA”)	Pangasinan	134	3—Calasiao, Dagupan, Mangaldan	361,285	2696
Metro Olongapo	Zambales	472	2—Olongapo, Subic	322,764	683

<sup>a</sup>Most of the cities giving their name to a metropolitan area are provincial capitals, but not all, since some of them are independent from any province (Angeles, Davao, Naga). San Fernando, not Angeles City, is the seat of Pampanga provincial government. Pili, not Naga, hosts the government of Camarines Sur. La Trinidad, not Baguio, is the capital of Benguet province. Digos is the capital of Davao del Sur, Tagum the capital of Davao del Norte. Lingayen (outside the Dagupan metro area) is the capital of Pangasinan province. Iba (outside the Olongapo metro area) is the capital of Zambales

## 18.2 Clark and Subic: From the US Military to National Development Centers

### 18.2.1 *The Role of Subic and Clark as Military Facilities*

Clark Air Force Base and Subic Bay naval facilities were America’s largest and oldest overseas military facilities. They stemmed from Admiral Dewey’s triumph over the Spanish at the Battle of Manila Bay in 1898. In the mid twentieth century, the naval base at Subic Bay (Anderson 2009) and the Clark air force base in Angeles, Pampanga, both located about 100 km north of Manila, were the two largest American military facilities anywhere in the world outside of the USA proper (Gregor 1984; McLaurin 1990). The 240 km<sup>2</sup> Subic naval base was, as large as the whole San Francisco bay, while the sprawling Clark Air Force Base (631 km<sup>2</sup>) covered about four times the size of Washington, DC.

From their beginnings at the time of the American takeover of the Philippines, they had become essential elements of the US presence in the Asia-Pacific region. Subic Bay forms an exceptional harborage, with deep and enclosed waters, while the Zambales Mountains protect it from the westward-tracking typhoons that so often batter the Philippines. The independence of the Philippines did not mean the end of the bases, which were deemed essential in a time of Cold War. Indeed, on March 14, 1947, a few months after the birth of the Republic of the Philippines, the Military Bases Agreement was signed giving the U.S. full control over the bases--Clark AFB, Subic Bay naval facilities, and several other minor bases for 99 years, rent-free (Table 18.2).

The bases were of major importance to keep “Red China” in check, and were heavily used during the Korean conflict (Mediansky 1987; Corning 1990). In the early 1950s, the U.S. military undertook a gargantuan project of leveling a small

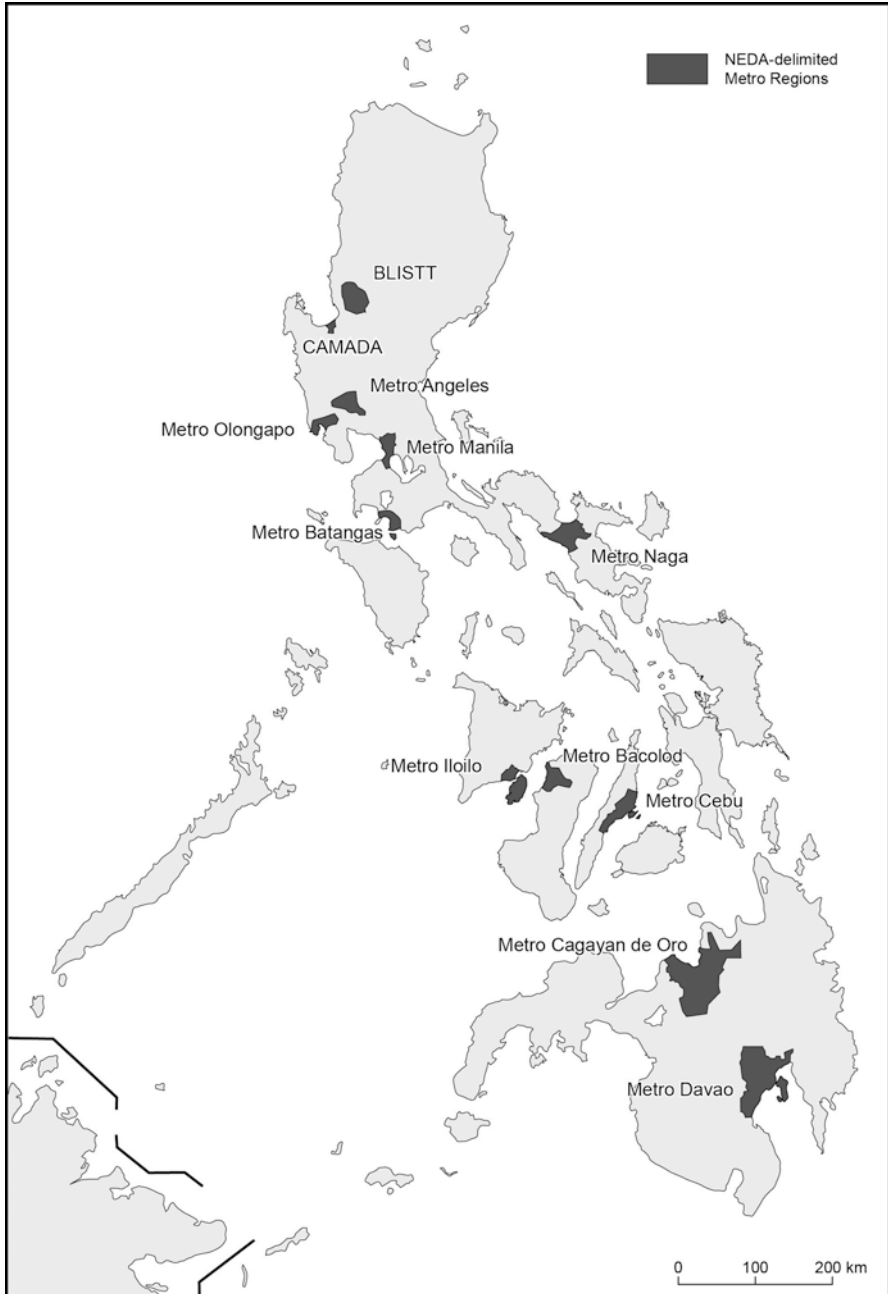


Fig. 18.2 NEDA-delimited metro regions

**Table 18.2** The parallel histories of Subic and Clark

Subic Bay	Year	Clark
Creation of Olongapo	1750	
	1829	Angeles City municipality created
Establishment of a Spanish arsenal	1885	
American troops landing	1898	
Establishment of Subic Bay Naval Reservation by US president Theodore Roosevelt	1901	
	1902	Establishment of Fort Stotsenburg garrison by US president Theodore Roosevelt
Base of US 7th fleet	1904	
	1912	Creation of the first Philippines Air School
	1935	Fort Stotsenburg becomes Clark Air Base
Japanese bombing then invasion	1941	Japanese bombing then invasion
	1945	Home base of the 13th Air Force and 55 units of the Pacific Air Force Command
US Navy base maintained after the independence of the Philippines	1946	US Air Force base maintained after the independence of the Philippines
	1964	Angeles City becomes a “city”
Olongapo becomes a “city”	1966	
Eruption of Mt. Pinatubo. Non-renewal of the American lease by the Philippine Senate	1991	Eruption of Mt. Pinatubo. Non-renewal of the American lease by the Philippine Senate
Bases Conversion and Development Act establishes the Base Conversion and Development Authority (BCDA). Opening of the Subic Bay Freeport Zone (SBFZ) under the impulsion of Olongapo’s Mayor Richard Gordon, founder and chairman of the Subic Bay Development Authority (SBDA)	1992	Bases Conversion and Development Act establishes the Base Conversion and Development Authority (BCDA)
	1993	Establishment of the Clark Special Economic Zone by Philippine president Fidel Ramos
Fedex chooses Subic bay as the hub of its AsiaOne air freight network	1995	Conversion of the air facilities into a civilian airport under the impulsion of the BCDA. Diosdado Macapagal International Airport (DMIA) viewed as Manila’s future international airport
	2002	UPS starts air freight operations at DMIA
Establishment of Hanjin Shipyards	2006	UPS chooses DMIA as its air freight Intra-Asia hub
	2007	Establishment of Clark Freeport Zone

(continued)

**Table 18.2** (continued)

Subic Bay	Year	Clark
Opening of the Subic–Clark–Tarlac Expressway (SCTEX) linking Subic and Clark	2008	Opening of the Subic–Clark–Tarlac Expressway (SCTEX) linking Subic and Clark
FedEx leaves Subic Bay for Guangzhou (China) in the Pearl River Delta	2009	
	2011	UPS leaves Clark for Shenzhen (China) in the Pearl River Delta
	2012	Airport renamed Clark International Airport
	2013	Launch of the Clark Green City project

mountain and filling in an adjacent section of the bay to form a runway, adding the Cubi Point naval air station to the adjacent Subic Navy base. The military bases in the Philippines were not just protecting the former colony, they were elements of the U.S. defense and military strategy in the Asia Pacific. They served as refueling stations of U.S. warships, launching pads for air attacks in several areas of the world, training centers for American troops and storage facilities for weapons of mass destruction, even nuclear weapons (Esplanada 2011). However, by the mid-1960s, the U.S. had become so sensitive to Philippine nationalist sentiments that during the Vietnam War the bases were used exclusively for logistical support purposes, up to the Gulf War (Shalom 1990). Although the Manila Pact allowed the U.S. to launch combat operations from the Philippine bases, facilities elsewhere, notably in Guam, were employed for combat missions against enemy targets in Vietnam. On September 16, 1966 (Ramos-Rusk Exchange of Notes), a review of the old bases treaty was made and the duration of the lease was reduced from 99 to 25 years. The old bases agreement was thus scheduled to expire on September 16, 1991.

The bases grew enormously in size, with millions of Americans passing through or flying missions from there. In fact, the bases became American towns, with schools, movie theaters, ball parks and more. For the cities of Olongapo (Zambales) near Subic Bay and Angeles City (Pampanga), at the southern entrance of Clark Air Base and Angeles, the economic activity generated by the presence of the bases and the movement of the US military was the engine of the local economy (Berry 1990), centered on providing for the needs of the military (services, retail, transportation). It stunted the development of a sound economic base for the Filipino population in both cities and the surrounding areas.

As in Okinawa, the bases also fostered the rise of enormous “red light districts” for prostitution in the towns adjacent to the bases (Schirmer 1997; Poulin 2006a, b): Olongapo (Zambales) near Subic Bay and Angeles City, Pampanga, at the southern entrance of Clark Air Base. In the bars and brothels of the two cities, over 25,000 women and girls were giving “rest and relaxation service” to American troops. Prostitution-related establishments such as hotels and motels were part of

socio-economic landscape of the two cities. Prostitution and sexual exploitation then became acceptable to the local population, because it was bringing money to many (Sturdevant and Stoltsfuz 1993). Most of the servicemen were young white or black Americans. A racial divide marked the establishments: in Olongapo, the area with bars for the black Americans was known as “the jungle.” The sex industry was accompanied by heavy drug use by both American servicemen and Filipina women. For the women working in the clubs, meager and irregular earnings that depended on the number and size of ships calling (in Olongapo), life was an economic alternance of brief periods when money flowed and longer lean periods when debts would accumulate in order to pay the rent, children’s schooling and other basic needs. An estimated 30,000–50,000 Amerasian children were born from sexual encounters between American servicemen and Filipina women (Kutschera et al. 2012). These children and their mothers received no assistance from the US and Philippine governments, while those fathered by Afro Americans were particularly ostracized and seen more negatively than their light-skinned, light-haired counterparts (Santos et al. 1998). The spread of AIDS in the Philippines from these two cities was a major concern (Tan et al. 1989).

### ***18.2.2 The Eruption of Mt Pinatubo and the Closing of the Bases***

This dependency on the bases became dramatically felt in 1991 when the long-dormant Pinatubo volcano erupted with explosive violence, burying Central Luzon in thick ash fall, at the same time the Philippine Senate was conducting sessions to end the American lease on the bases. The eruption hit hard the whole area where both facilities were located. Enormous ash fall covered the region in Pampanga and Zambales provinces, damaging good farmland for many years, causing devastating lahars and disabling both airports, where many planes were useless after their engines had been damaged by fine volcanic dust.

The Filipino and US governments approached the negotiations for renewing the 25 year lease of the US military facilities in the Philippines in the highly unusual context of two major bases being damaged by a volcanic eruption. Apart from US military support and logistics at the time of the volcanic crisis; the impact of the eruption was not a major factor in the final decision of the Philippine senate. The Americans did not leave the bases because they were rendered useless, but because nationalistic feelings in the Philippines demanded a departure of the former colonial power (Gaillard et al. 2009). Washington had decided to close down Clark Air Base, badly damaged by the eruption of Mt. Pinatubo, since in the short 1989–1991 period that saw the implosion of the Soviet Union and the collapse of socialism in Eastern Europe, bringing to a close the Cold War, the proliferation of American strategic bases in the Pacific appeared less needed. Nevertheless, the Americans wanted to retain Subic Bay, the main logistic and repair base for the 7th Fleet in the Pacific,



due to its unmatched advantages: huge deep-water facilities and access to the strategic waters of the South China Sea (Rimmer 1997).

There was hot political debate in the Philippines (Bacho 1988; Carranza 2002). Were the bases a protection or a submission? a cornucopia or a curse? (Magno 1988) Vice President Salvador Laurel warned that the rejection of the treaty would lead to “economic collapse for the country while creating a dangerous security vacuum in Asia.” But the resistance mobilized against the proposed bases treaty grew quickly: on September 10, 1991, about 50,000 people marched against it; 6 days afterwards, on September 16, 1991, the number of protesters had swelled to 170,000 outside the Senate despite a heavy downpour. Nationalists, who had blamed ties to the United States for the decline of Philippine culture and a mentality leading Filipinos to expect to always be rescued from trouble by their former colonial master, were pleased by the vote, even if locally the very tight decision of the Senate on September 16th, 1991 (12 votes against 11), after 3 years of discussions between the two countries (Buszynski 1988), to end the lease of the bases and return them to the Philippine government’s control also meant that cleaning up the ash would not be enough to revive the local economy as it had developed over several decades. Under Philippine constitutional law, a two-thirds majority, 16 votes, would have been required to ratify a new treaty of understanding, which had been worked out by a U.S.-Philippine panel during 14 months of negotiations. Americans had no choice other than to leave Subic after the Senate vote (Sanger 1991; Shenon 1991; David 2011). In a country where the United States is perceived as the “big brother” who gave Filipinos democracy, the unthinkable had happened in the Philippine Senate, traditionally conservative and pro-U.S.

After the bases were turned over to the Filipinos, it became evident that years of American military presence had left serious scars on the bases themselves, with high levels of toxic contamination, making difficult to re-use the facilities without a thorough clean-up that the USA did not want to pay for. A 1988 amendment to the U.S.-Philippine Agreement Concerning Military Bases provided that the United States was not under an obligation to return its bases to the Philippines in their original condition (Porrata-Doria 1992; Wegman and Bailey 1994; Bayoneto 2011).

For the United States, the closing of Subic Bay alone meant relocating 5800 officers and enlisted men and women, 600 civilians working for the Department of Defense and 5000–6000 military dependents. For Olongapo, as for Angeles City, it meant losing the life line, since the base cities had nothing much to offer other than their women and girls in the “entertainment” industry. The bases’ presence held the Filipinos particularly those in the former base lands captive to the ideological frame that Filipinos needed the bases not just for security but also as an economic resource. This mindset deeply affected Filipinos who continued to believe of the idea of the benevolent Americans who, in turn, regarded them as “brown Americans.” Opinion polls at the time had indicated that a majority of the Filipino people supported the continued presence of U.S. forces in the country, largely because of the enormous importance of the bases to the nation’s fragile economy (Wallace 1991). It also meant that the defense of the Philippines would be left to Filipinos themselves, with the difficult task of modernizing weak and under-equipped armed forces (Cruz de Castro 1999).

### 18.2.3 *The Reinvention of Clark and Subic as Nodes of Growth*

After the retreat of the Americans, thousands of jobs were lost and unemployment was enormous. Quickly, the Philippine government decided to stimulate economic growth by attracting foreign investors to the Subic Bay region as well as to Angeles City. Following ideas discussed by researchers in the previous years (Diokno et al. 1989), the choice was to re-use military facilities for civilian economic development and create new nodes of growth. They made the necessary infrastructure and offered the possibility of ‘free trade’ in specific economic zones. To manage and implement these special economic zones, primarily transforming them from military bases to investment havens, the Subic Bay Metropolitan Authority (SBMA) and Clark Development Corporation (CDC) were created in 1992 and 1993, under the 1992 Bases Conversion and Development Act, that also established the Base Conversion and Development Authority (BCDA) in charge of the reconversion of the other military facilities (Mundo 2014). The well-developed infrastructure of the abandoned bases and the option to finance the investments by a revolving fund fed by the sale of military bases in the National Capital Region, formerly used by the Philippine armed forces,<sup>7</sup> made it possible to start the conversion of the Subic and Clark bases in a very short period of time (Zimmer 2004).

The Subic Bay Freeport Zone (SBFZ) could have been an economic and investment jewel in the crown from the first day. But it was not immediately a success because there was no thought-out long-term plan: would it be a shipping-transit harbor, a manufacturing free port or a tourist zone? The government was not able to focus and develop clearly on a single goal. However, the two areas benefited from their selection as air cargo hubs (Bowen et al. 2002; Bowen 2004) by *FedEx Asia* in Subic Bay and *UPS* at Clark Airport, thus giving an interesting international accessibility to these sites, especially for assembly manufacturing within the framework of the international division of labor in East and Southeast Asia, until the two US mega-carriers of air freight made the cruel decision for the Philippines to transfer the core of their Asian networks to the Pearl River Delta of southern China (Boquet 2009).

The blow inflicted by the departure of FedEx and UPS to the two economic zones is somehow mitigated by the fact that land accessibility has been greatly improved from the Manila area thanks to new highways (NLEX, North Luzon Expressway, and SCTEX, Subic-Clark-Tarlac Expressway, built by the BCDA during the presidential mandate of Gloria Macapagal Arroyo, whose political base is in Pampanga province). The SCTEX, built with Japanese assistance, seeks to transform the Central Luzon region into a world-class logistics hub in the Asia-Pacific region through the integration of economic activities in the Subic Bay Freeport Zone

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<sup>7</sup>Former military sites in Metro Manila have been converted into mixed-use offices and housing complexes for the development of internationally oriented business districts, in particular the “Bonifacio Global City” (BGC), on the site of the old “Fort Bonifacio” at the border of Makati and Taguig in Metro Manila, a few minutes from the international airport (see Chap. 16).

(SBFZ) (Reyes 2015a, b), the Clark Freeport Zone, and the Central Techno Park in Tarlac and by linking major infrastructures such as the Seaport in Subic and the Diosdado Macapagal International Airport in Clark, which is seen as the core of a rising “global gateway” or “aerotropolis” (Kasarda and Lindsay 2012; Palafox 2014; Due 2016), with investments also coming from the Middle East (Manabat 2015). A key project is the many times-delayed rail link—possibly high-speed—from Clark to Metro Manila (Quezon City, NAIA) to make the airport more useful for passengers in the NCR and as a better companion airport to the current air gateway (Amolejar 2016; De La Paz 2016b).

Korean and Japanese companies have invested heavily in the area, with more than 300 Korean businesses in the Clark-Angeles area (Lewis 2010a, b; Pavia 2016), such as semiconductor factories, golf courses, hotels, and a major Hanjin shipyard in Subic Bay (LPG carriers, containerships), making the Philippines the fourth largest shipbuilder in the world after China, South Korea and Japan. The importance of the twin economic zones of Subic and Clark is rising, since they contribute today to more than 10% of the country’s gross domestic product (Empeño 2015). Today, more jobs have been created in the former US-bases than had ever been provided by the US forces at any time. They both aim at being more than industrial zones, and look towards a redeployment of outsourcing activities out of the high-cost Makati, BGC and Ortigas BPO hubs (Buban 2013).

Since the mid-1990s, the two areas have also played the tourism card with many resorts, ecoparks and theme parks built at a reasonable distance from Metro Manila. They have become weekend destinations in the like of Tagaytay/Lake Taal and Laguna province to the south of the National Capital Region. The nearby presence of Mt. Pinatubo is now one of the main attractions for tourists. US sailors have left Olongapo and the mayor of the city has eliminated most of the brothels and sex economy, but Clark’s red light district with its infamous bars and nightclubs alongside Fields Avenue, lined up with girlie bars, continues to thrive, with a clientele of older men, often retired military, from the US, Canada, Australia, and Asian sex tourists, mostly from Japan or Korea (Jeffreys 1999; Lewis 2010a, b). There is still deep poverty in the country, which attracts many women to Angeles City, where sex trafficking networks have not stopped operating since 1991. They have modernized to include many webcam studios (Cruz and Sajo 2015) for online pornography.

The military past of Subic Bay may be revived, since the EDCA defense agreement signed between US President Obama and Philippine President Aquino calls for a reinforcement of the cooperation in face of Chinese actions in the South China Sea (see Chap. 19). Subic Bay will not be a US base again, but a Philippine Navy base will be developed (Macatuno 2014a, b), with continued visits by American ships (Jennings 2015). An increased military presence may spur a new rise in prostitution (Orejas 2014), but local shop owners are looking forward to the return of American sailors, despite the scandal caused by the gruesome murder of a transgender Filipino/a by a US Marine in 2014 (Capozzola 2014; Robson 2015).

### 18.2.4 Clark Green City

The newest development in Clark, launched in 2016 (Saulon 2016; Velasco 2016), is happening in fact in Tarlac province (municipalities of Bamban and Capas, which are immediate northern neighbors of the former airbase in Pampanga) with the 9500 ha called ‘Clark Green City’, a 30-year project for a master-planned metropolis touted as the first smart, green and disaster-resilient master-planned community in the entire Philippines. It is a joint-venture development project between BDA and the *Filinvest Group* (Campos 2016), with the active support of the Japanese International Cooperation Agency (JICA), the Japan Overseas Infrastructure Investment Corporation for Transport and Urban Development (JOIN) (Pillas 2016a) as well as Singapore’s *Temasek Corporation* and Nanyang Technological University (Casanova 2015; Magkilat 2016). BCDA signed separate Memorandums of Understanding (MOU) with France (*Vivapolis* group) and Sweden (Swedish Environmental Research Institute) to foster technical cooperation and identify future collaborative opportunities in the development of Clark Green City (Fig. 18.3).

The name of Clark was adopted since it will be easier to “sell” to foreign investors (De La Paz 2016a; Mercurio 2016b; Pillas 2016b), because Clark is already known worldwide among many investors, just as “Subic” is better known abroad than Olongapo City.

Clark Green City will follow green standards such as green building codes, low carbon footprint and will be built in harmony with the natural environment, respecting the ecosystem. Its stated goals, methods and principles are quite ambitious and obviously a catalog of all the ills of Manila that can be avoided, and borrow heavily from the concepts of smart cities (Garcia 2015): resource management (air quality, biodiversity, water conservation, energy efficiency, “green” buildings, non-polluting energy production: solar, wind, geothermal, biomass, micro-hydro), accessibility (reduced automobile dependence, alternative modes of transportation, universal design), identity (good public spaces, heritage and culture, public health service), leadership and governance (collaboration, management, planning), diversity and density (compact development, mixed-use neighborhood centers, mixed-income communities, neighborhood schools), economic vibrancy (stimulate sustainable growth, improve quality of life, develop local skills, local food production), resilience (assess climate threat, avoid traps and vulnerabilities, prepare for long-term adaptability and short-term hazards).

It will benefit from advanced ICT infrastructures integrating citywide services for infrastructure, transport, utilities, security and public safety. Digital infrastructure will serve as the backbone of the entire “smart metropolis” to enhance data processing and transfer through high-speed Internet connectivity. In terms of utilities, Clark Green City will be patterned after modern South Korean districts like Songdo City. To make it truly one of the “intelligent cities”, reaching out to Ivy League schools is included in the plan for the Clark Green City. An educational hub with a new branch of the University of the Philippines (“UP Pampanga”? “UP Clark”?) and satellite campuses from major international universities is one of five districts that would rise in the new city (Orante 2015).

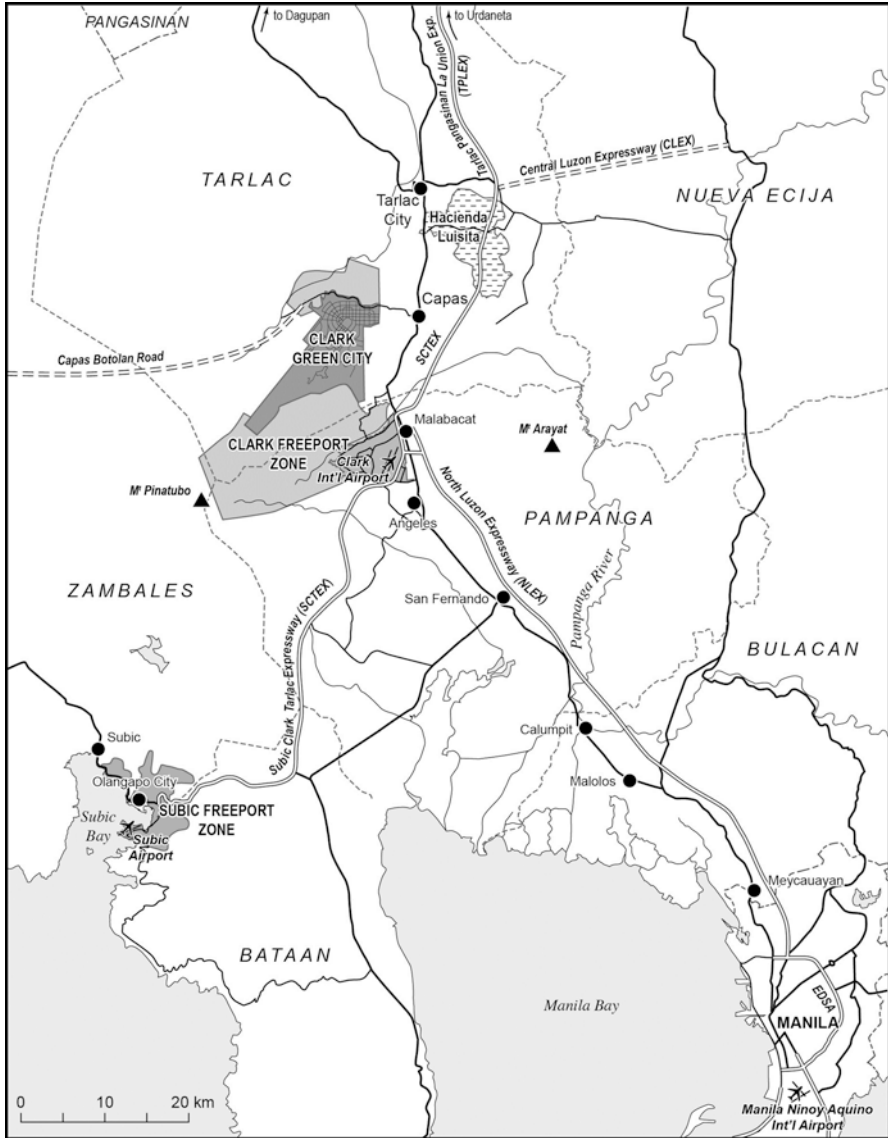


Fig. 18.3 The Clark and Subic growth areas North of Manila

This “new PH metropolis” is located alongside the growth corridor north of Manila, in an area of growing population and urbanization, 120 km from the nation’s capital, and well connected to Clark airport and the Subic Bay Freeport via the NLEX and SCTEX expressways. The completion of the Tarlac-Pangasinan-La Union Expressway (TPLEX) and the future CLEX (Central Luzon Expressway towards Cabanatuan and San Jose, Nueva Ecija) (Roque 2012) will add to the

growth of Tarlac with enhanced access to the Ilocos and Mountain regions. The BPO industry would be one of its main economic engines. According to the master plan, almost two-thirds of the city would be forested (5567 ha) for preservation of prime habitat, species biodiversity and freshwater availability. This green city would be pedestrian-friendly city organized on the principles of transit-oriented development: most of the dwelling units and nonresidential building entrances would be within a 400 m walk distance of bus or streetcar stops, or within a 800 m walk distance of bus rapid transit stops, light or heavy rail stations (Bulacan-Tarlac rail system under consideration, Mercurio 2016a). Pedestrian paths, bicycle lanes and a hierarchization of roads would protect residents and workers from motorized vehicles. Fifty percent of dwelling units would be within a 400 m walking distance (400 m) from food retail, community-serving retail, services, civic and community facilities, and within 800 m from an elementary or middle school building entrance.

There would still be farmland within the perimeter, both for productive farmland conservation and for local food production.

Population projections scenarios at full development in 2040 aim for 1.2 million residents (one million of them new settlers) and 800,000 jobs. At least 20% of housing would be in the form of subsidized public housing, and at least 50% of the employable residents should be employed in the city. Instant metropolis, built in barely 25 years to decongest MetroManila (Due 2015; Garcia 2016).

### 18.3 Cebu, the Philippines' Second City

Cebu City, known as the “Queen City of the South”, capital city of the province of Cebu, is known as the oldest settlement established by the Spaniards in the Philippines. It was founded in 1565 as “Villa de San Miguel de Cebu”, then renamed “Ciudad del Santísimo Nombre de Jesús” (1571) and was reincorporated as a city in 1938. Since its foundation, and even in the pre-Spanish era (Nishimura 1992), Cebu City has been the hub of trade and commerce in the southern part of the Philippines (Fenner 1985): shipping links between islands and localities have been historically the major structuring force in regional economic development in the Visayas, with Cebu as its center. As soon as 1521, during the Magellan expedition, Antonio Pigafetta had mentioned that he saw about 15 villages along the coastline of what is now Cebu City.

Cebu was briefly the capital of the Philippines in the early years of Spanish colonization, but Legazpi's choice of Manila as the political center of the archipelago, despite its less central position (maybe safer from Moro raids) left Cebu with the “skeleton of a colonial outpost” (Mojares 1991). Its development was arrested as the galleon trade made Manila an international hub of exchange, where Philippine products were insignificant. The established linkages of Cebu with other Asian places were severally disrupted as traders bypassed Cebu, where few Spaniards lived except priests and military officers, and there were almost no Chinese traders, since they focused on Manila. An attempt at a Cebu galleon trade (Ango 2010) was

initiated in 1594 but stopped in 1604. For two centuries, Cebu would just be an administrative center in the Visayas, with trade links to Manila and the nearby islands of Bohol and Leyte.

In the mid-1700s economic activity started to rebound somewhat and accelerated in the second half of the 1800s (Mojares 1991), thanks to changes in the colonial policies encouraging commercial and agricultural activity throughout the islands after 1760. Foreign merchants were permitted to trade in Manila in 1790, then Manila was opened to ships from all nations in 1803, which led to the official end of the galleon trade in 1813, after years of decline. The Port of Cebu was finally opened to foreign trade in 1860. The opening of Philippine ports to world trade fueled the demand for agricultural products, leading to the development of large commercial plantations in the Visayas: sugarcane, bananas, abaca, coconuts, and later pineapple. Commercial agriculture began in the towns bordering Cebu City and spread north and south along the coastal towns during the 1800s, allowing Cebu to overtake Iloilo as the prime commercial and trading center south of Manila (McCoy 1982) for the farm products of Panay, Negros, Cebu and Leyte. Iloilo saw its handicraft weaving industry decline rapidly as cotton goods from England started to flood the Filipino market, leading capital to redeploy into Negros sugar.

Cebu became the main base for the Philippines shipping industry, due to its central location. It emerged as a regional center for trade and manufacturing, as it could easily and cheaply bring in raw materials and labor migrants from neighboring islands, while at the same time redistributing imports as return cargo (Van Helvoirt 2011). After the arrival of foreign firms, the mixed-blood Chinese-Filipino “mestizo” businessmen became the middlemen between production and shipping of agricultural products, gaining dominance in the area’s economic and political life, as shown in the twentieth century by the powerful Osmeña family. The island of Cebu is the most densely populated island in the Philippines (Vandermeer 1967; Cullinane and Xenos 1998), due to intense agricultural settlement in the eighteenth and nineteenth centuries, and is second only to Luzon in its strategic and economic importance to the country.

If it was noted in the 1960s that Cebu was much more lively and urbanized, than other regional towns in the Visayas (Dumaguete, Tacloban)—with the possible exception of Iloilo—or Mindanao (Zamboanga, Davao), and had the most renowned university outside of Manila (San Carlos University), the logics of global capitalism in the 1970s and 1980s tended to favor investment in the Manila area, at the expense of Cebu. The dominance of Manila as the Primate City<sup>8</sup> (Ginsburg 1955; Linsky 1965; McGee 1967; Jefferson 1989) of the Philippines had the same effect on Cebu as on other “second cities” in the world (Hill and Fujita 1995).

Cebu City’s economic and socio-political development in recent decades (1990s and early twenty-first century) are related to its growing integration into global financial and commodity networks (Van Naerssen 2004; Van Kampen and Van

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<sup>8</sup>Defined as a city with many times the population of the second city of the country, and a multiplicity of functions and attractions that tends to increase its dominance, e.g. Paris in France, Vienna in Austria, Bangkok in Thailand, Seoul in South Korea.

Naerssen 2008). The integration takes place through its export processing zones (especially on Mactan island, next to the airport) (Beerepoot and Van Westen 2001), putting Cebu at the center of a growing network of inter-firm likages in the central Visayas region (Esguerra and Manning 2008; Van Helvoirt and Van Westen 2009; Van Helvoirt 2011) as Cebu City has been drawn into the new international division of labor, and through international tourist services and the expanding air network from the airport, in response to Manila's airport congestion. The rapid economic development of both Cebu City and Cebu Province since the early 1990s (Churchill 1993) has been known as "Ceboom" (Law 1997; Fajardo 2013) with a fast expansion on the adjoining Mactan island, site of the airport and of a fast-growing new planned edge city, The Mactan Newtown, a *Megaworld* project that could be seen as a Cebu replica of Clark Green City.

Cebu's industrial sector has grown faster than any other region in the country, principally led by shipbuilding, electronics, creative industries and furniture. Cebu is arguably the country's most diversified industrial region today, one whose path of development mimics the newly industrialized economies (NIEs) of the region (Masigan 2015). But as in Manila, the main engines of growth have been the real estate, BPO and tourism sectors, which also means the growth of other sectors in the service industry, such as retail trade, as demonstrated by the many new shopping malls opened in the 2010s and the rise of skyscrapers (Velasco 2013).

The city is a major tourist destination in the country (Nisay 2015). As the first Spanish settlement in the Philippines, it is home to some of the archipelago's most iconic heritage spots. Magellan's Cross commemorates the moment Portuguese explorer Ferdinand Magellan planted a wooden cross on Cebu's soil to mark converting its locals to Christianity. The Basilica del Santo Niño houses one of the country's oldest religious relics: a statue of the Child Jesus that dates back to 1521 and is the base for the Sinulog Festival held every third Sunday of January. Fort San Pedro is the smallest Spanish outpost in the Philippines, while the Casa Gorordo and Yap-San Diego Ancestral House give a glimpse into residential life in Cebu during the Spanish era. It is also a preferred jump-off point to neighboring tourist destinations such as Bohol and Siquijor, just 1 h away by fast catamaran. Without the heavy congestion of Manila, Cebu has become a favorite spot for holding conferences and seminars. In 2015, for example, many of the APEC specialized meetings took place in Cebu rather than Manila (which still hosted the heads of state), and the East Asian Society for Transportation Studies held its bi-annual meeting in Cebu. The hotel industry has responded by providing new luxury accommodations, such as the first Radisson Blu conference hotel in Asia (Gutierrez 2012), located steps away from one of the largest SM malls outside of Metro Manila, while the brand-new Cebu Seaside Mall, fourth largest in the country, opened in 2015, is building an ocean park (Loyola 2015). Cebu appears then to have followed in the footsteps of Metro Manila as a terrain favorable to neo-liberal, globalized, urbanism (Sajor 2003; Ortega 2012). It has so far escaped the overcrowding of Metro Manila and is the first metropolitan area in the country to develop a Bus Rapid Transit system (Baquero and Felicitas 2014).



If Manila is the main international port in the Philippines, Cebu is the leading domestic port, surpassing all others in the numbers and total tonnage of vessels, including passenger traffic, due to its central position in the Visayas and the whole Philippine archipelago (Llanto et al. 2007; Boquet 2015). Its port is now equipped with a 10,000-container yard. Products shipped through the port of Cebu have diversified considerably. They include mineral and marine products (copper concentrates, carrageenan, frozen shrimps...) and manufactured goods (electronic watches, rattan furniture, semiconductors, garments, car stereos, cameras...). The Cebu Port Authority, faced with growing wharf congestion, is planning to transfer the container terminal to a new location in Tayud, Consolacion, 8 km away (Almonte 2014; Pablo 2016), with Japanese and Korean technical and financial support (Padayhag 2015).<sup>9</sup> The new location will be closer to the Mactan Freeport Zone and the airport. The downtown space freed by the container activity may be used for cruises and inter-island ferries.

Cebu's prominence as a seaport is matched by the rise in traffic at the Mactan Cebu International Airport, built in 1956 by the United States as an emergency airport for Strategic Air Command bombers (Mactan Air Base) before it was also opened to civilian traffic in the 1960s. Its long 3000 m runway makes it the second busiest airport in the country, and the home base of the Philippines's largest domestic carrier, *Cebu Pacific Airlines*. It is now linked to many foreign destinations, mostly in East and Southeast Asia (Busan, Hong Kong, Kuala Lumpur, Nagoya, Osaka, Seoul, Singapore, Taipei, Tokyo, Xiamen), but also Dubai (*Emirates*) and Los Angeles (*Philippine Airlines*).

All this now makes Cebu the center of the 2.5 million people (in 2010) Metro Cebu metropolitan area, which includes the cities of Carcar, Danao, Lapu-Lapu, Mandaue, Naga, Talisay and the municipalities of Compostela, Consolacion, Cordova, Liloan, Minglanilla and San Fernando. It is the second largest metropolitan area in the country, but its total population, fueled by regional rural-to-urban migration (Zablan 1983), is still barely one-fifth of Metro Manila. Even if some travel agents have advertised Cebu as "An Island in the Pacific", and economists have promoted the province as "A Little Dragon in Its Own Way",<sup>10</sup> does it have the critical mass to attract investment on its own merits, or is it just a secondary choice within the policy of deconcentration out of the National Capital Area?

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<sup>9</sup> [https://www.jetro.go.jp/ext\\_images/jetro/activities/contribution/oda/model\\_study/earth\\_infra/pdf/h23\\_saitaku\\_10e.pdf](https://www.jetro.go.jp/ext_images/jetro/activities/contribution/oda/model_study/earth_infra/pdf/h23_saitaku_10e.pdf)

<sup>10</sup> In 1988 one such booster said that "Cebu has the trappings of a small NIC on a regional scale. Like Singapore, it thrives on trading and shipping. Like Taiwan, it penetrates the export markets by dint of aggressive marketing of labor-intensive manufactures by small and medium-scale industries. Like Hong Kong, it lures tourists by the planeloads" (cited in Sidel 1998).

## 18.4 New Directions in Planning?

Spatial planning in the Philippines continues to evolve. Two interesting approaches, beyond the development of alternate growth centers to Manila such as the Clark, Subic or Cebu areas; may bring new perspectives for regions left out of the economic boom. Both of them are of prime interest for the island of Mindanao: the rise of international cooperation through the BIMP-EAGA project, and the discussions about the structure of the country, with a strong emphasis on constitutional revision and a move towards federalism, both pushed by the new president, Rodrigo Duterte, a long-time mayor of Davao City.

### 18.4.1 BIMP-EAGA

Philippine regional and physical planning has mostly been done exclusively within the confines of the archipelago, which makes sense since the country has no land neighbors. But in a Southeast Asia where transborder planning programs (Greater Mekong Subregion, Economic Corridors, SIJORI Growth Triangle, Indonesia-Malaysia-Thailand Growth Triangle) are multiplying and the ASEAN economic integration is going forward, there are now links developing between the southern Philippines (Mindanao and Palawan) and the neighboring countries in Borneo and the Moluccas, through the Asian Development Bank-sponsored BIMP-EAGA project (Brunei-Indonesia-Malaysia-Philippines East Asia Growth Area), which follows the framework of establishment of growth triangles by Asian countries in order to accelerate regional growth. This strategy is consistent with the worldwide trend towards a more open trade regime (Dominguez 1999).

Located at the southern end of the archipelago, Mindanao has been considered the country's backdoor. This may simply refer to being the far-end recipient of what is good for the culturally-diverse and resources-rich island, to being derogatorily known as the passage for smuggling and human trafficking. However, with the advent of globalization in the 1990s, Mindanao took the chance and heeded the call to expand its potential market of goods and services. After all, Mindanao has rich natural resources, a strong and more competitive agriculture base, largely distributed tourism destinations, a highly entrepreneurial, literate, and in large measure, empowered populace.

The BIMP-EAGA started (Turner 1995)<sup>11</sup> with the high level talks of President Fidel V. Ramos with his BIMP counterparts in October 1992. The endorsements and confirmation of President Suharto of Indonesia (September 1993), Sultan Haji Hassanal Bolkiah of Brunei Darussalam (November 1993) and Prime Minister Mahathir Mohammad of Malaysia (February 1994) paved the way for the BIMP-EAGA

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<sup>11</sup><http://www.minda.gov.ph/index.php/bimp-eaga>

Inaugural Senior Official's Meeting and Minister's Meeting, held in Davao in March 1994.

The BIMP-EAGA is a strategy intended to accelerate the economic development of focus areas that have lagged behind the other regions in the respective countries, except for Brunei Darussalam. The focus areas are the entire Sultanate of Brunei Darussalam, Sabah in Malaysia, many regions of Indonesia (Irian Jaya, Maluku, Gorontalo, Kalimantan and Sulawesi), Mindanao and Palawan in the Philippines. These areas share the characteristics (except for Brunei) of being geographically distant from the central capitals where their national governments are based, and being poorer than average. Their geographic proximity is seen as a leverage to propel development through subregional cooperation.

Member-countries have agreed to: (a) facilitate the freer movement of people, goods and services to stimulate the expansion of the sub-region's market and resource-base; (b) rationalize the development of vital infrastructure in the sub-region; (c) take the fullest advantage of economic complementation; and (d) coordinate the management of ecosystems and common resources to ensure sustainable development. BIMP-EAGA cooperation, according to ADB,<sup>12</sup> aims to increase trade, tourism, and investments (Yusoff and Kasim 2003; Landingin and Wadley 2005; Dent and Richter 2011). It is envisioned to be private sector-led and market-driven. To achieve its development goals, the BIMP-EAGA cooperation is anchored on six strategic pillars: (a) Connectivity, (b) "Food Basket", (c) Tourism, (d) Environment (there is some overlap with the Coral Triangle Initiative seen in Chap. 11), (e) Trade and Investment Facilitation, (f) Socio-cultural and Education.

Transportation policies aim at developing maritime exchanges between the respective countries (Zainudin 2013; Francisco and Carillo 2015), by connecting the Philippine ro-ro system (Strong Nautical Highway) and the Indonesian emerging "Toll Laut" (freeway of the sea), which would give economic strength to port areas in Davao and General Santos (Philippines) or Bitung in Sulawesi, Indonesia (Siahaan et al. 2013). Instead of being "on the wrong side" of their countries, these port cities would become international hubs of trade. Palawan would get new access to Borneo (Formoso 2015). Sealanes would develop first, followed by air links (which are still weak between the Philippines and its southern neighbors).

However, these sub-regional zones include the less developed parts of Southeast Asia, and therefore face significant developmental challenges, as evidenced by the persistent lack of progress (Carillo 2016) in achieving substantial sub-regional development cooperation, and have to deal with powerful geopolitical risks, among them piracy, Islamic terrorism in the Sulu sea (see Chap. 19) and the tensions with China in the South China Sea (see Chap. 20). The impulse given by Indonesian president Jokowi to his country's "maritime doctrine" (Piesse 2015) and the 2016 election of Davao-based Rodrigo Duterte as president in the Philippines may converge to give a new boost to BIMP-EAGA.

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<sup>12</sup><http://www.adb.org/countries/subregional-programs/bimp-eaga>

### ***18.4.2 Towards Federalism?***

For historical reasons, the country has not become a federal country comparable to Germany or the United States, even if such an evolution has been a topic of academic reflexion for a number of years (Padilla 1993; Brillantes 2004; Abueva 2005).

Federalism (Panganiban 2016) has become a buzzword in the Philippines with the 2016 election as president of Rodrigo Duterte, a strong advocate of a shift towards this form of government (Jimeno 2016; Ranada 2016; Tayao 2016; Yusingco 2016). The new leader is looking to end the domination of “Imperial Manila” with a radical shift from a unitary form of government, where administrative powers and financial resources lie with the national government based in Metro Manila, to federalism, which can be defined as a form of government where sovereignty is constitutionally shared between a central governing authority and constituent political units called states or regions.

For Duterte and his supporters, this is vital to fighting poverty and ending the Muslim separatist insurgency in Mindanao (see Chap. 18). He has vowed to have the constitution rewritten and see power devolved from the central government in the capital to newly created states governing the current 81 provinces. In the current system, Malacañang Palace (the president and his entourage) decides how much to give to local government units, a process prone to abuse and favoritism, when governors and mayors have to beg Malacañang for projects they believe their communities need. Senators, theoretically elected at-large, also tend to favor the regions they come from, and some are in fact often referred—incorrectly in principle—by such expressions as “the senator from Ilocos” (Bongbong Marcos), as their US counterparts correctly are, since they are elected state by state.

Under his federal set-up, these states would be largely autonomous, having the power to administer their own laws, such as on taxation and infrastructure, and would be allowed to retain 80% of their income, rather than remitting all of it to the central government, which is the current system, where only 14% of the national budget is reallocated to local governments. This profound revolution would be a key driver of economic growth in the impoverished countryside. Under a federalist form of government, the autonomous regions or states, divided further into local government units (provinces and municipalities) would have primary responsibility over developing their industries, public safety, education, healthcare, transportation, recreation, and culture and protect local environments (Camara 2016). States could adopt policies that may not be adopted nationwide. For example, liberal Metro Manila could allow same-sex marriage, which a majority Muslim state of Bangsamoro would certainly not allow (Ranada and Villarete 2016). They would be empowered to decide for themselves, for example, if they want to focus on ecotourism, agriculture, industrialization, trade, etc. A state of Mimaropa, home to Palawan, could choose to use eco-tourism as its primary development engine. It would then result in solutions designed to address area-specific economic and policy problems. The burden on the national government to alleviate poverty and unemployment would be diffused to local regions or areas, and the NCR would not be anymore the main focus of programs and projects promoting growth.

The central government in Manila would retain essential national functions, such as defense, foreign policy, monetary policy, and customs. In such a Federal Republic of the Philippines, there would be shrinking of many national government agencies, including the Department of Agriculture (Cabuag et al. 2016): the country would still have a national agriculture agency, focusing more on policy making and strengthening of international trade, but each federal state or region would also have its own state-level or decentralized agency on agriculture agency, focusing on the formulation of strategic plans and programs in line with the national agricultural policy but prioritizing commodities and enterprises within the state. However, the capacity and resources of local communities might not be enough to support agricultural production, and therefore the support from the national government might still be needed.

For decades, Centrist Democrats in the Philippines have advocated the replacement of the Manila-centric unitary state structure of the Philippines by a federal structure. In a country as big and as diverse as the Philippines, federalism would bring decision-making as close as possible to the citizens. The trend towards excessive dominance of the executive power in Manila would be reversed with a shift to federalism (Pilapil 2016). However, amending the constitution (“Cha-Cha”, charter change) is a highly sensitive subject in the Philippines (Roxas-Mendoza 2016), since it has not been modified since 1987, 1 year after the fall from power of Ferdinand Marcos, and any hint of change since that time has been seen as an attempt to consolidate the personal power of the sitting president. If the new Duterte administration decides to indeed engage this shift to federalism, members of a Constitutional Convention (Con-Con) would have to be elected by early 2017 in order to submit an output by the next national elections on 2019.

How many states would there be? (Cepeda 2016). Would the current 18 regions be the basis for the states? Or would their number be smaller (10 or 11)? How many provinces per region? What is the ideal regional size for effective governance? (Béhar and Lévy 2015) A classic dilemma that other countries have looked at, such as France, where the 22 regions were reduced to 13 in 2016 (Bonnet-Pineau 2016). The grouping or composition of each Filipino state would depend on factors such as ethnicity, language, geographical proximity or religion.

Critics have accused Duterte of being too simplistic (Doronila 2016), too vague, about his plans and have questioned whether federalism is indeed the solution to the nation’s woes, warning that it could cause more problems than it would solve in a nation which already has issues with weak governance. The power of “Imperial(ist) Manila” stands on a vast bureaucracy at the heart of a national administration whose networks extend down to the provinces, the chartered cities and the municipalities. Breaking it down and rebuilding a different system cannot be done in an instant, even if the political shift can be decided in a matter of months (Alcober 2016).

Critics of federalism (Francia 2016) argue that federalism could strengthen the hold of political dynasties or clans that already monopolize power in local governments, often through the use of private armies, with a weakened central authority unable to respond, and possibly result in the breakup of the country. Would it be a way to reduce widespread corruption by preventing local officials from taking their

share of any money sent from Manila, or would it on the contrary entrench the control of political dynasties over the provinces? It should then be complemented by a reinforcement of democratic political participation (Cacho-Olivares 2016; Koeppinger 2016) such as a reform of the party system, to make it more transparent, the adoption of proportional representation to insure that minorities, political and others, have their say in public life, and a stricter control of the electoral process with strong punishment for vote-buying.

