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Editors

Dynamics and Resilience of Informal Areas

International Perspectives

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Foreword

In November 2014, the Department of Architecture at the Faculty of Engineering in Cairo University brought together scholars, researchers, practitioners, ministers, Governmental and Non-Governmental organizations from 15 countries to discuss and debate the responsiveness of informal urbanism. The aim was to revisit the major issues that were frequently addressed theoretically, or in practice. Looking at informal areas with different perspectives was the major goal of this meeting. It was an attempt to understand why despite all the efforts undertaken by different stakeholders, in different parts of the world, and the international financial aids from leading organizations, these areas are still are expanding, uncontrolled, and are "marginalized" either geographically, socially, or perceptually. Of course, there have been many successful endeavors, but looking at the problem, and the size of the slums, and informal areas dwellers, more serious efforts are needed. Along with efforts, successful legal frameworks, innovative ideas, and creative comprehensive solutions are essential to discover the hidden potentials and rethink in a scientific rational way, admitting that it is not only about affordable housing, or lack of services, but it is about land management, governance, and culture.

Together with my colleague editors, we embarked on this project to gather the best submitted contributions aiming at investigating the responsiveness of informal urbanism in terms of needs and aspirations of the dwellers, while revisiting strategies, processes, and other related topics.

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Introduction

Informal settlements is a global phenomenon that developed in various parts of the world and significantly in the global south; where 828 million urban dwellers world-wide reside in slums, 33 % of which are located in urban areas.[1] They occupy different locations in pockets within cities, on the fringes of formal neighborhoods, encroaching on agricultural land; taking various shapes, and typologies. Informal settlements are named as slums, squatter, shacks, favelas, or bid on villes, and many other terminologies describe each in its specific context.

Despite their illegal nature, informal areas are becoming the trademark labeling cities in the developing world. Since their first appearance in the last century; these under-privileged areas have gone through different phases of development. They started as totally marginalized, unrecognized, and denounced by governments, till they reached a quasi full recognition in all platforms.

In fact, since the adoption of the MDGs in 2000, important progress has been made to improve the life of informal areas' dwellers. The urban population in developing countries living in slums has declined from 39 % in 2000 to 32 % in 2010.[2] The Kosovo Declaration signed in Vienna in 2005, calls for preventing the development of new informal settlements, as well as upgrading and regularization the existing ones. Kosovo Declaration aims at improving living standards, alleviating poverty, developing sustainable spatial planning, land and housing policy for Kosovo; in addition to involving all stakeholders including governments and municipalities[3] in informal settlements' development plans.

Despite the profound international efforts, more needs to be done. In October 2016 State members of the United Nations, and all groups of stakeholders will gather in Quito, Ecuador for the Habitat III event, celebrating the announcement of the New Urban Agenda which will discuss how cities can be more sustainable, better planned, and successfully managed.

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[1] UN – Habitat (2013), The State of the World Cities Report 2012/2013.

[2] https://www.habitat3.org/the-new-urban-agenda/knowledge.

[3] Making better Cities together, Ministry of Environment and Spatial Planning, Association of Municipalities of Kosovo, UN-HABITAT,OSCE, December 2007.

The objective of the UN World Urbanization Prospects for Habitat III is "to review the global urban agenda and to forge a new model of urban development that integrates all facets of sustainable development, to promote equity, welfare and shared prosperity in an urbanizing world".[4] In parallel, the adoption of the Sustainable Development Goals in October 2015 constitute the road map for achieving sustainable cities by making cities inclusive, safe, resilient and sustainable. Goal 11 with its seven targets constitute a shift in the UN Habitat concerns for achieving sustainability which should not be limited to considering social, environmental, and economic aspects solely. Sustainable development should be achieved through strengthening national, regional and local development planning, including provision of affordable housing, transportation systems, safe and accessible public spaces, safeguarding the cultural and natural heritage, with a special focus on slums' upgrading. The goals and targets of the United Nations stress the concept of inclusion of informal areas, which are now to be recognized, and targeted to achieve adequate standards for living.[5]

Moreover, and to prepare for Habitat III, the United Nations team, and UN Agencies elaborated specific issue papers for each related topic. These papers summarize findings related to facts and figures related to each issue, providing in depth review and analysis, they also explore key drivers for actions. The paper addressed for informal settlements, states that people living in informal settlements, and slums endure spatial, economic, and social exclusion. They suffer marginalization, and limited access to urban land, concluding that they do not privilege of the advantages that other city dwellers may benefit of.[6]

In this regard, this book raises a global concern about the future of informal areas, departing from current situations, and existing conditions. The debates, and discussions that the authors offer to the readers acknowledge that there are initiatives, and approaches to consider, and to develop. Some cases confirm the necessity of understanding the phenomena from innovative angles, avoiding traditional interventions that so far did not achieve a wide progress. Admitting that there should be a consensus among stakeholders including governments about the responsiveness of these areas, their hidden potentials, and opportunities they may offer. Without neglecting their possible negative impact on cities, since they are over densified, without amenities, with a high percentage of illiteracy. Crime, and other social diseases that can be found also in formal communities at variable rates. There is also a lack of consensus regarding the interventions that should take place, governments, have different views, upgrading, eradication, or displacement they usually adopt fragmented solutions, sometimes seen as the rational decision, few countries have adopted a national strategy or tailored program (since early 1980s, Morocco has used urban planning as a means of implementing large-scale slum upgrading,

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[4] World Urbanization Prospects, describes the objective of habitat III, The 2014 Revision, United Nations, 2014

[5] Sustainable Development Goals, UN Habitat, 2015. https://sustainabledevelopment.un.org/topics

[6] https://www.habitat3.org/the-new-urban-agenda/knowledge.

Tunisia is also an example)[7] to deal with problems in informal settlements. One of the main challenges that they will be facing in the next years is poor governance. The civil society and activists on the other hand are fighting for inclusion, professionals swinging between all options, and researchers capturing the themes to reach an understanding. Lately governments understood that cities are expanding, boundaries are pushed, and cities are merging with their rural hinterlands, it is time to shift towards interacting, instead of reacting.

The three parts of the book with their 15 chapters show that informal areas and slums have each their own challenges, socio-economic patterns, norms, and activities. The origin of dwellers plays an important role in their life style, which is also shaped by the level of culture and education. Although they are unstructured areas but they form inclusive neighbourhoods with a clear identity that formal areas might miss. They function in their own way, their dynamism comes from the responsiveness of the residents, who maintain the power to survive in bad conditions responding to their needs, although they appear vulnerable but they have the capacity of expanding, and appropriate land illegally. H.B Speigel[8] states that citizen in informal areas will generally implement community decisions that they themselves helped to formulate. They are decision makers by nature, they select their location, they choose the contractor/ or build themselves. In some countries namely Egypt, the informal areas differ from part to another, poverty could not be attributed to all, but they are all dense, lacking esthetics, and poor quality of life. In the meantime they have mixed uses, social integration, sense of belonging and solidarity. They are considered organic entities embedded in the urban fabric carrying political, economic and cultural significance. In Egypt particularly, the decision making process has been fluctuating between organizations, and institutions, lately (October 2015) the Ministry of Housing, Utilities, and urban Communities has been assigned the task to include informal areas in housing policies and strategies replacing the Ministry of Urban Renewal and Informal Settlements.

"**DYNAMICS AND RESILIENCE OF INFORMAL AREAS**" addresses informal urbanism through international perspectives. The reader will have the opportunity to navigate, and explore the topic in depth throughout its three parts:

1. Innovative Policies and Strategies to Informal Urbanism
2. Production, Operation and the Life-World of Urban Space
3. The Dynamics of Informal Settlements

Introducing this amalgam of papers in one volume will allow researchers, Governments, practitioners and students to rethink informal settlements in a responsive way, they will discover the multiple hidden layers forming these settlements, and the interconnected forces that could be used to achieve a better planning, reach relevant decisions and regenerate sustainable communities.

Informal settlements will remain for long a source of inspiration for authors, a rich topic for researchers, and a challenging experience for practitioners.

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[7] UN – Habitat (2013), The State of the World Cities Report 2012/2013.

[8] Hans B.C. Spiegel, Community Development Research: Concepts, issues, and Strategies, University of California, Human science Press, 1979.

Acknowledgements

Contents

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Part I
Innovative Policies and Strategies to Informal Urbanism

Global awareness about the problems of rapid urbanization coupled with uncontrolled informal growth is now more than two decades old. Despite the broad knowledge acquired and the serious efforts made to control urban sprawl and to resolve urban, environmental and social economic challenges resulting from informal urbanism, still much has to be done. According to the *Un World Economic and Social Survey,2013*; the vision of promoting economic and social wellbeing while protecting the environment has not been achieved due to rising inequality, gaps and shortfalls in development partnerships, rapid population growth, climate change and environmental degradation.

With the rapid demographic and economic shifts of the last two decades, half of humanity is already living in towns and cities. While keeping in mind the magnitude of the actual situation, it is vital to consider the future challenges posed by urban expansion as it is projected that two third of the world population will be living in urban areas within 50 years, while 95 % of urban expansion in the next decades will take place in the developing world (under Goal 11 of the Sustainable Development Goals SDGs, 2015). The issue is made more pressing by the awareness that the absence of good intervention policies would inevitably lead to the proliferation of further informal settlements and slums.

> *Without fresh ideas to address rapid urbanization, the number of people living in slums lacking access to basic infrastructure and services such as sanitation, electricity, and health care may skyrocket from one billion at present to three billion by 2050(-Urban Forum 5 – Rio de de Janiero*, "*The Right to the City*". *2 July, 2013*).

In this part, five examples of policies, strategies or practices promoting informal urban settings that are environmentally sustainable, socially inclusive and economically productive are presented. The five chapters reflect the thoughts, vision and practice of their writers and promote a debate that helps identify and criticize different types of approaches. The different contexts of the chapters – Africa, Latin America, Europe and the Middle East – together with the different policies and strategies proposed reflect the wide variety in contexts and possible actions. Moving from proposed policies for good governance in the first two chapters, the three

remaining chapters tackle strategies to ensure the ecological, environmental and socio-economic upgrading of a specific study area.

The first chapter uses an institutional analysis and development framework together with a political economy approach to analyze the missing links between urban managers and residents of informal areas in three African Cities: Angola, Ghana and Kenya. The author argues that the fruitful performance of community based institutions can provide a basis for better understanding of how to build upon local initiative and how to integrate such self organizing arrangements into the formal system of government in Africa. He proposes a strategy that can synergize the efforts of the state and the community informal institutions towards poverty alleviation and vulnerability reduction by resolving urban, environmental and socio cultural challenges.

The second chapter considers the formalization of informal settlements in mainland Portugal over a period of 50 years. The chronological review of public policies towards two identified types of informal settlements (those with security of tenure and those without tenure security) is followed by a discussion on how the two types can affect differently the physical settlement, the level of commitments of residents, the way other agents intervene in the process, and influence the way public policies are designed. It argues that the success of public policies depends on its capacity to co-evolve with local organizations' initiatives involving informal settlements dwellers, and infers that it is not governance that leads the process but rather the process that defines the level of governance successes.

The third chapter tackles the issue of urban density in future cities' planning transformation and identifies innovative strategies that can lead to the upgrading of natural resources and the re-establishment of the environmental equilibrium. It presents the project of the Mangueira complex, Rio de Janeiro Brazil. The project's main aim is the designing of a strategy to ensure the ecological, environmental and socio-economic upgrading of the study area. It proposes solutions involving the densification and the promotion of diversified uses for public spaces and the promotion of urban farming principles to promote socio-economic sustainability and to ensure the ecological and environmental upgrading of the area under study. The different scenarios elaborated are defined to provide a response to housing issues and to carve new sustainable alternatives for social-productive spaces in an environmentally and energetically efficient fashion.

The fourth chapter introduces the case study of Vila Nossa Senhora da Luz, Panama State, Brazil, an initially formally developed district inhabited by low-income classes, that has witnessed massive informal densification. The failure of land management policies in the study area led to the visible degradation of public spaces, to the increases in houses' introspection and to poor social cohesion. The author argues that densification of the urban fabric and enhancement of the self-generative capacity of the urban fabric can activate dynamics of optimization thus giving the less wealthy neighborhoods good prospects for development. The proposed program of urban regeneration is based on strategies to use public spaces as catalysts for community development and community involvement.

Finally, the fifth chapter introduces slum tourism as a possible developmental strategy that could help in alleviating the conditions of the poor in slums and informal areas. It argues that although tourism can have an effect on marginalizing the poor, however properly introduced slum tourism strategies could have a positive impact on marginalized areas. Two initiatives are presented…the solar CITIESs initiative in Cairo and the Marzatlan garbage tours in Mexico. Slum tourism is seen as a win-win deal between slum inhabitants and dwellers especially in the case of Cairo where informal areas are settings rich in entrepreneurship and craftsmanship. Slum tourism is seen to help reduce the social gap between the poor and the rich, a tool to disseminate knowledge amongst people with different social and cultural backgrounds as well as between concerned scholars and students, and to foster creative initiatives and local economic development.

Despite the large body of knowledge and the wide variety of rich, on-going experience to help communities moving through crisis to opportunity, the solutions to a great many problems of informal urban expansion are still not solved and sometimes not even effectively addressed.

Managing the complex social, political, economic and cultural dynamics of urban environments requires sound policies at the global, national, city/region, and local levels and innovative strategies for urban resilience in the face of the twenty-first century's looming challenges. Issues related to land tenure security and affordable housing, infrastructure, services and accessibility, decentralization, good governance and planning, management, environmental sustainability and energy consumption, sustainable funding, community involvement, capacity building need integrated approaches and actions that enhance the benefits of cities, while reducing the threats to sustainable development complexity and interlink of challenges.

One of the biggest challenges is on how to reverse informal urbanism in the future. While policies, strategies and practices focusing on improving the lives of existing informal areas dwellers received much attention within the last two decades, much less has been done regarding measures to deal with the continuous informal expansion. This is strongly reflected in the lack of published literature and research on this crucial topic, and also, in the efforts of governments which focus mainly on improving the quality of life in existing slums and informal settlements while failing in or neglecting measures to stop the formation of new ones. Approaches to informal urbanism therefore need to broaden the discussion to include out of the box proactive strategies to control future urban sprawl as an inseparable part of the conversation on informal urbanism. It is only through success in controlling urban expansion that we can hope for a better sustainable and resilient urban future.

Another big challenge facing strategies and policies is on how to ensure that bottom-up approaches to governance connect efficiently with top-down systems of decision making. It is necessary to work in close collaboration with the municipality, and local stakeholders (local public bodies, local public or private agencies, community institutions, residents), however, control lies principally in the hands of the central government; It is at the central level that resources are coordinated and service delivery policies for the poor are designed. Failing to link bottom-up

approaches to top-down systems of decision making can only result in making efforts random and their effect minimal.

Finally, the international development community has mainly focused on the inherent potentials of inhabitants in informal areas. Most research and literature neglect handling the transformation of processes happening within the last 10 years in informal areas in some countries. In Egypt for example, the old incremental processes carried by the poor – as a manifestation of ingenuity and resilience – to handle their needs are actually widely replaced by new processes and investments activities of wealthier groups who exploit the situation – working outside the scope of the formal system – to their benefits thus threatening the sustainability of the original poorer community and creating serious pressures and threats on the city. Research is needed to study, analyze and suggest innovative strategies to deal with this fast growing trend before the new wealthier informal investors swallow any efforts made within the formal sector thus leading to an urban, social and economic chaos.

Chapter 1
Urbanization, Collective Action and Coping Strategies in Informal Areas of African Cities: A Polycentric Environmental Planning Perspective

Samson R. Akinola

Abstract This chapter uses the Institutional Analysis and Development (IAD) framework in tandem with Political Economy Approach to analyse the missing links between urban managers and urban residents in Angola, Ghana, Kenya and Nigeria. Many of the African cities are spatially (physically), administratively and socially unable to accommodate the pressure of concentrated social and economic activities on them; consequently, the majority of the urban poor that are residing in informal urban spaces, have ended up through collective action by building their own water and sanitation facilities, which are often of poor quality. The consequent urban environmental poverty, at times, warrant evictions and demolition by governments, which affects cities dwellers as citizens are killed, property destroyed, while children education is greatly affected. The chapter argues that urban governance structures in the three countries are centralised and deviate from planning norms and people-centred urban system. This chapter provides case studies to demonstrate principles and practices needed to make polycentric planning and community initiatives resolve conflicts of interests on urban space and integrate informal economic space into urban economy through functional polycentric planning framework. Using Polycentric Planning Strategy (PPS), this chapter designs and adopts African Polycentric Urban Environmental Governance Model (APUEGM), African Local Economic Development Strategy (ALEDS) and African Polycentric Privatization Model (APPM) capable of mainstreaming citizens-centred institutions in urban areas into socio-economic and political decision making, thus entrenching good urban governance, citizens-centred environmental planning and development in African cities.

Keywords Coping • Informality • Polycentricity • Planning • Africa

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1.1   Introduction

Africa has long been one of the least developed and least urbanised regions of the world. However, by 2030, about 53 % of Africa's population is expected to be living in urban areas (Cohen 2004:39). Many of the African cities are spatially (physically), administratively and socially unable to accommodate the pressure of concentrated social and economic activities. The growth of these cities together with the rapid increase in urban populations means that peri-urban informal areas are growing much more quickly than formal urban centres. In spite of the rapidly growing urban population in Africa (at 3.6 growth rate, the highest among world regions) (Cohen 2004:28), infrastructure that is a main incentive for entrepreneurial development and a nerve of urban economy are increasingly deteriorating. For example, less than 15 % of the effluent generated in Accra, Ghana is effectively treated (Government of Ghana 2007). As expected, cities in Africa are not serving as engines of growth and structural transformation. Instead they are part of the cause and a major symptom of the economic and social crisis that have enveloped the continent (Cohen 2004:34).

Consequently, the majority of the urban poor that are residing in informal urban spaces, have ended up through collective actions by building their own water and sanitation facilities as well as electricity supply, which are often of poor quality due to lack of support from the local authorities (Osumanu et al. 2010:1). These diverse coping mechanisms conflict with one another and thus generate unhealthy conditions as manifested in uncollected solid waste, urban ghetto, proliferation of slum, squatter settlements, erection of structures on waterways that cause flooding, overstretched, or non-existent sanitation services, drainage, etc. The uncontrolled urbanization is engendering double tragedy – rural impoverishment and urban degradation occasioned by conflictual coping mechanisms. This confirms that institutions responsible for these services are dysfunctional due to institutional crisis and governance deficit, thus resulting into urban environmental poverty.

Today, citizens making a living in the urban informal economy face great challenges – hawking for survival and facing the threat of demolition, etc. 'Furthermore, the decline in formal employment opportunities has led to a dramatic increase in self-employment in most African cities (Lindell 2010:2,3). As the number of people in the informal economy increases, governments and political elites react differently. While some governments result to violence against the group through demolition of houses like in Kenya, Nigeria, and South Africa, others regard these growing crowds as 'vote banks' as found in Ashama slum in Tema in Ghana and Agbobloshie slum popularly known as Sodom and Gomorra in Accra. Where informal settlements are demolished, adverse consequences on socio-economic wellbeing of cities' dwellers are generated – citizens are killed, property destroyed, while children education was greatly affected. Such violent actions breed aggression and future restiveness among youths, especially those whose parents' homes were demolished when they were young. In Angola, 5000 homes were destroyed (Croese 2010), while over 2 million people in Nigeria and 800,000 persons in Abuja, the

national capital were rendered homeless as a result of demolition (Hassan and Oseni 2016). Other cases of police-military brutality against citizens have been reported in Kenya where about 9600 people have been left homeless (Mulama 2004). Other incidents include the harassment of a pregnant woman and vision loss due to rubber bullets have to be reported in Hangberg, Cape Town, South Africa (Wild 2013).

This chapter uses the Institutional Analysis and Development (IAD) framework in tandem with Political Economy Approach to analyse the missing links between urban managers and urban residents in Angola, Ghana and Kenya. Urban governance structures in the three countries are centralised and deviate from planning norms and people-centred urban system. Using cases from Ghana and Nigeria as well as experience from Indonesia, this chapter demonstrates principles and practices needed to make polycentric planning and community initiatives resolve conflicts of interests on urban space and integrate informal economic space into urban economy through functional polycentric planning framework in African cities. The chapter argues that, for urban governance to benefit urban residents (formal and informal), it has to proceed from the people and be guided by them in decisions on all urban matters, including planning and modification of plans on competing urban space and landuses. Using Polycentric Planning and Poverty Reduction Strategy (PPPRS), this chapter designs and adopts African Polycentric Urban Environmental Governance Model (APUEGM), African Local Economic Development Strategy (ALEDS) and African Polycentric Privatization Model (APPM) capable of mainstreaming citizens-centred institutions in urban areas into socio-economic and political decision making so that citizens (including the urban poor in informal areas) can participate effectively in decisions that concern their lives, thus entrenching good urban governance, citizens-centred environmental planning and development in African cities.

The chapter is organised into six sections with the first section containing the introduction, while the second presents the theoretical underpinning upon which the chapter is anchored. The third section analyses the living conditions and cases of demolition in African cities. The fourth part discusses the resilience of self-governing community institutions in African cities; the fifth section presents polycentric planning and a new urban governmentality, while conclusion is drawn in section six.

1.2 Research Methodology

The research uses the Institutional Analysis and Development (IAD) framework, which is a very powerful analytical tool for diagnosing problems and challenges in human society and for proffering possible solutions (Ostrom and Ostrom 2003:12). The IAD framework has three components – exogenous variables or context, action arena and evaluative criteria. Since society is a system of human cooperation, people in any society should collectively relate to and deal with their exogenous variables. This normally starts when people (participants) within an organization/

community (action arena) respond to exogenous variables or context (biophysical/
material conditions, cultural and other attributes of a community, and rules-in-use)
by engaging in community projects/programmes (water supply, sanitation, electric-
ity, roads, …, etc.). When outcomes of the engagement on projects are positive the
participants will increase their commitment to maintain the structure (system of
operation) as it is or move to another set of exogenous variables and then on and on.
However, if outcomes are negative, participants might raise some questions on why
the outcomes are negative. They might then move to a different level and change
their institutions to produce another set of interactions and consequently, different
outcomes. It is important, however, that rules 'crafters' (designers) understand the
interplay between actions and outcomes as the duo interlinked.

In the context of this chapter, the participants are urban managers and residents
of informal communities who suppose to interact and operate in synergy. The ques-
tions this chapter is raising border on how the participants are interacting on the
issues of slum/informal settlements, resettlement, evictions and demolition of prop-
erty. The chapter employed empirical data on demolition of property in Angola,
Ghana, Kenya and Nigeria and appraised the efforts of Self-Governing Institutions[1]
(SGI) in resisting the barbaric actions of governments and at the same time, in open-
ing up alternative and complementary ways of addressing the problems of slum and
informal settlements.

A total of 43 informal communities were identified in the south-western Nigeria.
Different types of primary data were collected: (1) Data on socio economic charac-
teristics of 200 respondents and their accessibility to water supply in informal com-
munities in 21 Local Governments (LGs) across three of six states in south-western
Nigeria: Lagos, Oyo and Osun States. (2) Data from agencies in charge of water
supply and water vendors. Water vendors are private companies that were regis-
tered with government. Usually, such companies constructed boreholes for sourc-
ing water which they sell to citizens. (3) Data on water supply as constituency
projects.[2] (4) Data on financial contributions of selected community institutions vis
a vis that of governments towards socio-economic projects (1999–2014). Further
on, the chapter used empirical data in Ghana and experiences in Nigeria and Senegal
on how informal communities have organized themselves in forming associations
that helped them in turning demolition notice to renovation and in addressing socio-
economic challenges.

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[1] A self-governing institution (SGI) is defined as an institution crafted by the people, without exter-
nal interference, in an attempt to solve their common problems within their locality or community.
It is also called a people-oriented, people-centered, or community-based institution (Ostrom 1990,
2000; Ostrom and Ostrom 2003; Olowu and Wunsch 2004; Sawyer 2005; Akinola 2005d, 2008b).

[2] Constituency projects are produced by government through the lawmakers as a means of injecting
development into the constituencies.

1.3   Theoretical Underpinning

In order to contextualize the line of analysis in this chapter, polycentric planning, an off-shoot of the Institutional Analysis and Development (IAD) framework is adopted. Polycentric planning recognizes the fundamental defects in the centralist model of planning and the persistent failure of the state to meet the collective yearnings and aspirations of the citizenry. As a result, polycentric planning has called attention to the self-governing and self-organising capabilities of the people that are rooted in collective action at community level. The theories of collective action suggest that people can cooperate with one another, using shared norms to advance their common interest (Ostrom 1990:5). The IAD believes in institutional arrangement designed by people to resolve socio-economic and techno-political problems which other people (external to their conditions) are not capable of doing for them. Such arrangements enable people in the community to make inputs to development by contributing towards projects (labour, finance and materials) and decision-making in political arenas in community settings.

Using the three key assumptions of political economy approach to policy analysis, this chapter applies the IAD to analyse how the people of Africa can solve their problems and interact in neighbourhoods, communities, and cities. "The three key assumptions are: (1) Human behaviour is purposive; (2) People's behaviour is shaped by incentives and constraints/rules; and (3) People are intelligent and creative. The political economy approach to policy analysis asks how individual values of preference get translated into collective processes and outcomes" (Bickers and Williams 2001:x,5,13). The approach enables us to understand individuals and the communities in which they live and how they interact in resolving problems of daily existence.

The governance systems and rules that sustained African institutions were inspired by European cultural settings, while the people in diverse language communities and ways of life in the continent were ignored (Ostrom 2006) and their governance structures were denigrated. This is why development models in Africa could not respond appropriately. Akinola (2010c:7) identifies two reasons why Western ideologies and paradigms were ineffective in Africa: (1) They did not capture informal statistics that reflect African daily economic activities; (2) The system is state-dominated and state-driven; it lacks mechanisms to engage the informal sector around socio-economic projects. Consequently, the political economy becomes dysfunctional, while underdevelopment and poverty are heightened (Akinola 2011:28).

According to Stren and Halfani, "the new urban system in Africa reflects a colonial economic framework, which partitioned urban space into two highly uneven zones: a 'European' space that enjoyed a high level of urban infrastructure and services, and an 'indigenous' space that was marginally serviced" (Stren and Halfani 2001:468). Different planning standards were specified for the various segments of the city with physical planning and infrastructure provision concentrated in the European or Government Reservation Areas (GRAs), while African

Residential Areas or Poor Reservation Areas (PRAs) were neglected (Akinola 1992:10). After independence, due to the absence of significant industrialization, a combination of centripetal and centrifugal forces generated uncontrolled urbanization (Cohen 2004:45).

Unfortunately, spatial and development models that were applied in Africa – growth pole or growth centre development strategy (Glasson 1978:173) and "big push" model (Jhingan 2006:179) – could not reverse rural-urban drift. These models belong to centre-down approach and centralized system of planning to development that believe that development could be driven by external demand. It was reasoned that the benefits of development would 'trickle down' from the most privileged sector of the economy to the least privileged. One of the administrative models adopted by African governments is decentralization, which follows the reasoning of growth pole/centre hoping that concentration of resources and infrastructure in urban centres would trickle down benefits to the peripheral areas. Unfortunately, all these expectations became an illusion.

African elite focus on formal economy and neglect informal sector that accounts for about 70 % of African population. Diverse kinds of personal networks exist in Africa through which urbanites sustain their informal activities and incomes in the context of the economic crisis. "The prevalence of informalisation[3] is evident in African cities, where urban landscapes and economic structures have been deeply transformed by a wide range of informal activities" (Lindell 2010:1,2). Similarly, capacities and opportunities are generated through diffuse forms of collaboration among heterogeneous groups in urban Africa. Such fluid networks are seen as "platforms for people to collaborate in 'silent' but powerful ways" (Simone 2004:13).

The inability of African governments to regard citizens in informal landscapes as stakeholders has polarized development in cities. As a result, "uncontrolled urbanisation warrants the development of informal settlements and slums that house millions of citizens across African cities with the problem of lack of basic sanitation services" (Notywala 2011). It is the combination of these environmental health hazards that partly warrant the clearance of urban slums and eviction of citizens from their homes by public officials. This confirms that elite in Africa propagate neocolonialism that marginalizes the people in informal sector and impoverish them.

This chapter provides a different perspective by examining self-organising and self-governing initiatives that are resilient in African informal economies. "Collective action opens possibilities for articulating interests and agendas, expressing grievances and claiming rights" (Pieterse 2008:95). The critical question is: How do urban managers perceive this group of people in informal sector? Since elite leadership have faltered, it is imperative to search for alternatives on how to appropriately address the needs and aspirations of the urban poor in Africa. Incidentally, "citizens in urban areas have been able to respond by exploring precolonial governance heritage and to certain extent have been able to address their daily needs" (Akinola 2011:33). The next section discusses empirical data on the

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[3] Informalisation whereby increasing number of people rely on forms of work beyond the purview of the state regulation (Cross and Morales 2007a).

living conditions within informal communities and some cases of demolition and evictions.

1.4 Living Conditions and Cases of Demolition in African Cities

1.4.1 Living Conditions in Informal Communities

Analysis shows that indigenes in the sampled informal communities in south-western Nigeria constitutes 31 % of the population in the informal areas. While 44 % of the migrants have spent between 3 and 10 years living in general areas, 25 % have spent between 11 and 20 years and above 20 years. Income distribution of the respondents shows that about one-third (34.5 %) earn between 20,000 and 50,000 Naira per month, followed by low income earners (less than 20,000) with 28.5 %. Those that earn above 50,000 accounts for 35 %. Further analysis confirms that the majority of the respondents (36 %) source their water from well; 26.5 % from borehole: 24 % from pipe-borne water; 10.5 % from streams/rivers and 3 % from vendor.

In Ayobo community, Alimosho Local Government, Lagos State, Nigeria, informal settlements were characterized by low quality of houses and poor environmental conditions. However, it was found that "the levels of trust among the residents were strengthened through social linkages like ethnic and religious groups as well as membership of clubs and the Community Development Associations" (Opoko and Ibem 2013:614). The trend in Ibafo and Magboro communities of Obafemi-Owode Local Government of Ogun state is that the high and medium income earners have boreholes in their homes which they power with the use of generators to supply water while the low income earners rely on water from rain, rivers, streams and benevolence from the rich for water for their daily use. There is no contribution or intervention of the government in water supply. Other residents who cannot afford to provide their own water and do not have anyone who can, result to fetching water from canals and streams that run through the communities.

The common denominator to all the agencies in charge of water supply across the communities includes lack of maintenance, inadequate funding, poor management, and shortage of man power, etc. These problems have given rooms for individuals to solve their problems using coping strategies by digging wells, constructing boreholes, and others. At the same time, the operations of water vendors become relevant. Even though constituency projects on water supply were embarked upon by politicians, the gap created by the inadequacy of agencies in charge of water could not be easily filled. While constituency projects function in Alimosho LG (2006, 2012), Ikorodu LG (2010) in Lagos State, Egbeda LG (2007) in Oyo State and as Community Social Development Programme (2011) in Osun State, they did not function in Lagelu LG (2014) and Ido LG in Oyo State.

1.4.2   Reactions of Governments: Demolition and Forced Eviction

In March, 2010, in order to make way for public construction of infrastructure in the city of Lubanga in Angola, riot police killed 7 people, destroyed 2000 homes, while almost 3000 families were evicted with only 700 tents distributed to provide temporary shelter for some families in Tchavola, where there is no basic sanitation and little access to electricity, food or blankets. In 2009, an estimated 3000 homes affecting 15,000 people were demolished in the capital city of Luanda (Croese 2010). The 15 days notice was too short for the victims to prepare new shelter. The effects of demolition on people were disastrous; people were concentrated in a camp located 10 km from the city center, while some schools and many children had to suspend classes, families slept in the open with small children without food assistance (Samacumbi 2010).

There were several cases of demolition in Ghana in recent times. "Nearly 100 houses in Tuba,[4] Ga South District of the Greater Accra Region, were demolished in December 2010, in spite of a court injunction against the exercise. In the process, quite a number of people sustained various degree of injuries, including some journalists" (Beeko 2011). In a related case, a demolition exercise in Tema Metropolis was halted (after 16 structures were demolished) by a massive protest of over 100 landguards. It was evident that the 'demolishers' and 'wasters' of citizens' resources did not give ample notice and time to allow owners of the structures to organise themselves properly (Attenkah 2010) in spite of the UN and international guidelines for forced evictions.

Traders at Nairobi's Kangemi market in Kenya were teargased by police in the process of demolishing their property in the night without prior notice. Police was used to disperse the traders (Kenyan Business News, July 2010). The traders had been at the location for 20 years, while the demolition exercises had cost them close to a million shillings (about $55,000). In February, 2004, the first phase of demolitions, without notice, took place in Kibera, a shanty town which is home to about 700,000 poverty-stricken people, often referred to as Africa's largest slum. About 9600 people were left homeless and families slept outdoors where they have lived for over 30 years (Mulama 2004). Kibera's crisis confirms the failure of Kenyan government to plan for rapid population growth in the 1980s when the population growth rate was 4 %, one of the highest in the world. In Nigeria for instance, over two million people were rendered homeless, while 800,000 persons were rendered homeless in Abuja by the Federal Capital Development Authority (FCDA) as a result of demolition. Cases of demolition were reported in Lagos and Port-Harcourt, while a community leader in Makoko was shot and killed by a policeman when he resisted the demolition by the Lagos state government. Lack of adequate planning and preparedness for urbanisation have accounted for these inhuman treatments. For instance, Abuja, the capital city of Nigeria was built to accommodate 500,000

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[4] "Journalist brutalised by police for covering demolition exercise." http://vibeghana. com/2010/12/12/journalist-brutalised-by-police-for-covering-demolition-exercise/ (Accessed 22/02/2011).

inhabitants, but as at 2012, the city had 2,514,738 persons. The city is increasing at the growth rate of 9.3% and is estimated to have 3,324,000 in the year 2015 with no concrete plan for containing the tide of urbanisation (Hassan and Oseni 2016).

1.4.3 Polycentric Environmental Planning Perspective on Demolition and Citizens' Evictions

A common denominator of bad governance and trampling on the rights of citizens in most African countries is 'rebuilding by demolition' and forced eviction of citizens from their homes. It is true that society is dynamic and infrastructure and urban settings of yesterday may not be adequate for today and tomorrow, but there are minimum standards and methods of renewing urban centre such that the welfare of citizens is not jeopardised. In developed democracies, citizens are involved right from the planning stage to the implementation of any programme that affects them. For example, renewal of urban slums is usually preceded by resettlement scheme that provides accommodation for the affected citizens temporarily or permanently and the citizens are regarded as agents of change in such programmes. The situation is contrary in most African countries where due process is not followed.

The International Covenant of Economic and Social Rights, UN guidelines and international human rights law laid down guidelines for carrying out eviction. The guidelines state, among other things, that "forced evictions must only occur in exceptional circumstances and provided certain conditions are followed. The conditions include: (1) Adequate consultation with the persons affected and the provision of alternative resettlement in a safe and appropriate location. (2) States should give to persons affected, the opportunity to challenge the eviction or demolition order and to propose alternatives" (Ghana News 2010a, b). (3) Evictions and demolition should not take place in bad weather, at night, during festivals or religious holidays.

Taking all the three cases together, the methods employed by public officials in carrying out demolition exercises run counter to the basic principles spelt out in the UN guidelines. It is very sad to note that demolitions in selected countries were carried out in defiance of citizens' rights. The critical issue that needs to be addressed is the responsibility of public officials who have the duty of monitoring and stopping the construction of illegal structures and who usually play the Ostrich and allow illegal structures to be erected.

How can institutions designed for human society give a month or 7-day quit notice to a person who has resided in a house built through his/her sweat, for a period of 20–30 years or more? The quit notice given to citizens is irrelevant when viewed against adverse conditions the evicted were subjected to. How do we explain the demolition exercises that were carried out at dawn in Ghana and at night in Kenya where victims lost all their personal belongings and other valuable property contrary to UN guidelines? All this points to the fact that African governments are culpable simply by allowing these illegal structures to be constructed and by not designing and implementing comprehensive plans that take account of urbanisation and future development. A polycentric approach to urban re-development empha-

sizes people-centred and community-oriented planning in ways that prioritize inclusiveness, nondiscrimination, accountability, transparency and popular participation. The next section discusses the resilience of self-governing institutions in urban Africa.

1.5 The Resilience of Self-Governing Community Institutions in African Cities

If men are to remain civilised or to become civilised, the art of association must develop and improve among them at the same speed as equality of conditions. (de Tocqueville 1988:517)

The people at the community level in Africa have no confidence in those who run African governments, hence, "they invest their sovereignty horizontally in one another through collective action and self-organising and self-governing capabilities and thereby, to an extent, addressing daily challenges – education, health, community hall, postal service, security services, road repairs and other essential services" (Akinola 2011:31). They achieve these through various forms of associations and community institutions (not donor civil society) by revisiting and reviving their old traditions. Empirical evidence in Ghana, Nigeria and Senegal confirm that "urban-based informal associations operate around professional, functional, and civic concerns led by individuals with high level of integrity. These groups exist to provide services or activities in sectors from which the state has retreated of its own accord, such as health, development and other beneficial activities" (Kew 2004:128; Gellar 2005:100–102). Also important to buttress the resilience of SGIs are innovative and inspiring examples of locally-driven water and sanitation initiatives in urban areas in Ghana and Nigeria.

People's Dialogue Ghana (PDG) emerged in the process of stalling forced eviction organised by the local authority in 2002. PDG, Ghana Homeless People's Federation and Ghana Federation of the Urban Poor (GHAFUP) formed an alliance in 2005 to find permanent solutions to urban poverty through the improvement of human settlements and shelter conditions (Osumanu et al. 2010:1, 12–13, 23) Consequently, there emerged a government plan to relocate residents of Old Fadama under a planned Adjin Kotoku New Town Development Project that involved Ministries of Local Government, Rural Development and Environment, Water Resources, and Works and Housing. PDG and GHAFUP are members of the Relocation Project's Implementation Task Force and have been commissioned to collect socio-economic and physical base data of both the Old Fadama area (one of the communities to be relocated) and of Adjin Kotoku. With support from Shack/Slum Dwellers International (SDI),[5] a settlement profile was completed. Additionally, PDG negotiates with financial institutions on behalf of the Federation to acquire

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[5] PDG is affiliated to Slum Dwellers International (SDI), a loose network of people's organisations from many countries that seek to organise and unite the urban poor to influence the way governments, international NGOs and multinationals discharge their obligations to the poor.

loans at concessionary rates for housing infrastructure development and economic empowerment. Globally, Federation groups adopt pragmatic approach using simple enumerations, savings groups and community meetings in developing a culture of care and nurturing in solving problems of basic housing needs of the urban poor.

This remarkable achievement in Old Fadama serves as example to other settlements which face similar challenges. By 2009, the Ghana Federation had over 8500 family members belonging to about 95 savings groups and had expanded and established active groups and functional offices in Ghana's five major urban centres – Accra, Kumasi, Tamale, Takoradi and Tema. It covered seven out of the ten administrative regions of Ghana (Osumanu et al. 2010:23).

Similarly, the solution to the problem of lack of potable water in Bodija market in Ibadan, Nigeria, the largest city in West Africa, was achieved through the intervention of Bodija Market Area Community Development Association (BMACDA) in the 1990s. "The Bodija Association initiated the water project and worked with UNICEF from planning, financing, execution to management/monitoring stages, while the local government officials supervised the project." (Ogbuozobe 2010) Further, findings from recent studies across the south-western Nigeria confirm the good performance of SGCIs as an important agent of change within informal communities. The financial contributions of selected community institutions (1999–2014) towards socio-economic projects accounted for 33.04 %, while that of the governments constituted 66.96 %. Detailed analysis shows that governments (state and local) in Lagos State contributed more (89.5 %) than other governments in other states within the region (Oyo, 67.4; Osun, 44.0 %).

In Senegal, it has been confirmed that urbanisation sparked a sharp rise in associational life in Dakar and other towns. "Different occupational groups – traders, artisans, transporters, formed different types of associations that include tribal associations, religious groups, women's associations, burial societies, neighbourhood associations, and youth associations." Moreover, "several associations emphasised economic, social and recreational activities, the provision of mutual assistance and credit to finance important life-cycle events, and a safety net to help the needy" (Gellar 2005:94–95, 105). These groups, since 1996 established their own local development committees towards the planning for and provision of public goods and services.

The good performance of community institutions provides a basis for better understanding of how to identify and build upon local initiatives that can be used as foundation for building a healthy urban environment. However, there are no concerted efforts on the part of African governments to rally round these community-based institutions for synergy and co-production on urban amenities and development. The pertinent questions is: What hinders Ghanaian government from learning from the example of People's Dialogue Ghana within its domain in Accra in 2005 before adopting the unacceptable approach in demolishing homes in December 2010?

The fundamental questions, therefore, include the following: What kind of incentives favour trusted institutional arrangement among the people? How did these people cope and how are they coping? What lessons can we learn from these

people-centered adaptation strategies in reconstructing and reconfiguring urban public sphere to synergise the efforts of the community through their institutions and that of governments to resolve urban environmental degradation and poverty in Africa? An important lesson to be learnt from these cases is "how these SGIs can be used to re-constitute socio-economic and political order from the bottom-up and to serve as alternatives and/or complementarities to the modern state institutions" (Akinola 2011:34).

If these institutions are viable (though not perfect), the question then is how can we connect them to the formal government structure? If these people-centred structures exist, should African governments continue to demolish citizens' homes or should they open their doors to innovative and problem-solving strategies? Since dualistic economy and policy have led to uncontrolled urbanization and the citizens in informal sector of economy in cities have 'integrated' themselves, what should be done for this group of people? Should they be properly integrated into urban system? If yes, how? Or, Should they be sent back to the rural hinterland's through urban-rural migration? If yes, how should such a programme be conceptualised and implemented? Are there other alternative ways of reflecting on this issue to come up with a more realistic plan? These questions usher the discussions into innovative and problem-solving policies and strategies.

1.6 Polycentric Planning and a New Urban Governmentality

Analysis and discussions show that there is the need for new institutional arrangements that will enable African states to reposition urban managers to deliver inclusive planning policies and strategies as well as public services and poverty reduction incentives on the one hand and evolve appropriate rural industrialisation and employment generation programmes that can stem the tide of rural-urban migration on the other hand. The chapter considers imperative the application of pragmatic and problem-solving home-grown model to the identified challenges.

1.6.1 Polycentric Planning and Poverty Reduction Strategy

Polycentric Planning and Poverty Reduction Strategy (PPPRS) provides incentives for synergising the efforts of the state (public officials) and community institutions (citizens) towards poverty reduction starting from community/local level. It is a multi-layers and multi-centres institutional arrangement that connects the stakeholders synergistically to resolving urban environmental crisis through collective action. There are some fundamental imperatives of collective action within a development arena. These are collegiality, mutual trust, reciprocity and shared community of understanding. It is the realisation of these imperatives through constitutional reforms, effective planning and institutional arrangements that can enable the

people and their leaders to work together to achieve meaningful progress (Akinola 2010a, 2011).

Cooperation requires deliberation. That is why deliberative democracy is considered more appropriate for Africa (Akinola 2011). For example, one of the proud inheritances of South Africa's democracy is public dialogue in the form of community forums, negotiations, and imbizo.[6] Community forums have been part of social movements in the fight against both apartheid and post-apartheid inequalities. Negotiations proudly characterised the transition to democracy which is based on principles of nondiscrimination (Hartslief 2005:1). The equivalent of imbizo among the Yoruba of Western Nigeria is *igbimo ilu* (town court of legislators), *opuwari* among the Ijaw in Bayelsa State and *mbogho* among the Efik and Ibiobio of Cross River and Akwa Ibom States and *Mai-angwa* among the Hausa-Fulani of Northern Nigeria. It is high time for Africans to look back in retrospect to learn from their roots by harnessing certain self-governing principles that are inherent in their cultural/traditional heritage to address urban challenges.

This type of self-governing and self-organising arrangements can be integrated into the formal system of government in African cities. This, invariably, would lead to effective cooperation and deliberation between and among public officials and citizens at community/ward level, thereby eliminating gaps between the two groups. The application of PPPRS in Africa would enable a reduction of vulnerability by resolving urban environmental, socio-economic and cultural challenges in the continent. Using PPPRS, African Polycentric Urban Environmental Governance Model (APUEGM) is designed in the following part.

1.6.2 African Polycentric Urban Environmental Governance Model (APUEGM)

In order to enable urban managers in Africa to effectively deliver urban services and respond to yearnings and aspirations of urban citizens, this chapter designs an African Polycentric Urban Environmental Governance Model (APUEGM). The APUEGM is diagrammatised in Fig. 1.1. The first part of the model (**Nos. 1–10**) displays the failure of centralised, monocentric and monocratic systems of governance (**No. 1**), occasioned by elite driven structurally-defective institutional arrangement that has resulted into exclusion (**No. 2**), and consequent dualistic economy and policy (**No. 3**). The problem of centralised system of governance is that citizens have no input into decision, planning, execution, monitoring, evaluation and assessment of public goods and services, especially from conception to

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[6] *Imbizo* is a word from the Zulu language in South Africa. It means a "gathering" for the purpose of discussing important matters within a group or community. Its ultimate purpose is to ensure participation of members in the process of conceptualising, making and executing decisions. The *imbizo*, in its traditional form, has constituted an important aspect of the indigenous African political system for many centuries, especially in Southern Africa (Hartslief 2005:1).
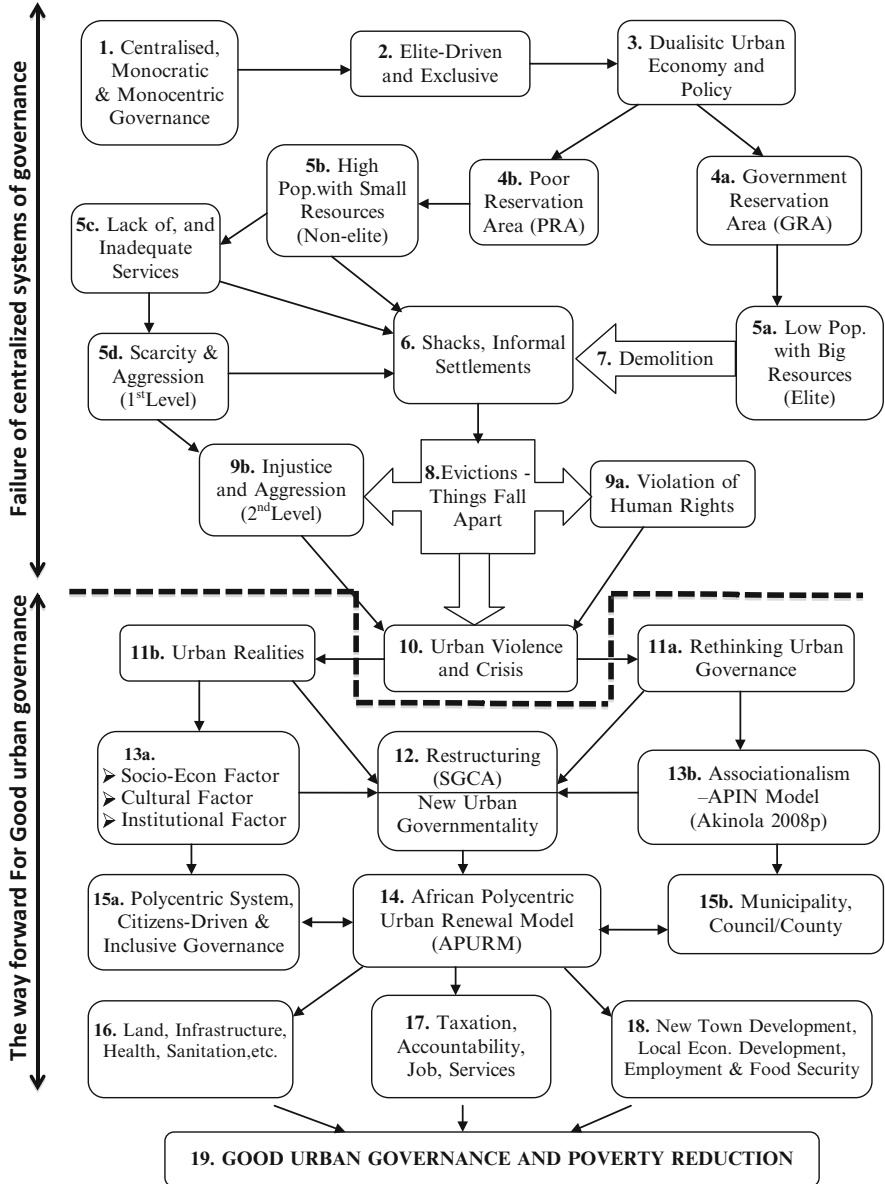
Fig. 1.1 African Polycentric Urban Environmental Governance Model (APUEGM) (Source: Developed by author)

implementation. What usually happens is that decisions are taken at the seat of power "far away" from citizens. As a result, mistakes and errors in planning and decisions are not easily amenable when they are discovered. Even in emergency cases, local officers still require approval from high-level bosses who are secluded from the citizens; thus, subjecting destiny of citizens to whims and caprices of rigid bureaucratic decisions. Invariably, centrally motivated strategy leads to increasing socio-economic and political dependency, heightened mass poverty and choking of local initiatives.