It may also force a decision on the structures of the central government: a federal-presidential form as in the United States or Brazil, with a president and a vice-president in Washington or Brasilia, or a system with a weak figurehead president and an active Chancellor/Prime Minister (Germany, India, Malaysia), a function that currently does not exist in the Philippines? Would the president and vice-president be elected separately, as they are today, possibly from opposing parties, or together as a “ticket”, which is done in the United States and Brazil? Would the Senators still be elected at-large, or would they indeed represent a part of the country? What would be the level of autonomy of the regions: high autonomy as in the United States or Germany, weaker as in France, which is a decentralized unitary country more than a federal country? Would such a major political shift be the opportunity to transfer the seat of government to a new capital city, possibly Clark Green City (Yap and Alegado 2015), as suggested by the Citizens’s Movement for a Federal Philippines? (Cepeda 2016).

Other critics worry that federalism may in fact reinforce the spatial inequalities inside the Philippines (Baldo 2016). The poor states would lose funding from the central government and the rich states such as Metro Manila or Southern Tagalog (Calabarzon) would win because they would not be sharing their wealth with poorer states. Metro Manila does not need Mindanao, but Mindanao needs Manila.

The shift to federalism may also weaken the status of autonomous regions (May 2009), as in the Cordillera of northern Luzon, where there is fear of being re-integrated into regions I and II (Guiab 2016), or a bigger “Northern Luzon” region in the draft remapping presented by Senator Aquilino Pimentel, or in the high-risk Autonomous Region of Muslim Mindanao, which will be the focus of the following chapter.

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**Part IV**  
**Challenges for the Philippines**

## Chapter 19

# Towards a Bangsamoro in Mindanao?

**Abstract** Mindanao was already settled by Muslims when the Spanish colonization began. Today, the western part of the island and the Sulu archipelago are territories with a majority Muslim population, whereas the rest of the Philippines is predominantly Christian. Since the sixteenth century, the “Moros” of Mindanao have fought outsiders, Spaniards first, then the Americans, and throughout history the other Filipinos. The settlement migration policy of the Philippine government in the middle of the twentieth century has transformed the human landscape of the central and eastern parts of Mindanao, now predominantly Christian, and created a major area of commercial plantations. Political opposition to the Philippine government is splintered between several movements, the secular Moro National Liberation Front, the more religious Moro Islamic Liberation Front, which are the main political negotiation partners of the government for more autonomy of the “Bangsamoro” (Moro nation), while small groups like Abu Sayyaf use terrorism to disrupt the grip of Manila in Muslim areas. The region is also a political thorn due to the quest for revival of a Sulu sultanate extending on Sabah, a Malaysian province of Borneo. These Mindanao struggles are an invitation to revisit the Philippine national identity.

**Keywords** Islam • Christian settlement • Autonomy • Terrorism • Identity

The Philippines is a mostly Catholic country, due to its Spanish colonial history. However, in the southern part of the country, a significant Sunni Muslim population does not feel fully integrated in the Philippine nation and shows some specificities, which have turned into a long armed conflict between some Muslim Filipinos (“Moros”) and the central government forces (Majul 2010a, b, c, d, e, f). This Muslim population is heavily concentrated in a few areas of Mindanao and the Sulu archipelago, and is present in infinitesimal numbers in most parts of the country except Manila (Watanabe 2007) (see Table 19.1). However, Mindanao looms quite large in the preoccupations of Philippine governments (Arillo 2015a, b, c).



**Table 19.1** The Muslim population in the Philippines in 2000, by regions

		Total population	Muslim population	Part of the Muslim population in the area's total population (%)	Part of the province in the Philippine Muslim population (%)
Total Philippines		76,332,470	3,862,409	5.1	100
Region I (Ilocos)	Luzon	4,196,276	4135	0.1	0.1
CAR (Cordillera Autonomous Region)	Luzon	1,360,611	1681	0.1	–
Region II (Cagayan Valley)	Luzon	2,809,520	3910	0.1	0.1
Region III (Central Luzon)	Luzon	8,021,325	9465	0.1	0.2
NCR (Metro Manila)	Luzon	9,880,102	58,859	0.6	1.5
Region IV (Southern Tagalog)	Luzon/Mindoro/Palawan	11,764,246	69,561	0.6	1.8
Region V (Bicol)	Luzon/Masbate	4,681,111	3270	0.1	0.1
Region VI (Western Visayas)	Panay/Negros	6,202,431	3777	0.1	0.1
Region VII (Central Visayas)	Negros/Cebu/Bohol	5,689,814	5351	0.1	0.1
Region VIII (Eastern Visayas)	Samar/Leyte	3,603,708	2610	0.1	0.1
Region IX (Western Mindanao)	Mindanao	3,085,322	564,085	18.3	14.6
Region X (Northern Mindanao)	Mindanao	2,743,894	16,582	0.6	0.4
Region XI (Southern Mindanao)	Mindanao	5,181,299	192,914	3.7	5.0
Region XII (Central Mindanao)	Mindanao	2,591,473	736,461	28.4	19.1
Caraga	Mindanao	2,091,505	7483	0.4	0.2
ARMM (Autonomous Region of Muslim Mindanao)	Mindanao/Sulu	2,410,845	2,182,245	90.5	56.5

Source: Office on Muslim Affairs (OMA)

### “Moro”

The word “Moro” was originally used by the Spanish to designate the natives of Mauritania in northwestern Africa and later the Moors and Muslims generally. Spain had been under Muslim rule for eight centuries, and the Spaniards called their Muslim conquerors Moros. So when they encountered the Muslims of Mindanao, they called them Moros, too. By American usage the word “Moro” meant any Muslim Filipino of the southern islands of the Philippines, comprising 13 Muslim ethno linguistic groups.

This “moro” identity is considered by some authors as myth created by the Americans, specifically by Najeeb Saleeby, a Syrian born Christian physician who came to the Philippines as a U.S. Army doctor in 1900 and was assigned to Mindanao. He became fascinated with its Muslim inhabitants and wrote some of the first accounts about their history, culture, and political culture published in English. Saleeby, more knowledgeable about them than any other colonial administrator, knew that the various Muslim ethno-linguistic groups were not united and did not have a politically potent oppositional Islamic consciousness. He urged the promotion of Muslim unity through the development of Morohood, in order to propel Philippine Muslims along a path of development parallel to that of Christian Filipinos and prepare their integration into an inevitable postcolonial Philippine nation (Lidasan 2013).

While “Moro” was once considered to be a derogatory term by both Muslim and Christian Filipinos, today it is considered a badge of honor, especially by young Muslims who wish to establish a distinct national identity called Bangsa Moro (“Moro Nation”) in the southern Philippines. If the term *Moro* usually refers to the Muslim inhabitants of Mindanao, who share a distinct culture and history, some authors use it to refer to Muslims who are involved in insurgency due to their discontent with the central government of the Philippines and their desire for autonomy.

Most of the historical work on Muslims in the Philippines, whether from Spanish or American sources in colonial times, or work by Filipino historians, has been rather biased against Muslims, discussing a “Muslim problem” in Mindanao (Finley 1915; Kulidtod 2002), without looking too closely at what could be called a “Catholic/Christian problem” (De Los Santos 1975) in that part of the archipelago. For a long time, textbooks on Philippine history have either ignored the Muslim South (Santos 2009), or presented it only from the perspective of hostile Spanish sources (Schumacher 1973). However, there are now more studies looking at the Mindanao conflict from the side of the Muslim population (Sakili 1996), following the pioneer work of Cesar Adid Majul (Majul 1999), dealing primarily with the histories of the sultanates of Sulu and Maguindanao (present-day Southern

Philippines) from their beginnings until the end of Spanish period, moving away from the Hispanocentric perspective to place the history of Philippine Islam in the larger context of southeast Asian Islam. Very little is known by other Filipinos about their rich culture and history, which is part of the cultural heritage of the country (Majul 2010a, b, c, d, e, f).

Philippine Muslims, much more numerous (about six million people in 2010) than “mountain tribe” people, comprise the largest category of non-hispanized inhabitants of the Philippines. They live in a predominately Christian country, the only one in Southeast Asia, but they share their religious culture with nearby majority Muslim nations (Indonesia and Malaysia) (Stark 2003). They have also retained some features of an indigenous pre-Islamic and pre-colonial Philippine culture—expressed in dress, music, political traditions and a variety of folk beliefs and practices, similar to those found elsewhere in insular Southeast Asia, but are today almost entirely missing among Christian Filipinos. Thus, while Philippine Christians and Muslims inhabit the same country, they do not know each other (Roxas-Lim 2002) or understand each other well, and there is a significant cultural gap as the result of historical circumstances. The often-conflictual interaction between Spaniards and Moros has been a defining element of the identity of both groups and of the Philippines as a whole (Majul 2010a, b, c, d, e, f). Christian Filipinos, including representatives of the Philippine state, have often tended to view Philippine Muslims as socially backward and politically untrustworthy because of their history of resistance to hispanization (McKenna 1998a, b).

In today’s Philippines, the general impression of Muslims remains quite negative (Gowing 1977; Hawkins 2008; Abanes et al. 2014).<sup>1</sup> A survey of non-Muslim Filipinos has shown that if only 14% of Filipinos have had direct dealings with Muslims, 35% are biased against them (Rimban 2015a, b), especially among people living in the Visayas. The more widely held stereotypes are that of Muslims being more prone to run “amok”<sup>2</sup> and being homicidal terrorists or extremists. They are often perceived as separatists, terrorists, warmongers ready to fight anyone who eats pork, pirates, kidnappers, pickpockets, smugglers (Austin 2012), polygamists,

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<sup>1</sup>Media has perpetuated that negative image whenever they refer to criminals as Muslims although they never refer to Christian criminals as Christians (Monsod and Gualvez 2006).

<sup>2</sup>Running amok, from the Javanese language, is an episode of sudden wild and crazy attack, of murderous rage against people or objects by a lone individual, traditionally seen as occurring especially in Malay culture, often under the Orientalist perception of Muslims as violent, dangerous, people, but now increasingly viewed as psychopathological behavior that may happen in any culture. In 1876, the Spanish governor-general of the Philippines José Malcampo coined the term *juramentado* for this behavior (from *juramentar*—“to take an oath”), surviving into modern Tagalog as *huramentado*. It has historically been linked with the Moro people of Mindanao, particularly in the island of Jolo. The practice of “running *juramentado*” was a religious rite involving the waging of a jihad, or Holy War, upon infidels. Originally, the practice was conducted by a band of men determined to sacrifice their lives in accomplishing the death of Christians. In the later years of the Spanish conquest, single individuals howled through the streets of Jolo, leaving death in their wake (Hurley 1936; Ewing 1955; Ugarte 1992, 1999; Buenconsejo 2013).

therefore immoral and promiscuous, enemies of Filipinos, etc. They are also among the poorest of all Filipinos (Majul 2010a, b, c, d, e, f). Many Filipinos consider that there should be no leniency towards the demands of the Muslim minority.

The conflict with Muslim separatists in Mindanao is a major issue for any president of the Philippine archipelago (Philip 2013a, b). It is threatening to tear the country apart (Kamlan 2004). It dates from the sixteenth century, when the Spanish sent military expeditions from Manila to subjugate the Muslims, “Moros”, and convert them to Christianity. The fierce resistance of Moro warriors continues today, with various groups more or less open to dialog with the central government and looking for a status of autonomy in the region. Some of them, small in size, but very active, are bent on a radicalization inspired from Islamist movements in other parts of the world and Southeast Asia, which are practicing open warfare towards the government forces, and terror actions against symbols of the Philippine state and transnational agricultural companies. The result of the state-of-war in parts of Mindanao is a large number of displaced populations. The conflict, which revolves around the ideas of national identity, also puts the Philippines in a tense situation with its neighbor Malaysia for the control of the Sabah area of northeastern Borneo, which was part of the pre-Spanish sultanate of Sulu.

## 19.1 Early Islam in Mindanao

Islam came to the Philippines (Majul 1999) around the thirteenth century, about 200 years before the arrival of Europeans and the advent of Christianity in the archipelago in 1521. The early centuries of Islam in the Philippines were marked by the gradual spread of the faith in the southern region especially in the areas represented today by Tawi-Tawi, Sulu, Basilan, Maguindanao, Cotabato and Lanao. The phenomenal growth of the faith had become quite evident by the sixteenth century when a Muslim kingdom emerged in what is now Manila as the focus of political power in Luzon.

The coming of Islam to Mindanao can be traced to the trading of Arab merchants from the Arabian Peninsula passing thru Malaysia, Borneo and Sulu onward to the Visayas and Luzon and ultimately to China (Majul 1966, 2010a, b, c, d, e, f; Rausa-Gomez 1967). This trade route existed in the later part of the tenth century and historians called it the second route, with the first route being from Malaysia passing thru the coast of Indo-China then to the shores of China.

Trade of Arab merchants to China using the first route was recorded as early as the beginning of the ninth century. Muslim merchants and sailors had begun to dominate the Nanhai, or Southeast Asia, trade (Wang 1958). This trade led to the Islamization of Malaysia, which gained momentum after 878 A.D., when Chinese rebel leader Huang Ch’ao drove out foreign merchants from Canton at a time of troubles in Tang Dynasty’s China. Arab merchants were forced to settle in the Malay Peninsula. The seaport of Kalah then became the major entrepot of the Arab trade.

This 878 event led the merchants to trade with other parts of Southeast Asia, such as Java, Borneo, Sulu and Palawan in the Philippine archipelago.

By the second half of the tenth century, traders returned to China and it is during this period that the second trade route was used by Arab and Muslim traders. In 977, Borneo began to be known to Muslim traders when Pu-Ni (Brunei) sent an embassy to China. Earlier, in the same year, a Chinese merchant arrived at the mouth of the river of Pu-Ni. Not long after Muslim traders became acquainted with Borneo, they came to know about or even pass by the Sulu archipelago islands. According to Chinese sources, in the year 982 a ship with valuable merchandise from Ma-i (Mindoro island) arrived in Canton. This is the first actual recorded mention of the Philippine archipelago in Chinese written history as far as Arab trade route between China and Southeast Asia is concerned. This ship had probably passed by Borneo (Brunei) and Sulu. Trade links between China and Sulu, as well as with other coastal regions in Southeast Asia were quite active in the thirteenth and fourteenth centuries (Ptak 1998). Chinese ceramics became an important element of this Muslim trade in the South China Sea (Harrisson 1958). Chinese junks from Fujian and Quanzhou could travel along two routes. Chinese traders from Quanzhou were Muslims themselves (Hui), and were acceptable to the people with whom they did business.

Islamization itself was accomplished with the arrival of Sufi missionaries who converted the people of the islands of Tawi-Tawi and Sulu, after passing through Brunei and the Moluccas (Houben 2003). At the time, the inhabitants of the Sulu islands and Mindanao were animists, the Lumad, who lived in small, autonomous communities. The Arab newcomers quickly converted the indigenous population to Islam, making Tawi-Tawi province the cradle of Islam in the Philippines. In 1380 AD, the Arab missionary Sheik Karimul Makhdum arrived in the town of Simunul and built the Philippines' first mosque.

### **Lumad, the indigenous populations of Mindanao**

Mindanao is home not only to Muslim and Christians, but also to un-Islamized and un-Christianized populations, collectively known as Lumad, a Cebuano word meaning “native” or “indigenous”. This general naming can be used as an equivalent of the loose ethnic category “Igorot”, which refers to the various peoples of the Cordillera of Northern Luzon, or ‘Moro’ applied loosely to the Muslim peoples of Philippines (Paredes 2013). They belong to the Austronesian ethno-linguistic group and are divided by anthropologists into 18 distinct tribes: Atta, Bagobo, Banwaon, Bilaan, Bukidnon (Lynch 1967), Dibabawon, Higaonon, Mamanwa, Mandaya, Manguwangan, Manobo, Mansaka, Subanon, Tagakaolo, Tasaday, Tboli, Teduray and Ubo. In Spanish times, these “infielos” (infidels) were considered as savage souls to be converted, since their religion was largely based on the adoration of natural forces and a specific knowledge of natural phenomena, for example in the case of natural disasters (Mabini et al. 2014). The Lumad are also referred by Visayans as *taga-bukid*, (from the

countryside), a term that implies simple mind, nature-bound and primitive tribal connotations in opposition to the more refined people who live in the coastal lowland towns (i.e. Visayans), since their economy was mostly based on swidden agriculture, hunting of wild animals and gathering forest products, with limited outside contact through barter (Rodil 1999). The Lumad fled Spanish colonization by retreating towards the hills and mountains of interior Mindanao. Later, they tried to resist (Tiu 2003) the advances of American-led colonization of Mindanao, when a systematic policy of displacement was implemented. In the plains of Tupi and Polomolok in South Cotabato, Bilaan Lumad had to give way to the Dole pineapple plantations; Higaonons who thrived in Bukidnon were neighbors to the Del Monte plantations. By the 1960s bulldozers, cranes and giant trucks were ubiquitous in the area of the Banwaons. Foreign agribusiness covered a thousand to 3000 ha of Lumad lands in Bukidnon-Davao area. The Tboli managed to preserve their social organization and lifestyle by moving towards even more isolated areas. In the current Moro struggle described in this chapter, the Lumad question has been relegated to a secondary problem (Rodil 2004), even as their total population is about two million people. In an effort to increase their political weight (Acosta 1994), 15 of the tribes created in 1986 a Lumad Mindanao Peoples Federation (LMPF, or KAMP, *Kalipunan ng mga Katutubong Mamamayan ng Pilipinas*). The top item on their agenda (Bacamante Manuta 2001; Mencio Molintas 2004) was the recognition and recovery of their rights on “ancestral domains” (Rodil 1992; Hyndman and Duhaylungsod 1993; Erasga 2008; Gaspar 2011), which they consider they have been unjustly deprived of, a struggle quite comparable to the goals of Native Americans in the United States. The passage of the Indigenous Peoples rights Act in 1997 has added another moniker, “Indigenous people”, rarely used by the people in question, who use “Lumad” when interacting with non-Lumad and wearing “traditional clothing”, but avoid the term when they are between themselves (Quizon 2012).

The Muslim settlers didn't just bring their religion and architecture. They also brought their political system, establishing a series of sultanates in the southern Philippines. Islam was easily and peacefully integrated (Abubakar 2005) into the islands' societies as the indigenous peoples were divided into barangays (group based upon kinship), and Muslims brought with them an organized political concept of territorial states ruled by Rajahs or Sultans. The Muslim leaders exercised suzerainty over the village chiefs and, eventually, Arabic language, writing, culture, and government became a way of life in the archipelago.

The most celebrated of these rulers was the Sultan of Sulu, whose capital was Jolo. The first official Sultan of Sulu was an Arab from Palembang, Sumatra, named Sayyid Abu Bakr, who crowned himself around 1450, after gaining power by marrying the daughter of a Malaysian trader who was quite influential in Sulu. Abu Bakr established

his dynasty's legitimacy by claiming to be a direct descendent of the Prophet Muhammad (Majul 2010a, b, c, d, e, f).

Another sultanate was established on the island of Mindanao about half a century later, in Malabang (North Cotabato, in the Bay of Illana). Muhammad Sharif Kabungsuwan, arrived around 1515 and established the two main sultanates of Mindanao, Maguindanao and Buayan, which over the centuries would battle for supremacy. Islam then spread in the Lake Lanao area (currently Lanao del Sur), where Sultans and Rajahs also traced their ancestry back to Muhammad Kabungsuwan. The Maguindanao sultanates are divided into two major groups: the Sultanate of Maguindanao, the lower valley (*sa ilud*) kingdom, and the Sultanate of Buayan, the upper valley (*sa raya*) kingdom. In Sulu, there is just one sultanate, with many competing claimants to the crown. In Lanao, there is a Ranao confederation of sultanates (Abbas 2007).

Muslim power was never centralized, even if the royal families of Sulu, Mindanao, Borneo and the Moluccas were related, reinforcing exchanges on these traditional trade routes and allowing temporary alliances in internal rivalries during expeditions combined piracy, with participation of the Maguindanao, the Maranao (sometimes put together under the generic term "Mindanao"), the Ilanuns of Mindanao, the Sulu Suluans, but also the "Camucones", "Macassar" and "Ternate" coming from Borneo, Celebes and the Moluccas. Because of the strong clan and family identities and loyalties among the Moros, different clans and tribes frequently went to war against each other.

By the sixteenth century, the Sultanate of Sulu (Majul 1965) had become dominant in the region and the center of a thriving market, taking advantage of the decline of the Sultanate of Borneo.

Muslim influence rapidly ascended northward up the archipelago, reaching as far as the current capital of Manila on the island of Luzon, where there was a small Muslim counter, controlled by Rajah Sulayman.

Islam would have probably extended further in the archipelago if the Spaniards had not intervened. In fact, when the Spanish first arrived in the mid-1500s, they were dismayed to encounter such a strong Muslim presence; they had, after all, only recently expelled the Moors from Spain, after nearly eight centuries of conflict. The Spanish nicknamed the Philippines' Muslim inhabitants the Moros, a corruption of the word Moors.

## 19.2 The Moros in Colonial Times

### 19.2.1 Catholic Spaniards and Muslim Sultanates

The Christian-Muslim conflicts in the Philippines can be traced from the very beginning of the Spanish colonization of the archipelago. At the time of the Spanish conquest in the sixteenth century, the Muslims of Mindanao and Sulu had attained a higher level

of social organization than the small, scattered communities of Visayas and Luzon. For this reason, it was relatively easy for the Spaniards to subdue and Christianize the inhabitants of Luzon and Visayas. The defeat of Tarik Solayman by Spanish conquistadors sent by Miguel Lopez de Legazpi in the Battle of Bangkusay (Tondo) on June 3, 1571 marked the end of the Islamic influence in Luzon and the Visayas. After Bangkusay, Spain made Manila a city and Pampanga a province, thus establishing a foothold in the colony where it mattered most. Cebu served only as a gateway.

By the year 1578, Spain felt strong enough to attack in Mindanao and Sulu, assuming that it would drive the “Moros” out of the Philippines as it had out of Spain. It was a disastrous blunder. The Moros of Mindanao continued to defy the Spanish Conquistadores and were not Christianized by the invaders.

This rivalry was to last as long as the Iberian presence in the archipelago. Recurrent raids and looting alongside the coastlines of Luzon and the Visayas allowed Muslims to capture slaves, which they then sold in Jolo (Sulu). Possession of slaves was a sign of wealth, needed for prestige and authority by the local aristocracy (Warren 1996, 2003a, b, 2007).

Two Moro sultans distinguished themselves in this age-old struggle. Muhammad Dipatuan Kudarat (1581–1671), “Corralat” or Sultan Kudarat, of Maguindanao, spread his influence towards the eastern part of Mindanao. In a speech delivered in Lanao, the sultan encouraged Muslims to resist, in order to keep their freedom. Muhammad Azim ud-Din I, or Alimudin, Sultan of Sulu and Sabah (1735–1748 and 1764–1774), fought the Spaniards and converted to Christianity in 1749 (David 2013a, b),<sup>3</sup> becoming “Don Fernando de Alimuddin Primero, Rey Christiano de Jolo”. He was later held prisoner in Zamboanga, where the Spaniards had built a fort<sup>4</sup> as early as 1635 in the middle of hostile territory. After his release, he became a Muslim again.

Philippine Muslim armed resistance to Spanish encroachment was effective, but it was not a unified Islamic resistance in the sense sometimes imagined. As elsewhere in Southeast Asia, sultanates just as often fought with one another, sometimes forging temporary alliances with the Spaniards to do so. Nevertheless, the ability of southern sultanates to confront Spanish hegemony for more than three centuries demonstrates their military and diplomatic prowess.

Spanish colonizers successfully stopped the influence of Islam in the northern and central parts of the archipelago. The Christianization of Filipinos was a way to push back Islam. For the Spanish colonizers, a good native or *indio* was a good Hispanized Catholic. Filipinos hence began to internalize the biases of the Spanish colonizers against the Muslim Moros deemed as traitors, dirty and enemies of the Church (Diaz Serano 2007). Moro slave-taking raids (Mallari 1986; Non 1993) on

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<sup>3</sup>His Jesuit professors objected to his baptism until he could prove the sincerity and depth of his religious disposition. They suspected him of seeking conversion to obtain Spanish help in the recovery of his throne seized by his brother.

<sup>4</sup>Originally “Real Fuerza de San Jose”, then “Real Fuerza de Nuestra Señora del Pilar de Zaragoza”, it is currently known as Fort Pilar. Abandoned in 1662, this outpost of the Spanish presence in the southern Philippines, was several times destroyed by Moros and rebuilt by the Spaniards. It was later captured by the Americans in 1899 and the Japanese in 1942. It is now a “national treasure” of the Philippine historical heritage.



Luzon and in other Christianized parts of the Philippines led the natives to accept the presence of Spanish soldiers as a defense of their own freedom.

The archipelagic nature of the country allowed the Moros to move swiftly between islands and make good use of their knowledge of the best coastline shelters and hiding places. It was only in the mid-1800s that improved military technology, such as steam-powered gunboats, gave a definite advantage to Spain.

In 1878, the Sultan of Sulu finally signed a peace treaty with Spain, and his domain officially became an autonomous protectorate of the colonial power. However, localized resistance still flared up on occasion.

### ***19.2.2 American Policies Towards Muslim Mindanao***

After taking control of the Philippines in 1898 (see Chap. 4), the United States signed an agreement with the Sultan of Jolo, Jamalul Kiram II. The agreement was a mutual non-aggression pact that obligated the Americans to recognize the authority of the Sultan and other chiefs who, in turn, agreed to fight piracy and crimes against Christians. However, the Muslims did not know at first that the Treaty of Paris, where the Philippine archipelago was ceded by Spain to the United States, to the Americans, also included Moro lands.

Busy with the resistance of Filipino nationalists in the northern part of the country, the Americans, at first, avoided antagonizing the Moros. Most of the functions of government continued to be carried out by the datos and the Sultan. Traditional Moro laws remained in force. A policy of “non-interference” with local customs and religion was aimed at appeasing the Moros, but the Americans did not compromise on the topic of slavery, which they believed had to disappear. When Datu Ali of Kudarangan, Cotabato, refused to comply with the antislavery legislation, he revolted against the Americans. In October 1905, he and his men were killed.

Determined to modernize the Philippines (Gowing 1968), American officers serving in the southern Philippines saw Moro leaders as hostile to the values they hoped to nurture and as being incapable of maintaining order. The Moros had indeed continued to conduct raids against each other and against Christian Filipinos and, occasionally, attacked American surveying and road-building crews, leading to a period of direct military rule (Byler 2005; Abinales 2009) after the first years of indirect rule (Federspiel 1998).

Feeling betrayed, a number of the Moros revolted and began to fight desperately. They viewed the new colonizers as no less objectionable than their Spanish predecessors, and Islam was an element of unity among colonized groups facing Christian colonial masters (Madinier 2015). The previously friars-led Catholic church had now powerful competitors with Bible-thumping American missionaries and American schools (Milligan 2004) trying to westernize the populations of the archipelago. Moro culture encouraged young men to be courageous and to develop their skills as warriors to defend their honor to the death (Hawkins 2012). Moro warriors fiercely attacked American soldiers with sharp daggers, while the GI’s used powerful handguns trying to stop the insurgents. The battles turned into carnage, particularly

in Jolo (Sulu) during the fighting on the slopes of two volcanoes, Bud Dajo (March 1906) (Hawkins 2011) and Bud Bagsak (June 1913), until the superior weaponry of the Americans quelled the revolt (Miller 2009).

Despite these skirmishes, the arrival of the Americans neutralized the negative impacts of Spanish colonialism on the Muslim South. The Muslims' struggle for equality, progress and freedom of religion continued, but American policies and programs gave them incentives to compromise, which finally provided some relief in the atmosphere of violence that had lasted for decades. In 1916, after the passage of the Jones Law, which transferred legislative power to a Philippine Senate and House of Representatives (see Chap. 4), polygamy was made illegal. However, the Muslims were granted time to comply with the new restrictions.

In February 1920, the Philippine Senate and House of Representatives passed Act No. 2878, abolishing the Department of Mindanao and Sulu and transferring its responsibilities to a "Bureau of Non-Christian Tribes" within the Department of the Interior. It was somehow comparable to the attitude of Americans towards Native Americans in the United States. The problems faced in governing a hostile, non-Christian people of a different race and culture in the southern Philippines were seen as very similar to what had happened in the American West in the 1880s and 1890s. Some of the top military officers such as Brigadier General George Davis had indeed served in the Indian territories of the American Southwest (Gowing 1980).

According to historian Michael Hawkins (Hawkins 2013), professional ethnographers and military officers worked in the early years of the twentieth century to represent Filipino Muslims as noble primitive warriors. A singular Moro identity was constructed in the American imagination to serve colonial civilizing agendas. American colonial authorities in fact encouraged the development of a transcendent ethno-religious identity among Philippine Muslims, who were until then not considering themselves as one single group, despite the collective name "Moros" given by the Spanish colonizers. Most "Moros" belong to three ethno-linguistic groups, the Maguindanaon ("people of the flooded plain", in North Cotabato, Sultan Kudarat and Maguindanao provinces), the Maranao ("people of the lake", Lanao provinces) and the Tausug ("people of the currents", Sulu archipelago). The others belong to ten much smaller groups, the Banguingui, Samal and Badjao (Sulu archipelago) (Warren 2003a, b), the Yakan (Basilan and Zamboanga del Sur), the Ilanun (or Iranun) and Sangil (Davao del Sur, Sarangani), the Kaagan (Davao), the Jama Mapuns in Cagayan (Tawi-Tawi island) and finally the Molbog (or Molebugan) and Panimusan in southern Palawan.

According to another historian, Thomas McKenna (McKenna 1998a, b), American colonial agents realized that the "Moros" were not unified and thought it would be a good thing to unite them under leaders the Americans regarded as "enlightened" (i.e., Westernized). A primary goal, maybe naive, seems to have been to prepare Philippine Muslims for the eventual end of American colonialism and their inclusion in an independent Philippine republic as a consolidated and relatively progressive ethnic minority. It was America's first attempt to transform an Islamic society (Fulton 2007; Gowing 2007), but this colonial practice had the effect of encouraging the development of a unified Philippine Muslim (or Bangsamoro) identity, which would form the basis of the nationalist "Bangsamoro" identity of the Muslim separatist movement begun in the late 1960s.

This period served as a crucial moment for a “Moro” Filipino Muslim identity, which was reinforced by the settlement policies started by the Americans and continued after World War II by the independent Republic of the Philippines.

### 19.3 The Twentieth Century Settlement of Filipinos in Mindanao

By 1913, Mindanao and the Sulu Archipelago were effectively under American rule. This set the stage for the southward migration of Christian Filipinos. Neglected by the Spaniards due to the fierceness of the Moros, the southern islands were in a situation of economic and technological underdevelopment in many domains such as medical and educational facilities, or roads. The size of Mindanao and its year long warm and humid climate made it an attractive area for agricultural development, but the land was not used at its full potential by local populations, and many areas were not cultivated, or only in low intensity *caingin* shifting cultivation mode.

The Americans started to encourage Christian farmers to migrate towards Mindanao, especially from high-density Cebu Island, since they would be able to get more out of the fertile lands of Mindanao. Better equipped, they could exploit lands considered as vacant, sometimes to the detriment of the Lumad and Moros who did not have a title, despite efforts to prevent such abuses.

Vast domains were also awarded to American fruit companies to develop plantations of tropical products such as pineapple or bananas. Pineapple, which had originally been brought from Central America by the Spaniards in the sixteenth century, soon became a major commodity in Mindanao, where some of the largest plantations in the world are now located, belonging to American-based giant agro-companies. The Americans also encouraged the large-scale cultivation of abaca (Hayase 1985) in the hinterlands of Davao. At the same time, however, Japanese agricultural presence in the province became a source of concern to the fledgling country on the verge of becoming independent.

With the implementation of a Philippine Commonwealth in 1935 and the subsequent independence in 1946, the migration stream intensified (Wernstedt and Simkins 1965; Ulack 1977). The Philippine government began to sponsor large-scale migration from the poor and politically troublesome regions of the northern and central parts of the country, to the agricultural frontiers of the lightly populated southern islands. Fertile, and underpopulated Mindanao<sup>5</sup> became the primary destination for Christian Filipinos’ migration to the southern Philippines. It was a beautiful Philippine island, dubbed a “Land of Promise” by president Quezon, with impressive tropical rainforests, fertile valleys and great biodiversity.

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<sup>5</sup> Much less densely populated than Cebu, but certainly not empty like Amazonia or the jungles of Borneo (Pendleton 1942).

### **Manuel Quezons's call for the colonization of Mindanao**

“The time has come when we should systematically proceed with and bring about the colonization and economic development of Mindanao. A vast and rich territory with its untapped natural resources is a temptation to enterprising nations that are looking for an outlet for their excess population. While no nation has the right to violate the territorial integrity of another nation, people that lack the energy, ability, or desire to make use of the resources which Divine Providence has placed in their hands, afford an excuse for a more energetic and willful people to deprive them of their lawful heritage. If, therefore, we are resolved to conserve Mindanao for ourselves and our posterity, we must bend all our efforts to occupy and develop it and guard against avarice and greed. Its colonization and development will require no little capital. But every cent spent for this purpose will mean increased national wealth and greater national security. The present income of the government is quite insufficient to even attempt to do more than carry on its present activities. Were there no other reasons for the creation of new sources of revenue, the need of developing Mindanao alone would make it an unavoidable duty for this Assembly, especially those who visited Mindanao recently with me, are conscious, I feel sure, of our grave responsibility to encourage settlement and develop Mindanao. There are provinces in Luzon and the Visayas that are already overpopulated. There are localities in some of those provinces where the people live on large estates without opportunity to earn a livelihood sufficient to meet the necessities of civilized life, much less to own the land wherein they live and which they cultivate. It is inconceivable that such a situation should exist in a country with extensive areas of fertile uncultivated lands. I invite you, therefore, to give this matter preferential consideration.

The so-called Moro problem is a thing of the past. We are giving our Mohammedan brethren the best government they have ever had and we are showing them our devoted interest in their welfare and advancement. In turn they are giving us their full cooperation. Let us reserve for them in their respective localities such land of the public domain as they may need for their well-being. Let us, at the same time, place in the unoccupied lands of that region industrious Filipinos from other provinces of the Archipelago, so that they may live together in perfect harmony and brotherhood.”

Manuel Quezon, First “State of the Nation Address”, June 16, 1936

From its inception in 1939 until 1978, a total of 49,796 families were placed in settlement projects. 60% of them during the 1955–1963 period, but in some years the number of actual transmigrants was way below the stated goal of 5000 settlers per annum.

This policy was not unique (Raison 1968; Bret 1984). In other parts of the world, from the Soviet Union to Brazil or Indonesia, just to name a few of the most publicized ones, governments have also developed schemes for the settlement of underpopulated areas, bearing labels such as resettlement, transmigration, colonization, land development, virgin lands campaigns. Geographers, particularly in France,<sup>6</sup> have often insisted on the wide contrasts in densities existing within Asian countries, between “overpopulated” deltaic plains and undeveloped, under-populated areas of forests and mountains. The opposition was quickly established between rice farmers, developing an elaborate agricultural systems with precise water control in high-density lowlands, and slash-and-burn (*ladang* in Indonesia, *caingin* in Philippines, *ray* in Thailand) ethnic minorities living in forest areas of the hills, even if there are many counter-examples, such as Bali and Java, which are well-known, and lesser known places of high density in high altitudes in Sumatra (Minangkabau people), southwest China (Guizhou province) and New Guinea.

In a context of growing population, pioneer fronts (Blanadet 1984) are touted as roads to progress, ways to solve the hunger problem, boost agricultural exports and to give “lands without people to people without land”, as a way to avoid somehow a politically difficult agrarian reform. In the specific case of the Philippines, there is probably a combination of unequal demographic pressure on the land and unequal land ownership. Encouraging the landless poor of Luzon and the Visayas to settle in Mindanao was a way to defuse rural unrest. The general poverty in the country was a powerful push factor for migration, and the social processes of accommodation, assimilation, and amalgamation were all to be involved in the formation of a ‘melting pot’ community in Mindanao, at that time of the Commonwealth which was a prelude to full independence of the Philippines. There was a need to better integrate Mindanao within the Philippine national territory. Similar issues of population redistribution and national unity were at the heart of the settlement policies in Indonesia (“*transmigrasi*” from Java and Bali towards Sumatra or Kalimantan) (Fearnside 1997; Huetz de Lempis 1998; Sevin 2001), Peru and Bolivia (settlement of the Amazon frontier) (Oberai 1986; Manshard and Morgan 1988).

Mindanao was also one of the areas envisioned for the resettlement of European Jews in the late 1930s (Ephraim 2006). After an Intergovernmental Committee on Refugees had been established during the 1938 Evian Conference to explore the willingness of various governments to accept European Jewish refugees for settlement, the Philippines responded to the committee’s inquiry with a proposal to allow 10,000 Jewish refugees to immigrate as agricultural settlers. Despite 3 years of negotiations, this “Mindanao Plan” failed due to the extent of local opposition and the complexity of land acquisition in the Philippines. The start of WWII in the Pacific and the Japanese invasion ended all further efforts on the settlement project.

Land settlement (Huke 1963; Wernstedt and Simkins 1965) was begun in 1939 by then President Quezon as a means of resettling farmers from the heavily popu-

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<sup>6</sup>Such as the seminal works of Charles Robequain and Pierre Gourou in then-French Indochina.

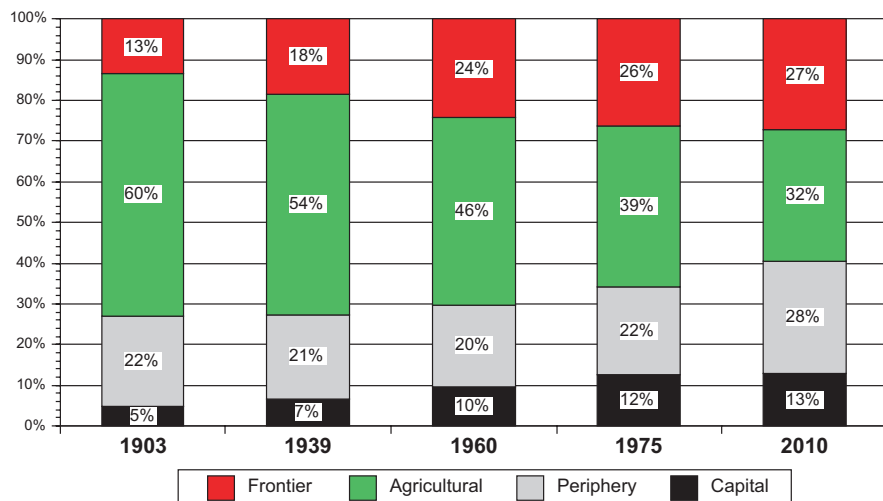
lated areas of Luzon and the Visayas to less populated regions, especially Mindanao and parts of Negros and Palawan. Although results were definitely limited prior to the outbreak of World War II, the program has been considered sufficiently important to be continued to the present day. After the Second World War, besides the demographic aspects, resettlement became a means of effecting large-scale rice and corn production to relieve national food shortages.

Several laws and government agencies have been established over the years (Bahrin 1971): NLSA (National Land Settlement Administration) in 1939, LASEDECO (Land Settlement and Development Corporation) in 1950, NARRA (National Resettlement Rehabilitation Administration) in 1954. After 1963, land settlement, placed under the Land Authority, became a part of the national land reform program. In 1971 it was under the direction of the Department of Agrarian reform and Resettlement Bureau. In the 1970s, these projects were also used to resettle those displaced following the armed conflicts in the southern islands. They reflect the strategic importance of this settlement for the Philippine state. Compared with the earlier agricultural colonies of the Americans, this was a huge project funded by the National Development Corporation (NDC). Through Quezon's Social Justice program, landless peasants from Luzon were given lands in the famously fertile Allah and Koronadal Valleys of southern Cotabato (Campado 2005). The assumption was that anybody who wanted land and was willing to take chances would somehow "make it" in Mindanao. Mindanao as a whole was also regarded as typhoon-free, and therefore a better place to invest long-term than the Visayas or Bicol.

The plan was to redeploy population growth (Wernstedt and Simkins 1965) from densely populated "traditional agriculture" regions towards the "Frontier" regions in northern Luzon and Mindanao (Paderanga 1987). It was largely accomplished. The share of "traditional agriculture regions" in the national population dropped from 60% to 32% in one century, most of the drop occurring in the 1939–1975 period, when "Frontier" areas increased from 13% to 27%, especially from 1939 to 1960. In recent years, the population shift has favored the greater Manila area, with a strong growth in "metropolitan periphery" regions since 1975. The huge differential in densities has been erased: from a 6.5 ratio of density between traditional agricultural regions and frontier regions in 1903, numbers have dropped to 1.7 in 2010. The Frontier has been settled, in a context of high population growth overall and rapidly increasing of the densities in the Philippine archipelago. At 221 people/km<sup>2</sup>, Mindanao Island is not an empty land anymore (Fig. 19.1) (Table 19.2).

For most of the period, Mindanao regions had a higher rate of growth than other dynamic provinces mostly in Luzon, especially in uplands areas (Table 19.3).

At the height of the Huk Rebellion in the mid-1950s, during the tenure of President Ramon Magsaysay, EDCOR (Economic Development Corps) settlements in Mindanao (Scaff 1948; Simkins and Wernstedt 1971; Abaya-Ulindang 2012) were conceived and planned to implement his slogan of "land to the landless" as a response to the growing insurgency in post World War II Philippines and Huk propaganda. Magsaysay's "Go South, young people" campaign was an obvious echo of the "Go West, young man" motto attributed to American publisher Horace Greeley



**Fig. 19.1** Percentage of Philippine population living in four types of regions, 1903–1975. *Capital* metropolitan Manila (NCR), *Metropolitan periphery* Central Luzon and Southern Tagalog, *Traditional Agricultural* Ilocos, Bicol, Visayas, *Frontier regions* Cagayan valley, Mindanao. Source: Paderanga (1987), updated for 2010

**Table 19.2** Changes in densities (people/km<sup>2</sup>) of the four region types

	Capital	Metropolitan periphery	Traditional agricultural	Frontier	Ratio TA/F
1903	191	27	48	7	6.5
1939	549	52	90	21	4.2
1960	1334	86	130	48	2.7
1975	2690	143	173	80	2.2
2010	6095	399	310	182	1.7

Source: Paderanga (1987), updated for 2010

in 1865 advocating the settlement of the US West. This resettlement project, focusing on three government farms, Barrio Burasan in Cotabato Valley, Buldon (at the border of Cotabato and Lanao) and Alamada-Libungan (North Cotabato) gave a dual picture of the Philippines as a predominantly agricultural country which was politically and ideologically divided.

Following the armed rebellions of the “national minorities” (see following section), the martial law government of former President Marcos initiated a number of specialized resettlement projects: SPARE resettlements (Special Program of Assistance for Relocation of Evacuees) from areas affected by civil disorders, CNI Settlements and Reservations administered by the Commission of National Integration, PANAMIN Projects, resettlements established under the Presidential Assistance to National Minorities.

Since the number of applicants exceeded the number of available lots or the financial capacity of the Department of Agrarian Reform to resettle, an order of

**Table 19.3** Annual growth rate of population in upland areas of the Philippines

Region	1948–1960 (%)	1960–1970 (%)	1970–1975 (%)	1975–1980 (%)
Philippines	2.98	3.03	2.73	2.55
Ilocos	2.24	2.11	1.80	1.88
Cagayan	<b>3.46</b>	<b>3.39</b>	<b>3.14</b>	<b>3.06</b>
Central Luzon	<b>3.23</b>	<b>4.37</b>	<b>3.24</b>	<b>2.60</b>
Southern Tagalog	<b>4.09</b>	<b>3.63</b>	<b>3.36</b>	<b>3.11</b>
Bicol	<b>3.58</b>	2.10	1.52	1.41
Western Visayas	1.92	0.96	<b>2.95</b>	0.97
Central Visayas	1.43	1.81	2.33	2.33
Eastern Visayas	1.34	1.84	1.69	1.82
Western Mindanao	2.88	<b>4.29</b>	1.77	<b>4.34</b>
Northern Mindanao	<b>3.27</b>	<b>4.58</b>	<b>3.66</b>	<b>3.68</b>
Southern Mindanao	<b>7.31</b>	<b>5.80</b>	<b>4.20</b>	<b>4.05</b>
Central Mindanao	<b>7.53</b>	<b>5.60</b>	2.26	1.84

Regions with higher than national average value highlighted in bold. The regions are those existing at the time, before the creation of the CAR, NCR, ARMM, the division of Southern Tagalog in Calabarzon and Mimaropa, and the reshuffling of divisions inside Mindanao

Source: Cruz (1986, p 13)

priority in the selection of settlers was instituted. The DAR gave priority to those actually occupying and personally cultivating the land in the project and to qualified or deserving farmers in the province where the settlement project is located. Officially, settlers had to meet the following selection criteria: (a) be qualified under the Public Land Law to acquire agricultural land through a homestead; (b) be landless or the holder of a farm too small to be economically viable; (c) be capable of cultivating the land personally or with the aid of his family; (d) be of good moral character; (e) not have secured any homestead rights from any homesteader; and (f) be willing to work the land in accordance with the conditions provided in the agricultural settlement. Although one of the major objectives of resettlement in the Philippines was the reduction of population pressure in congested areas, this was not a serious consideration in the selection of settlers. Applicants from congested areas were not given preference. Average farm lot size for settlers varied widely, from an average of 4.17 ha in Santo Tomas, Davao del Norte, where the ground is relatively flat and fertile, to 11.09 ha in Kabankalan, Negros occidental, where the soil is lacking in fertility.

An important characteristic of this settlement frontier in Mindanao is that many settlers arrived on their own (Wernstedt and Simkins 1965), starting to grow corn or rice even before the government programs were fully implemented. Of the 34,025 families for which data are available, only 9415, or 27.7%, were actually moved in by the government. The remaining 24,610 families were either occupants of the area before its proclamation as a resettlement reservation, settlers who went to the resettlement project at their own expense, or they were settlers within the area or surrounding area who were subsequently absorbed. A majority of the registered settlers

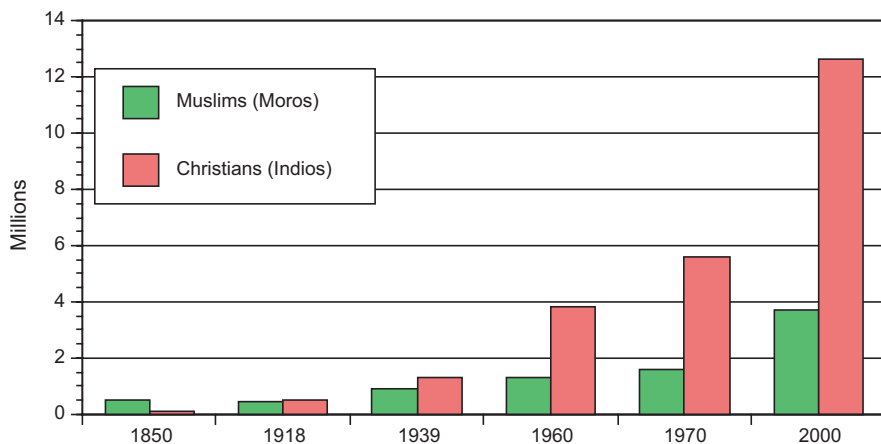


were either pioneers or those who resided not too far from the schemes (Ramos and Postrado 1978). In this “spontaneous” colonization, settlement patterns initially based on collective work, turned into individualism once the frontier was consolidated. Social differentiation reappeared quickly, generally in favor of the early settlers who had access to larger clearings and could rent plots to those who came later to sell their labor-power, reproducing in Mindanao the unequal control patterns of Philippine farmland. Resettlement work in Mindanao has been made very difficult as a consequence of the problems arising from the armed conflicts between the security forces and the MNLF (Moro National Liberation Front) and NPA (New People’s Army) dissidents (Rocamora and Conti Panganiban 1975).

As a gateway to the Cotabato region, the port city of Buayan was established in 1939, when a group of 62 settlers, mostly agricultural and trade graduates, arrived with their leader General Paulino Santos, specially appointed by Manuel Quezon himself, to cultivate the region. The town was later (1954) renamed General Santos City and has become the largest port in southern Mindanao, on a par with much older Davao (Campado 2011). On the northern side of the island, Iligan was designated to become a major industrial city (Salgado 1988), with the support of NPC/NAPOCOR (National Power Corporation, Pambansang Korporasyon sa Elektrisidad), which was tasked to build dams and develop hydroelectric power in all parts of the country, especially where the sources of energy were deficient until then, such as in Mindanao. Besides the rural settlers, the government programs included transfers of new residents to several developing cities on the island.

Thousands of settlers arrived every week until the 1960s. As a result of this influx of immigrants, by the late 1960s Muslims represented around 25% of Mindanao’s population, down from about 75% at the turn of the century. Muslims who formed the majority population of almost every region of the southern Philippines, found themselves having become an impoverished minority in their own homeland (Ulack 1977), except in the most western regions, where land was not as good for agriculture. Cebuano became the dominant language on most of Mindanao, where Muslims are a minority in 18 of the 23 provinces. In Zamboanga, the multiplicity of languages spoken by young children, Chavacano, Tausug, Cebuano, Tagalog, as well as Ilocano, Pangasinense, Kapampangan, Bicol, Waray, Maranao, Maguindanaon and Hiligaynon, creates real difficulties for elementary schools, where it is sometimes needed to separate children according to their ethnolinguistic group to be able to teach them (Rimando 2012) (Fig. 19.2).

Statistics for the 1975–1980 period (Cruz 1986) indicate that the net interregional migration for upland regions was most negative in the central Visayas (–19,618) and western Visayas (–13,983) while it was most positive in southern Mindanao (+25,257) and northern Mindanao (+25,140). The largest region-to-region flows were from the central Visayas to northern Mindanao (14,261), central Visayas to southern Mindanao (11,134), but also from the National capital region (14,757) to Southern Tagalog, reflecting a totally different dynamic of urban sprawl to the hills around Manila. Not all the Philippines were affected by the drive to the New Frontier of Mindanao. In the 1975–1980 (even if it can arguably be considered as too short a period of time to be fully significant), Bicol people went mostly to Southern Tagalog (7522), but did not seem much interested by Mindanao (only 1697).