Dualistic economy and policy produce two environments within African cities: Government Reservation Area (GRA) for the elite **(No. 4a)** and Poor Reservation Area (PRA) for the non-elite **(No. 4b)**. While all the good things of life are available within the GRA with little population and high percentage of resources **(No. 5a)**, the PRA is highly populated with small resources and lacks basic services **(No. 5b)**. The later is described as slums, urban ghetto, shacks and informal settlements **(No. 6)**. What is common in the slums is scarcity of good things of life with attendant struggle and aggression **(No. 7)**. The only plan the elite has for the slum dwellers is demolition and evictions as good riddance, which is a violation of human rights and injustice **(No. 9a)**. With evictions, things fall apart for the slum dwellers in socio-economic terms **(No. 8)**. As a result, poverty is deepened and human misery is heightened, thus generating aggression and violence on urban streets. The use of police in dispersing protesters and rioters further complicates matters as citizens are killed and property destroyed; thus leading to the second level of aggression **(No. 9b)**; this time, against the state. This aggression usually takes the forms of urban violence, crisis and vandalism **(No. 10)** reflecting failed urban governance. This failure requires a rethinking and a paradigm shift on urban governance **(No. 11a)** to an inclusive institutional framework that would be appropriate for cities dwellers – elite and non-elite – in Africa.

The second part of the model **(Nos. 11–19)** displays the way forward, especially on the role of African scholars in rethinking urban governance by charting possible courses of actions on how urban managers can work with citizens in synergy. Rethinking urban governance requires the imperatives of urban realities **(No. 11b)** to be factored into a new urban governmentality **(No. 12)**. Urban realities should be viewed and analysed via exogenous variables (socio-economic and institutional factors) **(No. 13a)**. The paradigm shift in governance demands a new institutional arrangement through restructuring whereby the efforts of the stakeholders in the public terrains – politicians, bureaucrats, technocrats, NGOs, youth, unemployed persons, self-governing institutions, etc. – are synergised. Since political factor determines the operation of other sectors of the economy, restructuring the public sphere becomes central to resolving urban governance and development crisis (Akinola 2011).

At the heart of restructuring the public sphere is the operation of Self-Governing Community Assembly (SGCA). The stakeholders/participants would operate using rules that are crafted by members at the SGCA. Rule crafting takes place at three levels – constitutional, collective choice and operational (see Akinola 2010a, 2011). The activities and operations of SGCA will be facilitated by associationalism using

African Polycentric Information Networking (APIN) **(No. 13b)** for creating networks between the leaders and the people for effective information sharing and communication (Akinola 2008a:188–189).

The SGCA should be patterned after *imbizo*, *igbimo ilu*, *opuwari*, *mbogho*, *Maiangwa*, and similar, but modified to include representatives of governments with their agencies, higher institutions, community institutions, occupational groups, women groups, and youth (Akinola 2013). Since SGCA is a multi-tasks assembly, one of its operations will have to do with education and enlightenment of citizens so that public officials and the people operate within shared communities of understanding. Some of the critical questions that citizens need to address at the SGCA include: (1) What should governments do in terms of urban service delivery and how should they do it? (2) What should residents of informal communities do alone without government intervention? (3) What can people do in tandem with government on renovation of homes? (4) How can people handle these issues in numbers 1–3? (5) What should be the role of urban citizens in shaping electoral system before, during and after elections to ensure the delivery of dividend of democracy?

Both leaders and citizens need new orientations, which require some training at the level of SGCA. The leaders need new orientation in community governance and management of community affairs. Leaders should come down to the level of citizens (as proposed in AERD – Akinola 2008a:192–193, 2010b), while citizens need to be prepared for regular dialogues with their leaders. Conscious effort must be made to recognise and respect local dynamics in addressing the development challenges which residents of informal communities face (Akinola and Adesopo 2014). It is important to mobilise residents to engage government and city authorities in exploring alternatives for resolving an eviction notice as was done in Ghana in the late 1990s and in 2005, for examples.

When urban citizens are able to realise that, they can and should take full responsibilities in shaping and re-shaping socio-economic and political configurations to suit their daily aspirations and yearnings through active and constructive interjections, especially through the application of African Polycentric Urban Renewal Model (APURM)[7] **(No. 14)** (Akinola 2013:13–15); only then shared communities of understanding would be established. Polycentric system, citizens-driven and inclusive governance **(No. 15a)** will enable municipal council and urban LG managers **(No. 15b)** to pursue the goal of housing and infrastructural development: access to land, affordable housing due to low cost of building materials, good roads, environmental health and sanitation **(No. 16)**. When public officials and citizens are able to work together, taxation and accountability **(No. 17)** will lead to job creation and societal peace.

In order to pursue inclusive governance, it is imperative for African governments to embark on New Town Development, patterned after Ebenezer Howard's principles. Such new towns should be established following the principles of Robert

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[7]African Polycentric Urban Renewal Model (APURM) is designed for synergizing the efforts of three major groups – governments, financial organizations and community institutions in addressing the problem of urban decadence and slums in Africa (Akinola 2013b:13–15).

Owen's Industrial Village that will provide platforms for the application of African Local Economic Development Strategy (ALEDS) for enhancing economic growth through local industrialization (Akinola 2007:233, 2008a:190–191), African Food Security Model (AFSM) for food production (Akinola 2008:193–195; Akinola et al. 2014), African Employment Generation Model (AGEM) for generating employment opportunities (Akinola 2008:193–195), and African Polycentric Privatization Model (APPM) for distributing the benefits of economic growth among the citizenry (Akinola 2007:233) **(No. 18)**. At the end of the day, African countries would experience good urban governance and poverty reduction **(No. 19)**.

The proposed new institutional mechanism would enable African state to reposition urban managers to deliver inclusive housing policies and strategies as well as public services like healthcare, sanitation, education, water supply, electricity, roads and poverty reduction incentives. At the same time, appropriate rural industrialisation and employment generation programs that can stem the tide of rural-urban migration should be set up.

1.7   Conclusion

This chapter concludes that centralised, monocentric and monocratic systems of governance occasioned by structurally-defective institutional arrangement in Africa has resulted into exclusion and consequent dualistic economy and policy that favour the few ruling elite, while the majority of African citizens living in slums and informal settlements face danger of evictions and demolition as well as threat of lives in attempts to resist being dispossessed of their property. In order to protect the rights, life and property of citizens, especially the poor in African cities, a polycentric arrangement that is inclusive in decision making is inevitable. For urban governance to benefit urban residents (formal and informal), it has to proceed from the people and be guided by them in decisions on all urban matters, including planning and modification of plans on competing urban space and landuses. Self-organising and self-governing arrangements that urban poor and residents of informal communities in Africa have adopted in cooperating mutually in responding to their common problems are imperatives for the attainment of good urban governance, viable democracies and sustainable development in Africa. This is because effective polycentric planning, institutional arrangements and self-governments can act as a check, under certain circumstance, on the excesses of public officials as well as provide greater opportunities for accountable government.

This chapter demonstrates principles and practices needed to make polycentric planning/governance and community initiatives resolve conflicts of interests on urban space and integrate informal economic space into urban economy through functional polycentric planning framework. Using Polycentric Planning and Poverty Reduction Strategy (PPPRS), the chapter designs and adopts African Polycentric Urban Environmental Governance Model (APUEGM) capable of mainstreaming citizens-centred institutions in urban areas into socio-economic and political deci-

sion making so that citizens (including the urban poor in informal areas) can participate effectively in decisions that concern their lives.

In order to pursue inclusive governance, it is imperative for African governments to embark on New Town Development patterned after Ebenezer Howard's principles. Such new towns should be established following the principles of Robert Owen's Industrial Village that will provide platform for the application of African Local Economic Development Strategy (ALEDS) for enhancing economic growth through local industrialization, African Food Security Model (AFSM) for food production, African Employment Generation Model (AGEM) for generating employment opportunities, and African Polycentric Privatization Model (APPM) for distributing the benefits of economic growth among the citizenry.

The new institutional mechanism would enable operators of municipals and urban local councils to set up governance structures that will avail the people the opportunity to have a robust political dialogue with public officials in order to reposition urban councils to effectively manage urban environment and deliver public services to the people. The emerging new institutional arrangement would, therefore, produce a new urban governmentality that is polycentric, citizens driven and inclusive; thus, entrenching good urban governance, citizens-centred environmental planning and development in African cities.

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Chapter 2
From Informal to Formal: What Can Be Learned from Reviewing 50 Years of Portuguese Models, Policies and Politics

Paulo Silva and Helena Farrall

Abstract   This chapter considers the formalization of informal settlements in main-land Portugal. The country experienced a rise of illegal settlements during a period of economic growth (corresponding to the 1960s and 1970s). Informal developments culminated in an exploding social and environmental problem with hundreds of thousands of citizens living in informal settlements, mainly around the Portuguese capital. The Portuguese example evolved from the late 1970s "critical stage" to our days in which informal settlements are residual and about to be solved. The general aim of this review is to discuss how different types of informal settlements influence the way public policies are designed, in four complementary perspectives: informal settlements' characteristics, including physical, social-economic and livelihood; local public policies initiatives and models of action; national public policies and paradigms; political involvement and the bridging role of political leaders. In this context, the success of public policies depends on its capacity to co-evolve with local organization's initiatives involving informal settlement dwellers. The scope of this review concentrates on two kinds of informal settlements: those in spaces not belonging to the residents; and those in spaces involving land ownership. The methodology adopted will follow those four perspectives along the last five decades (since the early 1960s). By demonstrating the benefits of long-term analysis of public policies in highly complex, hierarchical and dynamic environments as are informal settlements, the authors hope to stimulate more studies of similar nature.

Keywords   Informal settlements management • Urban policy innovation • Long-term law-making analysis • Urban regeneration paradigms

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2.1 Introduction

Informal settlements are key issue in the urbanized world, both developed and developing. At the rise of the twenty-first century, United Nations estimated one billion people living in these territories and a growth in the following years of 10 %/year (UN-Habitat 2003). The impact of these numbers in society and in urban territories is evident: lack of infrastructure, fragility of built structures, poor public health conditions and unclear land tenure are just some of the problems caused by informal settlements (Tranberg Hausen and Vaa 2004). In the European context, 50 millions are estimated to live in informal settlements under these conditions (UNECE 2010).

This chapter considers the formalization of informal settlements in mainland Portugal (South-western Europe), over a period of 50 years. As in many other countries in the past and in the present, Portugal experienced a rise of illegal settlements during the period of economic growth (in the 1960s and 1970s). The revolution of 1974 increased this process due to the return of emigrants living in central Europe and war refugees from former African colonies. This informal development culminated in an exploding social and environmental problem with hundreds of thousands of citizens living in informal settlements, mainly around the Portuguese capital. The Portuguese example evolved from the late 1970s "critical stage" in which the urban system was highly affected by this unsolved problem, to our days in which informal settlements are residual or about to be solved. However, the deep economic and social crisis in which Portugal currently lives is creating a new set of challenges.

The chapter is organized in six sections, including the present one: Sect. 2.2 will expose methodological aspects of the chapter; Sect. 2.3 will bring to the discussion the theoretical framework through opportune literature review; Sect. 2.4 will expose the results from the chronological approach of the chapter; Sect. 2.5 will discuss the chapter findings; finally Sect. 2.6 will conclude about previous sections' contents.

2.2 Methodological Aspects of the Chapter

Methodologically, a first theoretical approach with the aim of managing the different types of informal settlements was performed. Considering two types of informal settlements (slums with no secure land tenure and informal areas with secure landownership), four complementary perspectives were explored: (a) informal settlements' characteristics including physical, social-economic and livelihood (also related with landownership); (b) local public policies initiatives and models of action; (c) national public policies and paradigms models; (d) political involvement and the bridging role of political leaders. The interaction between these four perspectives will be discussed with one goal: to identify the different ways in which the two types of informal settlements were treated. In this context, institutions'

responsiveness will be approached in order to enhance the possible replication of some main features into other contexts (Olstrom 2005).

In order to better understand how local public initiatives, national public policies and political involvement deal with informal settlements, a common time frame was established regarding: the dictatorship period (until 1974); the revolutionary period (between 1974 and 1976); the post-revolutionary period (from 1976 to 1986) and the period following the European integration (after 1986).

Statistical data was collected – in order to understand the territorial expression of these phenomena – and technical reports related with informal settlements' lawmaking were the two main sources of information.

2.3   Informal Settlements

Despite the fact that the world experienced informal settling since the post second world war, unique political, social and economic contexts in each world region as well as ecological impacts claim tailor-made solutions. In order to try to solve problems created by informal settlements, institutions, academics and practitioners have to deal with highly complex processes (Dovey 2012) in which public administration, political forces, landowners and residents interact in a dynamic way. Approaches to deal with informal settlements have ranged from demolition and resettlement to in loco formalization. Scientists and practitioners recognize the necessity to learn from these cases (Portas 1988; Busquets 1999; Indovina 1990), especially from existing long-term experiences and from long-term analysis and/or evaluations, like the ones of Greece, Italy, Portugal and Spain in the last two decades (UNECE 2010). Nevertheless, much of the research on informal settlements is only comprised of snap-shots of one or few case studies, focusing mainly on a limited number of aspects.

Several are the definitions of "informal settlements". However, some consensus has been built up around three main ideas by worldwide institutions such as OECD, which comprises: the construction on someone else's land; the construction without following technical rules; and the occupation of territory without respecting planning regulations (OECD 1997).

Although worlds' diversity of occupations makes difficult the "classification" of informal settlements (Roy 2011), two main categories will be addressed in this chapter. The first one corresponds to slums (ISS) as the sum of constructions, in general in compact environments and built in precarious conditions (in terms of materials used). The second one relates with occupation involving landownership (ISL) in which settlers owe the land and therefore construction conditions tend to be better. In both kinds of informal settlements, regulations are not taken in consideration, neither in terms of construction nor specially in terms of spatial planning.

Although there are many variations under this theme, ISS and ISL are two dominant kinds of informal settlements in the Portuguese recent urban history. Regarding these two categories, the following section will provide an inclusive perspective, under four main topics, of how and why ISS and ISL evolved in Portugal.

2.4   Complementary Perspectives on ISS and ISL: Main Findings

Informal settlements considered as slums (ISS) or as involving landownership (ISL) are rarely seen as part of the same process neither in academic works nor in practitioners' interventions. In this section four complementary perspectives will be addressed: the one over their main characteristics; the one of local public initiatives to deal with them; the one of national public policies' initiatives and the one of political involvement.

2.4.1   Informal Settlements' Characteristics Including Physical, Social-Economic and Livelihood

Informal settlements' characteristics mostly related with ISS and ISL include physical, social-economic and livelihood (related also to landownership) aspects. They contribute to specify the main differences between ISS and ISL.

Although informal settlements were known in Portugal since the early twentieth century in the late years of the Estado Novo's dictatorship, (1926–1974) was when they became more prominent as ISS as well as ISL. The second post-war brought some economic growth to the country and since the 1960s the economy started to open to the European markets. Main Portuguese cities became economic hubs and it was mainly in and around the city of Lisbon (but also in Porto) that informal settlements increased. Settlers were the result of migratory movements (Fonseca 1990), with origin in rural parts of the country since the early 1960s. Additionally, in the 1970s after the independence of Portuguese colonies, an important movement of war refugees took place.

ISS occupied public land, owned by an authoritarian but decadent state, and also private land, in a context in which legal owners were not able to stop the squatting process. ISL was based on the illegal division of rural land in order to create an offer of small plots of land for residential purposes (Rodrigues 1984). ISS implied less financial resources (investment in land and in construction materials was significantly low) and ISL implied a higher capacity of investment – although illegally divided land was sold at very low prices, the investment in materials was higher (Ferreira 1984). Although both types of informal settlements had been the result of similar social and political processes, they were associated with different types of population and therefore, with different territorial impacts (see Figs. 2.1 and 2.2).

Portuguese statistical data also shows some differences between ISS and ISL. Since 1864 (when the first national census was set up) and until 1960, the concept of housing unit was comprised by a wide range of construction types used for residential purposes, becoming "shelter" almost as a synonymous of "house". Only in the census of 1970, classical housing units were for the first time distinguished from "non-classical" ones (INE 1971). Non-classical accommodations included

Fig. 2.1 Example of ISS (Source: Silva 2014)

precarious constructions located in slums (which in Portuguese is translated by the word "*barraca*") mixed with other types of temporary housing (such as houses for workers in construction sites) and with buildings originally not designed for housing purposes. It was in 1981 that for the first time statistical data was produced in order to survey specifically the number of families, people and housing units located in slums (INE 1984). The following table shows how since then ISS developed in terms of numbers of residents, families and housing units (see Table 2.1).

Lisbon is heavily represented in these numbers. The concentration in 1981 of ISS in and around the Portuguese capital accounted for about 80 % of the more than 24,000 housing units located in nationwide slums and for nearly 90 % of people and families living under these conditions throughout the country.

By *distritos* (an in between municipality and region administrative division), the *distrito* of Porto, the second largest Portuguese city, had only 5 % of the national amount of housing units in ISS.

Differently from ISS, Portuguese censuses do not provide information about ISL. It is necessary to use other sources in order to find some data concerning ISL: in 1978, a report made by the national government revealed that at the national level existed 83,000 dwellings built in ISL, 63,000 of them located in Lisbon Metropolitan Area. In 1982/1983 another survey reported the existence of over 300,000 inhabitants living in ISL in Lisbon Metropolitan Area, which then represented over 12 % of the whole population, occupying almost 12,000 ha, a surface larger than the municipality of Lisbon (8500 ha).

Fig. 2.2 Example of ISL in Lisbon Metropolitan Area (Source: Silva 2014)

Table 2.1 Evolution of housing units, families and population in ISS between 1970 and 2011. The column in grey includes slums and other forms of housing such as improvised spaces in buildings originally not designed for residential purposes

	1970	1981	1991	2001	2011
Housing units	31110	24016	15607	11185	2040
Families	30185	21662	16184	11819	2090
Population	116650	72861	56288	37554	6658

A social differentiation existed between ISS and ISL; population living in ISS were more associated with economic instability, unemployment and illegal activities such as drug trafficking. The solution to these problems became one of the most visible parts of authorities' concerns with ISS. On the other hand, ISL were associated to different economic and social conditions related with more stable professional situation, which allowed access to landownership. Therefore, major pressures were put on other issues like the construction of infrastructures and of public facilities in ISL.

While the municipality of Lisbon concentrated the majority of ISS, looking basically for a shelter, a large part of ISL were spread over the suburban municipalities

around the capital, where residents could aim landownership at lower prices (Salgueiro 1977). However, different build typologies reflected a common need of free space around their houses in which they develop some small agricultural practices or gardening. Similarities and differences between ISS and ISL were important to the way that local public policies' responsiveness was designed as shown in the next sub section.

2.4.2 Local Public Policies' Initiatives

2.4.2.1 Until 1974

Local public initiatives to deal with informal settlements until 1974 were almost inexistent. A highly centralized government system gave little or any power to local authorities. Local leaders were chosen by the national government. More than fighting back informal settlements, local institutions ignored this movement (following the pattern of the national government), since they occurred in remote and less visible territories. Local public policies were marked by a crucial point in which the relations between institutions and citizens changed – the revolution of 1974, which put an end to 48 years of dictatorship – and established the ground for the first initiatives to deal with informal settlements.

2.4.2.2 1974–1976

In the first years of democracy, planning problems were almost completely shadowed by housing problems. Focusing on housing scarcity, in the period between April 25th 1974 (the date of the revolution) and April 25th 1976 (the date of the first parliamentary and local elections) a set of experimental initiatives took place in order to deal with informal settlements. Freedom of speech and of reunion catalysed associative movements, with residents' commissions gaining a central role in Portuguese society, which influenced the way ISS and ISL evolved.

Municipalities were part of an experimental process by providing land to build new housing settlements cooperation with ISS residents and technical teams created by the central government. The idea was to involve future residents into finding architectural solutions combined with flexible mechanisms such as self-construction and typologies adjustable to the growth of families.

Regarding ISL, they very quickly became part of the local housing agenda. The freedom of association allowed small landowners to organize themselves, to set priorities and to work as mediators between institutions and individuals. In order to deal with lack of infrastructures, collective facilities and public spaces, several municipalities produced urban plans as a way to set a stable urban framework (Silva 2010).

2.4.2.3 1976–1986

Two years after democracy's establishment, the first local elections took place. Municipalities gained autonomy in relation with central government at different levels, namely in terms of spatial planning, which influenced the way ISS and ISL were approached.

In respect to ISS, municipalities tended to have less intervention in the way solutions were designed. They became mediators between central government and communities, defining architectural programs and managing the selection process of families in condition to apply to a legal dwelling. But this period was scarcely responsive since public financial resources were insufficient to deal with the growth of slums.

In the same period, ISL evolved based on a growing involvement with local institutions. In some municipalities, mainly in Lisbon Metropolitan Area, where the size of ISL was exceptionally large involving a significant number of landowners (reaching several thousands in some cases), municipalities and landowners/residents commissions self-organized creating structures (local technical offices) specially dedicated to deal with ISL. At the same time the number of landowners and new residents was still growing and eventually the need to legalize the largest ISL in the country – Quinta do Conde, was the pressure to the emergence of a new solution in terms of landownership registration (see Fig. 2.3).

Fig. 2.3 Quinta do Conde, one of the largest ISL in Portugal, covering over 400 ha (Source: Silva 2015)

2.4.2.4   After 1986

With the entrance of Portugal into the European Union, a significant amount of cohesion funds (from ERDF – European Regional Development Fund) was used to build infrastructures' networks. These investments contributed to a new era in the way institutions were dealing with informal settlements, since there was an external stimulus to solve a problem, which was still growing.

In this context of environment and planning concerns, ISS eradication became a priority. With more financial means local authorities also got more involved with the central government on answering people's needs. However, the place given to local authorities let very little space to experimentation and innovation. Municipalities in general replicated different pre-established models, and during the following decades some improvements in procedures were made, but without introducing any radical changes. Local institutions became responsible by providing land, usually in a different location from the one occupied by ISS and shared the financial burden with national institutions.

Regarding ISL, much of the effort put on the first decade of this period didn't have immediate effects on accelerating their legalization. However this period was crucial for the recognition of local authorities as the key agent to deal with ISL. They became more aware of the main critical issues related with their legalization, such as managing spaces for public and collective purposes (Silva 1996). This fact had a crucial influence in the way national public initiatives evolved as we will see in the national public initiatives (next sub-section).

2.4.3   National Public Initiatives

2.4.3.1   Until 1974

Since national planning institutions acknowledged the existence of ISS and ISL, but they did not take any relevant measure to deal with them, national public initiatives addressing informal settlements were scarce during this period.

In 1965, the Portuguese government made an attempt to control the sprawl of informal settlements by opening to private initiative the possibility to urbanize. Nevertheless informal settlements continued to grow since the offer that emerged from this initiative didn't meet the aims (Salgueiro 1977)) of a significant part of the population (individual houses with a yard). The construction of some social housing neighbourhoods by the State was not enough to fight back the spread of ISS.

2.4.3.2   1974–1976

The two first years after the revolution became crucial in terms of experimentation in terms of informal settlements. Although the social support to the revolution of 1974 crossed the Portuguese society, national governments knew that this was

mainly grounded on lower classes which had as one of their main concerns housing conditions.

Regarding ISS and in order to answer to major housing's needs, an ambulatory service was launched by one provisional government in 1974. This service took the acronym of SAAL (which means Local Support Ambulatory System) within which brigades composed by architects and engineers provided technical assistance to communities (Costa et al. 1979). Because SAAL was launched by the central government, they provided technical skills, which were very scarce in municipalities.

Although ISL were also present in governments' agendas, main efforts in this period were put more on providing new spaces, than to create special legal tools to legalise existing ones. This was also the period in which public authorities started to acknowledge ISL's national dimension (Soares 1984).

2.4.3.3   1976–1986

In this period some legal initiatives were taken in order to control informal settlements. They were very much repressive and putting in local authorities the right and the responsibility of dealing with both ISS and ISL. However their growth made evident the lack of effectiveness of such initiatives.

Regarding ISS, the "two-system" approach of the previous period (in which both top-to-bottom and bottom-up initiatives were launched) was abandoned and central governments concentrated their efforts on top-to-bottom solutions, represented by large scale interventions (most visible by the *Planos Integrados* – Integrated Plans).

Although efforts were put in dealing with ISL, more settlements appeared (Ferrão and Leal1984). Ecological awareness made possible the publication in 1983 of the first decree-law establishing the national ecological reserve and some demolitions of constructions were carried on in ecologically sensitive areas. In 1984, in order to control the growth of ISL, a decree-law (nr. 400/84) had some effectiveness by forbidding the sale of the same piece of land to several co-owners, a major step to stop the emergence of new ISL. Existent settlements were approached with the same kind of planning procedures applied to legal urbanizations; only in the next period tailor made tools were created in order to deal with ISL.

2.4.3.4   After 1986

National perception of informal settlements was influenced by the entrance of Portugal into the European Union. ISS and ISL were seen as threats to an ordered territory and to the preservation of ecologic values. During the 1990s two major steps will be given in order to deal with ISS and ISL.

In 1993 a program to eradicate ISS from the metropolitan areas of Lisbon and Porto was established. In 1996 the focus of this program was enlarged in order to allow municipalities and also families to have access to funds to buy or to repair buildings. Two decades later, the effort made to eradicate slums from urban land-

scapes was recognizable. However a new challenge emerged: the need to regenerate social housing areas in order to make them more liveable. Launched in 2005 and extended until 2013, the *Iniciativa Bairros Críticos* (Critical Neighbourhoods Initiative) was an attempt to deal with the consequences of how ISS were solved some decades ago, with inter-disciplinary task groups being created to design regeneration programs in response to residents' socio-economic problems.

The approach to ISL changed radically with the approval of a new act in 1995, AUGI act (AUGI is the acronym for illegal urban areas). Based on the evaluation of two decades of experimentation, this law sets new rules in order to deal with ISL with large number of landowners, to overcome decision-making difficulties and to open the possibility of several types of management between landowners' commissions and municipalities, proving to be successful in addressing and solving problems.

2.4.4   Political Involvement

Political involvement concerns two main dimensions. The first one is related with the type of institutions involved in law-making. The second one has to do with individual actions, which will be addressed particularly in relation with ISL.

Law-making has two main agents in Portugal: the parliament which is responsible by producing acts; and the government which is responsible by producing decree-laws. In the case of ISS most of the legal framework is composed by decree-laws which depend on each elected government. The ISL has its major basis in one act, produced and approved by the parliament (the AUGI act), which has been recurrently changed, but in a consistent way, in order to address the critical aspects of its implementation.

The involvement of municipalities was important to deal with informal settlements, although they act differently towards ISS and ISL. In the case of ISL, they were more visible, since they played a role of transferring information to law-makers (the national parliament) in the case of the act produced to deal with ISL in 1995.

Political involvement and the bridging roles of political leaders were more visible in terms of ISL. They played an important role in law-making and in law-monitoring; a major contribution to innovation. In the case of ISS the assessment was made in the long-term, mostly concentrated on the evaluation of the result of public interventions. For instance, *Vale da Amoreira*, one of the largest Portuguese social housing settlements, with almost 20,000 inhabitants was built in the early 1970s and only assessed in 2005 by the *Iniciativa Bairros Críticos* (Critical Neighborhoods Initiative), a pilot intervention launched by the national government and involving public and private institutions, as well as NGO's (see Fig. **2.4**).

In the case of ISL, assessment has been made on the short-term. It is possible to relate law changes with evaluation as well as to identify very specific actors dealing with the subject. The AUGI Act, after being approved in 1995, was thoroughly revised in 1999. Most of the changes addressed difficulties felt by municipalities

Fig. 2.4 Vale da Amoreira, one of the largest social housing settlements in Portugal, with almost 20,000 ha (Source: Silva 2015)

and by management commissions in applying this legal tool; but a significant number of changes were the result of individuals' feedback, expressing an unusual accuracy.

2.4.5   A Synthesis

We can summarize the four complementary perspectives on ISS and ISL described above, by underlining the major events regarding these two kinds of informal settlements according to the four periods considered in this chapter (see Table 2.2). Although ISS and ISL had in common informality, they experienced sometimes the same type of approaches by public institutions, at the local and/or at the national levels. The shift of political regimes was crucial for both types of informal settlements and for both levels of administration. But also in democracy, it is possible to identify periods such as the "revolutionary" one (1974–1976) in which conditions existed to allow and even to stimulate experimentation. In the case of ISS a sudden shift from experimentation to institutionalization occurred while in ISL experimentation was prolonged during the post-revolutionary period (1976–1986). An adapted

Table 2.2 ISS and ISL according to different Portuguese historical periods (developed by authors)

	ISS	ISL
Until 1974	Emerged inside main cities	Emerged in remote suburbia
	Authorities tend to hide them	Non-cooperation with authorities
1974/1976	SAAL is launched with bottom-up solutions involving authorities and informal settlements (**experimentation**)	Self-organized structures for survey and legalization of buildings (**experimentation**)
1976/1986	Social housing initiatives became more formal and hierarchical (SAAL is extinguished | **institutionalization**)	Planning initiatives to legalize settlements; 1986 – a plan for the largest ISL in Portugal – Quinta do Conde, 400 ha (**experimentation** continues)
After 1986	1993 – Program to eradicate ISS from metropolitan areas of Lisbon and Porto (coordinated by national government)	Increasing interaction between institutions and ISL
	1996 – programme to eradicate ISS is extended to other cities	1995 – creation of a dedicated legal framework, with successive changes until the present, the AUGI act, the result of two decades of **experimentation**
	2005 – Urban regeneration program to deal with obsolete public housing settlements	

answer only was produced in the "European integration period" (1986–present) as a result of that long period of experimentation.

2.5   Discussion: On Experimentation

In the previous section we described four complementary perspectives on ISS and ISL. We will discuss in this section how experimentation leaded to different stages of innovation.

2.5.1   Same Aims in Different Settings

ISS and ISL have a basic difference, which defined the way they were perceived by institutions, both at national and local level – landownership. The aim of an individual house, with a yard, according to population's rural origins, was easier to achieve in contexts in which informal settlers possessed land (ISL) than in circumstances of settling in someone else's soil (ISS). Landownership was crucial for ISS to evolve in a complete different path than ISL. ISS were dependent from institutions' solutions in all terms. Instead in ISL, improvements made by private landowners over decades were an investment to the future in different ways, since they

contributed to consolidate a status and were a starting point to claim for rights – the one to a house – having something to contribute to make it possible – the soil where to build that same house.

2.5.2 Same Institutions with Different Behaviours

That basic difference between ISS and ISL (landownership) contributed to different institutional approaches. Same institutions (municipalities) although being sensible to the constitutional and universal housing right adopted different behaviours. The availability of land played a crucial role in solving housing needs. Therefore, institutions provided houses, most of the times in distinct locations and with different typologies from ISS. They provided not only the construction, but also the soil and the urbanization. Institutions tried to reduce costs choosing more affordable locations and typologies; but at the same time they were responsible by providing and financing "everything". For this reason they tended to reduce the level of intervention of settlers in the process (apart from adjusting architectural typologies to families' characteristics). Local institutions' behaviour towards ISL was very different. Although starting from the same point – to fulfil the basic need of a home – settlers had something to contribute to the process: the land for future urbanization. Same institutions – municipalities – start from this point in the ISL case, to create solutions in which the construction of a shelter, the location and the typology chosen by each family were integrated. In terms of ISS, municipalities adopted the role of "providers" while in terms of ISL they acted as "enablers" of the urbanization process in cooperation with informal settlers.

2.5.3 Different Institutions with Different Models

In terms of national institutions, two main actors played important roles in dealing with informal settlements. The national parliament responsible by producing and approving acts, which are legal tools tending to deal with a wider spectrum of issues; and the national government, responsible by producing and approving decree-laws, to deal with more specific issues. Several governments did perceive informal settlements mainly as a housing problem during the revolutionary period (1974–1976) and the post-revolutionary period (1976–1986) and only with the European Union integration they started to be seen also as a spatial planning problem with all the environmental consequences. For two decades, governments tried to find solutions to deal with both ISS and ISL. Many decree-laws were produced in order to control ISL (namely in 1984) but several attempts to put an end to ISS and to deal with ISL as any other formal settlement, gave different results. In 1995 the way to deal with ISL acknowledged a shift. The national parliament became the

new institution to respond to the need of a solution for ISL and approved the AUGI Act specifically for illegal urban areas.

2.5.4 Different Levels of Priority Leading to Different Models of Intervention

The way institutions, both at local and national level, dealt with informal settlements, bring us to discuss priorities and models of intervention. In terms of ISS, the priority was centred on providing a home, institutionally recognizable as such, many times without any kind of public facilities – an exhausted welfare state calling to itself most responsibilities in solving the problem. In terms of ISL, the spatial impact which an increasing amount of areas created, implied a more integrated approach, combining legalization of settlements with planning principles, according to what institutions understood as possible to be legalised – a state considering impossible to deal with the problem on its own and sharing the path of these territories with landowners.

When it comes to different levels of govern, the "classical" approach would recommend a bottom to up one. In the case we have been discussing, we find crucial moments in which the involvement of communities and institutions was very strong (the period of 1974–1976) although that didn't mean in the following years the same thing to ISS and to ISL. This experimental phase, in the case of ISS, had a sudden cut, with the state trying to return to "normality" and to recover its role in a welfare way. But in the same phase, from the interaction of ISL with municipalities emerged structures which continued to experiment in the following two decades reaching an innovative model to deal with informal settlements.

But what made institutions behaving so differently with ISL or with ISS? Since the success of ISL model was based on interaction with institutions, why did the same not happened in the case of ISS? One of the basic conditions for interactions between institutions and informal settlements (by nature assuming opposite roles, when it comes to formal and informal) is the pressure to solve problems. Pressures were several. The visual impact of ISS and ISL was very important, but apparently this pressure was not enough to promote similar developments. The major difference was related with the resources of both sides (institutions and informal settlements).

On one hand, ISS had no resources; therefore, after the experimental revolutionary period of 1974–1976 in which a very close interaction was established between settlers and institutions (through the SAAL project), public institutions reassumed their traditional roles. Public institutions continued to provide completed housing as much as their scarce financial resources allowed. Hierarchically speaking, the initial outstanding role of municipalities was gradually reduced to a more discrete one, as an element more of the bureaucratic chain leaded by national public administration.

On other hand, ISL had an important resource (landownership) which made institutions change their behaviour. Although their visual impact was less negative than the one of ISS, territorial impact was larger and the amount of residents living in "proto-urbanized" territories increased along years and decades. As it occurred with ISS, their right to a house was legitimized by public institutions. But in this case legitimacy had a strong ally: settlers were also owners of land. Initially organized as residents' associations (as well as ISS), some elements gained visibility in local political forums. The fact that they got a voice in society and within local public institutions, national institutions were "forced" to adapt their traditional behaviour: the hierarchical chain was broke and municipalities got direct access to the legislator – a special one, the parliament.

Was it relevant that the legal tool (AUGI Act) created in 1995 was produced by the parliament instead of the national government? Although more data needs to be collected to confirm that, it is the authors' conviction that the answer is affirmative. It is clear that legislation produced by the parliament or governments have different political implications. Although both are subjected to elections, governments are traditionally single-party composed and tend to change at the end of each term (even less, sometimes). Instead, parliaments are much more stable in terms of political party composition (although proportional weights change). Parliaments have specialized commissions to issues as informal settlements, and all political forces tend to be represented in these commissions. This characteristic allows long term relations between individuals within institutions, concentrated in few key-actors. Is there then a secret to be learned from the reasonable success of the ISL model? The following section will summarize the main findings about it and address this question.

2.6   Conclusion

This chapter started by recognizing and stressing on the importance of learning from long-term processes. More than story-telling the Portuguese experience puts in evidence differences between slums (ISS) and informal settlements with landownership (ISL). The interesting conclusion of this chapter is that the major difference – which is based on the existence of landownership – has much more impact in the process than only in terms of the physical solution. It is responsible by the level of commitment and of intervention of settlers, affecting the way other agents intervene in the process.

This national example questions the dichotomy between the "developed world's" and the "developing world's" perceptions of informal settlements. Within the same national context, different approaches of informal settlements exist, depending not on informality but on landownership security. It was also clear that institutions and citizens were open to experimentation in both contexts, although requiring very specific social and political conditions (such as the ones that occurred during the 1974–1976 revolutionary period). Therefore, two conditions needed to be present:

the pressure to deal with informal settlements and the way resources are distributed among the different agents intervening in the process.

As we saw, pressures can be of various orders: aesthetical, sanitary or social. They are always, at the end, political. They can lead to different solutions depending on how they are combined with other factors, such as resources. If we can infer something about the role of pressures and public institutions initiatives, is that it is not governance that leads the process but it is the process that defines the level of governance (a topic to be explored in further works).

Finally, addressing the question – is there a secret to be learned from the success of the ISL which can be addressed to ISS and to other contexts? The answers are both no and yes. The "no" part of the answer relates to the fact that we are discussing an unique process – as each one is – and, therefore, unrepeatable. However, the "no" leads to the "yes" part of the answer: the authors found in these processes three aspects that need to be enhanced. The first relates with experimentation. Experimentation is present in the early days through landowners' associations; later between landowners/residents and institutions (which leaded to the AUGI act in 1995); and continues until today with improvements to the law being made regularly.

The second aspect relates with long-term relations. This aspect is crucial to establish trust among partners, as a result of prolonged interactions. To remain in a place, in some cases for decades, depends on a deep motivation: sometimes is the commitment to a personal project as to see the dream of building one's own home becoming true; other times is the service to a community to which one belongs; or even to take political responsibility in contexts in which informal settlements have an electoral weight. These kinds of motivations can lead to long-term relations between institutions in order not to solve an isolated problem but to find broader solutions.

The third aspect relates with short chains. When referring to ISL everything started 50 years ago with individual aims to fulfil a dream and ends with the approval of a responsive parliament's act in 1995 (followed by successive changes/improvements up to today). This represents a long path if considered the time involved in the process, but also the hierarchical distance between marginalized individuals and national institutions. In normal circumstances to bridge the gap between these two groups would be already an almost impossible task. However, the fact that channels of communication were opened – through specific political involvement – between municipalities and the national parliament avoided, through a short chain, the numberless institutions which compose any national planning system.

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Chapter 3
Application of Upgrading Strategies and Urban Farming Principles to Mangueira Complex, Rio de Janeiro, Brazil

Alessandra Battisti and Federica Tortora

Abstract The project herewith described is part of research efforts aimed at identifying innovative architectural interventions in marginal urban settlements, and at formulating and experimenting strategies that would encourage the economic and cultural revitalization of degraded areas. The work is the outcome of a collaboration between scholars from the Faculty of Architecture of the University "La Sapienza" of Rome and the architect Jorge Mario Jauregui, of Rio de Janeiro. The case study represents a phase of a wider intervention plan of social-spatial restructuring of the Mangueira Favela. Promoted by the Municipality of Rio de Janeiro, the intervention affects approximately 14,000 inhabitants. In accordance with the aims of the intervention, and upon request of Jauregui – in charge of the preparation of the preliminary master plan for the area – the Italian team developed the methodology for the identification of the project's strategies and actions needed to ensure the ecological and environmental upgrading of the area. In particular, the authors elaborated – as final output of the research – various scenarios of interventions with variable levels of urban density and ecological footprint. Those scenarios were defined to provide a response to housing issues and to carve new and alternative social-productive spaces, in an environmentally and energetically efficient fashion. In this context, the article describes the methodology applied by the authors in identifying those technological and formal solutions that had better promote sustainable socio-economic models of urban coexistence, and models that ensure the greatest ecological and energetic efficiency.

Keywords Urban farming • Marginal urban settlements strategies • Urban upgrading startegies • Ecological and environmental upgrading

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3.1 Introduction

3.1.1 About Urban Density and Urban Agriculture Activities

Recent studies point to the fact that, by 2050,[1] the majority of the world's population will concentrate in urban areas, moved by the desire to find a (better) occupation. In addition, they indicate that migratory movements will affect all geographical areas, with particular intensity in the southern part of the world and developing economies. As reported in the "Urbanizing the Developing World", a recent study of the Worldwatch Institute, between 2011 and 2050, the world's population is expected to increase by 2.6 billion and reach 9.3 billion. In the same period, the overall number of individuals living in urban areas will reach 6.3 billion.

In addition, as indicated by the author of the study, Grant Potter, "such urban expansion will be especially onerous for developing countries, where currently reside 82 % of the word population".[2]

These figures inevitably lead to the need to consider possible future scenarios and devise forms of co-existence and production that would respond in an effective and efficient fashion to the increasing pressure on housing and economic activities in concentrated areas.

The key question in the identification of design priorities, while considering sustainable scenarios, is how to address the issue of urban density in future cities' planning interventions, and limit its intensification. The issue is made more pressing by the awareness that the absence of agreed intervention policies would inevitably lead to the proliferation of further informal settlements. That which in turn would result in the progressive worsening of inequality in living conditions within the same city, or in the inter-mixing of formal and informal settlements with a growing pressure on services and infrastructures and an overall deterioration of living standards.[3]

As it is well known, the proliferation of informal settlements is strictly connected to the persistence of conditions of segregation and social isolation among the most economically vulnerable strata of the population. Those conditions determine the physical fragmentation and the loss of urban security, leaving extensive parts of the city in a state of abandonment and grave degradation. In South America, the need to transform marginalized urban areas has been recently addressed through the adoption of urban programs to incentivize urban and peri-urban farming activities. In this regard, Kelsey Kober (2014) of Food Tank notes that:

> […] many major cities in Latin America and the Caribbean are turning to urban farming to address the common problems that they face. […] According to the report by the Food and Agriculture Organization (FAO), the urban population of Latin America and the Caribbean is now almost half a billion; the region is the most urban in the world. In 2009, representatives from Central American national governments, research institutes, and international

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[1] Vidal 2010.

[2] Potter 2012.

[3] Hall and Pfeiffer 2000, p. 129.

organizations met to draft the Medellìn Declaration, which committed them to incorporate UPA, or urban and peri-urban agriculture (the latter refers to commercial farming that supplies a city's food) to alleviate their cities' problems. […].[4]

The idea here is that the inclusion of services and productive spaces can tackle some of the most pressing needs of disadvantages strata of the local community. Indeed, this approach is consistent with the findings of several studies that demonstrate that the creation of new housing units for individuals does not improve per se their economic conditions.[5] That is, those studies indicate that having a place where to live is not a condition sufficient to lift individuals out of poverty. Rather, urban and architectural interventions need to provide social strategies to facilitate the individuals' inclusion in the labour market. The creation of urban vegetable and fruit gardens, the construction of greenhouses for agricultural products and the opening of workshops for the training of urban farmers or activities connected to the green productive space become essential part of new regeneration strategies for the affected areas.

In addition such projects often envisage the establishment of recycling processes that allow the new productive activities to develop in a self-sufficient and environmentally friendly manner.

3.2 Research Objectives

The article intends to provide an overview of the results achieved through the collaboration between scholars in the field of environmental technology from the Faculty of Architecture of the University of Rome (La Sapienza) and the team Atelier Metropolitano led by Jorge Mario Jauregui, an architect renowned at the international level because of its participation in various projects for the improvement of Rio de Janeiro's favelas, part of the Favela Bairro urban plan.

The study is part of a broader collaboration, which started several years back, among several professionals and researchers and is founded on the elaboration of common design studies and research activities as well as the sharing of competencies and knowledge regarding the transformation processes of extremely depressed and degraded urban areas, and are engaged, at different levels in the definition of design strategies required to the urban and architectural upgrading of those areas and their social and economic revitalization.

More in detail, the study is the outcome of the interaction between the local design experience of the Brazilian team, who contributed to the project their specific expertise in matters related to informal settlements, and the Italian team's research competencies in the field environmental technology.

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[4] Kober 2014.

[5] UN-Habitat 2012, p. 48–49.

It also represents an international and inter-disciplinary experience that involved experts in the areas of economics, social sciences, and administrative policy in order to promote a design process based on a holistic vision of urban issues and integrated efforts to solve them. The Italian team's contribution mainly consisted in the elaboration of parameters of a design draft that would highlight the technological achievements and know-how reached by European research, and in its ability to identify self-sufficient and environmentally friendly urban scenarios. The scenarios are based on theoretical concepts aimed at gaining a better understanding of the complexity of sustainable transformation phenomena, characterized by extreme variability.

In general, for the area under consideration, the transformation of the settlements – starting with those with high population density – is achieved through the elaboration of mitigating and/or compensating solutions that involve the modification of the density, the promotion of diversified usage of spaces and the application of the principles of urban farming.

The introduction of farming activities in an urban context, in particular, represents a significant aspect of efforts aimed at the economic revitalization of the area and at fostering an alternative sociological and physical space within the favela that would promote the population's direct involvement in the process of upgrading and maintenance of the urban habitat's environmental and ecological quality.

3.2.1   Case Study: Mangueira Favelas Complex

The case study represents a phase of a wider intervention, called Plan of Social-Spatial restructuring of the 'Mangueira favela' ("Plano de Estruturação Socio Espacial do Complexo da Mangueira"), promoted by the Municipality of Rio de Janeiro (Secretaria de Habitação da Prefeitura) as part of the 'PAC' (Programma de Aceleração do Crescimento) intervention plan which affects a population of approximately 14,000 inhabitants in the north eastern part of the city of Rio de Janeiro, Brazil.

This location comprises of extremely diversified settlements and social realities, including the area of the Maracana' stadium bordering with some of the services and buildings of the federal university and -as core of the informal sector- the Mangueira Favela, with its dance and music schools, and workshops producing Carnival costumes. The favela is spread along the sides of the *Morro*, next some areas of particular natural beauty such as the panoramic viewpoint of the Boa Vista, as well as is extended along the entire railway line (*LinhaAmarelha*) absorbing in its pattern the IBJE building, a significant example of local modern architecture- realized as headquarter of the Geography and Statistics Brazilian Institute- currently in disuse (Fig. 3.1).

The variability of the residential settlements' density, the concentration of some important place of interest, the interaction between the informal and formal areas, as well as its key role for the mobility of the central part of town, made this area of

Fig. 3.1 General plan of the Mangueira (Source: Developed by authors)

particular strategic importance for the growth of the city and as such the object of upgrading interventions more and more specific and complex.

In specific, in the recent past the area has been the object of interventions of primary urbanization meant to build and consolidate its axes of communications, as well as its networks for the discharge of sewage water – as part of the program Favela Bairro; currently the Favela Mangueira is included in PAC and PAC2 urban programs. Those plans are among the most relevant medium and long-term planning instruments adopted in the city of Rio, since 2007, because of the level of investments involved and represent the expression of innovative Brazilian urban policies that – for a period of almost 20 years (since the early 1990s) – have been trying to improve the living conditions of the country's main metropolis.

With the aim of accelerating economic development, at the international level, the PAC plans and finances projects of urban regeneration, both infrastructures and architectural projects, as well as interventions to improve the environmental conditions and the management of natural resources.[6]

Also the projects promoted by the program attempt to promote the economic and social revitalization of the most depressed areas, paying a particular attention to the interventions of architectural upgrading and reuse and re-functionalization of the existing urban pattern. Developed along the main lines of communication and for that reason considered as capable of playing a strategic role in Rio's future urban development.[7]

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[6] See: http://www.pac.gov.br/sobre-o-pac.