**Fig. 19.2** A massive influx of Christians made the Muslims a minority in Mindanao. Source: Sakili (2012, p 12), updated for 2000 with data from the Philippine Statistics Authority (<http://web0.psa.gov.ph/old/data/sectordata/sr05173tx.html>)

As Christians moved into formerly Muslim or animist areas, ethnic tensions heightened. Native animist peoples withdrew towards the hills and mountains in face of the thrust of the settlers, while the Moros' feeling of belonging to the Muslim community and their will to live according to the rules and ways of Islam increased. Competition for land, aggravated by the clash of Moro with majority Filipino concepts of land tenure and ownership, fueled social tensions. The homesteading policies from the north ultimately deprived Muslim and Lumad Mindanaoans of their lands and altered the Mindanao landscape forever. Consequently, Muslims and Lumad feel that a historical injustice has been committed towards them.

Not only did the scale of Christian immigration to Mindanao itself cause inevitable dislocations, but the way it was happening also exacerbated the disparities between Christian settlers and Muslim farmers. The Philippine government was providing more opportunities and assistance to settlers from the north. By contrast, government services available to Muslims were meager in comparison to those offered to immigrant Christians. The new Christian communities benefited from new roads, necessary for the expedition of freshly cut timber and farm production, while Muslim communities remained relatively isolated. The most productive agricultural lands had been taken over by settlers growing rice, corn and coconuts, or transnational corporations producing rubber, bananas and pineapples. Wealthy loggers grabbed giant concessions and started to deforest the island (Magdalena 1996, 1997). Legal and illegal logging and rampant shifting burn-and-slash *kaingin* agriculture have also stressed the environment. Estimates are that Mindanao's forest cover rapidly declined from 70% to just 20% from 1900 to the end of the twentieth century (Navarro 2013). During the 1960–1970 decade alone, up to one million hectares of forests was cleared in Mindanao and replaced by agricultural land (Cruz et al. 1992). This massive deforestation transformed what was once described as one of the world's most lushly forested areas into a pitiful ecological disaster zone, where landslides are now common in times of heavy rains.

The opening of the “Mindanao frontier”, Philippine development, the Great Migration, incursion of the Mindanao upland, deforestation, displacement of indigenous communities, soon led to profound discontent by the Moros and the Lumad tribes of Mindanao, and rekindled renewed violence on the island (Tigno 2006; Rimban 2015a, b). As Filipinos from Luzon and the Visayas descended on Mindanao in this mass movement of land grabbing, Muslims were pushed to the margins and impoverished, except the Muslim elite who had tribal lands titled in their names. The Moros viewed this policy as designed to de-Islamize the region and believed that the Christians treated them like second-class citizens. The Marcos government saw this as a manifestation of the ‘violent’ character of the Moros, and launched pacification campaigns against defiant Moro leaders, with the approval of the United States governments aiming to prevent the rise of communism in the region.

The Moros, however, felt they were asserting their right to self-determination as a formerly sovereign people under the sultanates. The creation of private armies by both native and settler elites further increased the tensions in Mindanao. The predominantly Ilonggo (people from Iloilo, in the Visayas) migrants in Cotabato province organized a private self-defense Christian army called the *Ilaga* (a Visayan word for rat). To counter the terror of *Ilaga* attacks on Muslim civilians, members of the Moro elite organized their own heavily armed groups—the Blackshirts in Cotabato, and the Barracudas in Lanao—who responded in kind (Tigno 2006; Rimban 2015a, b).<sup>7</sup> The American Big Brother soon became a great Satan for the local Islamists (Noor 2007).

## 19.4 Jihad or Negotiations?

In March 1968, 28 Muslim recruits were shot dead by Army personnel while on a training exercise, apparently due to an attempt at desertion. The incident, later dubbed the “Jabidah Massacre” (Tiglao 2015a, b)<sup>8</sup> or “Corregidor Massacre” served as a unifying event (Aljunied and Curaming 2012; Curaming and Aljunied 2012) for Islamic anger and ignited insurgency throughout southern Mindanao. This was followed by almost a half-century of fighting between the Philippine government and several groups with shifting alliances.

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<sup>7</sup>A similar situation was happening in Indonesia’s Riau archipelago between Indonesians and Malays, albeit both are Muslims, and in eastern Indonesia’s Maluku (Moluccas), where this time Christians have been overwhelmed by an influx of Muslims, as was also the case in East Timor.—(Ananta 2006)

<sup>8</sup>Jabidah was the name given to the Muslim commando in training for future covert operations in Sabah (see part 5 of this chapter). The massacre happened on Corregidor Island in Manila Bay. The exact number of victims is unknown, from 11 to 200 depending on sources. The most commonly used number is 28, since young Moro students in Manila denounced immediately the murder of 28 Muslims by the Army. However, the mere existence of this massacre has been put into doubt as a hoax and a political maneuver.

### 19.4.1 *BMLO and MNLF*

Two months after the murder of the Moro soldiers, in May 1968, University of Philippines political science lecturer Nur Misuari, from the Tausug group, founded the Mindanao Independence Movement to help create a separatist Islamic state in the southern Philippines, which was renamed in 1972 Moro National Liberation Front (MNLF). Originally more regionalist than religious, the MNLF demanded the independence of all the southern islands with significant Muslim population, to create a separate Muslim state, called Bangsamoro Republic (Republic of the Moro people) consisting of all of Mindanao, Palawan, Sulu, Tawi-Tawi and Basilan as well as Sabah and Sarawak in Malaysia, basically what used to be the Sultanate of Sulu. The term Bangsamoro, derived from the old Malay word *bangsa* (*nation*) and the *Moro* as people, is used to describe both the Moro people and their homeland. Bangsamoro is a place and an identity.

At about the same time, Sultan Rashid Lucman, a traditional Muslim leader with royal lineage, who was also a Filipino legislator (Congressman of Lanao del Sur), formed the BMLO (Bangsa Moro Liberation Organization) and established with senator Salimata Pendatun and several congressmen from the south an Islamic Directorate of the Philippines. With the help of Libyan funds (Unson 2011), they purchased land in Quezon City's Tandang Sora area for the construction of a mosque. After Marcos imposed martial law, Lucman fled to the Middle East and became an ally of the top opposition senator, Benigno Aquino Jr. However, in 1974, Marcos, who was keen on finding support within the Muslim community, recognized Rashid Lucman as the "Paramount Sultan of Mindanao and Sulu" (Yegar 2002; Gross 2008). Lucman and nineteen other sultans from the aristocratic families of the southern Philippines met at the University of Mindanao in Marawi and decided unanimously to support the social and economic reforms planned by the government for Mindanao. After the deaths of Lucman and Pendatun in 1984 and 1985, the BMLO dissolved quickly. Too accommodating to the central government, it had already lost all influence and given way to more militant groups such as the MNLF, and later the MILF along with other splinter movements.

The MNLF launched an armed rebellion in 1973 after Ferdinand Marcos had imposed martial law (Majul 1986). The MNLF was rapidly able to set up a well-organized and sophisticated military force, known as the Bangsa Moro Army, which soon reached 30,000 fighters and allied itself with communist insurgents of the New People's Army. The MNLF received support from some foreign Muslim countries. Thousands were killed and entire towns badly damaged in the violence.

In 1975, negotiations started in Jeddah, Saudi Arabia, between representatives of the MNLF and the Philippine government, and continued in Moammar Gadhafi's Libya, where the Organization of Islamic Conference brokered a ceasefire agreement: hostilities would stop and the government would grant greater autonomy for 14 provinces and 9 cities corresponding to the Moro province created by the Americans in 1903 (Tripoli Agreements, December 1976). A nationwide referendum was planned for April 17th, 1977, but it was boycotted by the independentists,

who did not want to be part of a vote they knew was already lost, since Christians were the majority and President Marcos wanted it to be subjected to constitutional process in a country where the constitution was suspended and was governed by presidential decrees under Martial Law.

### 19.4.2 *MNLF vs. MILF*

A group of 58 MNLF military officers led by Misuari's deputy Hashim Salamat opposed any negotiations with Ferdinand Marcos and advocated more armed struggle. Misuari expelled Salamat from the MNLF, and the splinter group established its headquarters far away from the Philippines, first in Egypt then in Pakistan, with the aim of establishing a separate state that would give religion a dominant place in the governance of a future Moro territory, hence the introduction of "Islamic" in the name of the movement "MILF" (Moro Islamic Liberation Front) (Taya 2007), when the MNLF's political philosophy is more secular-nationalist.<sup>9</sup>

The Philippine government was now facing three major insurgencies, the NPA in the entire country, the MNLF and the MILF in the south. It was both a challenge and an opportunity. A challenge to confront several adversaries at the same time, an opportunity to play one group against each other.

In 1986, Ferdinand Marcos' downfall was followed by new peace talks with the MNLF launched by Corazon Aquino. However, the MILF declined to take part. The new President pursued a more vigorous approach to solve the Mindanao problem through peace negotiations, proposing the creation of an Autonomous Region in Muslim Mindanao (ARMM) to be enshrined in the 1987 new Philippine Constitution. She convened a Regional Consultative Council to draft the Organic Act for Muslim Mindanao. The Jeddah Accord signed on February 3, 1987 by the Philippine Government and the MNLF, was a commitment to continue the talks on the full implementation of a more meaningful regional autonomy. On August 1, 1989, President Corazon Aquino signed into law Republic Act No. 6734, the "Organic Act of the Autonomous Region in Muslim Mindanao", after it passed the House and the Senate. On November 17, 1989, a plebiscite was conducted in the proposed areas of ARMM wherein only four provinces opted to join the area of autonomy: Maguindanao, Lanao del Sur, Tawi-Tawi and Sulu. The ARMM was officially inaugurated on November 6, 1990, in Cotabato City. MNLF leader Nur Misuari became its governor in 1996, a position he kept until 2001.

The more intransigent MILF rejected the deal as offering too little territory and inadequate autonomy. Key areas on the historically Muslim southwestern Philippines had been kept out of the ARMM, including the city of Cotabato, even as it was designated as the capital of the autonomous region! The MILF also criticized this organic law, seeing in the ARMM only a new layer of bureaucracy and not a step

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<sup>9</sup> It resembles the Palestinian split between Yasser Arafat's *Fatah* movement and the more religious *Hamas* in their struggle against the state of Israel.

towards true autonomy and even less independence, which is the stated objective of the MILF. In 1996, the Ramos government and the MNLF signed a final peace agreement implementing the ARMM and establishing a 3-year transition period of intense economic development in the future autonomous region, the most impoverished of the nation. A referendum would determine the exact delineation of the ARMM, but the Asian economic crisis did not allow the funding of the development projects.

Despite its stated hostility to the ARMM as it was set up, the MILF signed a ceasefire and entered discussions with Ramos' government in July 1997, a process soon disrupted by outbreaks of major fighting (Bertrand 2000).

When Joseph Estrada became president, he adopted an aggressive stance (Honasan 2000) towards the MNLF and MILF leaders and declared an "all-out-war" against the MILF, accused of double language and much worse, of being the organizer of numerous attacks and kidnappings, which had inflicted severe damage on the country's image abroad, and scared much-needed investments away (Aguirre 2000). All negotiations broke down.

Gloria Macapagal Arroyo tried to restart peace talks in 2001, but they did not survive the "war against terror" led by the US after September 11, and fervently supported by the Philippine government (Fig. 19.3).

### ***19.4.3 Islamist Terror Groups: ASG, BIFF and JIM***

The MILF was accused by American intelligence of developing links with the Al-Qaida network and with Indonesia's Jemaah Islamiyah. It was almost declared a terrorist organization after bombings in the Davao. Its leaders and militants were hunted by the Philippine Armed Forces, like the Abu Sayyaf group and the New People's Army.

If the NPA, active in most of the country, was a classic Maoist guerrilla, ASG, Abu Sayyaf Group (Frake 1998), may be perceived as a new version of the terror inspired for centuries by Malays "running amok". Abu Sayyaf first carried out bombings and mass abductions in 1991 (Manalo 2004; Fellman 2011; Banlaoi 2012; Fabe 2013), and in the early part of the following decade launched kidnapping raids that netted them dozens of local, Japanese, Korean, Chinese, European and American hostages. The militants' beheaded several of their hostages when ransoms were not paid. The group led a number of sudden attacks on "soft targets", such as Christian churches and priests, schools and teachers, as well as plantations. ASG was declared by the US as a foreign terrorist organization on October 8, 1997. It claimed to have more than 2000 fighters ready to give their lives for an Islamic state in the southern Philippines. Based primarily in the provinces of the Sulu Archipelago, namely Basilan, Sulu, and Tawi-Tawi, the group also operates in the Zamboanga Peninsula, and members occasionally travel to Manila. It has been fought by the Philippine army with the support of American military advisors. 600 US Special Forces have been rotating through Jolo and other parts of Mindanao for

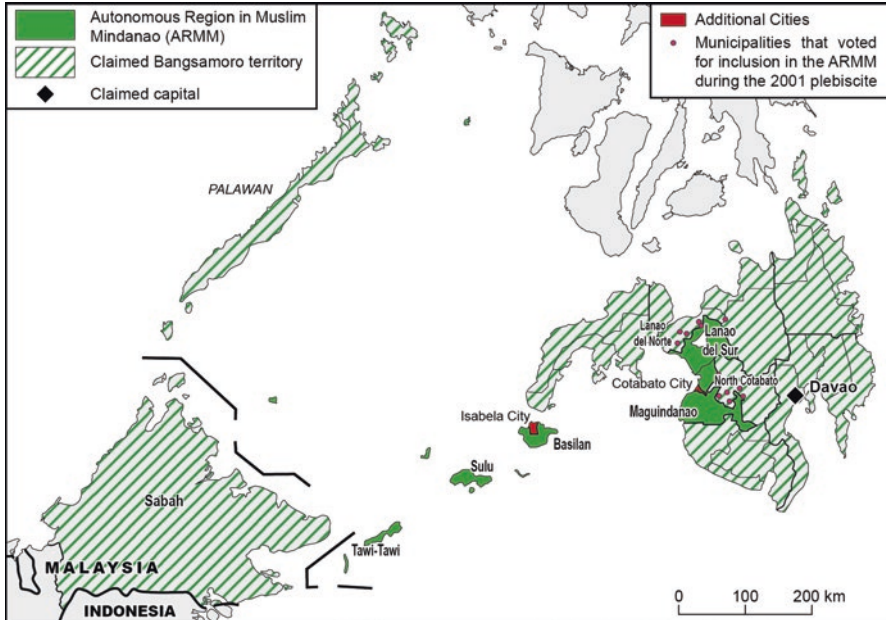


Fig. 19.3 Bangsamoro claims and ARMM

more than a decade to train local troops battling the group, which is on Washington's list of "foreign terrorist organizations". Military operations have decimated it, killing most of its leaders (including its founders the Janjalani brothers<sup>10</sup> from the Tausug ethno-linguistic group) and hundreds of fighters, but the ASG has remained a potent threat on Jolo and its other strongholds, being able to kidnap foreigners and locals, sometimes executing them if ransom is not paid (Recuenco 2015), to intimidate local politicians (Gutierrez 2003), as well as launch deadly attacks against security forces. It has been able to maintain its capacity to disrupt the normal life of people in places like Basilan, and threaten the whole country with bombs on board buses (Mallari 2014a, b). On February 27, 2010, its militants attacked the village of Tubigan on the island of Basilan, killing 11 people. An Italian priest, long-established in the Philippines, was murdered in North Cotabato in October 2011. Another attack in July 2012 targeted rubber plantation workers in Basilan. For this reason, several governments, the United States, Canada, the United Kingdom and France, prohibit their citizens to visit the areas where there are known activities of ASG.

This very secretive bandit/militant group (Ugarte and MacDonald Turner 2011) appears to have very intricate links with the larger Jemaah Islamiyah (JI) regional terror network based in Indonesia, but also active in Thailand and Malaysia. JI was put on the list of terrorist organizations after the 2002 Bali bombings. According to

<sup>10</sup>They chose the name Abu Sayyaf as an homage to Afghan resistance leader Abdul Rasul Sayyaf.

counterterrorism experts, Jemaah Islamiyah and Abu Sayyaf Group in the Sulu Archipelago are already so integrated they operate almost as one organization (Pazzibugan 2011). With funding from the Middle East drying up and a decade of US-backed military pressure taking a toll, these Islamic extremist groups in Mindanao are relying more and more on extortion and kidnapping for their survival.<sup>11</sup> Ransom payments are then used to buy more arms, pay off members, hire new recruits or bribe community elders to turn a blind eye to their crimes. Are ASG mere bandits or genuine terrorists (Banlaoi 2006) who could derail the normalcy of the Philippine nation? Is it a terrorism born of global Islamic radicalism, as opposed to homegrown MNLF/MILF militantism? (Klempf 2006)

The United States has warned that terrorist organizations could use Mindanao's porous border to transport weapons of mass destruction (Ressa 2014), since the numerous islands in the vicinity of the Sulawesi Sea and the Sulu Archipelago make it a perfect place for piracy and boat attacks (Banlaoi 2005), and a difficult region for authorities to monitor (Laude 2011; Romero 2011; Aben 2012). The area is thick with jungle vegetation and swamps reminiscent of images from the Vietnam War. Philippine government control and the rule of law in this area are weak due to rugged terrain, poverty, and local Muslim minority resentment of central governmental policies. This has enabled foreign terrorists to seek safe haven in parts of Mindanao and justified greater US involvement in counter-terrorism activities in the southern Philippines (Kilcullen 2005), as well as joint military exercises in Mindanao ("Balikatan" in 2002) despite some reluctance of nationalistic legislators in Manila, who had voted in 1991 for the departure of U.S. troops (Abinales 2004).

More recently, another group has appeared, apparently a splinter group from the MILF, called BIFF (Bangsamoro Islamic Freedom Fighters). From its stronghold in Maguindanao, the BIFF, created in 2007 by Saudi-educated Ameril Umbra Kato, vows to violently fight against the Philippine government until there is full independence for the Muslims. BIFF wants to set up an Islamic state governed by strict Sharia laws. The group is said to count about 500 fighters, which are also actively chased by the Philippine military, clearly bent on eliminating this group as fast as possible. The methods of BIFF appear similar to ASG: sudden attacks with the intent to kill and terrorize in the amok tradition. On August 5th, 2012, a BIFF commando armed with chainsaws and guns launched simultaneous attacks in five towns in Maguindanao and North Cotabato (Aben and Recuenco 2012). In August 2013, a grenade exploded in Jolo cathedral, and in February 2014 another one in a Zamboanga church. There have been bombing episodes in parts of Mindanao distant from the majority Muslim zones, such as Davao, the country's third largest metropolitan area.

In March 2015, it was announced that Mohamad Ali Tambako, a radicalized Muslim cleric trained in the Middle East, formerly MNLF then MILF and considered one of the leaders of the BIFF, had broken away from the terror group to form his own band of jihadists in Central Mindanao, the "Justice for Islamic Movement"

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<sup>11</sup> It may also receive funding from external sources such as remittances from overseas Filipino workers (OFWs) and Middle East-based extremists.



(JIM), reportedly providing sanctuary to Filipino expert bomb-maker Akmad Batabol Usman, alias Abdul Basit Usman, and foreign militants from Indonesia and Arab countries (Laude 2015; Marasigan 2015). There seem to also be two other shadowy splinter groups, the Moro Army Committee (MAC) and the Khilafah Islamiya Movement (KIM) (Banlaoi 2014). There have been solemn declarations of both MNLF and MILF leaders that they have no links with groups intent on terror, MNLF even announcing it was at war with the ASG and launching operations in coordination with the Philippine Army (Jannaral 2013), but several incidents have shown a less clear situation.

The fear of the Philippine government is that some of these terror groups, possibly linked with the Indonesian Jemaah Islamiyah (Mallari 2014a, b) and the ISIS/Daesh “Islamic State” (Ballaran 2014; Romero 2014; Saludo 2014a, b; Tiglao 2014a, b, c; Doronila 2015; Mallari 2015; Ressa 2015; Tuyay 2015a, b, c; Cardona 2016), would extend their fight outside of Mindanao (Saludo 2014a, b) and sow mayhem in the Manila area, especially by choosing “soft targets” such as shopping malls or metro stations (Adlaw and Vargas 2013; Pangco Pañares 2014a, b, c), as happened in other countries such as Kenya.

The terror threat comes at a time when the Philippine government has managed to reach an agreement with the MILF for a Bangsamoro land. The fact that MILF was not pushing anymore for a separate state was one of the reasons more radical groups such as BIFF emerged from disappointed MILF members in the wake of the 2012 agreement (see section below).

#### ***19.4.4 Bangsamoro Basic Law: Towards a Sustainable Peace in Mindanao?***

##### **19.4.4.1 Hopes for Peace**

New peace talks initiated by president Gloria Macapagal Arroyo in the mid-2000s broke down when the Philippines’ Supreme Court rejected as unconstitutional the “Memorandum of Agreement on Ancestral Domain (MOA-AD)”, an agreement intended to address outstanding Bangsamoro grievances. The outbreak of violence that followed the rejection of MOA-AD included new attacks on villages by the MILF and military operations against alleged MILF camps by government troops, causing massive population displacement and a local economy in shambles, just as the Philippine government was targeting Mindanao for development programs under the umbrella of the U.S. sponsored Millennium Challenge Corporation (Gross 2010). Over 700,000 people had to flee their homes in 2008, and a half-million were displaced in 2009. The fighting left more than 400 people dead.

However, in October 2009, a breakthrough occurred in the form of a return to peace talks by MILF (Husin 2011) and the new government led by Benigno Aquino, who had claimed his intention to finally settle the Mindanao question during his 6-year term. It would start by a broadening of ceasefire mechanisms under a

Malaysia-led International Monitoring Team. On August 4, 2011, President Aquino flew to Japan for a secret meeting with Murad Ibrahim, who had become the new MILF leader after the death of Hashim Salamat in 2003. It was the first direct encounter between a Philippine president and a MILF rebel leader and was recognized as a key breakthrough in the peace process, even though military action continued in the south (Salamat 2012). A year later, in October 2012, the President announced in Kuala Lumpur, Malaysia, a peace agreement with the Moro Islamic Liberation Front (Angeles 2012a, b; Lim Ubac 2012; Pangco Pañares 2012). A week later, it was officially signed in Manila in the presence of Malaysian Prime Minister Najib Abdul Razak and Organization of Islamic Cooperation (OIC) Secretary-General Ekmeleddin Ihsanoglu, from Turkey, as witnesses (Kabiling and Usman 2012).

A Bangsamoro autonomous political entity, envisioned to have a “power-sharing and wealth-sharing” relationship with the government, would be created under the “Framework agreement on the Bangsamoro”. A Transition Commission would work on proposals to amend the Philippine Constitution and draft the “Bangsamoro Basic Law” to be submitted to Congress. The peace agreement would culminate in the creation of a 50-seat regional parliament in May 2016, in time for the new national government succeeding the Aquino administration.

The Bangsamoro political entity would replace the Autonomous Region in Muslim Mindanao, and would have a larger territory including Cotabato City, Isabela City in Basilan, six municipalities in Lanao del Norte and several barangays in six municipalities, clearly listed: “the municipalities of Baloi, Munai, Nunungan, Pantar, Tagoloan and Tangkal in the province of Lanao del Norte and all other barangays in the municipalities of Kabacan, Carmen, Aleosan, Pigkawayan, Pikit, and Midsayap that voted for inclusion in the ARMM during the 2001 plebiscite; and all other contiguous areas where there is a resolution of the local government unit or a petition of at least 10% of the qualified voters in the area asking for their inclusion at least 2 months prior to the conduct of the ratification of the Bangsamoro Basic Law and the process of delimitation of the Bangsamoro”. The new political entity would cover four million Muslims. The MILF agreed not to use the terms “state” or “substate” in the framework accord and dropped its claim on the southern portion of Palawan and other areas not contiguous to ARMM.

Bigger than ARMM, Bangsamoro would, however, encompass a territory much smaller than the one proposed through the Moro homeland agreement struck down as unconstitutional by the Supreme Court in 2008. The MILF used to demand the inclusion of 735 villages in the expanded ARMM, including the entire towns of Balabas and Bataraza in Palawan and several areas in Zamboanga City, Zamboanga del Sur, Zamboanga Sibugay, Bukidnon, and Sultan Kudarat. These demands were dropped in 2012.

Under the framework agreement, Bangsamoro, consistent with the Bangsamoro Basic Law, “would have the power to create its own sources of revenues and to levy taxes, fees, and charges, subject to limitations as may be mutually agreed upon by the government and the MILF”.

A second agreement, the Comprehensive Agreement on the Bangsamoro (CAB), resolving some issues, was signed in Manila on March 27th, 2014, under the patronage again of the Malaysian Prime Minister (Esguerra and Aning 2014).

An annex to the agreement, signed in July 2014, stipulated “wealth sharing”: 100% of the revenue from the exploration, development and use of nonmetallic minerals would go to Bangsamoro. For metallic minerals, 75% of the revenue would go to Bangsamoro and 25% to the government. Earnings from fossil fuels, such as oil, natural gas, coal and uranium would be divided equally. Further, Bangsamoro would get 75% of national taxes collected from the territory, up from the current 70% in the ARMM. But the national government would continue to exercise exclusive powers of defense and security, foreign policy, monetary policy and coinage, citizenship, postal service and naturalization.

Under an amendment passed in Philippine Congress, the history of Moros would become a mandatory topic in all Philippine schools (Panti 2014), with the aim of providing better understanding on both sides. Malaysia agreed to help the Philippines develop Islamic banking (Quismondo 2014), particularly in training finance professionals who specialize in banking. The Department of Finance had said that “there is no Islamic banking capability or expertise” in the Philippines. The MILF had asked to run the country’s Islamic bank, the Al-Amanah, “so that a new entity with the necessary expertise will be able to service the banking needs in conformity with the principles of Islam.” Malaysia has expressed interest in acquiring the bank.

“Bangsamoro” is already the fifth attempt at autonomy as a strategy for dealing with the aspirations of the Moros to handle their own affairs. It is the third time that an autonomous region has been agreed upon through negotiations. The two other accords were the 1976 Tripoli Agreement and the 1996 Final Agreement between the government and the Moro National Liberation Front.

Even as the president and the MILF leaders hailed the agreement as a serious advance towards peace, they, as well as analysts and commentators, recognized the difficulties looming ahead (David 2014; Pangco Pañares 2014a, b, c), including the fact that a nationwide referendum would have to be conducted on the question, with an approval quite uncertain in the mainly Catholic country amid intense political opposition in Congress to any appeasement policy toward Muslims and a fear of dismantling of the country.

Reactions to this Bangsamoro deal were quick to appear. The Catholic Church (Esmaque 2015), the Philippine Army and the international community (Bauzon 2012; Pareño 2014) recognized a major advance towards peace. The Moro Revolutionary Liberation Organization, an ally of the Communist Party of the Philippines, said it viewed the signing of the CAB as a victory for the Moro people, who had struggled for years to achieve peace and development in the South (Nawal and Alipala 2014). The business community celebrated the prospects of quieter times allowing for stability, safety and economic development (Aning 2014; Magkilat 2014). Malaysian Prime Minister Najib Razak, in Manila for the official ceremony sealing the peace agreement, pledged to support economic development in the conflict-wracked and impoverished southern Philippines after helping to broker a peace plan with Muslim rebels.

#### 19.4.4.2 Setbacks

One day after the initial deal was announced, Senator Miriam Defensor Santiago, a constitutionalist not afraid of expressing her views, denounced the creation of a “completely independent state” with an “asymmetric relationship” between the government and the Bangsamoro, requiring too many changes in the Philippine constitution to be accepted by Congress (Pulta and Rosales 2012; Antiporda 2014; Tiglao 2014a, b, c). With a different government (Rosauro 2014) from the rest of the country based on the parliamentary system, exclusive and concurrent powers with the central government, and a shariah justice system for Muslims only, the BBL looks indeed like a complete and comprehensive template not just for self-government, but for eventual independence. The peace process should be restarted on more constitutional bases (Macaraig 2015; Requejo 2015). The MNLF said the Bangsamoro pact “created a monster” that would render a peaceful solution less likely (Tuyay 2015a, b, c). Other commentators decried a deal too favorable to the MILF side and a president too naïve (Pilapil 2011; Tulfo 2014), also a dangerous move since President Aquino had all but ignored the MNLF in the Framework Agreement (Cruz 2013), as if only the MILF had waged a war against the Republic and was the sole representative of Muslims in Mindanao (Cacho-Olivares 2013; Arillo 2015a, b, c). Aquino, perhaps too strongly influenced by the American-created vision of a single Moro population (Gutoc 2008; Lidasan 2013; Tiglao 2014a, b, c), had not recognized the ethnic dimension of the Muslim insurgency, since Moros are deeply divided along ethnic groups (Caballero-Anthony 2007), which are nearly nations in that they have their own territories, and have differing degrees of interaction with other Filipinos and with Muslims in other countries (Lacar 1991). Would the interests of Christians be preserved in Bangsamoro, or would a radical anti-Christian model take place? (Kamlian 2011)

Nur Misuari, founding chairman of the Moro National Liberation Front, had tried to make MNLF a secular organization, leaning towards a socialist orientation influenced by the Communist Party of the Philippines, but his organization has been basically an organization of Tausug, who are based in Sulu. Hashim Salamat, founder of the MILF, belonged to another Muslim ethnic group, the Maguindanaon, from the central Mindanao provinces of Maguindanao, North Cotabato and Sultan Kudarat. Neglecting the MNLF to sign a peace agreement with the MILF was a recipe for disaster (Tiglao 2013; Arillo 2015a, b, c; Plank 2015). It is more difficult for Manila to achieve eradication of armed struggle, when opposing fighters are themselves divided along clan and tribal fault lines and dominated by charismatic leaders.

The Muslim nationalist movement is anticolonial in the same sense as any other nationalist movement in Southeast Asia, including Philippine nationalism. However, Muslim separatists see Spanish and American colonialism in the Muslim Philippines as having been supplanted by colonial rule from Manila under the Philippine republic. The “Islamic” aspect is far more complicated, because there are differing interpretations of what it means to be Islamic. The Muslim separatist movement envisions a Philippine Muslim nation (or autonomous region) influenced by an Islamic model

of governance, but neither the MNLF nor the MILF has clearly explained their plan to govern based on an Islamic model, for example how they would reconcile Coranic law and Philippine law in family affairs (Ali 2007). Statements about the “Islamic” nature of their movement by MNLF or MILF leaders appear to defend Philippine Muslim territory and traditions confronted with “Philippine Christian chauvinism” and as a way to connect with the rest of the Muslim world, rather than specific programs to implement a Koran-based government (McKenna and Shaikh 2004). Muslim lawyers contended that the BBL text was blasphemous because it rearranged the rank of sharia’s sources (Tuyay 2015a, b, c).<sup>12</sup>

Misuari, supposedly a less radical opponent, indeed turned against the government and the agreement, denouncing the Philippine-MILF peace process, calling it “illegal” as a violation of the landmark Final Peace Agreement signed by the MNLF and the Ramos government in 1996. Feeling betrayed by the Manila government (Rosauro and Manlupig 2014), Misuari declared (August 15th, 2013) the independence of the entire Mindanao island, including Palawan and Sabah, from the motherland, Philippines, into what he called the “Bangsamoro Republik” (Usman 2013), communicating this move to the 57-member Organization of Islamic Cooperation. A MNLF spokesman said Misuari planned to appear at the United Nations in New York to seek international recognition for this declaration of independence for Muslim Mindanao. Davao City was announced as the Republik’s temporary capital, as a permanent one “was to be determined in consultations”. A few days later, on September 9th, 2013, Misuari’s armed followers, joined by Abu Sayyaf and BIFF fighters (Pangco Pañares 2013), attacked the southern port of Zamboanga, then Basilan, in a bid to block flying the flag of their “country” on the city council building and to denounce once again the advancing MILF peace deal that had sidelined the MNLF leader. The attack sparked 3 weeks of street warfare that terrified the population and left at least 244 people dead (rebels, soldiers, policemen et civilians) and more than 116,000 civilians displaced, straining the capabilities of the municipality to provide them basic services. About one hundred people were kept hostage by MNLF members and 10,000 houses badly damaged in battles.

On January 25th, 2015, a commando of elite troopers of the Philippine National Police, seemingly acting on US information (Herrera and Tuyay 2015), attacked a camp in Mamasapano (Maguindanao province) and killed<sup>13</sup> a Malaysian bomb-maker, “Marwan” (Zulkifli bin Hir), who was one of the most sought-after terrorists in Southeast Asia, and on the FBI’s “most-wanted list”. But on their retreat, 44 of

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<sup>12</sup>The Muslim Bar Association of the Philippines (Musbarap) considered as “blasphemous” a provision in the BBL, which provides that the sources of Shariah law are Al-Quran (The Koran), Al-Sunnah (Prophetic traditions), A-Qiyas (Analogy) and Al-Ijima (Consensus). According to them the wording text could mean that there could be other sources of Shariah, such a decision of the Supreme Court or an opinion of the President, an outrageous writing for Muslim legalists. For them, the Sunnah or Hadith must be interpreted as Sayings, Preachings and Traditions of the Prophet Mohammad (PBUP) and not simply as prophetic traditions since there are numerous prophets in Islam. Furthermore, it is not Ijima but Ijma and Ijma must precede Qiyas.

<sup>13</sup>There were conflicting reports about his killing: killed by government forces, by MILF militants or by some of his aides? (Fernandez and Manlupig 2015).

the “Special Action Forces” were ambushed by MILF and BIFF fighters and brutally murdered, sparking outrage (Lopez 2015) towards both the MILF, accused of being a very untrustworthy partner, and President Aquino and his entourage, for a poorly planned covert operation where the elite troopers did not get needed support from the Army at the right time. A video showing MILF fighters laughing at the bodies of policemen shocked the country. This happened as an already skeptical Philippine Congress was examining the articles of the Bangsamoro Basic Law (Sy Egco 2015). The skepticism increased even more as Mohagher Iqbal, chief negotiator of the Moro Islamic Liberation Front and chairman of the Bangsamoro Transition Authority, rejected calls to surrender its fighters involved in the clash with PNP, asserted that the MILF was still a revolutionary organization (Antiporda 2015; Ramos-Araneta 2015), and did not appear in front of a Senate committee examining the Mamasapano incident. Mohagher Iqbal said the ceasefire agreement his group had signed with the government stated that the MILF would be the one to impose disciplinary action on its members involved in any violation of the truce. Sulu Representative Tupay Loong, chairman of the House committee on Muslim Affairs and a former commander in the MNLF declared that the congressional inquiry into the bloodbath in Mamasapano had to look into the liability of the MILF: if the MILF did not accept responsibility for the deaths of 44 police commandos, there would be no passage of the law, even if he warned that war could erupt again in Mindanao if Congress failed to pass the Bangsamoro Basic Law (Casayuran 2015a, b; Cruz 2015a, b).

At the same time, the MILF opened a new training camp in Panglima Estimo, on the island of Sulu (Torregoza 2015). Pessimism (Logarta 2015), rekindling fear and mistrust towards the Muslims (Abinales 2015; AVECILLA 2015); while rumors spread about the fact that the MILF top negotiator may not be a Filipino but a Malaysian citizen (Cruz 2015a, b), at a time of tensions between the countries concerning the Sabah region.

In January 2016, the Aquino administration recognized that the Bangsamoro Basic Law as written could not pass the opposition in Congress (Herrera 2016), and that the future of the region would be left to the next president. Interestingly, the new president inaugurated in June 2016—as this book was in final writing—Rodrigo Duterte, a longtime mayor of Davao, hails from Mindanao, and may bring fresh approaches on this issue.

## 19.5 The Sultanate of Sulu in Sabah

The Moro conflict around the Sea of Sulu is not confined to the territory of the Republic of the Philippines. It also has ramifications in neighboring northern Borneo (Wright 1966), in the Malaysian province of Sabah (Sumulong 1962; Samad and Abu Bakar 1992; Fernandez 2007). In fact, one could argue that the self-determination movement among the southern Philippines’ Muslims began in Sulu (Fernandez 2013).

### ***19.5.1 The Philippines Dispute with Malaysia over Northern Borneo***

Historical accounts (Parpan 1988) indicate that from 1473 to 1658, Sabah, which used to be known as Northeastern Borneo, belonged to the Sultanate of Brunei. In 1658, in gratitude for help extended to him by the Sultan of Sulu in suppressing a revolt, the Sultan of Brunei ceded North Borneo to the Sulu Sultan. The Sabah people of Mindanao ancestry, especially the Tausugs, Samals, Iranons and others, were the main political base of the Sulu sultanate in Sabah. Over the years, various European colonial powers, including Britain, Spain and the Netherlands acknowledged the Sultan of Sulu as the sovereign ruler of North Borneo. They entered into various treaty arrangements with him. In 1761, Alexander Dalrymple, an officer of the British East India Company, entered into a lease agreement with the Sultan of Sulu for the rental of Sabah which the British company used as a trading post. The rentals consisted of arms and money provided to the Sultanate to resist the Spanish conquistadores.

In 1846, the west coast of Borneo was ceded to Britain by the Sultan of Brunei, making it a British crown colony. In 1851, as the Spaniards were asserting their grip on the southern Philippine islands, Jamalul Alam, Sultan of Sulu, signed a treaty with Spain, which Madrid interpreted as a cession but which the sultanate regarded as an alliance between equals that preserved the sultan's sovereignty over the small Sulu archipelago, Sabah, the Philippine islands of Palawan and Basilan, and part of the large island of Mindanao. In 1878, Austrian Baron Gustav von Overbeck, aware that Sultan Jamalul Kiram was facing a life-and-death struggle with Spanish forces in the Sulu Archipelago, took advantage of the situation and persuaded the Sultan of Sulu to lease to him, the territory of North Borneo, described in English as: "... all the territories and lands being tributary to us on the mainland of the island of Borneo commencing from the Pandassan River on the NW coast and extending along the whole east coast as far as the Sibuco River in the south and comprising among others the States of Peitan, Sugut, Bangaya, Labuk, Sandakan, Kinabatangan, Muniang and all the other territories and states to the southward thereof bordering on Darvel Bay and as far as the Sibuco River with all the islands within three marine leagues of the coast." Overbeck later sold out all his rights under the contract to Alfred Dent, an English merchant, who established a provisional association and later a Company, known as the British North Borneo Company, which assumed all the rights and obligations under the 1878 contract. This Company was awarded a Royal Charter in 1881.

In January 1878, Sultan Jamalul Kiram was forced to sign a document giving all of the Sultanate's properties in Palawan and Sulu to Spain. meanwhile, the Spaniards brought Chavacano-speaking Filipinos to settle in Sempurna, Sabah.

In 1885, the United Kingdom, Spain and Germany signed the Madrid Protocol that recognized the sovereignty of Spain in the Sulu archipelago in exchange for the relinquishment by Spain in favor of the UK of all its claims over North Borneo or

Sabah. These included the neighboring islands of Balambangan, Banguay, and Malawali, as well as all those within a zone of three maritime leagues from the coast. They were administered by the British North Borneo Company (Africa 1963; Tarling 1978). In 1888, Sabah became the protectorate of the United Kingdom, which then was also occupying Malaysia as its colony.

The Sultan was also ignored when his other territories, the *de facto* Philippine ones, were stripped from Spanish control and given to the United States in 1898.

The sultan acknowledged U.S. rule in 1915 and reluctantly agreed to allow his territory to be incorporated into the U.S.'s newly declared commonwealth of the Philippines, but the details of that agreement did not deal with Sabah, now being run as a British colony. The U.S. was not interested in pressing a claim against the British, but officially reminded Great Britain that North Borneo did not belong to the Crown and was still part of the Sultanate of Sulu.

After World War II, instead of returning Sabah to the Sultanate of Sulu, the British colonizers in Malaysia held a plebiscite among the people of Sabah to determine if they favored Sabah staying on as a member of the Federation of Malaysia or joining the Sultanate of Sulu. The plebiscite yielded a positive result in favor of making Sabah a federal state of Malaysia. Thus, on 16 September 1963, North Borneo or Sabah was united with Malaya, Sarawak and Singapore, forming the independent Federation of Malaysia.

The independent Philippine government that took power in 1946 was keener on recovering Sabah (Salonga 2013), just as the British North Borneo Company transferred all its rights and obligations to the British Crown on July 10, 1946, just 6 days after Philippine independence. The Philippine Constitution of 1935 states that the national territory of the Philippines included, among other things, "all other areas which belong to the Philippines on the basis of historical rights or legal claims". Even before Sabah was incorporated into Malaysia in 1963, the Philippines had sent delegations to London reminding the British Crown that Sabah belonged to the Philippines. In 1950, Congressmen Diosdado Macapagal, Arsenio Lacson and Arturo Tolentino sponsored a resolution urging the formal institution of the claim to North Borneo. Meanwhile, prolonged studies were undertaken and in 1962 the House of Representatives, in rare unanimity, passed a resolution urging the President of the Philippines to recover North Borneo consistent with international law and procedure.

During Sabah's brief independence (1957–1963), between the end of British rule and incorporation into an independent Malaysia, Diosdado Macapagal, who had become president of the Philippines and had family ties to Sulu, asserted the Philippines rights on the Sultanate of Sulu (Meadows 1962; Tregonning 1970). Though a Roman Catholic from Pampanga province, near Manila, Macapagal was a descendant of a prince of Tondo, a northern-Philippine monarchy that was once a vassal state of the Kingdom of Brunei, whose lands included Sabah as well. On September 12th, 1962, the territory of North Borneo or Sabah and the full sovereignty, title and dominion over the territory were ceded by Sultan Muhammad Esmail Kiram I to the Republic of the Philippines. The cession effectively gave the



Philippine government the full authority to pursue the Sulu sultanate's claim in international courts (Ortiz 1963). The Philippines broke diplomatic relations with Malaysia after the federation included Sabah in 1963.

A declaration of autonomy in the Sulu islands had been squashed in 1961, and soon afterward the Moro people began demanding a separate state consisting of the island of Mindanao and the smaller islands formerly under the Sulu sultanate's rule. This helped spark a bloody Muslim-vs.-Catholic civil war in the south through the 1970s and 1980s, with demands for a Bangsa Moro Republic (BMR).

Ferdinand Marcos coveted Sabah as well, trying to annex it in 1968 by secretly forming commandos to sabotage Malaysian facilities and form a secret "liberation army". The Corregidor massacre of young Muslim recruits revealed this Marcos plot and was the trigger for the creation of the MNLF (see above). This did not help already bad relations between Malaysia's left-leaning government, which was now helping the Filipino Muslims, and the right-wing Marcos dictatorship.

After Marcos's removal in a 1986 "people power" revolution, Malaysian-Philippine relations warmed, the ARMM was created, and Malaysia acted as a third-party broker in negotiations between Manila and the MILF. Malaysia was interested in a containment of the increasingly Islamized insurgency out of Borneo and that the Sulu-based territorial conflicts would not affect Sabah. Sabah has seen previous smaller-scale cross-border raids from Islamic militants and other bandits from the adjacent southern Philippines, which has suffered for decades from a campaign by Muslim insurgents.

In a long-standing dispute (since 1962 after the independence of Malaysia), the Philippines has always claimed their land claim on Sabah Malaysian state on behalf of the heirs of the Sultanate, saying that the territory was only leased to the British North Borneo Company in 1878, the sultanate maintaining full sovereignty. Though the sultanate is not recognized anymore internationally as a governing entity, Malaysia still pays a token annual "rental fee" (*padyak*) to the heirs of the last Sultan of Sulu, in accordance with an agreement signed by the North Borneo Chartered Company, but rejects any Philippine claim to the territory. Malaysia interprets the 1878 agreement as a disposal and considers that the people of Sabah have exercised their right to self-determination when they joined the Federation of Malaysia in 1963. The ocean borders between Sabah and the Philippines are quite porous, and in Sabah, the Government of the Philippines estimates that 600,000 Filipinos are living and working by crossing the Sulu Sea. The biggest inflow of Badjao, Tausug, Samal, Iranon people from Sulu and western Mindanao to Sabah occurred during the hostilities between the Manila government and MNLF in the 1970s (Kassim 2009). Labor migration to Sabah also increased considerably as Filipinos attempted to escape poverty by filling Malaysia's labor shortages in construction, palm oil and service industries. Various tensions then developed in Sabah between Filipino migrants, local Malay communities and the Malaysian state. Filipino women were not immune from social violence in this context (Hilsdon 2006).

### ***19.5.2 The 2013 Attempt of a Sultan of Sulu over Sabah***

On February 9th, 2013, however, conflict broke out in Sabah, when Raja Mudah Agbimuddin Kiram, a brother of the self-proclaimed Sultan of Sulu Jamalul Kiram III—an elderly invalid living in a Muslim slum neighborhood of Taguig, Metro Manila, who ordered an invasion and calls himself “the poorest sultan in the world”—organized a “journey back home” to Sabah. With about 1000 of his followers, including 300 armed Tausug men of the “Royal Security Forces of the Sultanate of Sulu and North Borneo” armed with assault rifles and grenade launchers, he left Tawi-Tawi on small boats and landed on the coast of eastern Sabah at Masjid Lama, near Lahad Datu.

The town, which occupies the peninsula on the north side of Darvel Bay, has a population of about 150,000, 80% of which are originally from the Sultanate of Sulu (Basilan, Tawi-Tawi, Zamboanga). Lahad Datu is also home to Sabah’s population of Orang Bajau boat people and Cocos Island Malays, who were settled in the area in the 1950s when the Cocos Islands became part of Australia.

After the group took control of this local village, Malaysian security forces cordoned off the area and stopped all boat traffic to prevent the arrival of reinforcements and supplies to this invading group.

The Philippine government was caught by surprise by this invasion and remained fairly discreet in the matter. However, the Philippine Navy arrested 70 people trying to reach Sabah to help Kiram III (Depasupil 2013). Recognizing the sovereignty of the Sultanate of Sulu over Sabah would imply accepting also its rule over land belonging officially to the Philippines, a difficult proposition for President Aquino in the middle of negotiations with MILF over the establishment of the Bangsa Moro (David 2013a, b). Moreover, the facts that Malaysia was an essential peace broker with MILF, that most of the world recognizes Sabah as being part of Malaysia, and that most Sabah settlers recognize themselves as Malaysians (Rusli and Mustafa 2014) led the Philippine president to be very careful and essentially leave the resolution of the crisis in the hands of Malaysia. If the Philippine government had tried too hard to insist the Kiram commando go back to the Philippines, it would have been considered by the Malaysians as a supplementary demonstration that Sabah does not belong to the Philippines, and the Philippine public would have accused Benigno Aquino of betraying the country.

An ensuing standoff with Malaysian troops became violent on March 1st. The occupation ended on March 5th, 4 weeks later, with the deaths of about 35 Sulu fighters following a Malaysian Air Force attack on the invaders.

Why did the Sultan of Sulu, Jamalul Kiram III, launch this action, which was doomed in advance (De Quiros 2013; Philip 2013a, b), but threatened international peace between Malaysia and the Philippines? According to his spokesman, what triggered the decision to take action on the Sabah claim was the Framework Agreement on the Bangsamoro (FAB) between the Philippine government and the MILF signed in 2012. In the FAB the “historic and sovereign rights” of the Sulu

Sultanate and North Borneo to territories were not included. For the Sultan, the above rights were an “integral and essential” aspect of any peace agreement with any armed groups in Mindanao, as he had indicated in a letter sent to the previous president, Gloria Arroyo, in April 2009.

The MNLF first considered Malaysia’s defensive actions against the invading group as a war on all Moros, but then tried to squelch rumors that MNLF fighters were on their way to Sabah to support the Sultan Kiram III, who proclaimed himself “Sultan of Sulu and North Borneo”.

### ***19.5.3 A Future Independent Sultanate of Sulu?***

At the time of the invasion there were in fact several competing sultans for Sulu, possibly up to ten. Philippine authorities stopped recognizing the authority of the Sultan of Sulu since 1936, after the death of sultan Jamalul Kiram II, who had no direct heirs, only nieces. This opened the way for several members of his family to self-proclaim themselves as rightful Sultan.

In 2011, the self-styled “Interim Government of the Sultanate of Sulu”, a Sulu government-in-exile had installed local businessman Datu Mohd Akjan bin Datu Ali Muhammad, a Malaysian citizen of Tausug ethnicity, as the 33rd “sultan of the Sulu Archipelago” (To 2011), during a ceremony held in Kampung Likas, Kota Kinabalu. Akjan claimed to be a direct descendent of the last reigning Sultan of Sulu, Paduka Mahasari Maulana al-Marhum Sultan Shariful-Hashim. In attendance were a “prime minister” and two “deputy assistant prime ministers”, one for Tawi-Tawi and the other for West Malaysia. Of course there was no recognition by any official government. The new “monarch” would be called His Majesty Paduka Mahasari Maulana al-Sultan Sharif ul-Hashim II, Dr. Sharif Mohammad Akjan Mu’izzuddin Waddaulah ibni al-Marhum Sultan Sharif Ali Muhammad Pulalun, shortened in the easier form “Sultan Shariful-Hashim II “. His “government” demanded a complete withdrawal of the Philippines from the territories claimed by the sultanate, indicating that all inhabitants of the Sulu Archipelago, including Basilan Province, Sulu Province, Tawi-Tawi Province, Zamboanga Peninsula, Palawan, the Spratlys and part of Borneo, including part of Sabah, are Tausug people, not Filipinos.

Conversely, another claimant of the title of sultan of Sulu and North Borneo, Sharif Ibrahim Ajibul Mohammad Pulalun, blamed Sultan Jamalul Kiram III for the outbreak of violence in Sabah, which he said affected thousands of Filipinos and put at risk the bilateral relations between the Philippines and Malaysia.