[7] Tortora 2010, p. 45.

The entire area of the Mangueira, therefore, represents a useful case study – both for its position and its social and geographical configuration – among those considered by the PAC. Since 2010, it has thus become the object of preliminary studies carried out to identify priorities and strategic interventions necessary to revalue of the Maracana's stadium, and the improvement of the informal settlement of Mangueira and other contiguous areas.

3.2.2   Specific Design Objectives and Strategies

The specific objective of the PAC program is to undertake a profound transformation of the area of the Mangueira through the implementation of integrated interventions that would (i) plan new mobility within the entire area; (ii) re-organize and redefine the spaces devoted to leisure and sport activities; and (iii) improve general living condition within the favela by emphasizing the cultural levels already present in its neighbourhood.

Those objectives were also endorsed by the Italian team, which focused its efforts on the identification of environmental and ecological design elements to be included in the theoretic and preliminary elaboration of design guidelines for the actual upgrading intervention of the area.

The urban integration between the favela and the formal city, the emphasis on collective activities, and the improvement of the housing pattern of the settlement are pursued through the adoption of various technological and environmental measures aimed at modifying the favela's population density, and the introduction of new socio-cultural and socio-economic activities.

In relation to the need to correct the population's density and the environmental and energetic retrofit of the urban settlement, the project suggests to regenerate relevant areas through processes of substitution and modification of existing structures.

The project thus re-defines the function of under-utilized spaces and realizes interventions of infill- for example- to increase the height of existing constructions- in order to archive overall a more compact urban form and to maintain open and ecologically sound spaces.

Additional elements are conceived on the basis of eco-regenerative and environmentally friendly criteria. They become technological interventions that act, mainly in a passive way, on the regulation of conditions of microclimatic comfort (for instance, halls, wind towers, and green or ventilated roofs), inserted as elements that fill structural voids, a sort of technical addition, which redefine the urban layout and increase the use and function possibilities of existing structures. The project provides several low impact but comprehensive and consistent actions, in order to address the social and functional role of those spaces, as well as the requirements of environmental sustainability.

Those actions allow reconfiguring the settlement -alternating open and closed spaces- and create new accesses to the area in order to improve the existing urban

layout. The interventions, on the one hand, encourage- where possible- the consolidation of the existing land use, in full respect of the populations' habits and customs- and on the other, they promote new forms of cohabitation that respect the principles of environmental sustainability trying to find the equilibrium between density control and variety of mixed areas.

From the environmental point of view, the creation of units based on an organizational mix with diverse, but integrated, urban functions permit to optimize the favela's autonomous internal functional capacity as well as to limit its external dependency.[8] Moreover, it allows the creation of urban units with dimensions consistent with the optimization of the favela's vital functional and energetic cycles (i.e. the acquisition of natural resources, the. different- tainted garbage collection, disposition and recycling, the management of water usage and the efficient and effective production of energy).

Housing typology that are of evolutionary, expandable and changeable nature host green spaces and small workshops and stores devoted to economic activities linked to agricultural productions and other traditional activities.

The variable character of the housing density reflects the need to regenerate the *Morro* of the Mangueira and improve its ecological quality and landscape: on the hilltop, the project envisages the creation of a natural enclave, with the creation of greenhouses, open spaces for cultivation and planting of high trees.

Along the railway, instead, it envisages an area with higher urban density, which hosts attractive economic and social activities, and common as well as private spaces that upgrade the marginal sectors of the favela and create a new point of contact between the formal and informal sectors.

The railway line, traditionally considered the interruption element between the two sectors, now becomes the axis where to insert pedestrians' passages, bridges, small stores, public spaces for concerts or dance events, and markets and workshops for local productions that create the cultural space that unify and reconnect the marginal area of the Mangueira with the city's center.

3.3   Methodology

The methodology adopted by the research, and applied to the entire area of the Mangueira, comprises three different phases. The first phase concerns analytical efforts to understand the area and identify relevant data, both at the macro (the entire area of the Mangueira) and intermediate (homogeneous micro areas that were defined together with the Brazilian partners) levels. The second phase concerns the synthesis and assessment of the analytical results, in order to define the general objects to be implemented at the macro level, and to identify specific design strategies for the informal area.

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[8] Battisti and Tortora 2014, p. 2.

The third, and final, phase concerns the formulation of an operative methodology that would allow the elaboration of possible scenarios of intervention and general design guidelines. The first phase of the study focuses on: (i) the environmental analysis of the area and its micro-climatic aspects, such as its geographical orientation, summer and winter meteorological conditions, humidity levels, temperatures, sunray's reflection degrees.

The collection of those data has been effected through the use of the Ecotect, Envimet, Airpack e Fluent software; (ii) the analysis and assessment of the urban morphology, and its interaction with the environmental and climatic aspects of the area; (iii) the determination of the environment's positive and negative features – also based on a critical comparison with similar urban patterns, previously investigated by the Italian team.

Through that phase, the Italian team elaborated, as intermediate output of the research, a matrix for the synthesis and assessment of the degree of mutual influence of the anthropic, biophysical and bioclimatic variables specific to the area. The matrix allows to condense the information obtained via previous analyses and to identify the prevailing aspects of the area. Moreover, it allows defining the relationship between the different variables, highlighting their reciprocal mitigating, and aggravating effects (Fig. 3.2).

The second phase, concerning the synthesis and assessment of the analytical results, refers to the final stage of the study and the identification of the potential and deficiencies of the area that are relevant to the elaboration of the project's general objectives and strategies.

More in details, the objects and strategies aim at the ecological regeneration of the *Morro*, the rehabilitation of the existing structures, the increase of public spaces, the creation of productive green areas, the reorientation of fluxes, and the retrofit of the housing structure.

The project's general framework allows to verify the correspondence among actions, strategies and objects and to identify, at the operational level, different design actions on the area's general plan.

The framework also outlines the methodological process of the research, which follows a circular and open procedure, capable of integration and modification. Indeed, it is always possible to infer operational choices from the general objectives and assess the relevance and role of the different intervention strategies (Fig. 3.3).

The strategies and the actions have general validity and are identified in order to respond to the different requirements of the entire intervention area, creating a sort of general and preliminary master plan. In addition, the formulation of a large-scale framework allows to subsequently define specific and detailed options of interventions in the area of the favela Mangueira.

The third and last phase of the study aims at identifying intervention criteria. The Italian team outlined possible design interventions related to the creation of open green spaces, both public and private; the phased-in execution of interventions on the housing pattern; and the definition of passive systems and technological instruments for the promotion of physical-environmental well-being, the containment of energy consumption and the integration of renewable sources of energy (Fig. 3.4).
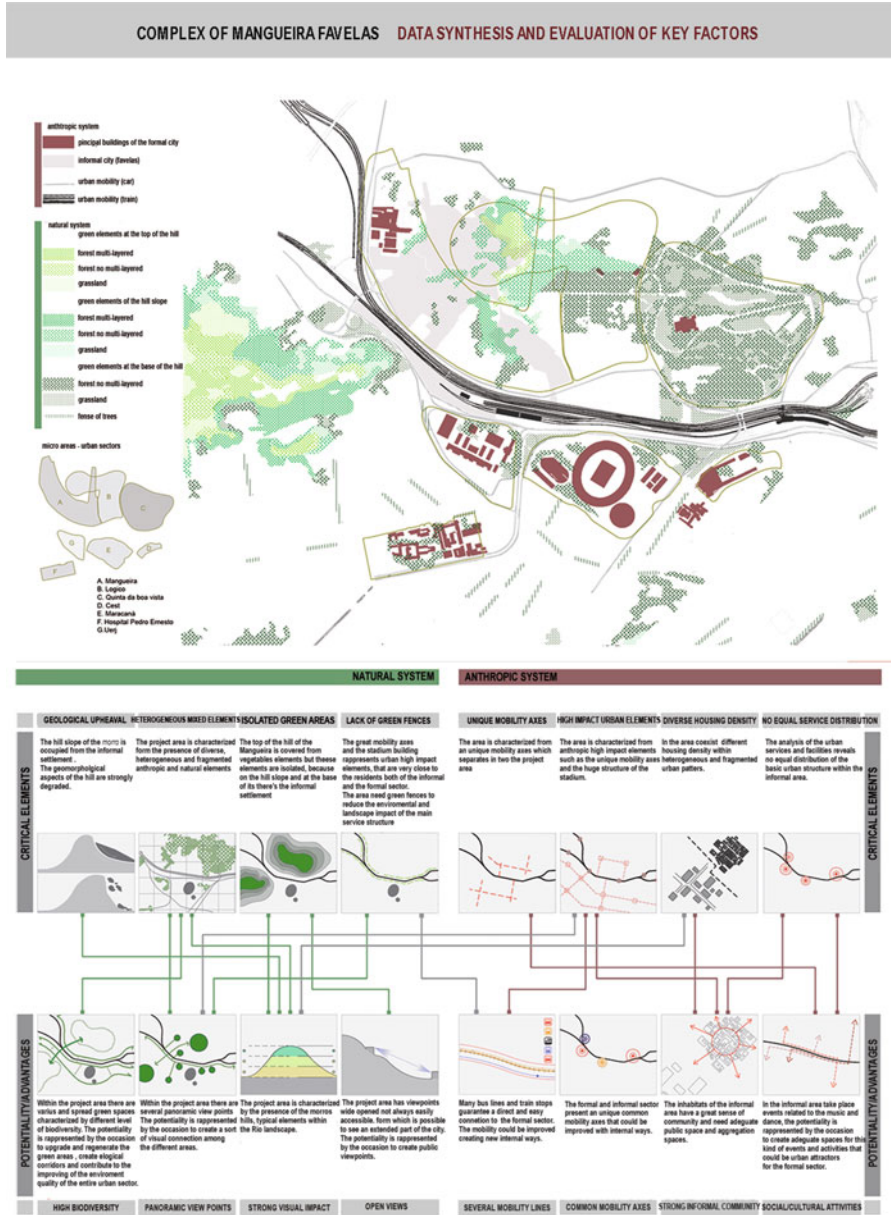
Fig. 3.2 Data synthesis and valuation of the key factors (Source: Developed by authors)
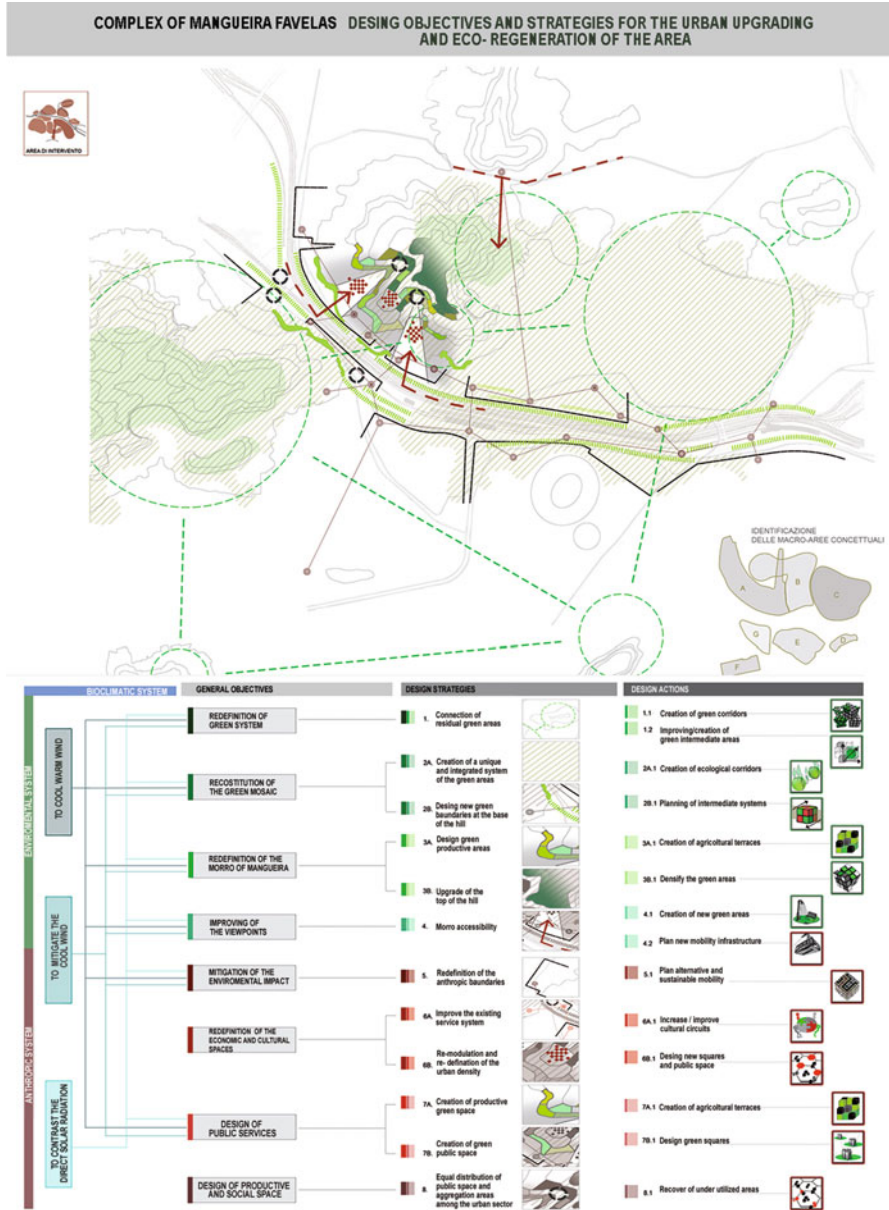
Fig. 3.3 Objectives and strategies for the upgrading intervention of the favela Mangueira (Source: Developed by authors)

Fig. 3.4 Application of the principles of urban farming: scenarios about residential units mixed to the green productive areas (Source: Developed by authors)

3.4 Conclusion

In conclusion, it is possible to state that the research successfully identifies – within the context of marginalized urban areas – strategies that can lead to upgrading the management of natural resources, and the re-establishment of the ecological and the environmental equilibrium in the area under consideration. In addition, the research applies innovative technological-formal solutions that address the area's need of energetic self-sufficiency and favor the environmentally sustainable actions.

In addition, the research investigates the applicability of the principles of urban farming and the opportunity to combine different levels and modalities of intervention aimed at upgrading the population's living conditions. On the one hand, the introduction of spaces devoted to urban faming contributes to reduce the housing settlements' environmental footprint.

On the other, it favors the integration of urban socio-economic activities. Agriculture-related activities are based on typical 'urban' resources (organic waste and gray waters) and have a positive impact on the ecological quality of the city – as

part of the food production cycle and providing for the use of public spaces otherwise abandoned or available to informal settlements.

Furthermore, farming activities promote low-cost technological testing and the creation of spaces with special environmental value, such as greenhouses and green roofs, that in turn promote the establishment of areas of micro-climatic and psychological-physical well-being within the housing systems.

Also, the introduction of farming activities assumes a central role in the definition of open spaces- green areas for recreational use and public squares- alternating ecological corridors. That results in the overall improvement of the human habitat (as more than a third of the area it occupies is converted into green spaces). Furthermore, responsibility for farming activities is delegated to the local population together with the management of public green spaces.

It is estimated that the proposed interventions would allow approximately half of the population in the favela to become involved, whilst about a quarter might be able to earn a living through traditional activities linked to the local culture. Finally, the population of the favela becomes active actor of urban landscape's transformation processes. That triggers profound changes in the social dynamics internal to the favela and fosters new social exchange modalities that promote the integration of economic activities among different urban sectors, with the ultimate goal of including the *favelados* in the city's formal economic system.

In this context, the introduction of urban farming activities is seen as consistent with the objective of strengthening Rio's ecological quality and landscape, particularly in those parts of the city that have experienced a progressive decay because of the proliferation of informal settlements.

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Chapter 4
Slum Tourism: A Catalyst for Urban Development? Reflections from Cairo's Ashwa'iyat (Informal Areas)

Mennatullah Hendawy and Balsam Madi

Abstract Although the effect of slum tourism on slums or informal areas is controversial, it proved to bring several benefits to the destination areas. In our increasingly globalized world, it is possible to benefit from intercultural networks through slum tourism to bring about economic, social, and urban development benefits for these areas. Taking Cairo as our prime case study, the particularities of selected existing slum areas are assessed in order to highlight possibilities of context based strategies to develop slums through tourism. The methodology used presents two initiatives of slum tourism: the Solar Cities' initiative in Cairo, a small-scale manifestation of slum tourism that is particularly linked to eco-tourism, and the case of Mazatlán garbage tours in Mexico. A comparative analysis is conducted to draw out lessons from their particular strategies in order to extract a set of recommendations that could catalyse the urban development of Cairo's informal areas (Ashwa'yat) through slum tourism. The consequences of such approach are then demonstrated: internal self- development and external positive image of the toured slum. To conclude, developmental slum tourism strategies could provide slum areas with a much needed kick start, and a short term achievable success that enhances future urban development and integration to the city.

Keywords Ashwa'yat • Cairo • Informal areas • Slum tourism • Urban development

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4.1 Introduction

Globalization in the academic world of urban studies is largely viewed as a negative phenomenon leading to a destructive urbanization due to its exponential and misinformed growth. Often, when ideas, cultures and autoroutes are imported, communities are marginalized into misery belts (Graham and Marvin 2001). Nevertheless, the same phenomenon that causes these misery belts is capable of alleviating the conditions if the global networks and cultural imports are activated and targeted towards development. Virtual social networks (a globalisation facilitator) increasingly expose previously unheard of injustices to be discussed among academics and non-professional concerned members of the global community. Pressure is thus being put on integrating slums and slum residents into the formalized context through different strategies. This chapter aims to shed light on how slum tourism initiatives have matched people from different social and cultural backgrounds to intervene in context specific strategic tourism projects.

Global travelling trends have historically shown to increase the shift between the rich and poor in tourist based economies (Holden 2013). This shift can be detected whether in developing or developed countries: for example in the case of Zanzibar much of the local community has been marginalized and seen unfit for the eyes of the luxury tourist visitors coming to enjoy a relaxing vacation (Luvanga and Shitundu 2003). Similarly in the Global North, Paris serves as a prime example of residents pushed out into the misery belts of the suburbs, where crime and violence create unfit living standards in order to keep on the attractive image of Paris. Both examples aim to show that while globalism has encouraged cultural exchange through cheaper flights and travel packages, the level of exchange remains superficial and fits only the agenda that the authorities would like to keep. However, in the case studies presented, capitalizing on the existing niche and need to travel for intercultural experience demonstrates a possible positive developmental impact.

The topic of slum tourism has only started to be discussed recently, however, academia has provided break through, and rigorous literature on it (Mitchell and Ashley 2010). Building on the existing literature, it is possible to assess the suitable strategies fit to each context in order to develop strategic slum tourism approaches as a means to an end.

This chapter looks at the phenomenon of slum tourism, in the Global South in general and Cairo in particular. The existing tourism strategies are assessed in their sustainability and poverty alleviation role. Focusing on practical approaches of taking values into action rather than ethical discussion, it tackles success factors for slum tourism globally and locally, together with strategies that can serve as a win-win deal between slum areas' inhabitants and tourists/visitors.

The first part of the chapter investigates the literature concepts involved with the topic to clarify the mainstream of tourism and its relation to poverty, and the particularities of Cairo's context, especially in relation to informality. The second part focuses on introducing and assessing two cases of slum tourism one international and the other in Cairo, Egypt. The third part draws out lessons from local and global showcases (the case of Solar CITIES in Cairo, and the case of Mazatlán in Mexico).

Finally, the consequences and lessons learned of adapting such a developmental approach in slum tourism are deduced.

4.2 Literature Review

It is significant at the onset of this chapter to tackle the issue of relevant conceptualizations. The core concepts shaping this chapter are: tourism, slums, pro-poor, and poverty. Each of these concepts will be globally introduced and their impact on the Egyptian context discussed.

4.2.1 Tourism: External Travel/Mainstream Tourism

The Commission of the European Communities, Organisation for Economic Co-operation and Development, United Nations and World Tourism Organization defines tourism as "the activities of persons travelling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes not related to the exercise of an activity remunerated from within the place visited". (Commission of the European Communities, Organisation for Economic Co-operation and Development, United Nations and World Tourism Organization, 2001 p. 13). This leaves a broad interpretation on what could be defined as a usual environment. It also leaves out any ethical discussions linked to tourism. Moreover, difficulty is presented in defining what the tourism sector includes and excludes. Sometimes it is regarded as a supply-led sector which is calculated by including only the economic activities which tourists spend directly on (e.g. hotels, restaurants, transport, ...etc.), while in other cases it is considered a demand-led sector that is interlinked to all economic activities which tourists are engaged within the host country whether they are directly or indirectly related.

Whether tourism is understood as a supply led or demand led sector, the variations in tourism types relies primarily on two factors. Firstly, the tourism existing in the destination country that is largely related to the market niche it would like to serve. Secondly the type of tourism that is encouraged by policy makers, who prioritize different class interests according to their political agenda and often overlook inclusive strategies that aim for a comprehensive economic metabolism strategy. These variations wether regarding the drivers for defining tourism or the tourism sector are also relevant to the Middle East and Cairo. Had the official definition of tourism included concepts of equity, and comprehensive and responsible economic profit, then the need to branch into alternative genres of tourism would not be needed.

The tourism sector in Egypt accounts for 0.9 % of the total employment and 1.1–1.8 of GDP (Tohamy and Swinscoe 2000). These values refer to tourist hotels and restaurant expenditures and lack comprehensive indicators such as pocket money spent by the tourists, and sight-seeing fees, and are therefore poor indicators

of the relationship of tourism to economic and poverty relief. Moreover, there is an estimated annual increase of 10 % growth rate of targeted visitors, on the long term projecting 25 million tourists in 2020, therefore increasing Egypt's share in the world market of tourism (Handoussa 2010). This increase could potentially be redirected to benefit a more comprehensive portion of the society. Egypt's tourist industry thrives regardless of political and economic instability as seen in the five million tourists in 1999 with 4 billion dollars in revenues (Tohamy and Swinscoe 2000). Moreover it is a solid provider for jobs, where both direct and indirect employment through tourism is estimated as 12.6 % of the total employed population (Handoussa 2010; Tohamy and Swinscoe 2000). If the job market includes promotion of community dialogue on tourist development and relative policies, this could potentially increase the employment opportunities.

4.2.2   Slums VS Cairo's Ashwa'iyat

The terms poverty, informality and slums are often used interchangeably. The term slum originally appeared in eighteenth century London as slang-English to describe East London's poor suburbs, the dark and unknown part of the city (Frenzel 2012). Despite the term's existence for over a century, the mainstream definition remains an over-generalizing stereotypical one. Bearing in mind that the purpose of looking at the definitions of "slum" is to pinpoint their relative effect on the inhabitants, in terms of how they are viewed by larger associations, by their governing bodies and themselves, now and since 2007, with the fact that more people inhabit urban areas than rural ones, the word slum has gained a new meaning and context. Increasing urbanization is accompanied with increased injustice and segregation demonstrated through the slums all over the world, making it a global urban phenomenon (Sims 2012). This acceleration of slums is expected to continuously rise even in the very near future. In 2050, it is estimated that two-thirds of the population will live in urban areas (United Nations 2014). However, this U.N. viewpoint addresses global urbanization trends that are linked to unplanned growth and land tenure issues but do not necessarily include poverty.

The United Nations' definition for a slum is "an ostensibly urban area characterized by substandard housing and squalor where the population lacks security of tenure" (Frenzel 2012). This definition somehow paints the picture of the consequences of industrialization, urbanization and capitalism, as it only refers to safety, hygiene and illegality, and neglects any positive characteristic. Similarly the UN- Habitat criteria for slums (2003) include other characteristics such as: restricted access to safe water sanitation, provisionally built and temporary housing, high population density and insecure rights to residence again referring to condition of disparity (Frenzel 2012). One must then relate the experienced stigma on slum grounds to the marginalizing top-down definition set by one of the most credible institutions. In order to avoid this overarching conceptualization we will further elaborate on the term "slum" as per its relevance in Cairo as rather "informal area" or 'ashwa'iyat'.
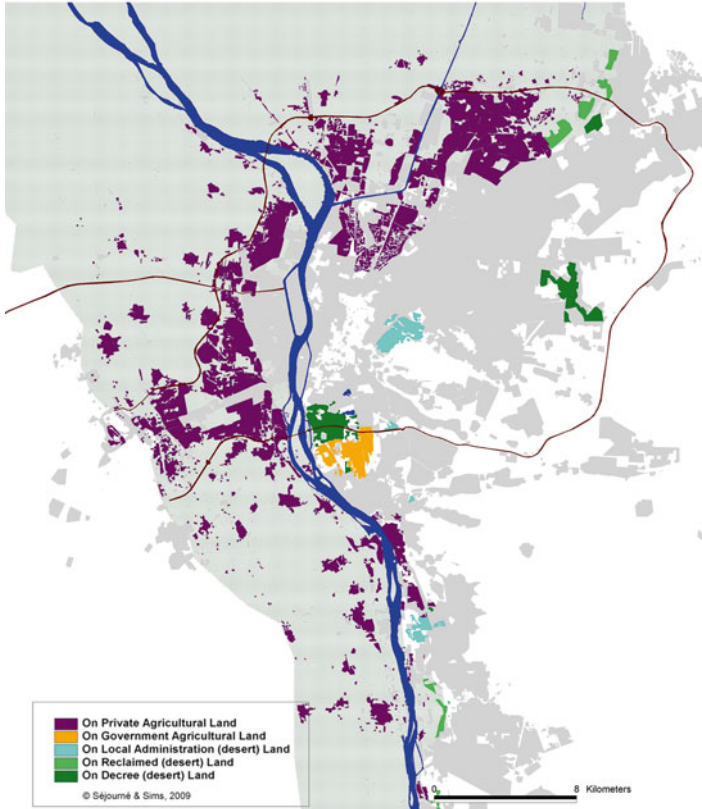
Fig. 4.1 Typologies of informal areas in Cairo in 2000 (Sims 2012)

The typical global definition and characteristics of slums – as shanty towns, favelas …etc. – is irrelevant to Cairo's overall informality (Sims 2012) (Fig. 4.1). This is due to the fact that, the informality phenomenon in Cairo is diverse and heterogeneous. The informal areas in Cairo are referred to "Ashwa'iyyat" in Arabic, which mean random or spontaneous (Khalifa 2011).

In 2007, 63.6 % of Cairo's population (approximately 11 million inhabitants) of 17.3 million inhabitants were living in informal areas (Sims 2012). Surprisingly, this high percentage is accompanied by a small portion of built-up area in terms of square-kilometer. This in turn reflects high population densities, compact urban form, and the dominant residential land use in these areas (Sims 2012). As a result, the definition of slums in Cairo is unique according to each area and continually changing over time, which is always accompanied by different categorizations and attempts to define it (Sims 2012). This characterized randomness is not homogeneous and is not necessarily linked to restricted access to safe water sanitation and hygiene threats. Therefore the term slum becomes too general to portray the actual conditions. If an area is random but is connected to permanent infrastructure and

facilities and inhabit people from different economic backgrounds still be considered an informal area?

According to the Informal Settlement Development Facility (ISDF) in Egypt, there are four types of greater Cairo "informal areas" which were developed in an attempt to classify what is considered as informal area (ISDF, 2009 in Mekawy (2012)). Following this study, the word Ashwa'iyyat was replaced by two distinctive terms: unplanned (well developed areas with planning and building law violations) and unsafe (areas with life threatening living conditions or inappropriate housing). This new definition of ashwa'iyyat in Egypt contributed to identifying intervention priorities (Khalifa 2011). Unsafe areas are generally excluded from the scope of the slum tourism studies (Mekawy 2012). In an effort to suggest comprehensive strategies, we will include unsafe areas in our scope of slums.

While there was a national interest to understand and define informal areas in Cairo, this was not accompanied by strategies on how to integrate them in order to maximize the benefits from their inherent opportunities (Mekawy 2012). This is exactly the case when it comes to tourism: physical alienation of Cairo's informal areas extends to another social level. Despite the reality that, informal areas are becoming the formal image of the city; two third of Cairo's population lives in informal areas (Sims 2012). This reality is never referred to in tourist guides. An attempt to see inherent potentials and how they can relate to tourism in Cairo's informal areas is required.

4.2.3   The Poor vs. Cairo's Heterogeneous Ashwa'iyat Dwellers

Globally, defining who the poor are is either ignored in literature review or taken for granted and undefined. According to the international conventional benchmark in 1995, a poor person is any person who earned less than US 1$ per day at 1995 purchasing power parity (this value is upgraded yearly). This definition is considered invalid since in developing countries the income of the poor is considered much lower than that mentioned in the benchmark of Developed Countries. Furthermore, poverty itself is widely viewed as multi-dimensional phenomenon (Mitchell and Ashley 2010).

Cairo proves its uniqueness again, since too often inhabitants of informal areas are misperceived as poor contrary to informal areas in other countries. In Cairo, the poor living conditions, deteriorated building conditions, and the lack of amenities in informal areas do not necessarily indicate poor residents (Sims 2012). Many socioeconomic studies show that households in informal areas in Cairo include remarkable range of income, which are not much lower than the averages for greater Cairo. In other words, residents of informal areas in Cairo are heterogeneous with wide range of incomes (Sims 2012). Once again this contradicts the global stereotypical image of informality as linked to poverty. To further exemplify Cairo's unique condition, informal areas are considered a main source of employment opportunities for all Egyptians and the informal economy plays a major role in sustaining the

Egyptian economy. This is due to the existence of abundant micro, small and medium size enterprises within these areas (Sims 2012).

4.3   Slum-Tourism and Development: Poverty Alleviation and Urban Development

Slum tourism can be defined as the tourism that involves visiting impoverished areas. It recently became an organized activity. Although it dates back to the eighteenth century, the motives have generally not changed. Some of the main reasons include authenticating one's own existence, or serving a wider political agenda to draw attention to conditions. The ultimate results either induce political action or serve as leisure experiences (Frenzel 2012).

The effect of tourism, in general can be considered distributional; it directly and indirectly benefits other economic sectors (Mitchell and Ashley 2010). Although the extent to which tourism benefits the poor varies from one area to another, both formal and informal enterprises benefit from integrating tourism in informal areas (Mitchell and Ashley 2010). At the same time, the impact of tourism highly depends on how the poor are defined (e.g. are owners of small or informal enterprises included?) and how the benefit is perceived. In general, there is a significant flow of benefits (financial and non- financial[1]) from tourism to poor people (Mitchell and Ashley 2010). Attracting tourism to poor/slum areas inspite of the fact that at first glance, the link and impact of tourism on poverty alleviation cannot be clearly seen and should be considered according to the following reasons:

Firstly, tourism is considered a more important development sector in poor countries than in rich countries; for example Africa's share of global tourism is much larger than its share in global trade (in 2006 50.5 million arrivals which is 6 % of global arrivals of 851 million) (World Bank 2009). Secondly, capturing the growing share of the tourism market leads to more prospects for long term economic growth in the global south (Lejarraga and Walkenhorst 2006). In fact, trade through the tourism sector services, is the only economic sector that is higher in the south over the north. This means that poor countries are more likely to enter the global marked by providing a service like tourism than to be engaged in the global economy through exporting manufactured goods. Accordingly a shift from an agriculture-based economy to service based (i.e. tourism) is highly recommended. Last but not least, poverty practitioners clearly see the great potentials that tourism can bring to poor countries which can be achieved by simple strategies to boost such benefits and limit potential threats (Mitchell and Ashley 2010).

Frenzel in his book Slum Tourism: Poverty, Power and Ethics raises a controversial but powerful idea: "Poverty is central for slum tourism and is often marketed as using it to alleviate and provide opportunities. This raises the question: Is slum

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[1] Non-financial effect can be immediate uplift in livelihood assets or long term changes in the growth of micro-economies

tourism a pro-poor tourism and do we then have to deal with a paradox that this kind of tourism actually tries to overcome its own attractiveness?" (Frenzel 2012, p. 9).

Poverty alleviation efforts are usually not a part of government agendas, leaving it up to the slum dwellers to manage their needs, which fosters creativity and entrepreneurship. This positive picture is rarely painted by mainstream and government funded agencies, therefore limiting the knowledge on the subject and leaving it to individual efforts and alternative associations to provide a more genuine vision. The rise of social media and globalism has increasingly been forcing mainstream media outlets to referring to alternative sources and methods in order to remain relevant and comprehensive. Having uncontrolled and uncensored sources means curating unprecedented lines of knowledge, backed purely by the genuine experience. One of the most influential theses of Foucault (e.g. 2008) is that the mechanisms of power cannot function unless knowledge is formed, organized and put into circulation (made visible) (Frenzel 2012).

Given the fact that the effect of tourism is extended to affect both the destination and the population within, the relationship between tourism and poverty is viewed differently among the different levels. At a multilateral scale, the UNWTO- United Nations Worth Tourism Organization encourages fostering this relationship, and regards the effect of tourism positively. On the national government level, there are many governments in Developing Countries which assert the role of tourism in reducing poverty (i.e. in Africa), and so they include strategies encouraging tourism. However, this cannot be taken as an indication that the governments really understand this connection between tourism and poverty, which is evident through the priority aligned to tourism in policy documents. At the local level, governmental and non-governmental organizations perceive the effect of tourism on destination areas as positive and as a tool to foster local economic development (Mitchell and Ashley 2010).

Meanwhile, there are other views referring to the effects of tourism as 'overstated'; therefore, raising doubts regarding the social and cultural negative effects of tourism versus the economic benefits it claims (Mitchell and Ashley 2010). This is due to the prevalent question: who benefits from it? And who benefits more? Given a best-case scenario that the populations are benefiting, the more skilled labor inside the destination area will benefit from other people. Moreover, the luxury of the tourist is often compared to the living standards of the population resulting in un-fair comparison. In order to move away from the ethical discussions of exploitation, particular pro-poor strategies must be implemented. This will be further elaborated in the second half of this chapter.

4.4   Slum Tourism in Egypt: Possible Opportunities

As previously stated, slum tourism can be defined as tourism that involves visiting impoverished areas. Although the term is globally adapted in its practices, the situation in Egypt is different. Little research refers to it and few activities are practiced

in reality, in spite of the availability of diverse informal areas in Egyptian cities that could be used as a touristic asset (Mekawy 2012). The national policies lack any reference to slum tourism. For example, the ministry of tourism's implementation strategies are focused on enriching issues related to mainstream touristic activities such as upgrading infrastructure, or providing accommodation. Such strategies reflect a clear gap towards the growing trend of slum based tourism internationally and the trend in Egypt (Mekawy 2012). This could be attributed to the narrow perceptions towards informal areas (globally and locally) as impoverished areas rather than as a source for human capital for tourism (Cejas 2006 in Mekawy (2012)); a perception that limits the economic power and social potentials of informal areas as a part of the tourism sector. As previously discussed, Cairo's informal areas come off as vibrant and creative entrepeunal spaces, thus fostering the possibility of inducing this asset in tourism. For example, some handicrafts products for tourists that were originally located in the old area of al-Gamaliya[2] changed location to be established in Manshiet Nasser, one of Cairo's informal areas (Se´journe´ (2009) in Mekawy (2012)). This illustrates how responsible tourism could generate large economic benefits to informal areas inhabitants (Mekawy 2012).

Accordingly, when tourism is twined with development, it is important to draw ties between slum resources and its characteristics[3] (Tassone and van der Duim (2010) in Mekawy (2012)). This reflects the strong connection between the characteristics of slum areas and the corresponding feasible opportunities for developing them.

In Table 4.1, Mekawy (2012) summarizes the different types of informal areas in Cairo and shows the possible slum tourism activities, which can take place accordingly. Mekawy draws the attention to a novel area of research for planning that could be used to connect possible slum resources and types in tourism, and hence help in formulating pro-poor strategies (Mekawy 2012).

4.5   Assessing Examples of Slum Tourism

In this section, one international and one local successful showcases of slum tourism are introduced, assessed and compared to draw out recommendations for successful slum tourism.

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[2] al-Gamaliya is an old area near khan alkhalili which is one of the main touristic districts in Cairo.

[3] For example: economists defined three main resources of production: labor, land and capital (physical capital, human capital and natural capital) ((Tassone and van der Duim 2010) in (Mekawy 2012)).

Table 4.1 Types of informal areas in Cairo and possible slum tourism opportunities

Ashwa'iyyat types	Description	What do characteristics of slum types tell us?	
		Possible tourism production resources	Possible slum tourism products/typologies examples
Type one	Slums on subdivided former agricultural land, where the builder has purchased land informally from other owners	Human capital: 　Tourism craftsmen Physical capital: 　Prior irrigation patterns Natural capital: 　Agriculture fields	Traditional rural food and drink celebrations
Type two	Informal settlements on state-owned (desert) land, where the dweller has only a 'hand claim' (Wadaa' yed in Arabic) or a leasehold	Human capital: – NGOs/ 　Community associations' activities Physical capital: 　Private residential buildings Natural capital: 　Desert lands and flora	Urban family visits
Type three	In the historic city of Cairo before the expansions beginning after 1860, there are neighborhoods with a high percentage of old, crowded, and deteriorating structures within a medieval, urban setting	Human capital: 　Sacrificing families that educate children Physical capital: 　Historic cities/villages Natural capital: 　Natural wetlands	Traditional market visits
Type four	This type exists in the ancient Islamic cemeteries in Cairo and is not common in other urban centers, where many poor Egyptians have made these cemeteries' rooms their permanent homes	Human capital: 　Very poor people Physical capital: 　Monumental cemeteries Natural capital: 　Highly calcareous loams	Volunteer tours

Source: Mekawy (2012)

4.5.1 Solar CITIES in Cairo, Egypt

Solar CITIES is an initiative that is run by individuals and activists believing in responsible tourism. They provide tours, which integrate mainstream landmarks with tourism in informal areas in Cairo. Solar CITIES (a.k.a. SOLAR C.I.T.I.E.S.) is a not-for-profit edutainment organization. The acronym "C.I.T.I.E.S." stands for "Connecting Community Catalysts Integrating Technologies for Industrial Ecology Systems" (Solar Cities 2006).

The coordinators promote the tour by blogging the following: "Great things are happening in Cairo, but in the most unlikely of places, off the beaten path, in places that tourists rarely get to go!"[4] (Solar Cities 2008a, b). The tour offers an opportunity to navigate the streets of the informal areas and medieval historic Cairo.

The Solar CITIES tour is organized and initiated through individual efforts. Initially, it was about transferring the personal experience of the coordinators from international exposure to slum tours to Cairo. One of the founders of the idea mention in one of their entries how the idea was generated: "I asked one question [to different actors[5] in the historic area of Aldarb Alahmar] that led to the same answer and ultimately to our Solar CITIES project: why don't we see any solar roofs in Cairo? Wouldn't it benefit the urban poor to use the abundant sunshine that God has blessed us with in this country, rather than relying on the uncertain availability but certain price hikes associated with fossil fuels and state provided electricity?" (Solar Cities 2008a, b). The answer to this question was simple: if you think about it, pursue it. And so starting from that moment, the challenge was taken forward and the first plans for the Solar CITIES tour took place – as trial versions. The tour passes through different areas of Cairo, starting in Saint Sam'aan monastery which overlooks the "Zabaleen" garbage community to see how the garbage is processed with self-efforts from the community. The tour then passes into the narrow streets of Muqattam, in which, waste is sorted and separated. Moreover, the tour goes to the rural community of Abu Nimrus showing the influence of urban sprawl on agriculture lands. The Solar CITIES tour also includes a cooperation with Abu Nimrus Environmental Science Center within the tour to show how initiatives can help in solving food crisis. The tour ends at the Giza pyramids.

Surprisingly, the tour includes a visit to one of the world class cafes in Alazhar Park. This combination of unique and mainstream destination with poor and prestigious activities, is indeed beneficial on one hand in attracting more mainstream tourists into the pro-poor world, and on the other hand delivers the message of integration clearly. After Frenzel, "The distinctive charm of touring slums is that it is not just about learning, it is a complete experience of delearning and relearning: a deconstruction of the slum image" (Frenzel 2012, p. 75). Moreover, the tour focuses on two-way interaction between tourists (or visitors) with the areas inhabit-

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[4] http://solarcities.blogspot.com/.

[5] He asked Seif Rashidi, the Urban Planner at the Aga Khan, and Dr. Layla Iskander, a social entrepreneur in Egypt and currently the Minister of State for Environment (Solar Cities 2008a, b).

ants' engaging them through different hands on activities and do-it-themselves solar installations in the area. The Solar CITIES tour had a great impact on the areas' inhabitants – environmentally, technically, socially, and economically. For the first time, it became possible to discuss with the inhabitants how solar roofs work. This in turn connected them with the worldwide ongoing trends and global economy.

The Solar CITIES tour also targets and promotes itself for students in Urban Planning/Environmental Science/Ecology/Renewable Energy/Engineering/Health and Medicine/Arabic Studies, thus widening the exposure and learning experience to students and researchers and encouraging academic research to include more innovative strategies and community-based actions.

4.5.2   Mazatlán, Mexico

Mazatlán is the second largest city of the Northern Mexican state of Sinaloa, located at the Pacific coastline of northern Mexico. In 1997, the evangelical North American church in the area initiated tours in the poor neighborhoods of the city. The tours passing through the city's garbage dump, allowing for interaction with the garbage collectors (Dürr 2012).

The initiative in Mazatlán is unique as the tours are not individually initiated, but are organized by the church in the city. Furthermore, the tours focus only on the city's garbage dumps as the core destinations. The charitable nature of the tour adds to its attractiveness and makes it appear more responsible and friendly to the inhabitants. As Mazatlán is attractive for tourists and retirees from US and Canada, the city's garbage dump tour is designed for both target groups, to reassure the good life style of the tourists who often come from middle class level, and to add meaning to the transitional style of life of the retirees (Dürr 2012). Mazathan initiative is a good example of community initiatives to introduce slum conditions and slum dwellers thus increasing intercultural experience and exposure.

4.6   Lessons Learned: Slum Tourism – A Catalyst for Urban Development

Taking the two previous showcases as primary examples of integrating slums in tourism, lessons can be drawn out for future implementations. Both cases work on and/or promote for visiting slum areas. In both examples, the coordinators promote donating and investing in local markets, for example in the Solar CITIES tour, buying handicrafts and products produced by the inhabitants is largely promoted. In both the Solar CITIES and Mazatlán cases the carefully chosen destinations were

directly or indirectly related to ecological aspects and to changing the visitors' perception towards informal areas. In both cases, turning garbage from a negative inherent characteristic to a positive capital to work upon is a significant endover.

While eco- brand is associated with Solar CITIES tours in Cairo, the Mazatlán example shows how intertwining different social layers and practices is possible through the tours' main motivation key: charity. The charity nature also allows for hands-on experience for the visitors and open doors for pro-poor and volunteer tourism. This makes it a promising experience for both inhabitants and tourists (Wearing (2001) and Stebbins and Graham (2004) in Dürr (2012)). Similar to Solar CITIES, profit is replaced with non-monetary aims out of the tours, where exposing tourists to poverty in reality is considered a strong awareness tool. This in turn makes the issues of poverty more meaningful and understandable to them (Dürr 2012).

In addition, both Solar CITIES and Mazatlán garbage dump tours help in reducing the social and spatial gap between inhabitants and tourists/visitors in a constructive and instructive way, in turn lessening the gap between prosperity and poverty. They show how they can help in fulfilling each other's need, where the inhabitants strive for the basic needs for living, alongside with spiritual needs, while tourists need more of spiritualities and meaning for living. Taking this approach for slum tourism as a co-responsibility and co-aiming nature is crucial for initiating and sustaining such initiatives. The following Table 4.2 summarises the opportunities to build upon from the two showcases.

The consequences of such a developmental approach for slum tourism will lead to the growth of toured areas with various approaches: social, economic, and physical. It can result in attracting more segments to the informal areas (journalists, academics, political activists and helpers) thus providing an opportunity for interaction with reality. Furthermore, it can lead to changing the perception towards these areas; perceiving them as a potential rather than a problem.

With a focus upon urban development the impact of such approach can be summarized in the following points:

- Incorporate informal areas in future city development plans' due to the importance of developing a good touristic image
- Promote inclusion and integration on the planning and urban scale
- Attract different types of people to informal areas which allows for more opportunities of development
- Redefine mainstream tourism (in Egypt) to include informal areas
- Leads to long term sustainable developmental impact to develop the area
- Reduce the social and spatial gap
- Create awareness about reality
- Change inherent negative aspects into positive capital and innovative opportunities

Table 4.2 Comparative analysis – recommendations and lessons from the case studies

	Tours' focus	Points to build upon/learn from	Recommendations (Key drivers for successful slum tourism)
Solar CITIES	Eco tourism Education Development Integration	Highlights the interaction between tourists (or visitors) with the areas inhabitants'	Engage the inhabitants through different hands in activities and do-it-themselves activities that benefit the area
		Creates a learning experience	Target various segments (Academics, tourists, students, researchers, etc.)
		Navigates the streets of informal areas and medieval historic Cairo	Integrate mainstream landmarks with tourism in informal areas in Cairo
		Combines poor and prestigious activities	Deliver the message of integration through action
		Cooperates with other organizations (Abu Nimrus Environmental Science Center)	Build partnerships and networks with different organizations to ensure a holistic developmental approach
		Engages with inhabitants and builds solar installations in the area	Focus on long term sustainable impact to benefit the area
			Develop participatory activities to increase the sense of belongings of inhabitants and their willingness to be involved
Mazatlán, Mexico	Charity Development Integration	Organized through the church	Giving a developmental and/or charitable nature makes the tours attractive, responsible and more sustainable
		Intertwines different social layers and practices	Create direct and indirect opportunities for pro-poor and volunteer tourism
			Creates hands-on experience for the visitors with the inhabitants to lessen the social and spatial gap
			Promote non-monetary aims and profits
			Connect strongly to reality and create awareness about
			Spread awareness about the issues of poverty, not as a marketing tool, but to make it more meaningful and understandable to visitors
			Promote an active communication platform between visitors and inhabitants

Source: Developed by authors

4.7   Conclusion

Cairo's informal areas are divided into four distinct types, which call for practical strategies for slum tourism to be easily adapted. Not only should we consider Cairo' unplanned areas but the unsafe areas which need more help and are usually excluded from slum tourism programs.

Given the unique nature of the situation in Cairo, it is important to have tourism that includes entrepreneurship and creativity rather than tourism that focuses on promotion of poverty. The cases of Solar CITIES and Mazatlán garbage tours are innovative responsible initiatives, which provide practical methods of integrating responsible tourism with slum areas in Cairo and Mexico. Accordingly, these examples can serve as showcases for other slums, by up-cycling the negative garbage image of the areas into a positive innovative image.

In spite of the controversial discussions around Slum tourism, it proved its success; not only regarding the external attraction it creates, but also because of its long term influence that can be integrated and planned at earlier stages. This is apparent in the initiatives studied, as the adopted approaches concentrate on the means not only the ends. The tours were designed to allow for communication between visitors and inhabitants; this would kick start the shift into an internalized perception. Slum tourism should not, therefore, be imposed on slum areas to attract more tourists. Slum tourism, is to be drawn from within, as a means to an end.

The developmental approach presented throughout the chapter initiates a discussion to look upon slum tourism, not as business or profit making activity, but rather as an initiative for internal (urban) development process. It also could be a mean to changing the external perception towards slum/informal areas. It opens doors and answers questions about how can slum tourism act as a catalyst towards social equity and a catalyst for a wider sustainable/urban development agenda. Such developmental approach falls out of the ethical exploitative discussions and also does not conflict with oppressive policy making. It can be developed into a successful down to earth strategy that accepts and tackles Cairo's critical state of informality, perceiving slum/informal areas as a potential not a problem.

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Chapter 5
Between Formal Structure and Informal Practice

Public Space as Catalyst of Change: A Case Study

Riccardo Maroso and Federica Natalia Rosati

Abstract The complex and contradictory nature of Brazilian society finds its expression in the city of Curitiba. The capital of Paranà State was pioneer in urban politics and practices during the 1970s and 1980s and is worldwide known for its sustainability. However, the general approach of its urban planning reinforced a spatial segregation that reflects the wide economic and cultural gap among the population.

This chapter analyses Vila Nossa Senhora da Luz, a marginal district where the failure of land management policies is made visible by the degradation of the public space, the increasing houses' introspection and the poor social cohesion.

The lack of public control represented a chance for the majority of families to initiate unauthorized developments that resulted in a widespread private property speculation. This made of the neighbourhood a paradigmatic case of defeat of public purposes over the management of a social housing plan.

After a summary of Curitiba's urban and housing policies and a contextualization of the selected area, our work proposes a program of urban regeneration which acts through the reform of the urban fabric using a multiple-scale approach. The program attributes the public realm the role of transformation agent or catalyst by promoting participation and the switch from formal (urban policies) to informal (handmade urbanism) strategies.

The chosen strategy, in facts, moves toward the enhancement of the self-regenerative capacity of the urban fabric, distancing itself from the tabula rasa model, still commonly applied in Brazilian urban politics.

Keywords Segregation • Public space • Adaptive urbanism • Informal practice • Densification

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5.1 Introduction

"The right to the city is far more than the individual liberty to access urban resources: it is a right to change ourselves by changing the city. […] The freedom to make and remake our cities and ourselves is, I want to argue, one of the most precious yet most neglected of our human rights" (Harvey 2008).

This research represents the occasion to question the equity and effectiveness of current Brazilian housing and urban policies, and to bring out the issue of the right to the city for the poorest communities.

The inadequate planning, which is, in Vila Nossa Senhora da Luz (Vila NSDL), a consequence of the failure of the 1960s modernist vision, produced a qualitative regression that finds its expression in the standardized mass housing developments built within the federal program *Minha Casa Minha Vida* (Angelil and Hehl 2011).

The most dramatic effects of this tendency toward an extensive city growth, often accompanied by the lack of an adequate planning, emerge on a social scale in the *ghettoisation* of the less wealthy classes, outside the city borders. A research conducted in 2009 on urban disparity and segregation in Curitiba showed the unequal distribution of wealth and of access to services, using verticalization as an indicator of areas with higher real estate activity (Polli and Pilotto 2009). The state action concentrates in these areas, where the upper class lives, the best urban infrastructure and most of the activities, while, in the less privileged neighbourhoods, the public actor is less active and sometimes absent. It is in those areas that the relationship between urban segregation and social problems most clearly emerges.

"At a social level, large-scale segregation arouses feelings of exclusion and territorial dislodgment, aggravating social disintegration problems" (Sabatini et al. 2004).

Vila NSDL represents an eloquent case of social exclusion where spatial segregation is caused by its own structure. At the macro scale this division is defined by an imaginary perimetric wall that marks a discontinuity with the closest neighbourhoods whereas, at the micro scale, the obsessive iteration of private walls reveals a lack of dialogue between private and public space. This analysis results from a reflection on the theme of urban renewal, which is already well established in the European context, as an attempt to find a solution for a pressing housing demand. Regularization and slum up-grading programs reveal that some Brazilian municipalities are acting toward a dissociation from the logic of *tabula rasa* by introducing interventions *in medias res*. The aim is to improve, when possible, the existing situation (see for example *Programa Morar Carioca*, launched in 2010 by Rio de Janeiro Municipality). Considering the increase in life expectancy, the decrease in birth rate, the strong urbanization and the global environmental crisis, good urban design and architecture should think over the sustainability of the current models of city planning as well as over the potential of urban regeneration's tools.

"Compact polycentric cities are the only sustainable form of development and should be designed to attract people. If we don't get urban regeneration right then

all our work on cities – buildings and public spaces, education, health, employment, social inclusion and economic growth – will be undermined" (Rogers 1998).

The program of urban regeneration presented here, considers the review of the Director Plan, the necessary turning point for a sustainable development of the area as well as of similar contexts.

Compact cities, through the densification of the urban fabric, activate dynamics of optimization and sharing of spaces and infrastructures, giving the less wealthy neighbourhoods good prospects of growth. The aim is to offer a way out from the segregation that affects today's popular areas by triggering a process of social mixing. Considering the socio-economic difficulties of the inhabitants, the municipality is regarded as the main catalysing agent of this transformation program.

The role of the public actor, in fact, not only lies in the mere offering of services and infrastructures, adopting top-down actions, but should rather take into account the real needs of the benefiting population by promoting participatory approaches and bottom-up strategies.

5.2   Methodology

The project has been set up at the Faculty of Architecture in the University of Ferrara. The authors' interests led to a research focused on areas with high demographic and economic growth, subjected to the phenomenon of intense urbanization. The urban analysis carried out within this chapter identifies South America, and in particular Brazil, as one of the most interesting case study. In fact, besides presenting very rapid urbanization, mainly due to the migration of the poor from rural areas to the cities, Brazil is also characterized by rapid economic growth of the middle class.

Vila NSDL is a district inhabited by low income class but with a high potential for growth. This area is the meeting point of two urban and economic development realities that have been shaping Brazilian cities for decades: the formal and the informal.

A tight collaboration with the IPPUC, the institute in charge of Curitiba's urban developments, COHAB, the entity responsible for managing the social housing estate, and the Universidade Catolica do Paranà and the Universidade Federal, permitted to obtain cartographic, legislative and historical material, as well as understanding the formal aspects and changes that occurred since 1961. Site visits, walkscapes, interviews, as well as the use of photography as investigation tool allowed collecting and understanding the informal aspects of the community. The collected documentation provided the basis to study life quality in the neighbourhood and the modalities of spontaneous space appropriation. The dialogue with residents and employees in public offices facilitated the understanding of the social and economic conditions of the inhabitants and the way in which both public and private space are used. After acquiring detailed knowledge of the context, the chapter presents the preliminary phase of the regeneration project of the area. Constant

meetings with architecture firms working in similar contexts, helped to establish sustainable interventions, in terms of economic and technological feasibility.

The developed solutions are presented in this chapter as a set of strategies and design principles related to formal and informal dynamics, easily applicable in many urban areas, both in a Brazilian or in a global context.

5.3 Curitiba: Brazil

Curitiba, the capital of Paranà State is worldwide known for the sustainability of its urban management. This success was obtained thanks to the innovative transportation system, the presence of wide green fields within the built fabric and the use of effective methods for managing and recycling urban waste.

Nevertheless, the complexity and contradictions of Brazilian major cities emerge even in this context, revealing a difficult urban and social scenario.

The population growth in Curitiba's metropolitan region represented one of the highest peaks of Brazil during the 1970s, when it reached the 5.78 % per year against an average of 2.48 % for the rest of the country.[1] This phenomenon was only partially absorbed by the urban structure. In fact, the chosen politics helped improving the environmental sustainability, however, they failed to contrast the huge social inequality among the population, the peripheralisation process and the marginalization of poor classes. The city's linear development enhanced inequity, leading to a rise of land value in the areas close to the street axis, along which high building density was planned and a capillary network of services and means of transportation were provided.

Polli and Pilotto (2009) assert that this step toward the estrangement developed started in the 1970s and was followed by a second phase during the 1990s. With the rapid population growth and the appearance of new social and economic actors, both the central and peripheral spaces have been reshaped, leading to the so-called "city of walls" (Caldeira 2000).

The process resulted in a new spatial organization based on self-exclusion in gated communities where many services and benefits are assigned and privatized, preventing their access to the major part of the population. The proliferation of these luxurious, self-sufficient and inaccessible islands, is nowadays one of the main symptoms and etiologic factors of the decadence of the historical centre, increasingly destined to services and less desired by the residents. This analysis clarifies how the relationship between the centre and the periphery has changed in the last decades, defining the concentration of different social classes within marked urban boundaries. The logic behind this division derives from economic as well as ideological factors. It is clear how the fear and prejudice reinforce and worsen the alarming separation of the social classes. The consequence is the failure of inclusion and collaboration necessary to the progress of a healthy heterogeneous and dynamic society (Goldstein and Trabeschi 2011).

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[1] IBGE data
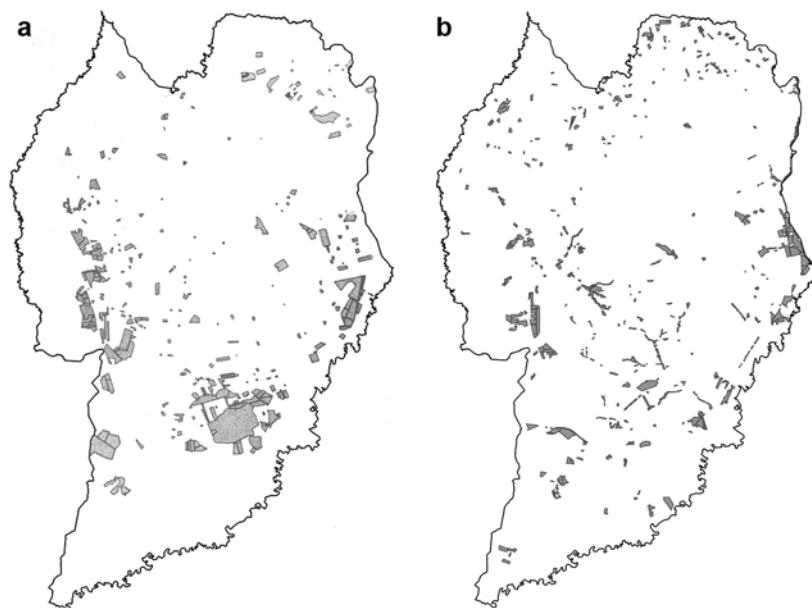
Fig. 5.1 (**a**) COHAB housing development in Curitiba, (**b**) irregular occupation in Curitiba

In many countries, the formal market supply and the massive state interventions were unable to satisfy the needs of the strong urbanization process that started in the 1960s. This resulted in the growth of urban informality, which characterizes nowadays more than the 33 % of the global population and the 23.5 % of Latin America and Caribbean.[2]

In Curitiba, the informal phenomenon has grown from 2213 homes in 1971 to 49,706 in 2012. In that year, the census revealed that 163,301 people were living in informal settlements. In 1965, as a reaction to the increasing housing deficit, two authorities were established; the IPPUC was created to satisfy the need for a new preliminary city plan, and to elaborate the guide lines for the organization and development of the city, by defining the land use and virgin areas to be destined to new social housing plans. COHAB, instead, was founded to facilitate the access to a property house for families with an income up to ten minimum salaries. In 40 years it helped 120,000 families, bringing benefits to more than 450,000 people (Fig. 5.1a, b).

The first big plans for social housing begun at the end of the 1960s, as an answer to the critical situation of informal occupations that reached a proportion hardly controllable by the municipality. Under the military regime (1964–1985), the adopted urban politics supported radical interventions aimed at the demolition of the favelas and the relocation of their inhabitants in mass housing developments far from the city and which lacked of infrastructure and basic services.

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[2] Un-Habitat data

5.4   The Case Study: Vila Nossa Senhora da Luz

Vila Nossa Senhora da Luz do Pinhais (Fig. 5.2a, b), first housing development in the Paranà State, was built in 1964, when the military government, guided by the Marschal Humberto de Alencar Castelo, decided to stunt favela's expansion in the paranensis capital. It was planned in the wake of Cidade de Deus and Vila Kennedy (Rio de Janeiro) to accommodate low income families removed from favelas.

The process of families' selection, the decision about the location, the planning and the management of construction was promoted by COHAB (Companhia de Habitação Popular), financed by the BNH (Banco National da Habitação), and supported by US funds, with the supervision of the technical manager Arch. Alfred Willer. The project regarded a total of 2176 houses on a 800,000 m^2 land. The selection of the target families made clear from the beginning the problems of managing such intervention. Many of the homes, in facts, were allocated to families with an unstable economic situation while others were assigned to families included in the lists of COHAB (Vasconcelos 2012). The acquisition of the house property was based on a monthly mortgage payment, with a duration of 20 years, that should not exceed the 20 % of the family's income. However, only 10 % of the families could guarantee a fixed salary and the respect of the minimum requirements. Consequently, in a first phase, as the lack of connections between the area and the productive activities had provoked a widespread discontent and a sense of isolation, many families decided to sell their new dwellings and move back to the city.[3]

After the rise of the industrial city (CIC), which is nowadays the most important industrial pole of the state and provides employment for 200,000 people, the neigh-
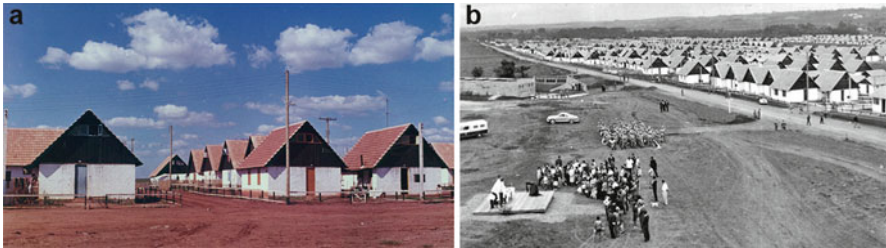
Fig. 5.2 (**a**) Historical photos, 1966, CtbaOld (link images: http://www.curitibaantiga.com/fotos-antigas/400/Vila_Nossa_Senhora_da_Luz_dos_Pinhais_em_1967.html). (**b**) Historical photos, 1966, CtbaOld (link images: http://www.curitibaantiga.com/fotos-antigas/400/Vila_Nossa_Senhora_da_Luz_dos_Pinhais_em_1967.html)

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[3] COHAB tried to prevent the houses from being sold but no brazilian law represented a legal way to impede this widespread phenomena. The citizen who receives a home from COHAB signs a Deed of Purchase and Sale which, for the Brazilian Constitution, gives him all the rights on the purchased property, including the right of selling. Sometimes COHAB imposes some conditions in the sales contract by defining a minimum period of time before the house can be transferred to another person, however this does not stop the sales because people make use of the so called "contrato de gaveta", a private agreement between the parties unrecorded in the registry.

bourhood started to be considered a good place where to live and work. A progressive improvement of the inhabitant's living conditions followed the general socio-economical advance.

5.5 The Informalisation Process

The choice to focus on this specific area derives from its hybrid condition: Vila NSDL is a mediation between a planned formal process and the result of individual and spontaneous individual actions. This informal densification left traces in the relationship between built space and urban voids.

The 1966 figure ground plan (Fig. 5.3a, b) shows a formal urban fabric and a parcelling plan clearly inspired by the American suburbs, where the urban sprawl was associated to an individualistic way of living: the sense of belonging to a community was replaced with the exasperate research of privacy and the demarcation of private property's boundaries.

Within the 9×18 m plots, two types of "embryo house" were placed: the smallest one was 21 m^2 while the other was 50 m^2. The minimum cell, as Willer explained:

> "[...] served as an initial element of a symmetric future growth of the house, therefore the plots had a sufficient size. Once the residents settled there, they received the embryo, which was the most complex part of the house, and afterwards, with their own resources, they could broaden, by adding other rooms or by raising the living room, and so on" (Vasconcelos 2012).

At the beginning, public and private spaces were visually continuous: small fences marked out the properties, allowing the life within the private gardens or behind the windows to be manifested in the streets. The transformation process started about 10 years after the creation of the neighbourhood, when the inhabitants, thanks to the industrial development of the CIC, reached sufficient economic conditions to allow them improving and sometimes rebuilding their houses. Nowadays, Vila NSDL presents a very different appearance due to the layering of time and the constant work of its inhabitants that adapted their plots according to their instant needs and the growth of their families. Although the neighbourhood became better equipped with infrastructure and community services, the private space started to take a physical distance from the public one. Sometimes this detachment is expressed
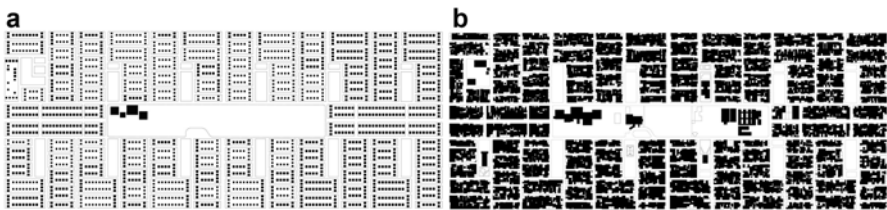
Fig. 5.3 (**a**) Original plan, 1966, (**b**) actual plan, 2014, developed by authors
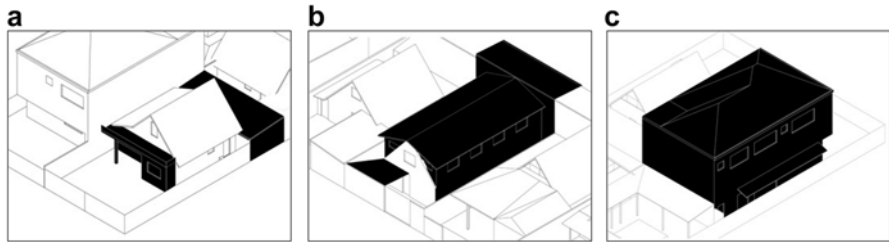
Fig. 5.4 Methods of densification due to informal practices (Source: Developed by authors)

Fig. 5.5 Examples of different housing modifications (Source: Taken by: Federica Natalia Rosati (author))

through hedges, fences or small walls while in many other cases the introspection is emphasized by the plot saturation. The original units were 3–5 meters set back from the front but their expansion has now replaced the front garden and in many cases it has been extended until the street. The current regulation classifying the neighbourhood as SEHIS (public housing area) with a building index that permit to cover up to the 50 % of the plot surface with a maximum of two storeys. However, the alterations leaded the majority of the plots in an illegal condition.

A survey conducted by IPPUC in 2000 on 451 plots revealed that only in 55 % of the cases the original houses were still visible, only 23 plots were densified within the legal limits, 174 were occupied between 50 % and 75 % of the area while the remaining part had an even higher degree of occupation. To maximise their income, many families subdivided their plot and rented a part of the house; this resulted in a switch from a single-family to a multi-family dwelling typology and several plots currently host up to four family units, as shown in Fig. 5.4a–c.

These transformations provided immediate and pragmatic solutions for individual needs, however, this dynamic contributed to lower the quality of the urban environment and to induce a strong introspection. Figures 5.5a–c shows examples of different housing modifications.

5.6 Socio- Spatial Segregation

Vila NSDL represents a case of socio-spatial segregation of the underprivileged classes where it is possible to identify three levels of this disconnection related to socio-economic and urban reasons.

The first level concerns the isolation of the neighbourhood from the surrounding urban environment. As pointed out, the reason is identified in the modernist structured plan of the area which, conceived as a self-sufficient unit, remained, in the first decades isolated in a virgin land at the fringe of the city. Afterwards, when industrial plants and new residential developments started to occupy the surrounding areas, no integration between the old parts and the newly developed ones occur. This resulted in many problems that intensified the stigmatization suffered by the community.

The second level is recognizable within the inner structure of the neighbourhood. A small scale analysis brought out that the rigid borders among public and private space, the centralization of services and the dislocation of commercial activities along two main axes, generated a lack of continuity between the residential blocks. This generated a neglect of the interstitial spaces where drug dealing and phenomena of micro-criminality ordinarily take place.

At last, urban segregation is reflected at the private scale where the lack of social cohesion and the fear and suspiciousness of the inhabitants are manifested in the increasing houses' introspections (Fig. 5.6a–c). From this point of view Vila NSDL represents an anomalous situation as the low-income classes in Brazil usually take advantage of collaboration, social integration and resource sharing.

Fig. 5.6 (**a**) Enclosure of private parcels' fronts, *taken by* Riccardo Maroso (author). (**b**) Enclosure of private parcels' fronts, *taken by* Federica Natalia Rosati (author). (**c**) Enclosure of private parcels' fronts, *taken by* Riccardo Maroso (author)

5.7 Degradation of Public Space

"Dead public space is one reason, the most concrete one, that people will seek out on intimate terrain what is denied them on more alien ground" (Sennett 1977).

The closure of private plots is both the cause and the effect of the public realm malfunctioning. The use of Carmona's model (Carmona et al. 2008) – which shows the characteristics and the physical expressions a good public space should present – clarifies how the poor quality of space design, the lack of public utilities and of an adequate structure led in Vila NSDL's to the inhabitants' refusal of these areas. Open public spaces are frequently left without a function and a character, causing a strong environmental and perceptive decay. From a morphological point of view, the disproportioned dimensions of the squares and the lack of semi-public spaces are a further cause of this deterioration.

Where the squares do not host buildings, the degradation is even more evident. The presence of accidental and abandoned elements of urban design, such as an old goal post, a broken rubbish bin, a rusty slide and some randomly planted trees are clearly not enough to qualify the space and provide it with a function. Moreover, the lack of containers and carts for the garbage collection within the whole neighbourhood, makes of the public space, literally, a dump.

Public buildings, conceived as small islands, or like 'flying saucers' that came down and took place there (Vasconcelos 2012), are merely used for their specific functions and they never create the conditions for human encounter or stimulate the premises to build a sense of community. Thus these islands provoke a sense of distance and isolation, while the concentration of all the public services in the central area causes a loss in the perception of the space and a sense of aloofness. In addition, the used typologies, self-referential and always enclosed by walls or other kind of physical barriers, define what Sennett (2008) calls "boundaries": limits that prevent any relationship between the buildings and its surrounding space by restricting their accessibility and nullifying their role of support for public life.

The importance of the relationship between viability and liveability was clarified since the earliest Gehl's theorizations based on an analysis of the Danish context (Gehl 1987) and was demonstrated by Hertzberger's design strategies success, applied to the Dutch experience (Avosani 2010).

The inhabitants refusal to dialogue with what is external to their own "fortification", makes the outer spaces something alien and rejected.

5.8 Strategy: Self-Regenerated City

A series of interventions are proposed to face the problems of Vila NSDL. The interventions set out a vision for the sustainable regeneration of the neighbourhood by making it compact, multi-centred, socially and functionally mixed, connected,

environmentally sustainable and self-changeable. The need to upgrade the existing urban fabric and to use the derelict public squares as catalyst of a new degree of complexity, derive from the belief that:

"The problems that beset many of our communities are not solely the result of the degraded physical state of our towns and cities, but they cannot be solved without reference to it. The built environment provides the physical framework for all our institutions and government programmes – social and economic regeneration, community safety, education, transport and health. These will all fail unless we can deliver the physical context which allows them flourish and bear fruit" (Rogers 2003).

In this work, the approach relies on the public space, whose meaning is based on the impression that it is capable to leave in people's imaginary and, at the same time, on the habitual practices of its users that contribute to determine it. Thus, the co-production of public space is promoted through the participation of the inhabitants in the planning, maintenance and management phases. Starting from a redefinition of the role of public space as an engine of the transformation, a new interpretation of the neighbourhood is presented. The regeneration program adopts some transformation tools or catalysts as follows.

5.8.1   Densifying the City

"[...] a dense and socially diverse city where economic and social activities overlap and where communities are focused around neighborhoods" (Rogers 1998).

Compact cities are sustainable on a social and ecological level: they need a lower amount of energy and they allow a more efficient use of infrastructures. The presence of many inhabitants in a small and dense area implies a rationalization of the use of collective spaces and resources and, at the same time, protects the natural landscape from the exploitation provoked by the urban sprawl. Moreover, actual housing models, both for individual dwelling units and massive housing, do not usually give the social dimension the importance it deserves (Angelil and Hehl 2013).

Rethinking fabric's density in Vila NSDL implies to review building indexes and reshape the limits (formalize) within which the community, rather than the single, could, with a certain degree of flexibility, adapt the city to its needs (informalize) (Fig. 5.7).

Several points are considered:

Discouraging Cars' Use Encourage pedestrian and cycling traffic in the area is the first step toward an independency from cars and the definition of a new identity for the streets, currently a space for individual transit rather than a gathering place.

Reconsidering the Building Indexes The number of people waiting for a house is growing as well as the population living in informal areas. The regular formal market and the federal programs revealed themselves to be unable to give an effective
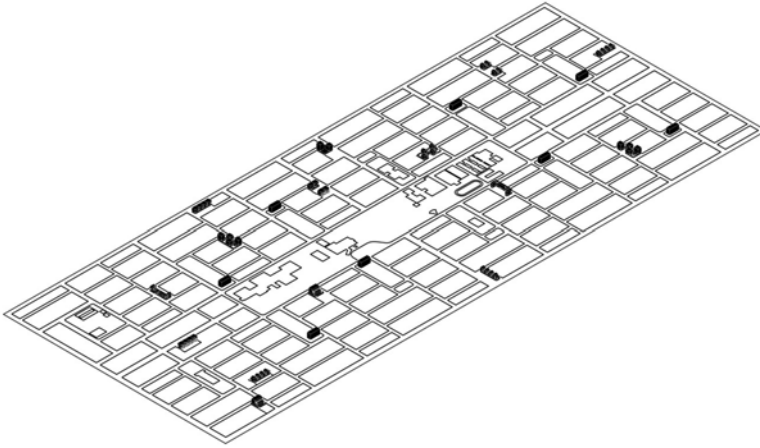
Fig. 5.7 Densification of the urban tissue (Source: Developed by authors)

answer to the problem. Moreover, the lack of virgin lands within the municipal boundaries suggests a reflection over the theme of building within the built. Public officials already recognize the necessity of reviewing urban indexes to regularize the housing expansions where they do not present hygienic and security vulnerabilities, and to allow inhabitants to better adapt the place where they live to their needs (Araújo and Neves 2011). This implies revising the building indexes applied in Vila NSDL, thus allowing more flexibility without hindering the public spaces and streets. The process must be regulated by strict laws in order to limit speculation and to promote the permanence of actual residents in the neighborhood.

Building in the Urban Voids Eight out of 12 squares located in the area are not built nor provided with any function. To undersize them and to reshape their morphology, the municipality is asked to use them to host new residences and induce public activities with the effect of re-qualifying the surrounding space.

5.8.2 Fragmenting the Urban Structure

Vila NSDL is the product of the functionalist logic that lies behind the modernist urban planning conception. The attempt to reduce complexity through the obsessive repetition of a grid-based scheme that orders residential blocks and open spaces turned the public core into a no-man's land. The adopted strategy introduces a certain level of "disorder" by means of articulating, fragmenting and reinterpreting the existing urban structure. Public spaces, when led back to a more human scale and equally distributed within the urban fabric, rediscover themselves as *agora*, places where public and semi-public functions coexist, where the physical and
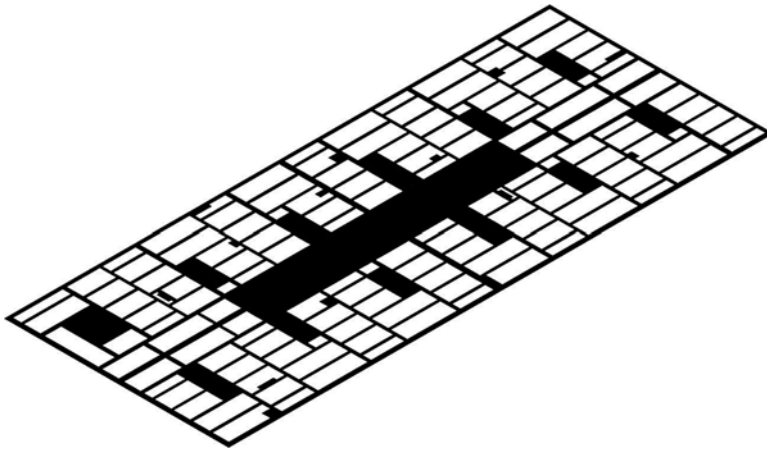
Fig. 5.8 Fragmentation of the urban tissue through the openings of new micro open spaces (Source: Developed by authors)

intellectual accessibility becomes expression of a more inclusive and cohesive community (Rogers 1998) (Fig. 5.8).

Subtractive and Additive Logic The role of the municipality in the urban renewal program consists in changing land uses and reestablishing densities. Negotiation and equal-distribution are used to counterbalance the relationship between built and empty space. Bad condition plots, identified through a participatory approach, are to be evacuated, demolished and converted to host new scattered small public spaces. The random distribution of these plots produces a fragmentation of the public space. The families involved in this transformation process can be relocated into new dwellings, built within the major squares or in new cooperative multifamily houses, whose construction can be promoted with public incentives, such as the management of the new public space.

Decentralizing Public Functions Nowadays, the collective buildings (schools, churches, medical centres, sport fields, libraries, etc.) are clustered in the central area and in some of the inner squares. Following the fragmenting strategy proposed, they are to be deployed in different locations with the aim to activate the less dynamic spots.

Subverting the Zoning Rules Except for the two main axes and the squares, where commercial activities take place, the whole neighborhood has only a residential function. Some widespread informal interventions demonstrate the inhabitant's willingness to create new forms of micro-trade activities. In many cases, garages are used as workshops, warehouses and even the parked cars are used to sell goods while facades are often painted and used as advertising canvases. The project suggests a new spatial order, based on the needs revealed by the inhabitants and able to encourage a functional mix.

Reinterpreting the Residential Block Within the modernist formal structure the rigid street network defines the residential blocks. The proposed strategy activates a process of transformation through a new proposal for the housing blocks. These have to be morphologically permeable and typologically heterogeneous and capable to stimulate different capillary flows (Zardini 1999).

This new logic of densification and collective living has to leave space to semi-public elements and spaces in order to reconnect the individual to the community.

5.8.3 Activating Living Network

Cities are networks of people, activities and places. Each connection takes place and is drawn by the basic elements of the public space: the street, the square and the sidewalk. The role of public space regards not only the creation of a physical space where interactions between individuals can occur, but it also concerns its being an instrument to encourage or discourage social activities. The interventions aim to break the monotony of the urban fabric, which is now characterized by almost identical streets and empty undefined squares. Open spaces must regain their attractive nature and catalyze new social dynamics, while the continuous net of the streets should provide spatial continuity, thus "influencing how people experiences the spaces and also how they move within the neighbourhood" (Pinto et al. 2010) (Fig. 5.9).

Creating New Urban Poles New spaces for the community and structures to support the precarious informal activities within the neighbourhood are created. The market square, for example, can become an area to host stable trades, like small fairs connected to the adjacent urban gardens, as well as temporary commercial activities
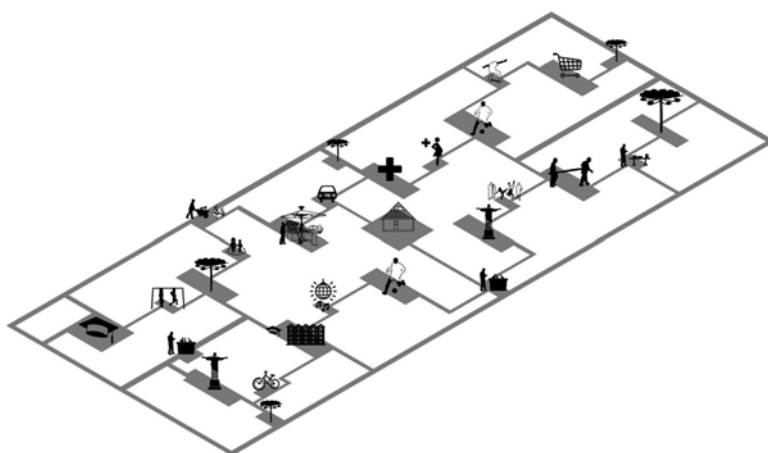
Fig. 5.9 Activation of functional connections (Source: Developed by authors)

by providing electrical and watering supports and temporary structures. The activation of new attraction poles also regards some of the sites outside Vila NSDL. For example, a green path is extended until Parque dos Trabalhadores, currently inaccessible and dangerous, but interesting for its luxuriant flora.

New Functional Paths   The disconnection of the urban fabrics is solved, directly, through the alignment and the opening of new streets and, indirectly, through the installment of architectural elements like plants, urban furniture, pavements etc. The character of the new inner connections is diversified according to the nature of the closest square, each path or street uses architectural elements characterizing the public and private spaces connected to it.

Introducing a Street's Hierarchy   The existing street network does not show a clear, hierarchical structure. All the streets are quite narrow (6 m), except for the commercial ones (12 m). The circulation is not defined or respected and no care for the pedestrian is shown. The regeneration program proposes a reorganization of the street network by defining pedestrian friendly streets, inspired by the Dutch *woonerf*, one-way vehicular paths for faster transit, and more intimate and residential avenues.

5.8.4   Operative Tools

Public action acts primarily through a process of negotiation between the public offices and groups of residents from a minimum of four plots, thus promoting the creation of cooperatives by offering incentives such as the change of the building index, the possibility to open commercial or professional activities on the ground floor or management of new public space (urban gardens, workshop. etc.). A second possibility consists in the assignment of an alternative house for people living in plots that should be demolished, built in the closest urban void. The funds gained from the sale or the concession of the remaining of these new properties is used to improve new streets paving, trees planting and urban furniture.

Furthermore, private action can be stimulated by promoting the access and participation to the following state programs for funding and support:

- Minha Casa Minha Vida – Entidades (direct effect): allows the access to subsidized loans for families or individuals, grouped in collective forms (associations, cooperatives, trade unions), with a net income up to three minimum salaries (SM 2014: R $ 724), for the construction, acquisition or renovation of residences in urbanized environments
- Aprendizagem Serviço Nacional de Industria (indirect effect): it offers free training courses across the country and it increases professionalisation, practical knowledge and self-construction skills

- Serviço de Apoio às Micro e Pequenas Empresas (indirect effect): it provides support for initiating small businesses

5.9   Conclusions

"There is no logic that can be superimposed on the city; people make it, and it is to them, not buildings, that we must fit our plans" (Jacobs 1961).

Vila NSDL demonstrates the ineffectiveness of formal rigid a priori design schemes to respond to the changing needs of inhabitants.

From the beginning of the 1960s Curitiba experienced a significant population growth, without reconsidering its expansion strategy. Its boundaries were widened until the limit of the municipal territory with the creation of new housing developments, only later connected to the city centre.

Nowadays, while the infrastructure network is reinforced to establish a connection with the marginal neighbourhoods, 80,000 people are still waiting to receive a house from the government through COHAB intervention.

The increasing land consumption and the urban sprawl are unsustainable, especially in emerging cities as the Brazilian ones. For this reason it is necessary to reconsider the urgent dwelling issue through a rationalization process of the built environment, allowing the public space to regain its social function. In a context of socio-economic and cultural difficulties such as Vila NSDL, an initial intervention on the public realm becomes necessary to initiate a "stitching" process of the urban fabric. Through a direct intervention on specific locations it is possible to eliminate physical and psychological barriers that nowadays paralyse the individuals and hinder their lives. The development and reinterpretation of public spaces should occur through the rediscovery of spaces for the community and the role they can carry as fundamental elements of a socio-economic growth. Moreover, the citizens should be guided on how to improve their conditions and acquire new abilities through an approach based on in situ information and logistic support.

In conclusion, the transformational potential of Vila NSDL lies in its own dynamic urban structure and in the ability of its inhabitants to adapt their environment to the continuous change of conditions, as have been demonstrated in the modifications and extensions carried on the individual level. It is in these informal activities, guided by an adequate formal motivated strategy, that lies the self-regenerative capacity of the city.

Based on this assumption, the proposed regeneration program proposes to turn urban voids into a network of shared and co-produced public spaces; places where the identity of each citizen is mirrored and fed and where the residents, through a collective commitment that do not undermine their own individuality, could contribute in the construction of a more equal and cohesive community (Fig. 5.10).
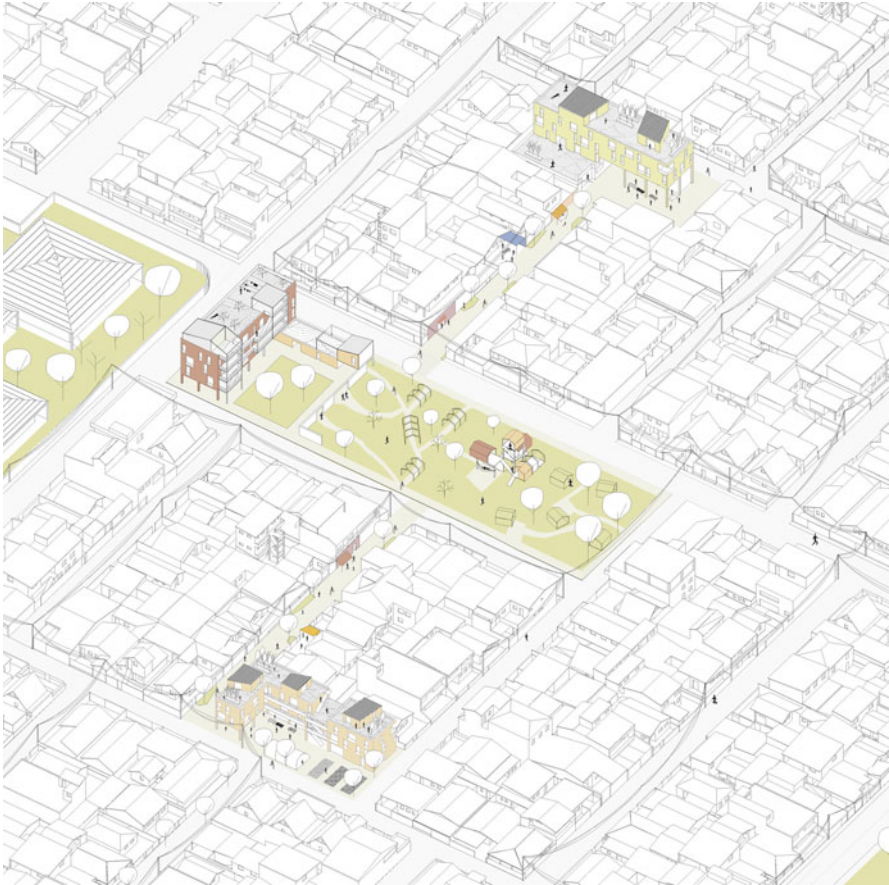
Fig. 5.10 The network of shared and co-produced public spaces (Source: Developed by authors)

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Part II
Production, Operation and the Life-World of Urban Space

Introduction

Part II of this book focuses on the discussion of the phenomena of the informal developments that infringe on urban space in both the formally and informally developed areas. The section presents strategies as well as implementation approaches adopted to address unofficial and sometimes illegal development. The type of extensions discussed in this section include those which boldly and ruthlessly invade the formally planned city space such as the trespasses on the cities' streets during the Arab Spring Revolutions; as well as those extensions that systemically weave the urban fabric in slums worldwide under processes of informal urbanization.

By realizing the impacts of informal and illegal development on the organized official way of life the chapters presented in Part II shed light on the potentials of the practices of informal development. Adopting humanitarian, contextual and realistic approaches towards the complex phenomena discussed, paves the way towards presenting feasible and pragmatic scenarios for plausible solutions to problems of informal urbanization.

This position is based on several justifications. The first and more basic justification is related to the failure of governments, municipalities, regulations and official jurisdictions to achieve substantial impact on the informal extensions by imposing top down strategies and centralized control approaches. Most of such institutionalized attempts result in officially acknowledged failures and public renouncement of their implemented strategies. Such unsuccessful outcome perpetuates the contrasting informal approaches that pose themselves as feasible and promising alternatives.

The second justification is related to a general political orientation against siding by official governmental trends that eventually end up by subjugating the people of color, the women, the poor, the protestors, vendors and others. This general mood of polarization between official entities and underprivileged groups is appealing to the consciousness of the general audience and advocates the contemporary global discourse on Democracy; addressed in the specific contexts of the case studies narrated in the following chapters.

The third justification deals with the recurrence of small scaled localized stories of success related to grass roots initiatives and bottom – up approaches that produce waves of limited success in communities of persistently endless despair. These isolated incidents give confidence in the feasibility of the implementation of local strategies in use. Narratives of limited success of local attempts encourage the trends in support of grounded non-governmental initiatives and autonomous planning.

Finally it has been announced that more than 880 million people are estimated to be living in slums in 2015; a number expected to increase to 100 million by the year 2020; based on United Nations Millennium Development Goals.[1] These exponential numbers of inhabitants survive in the unofficial informally developed urban areas. The United Nations Target is to provide sustainable housing, transport, sanitation services, access to potable water, infra-structure, basic services such as education and health care to slum dwellers to alleviate the struggles of their daily lives. These international attempts cannot solely rely on governmental official channels. The World Bank; UNDP; and different Aid institutions work directly with NGOs to develop programs that utilize and capitalize on potentials of local communities.

With this background Part Two of the Book titled "Production, Operation and the Life-World of Urban Space" consists of four chapters that present diverse stories and experiences advocating the right of the underprivileged communities to the city's urban space both in the formally and informally developed sectors. The chapters present a series of arguments starting with extracts from the Human Rights Declaration and Citizens' Rights in the Constitution; to a discussion on phenomenology and Heidegger's concept of dwelling as a basic assumption for understanding the life-world as a lived reality in the informal urban space.

The First Chapter in Part Two; titled "Right to Urban Space: A Study of Street Vending Phenomenon in Post-Revolution Cairo"; addresses the spatial dynamics of street activities that take place in urban spaces causing in many cases substantial informalities; with special focus on street vendors as key players in citizens' daily struggles and sufferings. The author advocates a stand for citizens' participation and appropriation of urban space; which is regarded as the responsibility of all stakeholders including vendors in a collective action. The author argues for socio-economic equality for the formerly deprived, based on communities' contextual needs; achieved by implementing approaches of Critical Planning.[2]

Extracts from the Universal Declaration of Human Rights; Articles from the Egyptian Constitution; and Egyptian Vendors' Law; show that vendors in Egypt fail to acquire their constitutional rights to official job opportunities that provide for decent daily sustenance. Government's obligations were delegated to the illegal market sector which employs 9.6 million citizens with a value of 400 billion dollars worth extra-legal business and property. An investigation conducted on four selected market places reveals the contemporary profile of the vendor community in Egypt, who are redefined as educated, middle class professionals, and successful managers of medium-sized businesses. The author proposes venues to resolve conflicts

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[1] http://www.un.org/millenniumgoals/environ.shtml.

[2] Marcus,P. (2009) From Critical Urban Theory to the Right to the City; *13*:2, 185

between urbanization and surplus production and use by capitalizing on the potentials of vendors. The official representation of vendors in urban political decision making processes that address their livelihood such as: adjusting the vendors' forms of practice; and bench-marking the acceptable quality of the urban environment can provide approaches towards problem solving.

Chapter 2; titled "Social Production of Urban Space in Informal Areas in Cairo: Missing Values & Probable Potential"; focuses on the potential of informally developed areas in presenting incremental housing solutions that reflect environmental privileges and climatic advantages. The authors scrutinize slum areas to expose profoundly complex processes of urbanization that weave individual lives in sustainable tightly knit communities. The chapter questions the link between urban analysis and critique to urbanism on one hand and the perception to new social forms of urban space on the other hand. The authors compare the process of "Production of Urban Space" where everyday routine, material, cultural background and social relations are basic ingredients; to the industrialized construction processes that eventually contribute to slumming. Adopting Lefebvre's arguments of the 'spatial triads' provide basis for addressing the social dimensions that dominate life practices with all its contradictions in El Hagganna informal settlement in Cairo.

El Hagganna originated as a formal settlement for military families and underwent processes of informal land subdivision and trading; aggravated by illegal acquisition of government owned plots; finally developing into an informal urban settlement. A phased settling process by new families is identified: starting by sharing utility zones and concluding in timely acquisition of apartment units. Contractors act as developers; owners; traders of new units, and active players in the informal housing market. Lived-in urban space in informal areas provides explicit evidence of the complexity of poverty, social inclusion/exclusion, and intense social interaction where private activities are normally enacted in the public domain – the streets of the neighborhood. Controversial informal urbanization in Hagganna shows the opportunities for participation of low-income settlers in housing provision; where public space contributes substantially to produce a sustainable form of life.

With the overwhelming increase in worldwide urbanization rates; poverty and vulnerability of urban areas; the urban space plays a key role in the regeneration of informal contexts in developing countries, namely in Nairobi Kenya. Chapter 3; titled "Operative Public Space for Informal Nairobi"; reports the case of a participatory pilot project, involving professionals from multi-disciplines and locals in the informal settlement of Mathare. Mathare is a settlement of half a million inhabitants, that was established on an urban model reflecting segregation and urban, social, economic, and political fragmentation.

The project adopts the "Operative Public Space" approach which involves transforming a local school into a community center offering varied services and activities to locals with the help of "Live-in Slums" NGO. The project includes building a classroom and a kitchen by employing innovative techniques of improved local construction methods, and planting a productive vegetable garden in a dumpster plot to provide food for locals. Upon the success of the project an upgrading process extended to other wasted land plots in the settlement transforming them into service

centers based on community needs. The participatory approach emphasizes the transfer of know-how of innovative building techniques and knowledge to locals. The authors preach that sustainability in informal areas is attained, first by the provision of food and shelter, followed by long term educational programs that teach locals processes of decision making, problem solving and self-management.

Chapter 4; titled "Slum Upgrading in South Africa: Defamiliarising the Global Neighborhood Aesthetic"; focuses on issues of perception to informal settlements indicating that aesthetic values are associated with desirable urban landscapes that favor trends of competitive globalization. The perception to slum aesthetics impacts the aspirations of slum dwellers for a better quality of life; which is tied to concepts of modernity despite their limited social interaction. Traditionally public perception to slums impacts their development policies. The author investigates the tension and discrepancies between political and institutional power that manipulate desires and values of locals; and the search for authentic responses to local needs in informal settlements. The chapter presents an investigation conducted in Kliptown, a mixed-race informal settlement in South Africa, that was a hiding place for Nelson Mandela during the anti-apartheid struggles.

By adopting the approach of Traditional African Oral History the author relies on conversations, narratives and interview with locals to "*defamiliarise*" the audience with two approaches of upgrading enacted in the informal settlement. The revitalization approach by the city council implementing a 35 million dollars project, in Freedom Charter Square District is contrasted to stories by locals about small successful projects and daily incidents. The narratives of everyday life in the crèche run by a local resident, the donated Youth Center; the informal gallery established and managed by local artists exhibiting authentic art; that tells the stories of generations of locals; and shows their daily life struggles without manipulation or change. These narratives highlight in vivid descriptions the discrepancies between the bottom-up and top-down approaches.

The four chapters presented in Part II demonstrate how urban space is informally utilized in response to everyday needs of urban dwellers. This argument is shared with a body of literature discussed by several authors who attempt to identify the nature of public space that qualifies it for such a substantial role in the regeneration of cities; and more importantly to understand the process of its production.

Public space represents the public realm; in contexts where land is scarce and costly, the struggle over space is great, leading to discovery and recognition of its hidden qualities – basically the right of access and use. The unfulfilled needs and deprived rights of urban citizens encourage the spontaneous, informal, and risky encounters with the city spaces.[3] Everyday practices create new alternative types of public space; that transform unused or misused spaces to productive space to meet the citizens' needs, and fulfill the urban regeneration of contemporary cities.[4] The

[3] Hou, J. (2010). Insurgent Public Space: Guerrilla Urbanism and the Remaking of Contemporary Cities (pp.1–17) Routledge, London.

[4] Jacques, P. B. (2013). URBAN REGENERATION: The "improvisation" tactics from the favelas vs. the "spectacularization" of public space. In M. E. Leary & J. McCarthy (Eds.), *The Routledge Companion to Urban Regeneration* (pp. 284–289) Routledge, London.

emergent type of public space is described as diverse, open, and inclusive, representing one of the fields where urban citizens reclaim their right to the city. Hou describes this alternative mode of production as insurgent public space. He argues that this approach generates smaller, yet accumulatively grander public space.[5] Franck, K.A. and Stevens, Q. describe this type of public space as a space which has become loose through unintended activities pursued by communities, which include relaxing, observing, selling, protesting, mourning and celebrating.[6] Jacques describes the informal practices of production of public space as "urban improvisation" that play a role in the urban regeneration process of the city. She further argues that these informal practices are more spontaneous and increase the vitality and intensity of public life.[7]

According to Franck, K.A. and Stevens, Q., there are social and physical qualities that encourage informal interventions such as the variety of public open spaces, and the diversity of people.[8] Fernando analyses the characteristics of the open-ended spaces which include adaptability to different uses, fixed and semi-fixed elements, and multi-sensory qualities.[9] Moreover, Rivlin describes the qualities that attract people to appropriate public spaces to include their location within the city, openness, freedom of access and use, and safety, producing what he describes as *found spaces*.[10] Such qualities of space and practices of its production provide the basis to build upon for future urban regeneration strategies.