What are the chances that the Sultanate of Sulu could become an independent state? None. Western governments are already worried that a more autonomous Bangsamoro may turn the Philippine–Malaysian border region into a fuzzy no-man’s-land where al-Qaeda and ISIS affiliated groups can flourish. An Abu Sayyaf commando had abducted 21 foreigners from a scuba-diving resort in Sipadan in April 2000 and taken them as hostages to nearby Jolo. The West, especially the

United States, which has always stood squarely with Manila against the Islamist rebels of the south, would never tolerate the establishment of a separate Muslim statelet that would be ripe for Islamist radicalization.

After the 2013 incident, Malaysia started to crackdown on undocumented foreign workers in Sabah, sending about 100,000 of the 700,000 Filipinos living in all of Sabah (Pangco Pañares 2014a, b, c), a significant minority (20% of the total population) in that 3.4 million inhabitants part of Malaysia, back to the archipelago (Fig. 19.4).

## 19.6 The Root of Conflict in Mindanao: Islam, Ethnicity or Poverty?

“By the sword and by intrigue [Moro] leaders are seeking to protect themselves from the impact of an alien civilization which threatens to crowd them off of the land which for centuries they have called their own. The Moro question, the problem of an ethnic and religious minority, has thus become one of the most urgent of the problems which Washington has been called upon to resolve.” (Ralston Hayden, advisor to General Douglas MacArthur, 1928) (quoted in Tuminez 2008).

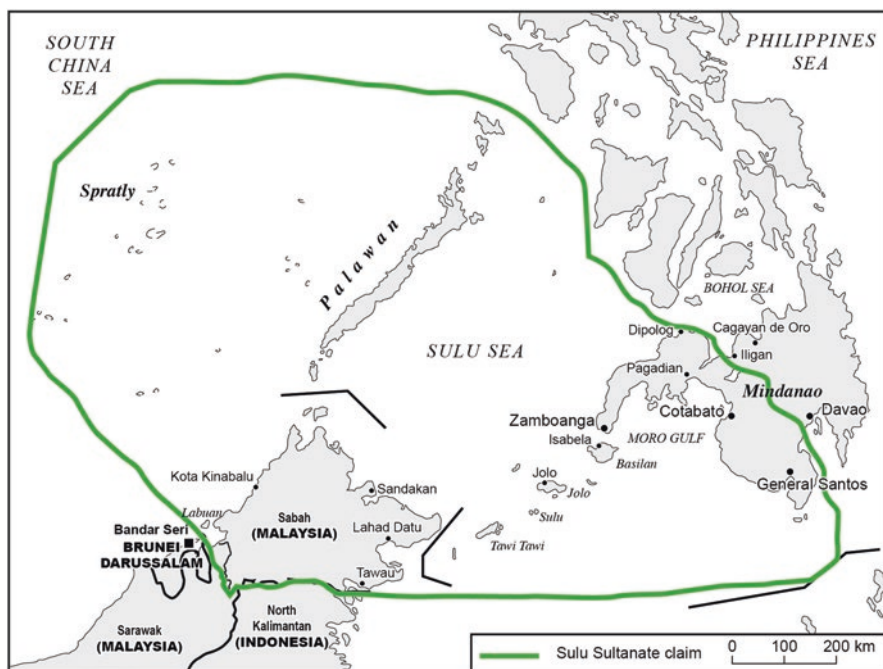


Fig. 19.4 The Sultanate of Sulu

Did the Filipinos do better than the Spaniards and the Americans? “The so-called Moro problem is a thing of the past”. These words by Manuel Quezon in his First State of the Nation Address, on June 16th, 1936, did not, unfortunately, develop into a self-realizing prophecy.

Conflict in Mindanao has been a mainstay of the Philippines history since the arrival of Spanish colonizers (Tuazon 2008; Bonnet 2011). Born from the first wave of globalization, it has long been contained within the limits of the country and may be viewed as simply another example of de-colonization war (Kane and Rodriguez 2006), or is it an inter-religious (Picardal 2008), inter-ethnic conflict between a regional minority on the spatial margins of the country and a dominant group, according to a classic pattern in Southeast Asia, where Muslim minorities are often in open conflict with non-Muslim majorities? Southern Thailand (Che Man 1992; Rupperecht 2014) and western Myanmar/Burma may be good comparison points.

In the case of the Philippines, the situation may be more complicated. Even as outsiders have tended to clump together the “Moro” people as one entity, it is a grave mistake (Arillo 2015a, b, c) since it is clear that they are not united. If the differences are not so much along theological lines of fractures (no Shi’ites vs. Sunni) as may happen in other parts of the Muslim world, ethnic identities have played a role in the divisions, as they have in the Aceh region of Sumatra (Indonesia) (Buendia 2002, 2005a, b; Adam 2013). The Moro insurgency in the Philippines is an Islamically-based insurgency with very different roots from what is seen in the Middle East Islamic movements (Cline 2000). The Moro groups in the Philippines illustrate the difficulties in combining ethnic and religiously based ideologies of insurgencies. Moro insurgent groups have shown considerable factionalism (Tan 1973) and defections for a long time, even as the government’s counterinsurgency operations have been largely ineffective. Factors such as geographic location and conflict-related impacts of displacement, together with disparity in governance delivery levels, have resulted in divergence in levels of support for the Bangsamoro struggle between the Maranao and Maguindanao (Özerdem and Podder 2012).

A third factor in play is poverty in the region (Climaco Tadem 2012). The ARMM is the poorest region in the country (Angeles 2012a, b) and its GDP/capita ranked below war-torn Somalia in 2012. Despite the long history of separatist sentiment and cultural and religious gaps, Filipino Christians and Muslims alike trace internal conflict over Muslim separatism not just to differences, but also to economic inequities (Aycocho 2004). Even as the tropical landscapes appear lush and fertile, most agriculture in Mindanao is either in the hands of powerful, foreign, agro-industrial companies, which are regularly the target of attacks by militants, or a classic Filipino smallholdings subsistence agriculture. The conflict has very strong agrarian roots (Vellema et al. 2011), which may explain why there are sometimes similar operations led by the communist rebels of the NPA and the Muslim rebels in the islands. Many statistical data indicate that this is the poorest region of the Philippines with the highest rates of unemployment and infant mortality, a telltale sign of delayed development. War and poverty have fed each other (Malapit et al. 2003), war being a deterrent to successful investment and development (Pospisil 2005), and armed struggle being an obstacle to the delivery of relief and assistance to civilian popula-

tions caught in between clashing factions (Soriano 2006). Poverty mixed with prejudice and sometimes discrimination fueling the resentment of unemployed youth ready to engage into rebellion. Poverty (which is linked to low productivity, criminality, marginalization, environmental degradation), malnutrition and hunger (Señase and Lacorte 2015), disease and poor delivery of health services feed each other and have long been aggravated by ignorance (poor resource base, low quality education<sup>14</sup>) and injustice (human rights violations, graft and corruption, land conflicts).

In a context of modernization vs. marginalization, it is also a clash of political cultures between northern-dominated electoral politics (clientelist political system) and southern tribal politics (Muslim clan system) (Peng 2012).

If poverty is the root of conflict, would economic development lead to peace? (Wadi et al. 2003). Or is war the obstacle to any development of the region?

The latest twist in the region is the growing globalization<sup>15</sup> of jihad, or *perang sabil*,<sup>16</sup> with growing contacts between local terror cells and terror networks operating as a loose worldwide nebula with Asian nodes (Smith 2002). The spatial configuration of the archipelagic territory around the Sea of Sulu allows for easy hiding of militants moving from one place to the other on speedboats between the territories of the Philippines, Indonesia and Malaysia. This has put the Philippines in a position to be a major point for the US-led “war on terror” (Ressa 2015). As a relatively weak state, the Philippines need the support of the formal colonial power to keep a lid on destabilizing elements, but at the same time it puts itself in the hands of the United States, hence weakening its international position as an truly independent country (Kraft 2003).

All efforts towards lasting peace seem to have always failed due to a lack of understanding and a concomitant lack of trust between the parties. The latest events surrounding the Bangsamoro agreement are another demonstration that the Philippines may still be confronted for a long time by this Mindanao situation. What should be the formula for autonomy of the Moros to satisfy everyone? (Coronel Ferrer 1998) Would a Basque or Catalan model be a path to follow for this former Spanish colony? (Bautista 2014; Tadem 2014) Would an autonomous Muslim region be viable economically? (Jimenez 2009) Should other countries be involved as neutral in-betweens, such as neighbors Japan (Lam 2008) and Malaysia (Silva Franco 2013)? Where do the Lumad fit in the redefinition of Mindanao? (Paredes 2015)

The duration of the conflict may be rooted in the confrontation of two attitudes: the assertion of self-determination rights (Buendia 2008) on the side of the *Moro* separatist movements vs. the affirmation of the Philippines’ sovereign right to ter-

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<sup>14</sup>Worsened by the frequent omission by Lumad and Muslims to register the birth of children with the authorities, which leads to problems at the time of school admission, since the children “do not exist”—(Perez Rimando 2014)

<sup>15</sup>Including on social networks—Vergani (2014)

<sup>16</sup>*Perang sabil* is a hybrid Malay/Arabic term that could be translated as “war in the way of Allah”—(Gedacht 2015)

ritorial integrity. Can self-determination be asserted if the “Moro” people are so divided? With a “bangsamoro” identity forged by colonial powers, how can the Maranao, Maguindanao, Tausug and others internalize this unity forced upon them? (Buendia 2005a, b) Poor governance by local warlords, such as the Ampatuan clan in Maguindanao, has made the situation worse and perpetuated the practice of “*rido*”, vendettas characterized by sporadic outbursts of retaliatory violence between families and kinship groups in the Maranao and Maguindanao cultures (Torres 2007; Mangahas 2009).

Is federalism, now pushed by the Duterte administration (see Chap. 18) a solution? (Laurel 2015) Should the country transform itself into a federal entity, comparable to the Malaysian federation, allowing local leaders to keep the control of their territory while recognizing their common interest is to be part of a larger Philippine state? There is a belief among well-meaning Philippine intelligentsia and politicians, as well as many Mindanaoans, that greater decentralization equals more democracy, social justice and progress. The feeling of political alienation of Mindanao and the Muslim secessionist problems would be solved by transforming the Philippine political system from a unitary-presidential to a federal-parliamentary system of government. Peace would bring peace dividends (Schiavo-Campo and Judd 2005).

Yet, the Yugoslav experience shows that a centralized federal country can still be subject to violent disintegration once the charismatic leader who controlled it disappears. Or should the Sultanate of Sulu be revived as an independent state akin to the Sultanate of Brunei? For most Filipinos and even to most residents of Mindanao, autonomy for the Muslim-dominated regions may be considered as politically correct, but ceding a part of the territory as a substate, such as the planned Bangsamoro state, leading to its independence, is treason and would cause more problems than it would solve.

The whole Mindanao/Sabah/Sulu conflict finally revolves around the central questions of culture and identity (Bernad 1971; Caballero-Anthony 2007): Who is a Filipino? What is a Filipino? What is a Moro? Can Muslims feel Filipinos when the Philippines have been created by Catholic Spain? Is ethnicity or Islamic consciousness more important than integrating into the nation for Philippine Muslims, in Mindanao, Palawan and elsewhere? (Eder 2010) Is ethnicity or religion used as a political instrument? (Taya 2010) What will be the place of Filipinos who converted to Islam while working abroad? (Borer et al. 2009) Does Mindanao define the country? (Abinales 2000). Are the Muslims the link between the Philippines and other Southeast Asian nations? (Sakili 2000) The national dynamics of identity-construction and social practices of democracy in the post-colonial Republic of the Philippines appear to have been ineffective, and maybe counterproductive, in solving the centuries-long struggle of the Muslims in the Philippines (Neumann 2010).

Or maybe archipelagoes are destined to be theaters of dissent (Taglioni 2005) due to their spatial configuration that makes unification more difficult, unification and separatism easier?

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## Chapter 20

# South China Sea or West Philippine Sea?

**Abstract** The South China Sea (“West Philippine Sea”) has been for several years a space of potential conflict between several countries due to overlapping of their EEZs and China’s claim of a large part of this oceanic space, well beyond its UN-endorsed EEZ. The Spratly islets and Scarborough shoal are mere coral reefs, uninhabited for the most part, but they lie in the middle of rich fishing grounds and atop large reserves of petroleum and natural gas. Furthermore, the area is one of the world’s busiest sea lanes for commercial navigation. This chapter presents the general rules of UNCLOS (international laws pertaining to oceanic space), and then examines the competing claims, focusing on the China-Philippines dispute. Despite a resounding legal victory of the Philippines at the Permanent Court of Arbitration in The Hague, Chinese encroachment and buildup has continued. A major uncertainty lies in the level of support of the United States towards the Philippines, which appears as a small local player within a powerful rivalry between two superpowers, but tries to gather support from other Asian nations such as Vietnam and Japan.

**Keywords** Law of the seas • China • Maritime claims • Geopolitics • Resources

The Philippines, as an archipelagic country, has no terrestrial borders with any country. However, it has maritime borders with other countries around the body of water usually referred to as the South China Sea. This sea contains groups of tiny islands that have been for years the focus of disputes between several countries, especially China, Vietnam and the Philippines. If the Paracel islands, claimed by China, Taiwan and Vietnam, are located outside the territorial claims of the Philippines, the Spratly archipelago, a group of uninhabited coral islands located in the « South China » sea, is the core element of a complex territorial dispute involving six countries, including the Philippines. China’s claims on three-fourths of the total area of the South China Sea, clearly marked on all Chinese maps, are strongly contested by the other countries, in particular the Philippines and Vietnam. Tensions about these islands have the potential to trigger an armed conflict if the riparian countries are unable to find a lasting agreement to defuse the conflict.

A map of the South China Sea has been chosen as the cover image of a French publication, *The Geopolitical Atlas of Maritime Spaces* (Ortolland and Pirat 2007),

which underscores the importance of this region, currently one of the hotspots of the world in terms of maritime boundaries.

This maritime space is emblematic because at least six potential sources of conflict coexist there: the complexity of the colonial legacy (France, United Kingdom, United States, Japan), multiple overlapping claims, the presence among the protagonists of a powerful People's Republic of China seeking to become a global maritime power (Chang 1996; Lasserre 1996; Lei 2008; Tertrais 2011; Cheng and Paladini 2014; Lanteigne 2016), the importance of the area in international maritime trade (on the transport axis Singapore/China-Korea-Japan), its fisheries riches for fish-eating populations of the neighboring countries, and finally heightened competition for potential mineral resources in eastern Asia in economic growth. The discovery of oil and gas under the seafloor of the South China Sea makes it indeed one of the most coveted areas of the planet (Dénéché 2000). Few places in the world present a greater challenge for the dispute settlement mechanisms of the law of the sea (Song and Tonneson 2013; Ohnesorge 2016; Kimiväki 2016).

The South China Sea is studded with islands that could serve as bases for maritime claims. Their total land area is quite tiny: four groups of atolls, islands, sandbanks and uninhabited reefs scattered between the 7th and 21st parallel north, Pratas, Paracel Islands, Spratly Islands and Scarborough Reef, mostly of volcanic origin and coral nature (Hutchinson and Vijayan 2010), whose combined land area (more than 250 entities) does not exceed 8 km<sup>2</sup> out of the 3.5 million sq. km of the South China Sea. Disputes over those islands and maritime areas claimed in whole or in part by seven countries (PRC, Taiwan, Vietnam, Malaysia, Indonesia, Philippines, Brunei), are frequently under the media spotlight, for example when Chinese patrol boats intercept Vietnamese survey ships or detain Filipino fishermen, or when China engages in large-scale reclamation in tiny islets it occupies close to the main islands of the Philippine archipelago.

All Chinese maps show a dotted line expressing the Chinese (PRC and Taiwan) claim to most of the South China Sea, notwithstanding the claims—under international law codified by the Sea Montego Bay Convention (Labrecque 2004) of the other riparian countries, Vietnam, Indonesia, Malaysia, Brunei, and Philippines. This is giving rise to cross-claim areas overlapping those claimed by several countries (up to five for a small area).

Poorly controlled, these disputes could easily escalate into conflicts in the areas or even naval confrontations. The United States, through its defense treaties with several nations in the region, cannot ignore the region and may have to intervene to secure international shipping.

To understand the core of the problem (Arillo 2015), it is necessary to first review the general principles of the law of the sea. This theoretical framework will provide the basis to examine in more detail the Filipino-Chinese tensions over the Spratly archipelago and other islets.

## 20.1 General Principles of the Law of the Seas

With the rise of Chinese power in Asia, maritime litigation will give the impression of increased frequency in the maritime areas of East Asia (Cruz de Castro 2013). Territorial disputes may be of historical origin: disputes over Dokdo/Takeshima islands between Japan and South Korea (Pelletier 1997) and the Diaoyu/Senkaku Islands between China and Japan are largely due to the legacy of Japanese colonialism before the Second World War, while the Sino-Vietnamese dispute cannot be understood without reference to the past history of subordination of Annam to the Chinese Empire.

Another source of conflict is the process of delimitation of maritime boundaries now regulated by international treaties (Attard 1991; Cook and Carleton 2000; Labrecque 2004). With the 1982 adoption of the United Nations Convention on the Law of the Sea (UNCLOS), also known as “Montego Bay Convention”, which became effective in November 1994 after ratification by a 60th member state of the UN,<sup>1</sup> disputes over maritime zones limits have increased. Although the text refers to oceanic areas of the Earth as « part of the common heritage of humanity » and sets a lofty goal of « seeking peaceful and equitable solutions to disagreements concerning sovereignty over the disputed territories and establish equal access to marine resources of the Earth », it also allows that coastal states have to extend the maritime areas under their jurisdiction to 200 nautical miles from the baselines from where the territorial sea is measured. Areas of national control over ocean water are split between a « territorial sea » area extending 12 nautical miles<sup>2</sup> (22 km) off the coastline, a contiguous zone up to 24 miles (44 km) and an exclusive economic zone (EEZ) up to 200 nautical miles (370 km) on the continental shelf (Kwiatkowska 1989), in which zone the coastal State has the sole right to exploit—or to confer exploitation permits to national or foreign entities—the economic resources in the water, on land (islands) and down to the seafloor. In some cases,<sup>3</sup> the « legal » continental shelf may be extended or up to 350 nautical miles (648 km) or up to 100 nautical miles from isobath 2500 m, according to precise geological criteria (McDorman 2002). Sea/ocean waters beyond the edge of the EEZ are legally « high seas » (Beurier 2013), a non-appropriated space, whose management was entrusted by the UN to the International Seabed Authority<sup>4</sup> in 1994.

Three situations complicate the general principle of delimitation of EEZ.

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<sup>1</sup> Namely Bosnia and Herzegovina. Among the countries involved in the conflict in the South China Sea, ratifications happened early for the Philippines (May 1984, 11th signatory) and Indonesia (February 1986, 26th), but the other countries only approved the treaty after it was agreed on by many other nations of the world: Vietnam in July 1994 (63rd), China in June 1996 (92nd), Malaysia in October 1996 (107th) and Brunei in November 1996 (108th). We should note also that the first global maritime power by the extent of oceanic waters under its control, the United States, have still not ratified it ([http://www.un.org/Depts/los/reference\\_files/chronological\\_lists\\_of\\_ratifications.htm](http://www.un.org/Depts/los/reference_files/chronological_lists_of_ratifications.htm)).

<sup>2</sup> The nautical mile (1852 m) should not be confused with the Anglo-Saxon mile (1609 m).

<sup>3</sup> A committee of 20 experts will examine various geological criteria to justify such a substantial extension of the EEZ additional rights (Cavnar 2009).

<sup>4</sup> Headquartered in Kingston, Jamaica.

The first case, quite common, is that of countries close to each other, at a distance of less than 400 nautical miles, when theoretical EEZ come to overlap. The conventional solution for resolution of potential conflict is to adopt a principle of equidistance, as between France and the United Kingdom in the English Channel and France and Spain in the Bay of Biscay. In case of dispute, the International Tribunal for the Law of the Sea (Hamburg) has the mission to settle the dispute.<sup>5</sup>

The second case is that of an archipelagic State, such as the Philippines and Indonesia, where the Montego Bay Convention established the concept of « archipelagic waters » (Defensor Santiago 1974; Tolentino 1975; Ku 1991). Ships and aircraft of all registrations will have the « right of innocent passage » for international shipping routes, analogous to the unfettered right of passage through international straits (Oxman 2000).

The third case is that of the islands. An island far from land, even tiny, but provided that it is inhabited on a permanent basis, gives in theory a maritime area of 370 km radius, i.e. 430,000 km<sup>2</sup>, to the State which has jurisdiction on it, as shown by the Japanese island of Okinotorijima (Vanney 2008) or the French Clipperton Island in the eastern Pacific. The presence of an island within the EEZ defined from the mainland shoreline allows projecting the EEZ beyond 200 nautical miles, since one can use that island as a new coastline basis to determine the extent of the EEZ. The process can be repeated with another island that located within this extended EEZ. But it is still necessary, says the UN convention, that the island be still emerged (“*an island is a naturally formed piece of land which is above water at high tide*”) and livable (“*the rocks that do not support a human habit at or their own economic activity will have no EEZ or continental shelf*”). If small island states may have control over a vast EEZ (Tagliani 2007), a simple rock is not an island (Kolb 1994; Wachiraworakam 2000), and the question must be asked in the case of the Spratly (Gjetnes 2001).

## 20.2 Cross-claims on the Waters of the South China Sea

The diplomatic imbroglio over the Spratly and Paracel possession of the islands, and more generally on the South China Sea, has generated an abundant research literature about the conflict potential and the motivations of the stakeholders (Senftleben 1976; Gomane 1979; Millvojevic 1989; Valencia 1993, 1998; Corder 1994; Valero 1994; Charney 1995; Hyer 1995; Thomas and Dzurek 1996; Marlay 1997; Lasserre 1998, 1999; Whiting 1998; Furtado 1999; Chemillier-Gendreau et al. 2000; Lim 2000; Saleem 2000; Oude Elferink 2001; Zha and Valencia 2001; Kivimäki 2002; Burgess 2003; Senese 2005; Bautista 2006, 2014; Beckman 2010; Hu 2010; Koo 2010; Rosenberg 2010; Smith 2010; Cronin 2011; Zhang 2011; Boquet 2012; Roche 2013; Zimmermann and Baumler 2013; Baviera 2014; Hayton 2014; Fels and Vu 2016). In this region, UN regulations on EEZs seem to have aggravated tensions rather than appease them (Bateman 1998; Smith 2010).

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<sup>5</sup> Arbitration can be very unfavorable to the stakeholders, and the case of the tiny, elongated EEZ granted to France from the islands of Saint Pierre and Miquelon, isolated in a large Canadian EEZ.

China, which calls them « Nansha Qundao » (Southern Sands Archipelago), boasts of its entitlement to all the Spratly Islands and to much of the South China Sea. China's claim (Malek 2013) is based on various historical events, including naval expeditions to the Spratly Islands, as early as the Han Dynasty in 110 AD and later during the sea expeditions of Admiral Zheng He during the Ming Dynasty, from 1403 to 1433. Chinese fishermen and traders worked there over the centuries, and China uses archaeological arguments to strengthen its sovereignty claims. In the nineteenth and early twentieth centuries, China asserted its claim to the Spratly and Paracel islands further north (Xisha, « West sands »). In 1947, China (the Kuomintang regime at the time) produced a map of the South China Sea, marked with a nine-dash line lapping the shores of Palawan (Philippines) and to Borneo, much closer to Malaysia and Indonesia than the large southern Chinese island of Hainan (Thang and Nguyen 2012). For China, the islands within this U-shaped appropriation line (Miyoshi 2012; Sheng 2012; Zou 2012; Zou and Liu 2015) are Chinese territory, as stated by a 1992 law. China has occupied some of the islands. In January 1974, after a brief naval battle, it seized the Paracel archipelago previously controlled by Vietnam, and now includes it in its administrative province of Hainan. The Chinese are present on seven Spratly islets.<sup>6</sup>

Taiwan, whose government was the initial source of the dotted line extending south, has the same claims as the People's Republic of China, and is currently occupying one island, the largest of the archipelago, Itu Aba<sup>7</sup> (Taiping Dao in Chinese Dao Ba Binh in Vietnamese, Ligaw in Tagalog), which is administratively attached to the Cijin district of Kaohsiung, located 990 km away (Lin 1997; Wang 2010). But it is also claimed by the People's China, the Philippines and Vietnam. The Taiwanese have set up various facilities and it is the only island in the Spratly with Internet access. It has about 600 residents, all soldiers.

Vietnamese claims are based on history and the principle of continental shelf. The Vietnamese have followed the Chinese example of using archaeological evidence to strengthen their sovereignty claims. In the 1930s, France, then the colonial power over current Vietnam, demanded, on behalf of French Indochina, both the Spratly and Paracel archipelagoes, even landing on the second in 1938 despite protests from China, which did not fight back because of the Sino-Japanese war started in 1937. Today, Vietnam feels robbed by the Chinese takeover of the Paracel and considers that all the Spratly islands constitute an ultramarine district of Khanh Hoa province. Vietnam also claims a large area of the South China Sea, although it is not always clearly defined. Vietnam currently controls 21 Spratly islets, reefs and cays (Fig. 20.1).<sup>8</sup>

<sup>6</sup>Cuarteron Reef, Fiery Cross Reef, Gaven Reef, Hughes Reef, Johnson Reef, Mischief Reef and Subi Reef.

<sup>7</sup>The origins of the name are poorly understood: Malay? Hainanese dialect? or the names of the two Vietnamese maids of the French surveyor who had measured the island in the nineteenth century?

<sup>8</sup>Alison Reef, Amboyan Reef, Barque Canada Reef, Central London Reef, Cornwallis South Reef, Da Gri-san, Da Hi Gen, East London Reef, Great Discovery Reef, Ladd Reef, Landsdowne Reef, Namyt Island, Pearson Reef, Petley Reef, Sand Cay, Sin Cowe Island, South Reef, South West Cay, Spratly Island, Tennent Reef et West London Reef.

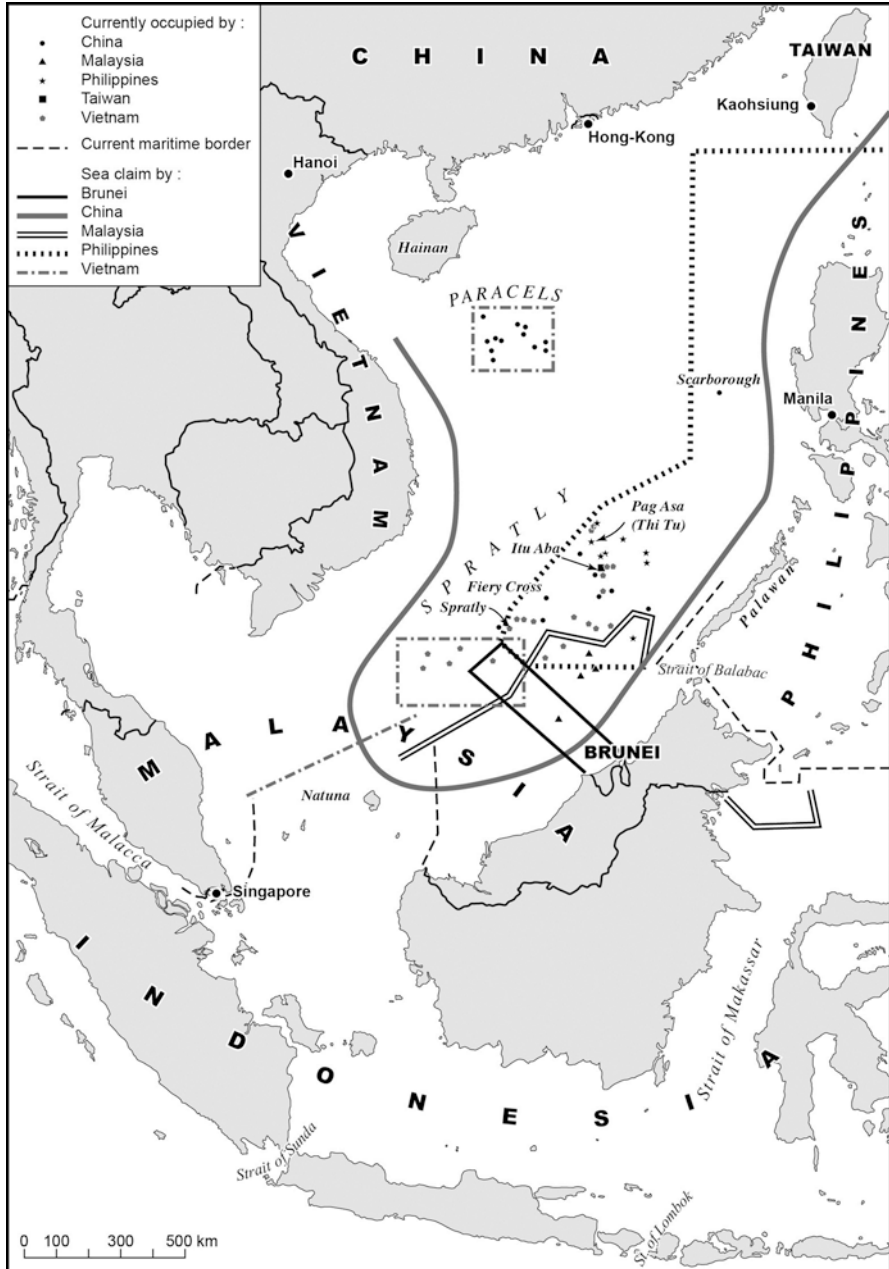


Fig. 20.1 The South China Sea/West Philippine Sea

The fundamental position of the Philippines (Batongbacal 2001; Bautista 2008) regarding their maritime boundaries is based on two controversial assumptions: first, that the limits of its national territory are those established in the Treaty of

Paris of 1898 when Spain ceded the Philippines to the United States, and second, that all waters within these limits are territorial waters. The position of the Philippine government is challenged by the international community and goes against the rules of the Montego Bay Convention, signed and ratified by the Philippines. This raises two fundamental questions concerning the unresolved conflict, the extent of the territorial sea of the Philippines and the treatment of the archipelagic waters considered as internal waters (Bautista 2009). For the Philippines, the Spratly claims are based on both the 200 nautical miles projection of the national EEZ from the coast of Palawan, and a possession performed in 1956. In 1946, on the occasion of the independence from America, Philippine Vice President Elpidio Quirino said that the southern part of the Spratly Islands was to return to the Philippines.

In 1947, Tomas Cloma, a Filipino fishing tycoon, adventurer and founder of the Philippine Maritime Institute (PMI), explored the islands; on May 11th, 1956, with 40 men, he and his brother Filemon Cloma officially took possession of the islands west of Palawan and named them « Freedom Territory » (Kalayaan). Four days later, T. Cloma placed on each of the islands a copy of a « Notice to the world », announcing that he took possession of the archipelago, including the two largest islands, Itu Aba and Pagasa and proclaimed himself « President of the State's Supreme Council of Kalayaan », without even consulting the Philippine authorities, who were embarrassed by this odd behavior. This possession, condemned by Taiwan, China, Vietnam, France, the United Kingdom and the Netherlands, led to the Taiwanese landing at Itu Aba. Cloma then resold its territory to the Republic of the Philippines in September 1956 for the symbolic sum of 1 peso. In 1971, the Philippines officially claimed eight islands<sup>9</sup> totaling 790,000 m<sup>2</sup>, which they refer under the collective name of Kalayaan (“freedom” in Tagalog), which since 1972 form the municipality of the same name, attached to Palawan province. The Philippines, which do not claims all the islands in the region, argues that the Kalayaan are not part of the Spratly Islands *stricto sensu*, had not belonged to anyone before, and are therefore open to a Philippine territorial claim justified by geographic proximity.

Malaysia supports its maritime claims on the principle of the continental shelf associated with the island of Borneo, and the 200 miles EEZ. It has clearly defined, like the Philippines, the space to which it believes it is entitled on the basis of international treaties. Malaysia currently holds three islets,<sup>10</sup> which it considers part of its continental shelf, and has tried to raise an atoll by bringing in sand. It also built a hotel on Temburu Layang.

Indonesia does not occupy or claims any part of the Spratly islands but has denounced the unilateral extension of the Chinese EEZ by the Beijing and Taipei governments, as it encroaches on its own EEZ and the Natuna gas fields.

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<sup>9</sup> Kota (Loaita Island), Lawak (Nansham Island), Likas (West York Island), Panata (Lamkian Cay), Pag-asa (Thitu Island), Parola (North East Cay), Patag (Flat Island) et Rizal (Commodore Reef).

<sup>10</sup> Ardasier Reef (Terumbu Ubi), Mariveles Reef (Terumbu Mantanani) et Swallows Reef (Terumbu Layang).



The small sultanate of Brunei, likewise, does not claim any particular island but has projected to 200 miles from its shores, in 1984, an EEZ that includes Louisa Reef.

### 20.3 Challenges of the Spratly Islands and Intensifying Disputes

The islets themselves are of little interest. However, their possession allows their owners to control maritime resources (Park 1978) and shipping lanes.

#### 20.3.1 Oil

Disputes in the Spratly Islands have gravitated around overlapping territorial claims where potential reserves of oil and gas are involved (Drigot 1982; Velasco 2012). China's economic growth pushes it to consume more and more oil. The insufficiency of its domestic production capacity and refineries leads to import more, hence its sea efforts to secure sea lanes from the Middle East with a strategy dubbed « the string of pearls » (Amelot 2010; Giblin 2011), but also to undertake the exploration of off-shore areas to develop the potential of oil and gas, particularly in the Spratly Islands' potentially oil-rich bottom (Wang 1997; Hiramatsu 2001; Owen and Schofield 2012).

These oil and gas exploration activities seem to threaten the fragile stability in the South China Sea region. China has granted oil exploration rights to foreign oil companies in territories where claims overlap. In 1992, for example, *China National Offshore Oil Corporation* signed an exploration joint contract with *Crestone Energy Corporation* for an area claimed by Vietnam as part of its Exclusive Economic Zone. The situation was exacerbated in 1996 when Vietnam, in turn, granted *Conoco* an exploration license in waters of the Spratleys also claimed by China. In May 2011, the Philippines accused the Chinese military of firing on Filipino fishermen and conducting intimidation maneuvers against an exploratory drilling vessel. In June 2011, Vietnam denounced the actions of Chinese fishing vessels supported by an escort of the Chinese Navy, which damaged cables used by *PetroVietnam* for seismic research 120 miles off the Vietnamese coast.

The potential for conflict is exacerbated by the fact that foreign firms (Jian 1997) are ready to undertake riskier projects of oil development in Asia, seeking to capitalize on the growth in energy consumption in this region, but also to find replacement reserves for those in the United States and the North Sea where production is expected to decline in the coming years.

Aside from the granting of exploration rights to foreign companies in the disputed waters, China is also committed to continuing its military exercises in the

Spratly region and modernizing its Navy's air power, with the installation of radars to improve warning signals of imminent attacks and facilitate the naval deployment in the South China sea.

### ***20.3.2 Maritime Traffic***

The free movement of ships and the proper functioning of maritime trade are essential for countries bordering the South China Sea, the Gulf of Thailand and East China Sea, as their export-oriented economies, operating on the principle of international division of labor, and the exchange of raw materials and agricultural products, are highly dependent on maritime transport. According to UNCTAD, this region of the world generates more than 40% of the world's shipments of goods, it is the home port of 70,000 commercial ships and most of the world's largest ports are located in East and Southeast Asia. The archipelagic nature and landmasses' fragmentation that characterize Southeast Asia offer a multiplicity of interoceanic passages and channels.

There are strong energy security concerns in the maritime life of the countries of the region. Net oil imports in China and Southeast Asia could quadruple between 2010 and 2030. This implies increased oil flows in key passages, such as the Strait of Malacca and the Singapore sector at the southwestern entrance of the South China Sea, but also in the Straits of Luzon and Taiwan to the north. Another important sea route goes through the deeper Straits of Lombok and Makassar in Indonesia, then to the South China Sea through the Strait of Balabac between Borneo and Palawan in the Philippines; it is a privileged way for giant supertanker VLCC at full load.

But this maritime security is threatened by the revival of piracy in the region (Zou 2000; Cordonnier 2001; Snyder 2004; Storey 2008; Eudeline 2009; Sciascia 2011). Establishing island checkpoints and increasing aerial surveillance are ways to secure the routes of ships. Coordination efforts between Malaysia, Indonesia, Singapore and Thailand to secure the Straits of Malacca (« Eye in the Sky » program) have led to a transfer of piracy attacks to the South China Sea. In 2010 there were more ships attacks there than in the Gulf of Aden and the western Indian Ocean off the Somali and Yemeni coasts. In the Philippines, some piracy acts are carried out by Islamist or Maoist insurgent groups, with the primary purpose of extortion to finance the groups' activities.

### ***20.3.3 Fisheries Issues***

The area is rich in biodiversity and fisheries and aquaculture potential but threatened by oil pollution and overfishing (Pitcher et al. 2000). The South China Sea offers particularly valuable sites for shrimp, squid and tuna fisheries. But

overfishing (more than 10% of world catches in 1990) has led to a depletion of stocks, so that the riparian countries were forced to accept in 2001 the implementation of « fish sanctuaries » where nobody would catch fish. But, despite this international cooperative effort to preserve endangered resources, many incidents between States claiming South China Sea portions have involved fishermen intercepted by naval forces of a rival country, both for reasons of territorial violations, sometimes presented as “spying”, or non-compliance with regulations. Filipino fishermen have been regularly harassed by China’s coast guards controlling their usual fishing grounds, while Chinese fishermen have been detained by the Philippines for illegal poaching within the country’s territorial waters (Katigbak 2012). The Philippines deplores the deprivation of its fishing rights within its own EEZ (Catli and Cabanatan 2015; Esmaguél 2015b; Valente 2015c).

The same criticism is leveled at China for Scarborough Shoal (also known as Panatag Shoal, Bajo de Masinloc, or Huangyan Island for the Chinese) (Palma 2010; Bonnet 2012; Bautista 2013; Taton 2013), a tiny coral outcrop 124 miles off the western coast of Luzon (Masinloc, Zambales province), well inside the Philippine EEZ, and which is not part of the Spratly archipelago. The area has long been known to be a very rich fishing ground for blue marlin, red grouper, lobster, skipjack or yellowfin tuna. The shoal has been controlled by the Chinese coast guard since 2012, and the Philippine fishermen find themselves shut out of fisheries they depended on for decades (Dumpit-Murillo 2014), with Chinese ships using water cannons to drive them away. Chinese poachers have been accused of seriously damaging the reefs (Macairan 2012).

The Chinese claim Scarborough Shoal on the basis of ancient maps that identify most of the South China Sea as their territory. The Philippine government has produced its own maps,<sup>11</sup> showing the shoal to be part of the Philippines since at least 1734, when the islands were ruled by Spain. Philippine officials say their country has maintained unbroken jurisdiction over the shoal since independence in 1946, and note that the shoal is well within its 200-mile exclusive economic zone. In 2014, the Philippine military placed Panatag shoal under the jurisdiction of its Western Command in Palawan, also in charge of the Spratly (Mangosing 2014a).

## 20.4 The Militarization of the Islands

### 20.4.1 *Terms of Occupation of the Islands*

All the islands of all the Spratly and Paracel, as well as Panatag Shoal, are usually unoccupied because of their small size and their inability to ensure a normal life for people over a long period. But the intensification of tensions has led several riverine

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<sup>11</sup> Fr. Pedro Murillo Velarde’s eighteenth century “Mapa de las Islas Filipinas” clearly shows Bajo de Masinloc (Panatag Shoal) lying just across Zambales (Lee-Brago 2012; Fabunan 2013a, b; Mabasa 2014).

countries to install residents, mostly military personnel, on the islands, to justify their claims.

Itu Aba, the largest of the islands (46 ha, 1.4 km long and 400 m wide) is currently occupied by the forces of Taiwan. A military airfield with a 1200 m runway was commissioned in 2007.

Meanwhile, the Philippine Army artificially enlarged Thitu/Pagasa, the second largest island in the Spratly (37 ha) that it has occupied since 1968, to build a 1400 m landing strip which can accommodate versatile C130 Hercules (transport of troops and equipment). Forty of the 60 Philippine military deployed in the Spratly reside in this small base, and the island also hosts a civilian population of about 200 people, volunteers supported by the Philippine government. A small town has been created, complete with a town hall, a health center, a school, a water treatment plant, a weather station, a telecommunications tower for the Smart mobile phone company, and even a small marina. The residents, mostly fishermen, raise pigs, goats and chickens, as well as some vegetable crops. The island is visited monthly by the Philippine Navy and reserves of food replenished. The « town », which also has offices in Puerto Princesa, the capital of Palawan, is planning to develop tourism, on the model of diving complex developed by Malaysia's Terumbu Layang.

The People's Republic of China is much more aggressive in his occupation (see below, Sect. 20.5).

Vietnam has also set up impressive facilities. Its largest occupied island, Lagos (or Spratly Island), is the most heavily fortified one, with a concrete runway, a pier, at least 35 buildings, 20 storage tanks, 20 pieces of artillery, at least 5 tanks and radar and satellite dishes. Fourteen other islands seem to follow a standard building model. The Vietnamese have built weapons warehouses and military barracks equipped with solar panels, satellite dishes, concrete bunkers, a football field, a heliport, and street lights.

### 20.4.2 *A Press That Adds to Tensions*

A virulent rhetoric often accompanies the frequent incidents among riparian nations of the South China Sea. « War games », « deliberate aggression », « warning », « intrusion monitoring », « united front », « raid », « firmness », « keep out without permission », « block », « expansionist »: the tone is hard and threatening, possibly exaggerated by the media avid for sensationalism? But readers' commentaries are even more aggressive and contain blatantly racist remarks between Filipinos and Chinese.

It has led to increased militarization. Vietnam today is installing missiles on several of its islands. The Philippines has bought a US frigate to strengthen its patrols. In October 2011, Vietnamese Prime Minister Truong Tan Sang and Philippine President Benigno Aquino signed in Manila a naval cooperation agreement, clearly intended to thwart Chinese intrusions into Spratly although Vietnam and the Philippines also disagree with partially overlapping EEZ. The monitoring capabili-

ties of satellite imagery are leveraged by the various protagonists (Baker and Wienczek 2002).

At the same time of increasing incidents, there is a desire to calm things down, on both the Chinese and Filipino sides. For its part, Taiwan has suggested the creation of an « international marine park of peace » (Spratly Islands Marine Peace Park) highlighting the ecological importance of the archipelago (coral reefs, rich biodiversity ...) (McManus et al. 2010), against the threats of pollution by oil (Song 2008). Should an Antarctica-type of status limiting human activities to scientific research be considered in the Spratly archipelago? (Sun 1996).

## 20.5 Internationalization and Filipinization of the Dispute

### 20.5.1 *From Local to Global Tensions*

These tensions may lead to conflict. In 1988, violent clashes between Chinese and Vietnamese troops killed 70 soldiers on the Johnson Rock (Chigua Jiao) controlled by Beijing.

It is clear that the might of the Chinese giant worries its neighbors (Chang 2012), which are in the uncomfortable position of having to constantly play between their desire for emancipation of Chinese rule while avoiding direct confrontations which would immediately jeopardize their economic growth largely driven by China (Zhao 2013a, b). The Philippines and Vietnam are the two countries that have the tensest relations with China of all ASEAN countries (Severino 2010). Beijing seeks to prevent any coalition by insisting on bilateral negotiations (Ma 2006). In contrast, the Philippines is looking to offset its intrinsic weaknesses (lack of fighter jet aircraft, weak navy, pervasive corruption, destabilization by Maoist and Muslims guerrillas) and economic mediocrity by entering a series of alliances with ASEAN, while hoping for a stronger involvement of Japan and the United States. Ambiguous statements by then-Secretary of State Hillary Clinton in 2011 indicated that the United States could support the Philippines. But would they do it in an open armed conflict? Would the US send combat troops into a dangerous escalation reminiscent of the Korean War? Or just provide needed logistical support? Opposition to any return of the Americans is well entrenched in the nationalist Philippine left, which does not want them involved in the Spratly affair (Akaraki 2012).

The other emerging Asian giant, India, may also be drawn into the issue of the Spratly, as shown by the September 2011 arraignment of an Indian warship by Chinese coastguards off the Vietnamese port of Haiphong.<sup>12</sup> India is supporting the position of the Philippines against Chinese maritime hegemony in the Asian seas (Valente 2015a; Lucena Silva and Dantas de Amorim 2016).

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<sup>12</sup>It was also learned that a Chinese spy ship was discovered in early 2011 near the Andaman Islands (belonging to India).

The US ally, a former colonial power in the Philippines, looks carefully at this region (Fravel 2016) for several reasons, which are the roots of current tensions: the growing assertion of China's maritime power (Yoshihara and Holmes 2010; Yahuda 2013; Arillo 2014), oil (Buszynski and Sazlan 2007; Buszynski 2012), sea routes, but also since September 11 as part of its strategy to fight against international terrorism. Terror attacks in Bali (October 2002) and Jakarta (August 2003) have reminded the world that the largest Muslim country in the world is Indonesia, not Iran or Turkey or Egypt, and that radical Islamist movements also operate in this part of the world (Desker and Acharya 2004). In the Philippines, the Moro rebellion and the Abu Sayyaf activities also worry the Americans. US forces officially withdrew from the Philippines in 1991 with the closure of large naval bases in Subic Bay and Clark Air Force, which were important during the Cold War to exert surveillance over China, and which were also used during the Vietnam war, but the Islamist insurgency in Mindanao is being fought today by the Philippine Army with the support of US military advisers (Banlaoi 2002), trainers and Marines. For the United States, the Philippines is one of the countries where the fight against al Qaeda and now ISIS is taking place (Rosenthal 2003; Tan 2010), for fear of attacks on maritime traffic. Freedom of navigation on the sea lanes of Southeast Asia must be guaranteed (Dénécé 2000; Banlaoi 2005; Raymond 2005). Assumptions of terrorist actions at sea to disrupt the Asian maritime traffic are taken seriously by the West. But unlike a single passage such as the Strait of Hormuz between the Indian Ocean and the Arabo-Persian Gulf, the multiplicity of transoceanic passages makes the scenario of a complete shutdown of maritime trade between the Pacific and Indian Ocean less likely.

As in the Korean context of the « Sea of Japan » name for the maritime space to the east of the peninsula (Pelletier 2000), the Philippines and Vietnam reject the term “South China Sea”, which is of Anglo-Saxon origin, since the Chinese use the term “Nanhai” (South Sea), politically neutral, in the same way that Vietnam speaks of “Bien Dong” (East Sea). In June 2011, President Aquino decided that the maritime area to the west of Palawan should now be called “West Philippine Sea”, asking all institutions and bodies producing maps of the archipelago to use the new name immediately. Philippine Airlines, for example, has done so in its inflight magazines.<sup>13</sup> The National Weather Agency PAGASA<sup>14</sup> was instructed to use the term in its typhoon warning bulletins. This symbolic measure has been considered

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<sup>13</sup>However, the designations of the maritime space will be noted in the Wikipedia versions Philippine regional languages still include in early March 2012 the term « China »: « Mar de China Meridional » in Chavacano de Zamboanga, « Baybay Abagatan Tsina » in Ilocano, «Dagat ed Abalaten na Tsina » in Pangasinan, « Dayat Malat ning Mauling Tsina » in Kapampangan, « Dagat Salatan Tsina » in Winaray. The Tagalog version used the two terms « Dagat Luzon » (Luzon Sea) and « Dagat Timog Tsina » (South China Sea), which was changed to « Dagat Kanlurang Pilipinas ». The term « West Philippine Sea » seems aimed more international opinion than the Philippine public.

<sup>14</sup>The acronym, interestingly, means “hope” and reminds of course the name of the main island of Kalayaan.

as a provocation by China, even if Chinese maps, including in-flight magazines, include the controversial 9-dash line.

In addition, a month later, anti-globalization sociologist and congressman Walden Bello led a Philippine parliamentary delegation to the island of Pagasa. In a well-publicized show culminating with the singing of the national anthem, the raising of the Philippine flag and the reciting of the pledge of national allegiance *Panatang Makabayan*, they asserted that these tiny Spratly islands, in the geographical periphery of the Philippine territory, « archipelago of archipelagoes » (Palma 2010), were an element of national unity in a country divided by its insular fragmentation (Storey 1999). These islets are a powerful symbol for Filipinos, and at the center of the growing global rivalry between China and the United States (Austin 2003; Lee 2003; Faraon 2015; Gatbonton 2015; Mabasa 2015).

### ***20.5.2 China's Land Reclamation in the South China Sea***

China has increased the stakes (Fonbuena 2015d, e) by embarking since 2014 on major reclamations for airfields, possibly submarines' hideouts, and building housing over seven of the islets, three of them within the Philippines EEZ (Chigua Reef, Mabini/Johnson Reef, Panganiban/Mischief Reef) and four in the Spratly islands section claimed by the Philippines (Calderon/Cuarteron Reef, Gaven Reef, Kagitingan/Fiery Cross Reef, Zamora/Subi Reef) since 2014, some of it to build new landing strips for military aircraft. This has led to a new round of protests by the Philippines against China about the encroachment on Philippine territory (Esconde 2015) (which China considers as China's territory), the threat on fishing grounds and sea lanes (Fonbuena 2015a, b, c, d, e) and the destruction of more than 500 ha of biodiversity-rich coral reef environments (Cayon 2015; Esmaguel 2015c; Ranada 2015). The Bureau of Fisheries and Aquatic Resources (BFAR), after analyzing the ecological impact of the reclamation, calculated its cost at 4.8 billion Philippine pesos (about 50 million US dollars) in lost economic benefits.

Air reconnaissance imagery seems to indicate that the Chinese forces have installed missiles on Woody Island, a Parcel islet contested with Vietnam, raising the tensions even more.