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[5] Hou, J. (2010), op. cit., p.1–17

[6] Frank, K. A., & Stevens, Q. (2007). Tying Down Loose Spaces. In K. A. Frank & Q. Stevens (Eds.), *Loose Space*:*Possibility and* Diversity in Urban Life (pp. 1–33) Routledge, London.

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Chapter 6
Right to Urban Space in Post-Revolution Cairo: A Study for Street Vending Phenomenon

Nezar A. Kafafy

Abstract There is no doubt that the street vendors phenomenon plays a vital role in shaping today's urban spaces and settlements, causing in many cases substantial forms of informality. From another perspective, there is undisputed agreement that all people have equal rights to the city's urban spaces. The chapter addresses this duality in the Egyptian context and specifically after the 25th of January revolution, when street vending phenomena became massively spread.

The first section of this chapter sheds light on the rights of street vendors' as exhibited in UN Human Rights Declaration, the Egyptian Constitution and the Peddlers' law. The second section shows the features and characteristics of the informal vending and vendors, while assessing their impact on the physical urban spaces as well as the public' reaction towards these characteristics. This section discusses the problems and negative impacts of the phenomenon on the community as well. The third section demonstrates and assesses the national policies that address and tackle the vendors' phenomena in Egypt.

This chapter attempts to show the importance of studying the spatial dynamics of the activities in urban informal sectors, as it became a key player in citizen's daily struggle and suffering. Needs of street traders should be understood and put into consideration in any spatial urban policy aimed to tackle this issue.

Keywords Urban space dynamics • Right to urban space • Street vendors in Cairo • Rights of street vendors • Street vendors in post Revolution Cairo

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6.1 Introduction

The Egyptian urban environment not only suffers the challenges of poverty under conditions of globalization, but also suffers the post revolution problems that emerged from the sudden realization of the public's rights to the urban space in the city; which resulted in the creation of blurred boundary lines – and sometimes clashes between the rights of different interest groups. The argument in this chapter start from the proposition that after the 2011 Revolution many changes took place among which, one phenomenon emerged dramatically to affect the everyday life of Egyptians; that of street vending and bold persistent occupation of the urban space. In this chapter the dramatically violated rights of residents and shopkeepers are not discussed, as it has been addressed in many other studies, the chapter focuses on the dynamics of the street vending activity in an attempt to understand the phenomenon to be able to tackle it.

The chapter demonstrates dynamics of the urban space in the post-revolution Cairo City, while shedding light on the conflicts between interest groups in the urban space in the city showing the different perspectives of the involved parties. The chapter relies on the argument of the Universal Human Rights' Agenda and what should be fulfilled at the city, and the region level for citizens. Citizens' rights include the rights of street vending migrants who moved searching for a better quality of life, as well as the rights of the citizens who suffer from the congestion produced by the unorganized occupation of street sellers to the streets and spaces of the city.

Street vendors are often viewed by urban dwellers as prominent elements of "*disorder*" – one of numerous interacting factors, which encourage blight, vandalism and crime being untidy and poor, and their '*anarchic*' occupation of the street (Kafafy 2013, Madanipour 2010; Brown and Lyons 2010; Harvey 2008). But then who is to be blamed for the situation of street vendors: the municipality, the sellers or who? The chapter poses many questions, among which: What forced street vendors to this act? Where and what are the rights of these sellers in livelihood? If the vendors lose their trade, will they become criminals? Do they know their rights and understand the 'others' rights as well? Does the municipality have a clear definition for its duties and responsibilities towards the community and the vendors? What are the opinions of other citizens in this issue?

In its attempt to find answers to the above-mentioned questions, the study employed a variety of research methodologies in gathering the data, including personal observations, surveying citizens affected by the phenomenon and a field survey administered on a sample of street traders.

No one can deny that during the last two or three decades the Egyptian's manners and attitudes have changed dramatically in a way that has been affecting the every day's life. People became more aggressive due to the economic pressures they have been suffering from for so long. This significant change was magnified vividly after 2011 revolution, ironically enough, the initiator of the Arab Spring was sparked by

the desperation of a street vendor, Mohamed Bu'Azizi, who set himself on fire after his goods were impounded and he was humiliated by the authorities. It cannot be denied as well that the street vendors in many places have caused and still are causing real problems, such as traffic congestions, cleanness problems, safety problems, conflicts and fights with surrounding shops, …etc. However, all these issues could be tackled based on deep understanding to the different complex variables that impact the vending activity. This chapter introduces a holistic comprehensive understanding for the issue with its different facets and approaches, in order to create a robust platform to rely on in addressing the issue and suggesting recommendations and solutions.

6.2   Methodology

This chapter relies mainly on the everyday observation and experience in the streets of Cairo and its urban spaces, witnessing the escalating tension between the street vending phenomenon and the municipality weak strategies in handling the issue. The chapter also relies on the outcomes of a study on street vending in the Arab spring countries, which is a research project funded by the British Academy, and supervised by Prof. Michal Lyons of London Southbank University and Prof. Alison Brown of Cardiff University and a Research published by the author in 2013. The funded research was conducted in Cairo in September 2012, and Tunis in November 2012, in which the author of this chapter was the Egyptian collaborator. The chapter drew on several sources for data collection:

Firstly, the observation of an eye witness (the researcher) of the – unnecessary and could be avoided contradictions between public right to open space of the city on one hand, and the right of street vendors for earning their living on the other.

Secondly, reviews of literature on right to the city and street vending rights in the Egyptian constitution, besides the relevant legislation and bylaws, the documented events preceding and following the January 2011 revolution; and publicly available statistics.

Thirdly, schedule-based and open-ended interviews with 26 Egyptian key informants including senior personnel in national and international agencies, academies and municipality officials, politicians and activists.

Fourthly, semi-structured, questionnaire-based interviews with 103 street vendors, drawing on a methodology developed in earlier fieldwork on vending in sub-Saharan Africa and Asia, and focusing on four main market areas: Helwan (the area adjacent to the metro-station and its forecourt), Embaba (specifically, Embaba Tunnel and Ard El Gamiya market), Demerdesh and Ramses (outside metro-stations, in front of public buildings and in near-by streets) and Tahrir (the square itself and the near-by Abdelmonem Riad micro-bus station).

6.3 "The Right to the City": Conceptual Argument

The right to the city is like a cry and a demand … a transformed and renewed right to urban life. (Henri Lefebvre 1996: 158; quoted in Purcell 2003)

According to Görgens and Van Donk (2011) The notion "right to the city" was first used by Henri Lefebvre as a title to a piece of work ("Le Droit à la ville") in 1968 which decried the commodification and privatisation of urban space, that he witnessed from his point of view occurring in cities around France.

Purcell (2003) argues that Lefebvre's conception of the Right to the City, is about: First, *the right to participation*: the right of inhabitants to take a central role in decision-making processes surrounding the production of urban space at any scale. Second, *the right to appropriate urban space*, that should be produced in such a way as to enable the "full and complete use" of urban space by inhabitants in their everyday lives. It therefore includes the "right to live in, play in, work in, represent, characterize and occupy urban space… ", Purcell adds that the conceptions of Lefebvre stands against the conception of urban space as private property, or as a commodity to be valorised (or used to valorise other commodities) by the capitalist production process (2003: 103).

The specific rights to appropriate and to participate are earned by meeting particular responsibilities and obligations of inhabitants and users, primarily their commitment to active participation in the re-making of their cities. The Right to the City, therefore in its core, is a collective right that can only be realised through collective action, and it demands solidarity and new forms of alliances between different stakeholder groups within the society.

There are many approaches and interpretations of '*the right to the city*' term, however, despite the varied approaches, there does seem to be crosscutting agreement that the Right to the City framework is able to provide a basis of common 'ethical orientations', where, Mathivet (2010: 24) suggests that most approaches share three fundamental axes:

The exercise of full citizenship, namely the realization of all human rights to ensure the collective well-being of inhabitants and the social production and management of their habitat;

The democratic management of the city through the direct participation of society in planning and governance, thus strengthening local governments and social organisation;

The social function of the city and of urban property, with the collective good prevailing over individual property rights, involving a socially just and environmentally sustainable use of urban space.

Due to the collective character of 'the rights to the city', the issues cannot merely be addressed in an abstract manner by decision makers, and then be put into practice. Those rights have to be commonly developed and all classes and sectors of the community need to be represented. Moreover, due to the rights' non-universal character contextualized characteristics or more precisely, because they have to be understood as rights specifically for those formerly deprived of full rights, they will not simply be gained or recognized as entitlements but have to remain contested.

The Right to the City, therefore, takes shape based on the specific local needs, conditions and opportunities facing the community particularly the urban poor.

Parnell and Pieterse (2010) argue that under conditions of globalization large cities present unique challenges for poverty reduction and the realization of rights. While Harvey (2008) perceives that the tendency for privatization is considered a critical issue when speaking about the right to city, he claims that "*We live*, *in a world in which the rights of private property and the profit rate trump all other notions of rights*." (P. 23), he appends arguing that democratic deepening must be linked to rights-based advocacy to achieve better socio-economic outcomes in our cities.

Balbo (1993) describes the situation buzzling duality and the huge gap between citizens' rights by saying that the wealthy neighbourhoods provided with all kinds of services, such as exclusive schools, golf courses, tennis courts and private police patrolling the area around the clock intertwine with illegal settlements where water is available only at public space taps, toilets are shared between several families, no sanitation system exists, electricity is either stolen from the road light posts or pirated by a privileged few, the roads are unpaved with the swamps of muddy sewage all over the place, and where house-sharing is the norm. Each fragment appears to live and function autonomously, sticking firmly to what it has been able to grab in the daily fight for survival. This duality emphasises the important role of building a robust understanding of different communities based on thorough analysis of characteristics and actual needs and rights.

In his approach of "*Critical Planning*", Peter Marcuse (2009) suggested that such a process, driven by civil society, generally involves three steps: expose, propose and politicise. The first, 'expose', which involves an analysis of the roots of the problems facing (poor) communities and communicating that analysis to those who need and can use it, it is the analysis step which leads to the diagnosis and then the second step of 'propose', which involves the formulation of responses and concrete proposals that tackle the main roots of the problems identified in the first step of expose. Then the last and final step of 'politicise', which draws on the previous steps to clarify the types of political action required, identifies the most appropriate leveraging points and draws attention to the implications of these for organisational strategy and day-to-day politics.

Some of the rights guaranteed in most Constitutions, have largely become subsumed within the rush to deliver basic services. These include: The right to information about and active participation in the planning and decision-making affecting their physical environment or livelihood choices; the right to well-located and resourced social infrastructure (including schools, clinics and police stations); the right to a clean, safe and secure environment (both with regards to health hazards, pollution and environmental degradation, vulnerability to crime and aggression and access to justice); the right to unimpeded, safe and affordable transport and movement; the right to public space for recreational or social activities, and the right to historical and cultural heritage and tradition.

While Brown and Kristiansen (2009) state that developing the right to the city as a vehicle for social inclusion in cities implies: Liberty, freedom and the benefit of

the city life for all; transparency, equity and efficiency in city administrations; participation and respect in local democratic decision making; recognition of diversity in economic, social and cultural life; reducing poverty, social exclusion and urban violence

Brown (2009, 2010) argues that rights of citizens can be broadly classified into eight main categories, summarised as: environmental; housing; infrastructure; economic; social; cultural; and political rights; and finally the right for safety and security.

Brown adds that it is absolutely necessary that these operate within a framework of planning legislation and be within the purview of a judicial system.

From the above discussion, it becomes clear that questioning: '*what kind of city we want*' cannot be divorced from that of what kind of social ties, relationship to nature, lifestyles, technologies and aesthetic values we desire (Attia 2011). The right to the city is far more than the individual liberty to access urban resources: it is a right to change ourselves by changing the city. It is, moreover, a common rather than an individual right since this transformation inevitably depends upon the exercise of a collective power to reshape the processes of urbanization. "*The freedom to make and remake our cities and ourselves is one of the most precious yet most neglected of our human rights*" (Harvey 2008).

6.3.1 Rights of Street Vendors in the Universal Declaration of Human Rights

Reading through the Universal Declaration Human Rights' 30 articles (2014), which establishes the recognition of the inherent dignity and of the equal and unalienable rights of all members of the human family is the foundation of freedom, justice and peace in the world, and that human beings shall enjoy freedom of speech, freedom of belief, freedom from fear, equal rights of men and women, have determined to promote social progress and better standards of life.

The main articles that are related to the street vendors' rights in the Universal Declaration Human rights are articles 23, and 25 which focuses on the right to work for all citizens and to work specifically in trade, while article 29 tackles the freedom of practicing ones' rights without transgressing on the rights of others. They can be stated as follows:

Article 23:
(1) Everyone has the right to work, to free choice of employment, to just and favourable conditions of work and to protection against unemployment. (2) Everyone, without any discrimination, has the right to equal pay for equal work. (3) Everyone who works has the right to just and favourable remuneration ensuring for himself and his family an existence worthy of human dignity, and supplemented, if necessary, by other means of social protection. (4) Everyone has the right to form and to join trade unions for the protection of his interests.

* **Article 25** : (1) Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment,*

sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control.

*   **Article 29** : ….. "(2) In the exercise of his rights and freedoms, everyone shall be subject only to such limitations as are determined by law solely for the purpose of securing due recognition and respect for the rights and freedoms of others and of meeting the just requirements of morality, public order and the general welfare in a democratic society."*

In the case of street vendors all the rights mentioned in article 25 are not present, and their absence is the main cause for these citizens to search for themselves and their families for a way of earning their sustenance. However, in their research for sustenance they violated the rights mentioned in article 29 since no one can deny that these same vendors cross many other rights and boundaries. The vendors' violation negatively influence other citizens' lives and livelihood, in the manner of blocking roads causing congestion and chaos, blocking buildings entrances and spreading out their goods in front of tax paying legal shops, and many other transgressions.

6.4   Street Vending in the Egyptian Context

The Street Vending phenomenon is widely spread in all countries and increasingly so in developing countries who suffer from low employment and high levels of poverty, reaching approximately 40 % GDP of the informal section, such as India, Indonesia, the Philippines, Bangladesh, Egypt, Jordan and Morocco. Some countries succeeded to organize this profession and to identify general frameworks for its development, but in Egypt managing this activity remains random which causes it to spread due to widespread poverty, corrupt micro and small scale business environment, licensing complications, and the multiplicity of laws and legislation that hold a tight grip on small scale projects.

Hernando de Soto (2011) summarized key findings from an analysis conducted in 2003 to the country's informal ('extra-legal') economy and presented it to the Egyptian cabinet in 2004: First, Egypt's underground economy represents the nation's biggest employer. The legal private sector employed 6.8 million-people and the public sector employed 5.9 million, while 9.6 million people worked in the extra-legal sector. Second, the value of all these extra-legal businesses and property, rural as well as urban, was estimated to be $248-billion – 30 times greater than the market value of the companies registered on the Cairo Stock Exchange and 55-times greater than the value of foreign direct investment in Egypt since Napoleon invasion- including the-financing of the Suez Canal and the Aswan Dam. (Those same extra-legal assets would be worth more than $400-billion in today's dollars.)

A few years later, the Egypt Human Development Report of 2010 (UNDP 2010), focusing on the country's youth and their economic and social inclusion, identified street vending as the second-fastest growing occupation among this population from 2000 to 2007, following construction workers.

Most of the interviews and press articles suggest that, within residential and commercial districts. The opinion of local residents and merchants, is not favourable to vendors. Complaints about overcrowding of pedestrian and vehicle routes; about reduction in property values in neighbouring areas; and about social status. The following section analyses the rights of street vendors – if there is any – within the Egyptian constitution.

6.4.1 Rights of Street Vendors in the Egyptian Constitution and Law

Egypt's constitution did not address street vendors directly but some articles focused on the importance of equity in providing job opportunities for all citizens. However, in reality this is not yet applied to the massive numbers of people who work as street vendors. This section presents some of the articles that are thought to have influential effect on street vendors and their livelihood. Each article presented is followed by an analysis aiming to contribute to identifying the gap between legislations and effective laws addressing street vendors.

> *Article 14 : "The national economy aims at steady and comprehensive development, at elevating the standard of living and realizing welfare, at combating poverty and unemployment, and at increasing job opportunities, production, and national income. The development plan works toward establishing social justice and solidarity, guaranteeing distributive justice, protecting the rights of the consumer, safeguarding the rights of the workers, ….. .Earnings must be linked to production; income disparities must be lessened; a minimum level for earnings and pensions enabling a life of dignity for every citizen must be guaranteed, as well as an income cap for state agencies. There can be no exceptions unless this is grounded in law."*

Of course most of the above mentioned aims are not achieved with street vendors, which force them to work for long hours to gain their sustenance. These workers do not have health care insurances or any kind of subsidies or exemptions from educational fees, utility bills,….etc. to support their lives. One of the detrimental issues for vendors is that they do not have any pensions or benefits, thus they have to work from cradle to grave.

> *Article 64 : Work constitutes a right, a duty, and an honour for every citizen. The State guarantees it on the basis of equality, justice, and equality of opportunity. Forced labour is permissible only to the extent stipulated by law.*
>
> *The public servant works to serve the People; the state awards government employment to citizens according to merit, without favouritism. Any deviation from this is a crime punishable by law.*
>
> *The state guarantees every worker's right to a fair income and vacation days. It also guarantees pensions, social security, health care, protection against occupational hazards, and the availability of safety provisions in the work place, in accordance with the law.*
>
> *Workers may only be fired under circumstances that are specified by law.*
>
> *Peaceful strike is a right, regulated by law.*

The first phrase of the article is very broad and unachieved at all, as the state does not provide suitable opportunities, in case it provides opportunities. They are very low-income jobs. Unfortunately, many do not have a place in the Egyptian work market in terms of jobs provided by the state.

> **Article 66** : *The state guarantees social insurance services. Every citizen has the right to social security, which guarantees a minimum level of sustenance, if he does not have the means to provide for himself or his family, is unable to work, unemployed, or of old age.*
>   **Article 67** : *The state works toward providing adequate pensions for small farmers, non-unionized agricultural workers, and all those who lack access to the system of social security.*

According to this article, the government have failed dramatically to provide any adequate life for millions of citizens, we are speaking about 40 % of the nation.

Another important law is the "Peddlers/street vendors' law No. 33 of 1957", (Published in "El Wakae El Masreya: the government official newspaper – number 11 – Feb. 4 – 1957). The law which consists of 15 articles, guarantees many merits for both the seller (vendors), the customer, and eases the inspection process; however, for unapparent reasons it is not forced or put into action, or even revised by the different parties involved in the issue of street vendors since its launching. Surprisingly in 2012 the law was amended. President Mohamed Morsi, at that time, launched a decree by Law No. 105 of 2012 amending Law No. 33 of 1957 regarding peddlers, it stated: "*Change The text of Article 11 of peddlers Law No. 33 of the year 1957 to the following text: Any person who commits a violation of the provisions of this decision by law or implementation decisions of this law, will be imprisoned for a period not exceeding three months or a fine not exceeding one thousand pounds In case of repetition of the punishable violation, the violator is punished by imprisonment for a period not exceeding six months, or a fine not exceeding five thousand pounds, and the confiscation of the seized goods*".

This amendment caused riots and protests on the streets, as the street vendors accused the president and the government of humiliating them and not only looking at them as outlaws, but forcing them to become criminals and outlaws. The protestors carried signs reading: "*My government destroyed my job, How can I feed my children*", "*You forced penalties and forgot to give us our constitutional rights*", "*We are sellers not outlaws*", and for the first time unions representing these vendors appeared to speak on their behalf. One of the most famous alliances was the Syndicate of Street Vendors in Cairo that declared its refusing the 105 law for the year 2012, that toughen fines and penalties. The protestors accused the government of neglecting them and treating them as "*plague*" to be destroyed and resisted.

The presentation of the articles of the Universal Declaration of Human Rights, the selected articles from the Egyptian Constitution, and the Vendors' Law, all indicate that hypothetically vendors have legal rights for a decent living with an acceptable quality of life. From a practical and realistic point of view, these rights are never attained and the government promises are never fulfilled, thus pushing vendors to the position of violating the law in order to survive and satisfying the barely acceptable level of basic needs.

6.5   The Life World of Cairian Street Vendors; Characteristics and Needs

This section is based on data gathered in interviews and questionnaires conducted by the researcher in September 2012, focusing on four main market locations: Helwan (the area adjacent to the metro-station and its forecourt), Embaba (specifically, Embaba Tunnel and Ard El Gamiya market), Demerdesh (outside metro-stations, in front of public buildings and in near-by streets) and Tahrir (the square itself and the near-by Abdelmonem Riad micro-bus station).

The field study revealed the key features and characteristics of vendors that is summarised in the coming section:

The majority of vendors in old established markets like Embaba are married and are supporting their families, whereas in Tahrir square only 50 % of the sample was reported as single.

Seventy two percent of the interviewed sample of vendors shown is the sole money earner in the family. A fact that decision makers and politicians need to consider and confront before taking any decision regarding these vendors.

Thirty four percent of the markets were permanently covered with tents, which changes the status and definition of vendors to permanent sellers, surprisingly this percentage doubled in Helwan location to reach 68 %, and that is due to the fact that most of the sellers are relative migrants from the same village in Upper Egypt called "Baheg". The Baheges are well established and form a powerful group of more than 3,000 sellers in the area coming from the same village. Due to their large numbers, they performed forced ownership over the space. The sellers closed the main road surrounding the metro underground station of Helwan, thus blocking vernacular movement, and eventually it became difficult even for pedestrians to walk through the area and more difficult to reach the metro station.

The study shows that 91 % of the interviewed sample did not have another job and was not affected by 2011 revolution, which disvalidates the assumptions that the revolution has influenced the street vendors market; in fact many vendors started their activities in these markets recently after 2011 revolution. Interestingly, when cross tabulating the education level of vendors against the markets' locations; it was found that more than 26 % of vendors are highly educated, with an apparent concentration in Tahrir and demerdash markets, while 40 % are illiterate with an apparent concentration in Embaba (where nearly 70 % of interviewed sample are illiterate) and Helwan (40 % of the vendors being illiterate).

By analysing the area occupied by each vendor in the market, it was found out that in Helwan 64 % of the vendors occupy 3 m^2 each, which increases to reach 20 m^2 in some cases for each vendor. The reason for the exaggerated size of vendor space is due to the sense of power and authority exercised by the group of Upper Egypt migrants, previously mentioned, which resulted in their dominance of the Helwan market. It is worth noting that saying that all these spaces are occupied as a fief by force from the public streets and spaces.

Surprisingly, the study reveals that 15 % of the researched sample of vendors pays for the illegal space they occupy, most of them reported to pay an older vendor who acts as the manager of the area, and is in charge for solving disputes and nego- tiating with the police forces when they attempt to evict the vendors. Thirty two percent of the vendors do not have accessibility to water or a toilet, however, 94 % of them are concentrated in the more deteriorating markets of Embaba and Helwan. When cross tabulating the gender against the four markets, it was found that females are astonishingly very few and could be found only in Embaba market which sells mainly fruits and vegetables. This fact could be related to the sense of safety and security of females' right for working in a male dominant society.

6.5.1   The Rights of Vendors Versus the Rights of Citizens to Urban Space in the City

There is no doubt that street vendors contribute to sustaining themselves and their dependents. If they could not sell on the streets, some street vendors would be unemployed, many street vendors and their dependents would be destituted (Kafafy 2013), and some might turn to crime, rioting or revolution. Thus, street vending serves as a social safety-value, which is much cheaper for the government than establishing a comprehensive welfare system or substantially expanding the police, courts and prison system.

Moreover, through their transactions, street vendors contribute directly to the size of economic activity, and to the provision of goods and services. They are an integral part of the economy, some might argue that their elimination would reduce competition and economic activity. Besides, all businesses that sell or rent to street vendors and their dependents would suffer if street vendors could no longer make a livelihood. Street vendors greatly expand the range of places and working hours where goods and services can be provided, and sometimes they also offer goods and services, which are not available in off-street locations. As a result, they save effort for consumers, satisfy demands, which might otherwise remain unfulfilled, and stimulate economic activity, which might otherwise not exist. By increasing com- petition they help to regulate consumer prices.

Because of low capital requirements and potential mobility, street vending is a very effective way to cater for seasonal, sporadic and special demands like back to school season, Feast needs, Egyptian flags during football matches, umbrellas dur- ing a downpour, or Christmas presents. Similarly, street vending can test out new markets at low cost, offering goods or services, which have never previously been offered. Street vending offers its workers considerable flexibility in work hours and in levels of activity, and it provides a variety of choices regarding work locations, it can be practiced as an extra job increasing gross income.

On the other hand, street vendors neither pay income taxes on their earnings, nor give receipts and keep accounts. They are constantly accused of presenting "unfair

competition" to tax-paying off-street businesses, because they pay less overheads and no taxes. By contributing to vehicular and pedestrian congestions, street vendors often cause traffic accidents, increase the levels of vehicle-generated air pollution, and impede the flow of police, fire brigades, ambulances and other emergency vehicles. They over crowd sidewalks, some occupy the parking plots or a section of the roadway, cause the pedestrians' displacement onto the roadway, endangering pedestrians and blocking vehicular traffic.

Street vendors steal electric power, which contributes to the electricity crisis in Egypt. Many people consider them the main generator of noise with their announcements. They often leave lots of garbage on the streets, they are accused of deteriorating the urban spaces and the built environment.

In late July 2013, Ahram Online news agency (Ahram online C 2013) reported that at least 15 people were killed in a brawl between Cairo street vendors and shop owners over space, in the Moski: area in central Cairo, the death toll included 13 who were burned to death. Such incidents uncover the ugly face of the trembled relation between street vendors and other members of the community. Actions need to be implemented to put the situation of street vendors under control.

6.6   National Policies for Tackling Street Vending

No one can deny that there is a great deal of good will in national and international agencies to support the poor and to sustainably address poverty, and one of the important issues in that regard is addressing street vending (Crossa 2009; Lund 2009). The senior Managers in most agencies understand the macro-economic conditions forcing the growth of street vending and realize that there is no sustainable solution for Cairo's streets without a strategic and systematic accommodation of street vending. However, the deficiency comes in the implementation policies of these organizations, for example, in September 2012, Cairo governor moved street vendors in Azbakya and downtown to the Historical Azbakya Park, causing unrestored damages to the Park. Most of the national organizations such as the National Organisation for Urban Harmony (NOUH) – which is concerned with the preservation of historic Cairo, UN-Habitat office in Cairo, and others appealed the decision that damaged Azbakya gardens.

Another governmental decision of moving the street vendors to 1-day markets, an idea that might be hypothetically accepted, proved to be clearly unrealistic, as these vendors work for more than 70-h per week to earn the sufficient sustenance for whom they sponsor, these long hours cannot be compressed in one working day, in addition to leaving the sellers jobless for the rest of the week.

A third example of the governmental policies is the installation of municipality markets for registered vendors where they will not pose 'an obstacle' – as the municipality usually describes them, however, the success of this initiative is

dependent on relocation of business to sufficiently pedestrian-rich areas, which is clearly a challenge.

In 2012, in Giza, the forced eviction of vendors by police resulted in outright clashes, injuries and death. At the same time, the adoption of zero-tolerance policing has led to contestation. The family of the 'slain' vendor as reported in Al Ahram of 16th October agreed to bury their dead only after the police have given an undertaking to prosecute the officer involved in the death accident. Such harsh decisions widened the gap between vendors and the government, and created mistrust in the government methods and polices in tackling the issue. The proposed policies are potentially problematic in terms of the ability to provide sufficient livelihood opportunities for vendors and therefore in terms of their potential for sustainability.

However, recently a new municipal action was witnessed, as the authorities began moving vendors off downtown Cairo streets after the prime minister's office ruled that they be moved to alternate locations. The ministries of finance, local development, investment and interior are enforcing the decision in partnership with the Cairo governorate and private sector companies.

Implementation is divided into two phases, the first called for turning a massive car park – al-Turgoman, near downtown in Boulaq al-Dakrour – into a huge market with a capacity of 3000 vendors, big enough to accommodate all the vendors in the Cairo area. The responsible authorities announced that each vendor will be assigned a designated space for a nominal monthly fee, however this is a temporary situation until the completion of the second and final phase, which entails the construction of a central market, which has already begun in Wabur al-Talg on Al-Galaa Street near downtown, the central market, which will cost an estimated 55 million Egyptian pounds ($7.7 million dollars), will comprise several floors of 11,000 m^2 and is expected to be completed in a few months. A census to identify and register the street vendors who will benefit from the market is now under way. The information of 1,100 vendors has been processed to date. Spaces will be assigned through a lottery system, The authorities are optimistic that the new measures would bring the street vendor problem under control, put a stop to acts of thuggery on the streets and enable the competent authorities to monitor goods and verify their sources, quality and conformity to the required specifications.

The Prime Minister met with a group of downtown Cairo street vendors on Tuesday 26 August 2014, to discuss the government's decision to temporarily relocating them to a parking lot at Torgoman bus station (phase one). He agreed to initiate an advertising campaign to promote the Torgoman site upon the street vendors' request.

One of the positive incidents was the street vendors' representatives' praise of how the police dealt with them and their goods during their move to Torgoman, which is a positive new attitude in the relationship between authorities and street vendors (Ahram Online a, b).

6.7   Findings and Conclusion

The specific rights to appropriate and to participate are earned by meeting particular responsibilities and obligations of inhabitants and users, primarily their commitment to active participation in the re-making of their cities. The Right to the City, therefore in its core, is a collective right that can only be realised through collective action, and it demands solidarity and new forms of alliances between different stakeholders within society. To prioritize main issues on the vendor issue we could conclude several important findings:

The government's perception to the presence of street vending is unsightly, it creates disorder in the city and must be changed. The government must regard street vending as a vital source of employment for hundreds of thousand who failed to find proper jobs, and this activity provides sustenance for their families.

People who engage in street vending are no longer limited to the less privileged or illiterate as before, as reported in field study; they are likely to be middle class citizens with higher education. This creates a highly competitive environment that is more challenging to the less- privileged.

Vendors participation in decision making resulted in positive implementation of policies, which can be considered the lessons learnt from practical experience. Unlike the government, vendors have "hands-on" experiences, and learning from real life experiences is vital.

The government should help strengthen the union of vendors and encourage them to appoint representatives to draw needed policies.

Vendors are not beginners. They are "professional" business people who have already shown their capability to run businesses. The government can help by establishing relevant agencies to disseminate information on how people can access government assistance programs to establish small and medium enterprises (SMEs).

6.8   Recommendation

The following are proposed recommendations and ideas for the Egyptian context to help the decision makers, the municipality and related authorities, among which is to restrict the existence of street vendors entirely from certain areas and certain streets. In order to encourage maintenance and clean up, many cities require food vendors to have waste disposal bags attached to their carts, and to make special arrangements for trash removal at the end of the day. Grand Junction, Colorado, even requires that vendors clean up the area within a 25-ft radius of their cart. It is beneficial to segment street vendors according to the goods that they provide (e.g. Clothes, Food and Beverages, Leather products, Cigarettes and House-ware). The local authorities should provide street vendors with more innovative stands that occupy less area, and provide better visual image to the market area; inexpensive alternatives should be explored to create smaller mobile vending platforms that

allow for efficient use of space. A national completion could be initiated among different specialized consultancy firms and/or university students and research centres for addressing urban infrastructure problems and proposing 'beautification' schemes that could protect street vendors' livelihoods, and vending spaces are affected, and to redesign public space to accommodate vendors in situ.

The spatial dynamics of activity in the urban informal sector should be understood and the needs of street traders must be considered. One step towards resolving conflicts is to adopt the right to the city concept as both a working slogan and political ideal, precisely because it focuses on the question of who controls the necessary connection between urbanization and surplus production and use. The democratization of that right and the construction of a broad social movement to enforce its will is imperative if the dispossessed are to take back the control which they have for so long been denied, and if they are to institute new modes of urbanization. Lefebvre was right to insist that the revolution has to be urban, in the broadest sense of that term, or nothing at all.

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Chapter 7
Social Production of Urban Space in Informal Areas in the G.C.R "Missing Values & Probable Potential"

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Abstract In Egypt, the term "informal areas" or "Ashwaeyat" has always been negatively perceived by many people as a place of illegality, problems and crimes. However, it acts as a housing solution for a major sector of Egyptian Population. In addition, some Egyptian slums present a great potential when it comes to social relations between inhabitants. Moreover, some of these areas especially those "*ex-nihilos*" like *Hagganah* provide environmental privileges and climatic advantages. Which recall in our perception the vernacular urbanism in cities before urban planning science revolution or evolution. The difference between urban spaces in these areas and others conceived by the Government evokes to a great extent the lived/generic urban space conflict.

Using Henri Lefebvre theories in "The Production of Space", this research is a clear attempt to scrutinize the potentials and the possibilities of improving the disadvantages, in order for these areas to be incrementally considered as a possible solution for housing problems and providing a healthy social urban space.

The aim of this chapter is to identify the features, acquaint with the pros in the slums, by analyzing some examples, of social production of urban space like in *Haggana* area, from the environmental, social, economic and the executive aspects.

Applying the theory of Henri Lefebvre has helped us to profoundly understand the complexity of the process of urbanization in informal areas. A process by which a social space is produced by a tightly-knit community who weaves together a complex pattern of individual lives to be able to coexist and to subsist.

Keywords Lived-space • Perceived-space • Conceived-space • Slums • Social production of a space

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7.1   Introduction

The last few decades have marked Egyptian cities with a rapid population growth and an expansion of the magnitude of the unplanned urbanization process. Consequently, the demand on housing, especially for the low-income sector, has increased enormously leaving the country with a complex dilemma to deal with.

The term "slums" or "*Ashwaeyat*" has been echoing in our ears since long ago. This term is paradoxically perceived and it definitely draws different profiles to People. Governments look at this term as a case, a problem to be tackled by finding a "solution" that costs the least and provide the most housing capacity for low-income and slums' inhabitants. Urbanists and planners hope to find the perfectly conceived proposal that acquires the best planning concepts in this domain.

In this chapter, we preach that it's time to find some answers that relate research about spaces to design, to find the interrelation between critique and performance and to make use of analytical methods in the planning technique of the ongoing urbanization process.

It is believed that some informal areas, especially those "*ex-nihilo*s" like *Hagganah* offer environmental privileges and climatic advantages. Moreover, it has great potential regarding the social relations produced in that space. These areas recall in our perception the vernacular urbanism in old cities, designed by inhabitants according to their needs, before the urban planning science revolution or evolution.

A critical spatial theory needed to be employed. This will allow us to better understand the formation of social spaces in these areas and why the proposed solutions, whether governmental or not, do not succeed. A useful theory, that helps to understand the interrelation between perceiving these informal areas as a place to live, conceiving its social space by its inhabitants and living in these spaces as a place of everyday life; where concepts and experiences are in permanent change, maybe these areas can positively and durably help in the development of these slums.

Therefore, the chapter is based on the theory of the "Production of Space" of Henri Lefebvre, the French sociologist, on the process of urban spaces' production in informal areas. It helps to explain the urbanization process, its conditions and consequences, on many social levels. Moreover, this theory offers a relation between urban research and design practices as it programmatically questions links between urban analysis, critique of urbanism and perception of new types of social urban spaces in the city.

7.1.1   Theoritical Background

Henri Lefebvre is a French Neo-Marxist Philosopher and sociologist of urban and rural life (1901–1991). He witnessed the modernization of everyday life, criticized the industrialization of economy, and wrote about the phenomenon of suburbanization of cities in France. Lefebvre contributed to the development of many concepts

in urban sociology such as "Everyday-life", "Modernity", "Mystification" and "Alienation" (Lefebvre 2000a). His great impact is perceived on the notion of the "Production of the Space"[1] presented in his book of the same title, originally published in 1974 and translated to English in 1991.

According to Henri Lefebvre the synonymous of boredom is modern cities conceived during the 1950s and 1960s.[2] Especially, with the architectural standardization and rationalization of city planning and development, cities are affected by the technocratic urbanism.[3] The City loses gradually its historical values; and is more subject to the exchange value or what Marx calls "commodification".[4] Consequently, it is increasingly difficult for the city to meet the social needs or desires of its inhabitants (Lefebvre 2000b).

As a critique of the technocratic urbanization of the modern city, in the 1970s, Henri Lefebvre proposed a new approach of the production of social space. He analysed the social space in term of representations, practices, usages and appropriation. Basically, a social space is a virtual or physical space where people get together and interact. Some social spaces are public like town squares and parks while others are private like shopping centers, pubs or websites. As for Henri Lefebvre: "(*Social*) *space is a* (*social*) *product*." [5] According to him the social space is analyzed through three axes: the "Perceived Space" (*le Perçu*) of everyday-life in the commonsensical mode, it is the space of popular action; the "Conceived Space" (*le Conçu*), it is the professional and theoretical space where urban planners and architects show their intellectual genius and knowledge; and the "Lived Space" (*le Vecu*) where the fully human lives or dwells, this last space is usually kept alive and accessible for artists and poets. The third space surpasses and has the power to imbalance the first and second spaces.

Space production is affected by many parameters, according to Lefebvre: everyday-life routine, materials, the physical space itself, the cultural back ground and the social relations of the society or "the mode of production" producing that space."…*every society- and hence every mode of production with its subvariants* […] *produces a space*, *its own space*."[6]

Industrialization and generalization of products lead to cities degradation and destruction everywhere.[7] It is believed that they are the main cause of developing informal areas and slums worldwide too. Every individual has the right to the city.[8]

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[1] Henri Lefebvre, *La Production de l'espace*, 1974.

[2] Lefebvre 1997, pp. 20–35.

[3] Lefebvre 1991, p. 272.

[4] "Commodification" represents according to Marx a fundamental understanding concept of how capitalism develops. It basically means the transformation of relations, previously untainted by commerce, into commercial relationships. The newly developed relations will be subjected to an exchange process of buying and selling.

[5] Lefebvre 1974, p. 26, 30.

[6] Lefebvre 1974, p. 31.

[7] Lefebvre 1974, p. 89.

[8] Lefebvre 1968, *Le Droit à la ville*, 135 P.

Everyone believes that he deserves to get advantage of what the city offers: services, jobs, urban life, "better life", etc. This is why rural people invade cities in the first place. Consequently, slums have been developed as an answer to the non-stop, constant demand on social housing solutions. This same industrialization process is the same reason for a dominant ideology of "constructing just for housing" which has been installed long ago. This ideology doesn't take into consideration social relations or the social characteristics of life.

The development of informal areas has been subject to profound discussion and debate. On the one hand many studies have been scrutinizing, analyzing and classifying informal areas in order to reach a formula that could put everything back to order. On the other hand, rarely had the suggested proposals or actions led to effective solutions that provided the inhabitants of these areas with their "habitual normal life".

7.1.2   A Glimpse of an Informal Urbanization Process

Informal Urbanization process or "slum-ming" an area (as we prefer to call it) has many types. One of them, which is widely spread in Egypt, is known as "hand claim".[9] "wada' al-yed" or enforced land acquisition, which is constructing private residential buildings on vacant state land by citizens[10] without legal acquisition processes. Such an informal development process firstly appeared in Latin America and then spread in the third world.[11] Families, who don't have agricultural plots build houses on vacant state lands, usually desert land, or land purchased from local brokers.[12] Construction work starts by hiring local labor to build the typical red brick and cement structure.[13] Such construction is totally considered as informal process, without legal paperwork and total reliance on personal trust, mediated when required by the existing community.[14]

Another type of developing slums is partially or "totally" promoted by the government especially in the beginning, like in the case of *Haggana*,[15] and continues its development as the first type.

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[9] Sims, D. 2003, p. 5.

[10] Séjourné, M. 2009, p. 18.

[11] Sims, D. 2003, p. 5.

[12] Séjourné, M. 2009, p. 18.

[13] Abdelhalim, K. 2002, p. 63.

[14] Sims, D. 2003, p. 5.

[15] *Hagganah* means defense in Hebrew. Till the early 1960s, it was basically an area adjacent to Heliopolis on the border of eastern Cairo where militias and unofficial militants left willingly by the government in order to protect the Cairenes eastern borders. *Hagganah* developed into one of the biggest slum area in the world after the army had accorded this land to members of militias' troupes in order to live "legally" with their families, which was never the case.

In previous decades, the inadequate public housing policy, implemented by successive governments, affected the growth of informal areas, as the majority of units in new cities are still unaffordable -in addition to accessibility problems- for low-income families.[16] Moreover, malfunction of governmental housing policy, to provide affordable housing solution, forced large number of Cairenes to build houses either semi-legally or illegally on land privately or publicly owned.[17]

Despite the fact that the informal urbanization process is considered by the majority of people and specialists as a disease that needs to be treated, we believe that these informal areas are much more complex than they appear from the outside, and therefore they deserve to be scrutinized differently. The theory of the "Production of Space" of Henri Lefebvre helped to efficiently explain the complexity of this process.

7.2   Methodology

Describing a space varies from one person to another, even for the same people living or sharing the same space. According to Lefebvre's approach to space, there are three notions or fields of space: firstly the *physical* "perceived", the nature and this is the origin of the space, "the inception point" the cosmos; secondly the *mental* "conceived" (the space of the philosophers and epistemologists) including logical and formal abstraction, this space is mainly produced by theoretical practices and takes its roots from knowledge; thirdly the *social* "lived" or the lived space, the space of social practices, where the social relations of production are reproduced.[18] The quasi-logical presupposition of an identity between both physical and social spaces on one side and the mental space on the other side creates a sort of a void between the two entities, as if they are represented by two spheres facing each other on the opposite edges of an abyss.[19] This maybe why not all the spaces designed by planners and architects are successfully lived or perceived by users.

According to Lefebvre the production of social space depends on three factors that interact dialectically spatially rather than temporally, the "Spatial Triads" as he calls them, they are the three aspects of our spatial existence: spatial practices, representations of space and representational spaces (Fig. 7.1).

Spatial Practice (Physical/Perceived space): the spatial practice of a society secretes the space of that society. In a dialectal interaction, social practice proposes and presupposes that space. The later is produced slowly and surely while being dominated and appropriated by this social practice. It is the space perceived in the commonsensical mode of everyday-life's practices with all its contradictions. The spatial practice of a society is discovered by deciphering its space. In neo-capitalism,

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[16] Séjourné, M. 2009, p. 18.

[17] Kipper, R. 2009, p. 14.

[18] Lefebvre 1991, p. 11.

[19] Lefebvre 1991, p. 6.
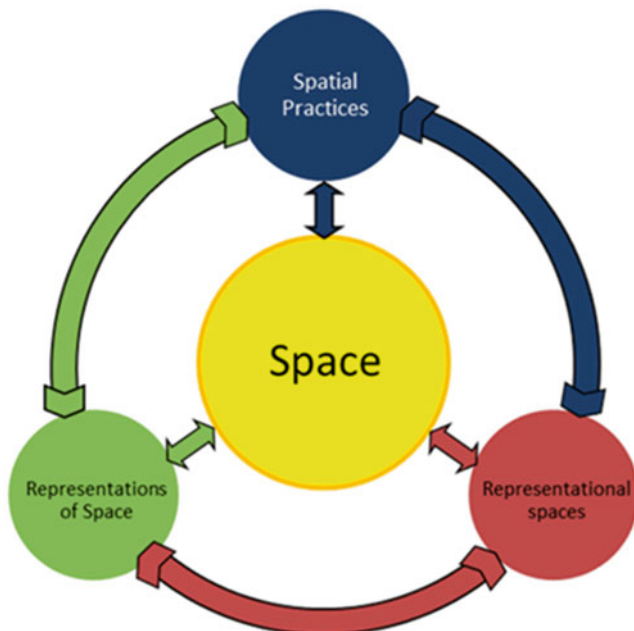
Fig. 7.1 Spatial triads of Henri Lefebvre (Source: Developed by author)

social practice closely associates -in the perceived space that is map-able and mea-surable- everyday life reality (daily-routine) and urban reality (trajectories, net-works connecting the place of work, of private life, of leisure, etc.). This association is surprising because it includes in it the most thrust separation between these sites it connects. The spatial competence and performance of each member of this soci-ety can only be practically evaluated. In an extreme but significant case, the "mod-ern" spatial practice can thus be defined by the daily life of an inhabitant of a governmental social high rise housing project in a suburb (so we take neither the highways nor the aero-politics transport out of the picture). Spatial practice must possess certain cohesion and it doesn't surly mean coherence.[20]

Representations of Space (Mental/Conceived space): Lefebvre refers to that fac-tor as "discourses on space". It is the space of scientists, planners, urbanists, architects, technocratic sub-dividers and social engineers. It is a conceptualized space -that comes out of thinking and ideas- of those who can identify what is per-ceived from what is lived or conceived. This space is usually the dominant space in any society that represent the power and knowledge that attracts peoples from out-side as it draws the image of that society.

Representational Spaces (Social/Lived space): "discourses of space or spaces of representations", this is the space as directly lives through its associated symbols

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[20] Lefebvre 1974, p. 48.

and images.[21] So it's the space of "users" of "inhabitants" of certain artists, those who can only describe or aspire and believe they can do no more than that, like writers and philosophers. It is the dominated space and thus passively experienced. This space is subject to modification and appropriation but only by imagination. It usually superimposes the physical space by using symbolically its objects in a way that makes theses spaces of representations tend towards systems -of symbols and non-verbal signs- that are more or less coherent.

This third space can be the social product that is created by societies under marginalization or oppression like informal societies seeking a chance of living in a city that is constantly rejecting him. These marginalized societies usually struggle to reclaim the space of inequality and try to convert it into something else. In informal areas, the produced space is usually an emerging hybrid space resulting from merging multiple cultures in one place. It usually suppresses or sets aside the old values and sets up new ones, new perspectives and symbols that are totally different from the original ones. Therefore, the "Lived Space" can explain and clarify some of the complexity of informal urbanization, poverty, social exclusion, inclusion and discrimination in urban society.

This chapter attempts to apply Henri Lefebvre's theory concerning the production of space in order to understand why urban spaces in informal area have been formed differently from urban spaces in the city. Moreover, Lefebvre's theory will help us to realize why other spaces or solutions offered by the government, for economic-housing problem or for relocating inhabitants of informal areas, are not successful or mostly rejected by users. It's true that many governmental solutions were rejected to the point that some of the inhabitants returned to live or to work in their original informal area while others stayed to live unhappily in these newly conceived spaces (*Zeinhom* case, *Imbaba*, etc.)

Decoding social space is not an easy procedure, hence the production of space is a complicated process; this applies also to spaces existing in informal areas. Spaces produced in informal areas; whether urbanists and planners, classify them as good/bad, safe/unsafe and planned/unplanned; are the secretion of other societies. These societies did not produce their spaces as they produce a vase, a house, a building or as nature produces a fruited tree.[22] The space produced is actually an accumulation and an interaction of social relations, a reproduction of social relations of production that take chronology into consideration. The production process compiles chronologically and spatially some operations of a certain order. These operations take place one after another and their results eventually coexist.[23] Therefore if we, as planners, architects or even decision makers, shift our perspectives or points of view from critiques and manipulators to observers and learners, we might acquire new valuable pertinent proposals and remedies that will effectively enhance and improve life in informal areas.

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[21] Lefebvre 1974, p. 38.

[22] Lefebvre 1991, p. 37.

[23] Lefebvre 1991, p. 47.

In this context, thoughts about informal areas should be revisited, which is the approach attempted in this chapter to observe *Haggana* district from a different perspective.

7.3 Social Production of Space Between Theory and Application

We tried to apply Lefebvre's theory on the production of social space, in general, in order to describe the production of urban spaces in informal areas. The combination of "Spatial Triads" of Henri Lefebvre can lead to infinite types of spaces that can be produced anytime, anywhere depending on multiple and complex factors. According to Lefebvre the space is the product where culture, materials, place, and architecture blend, so space is a complex product.

We can suppose that the genre of produced space is the Sum of the three components "P+C+L= Genre of Space Produced" (P=Perceived Space, C=Conceived Space and L= Lived Space). Since P, C and L are variable (according to the nature, competence of architects and planners and finally the users) then each time the type of produced space will be different. The relation between the various modes of spatial production should be highly taken into consideration. Although immeasurable and very complex, the outcome of this relation can be possibly recognized. Therefore, we chose to give examples of four types of spaces that are probably extreme types, in order to shed light on the application of Lefebvre's Theory.

1. Utopian space (Fig. 7.2): where the "Three Triads" are equally balanced. This kind of space most probably is nonexistent. It's an imaginary one because, it is very farfetched; it's like the utopian space of Thomas Moore. It might exist only in pictures, drawings or in the imagination but never in reality!

2. Generic Space (Fig. 7.3): where the perceived space overtakes both the conceived and the lived spaces, although however the conceived part might be a bit bigger than the lived one. So, the generic space can have some architectural quality. This space abandons the horizontal for the vertical. It can represent any urban space, with a mass production of residential buildings, realized by the government in order to solve a housing problem. This sort of space can be endowed or not with an architectural quality depending on the cultural framework and the financial capacity of the realized project. This kind of space usually lacks reference points and cultural identity.

3. Museum Space (Fig. 7.4): where the conceived space dominates both the perceived and the lived spaces, although however the perceived part is maybe -or might be- a bit bigger than the lived space. The museum space is like an open museum where culture, history and architectural knowledge are regrouped. The most explicit example that we recall is the Vatican City, especially, Saint Peter square. This square represents the power of the Vatican City through great architectural achievements. It was designed so that "the greatest number of people

Fig. 7.2 Utopian space (Source: Developed by author)
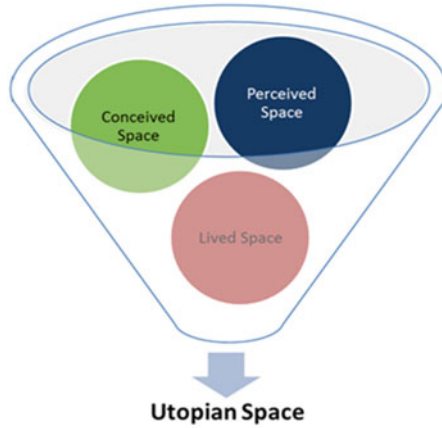
Fig. 7.3 Generic space (Source: Developed by author)
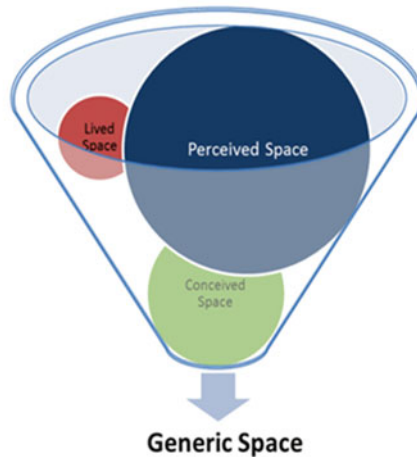
could see the Pope giving his blessing, either from the middle of the façade of the church or from a window in the Vatican Palace".[24]

4. Informal Space (Fig. 7.5): here, the lived space largely dominates the other spaces. It is like having a common huge living room for everyone for everyday-life and action. Social relations are very much interconnected. This is why when we go to slums or informal areas we find people living in the street, usually in the outdoor space in front of where they live, whether it's a house, a room or a build-

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[24] Norwich 1975, p. 175.

Fig. 7.4 Museum space
(Source: Developed by
author)
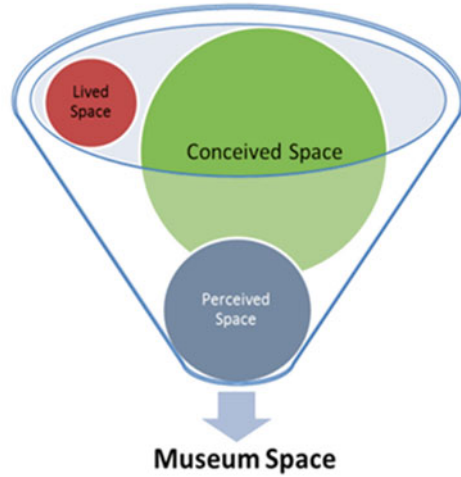
Fig. 7.5 Informal space
(Source: Developed by
author)
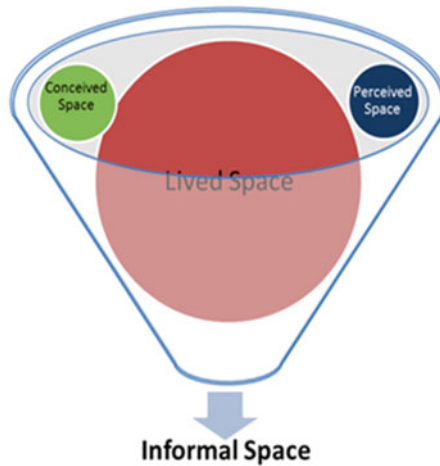
ing. The importance of the perceived and the conceived spaces are minimalist
and sometime inexistent compared to the lived space. This is because the infor-
mal spaces are usually built and designed by the inhabitants. This type of space
can be considered an "eco-system" or a closed system, where everybody helps
the others and depends on them, for that reason, it is usually self sufficient.

Some informal areas, like *Hagganah*, recall in our perception vernacular urban-
ism with some reservations, (Fig. 7.6), largely concerned with bad cultural habits
and not surly a certain mode of urban production. Nevertheless, we can't deny the
fact that, these areas possess certain qualities and probable potential.

Fig. 7.6 The urbanism in the Old Medina in Casablanca; and *Hagganah*, Cairo (Reproduced from Google earth, 2014)

The classic conflict Lived/Generic space is very visible between spaces realized by the government in order to relocate informal inhabitants or to provide housing solution for low-income households. Like "Ebny Beitak" and spaces produced informally. It is believed that if the state takes into consideration the qualities of lived space existent in informal areas, the result of state projects will be more satisfying.

7.4 Ezbet *El Hagganah* and Production of Space

7.4.1 Historical Background of an Informal Urbanization Process

*Ezbet El-Haggana*h is located on the Eastern end of Nasr City, extending North to 4.5 km the Cairo-Suez Road.[25] Nasr City defines its Western and Southern borders, while the Suez Road defines the Northern border (Fig. 7.7). *Hagganah* was initially established as a settlement for unofficial soldiers' families based in the vicinity. This was subsequently expanded due to illegal squatting and occupation of surrounding vacant land,[26] indicating the negligence of the government regarding its own property became apparent. The name "*Hagganah*" comes from the fact that it was a settlement for families of coast guard soldiers stationed nearby. These militias -of Nubian and Sudanese origins- were given permission by the military to build a small number of houses in the southern border area.[27] Today, the area's inhabitants

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[25] MNHD 2014.

[26] Piffero, E. 2009, p. 22.

[27] MNHD 2014.
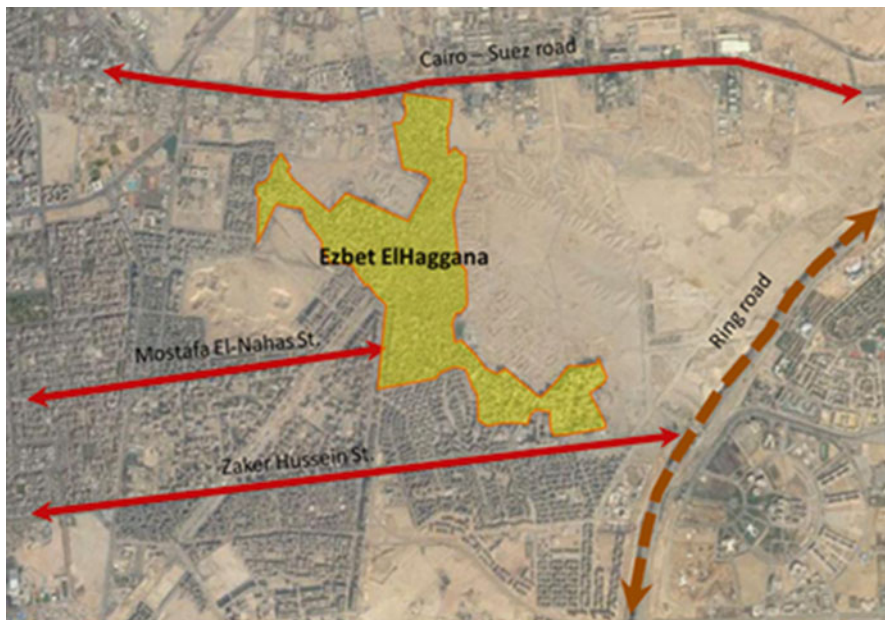
Fig. 7.7 *Hagganah*'s location (Produced by author)

Fig. 7.8 Informal development process, and photos show residential units in *Hagganah* (Source: Taken by authors)

come from all over Egypt: Upper Egypt, Delta, and Cairo itself. Streets are sometimes named after the origin of their inhabitants, for example, *Shari'* or the street of "*al-Asayta*" most of its residents are originally from Asyut Governorate, etc.[28]

Hagganah is considered one of the largest urban informal areas inside G.C.R. (Greater Cairo Region), with an area of approximately 750 *Feddans*, it is among the few places where large number of Egypt's poor can afford some form of housing.[29] Although the danger of being evicted exists, the population is growing rapidly. Estimates of the number of population vary significantly from tens of thousands according to local authority statistics like CAPMAS, to over a million as reported by some NGOs.[30] The development process inside *Hagganah* (Fig. 7.8) is considered

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[28] Ibrahim, K. 2013, p. 10.

[29] UNFPA., 2007, p. 17.

[30] Al-Shehab 2014.

as completely informal, without legal paperwork and total reliance on personal trust. It is mediated by the existing community, when necessary, referred to as a 'hand claim' process.[31]

Before the year 1963, *Hagganah* was a military appropriated zone. Water was delivered by cars from Saraya Al-quba area to the camps and the surrounding soldiers' houses. *Hagganah* soldiers began to extend and build new houses for their families in return for a symbolic fee (10 piaster/m). Then lands around them were gradually sold to other people.[32] Cores of the settlements were allowed to be built which gradually grew without any official documents or any state attention.[33] Usually quite large plots in the periphery of the core original owners were walled, and then sub-plots were sold by to other settlers.[34] Consequently, there was land trading movement and business with profit making. The old inhabitants were able to rebuild their old houses with red bricks and concrete, which led to changes in the district's characteristics. These changes helped to attract more families. However, growth occurred slowly at first, but in the late 1960s, a dispute emerged over land-ownership between three entities: Cairo governorate, City Company for Population and the armed Forces. Meanwhile inhabitants continued building new houses in a parallel process.[35] Governmental neglect towards its own property became evident to inhabitants of *Hagganah*, which led to more expansion over the state land. The process continued by walling large plots on the peripheries of *Hagganah* then sub-plots were sold to other settlers and so on (Amin Abd-Allah, 2007).

In the early 1980s, public transport bus station was built, which lead to more extensions to the South and the West because of the cheap prices in the area.[36] Basic (but inefficient sometimes) infrastructure networks had been introduced in most areas.[37] *Hagganah* also suffers from a shortage of medical and educational services. Only two primary schools exist, so, most students have to attend school at nearby areas.[38]

7.4.2 Hagganah's Lived Space

It is inevitable to understand the composition of *Haggannah's* urban space, in order to be able to correctly consider this informally urbanized area. Nevertheless, it is believed to be infeasible to measure exactly the percentage of the contribution of

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[31] UN-Habitat 2003, p. 93.

[32] Al-Shehab 2014.

[33] Kubelková, J. 2009, p.21.

[34] UN-Habitat 2003, p. 93.

[35] Al-Shehab 2014.

[36] Al-Shehab 2014.

[37] Ibrahim, K. 2013, p. 10.

[38] MNHD 2014.

Fig. 7.9 *Haggannah* urban space (Source: Developed by authors)

each of the components of the spatial triads of Lefebvre in the produced space of *Haggannah*. However, we can perceive the existence of the abyss between the mental and the social-physical space. The weight of the mental or the conceived space in *Haggannah* -represented by urban planning and architectural process- is very weak compared to the weight of social or lived space. Furthermore, within the entity "social-physical space", social space largely dominates (Fig. 7.9).

So generally, the lived space in *Hagganah* overlays both the perceived and the conceived spaces. Accordingly, most of *Hagganah* spaces are turned into big living spaces for all inhabitants. Children usually play in the streets. Women prepare their cooking in front of the houses. Everybody literally knows everybody else. Social relations are complex, especially with the high degree of awareness of the existence of others. People do usually care about what the others think or might say. A blend of rules emerged from multiple cultures that coexist and subsist in the same place. These rules control and regulate the living space in *Hagganah*. For example, when

there is a dispute, inhabitants usually go to the eldest men in the neighborhood in order to get the right judgment.

The conceived space of *Hagganah* includes several types of houses; one of them is the *Suezian* house (referring to Suez city). This type is and was the base of most of the high residential buildings existing nowadays. People would begin with a *Suezian* house (one story) to claim the land. This type usually provides shelter for many families (up to ten) who would live together till they save enough money to build a multiple- storey residential building. Each family occupies one room and they all share the bathroom, so in the morning each individual has to reserve his/her turn in the bathroom queue. The newly built units contain an apartment for each household. What really happens is that the chosen contractor often offers to double the number of floors required, for example if there are six families in the house he will build 12 stories instead of 6 and so on. The contractor keeps for himself the extra floors to sell or rent later for newcomers.

The quality of the space of everyday-life (perceived) is very low compared to spaces in other "planned areas" of G.C.R. Lack of investment in the perceived space is evident, streets are primitive and not paved. As for the conceived space, architectural quality is practically absent, however one can see that there is a lot of money invested in buildings. Prices are relatively affordable for lower-middle class; however, they are expensive for low-income-households. Nevertheless, new comers always consider the possibility of renting an apartment or a room. For example: an apartment of 90–100 m^2 is sold for LE 115,000–120,000, and leased for LE 500–600/month. A room is leased for LE 150–200/month depending on its area. An apartment in a newly built building usually contains two bedrooms, a living area, a kitchen and a bathroom.

7.4.3 *Hagganah's Probable Potential*

Life in *Hagganah* can't be described as "*La vie en rose*", there is however probable potential that can be enhanced. The self sufficiency is evident in *Hagganah's* spaces of representations: all needs can be satisfied affordably at walking distance. Unemployed women guard the children of employed ones. Older children take younger ones to school. Services and goods are available at lower prices, compared to Nasr City; inhabitants participate in local services such as garbage collection, public landscaping, and street cleaning, etc. Services' distribution is a source of income for some inhabitants.

Due to the insufficient streets' width, many environmental qualities can be noticed such as extended shaded areas. For the same reason, *toctocs* and animal tractions are the adequate mode of transportation. Consequently, sound pollution of trucks and cars and automotive exhaust emissions are reduced. Work-home proximity is also a prevailing advantage.

In general, there is a sense of safety and social solidarity due to strong community ties, with occasional discomfort (accidents, hustling, or harassment, etc.).

7.5   Conclusion

The value of constructions that exceeds tens of billions of dollars, the great human resources from a wide spectrum of socio-economic groups and professions,[39] as well as the variety of affordable housing alternatives for the low-income, leads us to look at informal areas in a new light. Despite the fact that the informal urbanization development might sometimes be considered controversial, it is a rare process that allows low-income users to participate in their housing-operation.

Henri Lefebvre theory helped to profoundly explain the complexity of the process of the production of social space. Each community produces its own space that depends on three factors: spatial practice, representations of space and representational spaces. Their contribution of these factors varies according to their qualities and attributes, depending on the society producing the space, and according to the time frame in which the space is produced.[40] These three realms (lived, conceived and perceived) should be interconnected so that the member of a given social group may move from one to another without confusion.[41] However, the relations between them are never either simple or stable. Whether the spatial triad constitutes a coherent whole or not is another matter. They might do so only in favorable circumstances, when a common language, a certain harmony, a consensus and a code can be established.[42]

Decision makers, planners and architects should consider the fact that the proposed space by the government can no longer accommodate all social categories or groups, as each one of them secretes in a different complex way its own space. Social space produced in informal areas or slums is the product of a group of people who are originally culturally different from the indigenous urban dwellers inhabiting the city. Therefore, we cannot provide a generic dwelling that is suitable for everyone. We should study their cultural back ground, the different way of life in order to satisfy the needs of the settlers; and hence to produce a governmental-housing-project for low-income households that works successfully.

The produced space in informal areas is a hybrid space in which multiple cultures, ethics and values' blend. The lived space in informal areas is strongly dominant. This lived space has a lot of potential that should be reconsidered and enhanced. The lived space in informal areas is an explicit evidence of the complexity of poverty, of social inclusion and social exclusion that therefore should be regarded from a new perspective.

People inhabit slums do have a life and they don't necessarily regard it as miserably as portrayed in the media. Some of them suffer but there is a substantial percentage who actually enjoy living there. Almost 80 % of the slums' inhabitants are satisfied with certain qualities of living, especially social relations. However, they

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[39] Shehayeb, D. K. 2009, P. 35.

[40] Lefebvre 1991, p. 40.

[41] Lefebvre 1991, p. 40.

[42] Lefebvre 1991, p. 40.

are conscious of the fact that their neighborhood needs improvements in order to be a better place to live in.

We have to acknowledge -as urbanists and planners- that generic housing solutions, offering the same for everyone is no longer valid. In order to raise the quality of produced space in informal areas, we should raise the quality of the perceived and the conceived spaces in these areas. If we reach a certain balance between the spatial triads -not necessarily similar to any other balance of these three factors in other societies, but necessarily pertinent to the equilibrium of the nature of informal areas- we might reach our aspiration.

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Chapter 8
Operative Public Space for Informal Nairobi: The Why Not Junior Academy Experience

Silvia Cimini and Silvia Orazi

Abstract In a scenario of overwhelming increase of the worldwide urbanization rate, unchanged urban development models continue to generate a proliferation of urban areas in conditions of poverty and vulnerability. The methodologies are currently evolving from a top-down to a bottom-up approach to inclusive development. From an imposed insertion of predetermined services or products, often bringing conflicts with local management of economics and culture, the new approach is to provide local population with the right instruments to generate their own economic and cultural growth. In our view, introducing public space in informal communities can act as a key player in the regeneration of informal and disadvantaged contexts in emerging and developing countries. It is a premise to the growth and resilience of communities towards social, economical and environmentally sustainable and inclusive development. The pilot project for the community of Mathare Mashimoni in Nairobi (Kenya) attempts to employ the operative public space development model to privilege the improvement of living conditions for the dwellers of the informal community. "*Live in Slums*" NGO has designed and implemented a project for the improvement of public spaces for social interaction and food production through participative design and the employment of local resources: the restructuring and expansion of a street school founded and built by the inhabitants of the district. The project combines experiences and identities from different disciplines, including architecture, agriculture, photography and video making. The methodology of intervention fosters inhabitant's participation in all the stages of the process.

Keywords Inclusive development • Environment conservation • Local resources • Participative design

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8.1   Introduction

Unsustainable urban development models are affecting megalopolis in emerging and developing countries and are leading to a degeneration of informality, social inequity and exclusion. The latest updates of the United Nations in the wording of the MDGs (Millennium Development Goals) comprise the significant improvement of the living conditions of at least 100 million slum dwellers by 2020. The priorities include the provision of housing and basic services, infrastructure for water and sanitary facilities, transport, energy, health and education and the promotion of free access to the land.

Today, Africa's urban areas account for 34 % of its total population of 611 million and are credited with 60 % of the region's Gross Domestic Product. Municipalities, however, capture only small percentage of GDP (on average less than 15 US$ per capita per year), creating disparity between the requirements for municipal governance and available resources. Together with segregation, contemporary Kenyan society has inherited territorial policies from colonialism, aimed at preventing the involvement and participation of the poorer in urban life. The result is an impossibility to control slums' growth, an increasingly daunting and difficult problem. The city of Nairobi presently has a population of 4.5 millions, of which about 2.7 millions live in informal areas. According to the latest reports (UN-HABITAT 2010; United Nations 2014), the slums of Nairobi are now at a record of 199 in number. The enormous disparities in terms of density and use of land reflect a great social segmentation: the high income settlements, representing 10 % of the population of Nairobi, now occupy 64 % of its residential areas, while the low-income nuclei, containing 55 % of the population, are packed into just 6 % of the residential land (UN-HABITAT 2010) (Fig. 8.1a, b).

Mathare is the second largest slum in the city after Kibera, according to various reports and to data gathered by NGOs operating in the territory. Mathare comprehends about 500,000 people, in an area of about 1.5 km^2. The settlement is located inside a valley crossed by the Mathare River, which divides the zone into two parts: Mathare Valley and Mathare North. It is subdivided into 16 villages, each with its own specific urban characteristics, mostly considered illegal settlements. The government of Nairobi has never enacted any type of planning and distribution of basic services and infrastructures within informal settlements. This has generated a considerable lack of access to potable water, hygienic-health care services,[1] of adequate sewer system and of collection and disposal of waste. There are few and overcrowded schools, often not recognized by the Ministry of Education.

The urban model of Nairobi was established by the British colonial administration, and the city is still marked by that system of segregation and urban, social, economic and political fragmentation. This segregation is still visible: not only

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[1] In terms of health care, the population of the slums has been completely abandoned. There are no hospitals, just some small clinics constructed by volunteer organizations, in spite of the fact that in Mathare the spread of HIV reaches levels of up to 60 %.
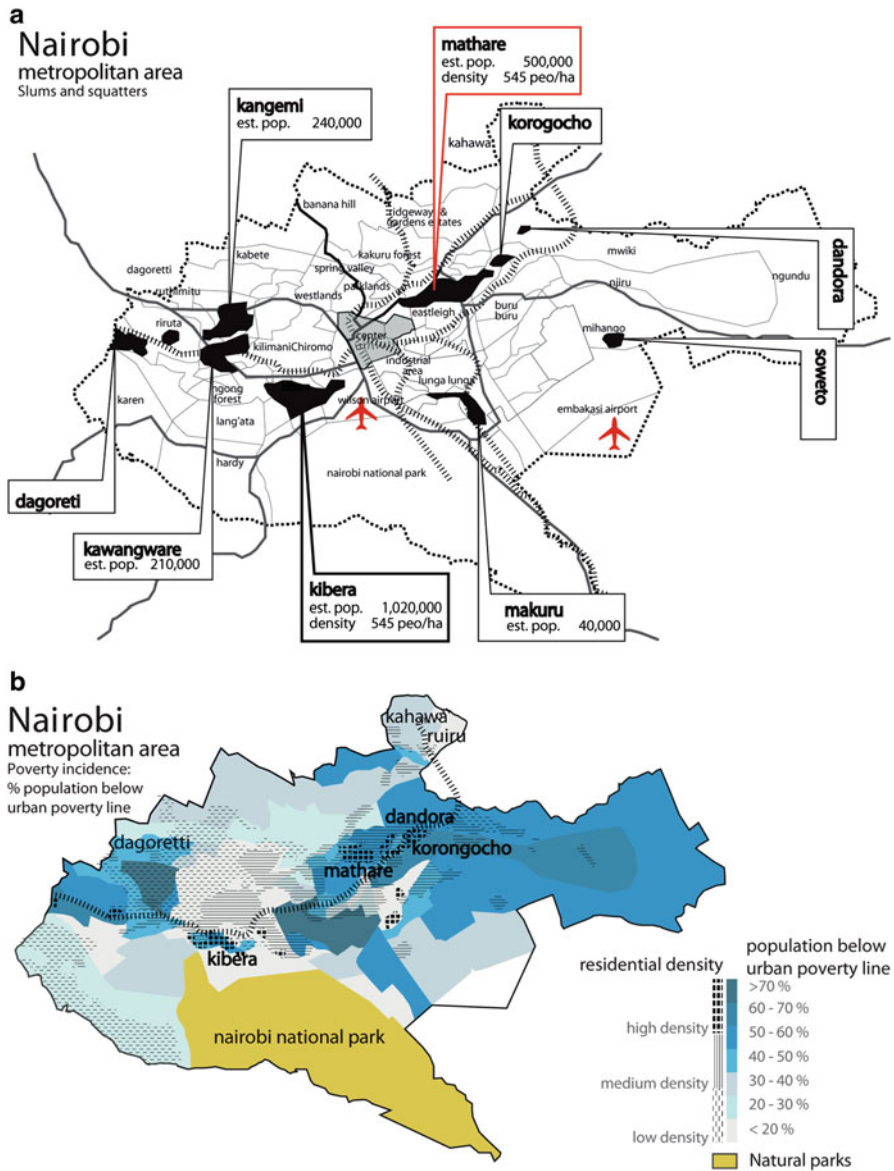
Fig. 8.1 (**a**) Nairobi metropolitan area: scheme of slums and squatters (Source: Map developed by the authors, based on: Jamii Bora Trust and K'Akumu and Olima 2007). (**b**) Nairobi metropolitan area: population below urban poverty line and residential density (Source: Map developed by the authors, based on: Boniburini 2011)

Europeans live in one side of the cities, while the Africans stay on the other side,[2] but the economical system is divided between black and white economy with different prices, different products, different production systems.[3] The slum can no longer be seen as a transitory problem. It is an established urban area and has a role of great importance in informal economy. Social conflicts are everyday at stake, as for the overcrowding and coexistence of different social groups with the same craves and difficulties (Live in Slums 2013). It is fundamental to find inclusive solutions to enhance life and working conditions and ensure safety and equity within these urban villages.

8.2   A Change in Operative Methods

The methods are currently evolving from a top-down to a bottom up approach to inclusive development. The tools involved in this process are also evolving. From an imposed insertion of predetermined services or products, often bringing conflicts with local management of economics and culture, the new approach is to provide local population with the right instruments to generate their own economic and cultural growth.

World's interest on informal settlements is advancing from providing new stable housing complexes, pulling local population out of their misery,[4] to new models of keeping people within their communities. This process empowers their possibilities of creating their own common/shared place, with enhanced public facilities and infrastructures. Following the motto "exclusion from the building process as a source of social detachment", many as Serge Latouche (2008) propose solutions reintroducing choices as well as labor of the dweller in this process, leading to socially and economically more acceptable results. A more pragmatic and feasible

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[2] The same low-density areas that were assigned to European colonists, namely about 90 % of the residential territory of Nairobi, are now occupied by gated communities, villas with large gardens, golf courses, shopping malls. Just consider the fact that 60 % of the population of Nairobi occupies 5 % of the land of the city, living in overcrowded slums.

[3] In the slum it is possible to find all sorts of goods and services to satisfy the needs of all low-income consumers, coming from the countryside or from illegal dumps. The dumps inside and adjacent to the slum represent an important resource for the survival of the poorest population.

[4] The provision of new stable housing complexes represented a too ambitious project that downsized to the construction of brand new bedroom communities detached from public facilities and workplaces, where displaced people find nothing but further isolation, higher rentals and inefficient public transport. According to Brito, migration, unnecessary from the economy and detached from opportunities of social advancement, can turn to be negative for the individual (Brito 2009). For Raj Patel (2008) on a socio-economic level, detachment from sites of origin and from the direct participation of the users in the process of building the city increases the degree of disharmony and dissatisfaction of the living system, in the same way as the gap between the production direct and sale to the consumer (and thus access to the profit) leads to misery and social degradation.

approach, that would not immediately fulfill all the inhabitant's basic need, but would help providing social, cultural and even economical tools to start regaining a place in the society, fighting social exclusion. In fact, fighting informality to replace it with a shared view of formality that might not fit with the cultural and traditional background of the inhabitants, seems meaningless. We propose that it might be more successful to shift the attention from the provision of new houses to the formalization of public spaces in-between. The access to public realm represents a new ground for social interaction that would enable different people with different projects to fight for their right to inhabit the city and necessarily struggle with one another over the shape of the city, in order to create the city as a collective if not singular *ouvre* with new modes of living (Lefebvre 1978).

Looking for an innovative concept that embraces this whole paradigm of principles, it seems appropriate to introduce the term of *operative public space*. Alissa North (2013), talking about community landscapes, describes them as operative public space able to develop adaptable and resilient ecologies, capitalize on innovative technologies, advance economic restructuring, reclaim and remediate spoiled lands, improve and reimage antiquated and over-engineered infrastructure, built and strengthen social and cultural capital. "…The public spaces where people interact provide a shared sense of ownership, and the qualities of these spaces influence how the communities operate and evolve. (…) Public space designed as the core for directing successful community development, is increasingly prevalent, making use of a landscape framework to support an operative landscape". Charles Waldheim (2006) talks about the operative potential of landscape, as the "medium through which the contemporary city might be apprehended and intervened upon". Jorge Mario Jáuregui (2011), calls "active public space (…) A type of public space that has the power to act as a social articulator, integrating residents internally, within the slum, as well as externally with the larger city as a whole".

In our view, introducing *operative public space* in informal communities is the means through which the designer can pave the way for an informal *urban reinassance* (Urban Task Force and Rogers 1999) and can act as key player towards a more inclusive city that fosters *social equity*, *economical development*, *cultural renovation and environmental protection and conservation*. It is a premise to the growth and resilience of communities, when it fulfill the following aspects:

- If the resource management is based on *public interest* and solidarity towards *inclusivity*.[5]

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[5] *Inclusivity means providing every resident with a fundamental set of rights to healthcare, education, land, and social space to exercise 'cultural freedoms' (UN-HABITAT 2010).*

- If the process involves the community at all stages, promoting *participation*[6] and *inclusive development*.[7]
- If the *adaptive design*[8] strategies integrate education and training to production for a *self-sustaining* community.[9]
- If the technological design encourages the use of *appropriate*[10] architectural, ecological and energy devices.

8.3 "The Why Not Junior Academy": Case Study

The pilot project for the community of Mathare Mashimoni in Nairobi (Kenya) attempts to employ the operative public space development model to privilege the improvement of living conditions for the dwellers of the informal community. Live In Slums NGO[11] has designed and implemented a project for the improvement of public spaces for social interaction and food production, and the restructuring and

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[6] *Widening social participation*, *or community design* , has an essential value in the process, people being in control of decision making process related to their communities. There's an urgency to reassess the relationship between architects and other stakeholders (weather users or wider society), as architecture has an important social function often ignored in the profession (Jenkins and Forsyth 2010).

[7] "Inclusive development is development that marginalized groups take part in and benefit from, regardless of their gender, ethnicity, age, sexual orientation, disability or poverty. It seeks to address the deepening inequality across the world that has arisen despite unprecedented economic growth" [United Nations Development Program (UNDP), *Inclusive Development*]

[8] "*Adaptive design* emerges from a deliberative approach to planning, design, and management. The adaptive context is one where learning is a collaborative and conscious activity, derived from empirically or experimental acquired information, which in turn is transformed into knowledge through adaptive behavior" (Lister 2010).

[9] Informal communities represent an economic opportunity, pursuing more inclusive and fulfilling forms of economic development and growth to address the labour "excess" of two billion people in the contemporary global economy. The International Labour Organization defines this "informal economy" as "the activities of the working poor who were working very hard but who were not recognized, recorded, protected, or regulated by the public authorities" (1977). Talking about economy, it should also be recognized that people can only grow and develop if they don't suffer from basic needs supply: the social and economic development and self-fulfilment of communities depends on access to food, safe water, sanitation services and shelter. These are not only mandatory preconditions for survival – they also lay the foundations for the personal development of an individual (Maslow 1970).

[10] Directly linked to Schumacher's theorizations (1973), with *appropriate technologies* we mean efficient, affordable and inclusive devices which encourages the use of local resources and foster community participation towards *resource efficiency and collective action* (Cimini 2014).

[11] Liveinslums is a nongovernmental organization that carries out humanitarian projects in developing countries, concentrating his efforts on urban regeneration on different levels, involving professionals from different disciplines. Founded in 2008, it has carried out cooperation projects in Nairobi, Cairo, Port au Prince and Bucharest, relying on the direct support of residents, local associations, government authorities and private institutions (http://www.liveinslums.org/).
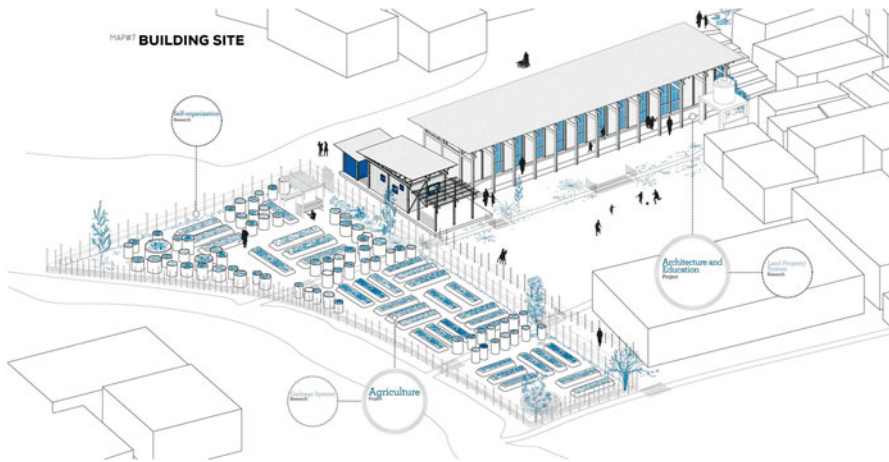
Fig. 8.2 Scheme of the building site with the school, the social kitchen, the vegetable garden and the playground (Source: Image by Live in Slums NGO)

expansion of the street school "Why Not Junior Academy", founded and built by the inhabitants of the district. Why Not Junior Academy, a Street school founded by Dominic Otieno, built and launched by the inhabitants of Mashimoni, a district of Mathare. Over a span of a few years this school has welcomed almost 200 children and has became a vital part of the slum, an important community point of reference for many families. Even though the school is lacking in certain services and requires major renovations.

In the book Slum Insider (Live in Slums 2013), Silvia Orazi described the phases of development of the school concept: "At first they asked us to make an addition, and we thought about building a new classroom, but then we realized there was no need to do that, as the number of students was decreasing. That was happening because the school could not guarantee a meal for the students. So, we proposed to build a new kitchen, which could also represent the arrival point of agricultural production, self-managed by the school". Since 2010, the project has renovated and expanded the previous Why Not Academy building. First, it cleaned the dump area to give space to a social vegetable garden for the school and built a social kitchen to ensure children's feeding. In the second phase, the project extended to the identification of urban voids that could create a network of agricultural systems, replacing the many dumps that exist in the slum. The final step was to create a system of viable connections to reach the school through the tangled layering of paths and levels of the slum, for the benefit of the whole community (Fig. 8.2).

8.3.1 Methodology

The overall project was guided by the beforehand cited principles of *public interest* and solidarity towards *inclusivity*, *participation* and *inclusive development*, *adaptive design* strategies integrating education and training, to produce a *self-sustaining* community, through the employment of *appropriate* architectural, ecological and energy devices.

The project combines experiences and identities from different disciplines, including architecture, agriculture, photography and video making, and involves local community in all the stages of the designing process, leaving nothing aside, from planning to gardening to interior design. The project implementation process included a sequence of phases:

Phase 1 named: "*Live In Slums*", represents the first approach to the local community, with a reportage that gave the possibility both to the NGO and the local community to share views on the slum's needs and desires through informal interviews and chats, and eventually identify the "*Why Not Academy*" school as a possible pilot project to start operating in the slum. In this phase the participatory planning of operation starts with local heads of community and entrepreneurs.

Phase 2 titled: "*Why Not Academy*", is identified by the organization of several operative workshops involving students and young architects, landscape designers, agronomists together with the local community from 2011 to 2014 to start cleaning the site and building the public space facilities: the school and the vegetable garden. The help of local community was constant for participatory construction that led to a real appropriation of spaces.

Phase 3 named: "*Mapping Mathare*", includes the *mapping* of informal facilities and trades all over Mashimoni, through participatory observation involving young professionals guided by locals, to discover existing facilities, infrastructures and open spaces: illegal dumpsters, informal retail, cultural activities, legal and illegal health care and social care structures, religious institutes, etc… This phase included collecting information on the existing resources in the territory, as well as all missing services.

Phase 4 titled: "*Where Does Your Garbage Go*?" At this phase, the organization of meetings with the community and local authorities were conducted to show the many illegal dumpsites in the slum and in the city of Nairobi. The consequent problems of social degradation, diseases, pollution of the land and the river were elaborated and highlighted. The discussion of possible solutions for the community to take a stand by raising awareness among the residents to one of the most important problems of the slums of Nairobi: the waste disposal evolved.

Phase 5 under the name of: "*Mathare River*", is a field research that maps empty plots and spontaneous agricultural projects along Mathare river, and to identify new forms of development for the river banks, to create of network of youth groups and any kind of associations related to urban gardening.

Phase 6 known as: "*Slum Insider*", is the media project, where all the interventions of the NGO are carried out in close collaboration with photographers and film
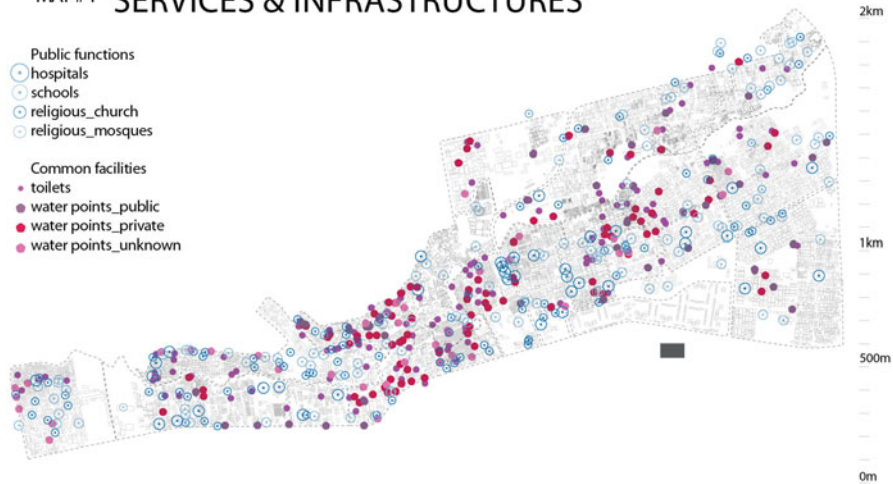
Fig. 8.3 Extract of the mapping experience in Mathare Mashimoni, Nairobi, Kenya (Source: Image by Live in Slums NGO)

makers who are concerned with the documentation and communication of the ongoing projects. The reports carried out will facilitate the understanding of the human and social context, raise awareness among residents on social and health matters. Eventually they will get the attention and the financial help both of local authorities and widespread society to understand and support the complex life of the slums.

Phase 7 named: "*Monioring*", includes the monitoring of activities with NGO's officers and local community cooperation. In order to guarantee the sustainability of the projects, the association is responsible for monitoring the areas of intervention until it reaches the total autonomy of management by the beneficiaries. This is achieved with the support of sociological, anthropology and cultural mediation professionals in a participatory management approach.

A new method of mapping emerged with the project, from fieldwork experience (Fig. 8.3).[12] The mapping of services, infrastructures on the main active areas provide information of the existing resources in the territory, showing where services are lacking. Nevertheless, that is not how the areas for intervention were selected: it is crucial to know which places are important for the community's perspective. This type of information can only be gained by practices of exploration, listening and participatory observation. The maps can be disrupted, and tell something new through dialogue with the inhabitants, the maps lose their simple analytical aspect. The data collected reflected several layers: for example, it is possible to understand

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[12] The mapping provides a general understanding of the current political and economical situation in Kenya, and includes an analysis of the evolution of the slum in contrast to the city (the urban patterns, services and infrastructures, the land property system, the garbage system) (Image by "*Live in Slums*" NGO).

how rent costs vary, using a map that shows the proximity to the main streets, or to hygienic services; however, we cannot use maps to get a portrait of the owners of the shacks: that can only come from the stories of the inhabitants. The inhabitants (workers, schoolteachers, students and children of the neighborhood, along with their families) are the real actors of the transformation processes, both in the decision-making phase, in the resource finding phase and in the construction of activities. Photographers and video makers have attempted to show the complexity of life in the slum, starting with the stories of its inhabitants, they narrated a tale made of faces, voices and stories of young people and self-managed projects in the slum.

The project adopted a comprehensive approach for sustainability where all approaches for water, waste, food production, and education cooperate to reach a synergic answer to the themes of social, economical and environmental sustainability. The following presents the different facets of sustainability addressed in the project.

8.3.2 Social Sustainability

In an attempt to reach total involvement between the designers and the community, the first thing to do is to identify and strengthen a network of local participants, who become the direct protagonists of the implementation phases, and the future supervisors of the material and immaterial assets produced. This refers to Henri Lefebvre's normative argument: the city is an *ouvre* – work in which all its citizens participate (Lefebvre 1991). The designers simply "push" their sense of self-organization, and offer technical assistance. The project is not a preset package to take into the slum and develop, the project is rather a means to trigger a process and attend to its fulfillment, trying to interpret the signals that come from the community.

Presently, the number of students attending the school has increased to 400. After school hours, the building is used as a community center, hosting sewing workshops for women, meetings, sports activities in the yard, social gathering in the garden around the kitchen, all activities working towards achieving social equity and inclusivity.

8.3.3 Economical Sustainability

8.3.3.1 Economy Trigger

The slum has a role of great importance in informal economy, which generates almost 80 % of jobs in Nairobi. As theorized by James Turner (1977), the portion of the subsistence income of the dweller[13] expendable for a home is negligible or even

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[13] Subsistence income: a household has an income subsistence when it is necessary to spend between 80 % and 90 % of it only in food and fuel if they want to eat well enough to maintain good health.

negative, once secured food, clothing and paying for the trip to work. Thus, food and housing are the basic needs of an individual. In order to redistribute a portion of income to meet these two primary goals (and being impossible to deal with the housing problem in Nairobi without the support of local authorities), food becomes a component that cannot and should not be excluded from urban space planning in the slum. Food and may as well represent a positive contribution to both the social (re-appropriation) and the micro-economical level (reactivation of local economic dynamics). Accordingly, the urban vegetable garden played a fundamental role in the first phase of the project. It is also central in the second phase, during which the cropping area expanded and the community worked to form a cooperative to reinforce the microeconomic system that gravitates around the garden.[14]

8.3.3.2   Knowledge Transferability

The involvement of the local community in the building and renovation phase allowed the iterative transfer of the know how from designers to the local community. Young architects included in the process were led by a local master builder to learn to build with local materials. Technical workshops allowed to re-evaluate and teach traditional *torchis* construction technique,[15] already known to members of the community but perceived as too humble.[16] The use of the *torchis* in an advanced technological way proved to the community that the same technique, if applied with improved methods, can offer better performances, using earth not contaminated by garbage, plastering the interiors, mixing the earth with fiber to make it more resistant to traction. Small modifications such as using non-contaminated earth, paltering interiors lead to improved technological and aesthetic result in the slum. In the school-furniture workshop, wooden modules were designed using as little material as possible, to optimize and replicate the production process (Fig. 8.4). The designer Francesco Faccin stated that "the approach of a designer has to focus on saving resources and simplifying the work of all people involved in

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[14] The produce is primarily set aside to improve the diet of school children, while any surplus can be sold at the local market. The climate in Nairobi, permits quick, vigorous growth of the plants, and the productivity of the garden has gradually increased after the initial phase of work.

[15] This technique involves the application of a mixture of clay-rich earth and straw on a timber frame, fixed to the load-bearing structure. The timber frame was made of local bamboo from a close-by forest. The load-baring structure was also of timber, purchased from a local company. Local soil, was too contaminated by previous dumpsters, was substituted by red clayish earth coming from a nearby forest. The frequent cracking of clayish soil is opposed by sand and straw fibers, which also help to improve the resistance of the mixture to traction and bending (Fontaine and Anger 2009).

[16] In the slum building materials depend on the status of the owner. Rich owners purchase stone and cement, while the poorer inhabitants generally build with sheet of metal or earth. The earthen houses are similar to mud huts of the countryside, and the population tends to reject this type of architecture, considering it poor, dirty, and not suitable for an urban context. In this sense, it was very important for the inhabitants to take part in construction and learn cheap building techniques, which they could easily apply in other situations.

Fig. 8.4 Classroom with the self-produced furniture. The high windows combined with white plaster allow good natural lighting without glare (Source: Image by Live in Slums NGO)

the construction process. Involving the community means completing a supply chain in the best possible way, and today, a designer has the responsibility not only to think about the produced object, but also to control the entire production process" (Live in Slums 2013).

8.3.4 Environmental Sustainability

In the slum, only the government and the owners of approved areas are permitted to build permanent structures, while all the illegal inhabitants have to build light, semi-permanent shelters or risk demolition. For this reason, a light structure of timber and earth was used in the school. Almost only recycled or natural materials were used in the construction, and everything needed for the worksite was bought inside the slum or from the countryside around Nairobi.

In this context it is fundamental to recycle everything. The reconstruction of the school was accomplished through a selective demolition; the whole metal sheet on the façade, which was recovered to make the new roof. The wooden beams and the main pillars of the old structure were employed to make the posts for placing the weave of the raw earthen façade. The new structure is attached to the existing foundation, maintaining the original position of the pillars. From doors to nails, every

piece was given to the community, to patch up the houses in the slum. There was also a social implication to the recycling goal, intended to conserve every little effort that has been made by the local community.

Within the technique of *torchis*, earth is a building material, which is perfectly in balance with the environment, thanks to the versatility in use and ease of retrieval in most geographical contexts. Moreover, the features that make earth an exemplary building material relate mostly to its high thermal performance: it will significantly reduce energy consumption due to the conditioning of the interior, thanks to the thermal inertia of the material together with the good level of thermal insulation of straw and timber employed in *torchis*.[17] The high mass of earth also allows reaching good levels of sound insulation. The main drawback of earthen buildings is represented by the rapid degradation of the material under the action of water.[18] To guarantee a better durability of earth structures, it has been important to design the base (concrete and stones: underground foundation plus above ground base) and the top (overhanging roofs) for erosion protection, due to rising capillary water from soil and heavy rain on vertical surfaces. Furthermore, a finish coat made of earth-ship plaster with a higher content of sand (in order to avoid cracking during drying) and the addition of lime makes the wall waterproof. The choice of using high, stretched windows placed in the upper part of the building, combined with the white plaster inner layer, pursue the need of sun light regulation and guarantees good levels of natural lighting inside the building, while reducing glare and heat gain. The shape of the roof hanging over timber trusses and the use of metal sheets for final covering enhances natural ventilation. Working as a simple form of solar chimney, it improves thermal comfort and indoor air quality.[19] The use of double pitched roof in the kitchen is meant to harvest rainwater, which is then collected in a water tank hidden behind a timber structure to keep it cool (Fig. 8.5).

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[17]Thermal inertia is the resistance of a material to temperature fluctuations, indicated by the time dependent variations in temperature during a full heating/cooling cycle. Due to the high temperature leap typical of this climate area, inertia helps the reduction of heat transferred in and out for solar heating during the day and cools at night.

[18]There are three most dangerous conditions: the presence of water on the surface of the building, the presence of openings that allow the entry of water, action of a force (pressure, gravity or capillary action) that facilitates the penetration. The parts most affected by moisture pathologies are wet foundations, basements and external closures. These pathologies could be avoided by resorting to a proper construction practice, but as of today there has been a gradual abandonment of such knowledge, with the result of a gradual deterioration and abandonment of earth-ship building (Houben et al. 2006).