The United States decries the unnecessarily aggressive moves by China and demanded an immediate end to land reclamation by all claimants. If official statements from Xi Jinping's government aim to project an image of a peaceful, emerging China, its behavior in the waters has been called "forceful," "coercive" (Ravindran 2012), "intimidating," and "destabilizing" by American leaders. The US Defense Secretary reaffirmed the American opposition to any further militarization of disputed features, adding that China's behavior in the area was "out of step" with international norms (Fonbuena 2015a, b, c, d, e; Jaipragas 2015). China rejected these statements, considering that it had the right to build on its own territory, in self-defense against the "pivot to Asia" policy of the Obama administration (Mercene 2015; Zakaria 2015). The aggressive stance of China to reaffirm its nine

dash-line claim may also be a domestic policy posture to reaffirm the strong control of the Communist Party and rally the population around the People's Liberation Army in a time of rising inequalities brought by the economic growth since the opening of China to globalization (Diola 2014).

### 20.5.3 *United Nations Arbitration*

In 2014, The Aquino government filed for arbitration against China in the United Nations Permanent Court of Arbitration in the Hague,<sup>15</sup> denouncing the baseless claims for the Chinese 9-dash line (Yee 2014; Fernandez 2015a, b; Kabling 2015), arguing for the rule of law against raw power,<sup>16</sup> and trying to raise it as a world affair of principles<sup>17</sup>—not just a Filipino-Chinese dispute (Cruz de Castro 2015)—settling once and for all whether artificial reefs are entitled to territorial waters (Del Rosario 2015). The Philippine government asked the United Nations tribunal to restrain China from creating a virtual “Berlin Wall of the Sea” (Fernandez 2015a, b).

An early decision of the court considered it as a relevant case to examine (Quismundo 2015; Santos 2015a, b, c), despite the voluntary absence of the Chinese party (Yu 2014), which considers that it would not be bound by any decision (Santos 2015a, b, c), since it has not taken part in the arbitration process.

To bolster his case, the Philippine side produced a series of historical maps (Bondoc 2014), including Chinese maps, all showing that China's southernmost territory has always been Hainan island-province and that Scarborough Shoal consistently was part of the Philippines. If there was trade and fishing all across the South China Sea for centuries, there was no cartographic indication of Chinese political control of the islands south of Hainan until 1946.

On July 12th, 2016, the Court in The Hague handed a major legal victory (Oliveros 2016) to the Philippines, asserting that China has no historic title to nearly the entire South China Sea and awarding the Philippines sovereign rights over Panganiban/Mischief Reef, Ayungin/Second Thomas Shoal and Recto/Reed Bank off Palawan. For the judges, there is no legal basis for China to claim historic rights to a ‘nine-dash line’ and China cannot claim entitlement to maritime areas under the Unclos, such as the Spratlys Islands, whose features are not capable of generating

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<sup>15</sup>The panel led by Judge Thomas A. Mensah of Ghana as President of the Tribunal includes four European members: Judges Jean-Pierre Cot (France), Stanislaw Pawlak (Poland), Rüdiger Wolfrum (Germany) and Prof. Alfred Soons (Netherlands).

<sup>16</sup>“*Allow the weak to challenge the powerful on equal footing, confident in the conviction that principles trump power, that law triumphs over force, and that right prevails over might.*”—(Calleja and Dizon 2015; Sabater-Namit 2015).

<sup>17</sup>« *Due to the importance of the case not just to our country but to the entire world owing to its impact on the application of the Rule of Law in maritime disputes*”—(Angeli Sabillo and Santos 2015; Esmaque 2015a).



maritime zones.<sup>18</sup> They added that China violated the Philippines' sovereign rights by constructing artificial islands, interfering with Filipinos' fishing and oil exploration, and failing to prevent Chinese from fishing in the Philippine EEZ, and that China's island reclamation aggravated the dispute during arbitration and inflicted irreparable harm on the marine environment (La Viña 2016). The tribunal also said China violated the Unclos provisions on maritime safety, as Chinese Coast Guard vessels risked head-on collision with Philippine vessels on several occasions. However, the court did not award sovereign rights to the Philippines over Panatag or Scarborough Shoal, even within the 200 nautical miles off the Zambales Coast, just over 120 nautical miles from Zambales, saying it was a traditional fishing ground for several countries and neither China nor the Philippines had the right to prevent anyone from fishing in the shoal. Overall, despite the Panatag ruling, it was a resounding legal defeat for China (Doronila 2016; Lee-Brago 2016; Macalalad and Ayroso 2016).

#### ***20.5.4 A Renewed Military Alliance Between the Philippines and the United States?***

The United States military, defying Beijing's criticism, has dared China (Ignatius 2015) by increasing air and sea patrols around the islands to prove that there is freedom of navigation in the area (Sy Egco 2015a, b) despite the fear that China would establish a new Air Defense Identification Zone (ADIZ) (Fabunan 2013a, b; Avendaño 2015) as it has done in the disputed Senkaku-Diaoyu area, and threaten the whole area with military airfields (Aurelio 2015a, b).

The Obama administration, increasingly vocal about its support for the Philippines (Barcelo 2016), also negotiated with the Aquino government a return to Philippine military bases (Aurelio 2015a, b; Misalucha and Amador 2016), with eight sites selected,<sup>19</sup> and the creation of a new naval base in Oyster Bay, Palawan (Anda 2013), closer to the Spratlys, under the controversial EDCA (Enhanced Defense Cooperation Agreement) protocol (Eilperin 2014; Mangosing 2014b; Cacho-Olivares 2016; Quismondo 2016; Saludo 2016a, b, Tiglao 2016; Wooton 2016) amounting to a reversal of the 1992 closure of US military bases in the archipelago, raising the ire of Filipino activists and columnists denouncing American

<sup>18</sup>The PCA sided with the Philippines that Scarborough Shoal, Johnson Reef, Cuarteron Reef and Fiery Cross Reef are "high-tide features," while Subi Reef, Hughes Reef, Mischief Reef, and Second Thomas Shoal were "submerged at high tide in their natural condition." Gaven Reef and McKennan Reef are both "high-tide features" (Calderon 2016).

<sup>19</sup>Basa Air Base in Floridablanca, Pampanga; Clark Air Base, also in Pampanga; Fort Magsaysay in Palayan, Nueva Ecija; Camp Antonio Bautista and a naval base in Palawan; Camp Benito Ebuena and a naval base in Cebu, and Lumbia air field in Cagayan de Oro City. The Americans are also seeking access to three seaports, including Subic Bay, and airfields on Luzon. In 2015, more than 100 US Navy ships reportedly docked at Subic under the Visiting Forces Agreement (Esplanada 2016; Gamil and Quismondo 2016).

neo-colonialism (Laurel 2013; Salamat 2013; Umil 2013; Baldo 2014; Cacho-Olivares 2014; David 2014; Tapang 2014; Jarasa 2015; Aning 2016), and of China upset with frequent joint military exercises of American and Filipino forces (Tiglaio 2014; Fonbuena 2015a, b, c) and a reinforcement of ties with Japan (Valente 2015b). Philippine officials support the decision of the US to send navy ships close to reefs reclaimed and occupied by China (Acosta 2015a, b). Despite the threats on regional peace (Borton and Hoi 2015), a growing concern of the world community (Lim Ubac 2014) for the perceived aggressiveness of China (Araneta and Solmerin 2015, Santos 2015a, b, c) towards a much smaller nation,<sup>20</sup> and the rallying of several countries (Japan, Australia, Vietnam, Indonesia) around the Philippine views and cooperation pacts, with the United States, keeping in mind the balance of power and its economic ramifications have not taken the case to the UN's Security Council.

China refused to acknowledge the “irrelevant” result of the UN arbitration proceedings and in the days following the decision proceeded to increase the militarization of the islets, declared itself ready to establish an ADIZ over the South China Sea, conducted war games with its ally Russia, increased its harassment of Filipino fishermen who wanted to reach the Scarborough area (Macatuno 2016; Mallari 2016). China media denounced a “law-abusing” court (Mangosing 2016), hinted at the “corruption” of the five judges by the United States on behalf of the Philippines, and blamed the Philippines for being a peace-disturbing country in the South China Sea. The Philippine tourism industry reported many sudden cancellations by Chinese tourists, as an economic retaliation to the ruling (Arnaldo 2016). Taiwan, usually quite restrained in its approach to this maritime question, also sent a warship to the South China Sea after the ruling was announced (Esmaquel 2016). Vietnam was not party to the legal dispute brought by the Philippines, but Hanoi's own efforts to resist China's belligerence in the disputed waters received a major legal and diplomatic boost from the tribunal decision, with the risk of heightened tensions between the two former communist allies, even as most of the Chinese anger is directed to the Philippines (Abb 2016). The Philippines, Vietnam and other ASEAN countries (Francisco 2016; Mabasa 2016) threatened by China's maritime expansionism, as well as Japan (Sakaki 2016; Torres 2016) may find new grounds to mount a joint effort with the support of the international community, within ASEAN, or outside ASEAN if Cambodia, Laos and Myanmar refuse to voice their concerns about China (Hörhager 2016).

Despite the warning of several countries, like Australia and the United States, that the world was “watching” China and its lack of respect for international courts, and the extended hand of the new Philippine president Rodrigo Duterte, who put

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<sup>20</sup>The Chinese press has compared the Philippines to mosquitoes needing to be taught a lesson. A writer of the *Global Times*, Chinese Communist Party's publication, says that ‘*The Philippines, pretending to be weak and innocent, declared that mosquitoes are not wary of the power of the Chinese elephant. The elephant stays restrained if mosquitoes behave. But if the mosquitoes invite an eagle [the United States] to come to their ambitious party, the constant military drill and infringement provide no better excuse for China to strike back*’—(Miks 2011; Yamsuan 2012).

former president Fidel Ramos in charge of an effort to reopen discussions about the dispute (Del Rosario 2016; Robles 2016), tensions remained very high in mid-2016.

Should the Philippines insist on China's compliance with the court of arbitration's decision and on using the ruling as a basis for the talks with China? (Romero 2016) Can China ignore the Hague ruling? (Heydarian 2016a, b) It will certainly not move out and hand over the South China Sea back to the Philippines after building a naval base, an air strip and defense facilities on the reefs now declared as belonging to the Philippines (Jimeno 2016). Will China hurt itself by defying the world? (Ching 2016) It may be very difficult to force China, a growing maritime superpower (Zhao 2013a, b; Li 2016), to submit to a decision against its own interests, when the country had said all along it would not pay attention to the results of the tribunal arbitration. The Philippines cannot seriously consider declaring war on China (Delizo 2016), and the United States, despite Barack Obama's "pivot to Asia", cannot also go to war with China about a territory that is not part of the United States. In this still-developing conundrum, the national interests of the Philippines, which has also lost several islands to current Vietnam and Taiwan (Acosta 2015a, b), may be superseded by the power play between the United States and China (Cruz de Castro 2014, 2016a, b, c, Tupaz 2015; Saludo 2016a, b). How can the Philippines appear as more than a pawn in the game of chess between its powerful neighbor and its former colonial ruler? (Del Rosario Cuunjieng 2015; Heydarian 2016a, b).

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# Chapter 21

## It's More Fun in the Philippines? The Challenges of Tourism

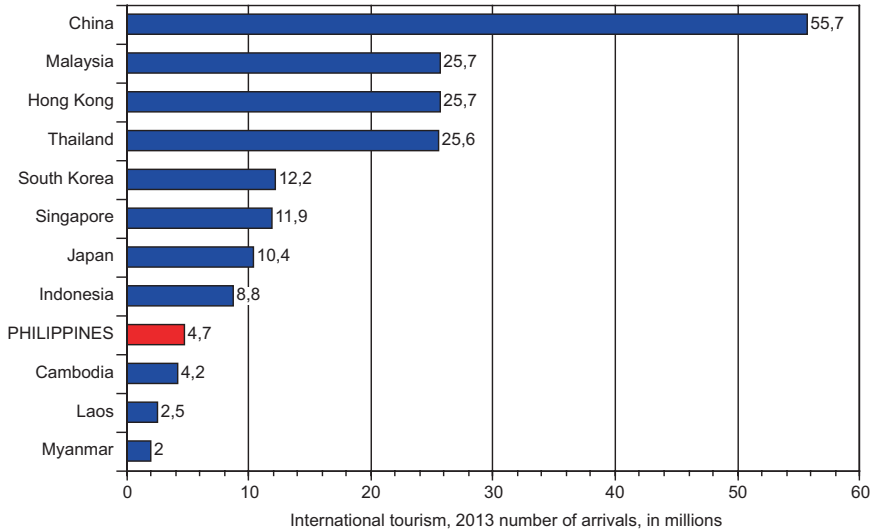
**Abstract** The Philippines have been in recent years a minor destination of international tourism flows, especially from Europe. Most visitors are Asians (Korea, Japan), Americans or Australians. This chapter examines some strengths of the Philippines in terms of tourism potentials (landscapes, undersea diving, cultural heritage), then its organizational and infrastructural weaknesses (transportation), as well as the lack of proper maintenance of tourism assets and the overcrowding of Boracay island, before examining the tourism policies of the national government (the successful “Its more fun in the Philippines” campaign, development of gambling, medical tourism and ecotourism). Four case studies in Bohol (diving and ecotourism), Laguna province (perimetropolitan resorts at a short distance from Manila), Batanes islands (non-tropical landscapes of a remote archipelago) and the rice terraces of Ifugao country in northern Luzon illustrate the diversity of tourism options in the Philippines around the dominant concept of sustainable tourism.

**Keywords** Tourism—SWOT analysis • UNESCO heritage • Ecotourism • Promotional campaigns

As a tourist destination, the Philippine archipelago is loaded with the attractions travelers dream of: tropical islands (Parrocha 2014), white sand beaches, world-class scenery, a superb potential for undersea diving, friendly outgoing locals who can speak English, a Latin culture unique in Asia, and large international style shopping malls in Manila. Yet for all its advantages, including low-cost accommodations, the country attracts few international travelers, when tourism should be one of the stars of the Philippine economy.

Data from the World Tourism Organization show the mediocre status of international tourism in the Philippine archipelago, ranked only 50th in the world for the number of foreign visitors. In the East/Southeast Asia realm, other countries such as China, Thailand or Malaysia, as well as tiny Hong Kong, Macau and Singapore, dwarf the Philippines (Logarta 2013) (Fig. 21.1).

What are the strengths and weaknesses of the Philippines for tourism? What are its opportunities and challenges? Many academics, journalists and professional analysts have looked at some of the problems facing the Philippines tourist industry while trying to ascertain solutions in the future. Many weaknesses are frequently



**Fig. 21.1** Number of foreign visitors in selected East and Southeast Asian countries (Source: International Tourism Organization)

mentioned: a history of under-investment, weak promotion and security troubles. A fuzzy image darkened by negative reports on the country (insecurity, terrorism, poverty, natural calamities) and mediocre infrastructures, starting with Manila's airport, are in sharp contrast with some neighboring countries.

In 2013, the World Economic Forum's Travel and Tourism Competitiveness Report reported the Philippines ranking 16th regionally and 81st among 130 countries surveyed (Dumpit-Murillo 2014). According to WEF, the country's comparative strengths were its natural resources (44th) and its price competitiveness (24th), but a number of areas have been holding back the potential of the Philippines. The report quoted the difficulty of starting a business in the country, in both cost and length of the business process (ranked 94th and 117th, respectively); safety and security concerns (103rd); inadequate health and hygiene (94th); underdeveloped ground transport, tourism, and IT infrastructure; and the availability of qualified labor (108th).

This may be changing with the successful "It's more fun in the Philippines" branding campaign launched in 2012 and the strong push for casinos, ecotourism and medical tourism. However, the underspending on transportation infrastructures will not allow for a rapid improvement of the tourist experience. Opportunities for tourism expansion opened by the coming economic integration of ASEAN may be hampered by threats such as the strained political relations with China and Hong Kong and the slow movement of Philippine bureaucracy to open the country to foreign investments in tourism. However, the Philippines may benefit from the experience of other countries such as Thailand that had difficulties managing huge flows of tourists (Rodolfo 2003).

## 21.1 Visitors to the Philippines

Most tourists to the Philippines come from neighboring Asian countries, South Korea alone providing a quarter of all visitors (Zabal 2016). In 2014, Koreans were 24.3% of the visitors in the Philippines, followed by Americans (14.9%), Japanese (9.6%) and Mainland Chinese (8.3%). These four countries account for almost 60% of visitors in the Philippines.<sup>1</sup> Data for the first half of 2015 (Arnaldo 2015a, b, c, d) confirm this trend (Korea 27.6%, USA 17.8%, Japan 10.2%, China 8.2%) (Fig. 21.2). Year-to-year variations in the numbers of foreign arrivals may be linked to events in competing countries (political unrest in Thailand), introductory fares by airlines starting to serve the Philippines from new markets (*Ethiopian Airlines* and *Turkish Airlines* in 2015) or even El Niño- induced weather variability (Saverimuttu and Varua 2014).

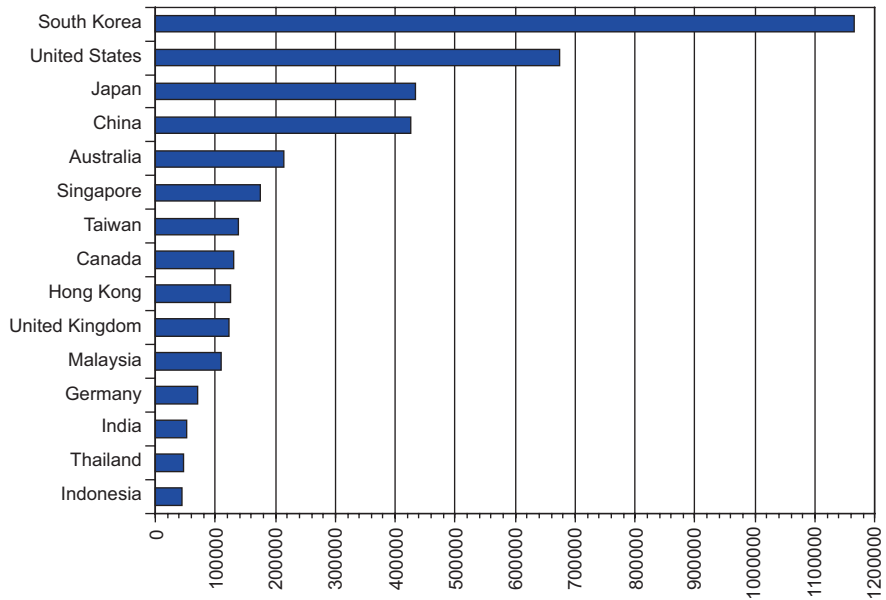
The number of Korean tourists in the Philippines is increasing steadily: there were 600,000 in 2008, the number almost doubled 5 years later (Esplanada 2012; Oiga 2012; Guéguen 2013). These tourism flows are also part of a new context: the Philippines has experienced good rates of economic growth since 2010 and are banking on their relative proximity to see the tourist demand from neighboring states to intensify. There is also the desire to change the tourism image of the country by shedding off sex tourism,<sup>2</sup> which had in particular taken the form of male business trips organized from Japan or Korea in the 1980s and 1990s .

Due to former colonial ties and the long presence of US military bases, Americans come in second place, also partly on the account of sexual tourism oriented to the clubs and bars of sections of Manila and the former military hub of Angeles City (Jeffreys 1999).

A striking characteristic of international tourism in the Philippines is the small presence of Europeans: 2.6% British (10th place), 1.5% Germans (12th), 0.9% French (16th). In most cases, a Western visitor is always considered as American, and greeted with an ubiquitous “hey Joe”, while many Filipinos are surprised to learn other Westerners may be visiting their country. However, a number of provinces, especially in the Visayas (Blijleven and Van Naerssen 2001) and Ilocos (Palafox 2016), try to promote tourism to European visitors, focusing in particular

<sup>1</sup>The tourism industry is adapting to this dominant influx of Asian visitors by emphasizing training in the Korean, Japanese and Chinese languages, in addition to English which is widely spoken all around the country (Andrade 2015).

<sup>2</sup>As in Thailand and Cambodia, sex tourism in the Philippines has evolved in successive stages. After indigenous prostitution, when women were subjected to concubinage within the patriarchal nature of most Asian societies, economic colonialism and militarization formalized prostitution as a mechanism of dominance meeting the sexual demands of occupation forces (primarily American and Japanese in the Philippines). International tourists later replaced occupation forces, and prostitution/sex tourism became a tool for obtaining foreign currency in a context of rapid economic development where sex workers, male or female, can be seen as a commodity, while the poor find a quick way to much-needed money by selling their bodies. A disturbing trend is the rise in child sex tourism, starting with webcam specializing in “kid porn” and sometimes leading to physical encounters between pedophiles and their victims (Mercene 2015).



**Fig. 21.2** Top 15 nations of visitors in the Philippines, 2013 (Source: Philippine Department of Tourism)

on heritage tourism. New visitors markets, which are actively pursued, include Pacific Russia (charter flights to Vladivostok and Khabarovsk), Turkey (new flights from Istanbul on *Turkish Airlines*) and Israel (Arnaldo 2015a, b, c, d).

Because the Philippines is an archipelago, almost all visitors arrive by air, with Manila Airport being the dominant point of entry (72.5%) followed by Cebu (14.4%), Kalibo (Boracay, 8.6%) and Clark Airport in Pampanga (3%) (Arnaldo 2015a, b, c, d). A large part of the foreign tourists are actually going to the Philippines to visit friends and family (the families of their Filipino spouses and partners). They will mostly stay at the family's places and not spend a lot of time in hotels, except when in Manila on their way to provinces.

## 21.2 Assets of the Philippines for Tourism

The country has a number of tourism resources able to attract a substantial number of visitors. The Philippines has timeless competitive advantages. It is near North Asia, which is composed of the rich sources of tourists: China, Taiwan, Japan, South Korea, and Hong Kong. The country has world-class natural attractions.

As a tropical archipelago, it can play the sun, sand and sea tourism card. Some of the most famous seaside resorts (Franz 1985) of the archipelago include the white sand beaches of Boracay Island (off the northern coast of Panay) (De La Cruz 2012;

Corrales 2014), Panglao (Bohol), Pagudpud (Ilocos Norte) and Caccnipa Island (Palawan), Palau Island (Santa Ana, Cagayan) (Domingo 2015), several dive/snorkeling sites on coral reefs and their underwater fauna and flora (Anilao in Batangas province south of Manila, Cabilao Island in Bohol, Malapascua and Moalboal in Cebu, Apo Island and Dauin in Negros, Alona Beach in Bohol, Honda Bay and Coron/Busuanga in Palawan) (Galvez 2014; Ong 2014; Pellicer 2015). People can swim with manta rays and whale sharks (*butanding*) off the coast of Donsol in Sorsogon Province (Bicol). Some areas with limited beaches have been transformed with the construction of artificial sand beaches, such as the rocky coast of Mactan Island near Cebu (Wong 1999). However, climate change (Dearden and Manopawitr 2011; Maguidad et al. 2013) and sea-level rise may be long-term threats to the development of coastal tourism in the Philippines, as they are for other places.

Other sites of interest are linked to peculiar geological features, such as Bohol's Chocolate Hills, home of the endemic tarsier (*Tarsius syrichta*),<sup>3</sup> the smallest of all primates, caves in Sagada (Mountain province of northern Luzon), El Nido's limestone cliffs and Puerto Princesa's underground River in Palawan (De Vivo et al. 2013), the Hundred Islands National Park in Alaminos (Pangasinan), Pagsanjan waterfalls (Laguna) and many volcanic landscapes (Lake Taal near Manila, Mt Pinatubo, Mt Mayon, Camiguin Island) (Pastrano 2015).

Cultural tourism will focus on the Spanish architectural heritage (Henderson 2012): Intramuros in Manila (Medrana 2015), the city of Vigan in Ilocos Sur, the churches of Bohol, old bridges (Calurasan 2015), and on the multiple religious festivals (Pottier 1977; Cruz-Lucero 2006; Galang 2012; Valdez 2014), food festivals (Sabanpan-Yu 2007; Buted 2014), ethnic festivals (Roa 2015), dance festivals (Luna Pison 2013) and local fiestas (Ceballos 1975; Magpantay et al. 2014) organized across the country since Spanish colonial times (Wendt 1998), among them the Sinulog in Cebu City<sup>4</sup> and the Quiapo Festival (Venida 2002) of the Black Nazarene held in Manila every January. Other events include the Giant Lantern Festival in San Fernando, Pampanga (Manabat 2015), Kuraldal in Sasmuan, Pampanga (Piñeda Tiatco 2012), Ati-Atihan in Aklan (Calopez et al. 2011; Peterson 2011, Pastrana Nabor 2015), Agawan, Mayohan and Pahiyas in Quezon (Guevarra et al. 2014), Anilag, Ana Kalang and Turumba in Laguna, Ina/Our Lady of Peñafrancia (Naga) and Tumatarok (Minalabac) in Camarines Sur (Adiova 2014), Kaamulan in Bukidnon, Dinagyang in Iloilo, Masskara in Bacolod, Negros, Lanzones Festival in Camiguin, Panagbenga Festival of Flowers in Baguio (Paredes-Canilao et al. 2014), Bañamos in Los Baños (Luna 2015), Kadayawan in Davao, Moriones in Marinduque

<sup>3</sup>A typical one day tour in Bohol from Cebu (90 min trip in fast catamaran) includes a lunch buffet cruise on the Loboc River, followed by a visit of the Chocolate Hills, of the Bohol Butterfly Habitat Conservation Center and the tarsier sanctuary, ending with a visit of the Baclayon church near the port city of Tagbilaran.

<sup>4</sup>Held every January, Sinulog—one of the grandest festivals in the Philippines—aims to connect the country's rich pagan history with its Christian traditions. The first Santo Niño was a baptismal gift by Ferdinand Magellan, while The Sinulog dance is said to originate from the court of Rajah Humabon (Sala-Boza 2008).





**Fig. 21.3** Bagumbayan (Rizal Park, Manila): the commemoration of Jose Rizal's execution (August 2015 photo)

(Peterson 2007b). A very unusual event is the gruesome crucifixions performed in San Pedro Cutud (Pampanga) on Good Friday (Bräunlein 2009).

In Manila, the memory of national hero Jose Rizal is well preserved in Rizal Park, located next to the walled city of Intramuros (Fig. 21.3). In Cebu, some of the interesting sites are the Shrine of Magellan's Cross which was planted by the Portuguese explorer Ferdinand Magellan's men upon his arrival in Cebu in 1521; the Basilica Minore del Sto. Niño where the oldest image of the Christ Child is enshrined and a Taoist Temple guarded by fierce dragons where the local Chinese go to pray. Several Spanish-era buildings have been dismantled from their original location in Manila and transported/reconstructed to a new site in Bagac, Bataan (Rico 2015), while Imelda Marcos, when she was First Lady of the Philippines and governor of Greater Manila, directed the construction of Casa Manila, a copy of an 1850s merchant house, which serves as a museum of colonial Manila in the heart of Intramuros. Local governments in the Philippines, such as Batangas province (Buted et al. 2014a, b, c), are quite active in promoting local heritage (Peterson 2007a), tangible or intangible. In this maritime archipelagic nation, heritage can even be found underwater (Orillaneda and Ronquillo 2011, Jago-On 2015), mostly in the form of sunken ships giving new insights on the early settlement of the islands, colonial trade and World War II (Goddio et al. 2014). A number of churches (Tejero 2015) and old houses have been restored across the country, albeit with some criticism regarding the methods and styles of renovation (Jore 2015). Some historical structures have been turned into local history museums, such as in Carcar, Cebu

(Mansueto and Montesclaros 2015). The widespread use of social media by Filipinos is an asset to disseminate information about local little-known treasures (Buted et al. 2014a, b, c).

Six Philippine properties are currently<sup>5</sup> inscribed on the UNESCO's World Heritage List. The Philippines fares quite well in comparison to neighboring countries, with 6 World Heritage sites, versus 8 each in Vietnam and Indonesia, 5 in Thailand, 4 in Malaysia, 2 each in Laos and Cambodia, 1 each in Myanmar and Singapore.

Three are in the "natural" realm: the Tubbataha Reef Marine Park (1993), the Puerto Princesa Subterranean River National Park (1999) and the Mt Hamiguitan Range Wildlife sanctuary in Davao (2014) (Ranada 2014; Regalado 2014).

The Tubbataha Reef Marine Park covers 130,028 ha, including the North and South Reefs. It is a unique example of an atoll reef with a very high density of marine species; the North Islet serving as a nesting site for birds and marine turtles. The site is an excellent example of a pristine coral reef with a spectacular 100-m perpendicular wall, extensive lagoons and two coral islands.

Puerto Princesa's Subterranean River National Park features a spectacular limestone karst landscape with an underground river. One of the river's distinguishing features is that it emerges directly into the sea, and its lower portion is subject to tidal influences. The area also represents a significant habitat for biodiversity conservation. The site contains a full 'mountain-to-sea' ecosystem and has some of the most important forests in Asia. It has also been designated as one of the New 7 Wonders of Nature, leading to more investment in tourism development (Dressler 2011; Enriquez 2011; Villamente 2011).

The more than 16,000-ha Hamiguitan mountain park runs from north to south along the Pujada Peninsula in the Eastern Mindanao Biodiversity Corridor. Its peak is more than 1600 m above sea level. This protected area boasts the largest "pygmy forest," a field of bonsai trees estimated to be around 100 years old. This unique forest (Amoroso and Aspiras 2011) occupies around 225 ha of the sanctuary. The mountain is home to the critically endangered Philippine eagle and Philippine cockatoo, as well as golden crown flying foxes (*Acerodon jubatus*, a large bat) and Philippine warty pigs (*Sus philippinensis*) (Fig. 21.4).

Three UNESCO properties in the Philippines are in the "cultural" realm. They are the historic town of Vigan (1999), the Rice terraces of the Philippine Cordilleras (1995) and the Baroque Churches of the Philippines (1993) located in four different spots: Paoay Church (Ilocos Norte), Santa Maria Church (Ilocos Sur), Miagao Church (Iloilo), San Agustin Church (Intramuros, Manila).

Established in 1572 as Villa Fernandina, in honor of the first son of King Philip II of Spain, then renamed Ciudad Fernandina de Vigan, Vigan<sup>6</sup> is the best-preserved example (Amarga Leyco 2014; Ciriaco 2015) of a planned Spanish colonial town in

<sup>5</sup> Mexico and the Philippines have teamed up to support the transnational nomination of the historic Manila-Acapulco Galleon Trade route to the World Heritage List.

<sup>6</sup> There are different interpretations about this name: it may be derived from the lush Bigaa tuber, a species of the taro family, or it may be a deformation of the Minnan dialect's "bee gan" (beautiful shore), a description given by Chinese sailors, while some Spanish texts of the time describe a Vigan river (now called the Mestizo river), which reflects the mixing of Filipinos and Chinese populations.





**Fig. 21.5** Calle Crisologo in Vigan (April 2016)

Asia. Its architecture reflects the coming together of cultural elements from elsewhere in the Philippines, from China and from Europe, resulting in a culture and townscape that have no parallel anywhere in East and South-East Asia. It has also been designated in 2014 as one of the New 7 Wonders Cities (Lazaro 2014; Barcelo 2015; Tejada 2015).<sup>7</sup> It is hoped that this distinction, coming after UNESCO's recognition, will draw even more visitors to the city and the Ilocos region (Locsin 2015). Vigan, a former island surrounded by three bodies of water (the Bantay, Mestizo and Vantes rivers), offers river cruises to visitors, pointing to the significance of waterways throughout the colorful history of this important trading post, where many galleons stopped between Manila and China. The city is trying to keep alive the image of Spanish Philippines, with its calesa rides and cobblestone streets (Calle Crisologo), succeeding much better than the decrepit Intramuros in central Manila (Fig. 21.5).

The four churches, the first of which was built by the Spanish in the late sixteenth century, present a unique architectural style, which is a reinterpretation of European Baroque by Chinese and Philippine craftsmen.

Beyond these “stars” of Philippine tourism resources, the country offers other beaches, churches (De Castro et al. 2014) and sites of interesting biodiversity across

<sup>7</sup> Other cities selected by popular online survey were Beirut, Doha, Durban, Havana, Kuala Lumpur and La Paz. The high popularity of online social networks among Filipinos (<https://www.facebook.com/ViganForNew7WondersCitiesOfTheWorld>), was one of the main factors of Vigan's selection (<http://ph-gov.blogspot.com/2014/09/vote-vigan-as-one-of-new7wonders-cities.html>).

the archipelago, from the Bataan peninsula near Manila (Supnad 2015) to Palau (Cagayan province) in northern Luzon (Domingo 2015) to Iloilo in the Visayas (Pelasol et al. 2012) and other places. The volcanic nature of the archipelago has allowed for the development of hot springs resorts as in Laguna province, especially in Los Baños at the foot of Mt Makiling in the southern vicinity of Greater Manila.

A comparative advantage of the Philippines is that the country, not being a major tourist destination at this time, is not suffering much from tourism overcrowding, except maybe on the island of Boracay (Ranada 2013; Oiga 2014b; Aguirre 2015), where uncontrolled growth needs to be tamed (Trousedale 1998) and occasionally in Baguio and Cebu.

### 21.3 The Weaknesses of Philippine Tourism Development

Given its abundance of tourism resources, why is the Philippines not a major destination for world tourism? Several factors can explain it: a negative perception of the Philippines by foreign visitors (warfare, insecurity, crime), the insufficient development of transport infrastructures and tourism facilities, including hotels and restaurants, a relative neglect of touristic assets, the absence of an entrenched culture of tourism, high excise taxes on jet fuel, all being the result of a weak tourism policy for many years (Lagman 2008; Henderson 2011; Remo 2014a).

Why come to the Philippines? One of the biggest problems facing tourism in the Philippines may be the incessantly negative portrayals of the country used by foreign media which have damaged the country's image, detracting many would-be tourists from even coming to the Philippines, in preference of the traditional Southeast Asian destinations (Bali, Thailand, Malaysia, Vietnam). For the Philippines, advice against travel to some parts of Mindanao has been constant and common. Reports of warfare in Mindanao, chaos in Tacloban after the 2013 typhoon or beggar children in Manila tend to affect the choices of many would-be travelers (Richter 2003), who would rather go to destinations with less obvious signs of a financially contrasted society. The U.S. State Department has long been a thorn in the side of the Philippines' tourism industry for consistently issuing dire travel warnings. Posted on its official site in January 2012, a typical alarm began with the ominous admonition, "The Department of State warns U.S. citizens of the risks of terrorist activity in the Philippines". "The Philippines is a volcano-, typhoon-, flood-, and earthquake-prone country" was another element of its warning about possible dangers that await the unlucky.

If tourists ever do make it to the Philippines, they often are baffled on where to go, what to see, what to do etc., due to the Philippine government's minimal efforts to improve national infrastructure (airport/expressway building, rail system etc.) in contrast to more tourist-friendly neighbors like Thailand or Malaysia, which already have the necessary infrastructure and economic stability needed to build on their tourism departments. A lack of budget for the tourism department means there are no walk-in Tourist Information Centers or detailed brochures outside of a few sites

in Manila. The hotel capacity of the country outside of Manila is quite limited and renting a car is almost impossible outside of the capital region.

Transportation is a problem as well (Cruz 2015; Marasigan 2015a, b). Philippine airports, particularly NAIA (Ninoy Aquino International Airport serving Greater Manila), are not up-to-par with other facilities in the region (Singapore's Changi, Hong Kong's Chek Lap Kok, Bangkok's Suvarnabhumi, Kuala Lumpur International Airport...). Overcrowded and undersized, the principal gateway to the Philippines has been consistently ranked among the worst airports in the world. Seventy percent of visitors to the Philippines come in through the Ninoy Aquino International Airport, the primary port of entry. Given the poor interconnection from NAIA to tourist destinations in the north and south, tourists' complaints about the difficulty of reaching their destinations abound.

Plane tickets, which are comparatively more expensive due to the imposition of the excise tax on aviation fuel, only make airfares more expensive for tourists traveling to the Philippines. It is one of the reasons why most European airlines (*Lufthansa*, *British Airways*, *Air France*) have stopped flying into the Philippines. People who do arrive at the country's international gateways—Manila, Mactan-Cebu, Kalibo, Clark, Davao, Laoag, Puerto Princesa—face inadequate air, sea and road connectivity to reach their holiday destinations. Once arrived in Manila, there is indeed no convenient system of hotel shuttles or urban rail connection to the city. Tourists have to settle for poorly maintained taxis that increase fares when encountering tourists. What to say or do whilst riding jeepneys or tricycles is well known by Filipinos, but is not given much attention by the few travel books written about the country. Many roads in the provinces are in poor condition and some promising sites cannot be reached by road. Construction plans for “tourism roads” (Burgonio 2013, Mirabuena and Yujuico 2014), such as the 88 km-long TPLEX reducing the time travel from Manila to Baguio (See 2015) to just 3 h, have been only partially implemented (Marasigan 2015a, b).

Another negative is the lack of pedestrian safety. Streets are dangerous to cross due to the aggressive driving style of jeepney and bus drivers as well as other motorists (Salazar 2015). Sidewalks are often in bad shape, and encumbered by beggars and vendors (Yotsumoto 2013), restricting the flow of pedestrians and facilitating the work of pickpockets. Maybe due to the hot humid climate, Filipinos are not too keen on walking outdoors and are much more comfortable with the “mall culture” present in North America. With a lack of the middle-classes using the sidewalks, many streetside gangs use them as bases to pester or mug pedestrians. Muggings are known to have happened to mostly East Asian tourists who had assumed that walking to their destinations in Manila or Cebu City would be as safe as in their origin countries, Japan, Korea or Taiwan.

Crime is not the only problem. There is a pervasive sense that corruption thrives at every level of Philippine society and that crime solving is not a major priority. What may scare off the tourists is not so much a lack of security, as a lack of quality (Satake 2015) and maintenance, including dirty toilets in many places (Dagooc 2014), and a deficit of image.

There is no ancient city in the Philippines that could compare with Angkor, Ayutthaya, Borobudur or Pagan. The capital city Manila has no grandiose royal



**Fig. 21.6** Manila's cathedral (Intramuros) (August 2015)

palace like Beijing or Bangkok. It has no grandiose cathedrals as in Cologne, Milan or Paris, and nothing like the Eiffel Tower, the Golden Gate Bridge or Sydney's Opera House. Filipino art museums have little to offer compared with their European or American counterparts. Despite its fine churches and historical significance, Intramuros, the old Spanish city, cannot be a major tourist attraction if the streets are littered with trash and the visitors endlessly disturbed by beggar children (Hsieh 2013) (Fig. 21.6).

Beautiful buildings of the American colonial period near Intramuros are also in a sad state of disrepair, as exemplified by the Metropolitan Theater (Ranada 2015; Maclang 2016). The buildings badly damaged by massive bombing on the capital in 1945 have not been repaired properly. Like Old Jakarta, the original center of Manila desperately needs redevelopment by renovation (Silao and Eugenio 1978). Efforts are done today to improve the tourist experience by limiting motorized traffic within the old town, but there is still a lot to do to make Intramuros a pleasant area to visit, except near Manila's cathedral and inside Fort Santiago.

Historical churches have not always been restored adequately: most churches in Luzon built during the Spanish colonial era were erected from blocks of carved adobe, but repairs were often made using modern cement, a material wholly incompatible with adobe (Caruncho 2015). Many have suffered through earthquakes (Yu and Oreta 2014), as happened in Bohol in 2013.

Filipino food does not have the great international reputation of Chinese, Thai, Vietnamese, Japanese, Indian or even Korean food. Critics describe much of the

Philippines' cuisine as focused on relatively mundane meals and fast food, which may be why there is a scarcity of Filipino restaurants abroad. The Philippines' top beach resort, Boracay Island, is regularly troubled by power cuts. People are known to be very friendly but contrary to Singapore where excellence is the norm, the Philippines has been described as "out of service with a smile" (McLean 2003; Ehrlich 2012; Magkilat 2014; Remo 2014a). As for the rice terraces of the Northern Cordillera, they are in much poorer shape than the ones seen in Bali or Southwest China.

In the end, the most decisive matter in the tourism industry's weak successes with the Philippines is that after more than 30 years without large numbers of tourists, the government and its people may no longer see their country as a major tourist destination and no efforts have been made to make the country more tourist friendly outside of closed resorts and limited sites. Efforts to change the country's image in local and international media have fallen on deaf ears. The country did not seem to advertise itself well enough for the Western markets, and was focusing its efforts on maintaining its comfortable flow of "weekend tourists" from neighboring Asian countries.

## 21.4 Opportunities and Pro-Tourism Policies

Lately, however, the Philippine government seems to have realized the need to promote the country better. It has launched a successful international campaign around the slogan "It's more fun in the Philippines". At the same time, ASEAN integration (Ariff 2005) is bound to offer more opportunities for inbound—and outbound—tourism with the progressive building of a Southeast community where travel will be easier from one country to the other (Wong et al. 2011a, b), with the push of the Philippines for a single tourist visa valid for all ASEAN countries (Remo 2014b; Yap 2014; Kerdechuen 2015; Arnaldo 2016), somehow comparable to the Schengen free travel policy in Europe. The growth of Chinese outbound tourism will combine with growing travel from Russia and Turkey, as recent air agreements have shown the potential. Visa-free travel to the Philippines has been extended from 21 to 30 days. This accommodation is granted to over 150 countries; however, because of Filipinos' reputation to go on TNT status,<sup>8</sup> the gesture isn't reciprocated by most nations, and travel outside of Asia is difficult, especially to Europe.

The widespread use of English and the Internet freedom experienced in the Philippines, even with speeds still too low, are good omens for attracting more foreigners, while the country is also focusing on niche markets: diving, gambling and medical tourism.

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<sup>8</sup> Tago Nang Tago, "in perpetual hiding", is the popular Filipino expression for undocumented, illegal migrants.



### 21.4.1 *More Fun in the Philippines*

Creating a brand for a country goes beyond a catchy slogan (Wallace 2011; Salazar 2013; Ilagan 2016). Destination branding is about powerful images and goes beyond tourism. It is also about a nation's politics, economy and security. In January 2012, the Philippine Department of Tourism launched a global campaign under the simple yet memorable slogan "It's More Fun in the Philippines".<sup>9</sup> The six-word slogan was in response to the country's need for a simple line that was "easily understood, competitive and differentiated" and one that would help the Philippines get a larger share of the tourism market (Uy 2012). Raising awareness of the country as a tourism destination and establishing favorable perceptions of the Philippines were the main objectives of the campaign, as many foreigners remain unaware of the Philippines. With limited financial resources, the Department of Tourism relied heavily on social media, inviting Internet users to upload photographs of both popular and less well-known Philippine holiday destinations and adding words to the now popular slogan (Fig. 21.7). The campaign has so far been successful (Gatdula 2012; Hogaza 2014) as much of the user-created content went viral within hours, catching the attention of the international media as well as high numbers of potential inbound arrivals. This new branding of the Philippines (Torres 2011) came on the heels of the botched branding campaign "Pilipinas Kay Ganda" ("Philippines how beautiful"), where the use of tagalog language made it unintelligible for foreigners in a world tourism market, while at the same time, according to feminist groups, it seemed to advertise beautiful Filipina women, presumably for sex. That short-term branding was supposed to replace the existing "WOW Philippines" made popular by former Tourism Secretary and senator Richard Gordon. Filipinos had accepted it because it reflected their typical reaction ("wow") when discovering something beautiful and rare. The campaign used powerful images, a catchy slogan, and a memorable theme song. However, the Philippines may need an icon to create its brand, such as the Eiffel tower for Paris.

"Fun" is what drives the current popularity of zip lines across the Philippines (Jennings 2014), where thrill seekers can take advantage of the mountainous areas to experience a birds-eye view of landscapes while gliding through a cable wire at speeds over 50 km/h. More than 20 have been put in services, such as in Lake Sebu (Cotabato, Mindanao), the highest in Asia (700 m), Dahilayan Adventure Park (Bukidnon, Mindanao), Delta Discovery park (Agusan del Norte, Mindanao), Lignon Hill Nature Park next to Mt Mayon (Albay province in Bicol), Tagaytay Ridge Zipline offering views of Lake Taal near Manila, Balungao Hilltop Adventure (Pangasinan), Subic Bay Tree Top Adventure (Olongapo, Zambales) or Sogod (Southern Leyte), among others. This clearly makes the Philippines the leader in Southeast Asia for this kind of leisure, but most of these lines have been built privately without much support from local authorities.

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<sup>9</sup>[www.itsmorefuninthephilippines.com/](http://www.itsmorefuninthephilippines.com/)



Fig. 21.7 It's more fun in the Philippines promotional material

### 21.4.2 Diving

The Philippines could be to scuba divers what Switzerland is to skiers, Hawaii to surfers<sup>10</sup> and Nepal to mountaineers: the place one must visit at least once to get the real heart of the sport. The tropical waters surrounding the Philippines 7107 islands host a spectacular underwater wildlife diversity. Crystal clear waters up to 60 m allows the discovery of shipwrecks (Subic Bay, Zambales and Coron Bay, Palawan), underwater cliffs populated with sponges, colorful corals, gorgonians, turtles, sharks, rays, and rarely seen fishes like Spanish Dancer, harlequin ghost-pipefish, camouflaged frogfish and fire gobies. Major diving sports can be found around the archipelago, from Anilao (Batangas) and Canyons and Sabang Bay in Puerto Galera (Mindoro), a short distance from Manila, to Taiei Maru (Coron), Yapak 2 and Crocodile Island (Boracay), Ticao (Masbate), The Pier and Apo Island in Dumaguete, Danjugan and Dauin (Negros) (Oracion 2007), Apo Reef (Occidental Mindoro), Monad Shoal in Malapascua (Cebu), Panglao and Cabilao islands (Bohol), Sarangani Bay (Mindanao), Honda Bay and Tubbataha Reef (Palawan).

Most islands in the Philippines cater to divers of all levels of experience. Operators (often foreigners) engaged with technical diving are well equipped with

<sup>10</sup>There are also a number of surfing spots on the Philippine coastlines (see map).

emergency equipment and other necessities. Dive centers in the Philippines are certified by agencies for maintaining their standards of safety and professionalism. Scuba diving courses are also endorsed by certifying agencies. The Philippine Department of Tourism is intent on making diving one of the top tools of its international promotion (Codilla 2013), for example with international trade shows such as World Deep (Diving Expo and Exhibition Philippines) held in 2013 in Cebu and the 2015 DRT Show (Diving Resort Travel) in SM Mall of Asia (Pasay). Government officials estimate that up to 15% of foreign visitors come to the Philippines for diving and the revenue in diving makes up a quarter of the total tourism revenue. Divers tend to stay longer and have a lot of activities included in their regular tourism, which make them excellent customers for the country's tourism industry.

However, the expansion of dive tourism (Kuklok 2012) may lead to problems in protected areas (Barker and Roberts 2004) of fragile coral reefs (Nolan and Rotherham 2012) and also to conflicts with fishermen in a context of dwindling marine resources, as has been shown for example in the case of Cebu (Lucas and Kirit 2009) or the Calamianes islands (Fabinyi 2008, 2010). Similar questions may be raised about surfriding (Porter et al. 2015).

Can sustainability and biodiversity conservation coexist with tourism? (White and Rosales 2003; Thiele et al. 2005; Catibog-Sinha 2010) Could user fees be a solution (Tongson and Dygico 2004; Jolejole and Briones 2010), at the risk of social inequities in the access to sites of natural beauty?

### 21.4.3 *Gambling*

Metro Manila, where a quarter of the population lives below the poverty line, aims to establish itself as one of the global destinations in gambling, competing with Macau and Las Vegas (Salcedo-Posadas 2011; Cohen 2014b; Lazo 2015; Palaña 2015; Venzon 2015). Recent aggressive efforts by authorities in China and Macau to curb money-laundering in Macau casinos have resulted in losses for the sector as high rollers stayed home, or looked for alternative destinations like Singapore, Cambodia or the Philippines (Chan 2012; Huber 2015; Lucas 2015). In the Philippines, the development of large resorts is cheaper (land costs, accommodations), leading the gaming industry to invest in Manila for mass market gamers, as well as entertainment, convention tourism and possibly boxing with the popularity of local champion Manny Pacquiao.

The government-controlled Philippine Amusement and Gaming Corporation (PAGCOR) was established in 1976 by president Ferdinand Marcos with the goal of regulating the gambling industry in the country. Prior to 1976, illegal gambling dominated the Philippines (unlicensed casinos, underground bookmaking operations, jueteng<sup>11</sup>). Gambling and betting are a heritage of Spanish colonization (Bankoff

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<sup>11</sup> Jueteng is an illegal numbers game originated from China. The Spanish colonial authorities had introduced it in the Philippines in the 1800s as a franchise of the governor-general in Manila.

1991; Lagman 2013), firmly implanted in Filipino culture (Matejowsky 2003). Casinos in the Philippines are taxed less than their regional competitors, advertising for gambling establishments is legal and authorities do not pose any obstacle to their attendance by local citizens, unlike South Korea and Macau (near total ban), Malaysia (prohibition for Muslims) or Singapore (prohibitive entrance fee).

In 1977, PAGCOR opened its first casino, The Manila Bay Casino, a floating facility controlled by Macau's gambling tycoon Stanley Ho. A fire destroyed the ship in 1979, leading to the establishment of land-based casinos. There are now about 20 casinos in the Manila area, some under the brand Casino Filipino in low-income neighborhoods, some in luxury hotels near Manila's waterfront (Pan Pacific Hotel, New World Manila Bay Hotel in Malate). At the edge of Chinatown in the Santa Cruz district of Manila, the Manila Grand Opera Hotel, once a theater that served as the center of Philippine culture and the main theater for plays, movies and zarzuelas until the construction of the Cultural center of the Philippines in the 1960s, is now a hotel, the only one in Metro Manila with direct access to the rapid transit system, and it hosts a small casino catering to Filipino-Chinese. Most Manila casino customers are ordinary people such as OFWs, office workers, businessmen and even laborers. They come from Makati City, Quezon City, Caloocan City and other areas in Metro Manila. Others are from nearby provinces in Calabarzon, where there are six casinos. In Cavite alone, there are four casinos—one each in Tagaytay, Carmona, Bacoor and Kawit.