[19]A solar chimney is a way of improving the natural ventilation of buildings by using convection of air heated by passive solar energy. The overheating of the metal sheet on the roof-top pulls the warm air from inside to outside, and the open conformation of the roof structure allows this air to flow also in hot windless days (Grosso 2008).

thermo-hygrometric and ecological measures

protection from direct sunlight

protection from raining & flooding

indirect natural lightning

water harvesting

indoor natural ventilation system
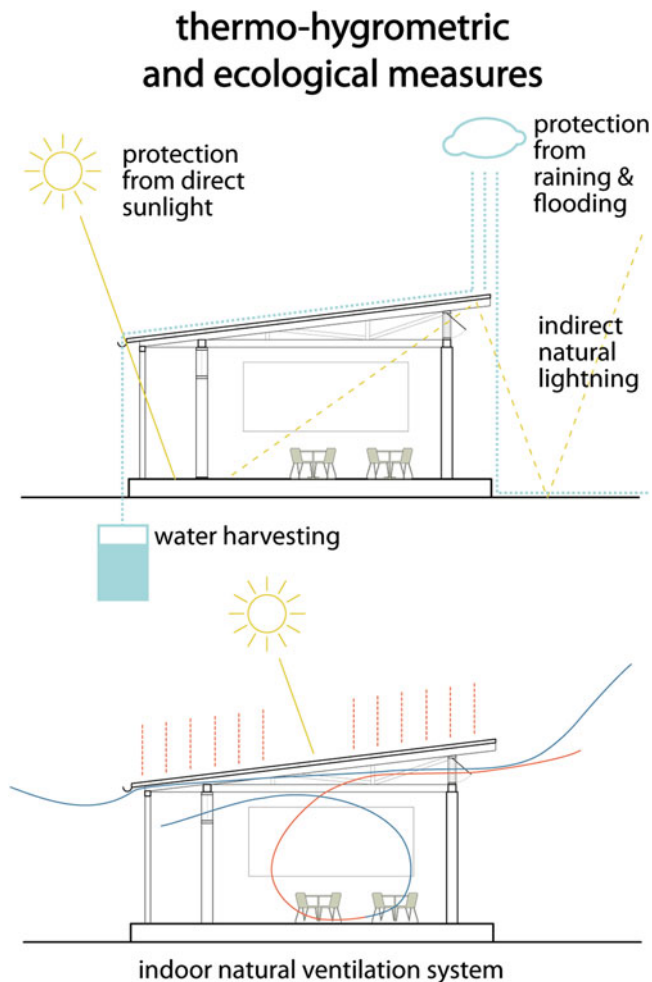
Fig. 8.5 Thermo-hygrometric and ecological measures: (Source: Developed by authors)

8.3.4.1 Environmental Protection Measures

Elisabetta Bianchessi, landscape architect, said: "all the slums in any megalopolis in the world spring up under unfavorable environmental conditions. They are territorial leftovers, abandoned peripheral parts of the city, where real estate speculators have nothing to gain. Mathare, in Nairobi, has developed in a former quarry, a basin crossed by a small river that divides the slum in two, and channels the run-off when there are torrential rainstorms, because it is at the lowest point of the quarry. In Mathare, people, tin huts and open-air dumps coexist with the same degree of density. Trash is thrown onto the ground, into the river, contaminating every corner of the quarry. In such a scenario, producing vegetables is a very effective act of environmental education because we interrupt, the link between slum and garbage,

Fig. 8.6 View from the river towards the garden and the school (Source: Image by Live in Slums NGO)

shifting from the production of waste to the production of nourishment" (Live in Slums 2013).

The vegetable garden of about 200 m^2 is next to the small river. As the river is badly polluted, the water is absolutely useless for irrigation purposes. It was possible to make a connection to the municipality aqueduct, but the slum does not have free running water that is available to everyone. There are only a few faucets, scattered around the slum and quite distant from each other. It was then very important to harvest rainwater in tanks to use it for garden irrigation. To avoid direct contact between the crops and the contaminated water, it was necessary to build an embankment of about 60 cm high along the edge of the garden area, which is reinforced on the side of the garden facing the river. The excavated earth was reutilized to make the embankment near the street, to avoid flooding from the river during the rainy season. In the first phase new river edges were made of raffia sacks used to transport grain, filled with earth and stones remaining from the digging and cleaning of the garden area. In the second phase the cultivated area was expanded tripling the zone for vegetables, the protective levee was a handmade barrier of stones wrapped in a net of galvanized iron. According to Fabio Campana, agronomist: "the operation of cleaning the dumpsite for environment sanitation and preservation was carried out using basic but effective methods together with the population, permitting the cultivation of food that would be safe to eat" (Live in Slums 2013). Once all the garbage had been removed, it was spaded down to a depth of at least 40 cm, then carefully sifted and cleaned by hand to remove all the solid materials. The zones for the crops, about 25 cm high, were built by bringing clean earth from outside the city, to achieve the highest possible level of hygiene in an area plagued by serious environmental decay (Fig. 8.6). Local residents previously used the riverbanks as a dumpster. Now they are starting to understand the benefits of a safer and healthier

environment, as well as the economical profits that cultivating the cleaned empty areas could bring them, committing themselves in a real landscape project.

8.4   Conclusions

We are well aware that NGOs represent an outpost of the civil society, with all the consequences implied. The legitimate alert of what Mike Davis calls "soft imperialism" (2006) comes from a situation in which, since the mid-1990s, the World Bank, the United Nations Development Programme and other institutions of economic aid, have increasingly bypassed governments to work with NGOs on a regional or district level. With the decline of the Government mediating role, major international institutions have acquired their basic presence through NGO employed in thousands of slum and urban poor communities. Furthermore, the involvement of external economic operators such as NGO on one hand helps the population giving them the tools and the space to develop economical activities, but on the other hand the population might tend to rely too much on the NGO's help, preventing them to find their own opportunities and chances.

With this thoughtful methodology, "*Live in Slum*" tries to overcome the rhetoric approach of democratization and self-management, through substantial contribution to the enhancement of a small community, a group of people who can then start to pave the way for their own social and economical fulfillment. It is true that a wrong approach risks to supply what is imminently needed while patronizing them without teaching a lesson: that would mean the NGO leaves and the project fails. For this reason, *time* is crucial: the discussed project lasted 3 years and it is still going on. All this time was needed to bond with local population, to understand their way of living and necessities. It was also needed to understand how problems where generated and how to find solutions together with local community and provide them with expert's knowledge.

This obviously meant many failures and retrials; which gave all participants, a deeper knowledge of the place, and how problems happen and how to prevent their recurrence. It also helped to experiment with traditional technologies that the population wouldn't accept without implemented values. The time spent observing the process, learning it, acknowledging the innovation and accepting it, gave room for appropriation and attachment. People would know how to repair an earthen wall, as they would know how to protect their new facilities.

A synergic approach that involves the community and professionals to face and solve a wide range of social, cultural and economical issues is also very important to capture the interest of the majority of the community and lead to a sense of attachment to the place they live in. Higher levels of attachment mean higher levels of economic vitality, higher expectations of individual and community life, higher sense of pride that leads to being more entrepreneurial (Loflin 2013). The slum is a vital social community, where, as far as we can see, people believe that change can happen with hard work and sacrifices. The flourishing of spontaneous social initia-

tives that are recently growing around the "*Why Not Project*" gives hope for a – even small – mission achieved.

"We have learned a lot from every one regarding how to manage contingent situations; and to interpret their needs. I think they have learned to be more careful about details, and to trust in mutual labor" Luca Astorri, architect, (Live in Slums 2013).

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Chapter 9
"Slum" Upgrading in South Africa: Defamiliarising the Global Neighbourhood Aesthetic

Kristen Kornienko

Abstract Grappling with South Africa's processes of participatory urban development and bottom-up in-situ upgrading of informal settlements raises questions around the perception of neighborhoods. At the root of these questions is what has value, or is given value, in today's climate of "desirable" urban landscapes. On the one hand, worth is added to (often imported) urban character which is deemed to foster the current trend toward globally competitive cities. On the other, worth is withheld from seemingly untidy, unsafe, unhealthy "slum" communities. This dichotomy becomes the core from which to explore the nature of aesthetic and its role in defining neighborhood within the context of urban *in situ* upgrading of informal settlements. This chapter's underlying argument is therefore the need to defamiliarise the notions of both neighborhood and slum in the urban development process.

Keywords Urban informal settlement • Upgrading • Aesthetic • Defamiliarisation • Kliptown

9.1 Introduction

In today's climate of global marketing trends, urban competitiveness, and the clamoring for international investment, the built environments of cities around the world reflect the varying tastes of consumer aesthetics. In Johannesburg choices of materiality and design decisions have led to such prominent development projects as the Italianate gambling and entertainment complex *Monte Casino*, the fashionable industrial aesthetic marketing food and art to local hipsters of *Arts on Main*, and housing estates promoting the desirable lifestyle practiced in Tuscan villas. Equally

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evident in Johannesburg's urban landscape, but in striking contrast, are the seemingly unconsolidated shack communities serving the city's informal residents.

In my experiences in Johannesburg, nowhere is this more evident than in Kliptown, a economically and racially mixed community dating back to 1891. Today, this community of roughly 45,000 residents is an architectural conglomeration chronicling a very human and colourful history stemming from its farming roots. As one of the case studies in the current research, Kliptown poses the question: Is this community's contemporary development being determined by the dynamic relationships between basic need, economics, and perceived security; by the loss/finding of cultural identity; by the power dynamics of urban competitiveness seemingly intrinsic in developing cities; or is it determined by a complex layering of these influences? This chapter questions how aesthetic and its relationship to the notion of authentic change plays a role in cities' valuing of informal communities as urban neighborhoods *vis-à-vis* upgrading.

Frantz Fanon (1961/2004:135) states that 'even if it takes twice or three times as long…people must know where they are going and why'. Paraphrasing Fanon, Simone (2005:40) suggests that 'time lost in allowing people to find their own vernaculars and practices for realising themselves as creators of life, and not just consumers or victims of it, is recuperated in the advent of real collective change'. In thinking about what is *real change* in the evolution of urban living space, I contemplate a thread of connection and ambiguity between Heidegger's (1962) linking of authentic to the essence of "Being", along with his refusal to dismiss, as inauthentic, the influence of "They" on our aesthetic values; and Vladislvić's (2004) exploration of the concept of the borrowed aesthetic. Of particular interest is the conjecture that preconceptions influence aesthetic, and that aesthetic is a key element in the sense of place (Relph 1976; Vladislvić 2004). I then argue that this connection between aesthetic and place critically questions "slums" as viable urban neighbourhoods and therefore the role of informal settlement in evolving socio-spatial development in cities.

Further unravelling this notion of borrowing aesthetic, and adding to it the notion of using aesthetic, I consider Shklovskij's (1965) concept of defamiliarisation: the device that influences how people perceive and process the environment or objects with which they interact, in other words, their preconceptions, biases, aesthetic, and so on. Keeping in mind Roy's (2011:225) suggestion that 'the slum has become the most common itinerary through which the Third World city…is recognised', I address the issue of aesthetics by relying on the representation of "slums" in film, popular literature and tourism. Through the perspectives of academic literature and in my own research findings, I query how perceptions and aesthetics define "modern" or acceptable urban character, I also question if upgrading – or non-upgrading, and the processes of informal housing fit into developing cities, as a form of community consolidation and decolonisation.

9.2 Methodology

This chapter integrates literature reviews on aesthetic and defamiliarisation, and their relation to the perception of "slums", with the findings of preliminary fieldwork conducted in Kliptown, South Africa. Kliptown is a mixed formal/informal neighbourhood in the southwestern region of greater Johannesburg. Kliptown community is used as a case-study in my current research because of its unique mixed built form and multi-racial population stretching prior to, during and post apartheid. This chapter focuses on the following questions: Are there overlaps in the processes of informal housing/community consolidation, and decolonisation? Is there a need to deconstruct the perceptions and aesthetics that define what is 'modern' or accepted urban character in developing cities to recognise the legitimacy of informal design decisions.

In an effort to get beyond '*pap n lebese*' research (Dickinson 2014:324), I design my methodology by adopting the African tradition of oral histories, basing it on conversations, narratives, and interviews with the local community. To this end, I sit with Kliptown residents and other stakeholders explaining my research ideas, (ideally) posing very few questions, and then listening as people describe the process of housing within the context of their, and often their parents and grandparents, life stories. In June and July of 2014, I sit on polished *stoeps*, in shacks, in concrete block structures, in council houses, in old mud block farm dwellings, and I conduct and tape 20 conversations. In most cases individuals respond generously, chronicling their lives over the course of 1–2 h; if necessary the meetings are resumed for several days until the storyteller completes his/her narration. Frequently I silence my frustrations, as topics seems to diverge from my research focus, but in most cases I am repaid with the richness of descriptions or of ideas that not have occurred to me.

The fieldwork presented in this chapter as vignettes of residents, is the initial stage of an embedded research effort designed to build a complex understanding of the consolidation – or lack of consolidation – in informal living environments, encompassing communities' social dynamics and the materiality of individuals' dwelling structures. This requires spending a lot of time in the settlements, a lot of time in addition to the resident interviews. In Kliptown, this means walking the streets, the alleys and pathways to understand the convoluted socio-spatial dynamics and the geography of the multiple informal settlements interspersed among the turn of the century houses, the apartheid era council development, the post-apartheid flats, the Walter Sisulu Square/Soweto Hotel complex, the urban commuter rail line, and the Klipspruit River. It requires sitting and eating mealies (corn cobs roasted on the street) with residents, talking to different generations, those who lived under apartheid and those who have grown up after. It means listening to both genders and to people's philosophies; piecing together the discords, friendships, agendas and support systems. All of this to, 'establish a more complete picture of [residents'] lives', and to place the focus of my research 'in the context of other critical aspects of their lives', as Dickinson (2014:326–327) puts it.

9.3   Literature Discussion: Connecting the Notions of Aesthetic and Defamiliarisation to the Evolution of Urban "Slum" Neighbourhoods

Shifting the term used to describe informal settlements from the pejorative moniker "slum" to "urban neighbourhood" immediately changes one's perception. Delving beyond mere terminology to the legitimacy of this line of thought, I turn first to Martin Heidegger's essay on Building-Dwelling-Thinking, and specifically to Vycinas's (1969) assertion that it is an investigation into the ontological roots at the essence of the process of building/dwelling. Heidegger makes the point that a true translation of the word for building includes the act of dwelling. He then goes on to connect "building" and "dwelling" with Being through the suggestion of spatial articulation as '[d]welling or building is "the manner by which we men are on the earth"' (Vycinas 1969:15 quoting Heidegger 1954:147). In this, I read that the truth of a space is derived from knowing the process of production and its producer. Heidegger goes on to draw together the words "dwelling" and "sparing" as 'the tolerance of something in its own essence' (*ibid*:15). Addressing this, Relph (1976:18) suggests that Heidegger intones in '"sparing" – the tolerance of something for itself without trying to change it or control it'.

In his later work, Heidegger (1962) explores the concept of inauthenticity. He suggests that inauthenticity is the 'real dictatorship of the "They"'; in other words, 'We take pleasure…as *they* (man) take pleasure; we read, see and judge about literature and art as *they* see and judge…we find shocking what *they* find shocking' (*ibid*:127). Placing this within his own work, Relph (1976:84 citing Heidegger 1962) points out that 'Heidegger takes pains to stress that inauthenticity is of *no lower order* than authenticity – it is simply a *different* order'. Questioning this, Relph (1976:84) goes on to argue, based on his own theory that the concept of inauthenticity translates into 'placeless geography lacking both diverse landscapes and significant places'. In a parallel line of thought, Polt (2006) proposes that "inauthenticity" implies a stagnation in Being. It is here that my attention is drawn back to Fanon's (1961/2004) and Simone's (2005) notion of the need for a post-colonial finding of vernacular and real change; and I reflect on the Eurocentric development models and the international political-economic trends influencing urban development as a borrowed aesthetic, as the "They" in developing cities.

With this in mind, I turn the conversation to the context of *in situ* upgrading in Africa, taking note of Schlyter's (1981) research on the upgrading of George in Zambia. Though not recent, this project is of value because Schlyter documents it through the planning and construction phases, and critically follows it up some years later. Her findings on the overflow or greenfield section of the upgrade show that, given the choice, residents repeatedly request the development pattern of houses on a grid (*ibid*); in other words, residents want, to use Heidegger's language, what "they" have. It is therefore not surprising when she goes on to state that residents' 'aspirations for a better life were very closely tied to conceptions of modernity' (*ibid*). It is then also worth noting that her followup study shows reduced social

interaction in the areas where the grid development pattern was implemented. Two decades later, Spiegel (1999) and Robins (2002) have similar findings in their studies following the formalization of informal settlements in South Africa's Western Cape region. Seemingly this gives credence to Relph's (1976) implied consequences of placelessness.

Delving deeper into this notion of placelessness I turn to Vladislvić's (2004) *The Exploded View*, drawing from it the exploration of borrowed aesthetic in post apartheid South Africa. Goodman (2008:36) suggests that Vladislvić 'takes the theoretical position that space is a construct underpinned by social and economic ideologies, and is given significant meaning only by a consciousness of the forces underlying its construction'. The novel's protagonist, Budlender, a traveling statistician for the national census, arrives at a Tuscan themed subdivision in the outskirts of the city and reflects that '[t]he boundaries of Johannesburg are drifting away…a strange sensation had comes over him…the gates of Villa Toscana, [are] a dreamlike blend of familiarity and displacement' (*ibid*:6). While Budlender's experience is fictional, a Google search turns up a 'magnificent Tuscan villa for rent…a distinctly European flavour…in a highly exclusive development…in Bedfordview [Johannesburg]' (n.d.) among thousands of similar results. This coincides with Relph's (1976) and Polt's (2006) suggestions that humanity tends toward the inauthentic; that most people desire what they see others have without thinking too much about it. Even in the face of Heidegger's insistence that inauthenticity is not a 'lower order', it is hard not to judge this level of 'stereotyped, artificial, dishonest, planned by others' (Relph 1976:80), as Vladislvić does, in a negative light. In essence, Vladislvić's book is a social commentary on the loss of local landscapes of place; taken in this light, one could argue a parallel to the artistic device of *defamiliarisation*. Viktor Shklovshij (1965:13) first coins the term *defamiliarisation* in an essay in 1917, describing it as the mechanism in art to 'make the stone stony…to give the sensation of things as seen, not known'. Paraphrasing, Crawford (1984:209–10) describes it as an aesthetic device that opposes 'aesthetic perception to habitual recognition… for creating the strongest possible impression on a reader or viewer' arguing that it is the author/artist's created tension between 'aesthetic perception and habitual recognition' that forces a new understanding of an object by overcoming the everyday response to it.

Given Holston's (1998, 2009) and Jaguaribe's (2004) use of defamilarisation in the context of Brazilian urban development to describe the contemporary re-viewing of those parts of the city termed "slums", suggests that informality, like the Tuscan Villas, is being addressed as a crafted perception rather than in its real form. The potential reasoning for this manipulation within the context of urban development is twofold. The first is economic, reflecting the influences of political-economic trends and the marketing of "world class" competitive cities through the principles of globalisation and neoliberalism. In other words, as AlSayyad (2004) puts it, attracting international investment becomes an underlying motivation to the presentation of urban image. Additionally, as Gilbert (2007) and Roy (2011) suggest, there is the realm of development funding, which may start with the best intentions but

can become driven by deliberate marketing elements campaigning for both image and economic ends.

The second potential reason is socio-spatial, the mental partitioning of socio-economic groups into "us" and "them" (formal/informal, neighbourhood/slum, rich/poor, developed/developing), the consequence of which further entrenches urban spatial division (Kornienko 2013). Huchzermeyer (2011:6) points to the changing perception of "slums" in recent years, arguing that 'in conceiving the "Cities Without Slums" campaign, Cities Alliance also subscribed to the idea that fuelled the advent of modern town planning, namely that "slums" were the antithesis of an aspired-to city'. This slogan is then picked up and carried on by the Millennium Development Goals, UN-Habitat and others (*ibid*). In the public arena, "slum" finds its way into popular media, tourism, etc., becoming defined by film, photo, the view from a tour bus; resulting in a shift in people's perception not only of "slum" communities but of whole cities. Huchzermeyer (2011) goes on to point out that these changes in the public perception of "slums" have historically been mirrored by changes in development policies toward "slums".

Returning to Jaguaribe's (2004:337–338) work, we see a mechanism of this change of perception in her suggestion that the '*favela*' in film and literary fiction has been variously used as a means of engendering artistic "defamiliarisation" and as a form of translating the new cultural experiences of the globalised favela'. The extent to this manipulation takes on more meaning when considered in conjunction with Badiou's (1998/2005:78) statement that '[a] film operates through what it withdraws from the visible…Cutting is more essential than presence – not only through the effect of editing, but already, from the start, both by framing and by the controlled purge of the visible'. In this combining we see both the mechanics of defamiliarisation in film, and its consequence, the indirect manipulation of the public's perception of "slums".

Similarly, Dovey and King (2012) explore the draw of slum tourism, particularly to Western tourists. Like Jaguaribe (2004) they suggest that it is the tourists' search for the authentic city that draws them to the slums, and that it is the "shock of the real" that holds the power to influence the observer. Dovey and King (2012:291) go on to point out the potential transformational power of slum tourism not only to change perceptions, but also the economics and socio-spaces of cities:

'Slum tourism provides an interesting twist in that in some cities it turns the slums into part of the brand…The place branding schemes of many developing cities – importing Western models of waterfront development and dressing up local places according to global formulae – can render them placeless from a global viewpoint. In this context [they argue that] the slum adds value as an authentic urbanism cutting through the spectacle of globalization, modernity and placelessness, an insurgent urbanism that resists global capitalism and authoritarian politics'.

But just as in film, the tour operator holds the power to manipulate, to frame views from the tour bus windows.

9.4 Research Findings: Delving into South African Context

In developing cities around the world, including South Africa's cities, security of tenure is commonly put forward as a significant hurdle to household and community consolidation. However, De Souza's (2001) research in Brazil suggests a need to look beyond the mainstream legal/planning confines, a need to look for subtle dynamic relations that give or take away informal residents' confidence to consolidate. Similarly South Africa's capital subsidy system and its connection to residents' (often assumed) expectations of state housing provision is frequently cited as a barrier to consolidation. Huchzermeyer (2003) questions that the capital subsidy development trajectory is perpetuating the socio-spatial control inherited from the apartheid state. A narrative that Desai and Pithouse (2004) as well as Bond (2006) suggest underpins the "native" sector having been replaced by the poor sector. Here too it is perhaps worth delving deeper into the consequences of such policies.

In earlier writing on the 'banality' of power in post-colonial Africa, Mbembe (2001:102) alludes to the flaws in such capital subsidy trajectories, suggesting evidence that newly emerged states effectively replace one brand of violence for another, through corporate and political machinery. He describes the mechanism for this shift in violence as government coding of the 'logics that underlie…meanings within society' and the 'institutionalis[ing of] this world of meanings…by instilling it in the minds of the *cibles* or "target populatio"' (*ibid*:103). This notion gives weight to the concept of *defamiliarisation*, or the device that influences peoples' understanding of the world around them; and thus suggests how this power to influence carries the potential to shape spatial production. It is this tension between the power from above to manipulate desire, and the search for authentic response to the need from below that is of particular interest to the question of informal housing consolidation and upgrading. Understanding this tension could prove the key to unlocking the subtle influences on residents' motivation – or lack of motivation – to further concretise their living environments.

Moving to my fieldwork findings, I first turn to an untitled poem written by Bafana, a Kliptown resident and published poet, where he eloquently captures the essence of need and desire:

> Young as we are,
> We know poverty.
> Young as we are,
> We know disunity.
> Young as we are,
> We are Meandering in an
> Amazing motion.
> Is this Life?
> (Nkosi 2014)

Kliptown is a mix of pre-apartheid row house and farm construction, apartheid era council housing, the organic development of shacks, a commercial street, and the area's only 4-star hotel; but when asked, the residents consider it one community. The earliest records of informal housing in the area date back to 1903. Older

residents reminisce about a vibrant mixed-race community before apartheid. Gene, the local historian, provides a document dated 7 May 1934, in which Sgt. W.H. Canisius, an investigation officer, reports to the Director of Native Labour that Kliptown is 'a mixture of Europeans, Coloureds, and Natives fairly evenly distributed over the whole area…Asians are classified as Coloureds'. Later, Kliptown becomes a racial intersection as apartheid era policies separate different races to neighbouring townships: Eldorado Park, Coloureds only; Soweto, Blacks only; Lenz, Indians only. However, because it sat outside the municipal boundaries of mid-century Johannesburg it escaped the total clearing and violent destruction that struck Johannesburg's other famously mixed-race neighbourhoods in the 1950s. Because of this, Kliptown becomes a favoured hiding place for Nelson Mandela and other ANC stalwarts during the anti-apartheid struggle.

Today, the province's tourism website, *Gauteng*: *it starts here*, promotes Kliptown, as the site of the 1955 signing of the *Freedom Charter*, the document outlining a South Africa free of apartheid (Gauteng Tourism Authority 2014). In 2005, in response to Kliptown's 72 % unemployment rate, the Johannesburg City Council sponsored a R375-million (US$35-million) revitalisation project. The project included the Walter Sisulu Square and Soweto Hotel complex development; the hotel was initially a joint venture with Hilton Hotels, and is advertised as Soweto's first 4-star hotel (Fig. 9.1).

At the site, I watch as traffic is stopped to allow tourists to exit their tour bus at the square and move towards Kliptown Open Air Museum, where 'vibrant artwork, photographs, songs, narrations and newspaper clippings' tell the community's storied history (Gauteng Tourism Authority 2014). Tourists then climb up the stairs of the pedestrian rail-overpass to photograph the shacks 50 m away (Fig. 9.2). Tours guided by local shack dwellers are on offer, but rarely taken. Several shack dwellers later commented that they feel like animals in a zoo.

From the vantage of this rail-overpass, is Freedom Charter Square informal settlement and its residents. Nomusa shows me her old house where she grew up and that she later inherited from her grandmother. Holding no legal tenure, but hoping to cash in on the tourist trade, she converted it into backpackers (hostel). However, very few Western tourists, for whom it is designed, venture into the shacks. Discouraged, Nomusa considers selling her house. Going on, she relates feeling the degrading looks as she sits on the mini-bus taxi with dusty shoes, a telltale of the dirt streets/paths where she lives. She concedes that she has come to believe that the settlement should be redeveloped to look like other townships where more successful members of her family live.

A few minutes walk, on its edge but still within the settlement, is the youth centre SKY, with its plaque on the wall stating that it is funded and supported by the United States National Basketball Association. It is a refuge for young people, yet at the same time I hear whisperings from residents, especially about young girls.

Next door is a creche run by Francina. She tells her extraordinary life story of growing up in the shacks of Kliptown, filled with defiance under apartheid that jail did not change. She now lives in a nearby township, in a house bought for her by her two university educated and financially successful children. She and the other old

Fig. 9.1 The Walter Sisulu Square and Soweto Hotel complex, formerly know as Freedom Charter Square, with a typical level of use, as observed on many visits in 2014 (Source: Kornienko 2014)

women work there often take little or no pay so that the children can have breakfast.

Another few minutes walk and I am sitting on the porch of Shutterland, an informal community art gallery. Here there is no benefactor's plaque on the wall. A group of young residents created this exhibition space. The mud-brick walls are covered with white-wash, and mosaic white tiles cover the floor. Paintings, photographs and poems hang on the walls. Thabang, a resident; and one of the gallery founders, tells a story of the family who lived in that old house for generations, pointing out their possessions displayed as artefacts. Then he tells his story. Born and raised in the shack community, he and his brother have been on their own since his mother died when he was 15. Now, in his early 30s, he leads The Shutters, a group of young photographers with donated cameras. It becomes clear that his camera and this group are his linchpin. We discussed his feelings of connection to the community and his hopes for the future, his eyes light up as this engages the philosophies of Frantz Fanon, of whom he is well versed.

He takes me for a tour, showing me his and other residents' efforts to try to bring dignity to the community. Brightly coloured chemical toilets, fast becoming the iconic image of South Africa's informal settlements (Kornienko 2014), stand alone or in long rows dotting the dirt streets. Here attempts are being made to transform

Fig. 9.2 The view from the shacks of Freedom Charter Square informal settlement looking across the commuter rail line at the Walter Sisulu Square and Soweto Hotel complex no more than 50 m away (Source: Kornienko 2014)

the toilets (Fig. 9.3a–c), yet still residents' sentiments parallel the findings of the South African Human Rights Commission, which recently ruled that similar toilets in Cape Town are a violation of residents' right to dignified sanitation (Abbas 2014).

Later I met another member of the Shutters, Kritumetse, as a young single mother under 20, she describes living on the streets of the settlement. She remembers her mother dying of AIDS when she was young, and herself being evicted from her mother's home, and of the 20 family members living there drifting apart. Thabang tells me that her baby is a product of the local drug culture. The infant's father is a dealer, sex in exchange for fashionable clothes and a fix, until she falls pregnant. Now, her friends from the Shutters found her a place to live and she is returning to school, her daughter is going to the creche with money from a government child grant.

Just outside the informal settlement, Janet, who was born and raised in one of the row houses in Kliptown, describes life in those days. Her family's home was demolished during the apartheid era spatial changes, and her father receiving one of the limited council houses because he is considered Coloured, though Janet herself shrugs at the distinction. Then jumping forward in time, she recounts that most White residents left after 1994, feeling unsafe. Janet too left Kliptown, many years later returning to live in her parents' house. From her window, she looks across the street at the shacks of Freedom Charter Square informal settlement. Standing in her

Fig. 9.3 Efforts by shack dwellers to change the aesthetic of their community: (**a**) by channeling the ever-present grey water that runs along streets from the leaking public taps with native plantings; and (**b and c**) by transforming the now iconic image of chemical toilets with reeds from the adjacent river and graffiti (Source: Kornienko 2014)

c

Fig. 9.3 (continued)

front garden she tells me of moving back and of the shack residents intimidating her. She after making an effort to get to know them, she now feels safe. As with the racial distinction, she makes a point of telling me that in her mind there is no formal on one side of the street and informal on the other.

9.5   Conclusion

The intent of the discussion in this chapter is to elicit questions rather than to answer them. Steve Biko (1978:68) famously stated that 'the most potent weapon in the hands of the oppressor is the mind of the oppressed'. In South Africa, the legacy of apartheid's urban machinery and its development patterns, as well as the contemporary economics of international development (the perception of cities), continue to be the oppressor. The country's current trends of urban design and development reflect this with such practices as shack clearing and the implementation of informal settlement upgrading as greenfield development. Huchzermeyer (2009:60) underlines this with her statement that, in reviewing the legality of South Africa's Informal Settlement Programme in the province of Gauteng, institutional change is occurring in response to reforms, however 'mindset change currently [is] the main intervention required to unlock *in situ* upgrading of informal settlements'. And while these statements allude to the mindset of those driving urban design decisions, this chapter also considers the residents of Kliptown. On the one hand, the aesthetic

sentiment expressed by Nomusa parallels those from the upgrading of George: a desire for development on a grid – in Heidegger's words, to have what "they" have. On the other hand, Thabang and many of the younger generation argue that there is value of community in Kliptown, rejecting the idea that the way forward lies with bulldozers and rebuilding.

My preliminary fieldwork yields two initial findings. The first is a hint of the post-colonial vernacular, to which Fanon and Simone allude, from residents who didn't grow up under the yoke of South Africa's apartheid. Through this younger generation of shack dwellers, there is the perception of hope: the development of an art gallery; the building of a bird hide; the brilliance of a fashion designer; the planting of street trees; and the empowerment in the art of photography. Is it real, or will this hope sink under the mire of poverty, drugs, alcohol, and the lack of basic services? The second is the consequence of the development of Walter Sisulu Square and Soweto Hotel complex. Its lack of congruity with the existing places of Kliptown in architectural style, scale and usage is an example of what Dovey and King (2012:291) describe as 'dressing up local places according to global formulae' in an effort to court tourism and acceptance as a "world class city". The Walter Sisulu project accommodates tourists' encounters with one of Johannesburg's most infamous "slums", an opportunity to engage with one of Nelson Mandela's illicit haunts, a "shock of the real" from the safety of an overpass, a tour bus or a modern hotel; but shack residents tell me that it has done nothing to improve their living conditions. This brings to mind Roy's (2004:302) contention that 'the aestheticization of poverty is the establishment of an aesthetic and aestheticized...relationship between viewer and viewed, between professional and city, between First and Third Worlds. It is an ideology of space'.

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Chapter 10
Informal Urbanism as a Product of Socio-Cultural Expression: Insights from the Island Pacific

Paul Jones

Abstract In the context of towns and cities of Pacific Island Countries (PICs), this chapter has two aims. Firstly, to better understand the way informal urbanism plays outs and embeds itself in towns and cities by focusing on the role and nature of traditional socio-cultural orders that give rise to patterns of squatter and informal settlements. Settlers bring to towns and cities and especially settlements their strong traditional socio-cultural orders and customary practices based on a kin based ordered society, and these are played out and modified in an array of new and growing 'village like' socio-spatial settlements. As socio-cultural orders transcend the spaces in which settlers and urban residents live – that is, rural and urban based places – the notions of socio-cultural orders and cultural permeation are central to understanding issues associated with the diversity and character of settlements, the operation of the wider 'village city', and the status of the urban condition generally including informality. While terms such as non-formal may better approximate notions of informality, moving to more inclusive concepts such as adaptive urbanism and or responsive urbanism lie at the heart of understanding processes of urban morphology and 'bottom up' urbanism that define the richness of city building in developing countries. Such latter terms recognize that inhabitants embedded in their cultural milieu readily adapt and modify their circumstances to define their urbanity, following varying forms of rules and regulations that cut across constructs of 'formal', traditional, hybrid or otherwise.

Keywords Informal urbanism • Informality • Pacific urbanization • Socio-cultural orders • Settlements

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10.1   Introduction

The concept of informal urbanism has been well documented in the new millennium (see, for example, Bunnell and Harris 2012; Dovey and King 2011; Jones 2016; Porter 2011). Mainstream interpretations of the concept have emerged as a means for understanding the emergence of non-formal urbanism, that is, processes and activities falling outside the rules and regulations of modern formal planning. It is a concept applied from the view of the dominant western planning perspective so as to better understand the processes and outcomes that emerge when informal urbanism is produced outside the bounds of the formally planned city. One consequence is that informality is regularly positioned as an adverse impact of planning's desire for orderly and well-structured cities as produced through formal and regulated land use planning and building systems. A key result of the above is that informality continues to be viewed as negative, unplanned, disordered and illegal, despite its importance as a major mode of urbanization in the new millennia via slums and settlements. In the above setting, one view of informality is that it can be seen as a consequence of the way formal planning systems are conceived, developed and applied (Dovey and King 2011).

In the new millennia, there has been a shift from the basic dualism perspective of formal and informal sectors, to understanding more deeply how informality is produced, shaped, as well as the utility of the informal urbanism concept itself. Formal and informal, for example, have been seen as a continuum, although this view has limitations given the often rigid boundaries of how formal and informal are conceived, and what the realms of formal and informal really constitute. In terms of the relationship between how informality is formed such as the role of the State, Roy (2005) argued that informality is "produced by the State itself", with the legal and planning systems of the State purposely creating informality outcomes (Roy 2005). This is only part of the explanation as it will be argued in this chapter that in some contexts, informal urbanism is tolerated and accepted by the State due to the influence of underlying strong socio-cultural orders. Increasingly, :s are viewing informal urbanism as dynamic, lived and a major form of urbanism, recognizing the key role that socio-cultural, governance and related analysis plays in understanding what type of activities are accepted as legitimate in various contexts (see, for example, Bunnell and Harris 2012; Hernandez et al. 2012; Jones and Suhartini 2014).

In the Island Pacific setting, two related concepts are considered fundamental to understanding how urban informality unfolds and shapes settlements, namely, traditional socio-cultural orders and urban governance. Socio-cultural orders are sets of social and cultural relations – that is, norms, values, attitudes and aspirations – which emphasize traditional social protocols founded on custom and a strong affiliation to land, kin and subsistence living. The strength of socio-cultural orders in urban settings influences the way certain societal groups undertake, interact and participate in their economic, social and political way of life. Levels of informality will also be influenced amongst other matters by urbanization, globalization, moneterization, poverty levels as well as the State and their interplay with socio-cultural

orders. The State plays a key role in deciding what are acceptable and tolerable levels of informality, including enforcement and non-enforcement of formal planning rules, as well as the allocation of resources for settlement improvements – for example, roads, water supply, and sanitation. On the other hand, urban governance is a mode of decision-making that is all encompassing. It includes various stakeholders that span the spheres often termed as formal, modern, traditional and other accepted modes that manifest themselves from the latter (Asian Development Bank 2012).

In the above context, the main objectives of this chapter are twofold. Firstly, to better understand the way informal urbanism plays outs and embeds itself by focusing on the role and nature of traditional socio-cultural orders that give rise to patterns of squatter and informal settlements in Pacific Island Countries (PICs). Secondly, to comment on the utility of the informal urbanism concept as an appropriate term and notion for better understanding the lived experiences of millions of people who live in slums and related settlements. The methodology used in preparing this chapter is a combination of: (i) literature review, (ii) firsthand observation from continuous work experience in PIC urban planning and management during the period 1992–2010, and (iii) current ongoing field research by the author with the Office of Urbanisation, Port Moresby, Papua New Guinea (PNG).

The central theme underlying this chapter is that informal urbanism as expressed in squatter and informal settlements is not only a result of exclusion by the formal regulated systems – that is, rules, regulations, institutions, policies and the actors who comprise such systems. It is also a consequence of traditional socio-cultural orders, actors and their systems of governance being more valued and relevant to the needs of settler's lives than formal government systems in urban settings With the 2014 Millennium Development Goals Report indicating the number of slum dwellers increasing from approximately 760 million persons in 2000 to 863 million persons in 2012 (United Nations 2014), the need to accept and mainstream informal urbanism as 'normal urbanism' in many contexts is more urgent than ever.

10.2   Trends in Pacific Urbanization and Settlements

Generalizing across a range of varying towns and cities in the three diverse Island Pacific sub-regions of Melanesia, Micronesia and Polynesia can be fraught with challenges (see Fig. 10.1). Every town and city has its own geographical features, culture, economy, politics and social histories, all linked to local and national PIC development paths. While there are many differences across PICs, there is also much commonality in terms of colonial influences, underperforming rural economies, the condition of the State, and importantly, the recent urbanization as germinated by foreign colonial empires. PIC urbanization trends have their beginnings in the nineteenth century in the era of missionaries and colonial governments which took a foothold in the Island Pacific at that time. In nearly all PICs, the main agents of catalytic change were colonial administrations who sought economic gain and
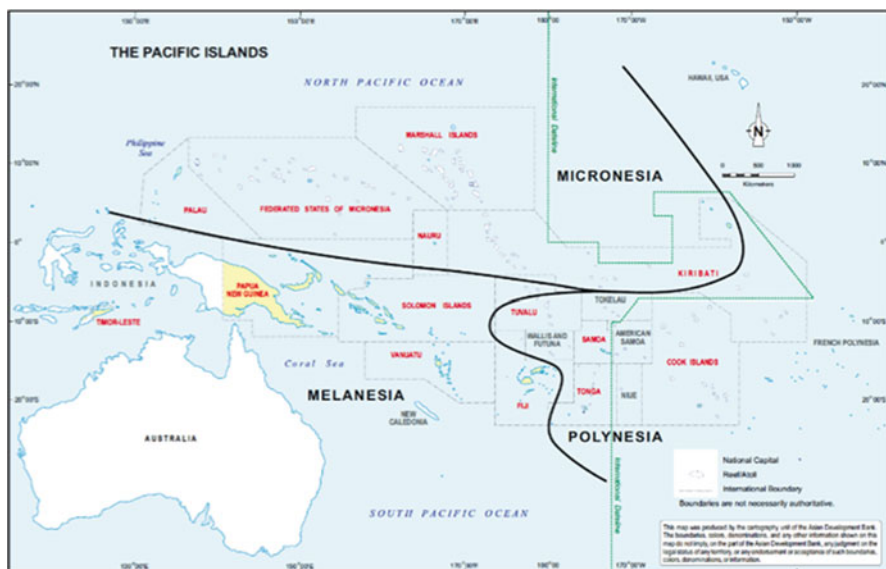
Fig. 10.1 The Island Pacific indicating the three major sub-regions of Melanesia, Micronesia and Polynesia (Source: Asian Development Bank (2012))

the establishment of trading opportunities in coastal and inland towns. In this setting, the planning systems shaping PIC towns and cities are a legacy of European and later American creations, with Britain being the dominant and minor player in many PICs, such as Fiji, Solomon Islands, Vanuatu, PNG and Kiribati.

In 2013, the Island Pacific had a total midyear population estimate of around 10.6 million persons, with an average rate of urbanization of 47 %. If one excludes the small PICs of Tokelau, Wallis and Futuna, then the average rate of urbanization is approximately 51 %. In terms of the number of persons living in Island Pacific towns and cities, approximately 2.4 million persons were in formally declared Pacific urban areas in mid-2012. This is the equivalent of 22 % of the total Island Pacific population, with just over one in every five Pacific Islanders residing in an urban area (see Table 10.1).

In 2013, some 9 out of the 21 PICs were predominantly defined as urban, while 12 out of 21 PICs having urbanization rates greater than 40 %. The highest urban growth rates are to be found in the smaller Pacific towns and cities in Micronesia. Across the Island Pacific, there is a discernible trend of urban growth rates exceeding national population growth rates in most PICs. This is most apparent in the Melanesian countries where moderate to high urban growth rates in the order of 2–4 % exceed national population rates by approximating 25 % and more. As well, urban growth rates continue to be at higher levels than rural growth rates in nearly all PICs. A key feature of PIC urbanization patterns is their diversity across the Island Pacific, contrasting strongly between Melanesia and the sub-regions of Polynesia and Micronesia, and vice versa. Aside from the Melanesian PICs of PNG,

Table 10.1 Key population indicators for the Island Pacific, 2013

Pacific sub-region and countries	Mid-year population estimate 2013	Population growth rate (%)	Capital city or town	Urban pop. %	Last inter census annual urban growth rate %	Last inter census annual growth rate rural %	Land area. km
Melanesia	9,392,000	2.1					542,377
Fiji Islands	859,200	0.5	Suva	51	1.5	−0.1	18,273
New Caledonia	259,000	1.3	Nouméa	67	2.3	−0.7	18,576
Papua New Guinea	7,398,500	2.3	Port Moresby	13	2.8	2.7	462,840
Solomon Islands	610,800	2.5	Honiara	20	4.7	1.8	30,407
Vanuatu	264,700	2.5	Port Vila	24	3.5	1.9	12,281
Micronesia	524,900	1.6					3156
FSM	103,000	0.0	Kolonia	22	−2.2	1.0	701
Guam	174,900	2.6	Hagatna	94	0.4	−1.2	541
Kiribati	108,800	2.1	South Tarawa	54	4.4	0.2	811
Marshall Is.	54,200	0.8	Majuro	74	1.4	−2.0	181
Nauru	10,500	1.7	Yaren	100	1.8	–	21
Northern Mariana Islands	55,700	1.3	Saipan	90	3.7	2.3	457
Palau	17,800	0.5	Koror	77	0.0	3.9	444
Polynesia	649,600	0.2					7986
American Samoa	56,500	0.6	Pago Pago	50	2.4	1.7	199
Cook Islands	15,200	0.5	Rarotonga	74	−1.2	−3.0	237
French Polynesia	261,400	0.2	Papeete	51	0.7	1.8	3521
Niue	1500	−2.4	Alofi	36	–	–	259
Samoa	187,400	0.0	Apia	20	−0.3	1.2	2935
Tokelau	1200	−0.9	Nukunonu	–	–	0.9	12
Tonga	103,300	0.1	Nuku'alofa	23	2.4	0.9	650
Tuvalu	10,900	1.6	Funafuti	47	1.4	−0.2	26
Wallis and Futuna	12,200	−2.0	Mata-Utu	–	–	−2.0	142

Source: Adapted from Secretariat of the Pacific Community (SPC) Pacific Island Population Estimates and Projections, SPC June, 2014

Fig. 10.2 Small atolls are a common feature of Micronesia. South Tarawa, for example, is the capital of Kiribati, and has 50,000 plus persons on a land area of 18 km^2 (Source: Taken by Author)

Solomon Islands, Vanuatu and Fiji, most PICs are defined by their comparatively small islands and narrow atolls of low population base (see Fig. 10.2). Some PICs have a handful of islands while others have hundreds, while some islands sitting only a meter above sea level with little vegetation, whilst others are tropical, mountainous and often inaccessible.

To a large extent, the form, structure and condition of PIC urbanization including rising numbers of settlements has been a consequence of the deteriorating quality of life conditions in rural areas that has driven rural-urban migration. While the drivers for such migration vary within PICs, the 'push and pull' factors generating PIC urban growth are tied to concerns associated with real or perceived inequalities in socio-economic opportunities, and more recently, rising rural and urban poverty levels. Collectively, these fuel rural-urban migration to towns and cities by disadvantaged and poorer groups, and combined with a chronic shortage of formally available land and housing which is affordable, settlers invariably move into burgeoning existing or new low cost – poorly serviced squatter and informal settlements. While settlements were observed in Island Pacific towns and cities like Honiara, South Tarawa, Suva, Port Moresby in the 1940s and 1950s, the main growth of settlement areas commenced in the 1960s as PICs gained independence from their colonial masters. The rise in settlements has continued since that time, accelerating in the new millennia as they have been confirmed as a permanent feature of PIC town and city development (see, for example, Asian Development Bank 2012; Chand and Yala 2008; Jones and Lea 2007; Jones 2012a, b).

Fig. 10.3 Four mile squatter settlement, Port Moresby. The place identify of this settlement is reinforced by residents, including rural urban migrants, who come from similar ethnic and linguistic groups in a specific geographical area in PNG (Jiwarka and Southern Highlands provinces) (Source: Taken by Author)

In 2012, it was estimated in the Island Pacific that approximately 800,000–1 million urban residents resided in squatter and informal settlements, with the largest numbers of settlements located in the Melanesian capitals of Port Moresby, Suva, Port Vila and Honiara (Asian Development Bank 2012). Port Moresby has the largest numbers of settlements in the Island Pacific, with informal and squatter settlements estimated in 2012 at some 50 % of the population. In 2008, in Port Moresby, there were 20 planned settlements and 79 unplanned settlements, with some 44 unplanned settlements located on state land, and 37 on customary land (Jones 2012a, b). Figure 10.3 illustrates a four Mile squatter settlement, in Port Moresby. In Honiara, it has been estimated some 35 % of Honiara's population were living in informal settlements, while in Suva estimates range from 15 % to 50 % of the urban population now living in settlements. In Fiji in 2009, it was estimated that some 80 % of all new houses were being constructed in informal settlements. In Port Vila in 2011 it was estimated 30 % of the population were living in a slum, as defined by the MDG framework. Squatter and informal settlements are also present in Apia and Nuku'alofa in Polynesia, but in smaller numbers (Asian Development Bank 2012).

At the Island Pacific level, the collective result of increasing poverty and ineffective urban management is that the structure and form of PIC towns and cities have coalesced into two main urban typologies. Firstly, settlements are blossoming and comprise a mix of traditional native (customary) villages, squatter settlements (often on State lands) and informal settlements (that is, agreements made by tenants with traditional landowners to enable settlement occupation) The latest regional assessment on Pacific urbanization indicates settlements as being forms of urban villages taking a permanent hold in the Island Pacific. "During the coming decade, 'village cities' will likely emerge as the dominant urban form in many Pacific urban locales. Managing the intersection of traditional socio-cultural orders and modern urbanized lifestyles is emerging as one of the main challenges facing Pacific urban management" (Asian Development Bank 2012).

Secondly, there are planned residential areas with housing and land development based on various western standards which accommodate the middle class and urban elite. Settlements grow in and around these localities, and vice versa, based on ethnic and socio-cultural ties, thus allowing settlers to access employment such as hawkers, domestic help, market sellers, and security guards. In many respects, the existing pattern of many PIC towns and cities mirrors the structure of the growing colonial towns – that is, enclaves of the educated and well to do (now dominated by islanders, not expatriates) and surrounded by and interspersed with growing concentrations of settlement 'villages' of varying heterogeneity. Unlike the colonial era, the footprint of settlements continues to grow and diversify reflecting; (i) the fragility and irrelevance of State governance arrangements, (ii) the strength of strong socio-cultural orders, and (iii) the increasing gap between social, economic and human development opportunities in PICs.

10.3   The Notion of Socio-Cultural Orders in Urban Areas of the Island Pacific

In the Island Pacific, it has been recognized for some time that with increasing numbers of people moving to towns and cities, settlers continue to think, live and behave as villagers from rural areas, but within urban settings. Modified village and kin based forms of structure and organization have been observed as prevailing across a myriad of Island Pacific urban settlements, such structures and systems embedded in a past that well precedes the recent Pacific urbanization. Some assessments have this called this phenomena 'village in the city', or 'rural village in the city', as stated by the Asian Development Bank (2012):

> Rural village in the city: the persistence of squatter, unplanned, and informal settlements that exhibit the physical, social, and socio- cultural characteristics of rural villages, but within an urban setting. An increasing number of people move to towns and cities, but still behave in the image of the rural societies from which they have come. Such squatter, unplanned, and informal settlements are often developed as enclaves, being characterized by settlers who have migrated and retained strong ties to a particular kin, ethnic group, rural area, or locality, including other islands. The phenomena of the 'rural village in the city' will dominate urban development in Melanesian DMCs over the coming decade.