In recent years, the scale of the casinos has been greatly enhanced with the opening of several mega-facilities (Antonio 2013, Lacsamana 2015). "Resorts World Manila", a joint venture between *Alliance Global Group* and the Hong Kong-based *Genting Group*, was opened in 2009 opposite Terminal 3 of the Ninoy Aquino International Airport.

PAGCOR, through an 2009 executive order of president Gloria Macapagal Arroyo, encouraged the development of Entertainment City (Red 2012), an ambitious real estate development adjacent to SM Mall of Asia (Pasay) that should put not only the city of Parañaque but the entire Metro Manila on the world map of leisure and entertainment (Sutton 2015). The project was officially named as the "Bagong Nayong Pilipino-Entertainment City". The 120-ha casino cluster reclaimed from Manila Bay in Parañaque aims at becoming another Cotai (the area in Macau built between Coloane and Taipo islands). PAGCOR has awarded casino franchises to four major operators.

In 2013, a first casino-hotel complex, "Solaire Resort and Casino" (De Leon 2013; Cohen 2014a), opened its doors on a site overlooking Manila Bay. Owned by one of the country's richest men, port magnate Enrique Razon (*International Container Terminals, Bloomberry Resorts*), it expected to earn two-thirds of revenues at its 500-room casino resort from local players in its first year of operation, shifting progressively to an even balance between foreign (Chinese) and domestic gamblers after a year or two. It has hired many Filipino employees from casinos in Macau (Batino and Aquino 2012).

It was followed in 2015 by "City of Dreams Manila" (Ganglani 2015; Guinto 2015; Moss and O'Keeffe 2015). A joint venture between the country's richest man

Henry Sy (SM Malls, Belle Corp) in partnership with Australian billionaire James Packer and Lawrence Ho, son of Macau casino mogul Stanley Ho (*Melco Crown Entertainment Ltd.*), the new casino resort complex (three hotels: Hyatt, Nobu, Crown Towers, as well as many shops and restaurants) is an imposing structure on Manila Bay with six gleaming golden towers surrounding a giant egg-shaped dome.

The “Manila Bay Resorts” (Loyola 2014; Felisse-Mangunay 2014; Johnson 2015) of Japanese businessman Kazuo Okada in partnership with Philippine businessman Antonio Cojuangco, a nephew of Corazon Aquino and cousin of Benigno Aquino III, has been undergoing construction and is scheduled to open before the end of 2016. It will be the largest of all four developments, with more than 2000 hotel rooms, 500 gaming tables and 3000 slot machines on the 44 ha site, aimed to welcome a 75% foreign clientele. Resorts World Bayshore City (Dumlao 2014; Mercurio 2014), to be completed in 2018, is developed by *Travellers International*, a joint venture between property tycoon Andrew Tan’s (*Megaworld*) listed investment holding firm *Alliance Global Group Inc. (AGI)* and *Genting Hong Kong Ltd.* The first phase of the complex will include three hotels with a combined portfolio of over 800 rooms, a 3000-seater grand opera house, a shopping mall, residential towers and a gaming area larger than their existing facility in Newport City.

*Caesars Entertainment Corporation (CZR)*, the largest American casino operator known for its Caesars Palace property is planning an integrated casino-entertainment center next to Ninoy Aquino International Airport Terminal 2 (NAIA 2) on a 30-ha largely idle government-owned site. However, PAGCOR is not keen on this development, which is pushed by the Department of Tourism.

Outside Manila, Sino-American Gaming Investment Group, controlled by Denver-based consultant RiskWise Group and Macau Resources Group have proposed two large scale resorts (De La Peña 2015; Jones 2015; Kingsley 2015), one in Lapu-Lapu City near Cebu’s Mactan airport, in addition to the existing Waterfront Airport Hotel and Casino, the other in Napayawan, Masbate, near a proposed airport.

#### **21.4.4 Medical and Wellness Tourism**

The medical tourism<sup>12</sup> industry is in a period of rapid global expansion, with countries like Cuba, Costa Rica, Hungary, India, Israel, Jordan, Lithuania, Malaysia, Mexico, Singapore, South Africa and Thailand actively promoting it. ‘Medical tourists’ include patients trying to avoid treatment delays and obtain timely access to health care. It includes uninsured Americans and other individuals unable to afford health care in their home settings (Ramirez de Arellano 2007; Turner 2010). With

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<sup>12</sup>The World Tourism Organization defines Medical tourism as “Tourism associated with travel to health spas or resort destinations where the primary purpose is to improve the traveler’s physical well being through a regimen of physical exercise and therapy, dietary control, and medical services relevant to health maintenance.”

rising medical and insurance costs, an ailing Medicare program (Jenner 2008), and a universal healthcare plan in doubt, a growing number of middle-class aging American baby boomers travel abroad for the specific purpose of obtaining health care, including elective surgery and long-term care (Esnard 2005). Just as automobile manufacturing and textile production moved outside the United States, American patients are “offshoring” themselves to facilities that use low labor costs to gain competitive advantage in the marketplace.

Destination nations regard medical tourism as a resource for economic development. Hip and knee replacements, ophthalmologic procedures, cosmetic surgery, cardiac care, organ transplants, and stem cell injections can be purchased in the global health services marketplace, as medical tourism enterprises market “sun and surgery” packages and arrange care at international hospitals in destination countries looking at medical tourism as a resource for economic development.

The Philippines could also become a favored destination for patients seeking quality medical care at very affordable cost, “first world health care at third world prices” (Turner 2007). For example, if the average surgeon’s fee for eyelid surgery in the U.S. is \$2500, in the Philippines, a qualified surgeon will charge only \$600 to \$1500. For liposuction, surgeon’s fees in the U.S. average \$2000. In the Philippines, it is around \$800. The Philippine government and healthcare providers hope to capitalize on the country’s reputation of affordable prices, high levels of English fluency, an abundance of well-trained doctors and nurses, and the famous Filipino hospitality. Many believe medical tourism is a natural complement to the Philippines’ burgeoning tourism and service industries. In the Philippines, there are many qualified, English-speaking, doctors who had formal training in plastic and reconstructive surgery and acquired their postgraduate or fellowship training from well-known institutions in the U.S. At the same time, patients can enjoy recreational activities in resorts close to the clinics (Connell 2006).

Marketing strategies of the Philippines as a medical tourism destination include government to government bilateral agreements focusing on medical health exchange, hospital to hospital partnership with foreign hospitals to send their surplus patients to the Philippines, referral and/or co-management in close cooperation with foreign medical referral companies and overseas doctors, and promoting the Philippines as a medical tourism destination to existing foreign tourism markets. Identified competitors are India, Thailand, Singapore and Malaysia, while the target markets are Overseas and former Filipinos (North America), Australians and Pacific islanders (Guam, Nauru, Palau, Micronesia, Papua New Guinea), Japanese, Korean and Middle Eastern (UAE, Bahrain, Saudi Arabia) patients.

The Philippine Medical Tourism Program was established in 2004. The public-private initiative includes government medical centers, private hospitals, various clinics, and the Philippine Departments of Trade and Industry, Tourism and Health. Its objectives are to position the Philippines as a competitive health vacation destination in Asia (Federico 2006), to broaden the marketability of the Philippines as a destination by way of diversifying its tourism products and increase awareness of Philippine medical tourism in target markets through aggressive marketing and promotion programs.

Government agencies promote the sale of transplant packages to international patients, touting for example in Saudi Arabia the low price of kidney transplants (Albuero 2007) at Philippine hospitals such as the Asian Hospital, National Kidney and Transplant Institute, Capitol Medical Center, St. Luke's Medical Center, Philippines Medical Center and others. Several authors have raised the issue of organ trafficking, illegal in Philippines, but the World Health Organization has identified Colombia, India, Pakistan and the Philippines as the leading global hot spots for buying and selling human organs (Turner 2008a, b; Padilla 2009; Mendoza 2010; Yea 2010; De Castro 2013; Gatarin 2014; Boongaling 2015).

Health tourism in the Philippines, "islands of wellness" (Panchal 2010), includes a wide range of body pampering, health and beauty treatments, integrating and promoting traditional Filipino healing modalities and use of local herbs, oils and essences. The Filipino spa experience (Panchal 2014) includes the "traditional Filipino touch therapy" of *hilot*<sup>13</sup> (Alave 2008) (an ancient art of treatment using bare hands and herbs) and *dagdagay* (an indigenous tribal foot massage using bamboo sticks, from the Mountain Province of Northern Luzon) (Carmona Carmona 2012), using an abundance of natural resources: thermal springs, organic and natural products, herbs, warm banana leaves, oils (virgin coconut oil) and essences.<sup>14</sup>

The strengths of the Philippines are its receptiveness to foreigners, English language skills, better sanitation than some competitors (e.g., India), very low cost medical services, strong nursing resources, general and specialty hospitals with a good reputation in Manila, as well as abundant herbal medicine and alternate therapy practitioners. A new emerging trend may be the development of "nursing care tourism" in the Philippines. Instead of sending health care workers abroad, elderly sick retirees may be tempted to come live their late years in the Philippines (Daubenbuechel 2014b).

However, the country is still not able to attract a significant number of medical tourists (Tugade 2014; Dagooc 2015) due to its lack of focus on a specific medical treatment on which to concentrate. Whilst Thailand may be known for cosmetic surgery and Germany for stem cell treatment, the Philippines still has not identified a particular health and wellness treatment which it would provide better than others. The Asian Eye Institute offers LASIK and cataract treatments for foreign patients. [Rxpino.com](http://Rxpino.com), the country's first online health directory, offers packages that include

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<sup>13</sup>The term "Hilot" or "Albolaryo" also refers to a traditional healer. These tagalog words have equivalents in other Philippine tongues : "Aplos" in Bontoc region, "Unar" in the Kalinga, Apayao region, "Aptus" in the Ibatan region, "Ilot" or "Ilut" in the Ibanag, Isneg, Ilocano, Itawis, Zambales and Pampanga regions. "Ablon" in the Northern Ilocano region, "Kemkem" in Pangasinan, "Elot" in the Ilonggo region, "Agud" or "Agod" in the Mindanao and Maranao areas, and "Hagod" in the Bukidnon region of central Mindanao.

<sup>14</sup>Aside from hilot, seven other massage therapies were included: "dinalisay" (decoctions of a mixture of indigenous medicinal herbs), "kisig" galing (biomagnetic energy healing), "unang lana" (virgin coconut oil), "tapik kawayan" (tapping of thin bamboo sticks to affected parts for circulation and releasing of energy blocks), "paligo" (that rinsing bath filled with leaves and flowers believed to have healing properties), "oslob" (steam inhalation from infusions of air-dried aromatic medicinal herbs) and "dagdagay" (traditional foot massage) (Corporal 2005).

tours and other vacation itineraries. Treatments focus on bariatric surgery for the treatment of obesity, cosmetic surgery, eye procedures dental implants and cosmetics. It has tie-ups with various hotels and resorts, spas, tour operators and other related businesses. For each procedure, Rxpinoyn has partnerships with specific clinics and specialists.

Even if hospitals are upgrading their facilities and obtaining international accreditation, their efforts still fail to attract foreigners to prefer the country as a health and wellness destination. Medical tourism can only become a viable growth strategy in the Philippines if a progressive health system, developed physical infrastructure and stable political environment are present, as well as a better overall tourism environment, as indicated earlier (transportation, crime). One of the main impediments to a successful medical tourism program is that the medical facilities are mostly located in Metro Manila and not near the preferred vacation spots in the Visayas (Daubenbuechel 2014a). Skeptics fear that the Philippines, as other developing countries, may emphasize technology-intensive tertiary care for foreigners at the expense of basic health care for their citizens, and that it can exacerbate the brain drain from the public to the private sector, even if possibly it will reverse the outflow of qualified professionals to foreign shores.

## 21.5 Threats and Failures

Despite efforts to improve the status of the country as a host destination, there are some powerful forces threatening the development of tourism in the Philippines.

The first one is overcrowding experienced in a few spots, especially the most famous beach resort area of Boracay (Occeñola 2015). First “discovered” in the 1980s by “hippy” types (Smith 1990), it has become the prime vacation spot in the Philippines, due to its exceptional white sand beaches. In 2014, Boracay received 1,472,352 tourists. One third of the total number of foreigners visiting the Philippines go to Boracay (Lago and Medina 2012), with Korean nationals topping the list. Barely 1032 ha in size, Boracay is reaching its saturation point (Villar 2015) with problems such as green algal blooms regularly coating the island’s waters, serious pollution of the groundwater table due to indiscriminate dumping of sewage and refuse by residents and visitors directly into the waters, resulting in excessive concentrations of fecal matter and coliform bacteria, unplanned resort construction (Burgos 2013; Arnaldo 2016) (331 alongside the island’s coastline), beach erosion, damage to coral reefs (Gonzales 2015), inadequate waste disposal, the rise of crime (begging, theft, robberies, prostitution, drug abuse, drunkenness) (Umil 2015), and excessive noise from nightclubs (Velasco 2015). Residents and tourists are very concerned with the unregulated self-degradation of the island (Romualdez 2012) due to a lack of implementation and enforcement of existing development control guidelines (Trousdale 1998, 1999, Pulta 2011). The challenge facing the island off the coast of Aklan is to develop and implement a long-term comprehensive plan (Flores 2008) to manage infrastructures, environmental protection and tourism



value (quality of the vacation experience) and keep tourism in Boracay sustainable (Ong et al. 2011) and enjoyable (Smith and Eadington 1992; Carter 2004; Smith et al. 2011). Tourism impact assessments are needed in other parts of the Philippines (Quicoy and Briones 2009) to avoid a repetition of the tourism-induced degradation, which is also happening in the Puerto Galera area of Mindoro (Evora 2013).

Rising sea levels will affect coastal tourism in the Philippines as it will in other countries, and maybe even more in the coral reef areas (Karpov Buss 2013). Climate experts forecast that due to global warming, the country will likely experience more severe natural catastrophes, like flooding and storm surges similar to the one brought by supertyphoon Haiyan/Yolanda in 2013, as the Pacific Ocean warms up. This warning brings additional instability and vulnerability to the industry. Media footage at the time showed stranded tourists anxiously waiting to go home in an atmosphere of chaos. These images resulted in mass cancellations of tourist bookings immediately after the typhoon hit. Tourists don't want to visit places of poverty and misery, where infrastructures are damaged or not working. Even in areas not strongly affected by Haiyan, such as Boracay, Cebu and Palawan, resorts and tour operators reported cancellation rates reportedly as high of 30–40%, while Bohol suffered from the damages of an earthquake that happened 2 weeks before the typhoon.

The continued instability and the recurrent kidnappings of foreigners (Chin 2015; Manlupig 2015) remain powerful deterrents to tourism in parts of the country (Varua and Saverimuttu 2012). The threat is highest in the southern Philippines, including coastal and island tourist resorts and dive sites in remote locations in the Sulu Sea and along the Zamboanga Peninsula. Groups based in the south are capable of carrying out kidnappings and launching attacks in other parts of the Philippines surrounding the Sulu Sea such as Palawan, and other locations frequented by tourists. In this part of the Philippines, the conditions that foster such crimes are a volatile mix of poverty, weak law enforcement and easy access to thousands of unlicensed firearms. The consumption landscapes (Ness 2005) of vacation resorts patronized by rich foreigners may be perceived by some as a provocation. Tourism destinations and tourists have always been 'soft targets' for terrorist activities (Paraskevas and Arendell 2007), and the growing trend of anti-tourists terrorism by Islamic extremists may not bypass the Philippines, as the 2002 and 2005 Bali bombings have shown in neighboring Indonesia. Western countries—the United States, United Kingdom, Australia, New Zealand, France and Canada—have issued travel advisories to their nationals in the Philippines (Manalo 2015).

The Philippines, therefore, has to answer fundamental questions as to which way its tourism industry should go, what kind of tourism it really needs, and who the target markets are (Palatino 2015). It should not be destructive to the environment and the local communities as mining has been, and should not forget Filipinos in the drive to attract more foreign visitors. Instead of going into mass markets like other countries in Southeast Asia, the Philippines may have a better approach by specializing in alternative, small-scale, but high-quality tourism, and catering to the Filipino diaspora, which not only regularly sends money to keep the country's economy floating, but also goes home regularly for family visits. The Philippine tourism industry could propose holiday packages suited to their needs and entice them to

spend part of their vacation not away from the homes of their families and friends, but with these family members and friends.

In an archipelago of islands and local cultures like the Philippines, a regional approach giving more power to provinces and local government units to develop tourism may also be welcome as a way to provide regional development and jobs (Javier and Elazigue 2011), and to slow down the excessive growth of Manila. Heritage tourism can be promoted at the local level with minimal funding and with the participation of residents, for example through community museums (Ronquillo 1992).

## 21.6 Local Impacts of Tourism in the Philippines

Tourism and leisure activities have increased opportunities for many Filipinos. Jobs may be more abundant as tourism develops (Yu 2012; Santamaria 2015), hence the growing attractiveness of courses in tourism management in different schools and universities (Solis 2013), such as the Asian Institute of Tourism at University of the Philippines-Diliman (Quezon City), the Lyceum of the Philippines University, in its three campuses of Intramuros (Manila), Cavite and Batangas (Laguador et al. 2014; Ylagan et al. 2014), De la Salle University, University of Santo Tomas, Colegio San Juan de Letran, St Paul University, University of the East and La Consolacion College in Manila, training future employees of tourism companies, cruise lines, . . . With the assistance of the Canadian Tourism and Hospitality Institute, international-level programs are also offered in major tourist spots such as Cebu, Baguio, Bohol or Boracay.

Tourism may become the main fuel of local economic development, even in the varied contexts of the Philippine archipelago (Maguidad 2013), with the well-known risk of excessive dependency towards tourism (Santos and Tomeldan 2009). Provincial governments promote their tourism resources (Velez 2015), using the main ingredients of islandness (Concepcion 2015; Guerrero 2015), protected landscapes (Vista and Rosenberger 2015), waterfalls, beaches, surfing,<sup>15</sup> snorkeling, rice terraces, heritage (Asi et al. 2015; Valderama 2014) and warm hospitality, while touting the virtues of being located off-the-beaten-path (Madarang 2015). Sustainable tourism (Alampay 2005; Cortez 2016), agrotourism (Sarian 2012; Cacho 2014; Latoza 2014; Ramos-Aquino 2014; Tuzon et al. 2014; Viray 2014; Luci 2015) and ecotourism (Sinha 2012; Reyes 2015; Mayuga 2016) are strongly emphasized by local government units (Bansil et al. 2015; Gumanao et al. 2015), the national tourism board and tourism experts (Alcid 2010; Keith 2013; Berino 2014; Zozobrado 2015) as a way for the Philippines to enhance job opportunities in the provinces and offer quality tourism to foreign visitors and Filipino citizens alike. The archipelagic nature of the country is an asset to tap, for example in the develop-

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<sup>15</sup>The best known surfing spots are in Baler (Aurora), Bagasbas Beach (Camarines Norte), San Juan (La Union) and Siargao (Surigao del Norte).

ment of marine tourism and cruises (Oiga 2014a; Remo 2015; Chua 2016), as well as the boat manufacturing industries, and the diversification of the economic base of fishing communities (Porter 2014). The country can learn from the lessons of other archipelagoes that have embraced tourism, such as the Balearics of Spain or the Hawaiian islands (Bardolet and Sheldon 2008). The rich natural marine environment of the country (White and Rosales 2003) is a definite asset, as long as local people get involved (Austin and Eder 2007; Jalani 2012) and tourism does not create problems with the resources, for example in situations when tourists can be in close contact with rare animals (Quiros 2005, 2007), a form of ecotourism which needs to be strictly regulated.

We will spotlight four areas of the country with diverse facets of tourism: Bohol, Laguna, Batanes and the Banaue/Ifugao rice terraces area.

### ***21.6.1 Bohol: A Focus on Ecotourism***

Bohol has played the card of ecotourism to lift its population out of poverty (Acejo et al. 2004; Porter and Orams 2014). A number of resorts have been built in recent years on the island itself and nearby Panglao island (Bersales 1999), catering mostly to upper-class customers (Andolong 2015). However, this may have some negative effects. If the preservation of geomorphologic oddities such as the cone karst area known as “Chocolate Hills” (Urich et al. 2001) have been hailed, the establishment of a protected area in response to deforestation, agricultural exploitation and uncontrolled quarrying has imposed a Westernized model of land tenure. Controversies arose about the burning practices used to maintain the grass-covered (tree-less) and brown hills to sustain tourist arrivals instead of letting trees grow in the wet tropical weather (Bantayan et al. 2013). The imposition of protective legislation to stop degradation of a landscape deemed interesting has disenfranchised and marginalized many local farmers and residents, leading to conflicting views on environmental protection and the property rights of landowners and farmers,<sup>16</sup> with the risk of escalation in civil unrest and armed conflict (Urich 2003) with a growing influence of the NPA. In a context of increasing land pressure, farmers were allowed in 2002 to cultivate some flatlands near the hills (Villanueva 2002). A congressman has even proposed to develop cocoa plantations around the geological site (Valencia 2012). However, the hypothesis of mass tourism to the top island sites cannot be envisioned serenely (Evidente 2009). Threatened coral and mangrove sites (Samonte-Tan et al. 2007; Husana and Kikuchi 2013; Bullecer et al. 2014) and animals like the tarsier (Cañete 2003; Aure and Escabi-Ruiz 2005) or flying foxes (Balane 2014) cannot sustain mass tourism. The province has endeavored to empower local residents (Pleno 2006) in the efforts to preserve tourism resources and instill some pride in being a Boholano. Examples include the replanting of mangroves (Amper 2004)

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<sup>16</sup> Similar conflicts between farming activities and the development of scenic areas for tourism have occurred in other parts of the country, such as Nasugbu (Batnagas) (Dizon 2015).

and the preservation of historical heritage (Camongol 2015; Jimenez-David 2015), such as the houses built by the Chinese in Sitio Ubos, the “pariancito” (little Chinatown) of Tagbilaran. Another limiting factor for mass tourism in Bohol and other tourism areas in the Philippines is the weakness of infrastructures. The Port Terminal in Tagbilaran (Avila 2013) can hardly handle the growing number of tourists that come for a visit, and the 2013 earthquake that hit the island did not make things better.

### 21.6.2 Laguna’s Resorts: Perimetropolitan Leisure

The Province of Laguna, south of Manila, has been dubbed the “Detroit of the Philippines” because of Sta. Rosa’s major vehicle manufacturers and the “Silicon Valley of the Philippines” due to the presence of a number of electronic and semiconductor companies operating in the Province. It is also known as the “Resort Capital of the Philippines”: about 500 hot spring resorts and pools utilize hot natural water from the foot of Mt. Makiling, an dormant volcano rising to about 1109 m above sea level in the municipalities of Calamba and the aptly named Los Baños,<sup>17</sup> and also on the southern reaches of Mt Banahaw (Fig. 21.8).

Swimming, bathing and balneology are the direct beneficiaries of geothermal energy in Laguna. The waters are promoted for skin troubles, relaxation, therapy and recreation. Due to its proximity to the Manila metropolitan area, the province is the top one in the country for the number of tourist stays in commercial facilities.<sup>18</sup> Even if geothermal resources are usually known as renewable energies, studies have shown that the intense use of underground thermal waters in Laguna province resorts has an effect: the swimming pools are drained/changed on an average of two to three times a week or even daily during peak periods of tourist arrivals. The unrestrained exploitation of groundwater has resulted in the drying up of older wells and the decrease in hot spring water temperature (Jago-On et al. 2014).

The hot spring resorts in Laguna are open 24 h a day. During the hot “summer” months of March to May, these resorts are fully booked and occupied daily. However, as summer months pass, local tourists come only on weekends. Most customers are Filipinos, but some resorts cater also to foreign tourists, especially Koreans, such as the 88 Hot Spring Resort in Calamba, 100% owned and designed by a Korean national and manned by Korean-Filipino managers.

Perimetropolitan leisure activities in Laguna also include a Disney-like theme park, “Enchanted Kingdom” in Santa Rosa, as well as the Pagsanjan River waterfalls reached by “bancas” (dugout canoes) shooting up rapids to reach them. “Bangkero” boatmen running (litterally, when they negotiate boulders in the rapids)

<sup>17</sup>The pre-Spanish name of the city was Mainit, which means “hot” in tagalog.

<sup>18</sup>According to 2011 data from the Philippine Department of Tourism, 2,9 million visitors stayed overnight in Laguna, more than in Greater Manila (2,8 M), Camarines Sur (2,5M), Cebu (1,9M), Cavite (1,8M), Zambales (1,1M) or Boracay (900.000), Davao (744.000) or Baguio (552.000).

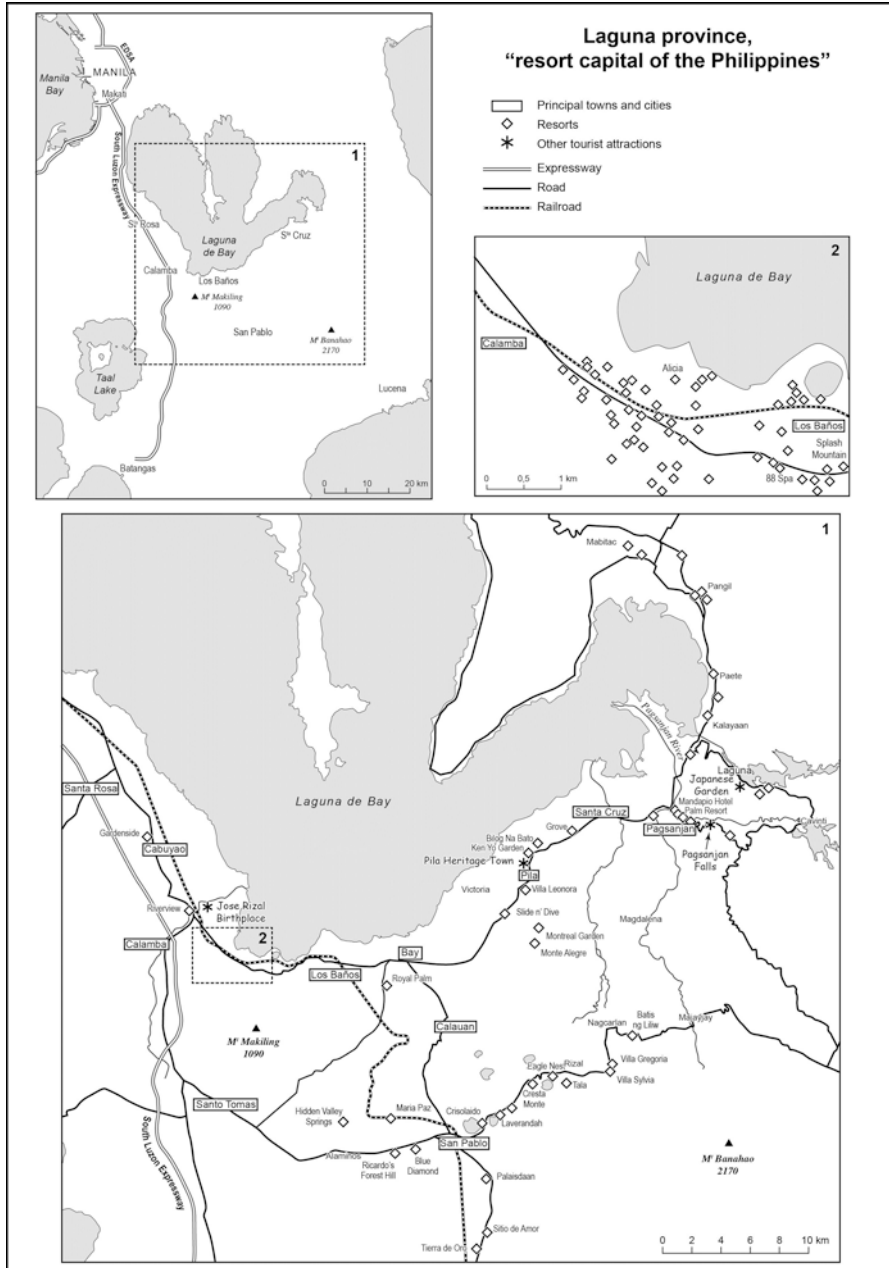


Fig. 21.8 Perimetropolitan tourism in Laguna province

the bancas are required to undergo a rigid 6-month training in order to acquire a license/accreditation for guiding tourists on the ride to the falls. This boat ride, very popular with Korean visitors today, already existed in the late nineteenth century

### 21.6.3 *Batanes*

Only 190 km south of Taiwan, Batanes (Hornedo 2000; Veld 2014), the northernmost group of islands in the archipelago, was created following a series of volcanic activities when Mount Iraya—today a dormant volcano that stands 1517 m above sea level—erupted around 325 BC. Batanes, the only province that is also a protected area, is the smallest province in the Philippines, in size and population. It is composed of three inhabited islands, Batan (which contains the capital town of Basco), Sabtang and Itbayat, and seven islets. Mt. Iraya's erupted again in 400 AD, coughing out many andesite boulders into the surrounding beaches. The coastline is quite different from the rest of the Philippines, and constantly hit by raging waves discouraging the hardest swimmers. The landscape of Batanes is quite distinct from other Philippine provinces due to the steep cliffs, rolling hills, deep canyons and boulder-lined shores. The wind-swept hills of the mini-archipelago, unfit for most tropical agriculture (no rice, bananas or coconut trees...), are the domain of livestock, with cattle, carabaos and goats raised on meadowlands separated by stone walls or hedges, a bocage-type landscape leading visitors to compare it with Ireland or Scotland. Compared to the rest of the country, the Batanes' weather is rather pleasant—it has an almost temperate climate from December to February, and it enjoys practically four seasons, the best one being summer which is from March to early June.

The province is home to the Ivatan, nationally acclaimed as “True Insulares”: they trace their roots to early Austronesian immigrants (Anderson 2005) from Taiwan as well as Spaniards who came to the island in the sixteenth century. They are fishermen (Mangahas 2010) if the weather lets them venture onto the sea and have specific building traditions. Unlike in the rest of the country where *nipa* huts are a common sight, the houses in Batanes are made of stone to withstand the destructive force of typhoons that so often strike the islands (Uy and Shaw 2008). House walls are at least a meter thick and thatched roofs are designed to last up to three decades of the constant battering of typhoons. Furthermore, these houses have a layer of solid wood window shutters, and their roofs have no eaves so the wind cannot enter the house and blow away the roof. One of the most interesting structures in Batan is Tukon Church, also known as Mt Carmel Chapel, a small chapel built the traditional way. Boulders make up the church's walls, interrupted only by carved wooden doors and stained glass windows. Inside, hand-painted images of the province's patron saints, one for each municipality, wrap its ceiling. Like Tagalog, The Ivatan language is peppered with pidgin Spanish words, but the isolation from mainland Luzon has resulted in a unique culture and distinct traditions having little in common with the rest of the country. It is clearly the least Filipino-looking part of the Philippines.

Due to the strength of its natural and cultural assets (Boncan-Buensalido 2015), Batanes is a high value destination that needs proper management for tourism to thrive. Tourism may be a way to stem the emigration of youth from Batanes to Luzon by creating more job opportunities. However, being an archipelago of a few small islands, it is quite vulnerable to the negative impacts of uncontrolled tourism.<sup>19</sup> Ecotourism enterprise development has been introduced as a strategy to provide an economic incentive for the villagers to maintain and repair their Ivatan houses and protect their natural resources.

#### ***21.6.4 The Rice Terraces of Northern Luzon and the Sagada Caves***

For many Filipinos, the rice terraces of the Cordillera Central are the eighth wonder of the world. Through the labor deployed there by the Ifugao people, these high altitude rice fields hugging the curves of the mountains create a landscape of great beauty that expresses the preserved harmony between man and the environment. They also reflect sacred traditions. The sites of Banaue, Batad and Bangaan are most remarkable and have been registered by UNESCO as World Heritage sites in 1995, as have the cultural landscapes of Bali Island in Indonesia (2012). The tourism image of the Banaue area is built around the 4 H (habitat, heritage, history, handicrafts) of the tourism industry (Medrana 2013). The Bali rice fields are quite easy to reach, but access to the Ifugao terraces is difficult, through a long, high altitude, winding road from Baguio, almost impossible to negotiate with buses. Jeepneys, minivans, private cars and motorcycles are the only practical ways to visit the terraces area.

As in Bali, the main challenge to tourism is to preserve the landscapes and the traditions (Bulilan 2007; Dulnuan 2014) in a difficult social and economic environment. The exceptional value of the Ifugao rice terraces (Sun et al. 2011) has led to efforts of preservation that have altered the perception of the local people on their heritage value. The Ifugao hierarchy of heritage values has not been fully understood by decision makers, while the local people tend to resent the restrictions imposed by outsiders on their lifestyle and perceived needs. The terraces epitomize the modern tensions putting a strain worldwide on that “harmony” between human-kind, culture and nature. According to UNESCO, “the terraced landscape is highly vulnerable because the social equilibrium that existed in the rice terraces for the past two millennia has become profoundly threatened by technological and evolutionary changes.”

However, after the rice terraces were put on the UNESCO endangered list in 2001, a new conservation approach giving more weight to local wisdom and cooperation between the Ifugao and other actors has been implemented (Guimbatan and

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<sup>19</sup>The mayor of Sabtang Island, obviously aware of the logistical and environment problems faced by Boracay, wants to contain the number of visitors in the island.

Baguilat 2006), allowing UNESCO to remove them from the endangered list in 2012. Some of the key challenges and threats (Nozawa et al. 2008) are the rural exodus of young people seeking better livelihoods and non-agricultural jobs (Dizon et al. 2012) in cities (no people, no terraces) and even abroad like many Filipinos (McKay 2003), the changes in food habits (no rice, no terraces), deforestation and the introduction of exotic tree species, the declining place of traditional rituals. The standardization of education excludes learning the Ifugao culture and the local knowledge that allows the survival of rice terraces. Finally, the introduction of non-endemic species of rice for more intensive farming weakens a sensitive ecosystem.

There are also challenges from tourism itself. Tourism contributes to the local economy, but also has negative impacts (SITMo 2008), among them the degradation of many attractive rural settlements where terraces are found. The Ifugao are victims of the commercialization of their culture: local people pose for pictures in their traditional dress and their traditional dances are modified specifically to please tourists, leading to distortions, some even say prostitution, of Ifugao culture. Tourism revenues are not well distributed and mainly accrue to hotels, restaurants and tour operators, and not to Ifugao farmers. An ineffective management of tourism flows has led to adverse environmental and land use impacts: hotels and inns have mushroomed in Banaue, with no standards for location and design; modern structures do not blend with the landscape of terraces; traditional homes are disappearing, while some new homes have been built on former terraces. There is, like elsewhere in the Philippines, more garbage.

World heritage site management has added new challenges (Akagawa and Siririsak 2008): how to reconcile the need for the evolution of the living traditions among local people, and the local/national/international requirements and regulations (Licyayo 2013) to conserve the outstanding universal values of the area, including intangible heritage? The identity of Ifugao and other Igorot groups itself has been questioned by scholars, as has been the age of the terraces themselves. It may very well be a recent colonial construct (McKay 2005).

The benefits of tourism have not trickled down to the terrace farmers themselves, who stress that tourism should not be the main reason for preserving the terraces. In cultural landscapes (Phillips 1998; Taylor and Lennon 2010), should nature and landscape be at the top of the conservation agenda, or should it rather be the local culture?

To save the terraces, local Ifugao groups have been quite active in developing new approaches to heritage preservation, involving much more the farmers, and empowering them to take charge of their own landscape (Martin 2015). SITMo (Save the Ifugao Terraces Movement) is the main group, whose mission is to revive traditional Ifugao knowledge and share it with the new generation. They fight the standardization of education by creating indigenous educational materials. They also set up community and economic development activities to improve the lives of Ifugao (rural electrification projects, agricultural properties project management). They also promote community ecotourism involving the local Ifugao community: farmers are trained in order to become guides and open guesthouses for visitors. The



main challenge is to make them understand the expectations and needs of different tourists (Filipino, Chinese, Korean, Western), for example in the provision of hot showers. A program developed in cooperation with the University of the Philippines Diliman (Macapagal and Bermejo 2015; Macapagal et al. 2015) seeks to rehabilitate traditional Ifugao housing and turn it into lodges for visitors wanting to be immersed in local culture. Other programs include institutional and private stakeholders (Ananayo 2015), including corporations such as SM (shopping malls) (See 2012), Toshiba Electronics or Canon Philippines, willing to sponsor the physical rehabilitation of the rice terraces as well as encouraging the continuation of rice cultivation,<sup>20</sup> especially the indigenous tinawon rice. The Department of Tourism (DOT) and the local government have launched community-based tourism projects by promoting “trekking tour packages” around the Hapao Rice Terraces (Comanda 2015).

SITMo’ global vision of cultural, environmental and solutions provided by intergenerational exchange of knowledge and community-based ecotourism is an idealistic model for the sustainable development of a threatened indigenous people. However, what if the exodus continues and Ifugao culture is lost? What if too many tourists come to Banaue? Will local communities be ready? Will the Ifugao abandon rice farming to focus more on tourism, at the risk of their fragile ecosystem?

Most visitors to the rice terraces will also tour the little city of Sagada and its surroundings. Sagada (Scott 1988; Comila 2007) is a town nestled among the pine forests, and although it also boasts picturesque mountain scenery and rice terraces, it is best known for the hanging coffins<sup>21</sup> on the flanks of the limestone cliffs and in the grottoes (Sumaguing, Lumiang, Sugong) of The “Valley of Echoes”. The tourism industry has packaged Banaue and Sagada by way of the myth of the Cordillera region as a place where rice terraces abound, so that a tight association between place and tourist attraction is formed and continuously reinforced by postcards (Torres 2006).

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<sup>20</sup>Farm tools and other equipment were turned over by the SM Prime Holdings team to the local government of Ifugao province, while Toshiba Electronics adopted portions of the Batad rice terraces and donated funds and farming equipment to improve yields of “tinawon” and sustain native rice production as the major source of income of tribal communities.

<sup>21</sup>This is a unique funerary custom of the Isagada/Kankanaey people, one of the Igorot mountain tribes, in which the dead are buried in coffins which are tied or nailed to the side of cliffs. This type of burial is reserved for the most distinguished or honorable leaders in the community, particularly the most prominent figure in the *dap-ay* (a dwelling build especially for unmarried boys). During their lifetime, such personages would have performed meritorious acts, decided wisely on matters at hand, and took charge of indigenous rituals. The coffins are carved by the elderly before they die. If they are too weak or ill to do so, a son or a relative would do it for them. The hanging coffins of Sagada may seem awkwardly placed, but the practice protects the dead from floods and animals, and for ancient Igorots, this tradition allowed their loved ones to get closer to heaven. Similar practices have now been abandoned in Indonesia and China.

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## Chapter 22

# Environmental Challenges in the Philippines

**Abstract** The Republic of the Philippines is one of most exposed countries in the world to many “natural” hazards: earthquakes, volcanic eruptions, tsunami, lahar flows, typhoons, flooding, landslides, and sea level rise. Earthquake risks make Metro Manila especially vulnerable, due to the high population density and the poor quality of buildings, partly linked to corruption. This chapter examines the current policies to reduce risk in the metropolis and the scales of vulnerability, both at the national, regional, community and individual levels, focusing on the resilience of people and society when confronted with danger. Their vulnerability is heightened with several forms of environmental degradation, such as deforestation, soil impoverishments, mining impacts, all favoring landslides and floods, as well as the loss in biodiversity, both in maritime and land areas. Despite the establishment of protected areas and natural parks, adaptation to climate change and mitigation of damage remains difficult and requires building up a better institutional resilience.

**Keywords** Hazards • Vulnerability • Resilience • Deforestation • Environmental degradation • Protected areas

The Philippines is often described as a melting pot of natural disasters. The archipelago’s exposure to disasters is to a significant extent due to the country’s geographical and geological characteristics. As part of the Pacific ring of fire, it is widely considered as one of the most exposed countries in the world to “natural” hazards (Vergano 2013). Extreme events hitting the country may be climatic in origin (typhoons, floods, droughts, sea-level rise), telluric (earthquakes, tsunami), volcanic (explosive eruptions) or a combination (landslides, lahar). In this regard, the Philippines resemble its archipelagic neighbors Japan and Indonesia, widely exposed to the same calamities, except for typhoons almost non-existent in Indonesia. Different institutions have ranked countries and cities worldwide in terms of risk, vulnerability and resilience. Most of these studies show that the Philippines fare poorly and that Manila is among the world’s least resilient cities (Diola 2014a, b) due to its poor environmental and social adaptive capacity and high vulnerability (combination of high hazards susceptibility, high population density, and insufficient levels of preparedness).

“Natural” hazards leading to disasters occur so frequently in the Philippines that this constant threat is integrated into the daily political, economic and social life of Filipinos to form what can be called a “culture of disaster”: the possibility of death during extreme geophysical events has been normalized as an integral part of the Philippine culture (Bankoff 2003).

Filipinos are used to disasters, but 2013 brought such severe ones that the country was brought to its knees. First came heavy monsoon rains in August, associated with Tropical Storm Trami and Typhoon Utor. Then a Bohol-centered earthquake hit the Visayas in October. Next came Typhoon Haiyan in November—the most powerful typhoon ever to make landfall—striking the final and heaviest blow and affecting ten million people. Its combined winds, rains and tsunami-like waves devastated huge swathes of the country. Communities, already struggling from disasters earlier in the year, were overwhelmed. Five million survivors were left in immediate need of shelter when one million homes were damaged or destroyed as Typhoon Haiyan struck the central Philippines in November 2013, exacerbating a pre-existing housing crisis. The state of the built environment, particularly poor construction and inadequate maintenance in hazardous locations, is a major contributing factor in determining community risk and is often largely responsible for what makes people vulnerable in many disasters. In the current disaster management schemes, the poor are likely to be put last. Conventional risk reduction mitigation methods (land use control, building codes implementation) are failing. A paradigm shift is needed—one that enables poor communities to maximize their limited resources and contribute to risk reduction.

The Philippines is also experiencing much environmental degradation—mainly in the form of deforestation, soil erosion, disruption of hydrological systems, over-exploitation of fisheries, destruction of coral reefs, and extinction of species. These problems are accentuated by the pressures of a large, fast-growing and impoverished population; and they may be more aggravated by climatic change in the wake of the global ‘greenhouse effect’. Moreover, the environmental degradation leads to adverse economic consequences (Myers 1988a, b) that are pervasive and profound—as may be expected in a country where several salient sectors of development are dependent upon the natural-resource base. In the long run, indeed, environmental degradation could well preclude the Philippines’ prospects for sustainable development.

## 22.1 A Most Exposed and Vulnerable Country

The Philippines are among the countries most affected by disasters identified with natural phenomena. According to the EM-DAT database (The International Emergency Disasters Database) of the Center for Research on Epidemiology of Disasters, the country was hit by 355 disasters<sup>1</sup> between 1900 and 2002, of which 340 occurred between 1950 and 2002 following an exponential trend. Available data

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<sup>1</sup>Each event recorded in this database is killed at least ten people, affected at least 100 people or needed international aid.

on the total number of casualties (deaths and affected people) and economic developments reveal damage similarly on the rise. The list of events is probably incomplete, since in the first reference years the recording disasters system was far from adequate. However, it raises questions about the causes of such an increase of catastrophic events.

### 22.1.1 World Rankings of Risk and Vulnerability

The *World Risk Report* (Mucke et al. 2014) prepared since 2005 by Alliance Development Works/Bündnis Entwicklung Hilft (BEH) for the United Nations University’s Institute for Environment and Human Security (EHS) places the Philippines as the second most at risk country in the world after Vanuatu (Fig. 22.1). The index based on the consideration of several factors leading to has developed a World Risk Index, which ranks global disaster hot spots. The World Risk Index is calculated by combining four elements: exposure, susceptibility, and lack of coping capacities and lack of adaptive capacities. Combining these four yields the so-called vulnerability index, which is the possibility of a disaster happening due to an extreme natural event.

The Philippines is the third most exposed country. Among the 25 countries with the highest risk worldwide, 12 are tropical (or semi-tropical in the case of Japan) archipelagic or island states: Vanuatu (No. 1), the Philippines (No. 2), Tonga (No. 3), the Solomon islands (No. 6), Papua New Guinea (No. 10), Timor Leste (No. 11), Mauritius (No. 14), Fiji (No. 16), Japan (No. 17), Jamaica (No. 20), Haiti (No. 21),

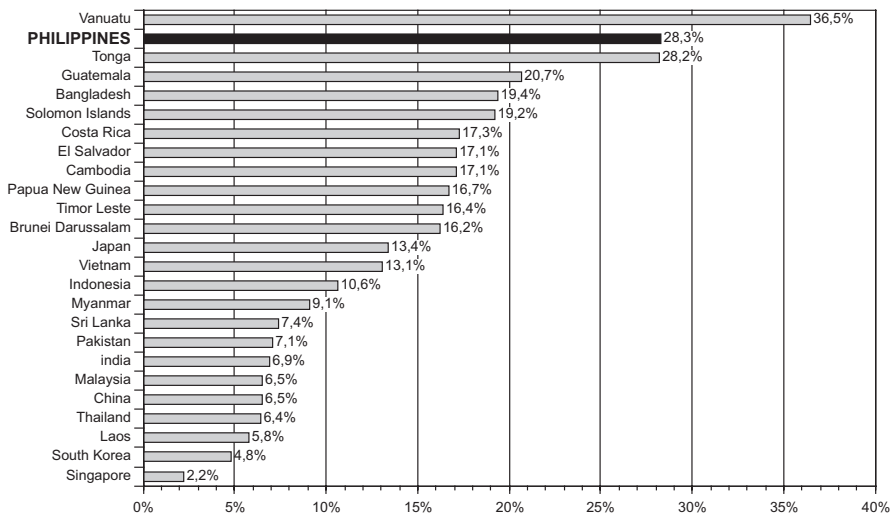


Fig. 22.1 World Risk Report 2014, selected countries. [http://www.worldriskreport.org/fileadmin/PDF/2014/WorldRiskReport\\_2014\\_online.pdf](http://www.worldriskreport.org/fileadmin/PDF/2014/WorldRiskReport_2014_online.pdf); NB-Taiwan data are not available

**Table 22.1** Components of risk: exposition and vulnerability

Exposition		Vulnerability	
1. Vanuatu	63.7%	1. Chad	75.7%
2. Tonga	55.3%	2. Haiti	73.8%
3. <b>Philippines</b>	52.5%	3. Afghanistan	73.7%
4. Japan	45.9%	4. Eritrea	73.2%
5. Costa Rica	42.6%	5. Central African Republic	72.2%
6. Brunei Darussalam	41.1%	6. Niger	72.1%
7. Mauritius	37.3%		
8. Guatemala	36.3%	60. <b>Philippines</b>	53.9%
		156. Japan	29.1%
165. Bahrain	4.3%		
166. Kiribati	3.1%	166. Netherlands	27.0%
167. Grenada	3.1%	167. Norway	26.7%
168. Barbados	3.5%	168. Germany	26.4%
169. Saudi Arabia	2.9%	169. Austria	26.3%
170. Malta	1.7%	170. Australia	26.1%
171. Qatar	0.3%	171. Switzerland	26.0%

Source: World Risk Report 2014

the Dominican Republic (No. 23). Owing to their proximity to the sea, island states are particularly exposed to the natural hazards of cyclones, flooding, and sea level rise. African countries and countries at war, as expected, fare the worst in the vulnerability categories, including the lack of coping capacities and adaptive capacities (Afghanistan, Central African Republic, Chad, Eritrea, Mali, Mozambique, Sierra Leone, Sudan, Tanzania, Yemen...). Haiti joins them in these bottom rankings. The Philippines fare better than those, but much more poorly than similarly exposed Japan (Tables 22.1 and 22.2).

Weather-related disasters are by far the most frequent in the Philippines, hit by typhoons twice as much as Japan. Out of 363 disaster events between 1980 and 2010, 197 have been tropical storms and 94 major floods (Tables 22.3 and 22.4)<sup>2</sup>.

### 22.1.2 “Natural” Disasters

Located slightly north of the Equator, the Philippines islands face the western Pacific without much else in the way to take the force of storms before they make landfall. Warm, equatorial waters power storms, 20–25 typhoons a year in this Western Pacific Belt, the most active tropical cyclone generator area in the world. It has the warmest ocean temperatures in the world, consistently above 28 °C, the needed temperature for tropical depressions to develop into typhoons and super-typhoons such as Yolanda/Haiyan (November 2013). Coastal and extended swamp

<sup>2</sup><http://www.preventionweb.net/english/countries/statistics/?cid=135>



**Table 22.2** Components of risk: susceptibility, lack of coping capacities, lack of adaptive capacities

Susceptibility		Lack of coping capacities		Lack of adaptive capacities	
1. Mozambique	65.9%	1. Afghanistan	93.3%	1. Afghanistan	71.9%
2. Madagascar	65.8%	2. Sudan	93.1%	2. Sierra Leone	71.8%
3. Tanzania	64.3%	3. Chad	91.9%	3. Mali	71.2%
4. Chad	64.2%	4. Haiti	91.0%	4. Chad	71.1%
5. Burundi	63.8%	5. Yemen	91.0%	5. Guinea	69.5%
6. Liberia	63.3%	6. Guinea-Bissau	89.7%	6. Eritrea	69.2%
61. <b>Philippines</b>	33.3%	60. <b>Philippines</b>	80.0%	67. <b>Philippines</b>	48.2%
135. Japan	17.6%	169. Japan	38.3%	143. Japan	31.6%
166. Singapore	14.4%	165. Norway	40.0%	166. Spain	25.7%
167. Bahrain	13.0%	166. Denmark	39.5%	167. Italy	25.4%
168. Luxembourg	12.9%	167. Finland	39.4%	168. Switzerland	25.1%
169. Kuwait	11.5%	168. Switzerland	37.9%	169. Iceland	24.2%
170. United Arab Emirates	10.5%	170. Germany	37.7%	170. Netherlands	24.0%
171. Qatar	9.0%	171. Austria	37.6%	171. New Zealand	21.1%

Source: World Risk Report 2014

**Table 22.3** Number of disasters with loss of human life, 1980–2010, in selected Asian countries

	Philippines	Indonesia	Bangladesh	Japan	Thailand	Taiwan	Malaysia
Tropical storms	197	5	108	77	29	51	6
Floods	94	118	68	22	58	5	31
Landslides	24	41	2	14	3	1	3
Volcanic eruptions	14	36	–	8	–	–	–
Earthquakes	12	76	7	31	2	6	1
Epidemics	10	29	27	1	5	2	11
Droughts	7	6	3	–	7	–	1
Others	5	10	<b>19</b>	4	1	–	5
Total number of events	363	321	234	157	105	65	58
Number of people killed	32,956	192,474	191,836	8568	11,922	4056	1239

Source: UNISDR—United Nations Office for Disaster Risk Reduction—PreventionWeb <http://www.preventionweb.net/english/countries/asia/>

areas are prone to floods and storm surges during typhoons. Their effect is enhanced by the concentration of the population in coastal areas and the configuration of the coastline, due to the many capes, bays, peninsulas and islands may locally increase the effects of a storm-related rise in oceanic waters.

The country is part of the Circum-Pacific seismic belt and lies in a complex pattern of tectonic plates, whose movements have created the islands and mountain

**Table 22.4** Major natural disasters in the Philippines

Event	Date	Location	Casualties
Haiphong typhoon	September 1881	Luzon	20,000
Supertyphoon “Yolanda”/“Haiyan”	November 2013	Samar, Leyte, Visayan Islands	7300
7.9 Earthquake + Tsunami	August 1976	Moro Gulf (Southern Mindanao)	5000–8000
Tropical storm “Uring”/“Thelma”—Flash floods	November 1991	Ormoc (Leyte)	5100
Volcanic eruption Mt Hibok-Hibok, lava, poisonous gases	December 1951	Camiguin Island	3000
Typhoon “Pablo”/“Bopha”	December 2012	Mindanao	1900
7.8 Earthquake	July 1990	Baguio (N. Luzon)	1621
Tropical depression “Winnie” – Flooding	November 2004	Luzon	1593
Typhoon “Frank”/“Fengshen” + capsized ferry	June 2008	Visayas	1410
Typhoon “Durian”/“Reming” + mudslides Mt Mayon	November 2006	Bicol region (Luzon)	1400
Typhoon “Nitang”/“Ike”	August 1984	Visayan islands	1363
Volcanic eruption	January 1911	Taal Lake (Batangas)	1300
Volcanic eruption—Ash and rocks	February 1814	Mt Mayon (Albay)	1200
Landslide	February 2006	Guinsaugon (Leyte)	1126
Typhoon “Sendong”/“Washi”	December 2011	Northern Mindanao	1080
Typhoon “Trix”. Floods and landslides	October 1952	Bicol Region (Luzon)	995
Typhoon “Amy”	December 1951	Camiguin and Cebu islands	991
Typhoon “Rosing”/“Angela”	November 1995	Bicol and Central Luzon	936
Pinatubo eruption—Ashcloud + Typhoon Yunya + Lahars	June 1991	Zambales/ Pampanga (Luzon)	847
7.5 Earthquake	November 1645	North Central Luzon	600

Sources: *Philippine Daily Inquirer*, November 10th, 2013 and *Manila Times*, December 7th, 2014

ranges. The 21 active volcanoes of the country are a permanent danger, even more after the powerful explosion of Mt Pinatubo in 1991. Earthquakes are felt quite regularly and the Indonesian and Japanese tsunamis of 2005 and 2011 are a reminder to Filipinos living on the coastlines that the sea can be a source of death.

El Niño/La Niña (ENSO) cycles across the entire Pacific induce episodes of drought or heavy rains in many parts of the Philippines, regularly posing serious problems in agricultural production and drinkable water supply. On a longer time frame, climate change, including global warming, may threaten the Philippines with more powerful storms and a rise on sea level, which will impact many parts of the archipelago.

In past typhoons, mudslides have killed many storm survivors in the Philippines, due to excessive deforestation which has denuded hillsides from tree roots able to hold together waterlogged slopes, which can lead to mudslides when they are hit by sudden huge outbursts of rain, as also happened in Haiti. The Philippines being largely mountainous, devastating landslides can happen all over the archipelago. Topsoil clogged waterways with stagnant water are linked to malaria and dengue outbreaks as well as episodes of intestinal disease epidemics. Uncontrolled mangrove removal weakens the natural defense of coastal areas to sea-borne disasters.

### ***22.1.3 Disasters and Society***

Disasters, however, do not occur only as a result of natural events like earthquakes, volcanic eruptions and typhoons. For geographers, disasters are defined as spatial and temporal conjunction between the occurrence of a potentially damaging natural phenomenon (a hazard) and a vulnerable society.

Disasters are the product of the social, economic and political environment, an environment where people live in adverse socio-economic situations that lead them to inhabit high-risk areas and engage in unsustainable and dangerous livelihoods. The young and poor population of the Philippines has increasingly shifted to coastal regions, where it lives in rapidly constructed houses, easily damaged by high winds. Uncontrolled urbanization is a factor in flooding, particularly in Manila. Risk can then be considered as a social construction.

Meanwhile, disaster preparedness is low in the Philippines, as it is in most of South and Southeast Asia (Ambanta 2013), leaving the economies in the region vulnerable to destructive typhoons. Effective management of disaster, preparedness coupled with mitigation should be given due attention for a more proactive rather than reactive response. Despite crippling floods in Bangkok, Jakarta and Manila in recent years, disaster preparedness in most of Asia's developing countries remains disturbingly low, with many of the poor living in unplanned, low-lying areas in cities at highest risk. Systematic disaster risk reduction measures still do not feature sufficiently in national development plans.

Vulnerability has been described as the interface between exposure to the physical threats to human well-being and the capacity of people and communities to cope with those threats. These threats may arise from a combination of social and physical processes. Vulnerability is “the state of susceptibility to be harmed from exposure to stresses associated with environmental and social change and from the absence of capacity to adapt” (Adger 2006). In other words, these are the conditions for a society that cause the occurrence of a potentially damaging natural phenomenon to turn

into a disaster (Gaillard et al. 2008). Hazards become disasters when they affect vulnerable people who cannot cope with the physical, economic and social impact.

How vulnerable is the Philippine archipelago, and most importantly its population? The combination of geography and poverty leaves Filipinos at almost unequaled risk of calamity, a vulnerability that ranks among this nation's most pressing and confounding challenges.

How do the country and the Filipinos cope with recurring disasters? Filipinos use self-help strategies starting from the family members to the community leaders to bring back normalcy in their living arrangements and in their farm activities in the aftermath of disaster, while government and non-government organizations focus mainly on the rehabilitation aspect through provisions of relief goods and resettlement areas (Luz Nelson and Abrigo 2008). Resilience is a commonly used concept to describe, with some admiration, Filipinos' attitude to hazards. More critical minds point out a lack of prevention by authorities and the pervasive burden of corruption that increases danger for people, since necessary measures are often taken without much concern for quality of the protection work.

Can the recurring catastrophes hitting the Philippines be a catalyst for a stronger action to mitigate the effects of global climate change? (Birkmann et al. 2008). The worldwide coverage of super-typhoon Haiyan in 2013 has shown the weaknesses of the country and highlighted the need for action. The joint February 2015 Manila declaration for action on climate change during the state visit of French president François Hollande may be an important step in that direction.

These concepts of vulnerability and resilience of communities, along with adaptation and mitigation<sup>3</sup> (Janssen et al. 2006; Smit and Wandel 2006), require a complex social, political, and ecological analysis in the context of global climate change (Adger and Brooks 2003; Gaillard 2010) in a developing country made up of mountains and water bodies under tropical weather conditions.

## 22.2 Earthquake and Tsunami Risks: Towards Mitigation Policies?

### 22.2.1 *Are Filipinos Prepared for the "Big One"?*

Experts have warned repeatedly that Metro Manila, the country's capital, which historically has suffered many damaging tremors<sup>4</sup> (De La Cruz 2014a, b) could be hit at any time by a magnitude 7.2 (or more) earthquake from the West Valley Fault

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<sup>3</sup> Adaptations are actions that people do to adjust to stimuli, such as rainfall or flooding. Mitigation, in the context of climate change, is more about reducing greenhouse-gas emission (Mayuga 2015). Adaptations are more local in scale, mitigation more global in scope.

<sup>4</sup> For example in 1645 (destruction of Manila's cathedral), even as the epicenter was far the city, in Gabaldon, Nueva Ecija. The latest major tremor affecting Manila with casualties and destructions was the 1968 Casiguran earthquake, with an epicenter in Aurora province.

which runs from Sierra Madre to Tagaytay City under the Manila metropolitan area or a 7.9 (or more) seismic tremor triggered by the offshore Manila trench, with the added threat of a tsunami. The West Valley fault has moved four times in the past 1400 years, with an average interval of 400–600 years. The last earthquake that can be related to this happened in 1658. Another quake is therefore expected soon. This feared earthquake, referred to as the “Big One” (Romero 2014; Talavera 2015; Torrevillas 2015) as it is also in California for the Los Angeles and San Francisco regions, is expected to kill about 35,000 people and destroy about 40% of the structures, according to the 2010 report “Metro Manila Earthquake Vulnerability Assessment,” prepared by Pacific Strategies and Assessments (PSA), a multinational firm doing intelligence work for clients on business and security in the Philippines, using data from the Japan International Cooperation Agency (JICA) and the Metropolitan Manila Development Authority (MMDA) (Bergonia 2011). High technology assessment of the building environment and the ground conditions, using GIS and satellite imagery, have been done with help, among authors, of Japanese earthquake scientists and engineers (Miura and Midorikawa 2006).

The apocalyptic scenario (Yap 2012) calls for many compounding problems. 35,000 people would die instantly, many others would slowly agonize in the rubble; more than 100,000 would be injured severely and need rapid treatment. Most casualties would likely be caused by building collapse (Miura et al. 2008) and spreading fires (Geronimo 2011). At least 117,000 homes would either collapse or suffer heavy damage, rendering 1.2 million people homeless. A fourth of public facilities—hospitals, schools, fire houses and police stations—would suffer damage. Damage to water reservoirs and purification plants would immediately cut 4000 water supply points, leading to inadequate capabilities to combat shanty town fires. Many electric and telecommunication cables would be cut, hundreds of antennas would be downed, instantly removing the supply of power across the metropolis and suspending telecom services at a most crucial moment, a situation that could last for several weeks. The airport would be closed, damage to major ports and cargo handling infrastructure would make bringing in relief supplies difficult. Metro Manila could be split into at least four regions (Diola 2014a, b) due to the collapse of buildings, destruction of elevated highways and bridges, impassable roads and fire. The Pasig River exacerbates the potential of separation in the event of an earthquake. If the Guadalupe Bridge, that carries EDSA and the MRT 3 rail line across the Pasig River, collapsed or suffered significant structural damage, the Ortigas Center area would be shut off from Makati City. Operations to evacuate thousands would be hampered by the sheer lack of open spaces in the metropolis, since open spaces like parks, schools, sports arenas and burial grounds now comprise less than 1% of total land areas of cities in Metro Manila. The lack of hospitals, fire trucks and ambulances, as well as the logistical difficulties would seriously hinder rescue and relief operations and the medical treatment of thousands of earthquake victims.

The report stresses that the effects of a 7.2-magnitude tremor are likely to be made more terrifying by a lack of preparedness and failure to enforce zoning laws and building standards. “*While earthquakes are a global and natural phenomena that can hit any city without warning, there are both openly declared and unspoken*

*reasons why Metro Manila is particularly vulnerable;*”, among them poor building standards, weak enforcement and lack of opens spaces.

*“Despite international assistance programs that have gained considerable momentum over the course of the last several years, unreliable infrastructure system, poor building standards due to corruption in the construction and inspection process, informal settlements ... in hazardous areas and a lack of government resources and coordination ... are just some of the factors that plague the country’s disaster preparedness,”* the PSA report said. Making sure that buildings and houses are safe is critical to reducing potential casualties if a major earthquake hits the city. But the report doubted whether builders had taken into consideration that Metro Manila’s soil was mostly made of quaternary alluvium [alluvial deposits of sand, gravel, silt and clay], which is generally not suitable for construction of big infrastructure and buildings, due to the heavy risk of liquefaction (Flores 2011). The risk is particularly worrisome in the coastal barangays of Marikina, Pasig, Taguig, Caloocan, Malabon, Navotas, Marikina, Muntinlupa, Pasay, Las Piñas and Pateros, alongside Manila Bay and Laguna de Bay, as well as several areas in the provinces of Pampanga and Nueva Ecija. It includes reclaimed lands such as portions of Roxas Boulevard and the Mall of Asia area. Despite rapid urbanization and the decay that it brings, *“the national government has failed to adopt a comprehensive land use plan for Metro Manila,”* the report said.

The 1968 Casiguran earthquake (De La Cruz 2014a, b) pushed the Marcos government in 1972 to enact a law that provides guidelines and minimum standards for the construction of buildings (Republic Act 6541, “An Act to Ordain and Institute a National Building Code of the Philippines”), revised in 1977 to implement a National Building Code of the Philippines (Presidential Decree 1096).<sup>5</sup> Based on the new building code, an edifice should be able to withstand an 8–8.9-magnitude earthquake. However, there is still a weak enforcement of the safety regulations. If the high rise buildings—because they can afford to engage top-notch structure engineers, civil engineers—appear to be well constructed, the bigger problem, according to a Congressional hearing (Rosales 2011), is that of low cost/low rise buildings now proliferating in Metro Manila. They are under the biggest threat because construction firms or developers of low-cost and low-rise buildings (2–5 stories) have a tendency to do shortcuts and do not strictly follow the letter of the Building Code, breaching the safety regulations and proper footing foundation. People most at risk in earthquakes are those located on the middle floors of multistory buildings constructed of concrete or mixed materials (Roces et al. 1992). At fault are a widespread corruption in the building industry (building permits delivery, bribes to inspectors) (Palafox 2016) and the lack of coordination between local and national agencies has weakened the enforcement of building standards, so that many residential and commercial buildings are still being built on hazard-prone areas, using substandard construction materials.

There is a common understanding that more must be done to increase the country’s resilience and mitigate earthquake impacts (Iuchi and Esnard 2008), since the occur-

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<sup>5</sup> <http://www.gov.ph/downloads/1977/02feb/19770219-PD-1096-FM.pdf>

rence of a powerful seismic tremor in the nations' capital is not a case of 'If', but 'When'. Several organizations and agencies, including the MMDA, PhiVolcs (the Philippine Institute of Volcanology and Seismology) the National Disaster Risk Reduction & Management Council (NDRRMC) and the Philippines Disaster Resilience Foundation (PDRF) regularly engage both the public and private sectors in increasing resilience and undertaking preparedness activities. Computer scenarios (Parsons 2016) based on the 2004 MMEIRS ("Metropolitan Manila Earthquake Impact Reduction Study") and subsequent studies have been drawn. Several-size earthquake drill exercises have been staged at the municipal level first, and more recently at the metro-wide scale (Francesco 2015a, b; Lozada 2015). These drills are critical to test not only the response capacity and the readiness of the residents but also existing communication lines between different government units and other groups that need to respond. Not everyone, however, has taken earthquake drills seriously, since many participants were reported to take selfies during the drill, instead of listening to the local authorities (De La Cruz 2014a, b). For preparedness, the importance of having an evacuation plan, and actually knowing where evacuation centers are located.

In case a powerful earthquake hits the National Capital Region, the government will use at least four golf courses (Santos 2011; Zurbano 2015a, b) as evacuation centers in the National Capital Region. The Villamor Golf Club in Villamor Air Base in Pasay City (South), Intramuros Golf Club in Manila (West), Wack-Wack Golf Club in Mandaluyong (East) and the Veterans Memorial Medical Center Golf Club in Quezon City (North) were identified by the MMDA as evacuation centers in preparation for the "big one." Golf clubs will also be used as relief distribution hubs, trauma centers, mobile hospitals, training and command posts based on the agreement made by the agency and the management of the golf courses. The MMDA also designated other private establishments and public institutions as operation centers to assist affected residents. These are University of the Philippines Campus in Diliman, Quezon City; Light Rail Transit depot in Santolan, Pasig City; Marikina Boys Town, Marikina Red Cross and the University of Life Arena, also in Pasig City. The Pasig River would also serve as an alternate route for rescue and relief personnel in case bridges are destroyed.

People should know what to do before, during and after the earthquake. In 2014, Phivolcs and JICA have distributed a 12-point questionnaire<sup>6</sup> ("How Safe is My House? Self-check for Earthquake Safety") so that homeowners can use it to assess the earthquake readiness of their houses (Ranada 2014a, b, c, d, e, f). The national agency Phivolcs has issued a list of recommendations to residents and businesses and a pocket-sized Earthquake Preparedness Guide. It has also prepared the Valley Fault System Atlas (Ranada 2015), a handbook of large scale maps (scale of 1/5000 for paper maps) that detail the 57 subdivisions and villages traversed by the Valley

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<sup>6</sup>Twelve non-technical questions, accompanied by simple drawings, easy to answer by any resident: (1) Who built or designed my house? (2) How old is my house? (3) Has my house been damaged by past earthquakes or other disasters? (4) What is the shape of my house? (5) Has my house been extended or expanded? (6) Are the external walls of my house 6-inch (150 mm) thick? (7) Are steel bars of standard size and spacing used in walls? (8) Are there unsupported walls more than 3 m wide? (9) What is the gable wall of my house made of? (10) What is the foundation of my house? (11) What is the soil condition under my house? (12) What is the overall condition of my house?

Fault System, which was distributed to local government units (Mangosing 2015) and put online,<sup>7</sup> while the University of the Philippines National Institute of Geological Sciences (UP-NIGS) published an updated Google map based on Phivolcs' VFS Atlas data.<sup>8</sup> A team of Filipino web developers have created Project Tremors, a website<sup>9</sup> calculating how far a place is from the West Valley Fault (Diola 2015; Panela 2015).

The MMDA started in 2015 to mark structures and areas where the West Valley Fault passes as part of its preparedness plan in the event a powerful earthquake hits Metro Manila. The effort, dubbed as "Walk the Fault" (Zurbano 2015a, b), started in the villages of Pinagsama, North Signal, Central Signal and Maharlika in Taguig. It is not intended to cause unnecessary alarm, but to make the public more conscious and start preparations from within the homes and neighborhoods.

The Metro Manila Disaster Risk Reduction Council, under the MMDA, has conducted in 2014 an "earthquake census" to inform residents of some urban villages that their homes are near active faults. This census, however, was weakened by a lack of manpower. Test barangays, at least one per constituent city of Metro Manila, were thoroughly examined, with the hope that other barangay would follow.

The Philippine Disaster Risk Reduction and Management Act of 2010 was passed with its lofty objectives, transforming the former National Disaster Coordinating Council into the National Disaster Risk Reduction Council. However, this agency, the Department of Interior and Local Government, MMDA and other closely concerned government agencies have still done too little to prevent a major catastrophe. The disaster preparedness and risk reduction program has been limited to the installation of early warning systems, purchase of lifeboats by local government units and a stricter implementation of evacuation orders. Despite many warnings by scientists and media about the readiness, or lack of readiness, in Metro Manila and other places (Romero 2014), no serious mitigation and adaptation measures have been implemented nationwide. Only small-scale successes—such as St Bernard in Southern Leyte (Quismondo 2012)—due mostly to the initiatives of enlightened leaders and/or support from foreign actors<sup>10</sup> can be reported. Despite the identification of the most vulnerable areas in Metro Manila cities and municipalities, the government continues to permit construction of high-rise buildings. Building and construction regulations are still negated by corruption while budget cuts have slowed down the conduct of disaster preparedness trainings and the formulation of plans (Oliveros 2015). Timid efforts at coordination between local government units have not yet been successful (Francesco 2015a, b).

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<sup>7</sup><http://www.ndrrmc.gov.ph/index.php/13-disaster-risk-reduction-and-management-laws/1457-the-valley-fault-system-atlas>

<sup>8</sup>[http://www.nababaha.com/marikina\\_valley\\_fault.htm](http://www.nababaha.com/marikina_valley_fault.htm)

<sup>9</sup><http://tremors.institigators.io/>

<sup>10</sup>Such as the European Union, CARE Netherlands, GIZ (German Agency for International Cooperation), USAid or JICA.



### ***22.2.2 Tsunami and Earthquake Preparedness***

Besides the threat of an earthquake, Metro Manila is also vulnerable to tsunamis based on historical records showing waves entering from the port of Manila. Unlike typhoon-related hazards, tsunamis from major earthquakes occur infrequently. It is this infrequency that contributes to people becoming complacent, causing them to forget about sustaining preparedness measures (Martinez-Villegas 2011). How to prepare for earthquakes and subsequent tsunamis? The best way is to learn from past disasters, in the Philippines, such as the 1976 Moro Gulf event and the 1990 Luzon earthquake, or abroad (Turkey, Chile, Japan, Haiti, Nepal) and plan according to the possible impact.

Phivolcs and the Department of Science and Technology (DOST) have developed strategies and programs on strengthening monitoring and hazard mapping, increasing public awareness and establishing community-based early warning systems for tsunami.

After the northern Luzon earthquake of July 16, 1990, Phivolcs-DOST greatly improved its earthquake-monitoring system. From 12 stations in 1984, they now operate 66 seismic stations nationwide. Data are received in real time through satellite communications, which allows to release bulletins in less than 10 min. Phivolcs-DOST monitors earthquakes not only nationwide but also globally. To keep watch of tsunami-generating earthquakes that might occur outside the country but could hit the coastal areas, they have acquired and installed global earthquake-monitoring tools in 2010, to receive seismic data from other world seismic networks. An alarm is automatically set off whenever a significant earthquake is detected outside the Philippines as it happens.

In 2005–2007, Phivolcs launched a project called Tsunami Risk Mitigation. Tsunami-hazard maps for the 43 coastal provinces of the Philippines were generated based on modeling of tsunami heights and arrival times. These maps were distributed to provincial offices so that local government units would have information to use as basis for land-use and development planning, and earthquake- and tsunami-disaster preparedness. The devastating tsunamis of 2010 (Chile) and 2011 (Fukushima in Japan) were opportunities for the Philippines to test the monitoring system. They showed that the country still needs to establish of a solid, smooth and reliable communication system, from the national, regional, provincial, city and municipal levels down to barangays, and to develop information and education campaigns about earthquake and tsunami preparedness.

Another tool that became handy during the monitoring of the 2010 Chile tsunami and the 2011 Fukushima tsunami was a software known as Tidetool from the US National Oceanic and Atmospheric Administration. It enables Phivolcs/DOST to monitor if tsunami waves had already hit certain tide gauges installed all around the Pacific Ocean at an estimated height.

However, advanced technologies, which are very useful to monitor tsunami waves generated by a distant earthquake, for which there is enough time to monitor and issue appropriate warnings, are not sufficient for a locally generated tsunami,

where the needed alert time may be less than 5 min, as shown by the 1976 Moro Gulf and 1994 Mindoro tsunamis. In such a situation, residents of coastal communities must be aware of three natural signs: strong earthquake, sudden and unusual retreat of the sea, rumbling sound of the approaching waves.

If it is a locally generated tsunami, how fast can barangay leaders react to warn residents? The level of preparedness of communities is extremely varied from one community to the next and is most often dependent on leadership and resources. Under the new disaster-risk management law (Republic Act No. 10121 of May 2010), the local government has the responsibility to establish 24/7 operations of their disaster-risk reduction and management councils.

Under the Ready Project funded by AusAID through the United Nations Development Program, a community-based early warning system for tsunami was introduced in 2006 to 20 pilot barangays in 9 provinces. Communities are taught how to organize an early warning system for the barangay. Barangay-wide earthquake and tsunami drills test how fast communities can mobilize people to move to higher ground during a tsunami threat. Earthquake drills in schools started in 2005, in collaboration with the Office of Civil Defense and the Department of Education. What is important is to teach schoolchildren what to do and how to protect themselves in case of a strong earthquake and tsunami, and to educate the parents through the children. RA 10121, enacted in May 2010, provides for the integration of disaster-risk reduction in the basic school curriculum: the education sector will play a major role in shaping and changing the mindset from a reactive to a more proactive and self-reliant community when it comes to disaster preparedness.

### ***22.2.3 Coastal Hazards and Climate Change***

Climate change, involving both natural climate variability and anthropogenic global warming, has been a major worldwide concern, particularly with the publication of the Fourth Assessment Report (AR4) of the Intergovernmental Panel on Climate Change, and the set-up of international conferences culminating in the agreement reached in Paris during the December 2015 COP21 conference.

The importance of climate change-related adaptation<sup>11</sup> measures was highlighted in the tropical archipelagic Philippines, albeit a relatively minor emitter of greenhouse gases, by repeated geo-meteorological related disasters such as Supertyphoon “Yolanda” (Haiyan) in November 2013. They have given the Philippines an good understanding of the acute impacts of climate change. Officials have warned Filipinos to brace against the “inconvenient truth” of devastating storms, flooding

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<sup>11</sup>“Adaptation” refers to policies helping protect citizens, the economy, and the environment from climate change impacts like storms, drought, flooding, landslides, and heat waves. Climate change “mitigation” refers to policies aiming at a reduction of carbon emissions from the transportation, garbage management, agriculture, energy, and industrial sectors.

and drought unless policies and projects are put in place to mitigate climate change. In the next 20–50 years, the Philippines is predicted to experience drier and hotter dry seasons leading to worries about water resources (Jose and Cruz 1999) and wetter wet seasons with stronger typhoons, superstorms becoming the norm rather than the exception (Yamsuan and Alave 2011).

With one of the longest coastlines in the world, the Philippine archipelago cannot escape the adverse impacts of sea-level rise and extreme climate events that are expected to happen in a warming world. The country is constantly exposed to the wrath of the sea, most of its towns and cities lie on the coast and are confronted with the perils of rising sea levels. Changes in the climate system have already affected various coastal ecosystem and communities (Capili et al. 2005): coral bleaching, changes in productivity and plankton dynamics, alterations in seagrass and sea weed reproduction patterns, shoreline erosion and retreat due to sea level rise, aggravation of marine diseases, reduced fishery yields. Human activities and modifications of the environment have a role in the worsening of climate-related hazards in the Philippines. Settlements in coastal lowlands are especially vulnerable to risks resulting from climate change, yet these lowlands are the most densely settled and growing rapidly (McGranahan et al. 2007). The proliferation of fishponds and aquaculture projects in the major waterways and in the coasts has slowed down the flow of water from the typhoons and the dams, resulting in prolonged flooding in residential and rural areas such as the plains of Pampanga and Bulacan, which were already flood-prone. When the water is released from the dams to avoid overflowing, the natural drainage cannot handle it anymore due to fishponds and the garbage, as we have seen for Manila, while deforestation had caused flooding in areas that did not experience it in the past. Illegal logging, slash-and-burn farming and quarrying in mountain areas lead to increased soil erosion and flooding. Electric generation through coal-burning plants is adding to the greenhouse gases that are deemed responsible for global warming.

Outside of the Metro Manila area, ports, roads, and drainage systems in Tacloban, Naga, Batangas, and Angeles cities have been pointed out as most vulnerable to future typhoons (Ranada 2014a, b, c, d, e, f). There are many reasons why Tacloban was among the cities worst hit by Super Typhoon Yolanda (Haiyan) (Ranada 2013). Bound on the east and south by water leading to Leyte Gulf and the Pacific Ocean, the city is surrounded by mountains on its north and west sides. Taclobanons were not able to escape the 15-foot high storm surge that submerged the city, and landslides damaged the slopes of the mountains with the high winds and heavy rains of the furious storm. They could not evacuate further than the mountains. Land subsidence and rising sea levels have already made the town susceptible of extreme flooding.

The country is now one of the world's strongest voices in the global movement to fight the problem and adapting to climate change (Berlin 2016; Mayuga 2016a, b, c). In 2015–2016, at the time of the preparation of the Paris COP21 conference climate conference, the Republic of the Philippines was presiding the V20 Climate

Vulnerable Forum,<sup>12</sup> which is a venue for countries most vulnerable to the effects of climate change. The February 2015 visit of French president François Hollande in Guian, Samar, the first place hit by the supertyphoon in 2013 (Gabieta 2015), was a signal that France, as the host of the United Nations COP21 conference, was looking at the Philippines to lead and encourage other vulnerable countries, especially in Southeast Asia and the Western Pacific, to actively participate in negotiations for a legally-binding agreement on climate change (La Viña and Romero 2015; Sabillo 2015).<sup>13</sup> It was the rationale for the launch of the February 2015 “Manila Call to Action on Climate Change”, which aims to engage the global community to efficiently and equitably address climate change.

The United Nations Organization has praised the Philippines several times (Lim Ubac 2012; Alegado 2015) for taking the lead in the global campaign to mitigate disaster risks brought about by global warming, by the organization of international workshops on this topic,<sup>14</sup> by inviting former US vice-president Albert Gore, a Nobel peace laureate and global climate activist, to give visibility to the topic and the country within this topic (Quismondo 2015; Lim Ubac 2016), and by the work of Senator Loren Legarda (Carrion 2010), chair of the Philippine Senate climate change committee, who had authored the Climate Change Act of 2009 (Republic Act No. 9729) creating the Climate Change Commission and cosponsored the Philippine Disaster Risk Reduction and Management Act of 2010 (RA 10121).<sup>15</sup> Both laws highlight a policy shift from a reactionary to a proactive stance in climate change adaptation and

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<sup>12</sup>The forum was originally composed of 20 developing countries (Afghanistan, Bangladesh, Barbados, Bhutan, Costa Rica, Ethiopia, Ghana, Kenya, Kiribati, Madagascar, Maldives, Nepal, Philippines, Rwanda, St Lucia, Tanzania, Timor Leste, Tuvalu, Vanuatu, Vietnam). The inaugural meeting of this “V-20” took place in Lima, Peru, in October 2015, in conjunction with the 2015 Annual Meetings of the World Bank Group and International Monetary Fund, with the Philippines serving as chair of the meeting. The call to create the V20 originated from the Climate Vulnerable Forum’s Costa Rica Action Plan (2013–2015) in a major effort to strengthen economic and financial responses to climate change. It foresaw a high-level policy dialogue pertaining to action on climate change and the promotion of climate resilient and low emission development with full competence for addressing economic and financial issues beyond the remit of any one organization. The 20 original members were later joined by 23 more countries (Burkina Faso, Cambodia, Comoros, Democratic Republic of Congo, Dominican Republic, Fiji, Grenada, Guatemala, Haiti, Honduras, Malawi, Marshall Islands, Mongolia, Morocco, Niger, Palau, Papua New Guinea, Senegal, South Sudan, Sri Lanka, Sudan, Tunisia and Yemen).

<sup>13</sup>In Paris, President Aquino pledged a whopping 70% in reduction of carbon emissions by the Philippines, while approving the operation of at least 27 coal-fired power plants, no more than a month after the UN Climate conference, to insure the provision of electricity to the country. Upon his arrival at the Philippine presidency, Rodrigo Duterte announced he was not bound by the “crazy pledges” of his predecessor and would honor the 70% commitment, preferring to re-think the country’s priorities and the right balance between climate change protection and the need to provide economic development tools (energy) for the country.

<sup>14</sup>Such as the May 2015 Climate Vulnerability Regional Forum in Manila attended by delegates from Afghanistan, Cambodia, Maldives, Mongolia, Myanmar, Pakistan, Papua New Guinea, Tajikistan, Timor Leste and Vietnam.

<sup>15</sup>As well as other environmental laws such as the Renewable Energy Act, the Solid Waste Management Act and the Environmental Awareness Education Act.

disaster risk reduction. The 2010 law mandates all local government units (LGUs) in the country to allocate at least 5% of their yearly budgets for disaster risk reduction and management (Allen 2006; De La Cruz 2015a, b, c). Thirty percent of the sum should be used for quick response (reactivity) and 70% for equipment and disaster prevention, preparedness, response, rehabilitation and recovery measures (mostly proactivity). Funds are supposed to address not only the short-term needs and problems, but also the long-term ones. In Bulacan province, for example, the disaster management office has purchased hazard information handbooks for elementary school children, written in tagalog with “things to do” practical advice that can be used by the whole family. Pampanga province has trained barangay officials on risk management and the use of funds to mitigate risk. The Aquino government has also pushed for climate change resiliency policies, focusing on carbon sequestration through forests and energy policies (energy efficiency and conservation and greater reliance on renewable and cleaner energy sources such as natural gas and geothermal energy) (Lozada 2014). According to Senator Legarda, the Philippine archipelago has 246,000 megawatts of untapped solar, wave, steam, geothermal, biomass, and hydro resources. This quantum of indigenous renewable energy potential is 13 times more than the currently installed capacity, more than enough to make the Philippines fully energy self-sufficient (Legarda 2016).

The challenge is now to translate the country’s governance mechanism on climate change into local community action to save lives, and reduce disaster risks and economic losses. In August 2012, the Philippine Congress passed a law (Republic Act No. 10174) establishing the People’s Survival Fund (PSF), a national climate fund meant to financially support climate adaptation initiatives (Dalabajan and Caspe 2015), but information about the availability of funding through this channel was not well transmitted to many LGU executives (Rey 2015).

Scientists and political leaders have a good grasp of the issues, but what is critical to saving lives in extreme weather events is the availability of evacuation plans, early-warning systems, and shelters. Earthquakes and tsunamis happen suddenly, but typhoons can be tracked for days before they reach land, and an elaborate three-tier warning system is now well in place. TV news broadcasts, newspapers, online social networks, and specialized websites<sup>16</sup> allow most Filipinos to be well aware of impending storms. But the task of relocating thousands or millions of citizens when a storm is approaching, a massive hurdle for any country, is a huge endeavor in a developing nation like the Philippines with 100 million citizens spread out across thousands of islands. Education and information of coastal residents, at the barangay and the household level (Combest-Friedman et al. 2012) are deemed as fundamental for the success of national policies prepared on the advice of scientists.

The 2010 law on disaster risk reduction and management mandated the creation of a local disaster risk reduction and management office (DRRMO) in every local government (Tupaz 2013a, b). For coastal villages, climate change has several facets, which are obvious to their residents: the exposure to stronger typhoons, the

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<sup>16</sup><http://www.pagasa.dost.gov.ph/> (Pagasa national weather service), <http://weather.com.ph/wealth-ertv/>, <http://www.hurricanezone.net/> all offer detailed information about active typhoons

degradation of coastal resources (coral reefs, sea grass beds, fisheries) and the slow receding coastline under the influence of sea-level rise. This makes the idea of climate change quite understandable at the local level. To make climate change adaptation and resilience more than empty formulas, what appears to be needed is the training of all barangay officials, and the implementation of mitigations plans down to the barangay level. In Iloilo, for example, the ReBUILD project<sup>17</sup> includes the following plans: early warning systems in communities, operational contingency plans, re-engineered infrastructure, zoning regulations based on risks. Increased budgets allow simple measures like the purchase of hand-held radios for barangay captains to be able to be faster in warning people to evacuate when there are threats of flooding. The government-sponsored NOAH project (Nationwide Operational Assessment of Hazards) created in 2012 by the Department of Science and Technology (DOST) is supposed to give citizens a 6-h lead time to evacuate and take measures to prevent loss of lives and damage to property. The Project Team is composed of academics, researchers, planners, government and private agencies, as well as non-government organizations. It is based at the Institute for Geological Sciences of the University of the Philippines in Diliman, Quezon City.

Under Project NOAH, the Disaster Risk and Exposure Assessment for Mitigation (DREAM) surveyed the country's 18 major river systems and used that data to create flood hazard maps for up to 18,000 villages and barangays. These maps are meant to help local leaders to identify safe zones and danger zones and achieve a goal of zero casualty during disasters. The state weather bureau PAGASA is now using in daily weather forecasts new data generated by Weather Information-Integration for Systems Enhancement (WISE), with previsions up to 7 days in advance.

Other NOAH disaster preparedness initiatives include the distribution of Hydro-meteorological Devices in hard-hit areas in the Philippines ("Hydromet"), the Local Development of Doppler Radar Systems (LaDDers), the Landslide Sensors Development Project and the development of an advanced storm surge warning system that provides a high-resolution simulation of how a storm surge will affect localities (CHASSAM project, "Coastal Hazards and Storm Surge Assessment and Mitigation") (Ranada 2014a, b, c, d, e, f).

The magnitude of devastation caused by Haiyan has pushed scientists and the Philippine government to intensify research on the vulnerability of the country, with a high focus on Leyte Island (Fernandez 2013) and Bicol (Button et al. 2013). Storm surges, a big part of the damage in Tacloban (Lagmay et al. 2013a, b), appear as one of the topics of renewed interest, with a thorough mapping of the most exposed areas (Lapidez et al. 2014). GIS simulations (Cuadra et al. 2014), satellite imagery (Perante 2016), cross-analysis of physical dangers and at-risk populations, especially informal settlers (Lagmay et al. 2013a, b), have been made public through the Project NOAH website,<sup>18</sup> and solutions proposed, such as the development of early

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<sup>17</sup>"Resilience Capacity Building for Cities and Municipalities to Reduce Disaster Risks from Climate Change and Natural Hazards"

<sup>18</sup><http://blog.noah.dost.gov.ph/noah-open-file-reports/>

warning systems (Tablazon et al. 2014), stressing the importance of hazards maps (Lagmay 2016), the rehabilitation of mangrove environments, which are known to be an effective barrier to the inland intrusion of the sea, or the implementation of stricter regulations concerning land use in the coastal areas (setback policies, construction regulations, stronger seawalls in high-danger zones) most likely to be hit by typhoons and storm surges (Perez et al. 1999). Reducing vulnerability could be done by building typhoon-resistant homes and reducing social and economic vulnerabilities. Increasing coping capacity could be done through relocation plans at the provincial, municipal and barangay levels.

Areas away from the coastlines are also hit by climate change related geohazards, in the form of landslides triggered by heavy rains in deforested regions offering steep slopes (Faustino-Eslava et al. 2013).

Much less spectacular than terrifying Yolanda-type storms, the episodes of increased drought predicted in climate change scenarios also call for specific adaptation measures (Jose and Cruz 1999), such as comprehensive watershed management (see the regional plans efforts, Chap. 17), a review of water allocations between cities and farm areas, more efficient irrigation, the introduction of low water use crops and efficient farming practices, more recycling/reuse of water, an improvement of the monitoring and forecasting systems for floods as well as droughts, and a possibly unpopular review of water pricing policies.

The rise in sea levels, three to five times faster on the Philippine coastlines (up to 1 cm/year) than the global average (Flores and Romero 2016; Rietbroek et al. 2016; Saxena 2016) is another type of climate change threat that requires adaptation measures (more than mitigation) throughout the archipelago, including the semi-enclosed Manila Bay (Perez et al. 1996; Sales 2009) bounded by the provinces of Bataan to the west, Pampanga, Bulacan, NCR and Cavite to the east (Perez et al. 1996; Sales 2009). The bay area, subject to floods and storm surges during tropical cyclones and at risk of tsunami, has seen its shoreline change greatly due to reclamation for housing, ports, coastal roads, buildings, and other urbanized waterfront developments (Palafox 2014), adding to the threat of inundation.

## 22.3 Environmental Degradation

The Philippines archipelago not only is prone to major disasters, it also suffers severe human-caused environmental degradation aggravated by a high annual population growth rate. The country has to confront several major environmental issues (Broad et al. 1993), which are sometimes related to each other. We already examined in Chap. 11 some of the environmental damages in the marine realm, in particular with overfishing, corals and mangroves, to which we can add the growing problem of floating plastics, ingested by marine animals (Abreo 2016). Issues of concern also abound on land, including uncontrolled deforestation; soil erosion; loss of agricultural lands through urbanization; environmental damage associated with mining operations; improper disposal of solid and toxic wastes in rivers and

sea waters; air and water pollution, mismanagement and abuse of resources (Porter and Ganapin 1988; La Viña 2014).

These issues converge with geophysical hazards (earthquakes, volcanic eruptions, lahar, tsunami), climatic events (monsoon rains, typhoons, storm surges, but also droughts) and global climate change, with the associated sea-level rise, to put the environmental issues as central in the life of Filipinos today and tomorrow. Governmental choices have their share of responsibility, since the export oriented development strategy advances the exploitation of natural resources. The Philippine government has facilitated the rapid depletion of the forests by allocating concessions on the basis of political influence, while the political elites receive a share of logging profits. In the past, it also awarded concessions to giant copper mining companies, which dumped toxic mine tailings into waterways thereby threatening marine life. We will address in this section four contemporary issues: deforestation, soil degradation, the negative impacts of mining, and the loss of biodiversity, which are all related.

### ***22.3.1 The Sad State of Philippine Forests***

Deforestation has been rapid and widespread in the Philippines, now one of the most severely deforested tropical countries, ranking fourth in the world's top ten most threatened forest hotspots (Pamintuan 2011). If the current deforestation rate (twice the land area of Metro Manila every year) continues, the country's remaining forest cover could be wiped out in less than 40 years. In recent years, deforestation has been increasingly blamed for soil erosion (Schmitt Olabisi 2012), river siltation, flooding, and drought; environmental awareness is now rising in the country.

The primary forests of the Philippines are now a relic of a bygone era, as in Cebu (Kummer et al. 1994, 2003), where further environmental degradation appears to have stopped. The only remaining primary forests are found in the Pantaron mountain range of Davao del Norte, Mindanao (Dulce 2014; Ragragio 2014), home of the Pantaron Manobo tribe, and on Palawan Island, which harbors the last few Palawan eagles. But this Palawan forest is currently threatened by agricultural colonization (Eder 1990; Eder and Fernandez 1997; Shively and Martinez 2001), as migrants from throughout the Philippines settle annually in the island's forested uplands, which are now heavily logged since other wood resources have dwindled considerably. The same story that happened in Mindanao in the 1950s is happening (Coxhead et al. 2001). Palawan still has the largest forest reserve of the whole country, but its forest cover is not the densest anymore (Eigenheer 1995). Most forests in the Philippines are now secondary forests (Lasco et al. 2001). Despite the high rates of deforestation in the twentieth century, it seems that already during the Spanish period there was some clearing of the forest, as Spanish forestry engineers considered the tree (dense tropical forest) as the "enemy of man" (Bankoff 2004a, b).



To assess the rate of deforestation, researchers (Kummer 1991; Liu et al. 1993) have been able to use official data at the provincial level and have also used information from remote sensing data. However, the Spanish and American periods records of forestry are incomplete, missing or destroyed, and the calculation of deforestation rates at the national scale need to take into consideration, as it is in Brazil (Peres and Schneider 2012), the government-sponsored frontier resettlement in Mindanao (see Chap. 19) (Bankoff 2007a, b, c).

According to the national Forest Management Bureau, forest cover in the Philippines has declined from 21 million ha, or 70% of the its land area, in 1900 to 17 million in 1934, 10 million in 1970 (Bautista 1990) and about 6.5 million ha by 2007, with a peak of about 55,000 ha/year in the 1980s and 1990s. Between 1990 and 2005 the Philippines still lost a third of its forest cover, according to FAO estimates, but the country's deforestation is down since its peak in the 1980s and 1990s.

Estimates of current forest cover in the Philippines depend on the sources and the definition of what constitutes forest cover (up to 59%—9.3 million ha—of the country's official forest lands are not forested at present and are either grass or shrub land, or under cultivation) (Le et al. 2014), but all authors are converging to agree on the dramatic reduction of the Philippine forests, which has hit the whole country, and is currently most intense in the MIMAROPA area (the island provinces of Mindoro, Marinduque, Romblon and Palawan), where more than 40% of the total forest loss of the country occurred between 2000 and 2012. Between 1990 and 2000, the Philippines lost more than 800,000 ha of forests.

Widespread logging was responsible for much of the historical forest loss in the Philippines. Despite government bans on timber harvesting (Guiang 2001) following severe flooding in the late 1980s and early 1990s, illegal logging continues today (Van Der Ploeg et al. 2011a, b; Wallace 2011). The cycle of tropical deforestation (Ancog et al. 2016) typically begins with excessive logging. Logged-over forestlands are then converted for agricultural uses. Unproductive farmlands are later abandoned after being subjected to intensive anthropogenic activities, soil degradation and recurring fires, and isolation from intact forests. The direct drivers of forest loss are many: forest products extraction (logging/timber poaching, charcoal production, fuel wood gathering), agricultural expansion (kaingin practices, forest conversion to settlements, plantations, vegetable gardens, grazing) and infrastructure expansion (mining, road construction, hydropower dam and tourism facilities construction). Analysts (Bernad 1957; Kummer and Turner 1994; Pulhin et al. 1998; Carandang et al. 2012) also recognize underlying causes for deforestation and forest degradation: weak policies and governance (conflicting forest policies and mandates; flaunted logging bans; open access forestlands due to lack of clear tenure on forestlands; lack of political will; poor monitoring and law enforcement; corruption and intimidation) (Cagalanan 2015; See 2014); poverty and population pressure (landlessness, expansion of farms and settlements); market demand and economic development (high demand for forest products; improved market access through road construction); and technological and biophysical factors (inappropriate land uses; low farm productivity; over-extraction and unsustainable harvesting; proliferation of chainsaws; fire, floods, landslides, calamities).

GIS analysis has shown that between 1934 and 1988, the highest rates of deforestation were in the vicinity of roads. Nearly 78% of the 2.1 million ha of forests within 1.5 km of roads in 1934 was removed by 1988 (Liu et al. 1993).

After temporarily lifting the log export ban in the late 1990s, the government has increasingly tried to crack down on timber smuggling and forest degradation (Tumaneng-Diete et al. 2005). Additional threats to Philippine forests come from legal and illegal mining operations—which also cause pollution and have been linked to violent conflict—agricultural fires, collection of fuel wood, and rural population expansion.

The ages-old debate on the role of swidden agriculture (kaingin) in deforestation (Suarez and Sajise 2010) has continued in the Philippines, especially on the island of Mindoro, which has high degrees of forest depletion (−61% in Oriental Mindoro and −54% in Occidental Mindoro for the 2003–2010 period, highest rates of the whole country), despite the fact that there is not much logging activity (Rodriguez 2015a, b, c). Are the Mangyan kaingineros to blame, or lowlanders encroaching on their tribal lands? Representatives from the Hanunuo Mangyan communities insist it is not in their culture to sell timber, and that the main reason for the forest cuts is lowland charcoal making. However, kaingin practices do indeed lead to the production of charcoal and if not managed properly may lead to forest fires much wider than anticipated.

The demographic growth of the Philippines has led to intensified hillside farming (Hayami et al. 1976; Kummer 1992; Cruz et al. 1998) and severe impacts on land use patterns, vegetation cover, soil nutrient status, and erosion. Previously forested spaces are increasingly used to provide subsistence food and income to landless lowlanders, primarily through forest product collecting and food and cash-crop cultivation. Much of the farming is done on slopes of a 45-degree incline or greater. As trees are felled to create clearings for farming, the whole hydrological system is affected. Without trees to soak up the rains, water instead runs down the steep slopes into the valleys, causing severe slope erosion, flooding and sedimentation of rivers. In Leyte, unregulated forest product collecting and shortened swidden fallow cycles have depleted mature, commercially harvestable rattan and hardwood species and led to a impoverished xerophytic flora dominated by cogon grass (*Imperata cylindrica*) (Siebert 1987). The intensified cultivation of corn and sweet potato has gradually damaged the soils (lower calcium, magnesium, phosphorus and organic matter levels, and increased soil acidity). Environmentalists in the Philippines now fear that plantation agriculture, especially for palm oil, an emerging activity that would replicate the booming growth seen in neighboring Indonesia and Malaysia, could become the newest threat to remaining forests, even if government officials have proposed to use denuded, idle, unproductive lands for this potential exporting activity (Lagsa 2014; Larsen et al. 2014).

In 1990 the Island of Palawan was declared a “Man and Biosphere Reserve” by UNESCO. It is the Philippines’ ‘last ecological frontier’, with the largest contiguous forest block in the country. However, in recent years mining projects and oil palm plantations in southern Palawan are posing a threat on environment and local communities, leading to increased activism against the government supported “develop-

ment” projects. Activist groups and indigenous peoples networks have used online information websites and petitions to call the attention on the dual problems of deforestation and mining, especially in Palawan and Mindanao, where most of the big-scale plantations are still developing. “Rainforest Rescue, for example, was able to gather 94,000 signatures against the expansion of oil palm plantations in Palawan. Alongside other organizations, they have denounced the Aquino government claims that the establishment of oil palm plantations would be part of reforestation efforts and good for the environment. In fact, these vast plantations destroy the soils’ ecology and facilitate the proliferation of pests, hence the “need” to use pesticides, herbicides and other agro-chemicals and the negative results of loss of biodiversity, damage to groundwater and marine life, soil erosion and pollution of rivers and streams. In addition, the removal of indigenous tribes continues with the establishment of new plantations in Mindanao (Villanueva 2011; Mandawa 2013; Wee 2013). Hundreds of Higaonon families have already been evicted from their farms and homes since the oil palm plantation A. Brown Company, Inc. (ABCI) penetrated Misamis Oriental (Natividad 2012).

The continuing disappearance of Philippine forested lands is of great concern, since forests play a critical role in controlling global warming and climate change (Sheeran 2006; Lasco et al. 2008). The negative effects of deforestation can be observed at various scales of space and time. If forests sequester carbon emissions from the atmosphere and store the carbon long term in vegetation and soils, their destruction has the opposite effect. At the macro/global level, tropical deforestation reduces biodiversity and has an effect on global climate, since the carbon stored in tropical vegetation is released as CO<sub>2</sub> in the atmosphere by combustion, and contributes to global warming (Lasco 1998, 2008; Lasco and Pulhin 2003, 2009). In the year 2000, the Philippines was one of the top ten deforestation countries contributing to global greenhouse gas emissions from global forest loss (Carandang et al. 2012). At a meso/regional scale, weather patterns are affected (less evapotranspiration, increased risk of droughts), and slope erosion is greatly enhanced by the loss of soil protection (Cruz et al. 1988; David 1988) and the subsequent stronger runoff, with downstream flooding and excessive silting. Sedimentation is affecting not only Laguna lake, as seen in Chap. 17, but also non-metropolitan areas, rich in tourism and fishing potential, such as the coral reef areas surrounding Palawan (Hodgson and Dixon 1988). Illegal logging has been pointed out repeatedly as a culprit after flash floods in many parts of the Philippines. The removal of forest cover also decreases stream flows in the dry season (Boehnert 2011). Irrigation is therefore at risk (Urich 2000). At a micro/local scale there are effects on the ground temperature, possibly raising the risk of locally violent thunderstorms, while many plants and animals are losing their ecological niches, through sheer destruction of their environment or its increasing fragmentation (Lacuarta 1997; Pereira et al. 2006; Bagarinao 2010), sometimes also due to geophysical crises such as the eruption of Mt Pinatubo destroying tiny ecological niches (Madulid 1992).

The fact that only about 5% of the Philippines land area is under some form of protection, these are indeed issues of concern for environmentalists, but also for the local populations who may be deprived of many minor forest products, such as fuel wood,

resins, gums, mushrooms.... In the Philippines, this affects especially the tribal populations of the highlands in the Cordillera despite the Ifugao *muyong* practices (Serrano and Cadaweng 2005; Camacho et al. 2012), the Aeta and Agta of central Luzon (Headland 1988), the Ivatan of Batanes (Rede-Blolong and Olofson 1997), the Mangyan of Mindoro or the Lumad of Mindanao (Neyra-Cabatac et al. 2012). Population pressures increases tensions between the mountain communities and the lowlanders as the forest resources are diminishing and competition for their use becomes more intense, with the risk of ethnic strife or deculturation of the tribes (Doedens et al. 1995).

Efforts are now underway to protect and re-forest the Philippine mountains. 135 forest reserves, most of them organized around watersheds to protect water resources, have been established across the country, some of them quite large (180,640 ha for the Lake Lanao Watershed Reservation in the ARMM, 116,452 ha for the Kabulnan River Watershed Forest Reserve in Cotabato, 92,450 ha for the Allah River Watershed Forest Reserve in South Cotabato, 85,219 ha for the Casecnan River Watershed in Nueva Vizcaya, 84,500 ha for the Pantabangan-Carranglan Watershed Reserve Pilot Area in Nueva Ecija), but some of them cover less than 50 ha (6 ha only for the Lucnab Watershed Forest Reserve in Baguio City).

However, even the protected areas are still threatened by illegal woodcutting and tree felling. Clandestine logging camps, log ponds and illegally cut logs are fought against by the Anti-Illegal Logging Task Force in places such as the Agusan-Surigao “timber corridor” of Mindanao (Solmerin 2012).

Small-scale re-planting activity has been implemented in several parts of the country, through a National Greening Program (NGP), supported by large Philippine corporations, such as the SM and BDO (Banco de Oro) foundations in partnership with the Sitio San Ysiro Upland and Lowland Farmers Association, just outside of Metro Manila, on the slopes of the Sierra Madre above Antipolo (De La Cruz 2015a, b, c), and the rate of deforestation has slowed down in recent years. Cebu, long described as an uplands ecological disaster, has seen a gain in forested areas (Bensel 2008). But the management of floods requires a vigorous and continued effort, well beyond what has been done recently. Multiple small reforestation projects are taking place in the country (43 in Leyte alone).

Farm forestry may, however, be a smarter use of the hillsides and mountains than mono-species replanting or plantation of exogenous trees (mahogany, gmelina, and rubber), which can grow fast but are less adaptive to the Philippine environment (resistance to pests and typhoons, weaker use by indigenous bird species, lower commercial prices than local tree species) (Ranada 2014a, b, c, d, e, f). The Department of Environment and Natural Resources, when it launched the NGP in 2011, ordered a total of 25 million seedlings of exotic trees, versus only five million for native or indigenous species. Mixed species plantations that have a significant effect of reducing reported soil erosion and landslide frequency, can produce more litter and have higher canopy cover than monocultures (Le et al. 2014). Sustainable forestry may also include the establishment of recreational zones within protected forests (Catibog-Sinha 2011): using different native fruit-bearing trees in reforestation would attract a diverse wildlife while enhancing the tourism and conservation values of botanic gardens within forest reserves, as shown by the butterfly sanctuaries in Bohol.

Forest management can become a vehicle of self-determination for ethnic minorities, since it can be highly participatory and empowering, especially when the forest management practices embrace the traditional systems that distinct ethnic cultures have developed over centuries. For example, in the Kalahan Forest Reserve (Pangasinan Province), the Ikalahan indigenous ethnic group is using forestry practices to help maintain cultural identity and reduce threats to ancestral lands (Dolom and Serrano 2005). Reforestation also sustains jobs, as shown for example in the Mt Malindang range natural park of Misamis occidental, Mindanao (Bracamonte et al. 2010).

The action of NGOs and environmental activists (Teehankee 1993), who can now benefit from powerful high-tech tools such as satellite mapping, GIS, and deforestation information websites ([www.globalforestwatch.org](http://www.globalforestwatch.org)) showing tree loss around the world in high resolution and with frequent updates, may push the Philippine government towards more efforts in reversing deforestation.

### 22.3.2 *Soil Degradation*

Four key issues challenge rural development in the Philippines: low growth of the rural economy; high levels of rural poverty; land ownership; and degradation of natural resources.

Soil degradation can happen suddenly and dramatically in the case of massive landslides but is usually a long-term process of decline in soil productivity and its environment-moderating capacity. Soil degradation also includes processes such as loss of nutrients and organic matter (Asio et al. 1998). In the “Green Revolution” effort to increase food production beginning in the 1960s, the Philippines’ government supported high yielding varieties of rice along with their concomitant need for increased fertilizers and pesticides, which further depleted the soil of its nutrients as well as polluted the soil and waterways. After conversion from forest to agricultural land use (Asio et al. 1999), other negative effects such as salinization, acidification (Jahn and Asio 1998), pollution, compaction, and subsidence have also contributed to an overall degradation of soils throughout the Philippines, in lowland as well as upland areas. Studies have shown that the widely degraded upland soils (Asio 1997) suffer from acidic or calcareous pH, low organic matter and nutrient contents, presence of toxic substances and compaction, all characters that are serious impediments to crop growth.

Soil erosion due to deforestation and smallholder agriculture in upland areas of the Philippines is widely regarded as one of the country’s most serious environmental problems (Cramb 1998). Soil degradation represents a major threat to food security in the country (Dregne 1992; Pimentel 2006; Asio et al. 2009). More than 5 million ha are seriously degraded, resulting in a 30–50% reduction in soil productivity.

Many rural people live in upland areas, largely dependent on low-input shifting agriculture, with a high incidence of severely degraded areas and the highest poverty incidence in the country. The pressure of population, among other factors, has led to increased cultivation of steepplands. Severe erosion commonly results when

steeplands are converted to intensive arable use, especially in a country like the Philippines that combines a 59% prevalence of slopes 18% and steeper (Presbitero et al. 2005) and intense precipitations during the monsoon months and on the frequent occurrence of typhoons.

A number of upland development projects involving the promotion of soil conservation and agroforestry measures have been formulated and launched by government, non-government organizations and other concerned for more than three decades (Pasicolan et al. 1997). All have/had significant components to promote farming technologies that minimize the occurrence of soil erosion on sloping land (Presbitero et al. 1995), such as the widely promoted Sloping Agricultural Land Technology (SALT), based on contour hedgerows of leguminous shrubs (Paningbatan et al. 1995) or a mix of asparagus, pineapple, mung beans, corn, tomato, lemongrass and others (Poudel et al. 1999, 2000). Natural vegetative strips following contour lines also provide a simple solution, in which indigenous vegetation is allowed to re-grow into a thick, protective cover. The strips may be the start of more complex agroforestry systems including fodder, fruit, and timber trees (Mercado et al. 2001).

Yet the diffusion of erosion control measures on the farm level has been limited in most upland development projects and the adoption of such practices has been minimal (Cramb et al. 1999, 2000), with farmers interest usually peaking at the start of the during project implementation but rapidly declining thereafter, possibly due to the lack of appropriation of “imported” techniques by small farm holders. Successful and sustained adoption of erosion control technologies occurred only where farmers were certain of the short-term economic returns compensating their extra labor and loss of production areas (Nelson et al. 1996), and where farmers clearly understood the basic concepts and purposes of the technologies promoted.

“Landcare” approaches emerged in the late-1990s in the Philippines, particularly in Mindanao and the Visayas, as an important strategy for developing collective action at the local level to deal with problems of agricultural land degradation. They are based on the development of community landcare groups, supported through partnerships with government and non-government agencies. These farmer-led organizations “concerned about land degradation problems are interested in working together to do something positive for the long-term health of the land” (Campbell and Siepen 1994) share knowledge about sustainable and profitable agriculture on the sloping lands while conserving the natural resources. They try to identify problems at the local level and mobilize information, community efforts and financing in order to improve the management of their natural resources (soil, water, vegetation). It may be a more efficient way to achieve sustainable farming practices than implementing top-down strategies such as heavy government regulation or transfer of technology.

The current trend towards the transformation of unproductive degraded lands as sites for intensive and long-term biodiesel production requires appropriate soil management strategies to avoid further soil deterioration and aggravation of the already existing ecological problems.

### 22.3.3 *Mining Impacts*

Many studies have shown how mining operations have negatively affected environmental quality in the Philippines (Holden and Jacobson 2012) and led to loss of livelihood, for example in Rapu-Rapu (Albay) (Lusterio-Rico 2013) or Honda Bay (Palawan) (Williams et al. 1999). As for coal burning (in electric power plants and small-scale charcoal use for cooking), it is known to have very detrimental effects on air quality (excessive amount of particulate matters) and for being a major contributor to global warming (increase on atmospheric CO<sub>2</sub>). Coal electric production and non-ferrous mining have been for decades two elements of the industrial system of the Philippines.

However, the incoming administration of Rodrigo Duterte has hinted it would bring radical changes in the energy and mining policies of the Philippines. The new secretary of the Department of Environment and Natural Resources (DENR), Mrs. Gina Lopez, has ordered a moratorium on the approval of new mining projects and indicated that there would be a comprehensive review of the mining claims of concessions given (Mayuga 2016a, b, c), with a more thorough environmental assessment than before (Bravante and Holden 2009). An audit of all operating mines will determine the adequacy of and efficiency of the environmental-protection measures of each mining firm, identify gaps in environmental-protection measures and determine appropriate penalty/ies in case of violations of mining and environmental laws. Open pit mining—the method most widely used to produce nickel ore—may be banned because it is not environmentally friendly. The audits will also ensure that the concerns of the helpless and the impoverished are addressed, especially in case of conflict between indigenous people and mining firms.

The concerns of the Lumad and others are related to issues of dispossession of ancestral lands (Holden et al. 2011; Minter et al. 2012), despite the protective laws already on the books, but which are still ignored, also to issues of land degradation and toxic pollution (especially from mercury in the case of gold mines) (Appleton et al. 1999, 2006; Israel and Asirof 2000; Drash et al. 2001), and finally of mining-enhanced disasters, when typhoon's rains and winds bring waves of mud, water and logs descending from the denuded mountains into lowlands, as shown in Mindanao's Compostela Valley with typhoons Sendong (December 2011) and Pablo (December 2012) devastating Iligan and Cagayan de Oro City, as computer models have indicated it could happen (Alave 2011). Large-scale mining accelerated the deforestation in the Mt. Kitanglad and Mt. Kalatungan watershed areas in Mindanao, and was considered as a major factor in the breach of a gold mine tailing dam in Benguet the same year (Salamat 2012a, b). Mining disasters themselves are accelerated and amplified by natural hazards in the Philippines such as typhoons, earthquakes and volcanic eruptions. Earthquakes can destabilize tailings storage facilities, typhoons can flood tailings ponds, and mine-pit dewatering can enhance the competition for groundwater resources during droughts.

Environmental and social considerations, which constitute two of the well-known “three pillars” of sustainable development, appear to gain an increased importance, to be balanced with the economic pillar, in terms of energy production

and metal export resources, as well as jobs. The case of nickel, where the Philippines is now the leading world producer, is quite emblematic.

There is also a fourth dimension, more political, which is the role of large foreign corporations, involved in deforestation for plantations, and in large mining operations, versus the small-scale producers. Mining has caused tension among the people, dividing them into “pro-mining” (or people passively accepting the negative impacts for the sake of employment) and “anti-mining” camps, prone to organize protests in Manila as well as locally. Activist groups and indigenous peoples networks have used online information websites and petitions to call the attention on the dual problems of deforestation and mining, especially in Palawan and Mindanao, where most of the big-scale plantations are still developing. “Rainforest Rescue”, for example, was able to gather 94,000 signatures against the expansion of oil palm plantations in Palawan. Alongside other organizations, they have denounced the Aquino government claims that the establishment of oil palm plantations would be part of reforestation efforts and good for the environment. In fact, these vast plantations destroy the soils’ ecology and facilitate the proliferation of pests, hence the “need” to use pesticides, herbicides and other agro-chemicals and the negative results of loss of biodiversity, damage to groundwater and marine life, soil erosion and pollution of rivers and streams.

Public opinion, the Catholic Church (Holden and Jacobson 2007) and NGOs are widely opposed to the control of national resources by foreign entities and corporations, even as the Ramos, Arroyo and Aquino administrations have welcomed foreign investment and pushed investor-friendly policies in this sector (Holden 2005; O’Callaghan 2009). The new administration’s environmental announcements on mines have already impacted the world nickel price, with a sudden rise in prices in an already tense market (De La Paz 2016; Hume 2016).

### ***22.3.4 Loss of Biodiversity and Protected Areas***

Owing to its richly varied geographic features and favorable location in the tropics, the Philippines is one of 18 mega-biodiverse countries of the world (Myers 1988a, b; Mittelmeier et al. 1998; Myers et al. 2000), in an area of overlap between the distinct faunas of the Pacific and Indian Oceans (Gaither and Rocha 2013). The archipelago ranks fifth in the world for the number of plant species and maintains 5% of the world’s flora. An estimated number of over 38,000 vertebrate and invertebrate animal species have been described within Philippine territory (Catibog-Sinha and Heaney 2006). Species endemism—or the prevalence of particular species exclusively within the country’s geographic boundaries, even within a single island—is exceptionally high, covering about half of terrestrial wildlife, while the country ranks fourth in bird endemism. Nearly half of its approximately 1100 terrestrial vertebrates are unique to the islands, and estimates of endemism for vascular plants range from 45 to 60% (Posa et al. 2008). Endemicity rates reach 84% in the case of geckos (Siler et al. 2014). No less than 352 species of butterflies are endemic to the Philippines (Mohagan et al. 2011). The country’s archipelagic composition (Brown et al. 2013) and



intrinsically small landmass contribute to a high density of species per unit area. The Mount Makiling forest reserve (Lusterio 1996; Pulhin and Tapia 2005; Combalicer et al. 2011) in Los Baños, Laguna, is particularly important as an educational and research resource. It also has enormous biological diversity (Luna et al. 1999) and genetic resources, since botanical references to Mt. Makiling describe an exceptional diversity of woody plant species, totaling more than the entire number of woody species found in the United States! The level of endemism in the Philippines is high, but fragile due to the country fragmentation in many small islands: Bohol's tarsier, flying foxes of Subic Bay (Mildenstein et al. 2005), Mindoro's tamaraw, carnivorous pitcher plants of Dinagat island (Mayuga 2016a, b, c).

The country's agricultural ecosystem is also noteworthy. The Philippines is part of the center of diversity of rice, coconut, mung bean, taro and yam, as well as the center of origin and diversity of bananas in Southeast Asia.

This unique biodiversity is supported by a large variety of ecosystems, landscapes and habitats, most of which are also greatly threatened by human activities. Agricultural biodiversity is experiencing general decline, due to the use of a limited number of cultivars for commercial purposes, the use of pesticides that poison many animals, big or small, and the shrinking land area devoted to farm production with urbanization.

The country is now one of the world's "biodiversity hotspots" (Myers 1988a, b; Brooks et al. 2002) with at least 700 threatened species, thus making it one of the top global conservation areas. An International Union for the Conservation of Nature (IUCN)'s 2004 assessment lists down alarming numbers of highly threatened species among those known or described in the country: 52% for vertebrates, 68% for invertebrates, and 84% for plants. A national list of threatened faunal species was first established in 2004 and includes today 43 species of land mammals, 126 species of birds, 29 species of reptiles and 14 species of amphibians. In terms of fishes, the Philippines counts at least 3214 species, of which about 121 are endemic and 76 threatened. In 2007, an administrative order issued by the Department of Environment and Natural Resources established a national list of threatened plant species, indicating that 99 species were critically endangered, 187 endangered and 176 vulnerable. In 2014, the numbers added up to 526 plant species threatened.

The list of critically endangered animals includes, among others, the monkey-eating Philippine eagle (*Pithecophaga jerreryi*) (Rabor 1971; Bueser et al. 2003; Salvador and Ibañez 2006), whose tagalog name "haribon" has been adopted by one of the major conservancy groups in the Philippines. Several other birds are also in critical situation: the red-vented Philippine cockatoo (*Cacatua haematuropygia*, "katala" or "kalangay", now under breeding conservation efforts in Palawan) (Boussekey 2000) and the Palawan hornbill (*Anthraceros marchei*, or "talusi", a large forest-dwelling bird) (Gonzalez 2011), as well as large mammals and reptiles: the "tamaraw" small buffalo (*Bubalus mindorensis*, endemic to Mindoro, now under a breeding program to boost its population which is lower than 300) (Ishihara 2015), the "pawikan" (*Eretmochelys imbricata*, a sea turtle threatened by poaching and clandestine trade to China), the Philippine freshwater crocodile (*Crocodylus mindorensis*, less than 100 individuals) (Van Weerd 2010; Manalo and Alcalá 2015), the dugong (*Dugong dugon*, Aragonés 1994; Aragonés et al. 2010) and the Visayan warty pig

(*Sus cebifrons*, with a few specimens left in Panay and Negros, the Cebu subspecies being now extinct, and breeding programs in the Netherlands and California) (Oliver 1995; Nuijten 2016). If the situation is left unaddressed, the country is at risk of losing both its distinctive reputation as a world-class haven of biodiversity, but also its own homegrown natural heritage.

Several strategies have been promoted by scientists to protect this biodiversity in the Philippine archipelago (Hauge et al. 1987): (1) the establishment of protected areas and the preservation of existing forests; (2) the prevention of alien species introduction; (3) no introduction to new habitats; (4) the re-introduction of lost species within strict guidelines after captive breeding. Ecotourism can be a positive factor by bringing both revenues to finance the protection efforts and by raising the public's awareness of the biodiversity value. Bohol has been a prime example of the efforts to develop such tourism around the emblematic tarsier and whale watching off Pamilican Island.

After the 1986 overthrow of Ferdinand Marcos, the Philippine government adopted fundamental reforms and became more open to nongovernmental organizations NGOs and people's organizations concerned with environmental management and sustainable development. At least on paper, considerable progress in environmental protection legislation has been made, under pressure from organizations and with the input of environmental scientists. Heavy fines have been imposed on poachers and illegal traders of threatened species. For example, killing a Philippine crocodile carries a minimum penalty of 6 years imprisonment and/or a fine of 100,000 Pesos (approx. 2000 euros).

The National Integrated Protected Areas System Act of 1992 (Republic Act No. 7586), commonly known as the NIPAS Act, provides the legal and developmental framework for the establishment and management of protected areas (PAs) in the Philippines (Custodio and Molinyawe 2001). It was enacted primarily for biodiversity conservation and has a vital role in implementing one of the top ten major approaches of the Philippine Strategies for Sustainable Development, which aims to achieve economic growth without depleting the stock on natural resources and degrading the environment. NIPAS Act clearly states its goals: "to maintain essential ecological processes and life-support systems to preserve genetic diversity, to ensure sustainable use of resources therein, and to maintain their natural conditions to the greater extent possible, to secure for the Filipino people of present and future generations the perpetual existence of all native plants and animals through the establishment of a comprehensive system of integrated protected areas within the classification of national park as provided for in the Constitution".

There are currently 35 National Parks in the Philippines, the oldest being Mt Arayat in Pampanga, established in 1933. They range in size from Mt Iglit-Baco National Park in Mindoro Occidental (75,455 ha) to the McArthur Landing Memorial National Park in Polo, Leyte (7 ha only). These national parks are "places of natural or historical value designated for protection and sustainable utilization". Some of them are explicitly qualified as "protected landscapes and seascapes" (Batanes).

Marine protected areas (MPAS) (White et al. 2010; Horigue et al. 2012) were established in the Philippines as early as 1974 (see Chap. 11). These early models on

Sumilon and Apo Islands established a framework for coral reef management aiming both to protect and maintain nearshore coral reef habitats for biodiversity and enhance fish yields to traditional fishers. Devolution of authority for management of natural resources to local governments (municipalities and cities) in 1991 was a major national policy shift that has supported more localized management efforts.

Many of the designated protected areas are the ancestral domains of numerous indigenous cultural communities (ICCs) (Cairns 1997). Their right to the sustainable use and management of their ancestral domains are provided for in the Indigenous Peoples Rights Act of 1992. But the effective control of native populations on the management of the parks and reserves is an object of debate (Bryant 2000; Minter et al. 2014). The Local Government Code of 1991 (RA 7160) gave the local governments greater authority in the management of protected areas through their representation in the Protected Area Management Board (PAMB).

The Law defines protected areas as the identified portions of land and/or water set aside by reason of their unique physical and biological significance, managed to enhance biological diversity and protected against destructive human exploration. The NIPAS Act identified 202 initial components comprising of proclaimed national parks, game refuge and wildlife sanctuaries, nature reserves, wilderness areas, mangrove reserves, watershed reservations, fish sanctuaries, protected landscapes and seascapes, among others prior to the implementation of the NIPAS Act, covering an approximate total area of 2.57 million ha. As of 2012, their number was increased to 240, covering 3.57 million ha, 11.9% of the total land area of the country.

The establishment and management of these protected areas, originally inspired by American examples (Bankoff 2009) are part of the international commitments signed by the Philippine Government such Convention on Biological Diversity, Ramsar Convention, World Heritage Convention, Convention on Migratory Species, and the ASEAN Agreement on the Conservation of Nature and Natural Resources. 228 Key Biodiversity Areas (KBAs) have been identified throughout the archipelago (Ambal et al. 2012), representing the known habitat of 855 species of plants, corals, mollusks, fishes, amphibians, reptiles, birds and mammals in the country. Efforts for their inclusion within in the country's protected area system would help ensure the conservation of the whole natural heritage of the country. 45 of the 128 land-based KBAs now benefit from official protection status, including 5 or the 10 AZE (Alliance for Zero Extinction) sites identified as absolute priorities: they are Siburan Rain Forest (Occidental Mindoro), the 2086 m Mt Mantalingajan (southern Palawan), South and North Gigante Islands off the eastern coast of Panay, Mt Kambinlio and Mt Redondo (Dinagat Island province), and Tawi-Tawi Island.

However, assessments of the existing protected areas in the Philippines seem to indicate that, as in many other sectors of the country, quality governance and funding are insufficient to reach the stated goals (Ranada 2014a, b, c, d, e, f; Mallari et al. 2016). Mountain parks and coral reefs are threatened by lack of funding, lack of trained personnel, lack of population involvement, overuse by trekkers or divers—should the number of visitors be limited in the most popular areas such as Apo Reef or Mt Pulag?—, lack of expertise in park management and conflicting policies: guidelines from the DENR and policies covering ancestral domain overlap when

part of a protected area is also part of an ancestral domain; local government units with jurisdiction over the protected areas also have policies of their own; zoning laws, boundary conflicts, and clashing land and resource uses add to the confusion. Land use change models have been developed by scientists (Verburg et al. 2006) but some areas of threatened biodiversity are sites of jungle warfare by the Moro groups or the NPA, and it becomes impossible to insure their protection, since guards park rangers and guards risk being attacked by dissident groups. The protection itself of some areas, as in the Bohol karst, may be source of conflict by depriving local farmers of the use of land they considered as useful (Urich et al. 2001). The protection of species deemed dangerous by the population (crocodiles) is problematic (Van Der Ploeg et al. 2011a, b). Some LGUs do not include the protected area in their community's Comprehensive Land Use Plans, considering they are the responsibility of the central government. This leads to intense debates, as in other parts of the world, about the optimal degree of centralization/decentralization needed for park management (Dressler et al. 2006).

## 22.4 From Vulnerability to Resilience

Resilience<sup>19</sup> (Klein et al. 2003) is derived from the Latin word “resilia” (to jump back). Originally the term was used in physics to characterize the energy absorbed by a body during deformation (“Charpy Test”). The first publications in the field of psychology date back to World War II, first in studies about school children in Hawaii, then about the survival of death camps survivors in Europe (Cyrulnik 1999). Resilience has been defined by psychologists as the ability of individuals to properly adapt to stress and adversity and to bounce back from a traumatic situation, such as an accident, the death of a loved one, a divorce, the loss of a job, or a prolonged period of deprivation (famine, imprisonment). A person considered resilient is flexible, adaptable, enduring, and optimistic. He or she bounces back from adversity (Vickers and Kouzmin 2001). The concept gained acceptance in other scientific fields such as ecology or sociology. Ecological resilience is a characteristic of ecosystems to maintain themselves in the face of disturbance. Social resilience refers to the ability of groups or communities to cope with external stresses and disturbances as a result of social, political and environmental change, and to maintain order and functioning capacities (Adger 2000; Manyena 2006).

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<sup>19</sup>Resiliency is another, much less used, form of this word. Resiliency is used mostly in North America, as an alternate to resilience

### 22.4.1 *Filipinos at Risk*

As defined by Neil Adger, “*Vulnerability is the state of susceptibility to harm from exposure to stresses associated with environmental and social change and from the absence of capacity to adapt*” (Adger 2006). Studies of vulnerability in the Philippines (Porio 2011; Usamah et al. 2014) have indeed shown repeatedly that the environmental-ecological vulnerability interacts strongly with the social vulnerability, highlighting the effects of climate related changes on the poor and marginal, who possess little in the way of resources, except an ability to organize and a practice of mutual reliance.

Events like super-typhoons Ondoy in 2009 (Manila), Sendong in 2011 (Mindanao) and Yolanda in 2013 (Visayas) have shown how climatic events can aggravate bad conditions that compromised the stability of complex societies (De Castro 2011). Tropical storms, even if they are individual phenomena with a given name, cannot be seen as isolated events, while societal collapse is also rarely a one-time event. Many small failures of different origins reasons across various time periods usually precede a massive societal collapse (Diamond 2011; Lim Ubac 2014). Yolanda’s catastrophe in Tacloban and other areas of the Visayas combined several elements: an unusually strong storm brewing in the context of global warming, a storm surge enhanced by the local configuration of the coastline, severe environmental damage (mangrove depletion alongside the coastline and deforestation in the mountains above the city), and the government lack of responsiveness in the following days, a point that led to heavy criticism of the Aquino administration, accused of being much too slow to react adequately, especially in the case of a Tacloban city run by members of the Marcos family. Damage was heavy because it hit a crowded city where many people lived in shanty houses not protected from the fury of the sea in an area known to be a frequent target of Pacific storms.

Small islands, with limited space to find shelter away from the sea, and more difficult to reach due to their islandness, are often poorer and even more vulnerable than areas in larger islands (Mondragon 2015). Their small size, hence their small population, frequently isolates them not only physically, but also politically, economically and culturally. They are not priority areas for relief, adaptation or mitigation policies (De La Cruz 2015a, b, c).

Many Filipinos do not have stable livelihoods due to irregular and variable incomes, whether they live in the countryside (fickle agricultural production), the coastal areas (fisheries difficulties) or in cities (informal settlers without salaried jobs). Therefore, they live on a day-to-day basis, often in permanent debt, and cannot accumulate the significant savings to build better homes or even recover adequately after disasters. Repairs are done when there is a little money available after the basic needs (food) are met. They are entirely dependent on government aid, which may be siphoned off by corruption (Paterno 2014), charities or foreign aid to receive medical care, food and clothing donations first, then to cope with their house losses, fishpen losses, fishing boat losses, after a storm devastates their lives once again. When they rebuild, there is a return to the same kind of home, location and activity. Tenure vul-

nerability is an added risk factor for poor households, who constantly live in the fear of being expelled from the place they call home, which leads them to look at places perceived as less prone to expulsions but often more prone to flooding.

In the Philippines, the cost of disasters falls disproportionately on those least able to bear them, but these marginalized people are able to respond and show resilience through social mechanisms that help them in disaster resilience (Gaillard 2015).

### 22.4.2 *Filipinos in Risk*

The repeated occurrence of floods and typhoons has led Filipinos to develop a common culture of coping with disasters because risk is a permanent element of their lives (Bankoff 2002, 2003, 2007a, b, c). Filipinos of all ethnic origins have developed cultural coping practices to come to terms with living under the constancy of threat and that are shared by peoples of all ethnic origins in the archipelago (Landa Jocano 1969; Pe-Pua and Protacio-Marcelino 2000). Among them the concept of “*bahala na*” (leave it to God, what will be will be) (Lagmay 1993; Gripaldo 2005).<sup>20</sup> It is usually, if somewhat erroneously, translated as fatalism (Bostrom 1968), since it implies a loss of control of the situation, and prayers may be the only way to survive. In Western eyes, this may be interpreted as passive Filipinos leaving everything to chance or fate, putting their trust in God only. For some Filipinos, God is punishing people for their sins by unleashing natural forces, and resisting is useless (Bankoff 2004a, b). *Bahala-na* response is evoked in cases of uncertainty about the outcome of a dangerous situation, when the person feels unable to control it for lack of means, knowledge, ability, time, help or support. But it can also be seen as a demonstration of determination and willingness to take risks, a way to embolden oneself, almost like “I’m going to do what I can”. Courage, hope, optimism, self-efficacy and faith together (Menguito and Teng-Calleja 2010) would be the strengths to defend lives against the elements. The concept of “*bahala na*” also helps people to accept tragedy, because disaster can occur despite their best efforts of human and divine intervention.

“*Bayanihan*” (Barrameda and Barrameda 2011), a feeling of shared community, is a core Filipino value, which complements “*pakikisama*” (getting along well with people) (Nery 1979; Leoncini 2005), “*damayan*” (compassion) and “*pakikipagkapwa*”<sup>21</sup> (reliance on others) (Enriquez 1986; Arellano-Carandang and Nisperos

<sup>20</sup> Etymologically it is derived from “*Bathala*”, the ancient Supreme Being worshiped by Filipinos during the pre-Spanish Period. It is akin to the Arabic/Muslim expression “*Inshallah*” (at the will of God)

<sup>21</sup> A word derived from *kapwa*, a Tagalog term widely used when addressing another with the intention of establishing a connection. *Kapwa* looks for what people have in common as human beings, not as rich or poor, young or old, man, woman or child. According to this thinking, people always remain just people (“*tao lang*”) despite titles, prestigious positions or wealth, or abject poverty. What really matters is their behavior and their ethics. The essence of humanity is recognizable in everyone, linking (including) people rather than separating (excluding) them from each other.

1996; Guevara 2005) to help people cope collectively with disaster. People armed with this strength will not give up, but rebuild with whatever resources they may have, in the spirit of “*pagpupunyagi*” (perseverance and resourcefulness) (Tuason 2010). All these social psychology traits are essential in the immediate coping with disaster (Adviento and De Guzman 2010; Carandang 1996; Espina and Teng-Calleja 2015) as the individual or the family can count on the assistance of their friends and neighbors in a time of hardship impacting everyone in a similar way. After a storm, people in the neighborhood will help each other to rebuild as fast as possible, with chainsaws to clear up fallen trees, roofing materials already available prior to the storm (people are prepared !) and mutual comforting with food, coffee and special attention given to young children. Reliance on the neighbors and relatives rather than the government is a part of this social resilience (Victoria 2003; Maguire and Hagan 2007). This social cohesion is made of mutual trust, solidarity, common values, neighborhood identity, community involvement at the barangay or purok level, and place attachment. This social capital in poor communities may be what allows the people to be resilient in times of environmental disaster (Bankoff 2007a, b, c; Luna 2012).

An analysis of the attitudes of residents in a Marikina barangay during and after Ondoy (Adviento and De Guzman 2010) identified ten positive characteristics as both resources and outcomes in the disaster experience. They were: (1) *pakikibagay sa kalikasan* (adaptation to nature); (2) *malasakit* (empathy, care and concern for the other); (3) *bayanihan* (collective responsibility for each other, see above); (4) *tiwala* (trust); (5) *pagtitiis* (endurance, ability to bear suffering or pain in the face of adversity); (6) *pagkamasayahin at palabiro*, (cheerfulness and sense of humor, see below); (7) *lakas ng loob at tapang sa gitna ng takot* (courage and bravery in the midst of fear); (8) *pogkamapamaraan* (resourcefulness); (9) *pasasalamat* (gratitude, counting one’s blessings); (10) *pananalig sa Diyos* (faith in God).

Many outside observers have noted that even through the most devastating events, the Filipino people will always smile. The sense of humor of Filipinos (Andres 2002) and their ability to laugh even in disaster is another coping practice. It may be explained as a means of sharing pain or embarrassment in society, “*so much so that when people laugh at a person who slips and falls, the victim usually laughs too*” (Landa Jocano 1969). Exchanging jokes with friends and neighbors, as well as posting humorous pictures on Facebook during a flood (Serrano 2015), is seen as an efficient way to deal with stress. In August 2012, when severe flooding hit Manila at the time of the London Olympics, the “*indomitable Filipino spirit*” (Del Rosario 2013) was expressed when young men played basketball in waist-deep flood waters and with Facebook pictures of people standing on chairs in the middle of an inundated room as if in starting position for an Olympic swimming race.

People tend to rush past discomfort and onto acceptance as quickly as possible. They want to turn the negative into a positive all at once. This may be seen as admirable, a show of inner strength (“*lakas na loob*”), to be culturally independent and self-reliant, to focus on positive, productive actions.

Psychologists have shown that resiliency can be nurtured by helping survivors to: (1) make connections; (2) reframe the crisis as a solvable problem; (3) accept inevitable changes; (4) move towards goals; (5) take decisive action; (6) seek opportuni-

ties of self-discovery; (7) nurture a positive view of self; (8) keep things in perspective; (9) maintain a hopeful outlook; and (10) take care of one's self. Psychologists at Ateneo de Manila have come up with the 6-modules "Katatagan program"<sup>22</sup> designed to hone coping skills of Filipino disaster survivors, which was tested in Tacloban, Samar and Zamboanga (Hechanova 2014; Hechanova et al. 2015).

### 22.4.3 *Adaptation and Mitigation*

Resilience is more than standing strong amid challenges and live with danger (adaptation). It also entails taking action to minimize, if not eliminate, vulnerability to adversity (mitigation).

Since hazards have been normalized as an integral part of culture, specific coping mechanisms and behaviors have evolved in the Philippines to deal with the immediate impact of storms, landslides or earthquakes, but also to adapt and avoid some of the dangers. As we have seen in Chap. 14, traditional houses (nipa palm and bamboo huts/*bahay kubo* and colonial homes/*bahay na bato*) contain elements of adaptation to the major hazards, as do the low-lying stone houses of the Batanes archipelago. Local agricultural systems also show some adaptations to limit the risk of complete crop losses, through crop diversification and the planting of root crops (yam, taro, onions, garlic, ginger) less likely to be destroyed by high winds than rice, corn, banana trees or coconut trees. In Batanes, the extreme fragmentation of farm plots to minimize the likelihood that an entire harvest may be lost is an important mechanism for ensuring food security (Bankoff 2007a, b, c).

One problem often identified in Philippine disasters is the reluctance of people to abandon their properties and livelihoods, which hinders their evacuation from threatened areas (Asuero et al. 2012). It is indeed harder for them to evacuate when the community depends on natural resources for livelihood like those in the fishing community. It is also the expression of a strong sense of place (in its three dimensions of place dependence, place identity and place attachment) (Anacio et al. 2016) and community, which goes against the government policies of mandatory evacuation (short-term), relocation (middle-term) or resettlement (long-term).

Risk reduction requires understanding the causes of vulnerability of the population. It cannot be done without the participation of communities at risk. Proactive risk management emphasizes the reduction of vulnerability and increasing local capacity to overcome hazards. It is contrary to the long-dominant reactive risk management approach, with focuses more on reducing the hazard than the vulnerability and somehow neglects

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<sup>22</sup> *Pagpapanday ng Kalakasan* (finding and cultivating strengths); *Paghahanap ng Kalutasan at Kaagapay* (seeking solutions and support); *Pangangalaga sa Katawan* (managing physical reactions); *Pagsasaayos ng Kalooban at Isipan* (managing thoughts and emotions); *Pagsasagawa ng Kapakipakinabang na Gawain* (engaging in regular and positive activities); *Pag-usad sa Kinabukasan* (moving forward).



the economic, political, social and cultural constraints facing threatened populations. Risk management and disaster policies conducted in the Philippines illustrate this dichotomy between an official reactive approach that focuses on the management of crises related to extreme and rare natural phenomena, and the difficulty of taking into account the daily dimension of vulnerability (Delfin and Gaillard 2008).

NGOs and associations have for a long time been particularly active in the Philippines to assist populations at risk (Heijmans and Victoria 2001; Luna 2001), through the development of participatory projects within a wider logic of sustainable development with a special focus on the access to resources. Involving the populations in the process is essential to insure efficient protection. People are community-resilient and able to overcome the havoc of disasters if recovery policies consider their real needs and acknowledge their contributions (Gaillard 2015). Experiments of community empowerment in disaster preparedness have been undertaken, such as participatory mapping by a French-Filipino group of geographers in Divinubo Island, Samar (Maceda et al. 2009). The dual purpose of this project was (1) to involve local populations in the assessment of their own abilities and vulnerabilities to natural hazards and (2) to identify economically, socially, culturally and politically acceptable measures to reduce vulnerability and increase capabilities. It showed that community was least prepared to tsunami risk and that the most important resources to protect, according to the people, were fishing boats, coconuts and...karaoke players! Local populations, included the youth (through the local Youth Council down to the barangay level) (Fernandez and Shaw 2013) need to be consulted more on the options for relocation after a disaster, which had not been the case in other tragedies such as the Patayas landfill slide in Quezon City (Gaillard and Cadag 2009).

The participatory approach is in line with the goals of the 2005 United Nations' Hyogo Framework for Action (HFA), which focuses on local knowledge and the role of communities (Delica-Willison and Willison 2004) threatened in the management of risks and disasters. The HFA, which ran from 2005 to 2015, set five specific priorities for action: (1) Making disaster risk reduction a priority; (2) Improving risk information and early warning; (3) Building a culture of safety and resilience; (4) Reducing the risks in key sectors; (5) Strengthening preparedness for response. The Hyogo framework marked a shift away from the dominant paradigm of command-and-control and top-down frameworks, emphasizing better dialogue between scientific knowledge and decision-makers in government (Innocenti and Albrito 2011), and a better accounting of bottom-up actions and populations empowerment (Matsuoka and Shaw 2011, 2012; Izumi and Shaw 2012; Matsuoka et al. 2013).

#### ***22.4.4 Building Institutional Resilience***

The Filipino spirit is “waterproof” due to geographical necessity and government failure. If people are resilient, it is because very often they have only resilience to bank on (Sison 2014). Filipinos help themselves because they know nobody is

coming to help them, due to the inefficiency of government at all levels, from the president to the governors or even the barangay captains, who are also victims of the elements.

A lack of solid waste management, long-term deforestation, and massive land conversion multiply the effects of natural disaster in the Philippines. The lack of ready infrastructure to mitigate the impact of expected storms subjects the poorest people to the worst of its geography and the worst of its government's irresponsibility.

What is sorely needed to fight floods is to install water-pumping stations, dredge the garbage-filled rivers that unnecessarily exacerbate the effects of flooding, especially in the slum areas; establish a full, national chain of permanent, bunker-style, fortified, fully-provisioned evacuation centers; reinforce the Philippine Disaster Risk Reduction and Management Council; strengthen local disaster management institutions (Bawagan et al. 2015) and fund the design of low-cost housing built to withstand the effects of storms and earthquakes.

Disaster risk reduction (DRR) policies and strategies are well established within the international development community, being utilized at the grassroots level to address all forms of hazards. Modern societies have the ability and technology to control environmental stresses. But the people's inability to learn from their mistakes, and apply the lessons of past societal collapses, hinder progress in the management of risk. According to the United Nations International Strategy for Disaster Reduction (UNISDR), disaster risk reduction can be achieved through "systematic efforts to analyze and manage the causal effects of disasters, including through hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse effects." Best practices and experiences from other disasters in different settings may also be useful to share (Pelling 2007).

In the Philippines, the passing of the Climate Change Law in 2009 and the Disaster Risk Reduction and Management Law in 2010 reflect significant advancements towards a risk reduction and resilience approach. However, despite the mapping of hazardous areas and the laws and regulations, local communities in the Philippines still continue living in hazardous areas, due to weak law enforcement. Effective disaster risk reduction remains a challenge at the local scale (Esplanada 2015). A 2016 report from the Climate Change Commission indicates that only 160 out of 17,000 local government units, less than 1%, have existing action plans to deal with disasters (Sy Egco 2016) and too few LGUs are requesting the multi-hazards maps prepared for distribution (Ranada 2014a, b, c, d, e, f). The maps are ready and available, they have been requested by several national agencies (Department of Social Welfare and Development, Department of the Interior and Local Government, Department of Environment and Natural Resources, Bureau of Fisheries and Aquatic Resources, National Housing Authority), research institutions, the United Nations, but at the local levels, city and barangay, the apparent lack of interest is worrisome and may call for stronger emphasis and training of the elected officials throughout the Philippines (Panti 2014). A possible way to better involve local officials and populations in this risk mapping would be to further

encourage participatory mapping (Cadag and Gaillard 2012), which would facilitate the understanding of geo-referenced data by the population.

Adaptation is not merely coping with catastrophic consequences of climatic or telluric events; it is a question of anticipation and mitigation. If an earthquake, a volcanic eruption, a tsunami or a typhoon cannot be avoided, the prevention of disaster involves risk reduction programs, which may in the long term be more cost-efficient than rebuilding after each event. There will be less to rehabilitate and recover if effective disaster prevention and risk reduction programs are put in place. This is quite evident in the case of housing.

Precarious habitat is a major factor of vulnerability for the population in the Philippines. Poor quality of housing cannot resist the strong winds and torrential rain associated with typhoons. Very often there is also no real water drainage system and the means of communication in risk areas are also very weak, so that people are often not aware of impending danger. In contrast, Japan is one of the best-prepared countries for such events, with good quality buildings and warning systems working perfectly.

To remediate these deficiencies, it is difficult in the short term to change the quality of millions of dwellings across the Philippines. However, it is important that people know where there is a strong enough building in their neighborhood to take refuge in. This must go hand in hand with an efficient alert system involving volunteer teams traveling to every household in the community, which is needed for two reasons: face-to-face contact is more effective, and many poor people do not have computers or information devices at hand. This is a low-cost solution that can save many lives. Indigenous ways to communicate can be used, as shown by the Dagupan City Flood Warning System, which has revived the use of the *kanungkong*, a bamboo instrument which was traditionally used to call community members to assemble at the village hall for meetings, along with staff gauges as flood markers in strategic locations in the villages of the city (Victoria 2008).

On the longer term, improving the quality of habitat is essential, with better-built houses (stronger materials) and proper location, which involves the development and strict implementation of land use plans and construction standards. The real difficulty, however, is to enforce the rules laid down (Gavieta and Onate 1997). It is difficult to accomplish in poor countries with rapid urban growth like the Philippines. The large number of people and their migration patterns have led to crowded cities, waste and housing problems, pollution, and encroachment of upland forests and watersheds leading to denudation and, consequently, significant reduction of carbon sinks. Many self-made homes are not legally built and do not follow any safety standard. Nevertheless, it is possible to start programs within communities to help people access a more robust habitat, through the dissemination of good practices regarding the construction techniques and materials used. The population must be trained to a better perception of risks related to natural disasters, especially when many informal settlers live in risk zones such as flood-prone riverbeds. In the countryside and in the mountains, better landcare (Villanueva 2006) in the form of reforestation and intercropping will both reduce the risk of landslides and downstream flooding, and improve the income of rural communities.

The most at-risk areas should be reserved for public parks, shops, offices, which are easier to evacuate. Housing should be banned from these areas. The real key is transportation, to steer urbanization towards safer areas, while thinking of transport and communication infrastructure to bring people closer to employment places.

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## Chapter 23

# Conclusion: Towards Sustainable Development in the Philippines?

**Keywords** Sustainability • Development • Policies

For many years, the Philippine archipelago, as we hope to have shown throughout this book, has suffered from many ills, some related to its geography and natural environment, some to its major demographic trends, many also from its social, economic and political structures and choices and its early insertion within a globalized economy. Resources have been depleted or severely damaged (forests, soils, water, coral reefs, mangroves, fisheries). Environmental losses may be linked to extensive factors (economic and population growth) as well as intensive factors (unequal distribution and access to market resources) (Montes and Lim 1996). Everything is linked, such as climate change and poverty, a fact recognized by the Catholic Bishops Conference of the Philippines (Fabunan 2015): poverty cannot be reduced without addressing the alarming issue of climate change, which is hurting the poorest countries and the poorest people.

Farming has not been able to provide sufficient food for poor Filipinos, due to an imbalanced land ownership structure that land reforms have only marginally altered. High population growth and insufficient jobs availability in the Philippine provinces have triggered massive migrations, to Mindanao through a government-sponsored resettlement program that has increased tensions between native Mindanoans (Lumad and Muslims) and Visayan settlers, then to Greater Manila, which has become a hard-to-tame “monstruopolis”, too densely packed, heavily congested and risk-prone, and finally to foreign lands, where many middle-class Filipinos have found better lives than in their own country. Safe drinking water remains inaccessible to most Filipinos living in rural areas (Ordinario 2016). Only 7% of Filipino dwellings have access to sewers. Twenty-six million Filipinos, that is one in four people, are still without sanitary toilet facilities, and of that number, seven million Filipinos are forced to defecate out in the open, in city streets, esteros, fields and bushes, slowing down the progress in mortality rates from easily preventable diseases (Reyes 2016). Industrial pollution, environmental degradation, an excessive concentration of people and activities in Metro Manila and adjacent areas are symptoms of a definitely unsustainable development of the Philippines, which has increased inequalities and injustices instead of benefiting all. Risk management



must therefore fully be part of a development strategy. Reducing losses due to natural disasters goes with smarter urbanization and can help to sustain economic growth, since repeated disasters impose a heavy cost on the society and the economy of the Philippines (Benson 1997).

The adherence of the country to policies recommended by global agencies such as the World Bank or the IMF (Cruz and Repetto 1992) have improved its financial standing after the high-debt Marcos years, but the underinvestment in infrastructures and people has not been good for Filipinos and Filipinas, or the archipelago's environment, while corruption remains entrenched and crime rates are higher than in most countries of that region of the world. The Philippines is a megabiodiversity country, but it is also perceived as a country of ecological disaster where biodiversity is on the verge of collapse after decades of environmental neglect (Posa et al. 2008). Ecosystems have been pushed to their limit, often with deadly repercussions for the human population, for example when mangroves no longer protect them from storm surges during typhoons.

Can the country find the keys towards sustainable development? Can the natural environment recover and biodiversity be saved? Can development benefit all Filipinos? The answers lie in the Filipino people, with a smart choice of national leaders and the continued role of citizens' organizations. The election of Rodrigo Duterte as the new president of the country in 2016 may bring some needed changes. A fresh approach to the lingering Moro question in the southern Philippines, since Mr. Duterte comes from Mindanao, the first such president in the country. A pro-environment (Bautista 2016), pro-poor, pro-farmers stance, which was certainly a factor in his election. People's man or populist politician? Only the coming years will tell. Will he push for a shift in institutional policies leaning towards the protection of the environment, a wiser utilization of the country's natural resources, and a comprehensive rehabilitation of degraded ecosystems? Will he shift away from the traditional (colonial, neo-colonialist?) alliance with the United States and reorient his foreign policy towards closer links with China?

The Philippines has witnessed since the end of the Marcos regime a blossoming of associations and non-governmental associations, which have tried to shake the consciences and the oligarchic system. Peasant and fishermen associations have been quite active in denouncing the life conditions of the poor in the countryside and along the coasts. Informal settlers associations have fought for their rights. In the liberal democratic, albeit unequal, political environment of the Philippines, environmental NGOs have also prospered; their stated objectives (clean air, clean water, biodiversity) can hardly be criticized; they are also instruments to advance social agendas that are underlying the environmental issues (Contreras 1991; Bryant 2001). The educational system must focus more on science and the environment to make the Philippines a country of innovation aimed at solving practical, daily, mundane problems and improving the life of Filipinos.

The country, born from the sixteenth century first globalization in the Age of Discovery, cannot close itself off as Japan may have done in previous centuries. The population is open to the world, maybe one of the most globalized in the world (De La Cruz 2016). This is a precious asset to be nurtured, not as a country dominated

by others and outside capital, but as a nation proud of itself, which can be a model for preserving its environment and become attractive once again to its own people.

Fontaine-lès-Dijon, France, July 31st, 2016.

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