Settlers bring to towns and cities and especially settlements their strong traditional ideologies and customary practices of a kin based ordered society, and these are played out and modified in 'village like' settlements.

In the Island Pacific, central to settlement growth is the notion of socio-cultural orders and their endurance in the urban setting. Socio-cultural orders have been recognized as those shared elements that bind and underpin islanders, their households, kin, ethnic and other societal groups in the operation and organization of their day to day lives. In contrast to a set of independent factors, they are established social and cultural protocols which emphasize traditional social relations founded on custom and a strong affiliation to land, kin and subsistence living. At a practical

Fig. 10.4 "Cultural permeation of urban areas". Southern Highlanders in traditional dress at the launch of the PNG National Urbanisation Policy, Minj Township, PNG, 2012 (Source: Taken by Author)

level, they provide islanders with their sense of identity, status and links to their ancestral past, thus reflecting where they come from (physically and spiritually), and 'why' and 'how' they go about their daily lives. In this setting, socio-cultural orders expressed in settlements in the Island Pacific can be viewed as comprising:

- Values and norms;
- Practices and attitudes;
- Aspirations and ideologies;
- Rules and regulations, and
- Institutions and systems spanning 'modern and traditional' realms (Asian Development Bank 2012; Jones 1997, 2011).

Family and wider village outcomes based on socio-cultural orders remain all important in localized urban village like settlements, as migrants transpose their village surroundings, habits, foods, customs and language to urban settings (Office of Urbanisation 2012). Settlers increasingly placing more value on local practices, attitudes, norms and values that support kin, family and broader social relationships in contrast to little understood government systems that increasingly play minimal roles in their lives. In this setting, the village world values, norms and practices that settlers carry over to settlement life and the wider town and city are part and parcel of prevailing socio-cultural orders that permeate, transcend, and are adapted to and shaped by the circumstances of the urban environment (see Fig. 10.4). While socio-

cultural orders may be viewed as 'strong or weak' as they respond and adjust to often volatile urban conditions, socio-cultural orders form the connecting 'glue' in holding settlers and their settlement enclaves together based on: (i) traditional knowledge and practice, (ii) an appreciation of the natural environment, subsistence and trading, and (iii) the importance of social and personal relations including safeguarding family, kin and livelihoods.

The way in which socio-cultural orders express themselves as part of the urbanization process shaping PIC towns, cities and their settlements has been referred to as the cultural permeation of urban areas (Office of Urbanisation 2010). This concept emerged in the diverse urban settings of PNG to explain how traditional norms and values embodied in rural village based clan and tribes express themselves in varying urban manifestations, such as settlements. As socio-cultural orders transcend the spaces in which settlers and urban residents live – that is, physical rural and urban based places – the notion of cultural permeation is central to understanding issues associated with the diversity and character of settlements, the operation of the wider 'village city', and the status of the urban condition generally. This includes: (i) settlers attitudes towards 'informal' agreements on land – oral and or written, (ii) the relevance of formal state systems and institutions in settlers lives, especially as they relate to law and order, (iii) local governance arrangements and protocols, and (iv) the physical layout and design of settlements, including placement of meetings houses, footpaths, village boundary markers, and burial areas. As settlements grow in both number and size, the cultural permeation of urban areas and the role of socio-cultural orders are intrinsically linked to shaping and determining the character of the city and the wider processes of Pacific urbanization. The continued rise of settlements in Port Moresby, for example, has been recognized as reflecting "cosmopolitan networks of tribal groupings or anarchical sub-cultures, which have been defined by ethnicity and regionalism within an urban context" (Muke et al. 2001).

Against a background of urban settings in the Island Pacific colored by rapid social and economic change – including weak and non-relevant formal PIC governance, institutions and policy unable to play a major role in the day to day lives of settlers – the emphasis by those taking up a life in settlements remains focused on the utility of strong kin, family and collective arrangements in maintaining their socio-cultural orders. This includes adjusting the basic building blocks of socio-cultural orders as they play out at the local and wider town and city level. Table 10.2 summarizes typical generic Island Pacific 'village world' norms, values, practices and attitudes that give settlements their local distinctiveness, and which are expressed in day-to-day activities. Such attributes include varying approaches to languages spoken, dress and appearance, marriage, household composition and strength of kinship systems. Collectively, it is the richness and diversity of these socio-cultural orders that give Island Pacific towns and cities, and especially settlements, their robustness and ability to adapt and survive.

Table 10.2 Generic features of socio-cultural orders in urban settlements in the Island Pacific

Features of local socio-cultural orders	Generic norms, values, attitudes and aspirations expressed in rural villages	Generic norms, values, attitudes and aspirations expressed in urban settlements – 'urban villages'
1. Marriage	Can be prearranged – no say in choice of husband or wife	Larger choice of partners
	May involve 'bride price' payment	Women have greater freedom from village – less influence of family socio-cultural ties and restrictions
	Large ceremonial obligations involving family, village, clan, tribe and so on	Choice of venue and ceremony
	Marriage restricted to being within similar island – geographic group, tribe, clan or cultural group	Marriage within or outside of settlement
	Women focused ion childbearing and household duties	
2. Births and deaths	Sickness caused by spirits or black magic	Pathological explanation of sickness
	Large ceremony on reaching 1 year of age	Mourning for a death can be over a lengthy and extended period
	Death is mourned by family and clan – all work stops	Burial can occur over extended period – mortuary allows longer period while waiting for family members
	Burial within 2–3 days	Body retuned to rural place of clan – village origin
	Burial place can be next to house	
3. Language	Own dialect in homogenous groups	Exposure to English
	Dialect not physically recorded	Use of pidgin
		English training centres
		Exposure to range of dialects
		Exposure to a range of languages
		Dialects mixed with English
4. Economic activity and development	Development based on subsistence and or cash farming of varying scale	Greater need for cash for survival
	For some, work only carried out as needs have to be met	Varying levels of informal and formal sector employment and opportunities
	Informal sector employment	Residents have some or no gardens
	Little regulation	Reliance on local produce – imported goods
		Rules and laws impact on business opportunities

Table 10.2 (continued)

Features of local socio-cultural orders	Generic norms, values, attitudes and aspirations expressed in rural villages	Generic norms, values, attitudes and aspirations expressed in urban settlements – 'urban villages'
5. Dress and appearance	Traditional dress reflects social importance of event and status of participants	Dress modern style anytime
		Dancing and recreation anytime
		No peer group pressure on style – type of dress
		Traditional dress for inclusion in 'western' ceremonies
6. Housing	Traditional design – for example outdoor food preparation areas	Indoor kitchens
	Materiality types connected to spirits	Diversity of permanent and semi-permanent materials used
	Traditional materials mixed with permanent materials (roofing iron, blocks, etc.)	Modern house provides many functions
	Special built structures reflect functionality	Connected to modern services including in house toilet system
	Accommodates extended family	Bush and beach still used for defecation
	Sanitation separate and away from family and house	
7. Kinship arrangements	Strong kinship arrangements developed over generations	Settlements developed as kin and ethnic enclaves
	Biological basis of kin	Concern with immediate social and biological kin – friendship group
	Socialize within kinship group	Breakdown of parental and wider family care
	Strong family and wider clan care and control of children	Both homogenous and heterogeneous communities – urban migration maybe individual rather than whole of family
	Homogeneous communities based on unity of families and clans	
8. Land	Primarily in customary ownership	Informal arrangements on use and 'ownership' on customary land to those outside clan or kin group
	Family and wider group such as clan involved in land distribution	Oral and written arrangements to secure land
	Land rights oral – not recorded in writing	Land can be freehold, lease or customary
	Land use rights can be fluid and not definitive	Land has greater economic use and value
	Lands associated with families, clans and tribes	Land ownership can be endorsed by Courts and recorded in registers
		Land used as a commodity
		Individual clan, group and individual title can be given to land

(continued)

Table 10.2 (continued)

Features of local socio-cultural orders	Generic norms, values, attitudes and aspirations expressed in rural villages	Generic norms, values, attitudes and aspirations expressed in urban settlements – 'urban villages'
9. Law and order	Retribution and pay back	Formal system rules and controls maybe acknowledged but many times ignored
	'Eye for an eye'	Retribution – 'pay back' accepted
	Compensation payments	Compensation payments
	Village and clan rules and controls	Rules and controls set by settlement committees
	Limited formal system intervention	
	Traditional means of fighting	
10. Settlement and village patterns	Dwellings in contained village arrangement or dispersed	Oral and written rules and regulations for land allocation and house siting
	Traditional layout of buildings	Generally, poor level of services and infrastructure
	Low density, minimal or no reticulated services	High density, walkable
	Village occupants associated with designated land areas for gardening and farming	Local and permanent materials (though mainly western style architecture)
	Limited transport systems	High environmental degradation
		Access to airports and ports – greater flexibility of movement
		High urban security, law and order concerns

Source: Adapted from Jones (2011), p. 95

10.4   Discussion and Conclusion

Informal urbanism as expressed in growing numbers of settlements in Island Pacific towns and cities effectively represents a reconstruction of strong village world socio-cultural orders and social organization produced, reproduced, and adjusted by settlers to accommodate their urban circumstances. In a region marked by recent colonial imposition and control where socio-cultural orders were suppressed and elements banned, the ongoing process of producing urban settlements now generates a special type of Pacific urbanization underpinned by localized socio-cultural orders that have guided society over many centuries. While rules and regulations governing the lives of indigenous dwellers were in existence long before colonial ideas of formal planning were introduced and mainstreamed, these did not conform with how colonialists wished to modernize their newly acquired 'uneducated and uncivilized' societies.

Fig. 10.5 Family and clan attachment to land remains central to Pacific life, and underlies the bulk of urban development disputes in Island Pacific towns and cities. This sign in a large village meeting hall in South Tarawa, Kiribati, refers to the Tarawa Landowners Association and the important role male elder's play in protecting and safeguarding traditional family lands (Source: Taken by Author)

In the post-colonial setting, the ongoing increasing growth of urban settlements can therefore be viewed as indigenous islanders reasserting their socio cultural orders in the way they go about activating, managing and adapting their social and physical space in the 'informal city' (see Fig. 10.5). Despite the anti-settlement rhetoric of the State, the growth of settlements continues often in the peri-urban interface where customary lands abound and the State is reluctant to interfere with the rights of traditional owners and their tenure arrangements with newcomers. Given the centrality of long standing socio-cultural orders versus the relative newness of Pacific towns and cities with their imported formal State governance arrangements for urban management and wider society, it is not surprising the nature of Island Pacific 'urban' (and what comprises formal order and informality) does not conform with Euro-American centered concepts of what urban development should look like in terms of both process and outcomes.

Managing the consequences of traditional socio-cultural orders and urbanized lifestyles expressed in growing clusters and sub clusters of settlements and the wider city looms as a major urban management challenge in the Island Pacific. This is set against a background of Island Pacific towns and cities increasingly being microcosms of their larger ethnic diversity, with population growth invariably concentrated in enclaves of socio-spatial settlements. Increasingly, it is the latter which are often contested sites of occupation. Ethnic diversity is most pronounced in the

larger PICs comprising Melanesia. In PNG, for example, there are 800 plus tribes and numerous local dialects spread over 150 plus islands, while in Vanuatu, for example, there are over 100 tribes and over 150 languages. Similarity, Solomon Islands comprises over 70 languages spoken on more than 90 islands (Asian Development Bank 2012). Not surprisingly, the relationship between socio-cultural orders and the nature and condition of governance arrangements, the types and range of actors and the different 'hats' they wear and view's they offer at differing times and places, all influence the nature and levels of informal urbanism being expressed. Weak and ineffective formal government arrangements may only further push settlers to the sanctioned safety nets of their socio-cultural settings where they are more comfortable in acting upon the circumstances at hand.

What does this mean for the utility of the informal urbanism concept in the new millennia? Learning from local contexts and how their assemblage is nuanced, understanding the drivers of informality and their interrelationships – including the interplay of State, human, technical, institutional factors and socio-cultural orders – have become all important in explaining the lived experience of both temporary and generational dwellers in settlements. These contributing elements have also become central in better understanding wider patterns of urban structure and form, especially the multiple layers of control and order that produce such patterns. To suggest therefore that those living their urban existence outside of the formal planned prescriptive systems as constituting informality, and therefore maybe conceived as illegitimate, unplanned and illegal needs rethinking given such latter western perspectives of 'city building' are now mainstream modes of urbanism. With the changing nature of the city, the reality is that the notion of informality has taken on a far greater degree of complexity since its conceptual origins in the 1970s and 1980s when tied to illegal economic street activities.

Like terms such as modern and traditional, planned and unplanned, the borders and boundaries that define the concepts of formal and informal are not discrete. Over time, both notions have borrowed elements from each other as they have sought to impose control and order. The formal, for example, is generally bureaucratic and rigid, imparting a 'one size fits all' project and programmatic approach to urban planning, management and design (Jones and Suhartini 2014). Formula driven 'pattern book' approaches to creating new urbanism solutions such as urban villages and local centres, for example, typifies this modernist 'black and white' approach of setting spatial rules. On the other hand, the informal realm is also about regulation, conformity and order, but has the ability to be flexible and robust to meet the often diverse social, economic and political needs of varying socio-economic and ethnic groups. Notwithstanding the varying underlying nature of these realms, there is a mutual interdependency as they seek to address similar urban problems and solutions. This ranges from settlement dwellers providing goods and services and filling low paid jobs, sealed roads that provide access to the edge of settlements, trunk water mains and local power distribution boxes which allow for illegal water and electricity connections respectively, and importantly, the use of village magistrate's courts which emphasize mediation and use of custom. As such, the practices and relationships that allow such modalities to shape the functionality of the city

can be viewed as being continually reconstructed by the strength or otherwise of prevailing socio-cultural orders.

While terms such as non-formal may better approximate notions of informality, moving to more inclusive concepts such as adaptive urbanism and or responsive urbanism lie at the heart of rethinking city building and embracing the urban aspirations of millions of urban dwellers in developing countries. Such concepts would recognize that inhabitants embedded in their cultural milieu readily adapt and modify their circumstances to define their urbanity by following varying contextualized forms of rules and regulations, such as 'formal', traditional, hybrid or otherwise. They would also recognize that when development is in non-conformity with formal planning rules and regulations, the occupants of such settlements do not need to relegated, as they often do, to a status that sees them as 'abnormal, deviant and problem to be fixed'. In this setting, the State can be an active or complicit partner in tolerating and or allowing adaptive urbanism to be accepted, flourish or curtailed. The State therefore can be both a major and minor player in determining how urban structure, form, and urbanism generally plays out across many spectrums. From this perspective, the condition of the State is also a reflection of the strength, persistence or otherwise of prevailing socio-cultural orders at varying social levels and spatial scales.

The need to revisit the notion of informal urbanism as one of a number of 'bottom up' frameworks for better understanding city processes, and who really makes and shapes the city is more urgent than ever in the new millennia. A paradigm shift is needed to provide an overarching enabling and proactive approach which may assist governments, development banks, planners, urban designers and broader society to grapple with what are complex and diverse urban management and urban growth issues. Without such reappraisal, including moving from the underlying simplistic formal-informal genealogy whilst better positioning how socio-cultural orders really work, then questions on the utility of the concept of informal urbanism will remain.

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Part III
The Dynamics of Informal Settlements

The growth of informal areas is a major concern in many cities around the world. Therefore, one of the most challenging tasks of urban planners and all related stakeholders is to gain a comprehensive understanding of the dynamics affecting the livelihoods in informal areas. This would ultimately help in developing integrated and sustainable solutions. This aim has been continuously incorporated in many international declarations since decades, emphasizing the crucial aspire to ensure that the lives of over 100 million slum dwellers are significantly improved by the near future.

In this regard, the third part discusses the integration of the different factors and tools constituting the dynamics of informal urbanism. Such dynamics tackle governance issues, and the paradigm shift from 'top-down' to 'bottom-up' approaches with special concern to the role of socio-cultural patterns, and their implications on housing. In addition, it presents articles examining the true existence of community empowerment as reflection to all global rising trends that support participation as a key factor in informal settlements' regeneration. Investigations presented in this part are further extended to analyze the convergences and limitations of implementing partnerships between national Governments with private and community sectors. They aim at testing the implementation of the global theoretical campaigns against real practical life in informal settings.

Furthermore, to better understand the dynamics of informal settlements, innovative tools are deduced in this part to comprehend the effective variables that strongly impact the residential mobility and real estate appraisal as strategic methodologies of data analysis for insightful decision-making.

Moreover, this part responds to the integration of sustainability for urban, social, and economic variables, together with environmental concerns, and hence presents innovative housing solutions that incorporate all these dimensions.

All these issues are discussed in six chapters that constitute the third and final part of this book. Case studies, and practices are presented from the Island Pacific, Indonesia, India, Brazil, and Egypt.

The first chapter investigates the role of socio-cultural patterns that dominate informal urbanism with insights from the Island Pacific. It highlights the over rising

contradictions between the local contexts and their nuanced assemblage against the ineffective governance arrangements. It ends up with the crucial need to revisit the notion of formal-informal genealogy with better positioning of socio-cultural orders, the fact that visualize informal urbanism as a paradigm shift, and as one of the 'bottom-up' frameworks that will definitely lead to better urban management.

The second chapter further investigates how such 'bottom-up' approaches should be integrated with the 'top-down' approaches in a balanced model. It examines how the literature and empirical evidence support this integration only theoretically without concrete implementation in real national housing projects. This is illustrated through analyzing the current governance process for housing and poverty alleviation policies in Indonesia, with application on one of its national programs, namely, the PNPM Mandiri program (National Program for Community Empowerment) implemented in Yogyakarta. It highlights the fact that empowering communities should be extensively supported and not just superficially included with limited – power and short-lasting partnerships especially in national housing programs.

From this view, the third chapter presents the innovative housing policies and strategies that are recently developed to emphasize the role of the community, where the Governments play the role of the 'facilitator'. In this context, the chapter analyzes the Indian and Brazilian housing experiences, as two examples of national governments that adapted their policies to include sub-national governments, the private sector and civil society as main actors in developing housing and living conditions for dwellers. However, the conclusion draws out attention to the fact that despite the benefits that can be achieved through emphasizing the 'facilitator role' of Governments, there is no unique model that can fit all states. Consequently, each country should design the interrelationships and the limitations of such roles in accordance with its legislations, and local context.

Accordingly, creating proto-type housing strategies cannot be applicable in different developing countries that possess diverse housing needs, despite their general aim to alleviate poverty. Thus, researches have to tackle the challenges of creating well-developed models to be designed and implemented within each local community according to its priorities and incorporating strong variables affecting its development. The need to explore methodologies to deduce such variables is considered to be an initial step towards proposing effective housing model. This has been discussed in the fourth chapter that attempts to present a methodology for sketching out the variables affecting the residential mobility in the Egyptian housing market, through exploring the family life-cycle variables in an attempt to evaluate the applicability of implementing affordable and appropriate rental housing strategies in Egypt.

The fifth chapter also presents an important tool in deducing appropriate strategies for housing and upgrading programs, which is the real estate appraisal. Without the capability of evaluating the real land values that vary from district to another, no appropriate strategies can be accordingly proposed. This is the main focus of this chapter that presents statistical methodological approach for the real estate appraisal with application on one of the vital districts in downtown Cairo, which is Maspero.

It deduces an equation based mainly on the affecting urban context variables other than the market, cost, and income approaches that are conventionally used for that purpose, and which ignore the consideration of the changing purchasing power of money. Accordingly, it pinpoints the defects of all theoretical approaches dealing with the real estate appraisal and which do not consider the changing circumstances of each district and the urban planning variables that constitute its real value. They mainly depend on factors that are subject to change from time to time in accordance with the surrounding political, social, and economic circumstances. It emphasizes the crucial need for such tools as over or underestimations may lead to economic loss and mislead the proposed developmental plans for any region.

From other perspectives, the dynamics of the informal settlements incorporate other visions other than the conventional means of intervention and upgrading strategies, as sustainability does not only include urban and socio-economic dimensions and their measuring tools, but also includes insights for the environmental ones. Such environmental concerns if adequately integrated within the urban and socio-economic development housing strategies shall ultimately yield in more sustainable results. Such domain is presented in the sixth chapter of this part, that precisely investigates the potential of linking water and sanitation provision to energy saving and food security for the purpose of improving the living conditions of the residents in informal areas, with application on the informal settlement of "Zerzara" located at the heart of the city Hurghada in Egypt. The chapter thus proposes the use of wastewater treatment for agriculture purposes, the fact that would enhance the economic income of residents. Moreover, repositioning livestock rearing from inside the settlement to the agricultural land that is cultivated will improve the health and environmental conditions inside the settlement.

After the review of the different scientific experiences and perspectives addressing the challenges embedded in the dynamics of the informal urbanism; and presented in this part in the form of analytical approaches, comparative analysis, statistical methodologies and assessment tools, it is evidently clear that there are still many interrelated enquiries within this field of study. Some are linked to whether global trends supporting community development and participation have so far succeeded in alleviating poverty and providing sustainable housing solutions in informal areas, or they just succeeded in reformulating governmental strategies that superficially appear to have integrated private and community stakeholders without providing innovative programs that fit the diversity of the socio-cultural patterns around the different developing countries and thus emphasizing the concept of 'Glocolization' versus 'Globalization and localization'.

Others are linked to whether the governments should always play 'the role of the facilitator' or should in some cases force limitations by legislations to play the dominant role in controlling the real estate markets. So, the main question would be how to create a balance between the different roles and responsibilities undertaken by stakeholders within the decentralization process versus the dominant governmental role that if not competent can lead into creating power groups that negatively impact the whole development process.

Some enquiries also arise about the appropriate methods to alter traditional way of thinking in communities, such as the case in Egypt in which the 'house rent' is totally conceived to be unsafe and unacceptable, although this trend if implemented would tackle a lot of the existing housing challenges. Such enquiries also include the acceptance of such communities for new environmental trends that might change their life style but on the other hand provide extra economic benefits.

To conclude, the dynamics of informal urbanism incorporate many problematic and controversial aspects including urban, socio-economic and environmental issues that still in need for more investigation, and which cannot be solved through international collaborations only, but should be rather tackled locally with true intentions from their native Governments that ensure a stable political milieu. These political entities should be flexible enough to adapt different solutions in accordance with each of its diverse existing local contexts. Finally, debates about urban challenges and solutions, with focus on exchange of emerging practices would positively contribute to a new paradigm in informal urbanism. Questioning the role of governments in providing adequate housing and appropriate primary services will remain the preferred topic for housing experts, and researchers, to achieve sustainable communities.

Chapter 11
Top-Down and Bottom-Up Strategies for Housing and Poverty Alleviation in Indonesia: The PNPM Programme in Yogyakarta

Sonia Roitman

Abstract Indonesia has a long history of policies and programmes for housing and neighbourhood improvement. In the last five decades several approaches to housing have been implemented to improve the living conditions of the most vulnerable groups. Since 1999, with policy decentralisation, the government has made some institutional changes to promote more decentralised policy-making. The literature and empirical evidence seem to suggest that this decentralisation process has contributed to some changes in policy-making, shifting from a top-down approach in planning and housing policies to a bottom-up approach focused on community development. However, this chapter shows that this shift has partially taken place and there is a hybrid form of governance combining top-down with bottom-up strategies.

The chapter examines the current governance process for housing and poverty alleviation policies in Indonesia, looking at the roles of stakeholders involved in the design and implementation of programmes. It examines the PNPM *Mandiri* programme (National Programme for Community Empowerment) implemented in Yogyakarta, which is a national programme that aims to empower communities and to improve their living conditions. The chapter argues that communities have opportunities to make decisions about the type of projects they want to implement. However, findings indicate that the programme follows a hierarchical structure in which communities are not able to influence policies according to their needs. Community contributions and opportunities for decision-making are limited to the projects and activities at the local level. Discussion argues that more opportunities

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for community engagement in all stages of the programme are necessary to achieve a truly bottom-up model that allows for independent communities.

Keywords Housing policies • Poverty alleviation • Governance • Community empowerment • Indonesia

11.1 Introduction

Indonesia has experienced important economic improvement over the last two decades. As a result, the Indonesian government has put strong efforts into reducing poverty through the development of several new programmes. There has also been an intention to empower communities and democratise policy-making. However, a visit around urban areas in Indonesia provides evidence that there is still a lot to be done to improve the living conditions of millions of Indonesian families who do not have yet access to decent housing structures, water and sanitation and secure land tenure.

This chapter examines the process of governance in place for the design and implementation of housing and poverty alleviation policies in Indonesia, particularly focusing on the analysis of the stakeholders roles and responsibilities involved in these policies. The PNPM *Mandiri*[1] programme (National Programme for Community Empowerment) implemented in Yogyakarta is analysed as a case study. It represents the symbol of a new model of policies and has been reported having the largest number of beneficiaries in Indonesia (see Table 11.1).

The findings of this chapter are part of a broader on-going research project. The project examines several housing programmes implemented in Yogyakarta (a medium-sized city considered to be a 'socially progressive city') over the last 15 years along with the governance dynamics and interactions of all involved stakeholders. Most of the primary data for this project has already been collected between February 2014 and February 2015. Thirty-six in-depth interviews have been conducted with government officials (provincial and local levels), academics, researchers, staff from international and local NGOs, and community members in Yogyakarta.[2] Some of these were individual interviews and in other cases two to four people were interviewed in the same time. The interview discussions included the use of 'actor mapping'[3] as a tool to examine the dynamics of the stakeholders

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[1] PNPM stands for *Program Nasional Pemberdayaan Masyarakat* (National Programme for Community Empowerment). *Mandiri* means 'to be autonomous'.

[2] Interviews were conducted in English or in Bahasa Indonesia and then translated to English. To protect their identity, interviewees are only identified with a letter, which is not linked to their names, and their roles or occupations. Communities have received pseudonyms in this chapter.

[3] Actor mapping is a tool that places stakeholders in a matrix according to two variables. In this case, these variables include: level of interest, and level of power or influence in housing policies. See example in Sect. 6.

Table 11.1 Housing/neighbourhood improvement programmes in Indonesia (1999-2011)

Program	Year of implementation	Program components	Performance
P2KP/PNPM Mandiri Urban Areas	1999–present	Improving quality of the environment (infrastructure)	Beneficiaries: 14,805,923 KK (head of households)
Implemented in 33 provinces, 268 cities/ districts and 10,923 urban/rural villages		Improving the quality of Housing Resources and Health	
		Increasing accessibility in starting business operations	
NUSSP	2005–2010	Improving quality of the environment (infrastructure)	Beneficiaries: 1,226,817 KK
Implementation in 32 cities/districts		Increasing accessibility to financial resources	Area: 7608 Ha
1353 urban villages			
Co-BUILD	2000–2003	Residential upgrading	Beneficiaries: 10,000 KK
12 cities		Increasing community access to land ownership	
Rusunawa Development	2003–present	Construction of Rusunawa units	Beneficiaries: 13,720 KK
		Building Rusunawa basic infrastructure	
PLP2K-BK	2010–2011	Improving public infrastructure, facilities and utilities (PSU)	Beneficiaries: 33,000 KK
Implemented in 20 provinces		Improving quality of the environment	
31 cities/districts		Increasing accessibility to business operations	Area: 165 Ha
33 locations			

Source: Ministry of Public Works and Ministry of Community Housing, 2011, Published in BAPPPENAS (2012: 102)

involved in housing policies in Indonesia. Data has also been collected from policy documents, government reports and literature on the topic.

The analysis of the governance process and the stakeholders involved in housing and poverty alleviation policy-making in Yogyakarta provides the opportunity to analyse to what extend the decentralisation process implemented since 1999 has allowed for more democratisation and grassroots engagement in decision-making processes.

The chapter is organised into seven sections, including this Introduction. The next section discusses the concept of governance and the elements involved in this analysis, followed by sections examining the process of decentralisation in Indonesia and housing and poverty alleviation policies in this country. Then the PNPM *Mandiri* programme is examined, followed by a discussion on the stakeholders and

governance process evidenced in the implementation of the programme. The conclusions emphasise the significance of analysing housing and poverty alleviation policies in the context of decentralisation in Indonesia and also discuss the 'room for manoeuvre' that communities have to influence decision-making processes.

11.2   The Process of Governance

The vast literature on governance reflects the broad variety of definitions of this concept. When explaining governance, some authors focus on the actors involved in policy-making and their relationships, recognising the existence of a multiplicity of actors within three broad groups: the government (local, regional and national levels), the private sector and the civil society (in particular community-based organisations – CBOs- and non-governmental organisations -NGOs) (Minnery 2007). Partnerships, conflicts and consensus and the need for negotiation and coordination are also elements that characterise the process of governance (Healey 1997), in addition to understanding the diversity of interests and goals underpinning this process. Other authors also include the setting, application and enforcement of rules (Kjaer 2004) and the frameworks within which actors work and politics occur (Marsh and Olsen 1995, quoted in Kjaer 2004).

This chapter follows the definition given by Minnery (2007: 333) who sees governance as 'processes of direction-setting, policy making and implementation that incorporate the roles and responsibilities of government, the private sector and civil society in urban settings, as well as the partnerships and conflicts amongst them'.

Although the definition given by Minnery does not cover all the previously mentioned elements (in particular the existence of rules and frameworks), it identifies four key elements that are relevant for this chapter, and provides the conceptual framework that is used for analysis:

(i)   The understanding of governance as a process, which is therefore in constant change;

(ii) The notion of a direction set by the process, which involves objectives and goals that might be explicit or implicit;

(iii) The identification of a multiplicity of actors that can be organised in three main groups: public sector, private sector and civil society[4];

(iv) The understanding that governance involves not only good relationships, agreements and partnerships amongst actors, but also difficult relationships, disagreements and conflicts. The latter also need to be addressed to achieve the objectives and goals set.

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[4]As mentioned in Sect. 4 in this chapter, 'multilateral organisations' constitute a fourth group that is important to acknowledge in relation to development and urban planning. However, this chapter does not focus on the role of this fourth sector.

In addition, this chapter argues that it is also necessary to understand a fifth element of governance:

(v) The perceptions on the roles, responsibilities and capabilities of all stakeholders involved in the governance process.

This chapter analyses governance in relation to these five elements but concentrates on the roles and responsibilities of actors involved in housing and poverty alleviation policies and the perceptions on these roles by the different stakeholders in Indonesia. This analysis helps to understand if after decentralisation in 1999, communities are given more space to make decisions regarding housing and poverty alleviation policies, programmes and projects.

11.3   Decentralisation in Indonesia

Although there is an agreement in the understanding of governance as a process that goes beyond the government, the latter is still considered a key actor in setting objectives and allowing for or inhibiting change to happen in Indonesia. While in the past this key role of setting objectives was reserved for the national government, in some cases there has been a shift of responsibilities from the national government to the regional/provincial or local government. However, this has not always been accompanied by the provision of human and financial resources to be able to take care effectively of these new responsibilities. The 'room for manoeuvre' or freedom and possibilities for taking action (Safier n.d.) of local governments in particular still seem to be very limited in many countries of the Global South.

In 1999, in the post-Suharto democracy, Indonesia implemented a very important decentralisation process that has been considered as 'the largest in the world in terms of the wide range of powers, responsibilities and resources that have been devolved to sub-national administrations' (Miller 2013: 835 – footnote 1). Most authors agree that a shift of responsibilities from the national government to the local government has occurred. However, some authors (Firman 2010, for instance) believe this shift has not included devolution of power to local governments.

Within Indonesia, decentralisation has established more responsibilities for cities and districts on political, administrative and economic affairs within their own jurisdictions (Miller 2013). However, researchers indicate that the progress of development of provinces, municipalities and districts since decentralisation has been very uneven (Firman 2010). Some have improved considerably, while others have worsened. According to Firman (2010: 401), 'the differences appear due [to] the quality of leadership of the local elites, especially the heads of districts and municipalities'. Also, hierarchical relationships between government levels still play a strong role, even if provinces and cities have more opportunities to establish some degree of independence (Miller 2013).

As a consequence of decentralisation, cities and districts face the challenge of providing adequate public services, especially with regards to water and sanitation,

public housing, solid waste and transport infrastructure. The private sector has started to provide a stronger role in the provision of some of these services. The civil society is slowly playing a stronger role in local governance, as indicated in this chapter. However, it is not clear what has been the impact on the dynamic of governance, the relationships among different actors, and the role played by each actor.

In relation to housing and poverty alleviation policies, as the author illustrates, there has been a perception by the main stakeholders of a shift in the design and implementation of policies and programmes from a top-down approach heavily controlled by the national government to a more bottom-up approach. This encourages the engagement of communities, not only in the implementation but also in the design of the programmes and the establishment of priorities based on their own needs.

11.4   Housing Policies in Indonesia

Indonesia is rapidly becoming an urban country. In 1990 the urban population was 31 % of the total population, increasing to 42 % in 2000 and again to 44 % in 2010. More than half of the population (54 %) will be living in urban areas by the year 2030 (UN-Habitat 2012). Natural growth and migration from rural to urban areas explain this urban growth, which is driving demand for services, infrastructure and housing in cities.

According to UN-Habitat (2012), the proportion of the population living in slums has decreased considerably in Indonesia – from 51 % of the total urban population in 1990, to 34 % in 2000 and 23 % in 2009. However, the absolute number of citizens living in slums has not seen a strong decrease. In 1990 27.6 million of people lived in slums in major urban areas of Indonesia, 29.7 million in 2000 and 23.3 million in 2009.

The Indonesian government has put strong efforts into achieving the MDG (Millennium Development Goals). With regards to Goal 7, Target 7D – 'Achieve, by 2020, a significant improvement in the lives of at least 100 million slum dwellers' – the Indonesian government argues that there has been a significant improvement. In 1993 21 % of the population was living in slums and this had decreased to 13 % in 2011.[5] However, this is still a long way from the 6 % target set by the government for 2020 (BAPPENAS 2012).

Economic growth in the last 15 years and policies targeted at the most vulnerable groups have contributed to a reduction in poverty. However, there are still millions

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[5] It is important to notice the disparity between UN-Habitat figures and the Indonesian Government figures: 23 % and 13 % of urban population living in slums in 2009 and 2011 respectively. This mismatch of information could be due to contrasting definitions of poverty and slums, or perhaps related to an underrepresentation of poverty by the government. There is no evidence to confirm this.

of Indonesians who live in very poor housing conditions. Achieving the goal of 6 % of poor citizens living in slums by 2020 will require further special attention from the government and other stakeholders involved in housing policies in Indonesia.

It is thought that the national government invests about 1.5 % of the national budget on public housing (Tunas and Peresthu 2010). Nevertheless, some authors argue that Indonesia is 'a country where low-cost housing programmes are far from adequate' because 'many urban authorities do not have the political will, the financial resources and know-how to do anything about informal settlements' (Tunas and Peresthu 2010: 315). However, despite such critiques the government has showed commitment to improve the housing conditions of the poorest citizens in Indonesia through the implementation of new policies and programmes since 1999. The main objectives of these new policies are to empower communities through the creation of independent communities and to make policies more efficient by preventing projects from overlapping. These objectives and policies have been operationalised through a series of national programmes that had their roots back in the 1960s, but have evolved since then shifting from more emphasis on physical neighbourhood upgrading to more comprehensive policies including physical upgrading, economic improvement and community development.

The Kampung Improvement Programme (KIP) for instance, was successfully implemented from 1969 to 1999. Since *reforms* in 1999, the main programs for housing and neighbourhood improvement have been the following (BAPPENAS 2012):

- Urban Poverty Alleviation Programme (P2KP)
- Neighbourhood Upgrading and Shelter Sector Programme (NUSSP)
- Community-based Initiatives for Housing and Local Government (Co-Build)
- Life Improvement Programme for Poor Urban Communities and Regional-based Plans for Management of Slum Housing and Neighbourhoods (PLP2K-BK)
- *Rusunawa* Development (apartments for rent in social housing buildings).

The P2KP (Urban Poverty Alleviation Programme) was later transformed in the PNPM *Mandiri* programme which is still being implemented and has the largest number of beneficiaries in Indonesia (Table 11.1).

When analysing these programmes, four main groups of actors involved can be identified as follows:

- **Government actors:** These actors have the strongest role as the sector designing and implementing policies and programmes. They include national government, provincial government, city government, district government, regency government and sub-districts.

   At the national level, it is important to mention the Ministry of Housing, the Ministry of Development Planning (and the National Development Planning Agency, BAPPENAS) and the Ministry of Public Works.[6]

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[6] This was the structure until 2014. The new president of Indonesia, Joko Widodo, in office since October 2014, is making changes in the ministers and national agencies.

   At the provincial and local levels, in some cases there is no agency responsible for housing, which is usually under the provincial or local agencies of Public Works. *Bappeda* is the Planning Agency at the provincial and local levels. The districts and sub-districts are part of the local government. The regency government is a type of local government, with a lower status than a municipality.

   This group also includes International Development Agencies from country donors like DFAT (Australia), SIDA (Sweden) and DFID (UK).

- **Private sector:** This group includes developers who build houses mainly for middle and upper-class families and private companies that take part in some programmes through their corporate social responsibility schemes. This group is not a very active actor in relation to the implementation of housing programmes in Indonesia.
- **Civil society:** This group includes a broad range of actors, from international and local NGOs to community organisations. Within the local actors, there are several groups at the grassroots level: RT (*Rukun Tetangga* – community associations, also known as household associations) and RW (*Rukun Warga*, neighbourhood associations, or residents associations). These are community organisations that have existed in Indonesia for several decades. The BKM (*Badan Keswadayaan Masyarakat*, independent community board or trustees community board), and KSM (*Kelompok Swadaya Masyarakat*, self-organised community group) are two types of organisations related to the PNPM. There are also local NGOs included in this group. At the international level, there are international NGOs (like Habitat for Humanity).
- **Multilateral agencies**: A fourth group needs to be added here, as differently with what mentioned earlier by Minnery (2007). This group includes United Nations' agencies (like UNDP and UN-Habitat), other international donors (like Rockefeller Foundation and Melinda and Bill Gates Foundation) and international financial agencies (like the World Bank and the Asian Development Bank).

The PNPM represents a good example of the government approach to poverty alleviation and the process of governance in the context of decentralisation. It is also the most relevant programme in terms of analysing the shift from top-down to bottom-up strategies because it explicitly emphasises community empowerment to achieve community driven development as a key goal. The next section analyses the PNPM *Mandiri* programme In Yogyakarta in detail by looking at literature, policy documents and primary data from interviews.

11.5   PNPM Mandiri in Yogyakarta

Yogyakarta is a city (Yogyakarta *kota*) and the capital of Yogyakarta Special Region located in Java. It is called Special Region (and not province) because it has special autonomy arrangements with the sultan (local king), who plays the role of

governor. The metropolitan region is formed by the city of Yogyakarta and the urban areas of the regencies of Sleman and Bantul. The Metropolitan Region has a population of over two million and Yogyakarta city over 600,000 residents. The city of Yogyakarta is considered to be one of the 'socially-progressive models' of cities that have successfully adapted to the model of decentralisation since 1999 (Hudalah et al. 2013).

When looking at the proportion of poor people in each of the Indonesian provinces, Yogyakarta has above-average numbers compared to the country as a whole. In 2011, 16 % of the people in Yogyakarta were considered poor, compared to 13 % for the whole country. In general, poverty is worse in rural areas in Indonesia: in 2011 16 % of the rural population of the country was poor, against 9 % of urban national population. Yogyakarta follows a similar pattern: 22 % of people in rural areas lived in poverty as against 13 % in urban areas (BAPPENAS 2012). The PNPM is implemented in urban and rural areas. Although about 75 % of the total national funding goes to the rural projects (BAPPENAS 2012).

This section analyses the PNPM *Mandiri* programme in Yogyakarta city by looking at four aspects of the programme: (1) Overview (including timeframe and objectives); (2) Components and beneficiaries; (3) Functioning of the programme; and, (4) Community participation and empowerment. The outcomes of the programme are considered within the discussion of the last three aspects.

11.5.1   Overview of the Programme

The Urban Poverty Alleviation Programme (P2KP, commonly known as Urban Poverty Programme – UPP) ran from 1999 to 2006. It aimed to improve the quality of the neighbourhood through the provision of urban infrastructure and strengthening of the capacity of the community to generate sustainable income (Habitat Indonesia n.d.). The UPP was later continued through the PNPM *Mandiri* in 2007, which is still being implemented at the time of writing. While P2KP focused more on economic development and the provision of loans, PNPM is a more comprehensive programme.

The PNPM has been co-funded by the World Bank and the Government of Indonesia (Ministry of Public Works, Directorate General of Human Settlements) and operates in both rural and urban areas, with 75 % of the projects in rural areas in 2011. In 2011 the programme allocated Rp13.14 trillion (approximate US $1000 million) for the whole country in both urban and rural areas (BAPPENAS 2012). The programme has two main objectives: to empower poor communities and to improve their quality of life. The ultimate goal of the programme is that communities develop the capacity to be independent or 'autonomous' (*mandiri*) and are able to get their own funding to improve their living conditions (Ministry of Public Works n.d.).

The PNPM is officially a participatory programme that encourages communities 'to formulate their own development needs of their region through a participatory

planning process' (BAPPENAS 2012: 103). It is considered to be an 'urban community driven development program[me]' (World Bank 2013) whereby communities are invited to elaborate a medium-term community development plan based on their needs and proposals. The community is also required to establish community organisations called Independent Community Boards (BKM), 'which are expected to serve as the driving force of communities in developing their respective regions independently and sustainably' (BAPPENAS 2012: 103.).

The programme is regarded as a 'successful' programme with 'an effective approach for community participation and for addressing basic infrastructure at the community level' (World Bank 2013: vi). However, as this chapter shows, findings indicate that there are still several aspects, discussed in the following sections, that should be improved to achieve a process of development centred in the communities.

11.5.2   Components and Beneficiaries of the Programme

The PNPM is also a comprehensive programme that addresses physical components of housing and community infrastructure, but also contributes to improving the livelihoods of poor families and to strengthening community development. As explained by a PNPM officer, the programme has three main components: 'Economic development, to increase the income [of residents]… The second one is capacity building; the community also needs to be given capacity through coaching, trainings. The third is for the supporting, [providing] access to infrastructure. So economic development, community development and infrastructure development. With these three approaches, it would reduce the poverty problems' (M, PNPM programme officer).

Table 11.2 shows a selection of activities developed in the whole country funded by PNPM Urban over the period 2007–2009 divided on the three main areas of the programme: infrastructure, capacity building and economic development. The largest number of beneficiaries is related to community infrastructure improvement: footpaths, drainage, bridge and toilet construction. The individual cash transfers for individual economic projects are significant, with a majority of female beneficiaries.

Tables 11.3 and 11.4 refer to the situation of Yogyakarta *kota*. Table 11.3 shows that in 6 years the PNPM provided Rp 45,996 million (USD $ 3.5 million) for projects in Yogyakarta city, with the year 2009 receiving the highest funding. The number of beneficiaries is not directly related to funding since funding is variable according to the type of activity (as shown in Table 11.4). Although the majority of the beneficiaries of PNPM are poor, the activities also benefit other non-poor residents. When comparing the situation at the national level (Table 11.2) and at the local level (Table 11.3), Yogyakarta seems to have been more effective in targeting poor beneficiaries. Table 11.4 also shows that the activities related to physical upgrading of housing, toilets and road improvement received the higher funding in 2013. While housing and toilets improvement benefitted mostly poor households, improvements regarding road improvement, drainage, sewerage and bridge con-

Table 11.2 PNPM urban (at national level), 2007–2009

Infrastructure or environmental components	Volume	Unit	Households	Poor households
Access to infrastructure				
Access/footpath	36.245.874	Metre	16.819.765	10.413.337 (62 %)
Drainage	10.438.886	Metre	5.448.668	3.229.207 (59 %)
Bridge	411.813	Metre	1.426.918	804.235 (56 %)
Housing	134.264	Unit	285.645	218.084 (76 %)
Communal toilets	138.379	Unit	1.050.277	718.488 (68 %)
Solid waste disposal	92.039	Unit	909.498	465.645 (51 %)
Health facilities	13.960	Unit	586.767	12.895 (2 %)
Capacity building				
Social components	Volume	Unit	Households	Poor households
Scholarships	2.782.288	Person	634.461	531.470 (83 %)
Social funding	380.471	Person	490.675	368.226 (75 %)
Economic development				
Microcredits				
Community recipients		552.587		
Individual recipients		2.993.168	Female	1.854.702 (62 %)

Own elaboration based on Habitat Indonesia Secretariat (n.d.)

Table 11.3 PNPM in Yogyakarta city (2008–2013)

Year	Total funding (in Indonesian Rupiah)	Beneficiaries (households)	Beneficiaries (poor households)
2008	4,296,469,600	28,437	21,000 (74 %)
2009	13,647,544,645	55,584	39,608 (71 %)
2010	4,996,709,093	9768	7200 (74 %)
2011	5,451,970,440	13,004	10,341 (80 %)
2012	7,616,538,550	8208	6356 (77 %)
2013	9,987,157,100	10,022	6973 (70 %)
Total	45,996,389,428	125,023	91,478 (73 %)

Own elaboration based on data provided by PNPM office in Yogyakarta city in February 2015.
Note: Total funding includes also funded provided by the beneficiaries

struction represent benefits for the whole neighbourhood, not only poor residents. The same happened with education facilities.

According to official policy the beneficiaries of the programme are supposed to be poor residents. However, a key finding is that the 'community' decides who is poor in that community. A PNPM officer explained:

> For our programme, PNPM, the definition of 'poor' is decided by the community itself. The mechanism is that people are gathered in an FGD [Focus Group Discussion], where they decide what is poor according to them. So it can be different between one area and another; [it] depends on the perspective of the community about what poverty is. After they [have] decided the criteria of poor, then they map who the poor families that meet the criteria are (E, PNPM programme officer).

Table 11.4 PNPM in Yogyakarta City by activity (2013)

Activity/component	Total funding (in Indonesian Rupiah)	Beneficiaries (households)	Beneficiaries (poor households)
Clean water	180,023,000	266	235
Drainage	588,193,200	907	559
Road improvement	3,279,403,450	5479	3286
Bridge	312,651,500	390	251
Other component	195,509,300	466	337
Communal and indiv. toilets	1,016,348,950	469	425
Housing	3,648,249,250	412	411
Channelled sewerage	340,068,250	524	377
Educational facilities	4,542,500	20	8
Solid waste disposal	23,490,700	33	28
Health facilities	14,675,000	65	65
Human resources training	384,002,000	991	991
Total	**9,987,157,100**	**10,022**	**6973**

Own elaboration based on data provided by PNPM office in Yogyakarta city in February 2015

The selection of beneficiaries is then analysed according to the government data on those households, and one participant explained that, 'the community has the right to decide who the poor are, but at the end of the day it is synchronized with the database from the local government' (M, PNPM programme officer). However, as is discussed later, and as shown in the tables above, not all the beneficiaries are poor.

Being poor is not enough to qualify as a beneficiary of PNPM, residents also need to have an identity card, be residents of that particular district (and not migrants) and be owners of the land and house they occupy. The latter issue of owning land and a house represents the main obstacle for poor groups who live in informal settlements with no formal land tenure to access the PNPM.

However, despite the problems with the programme the research findings indicate evidence showing the improvement of the living conditions of some beneficiaries. While the programme does not keep a record on the outcomes of the programme in each community, the interviewees offered several examples of such improvement.

As shown in Table 11.4, the outcomes of PNPM can be at the household level (i.e. housing upgrading) or at the neighbourhood level (i.e. road improvement). L., a member of BKM Sun, located in the south of city, commented on the outcomes they had in 2 years:

> We built several houses. We made new houses and also improved and fixed several houses and also MCK [toilet]. There is a case that before this programme several households used a MCK together. And then we helped them to have an individual MCK. The road is also improved. Soil road became a paved road. We also built a drainage network in the neighbourhood (L, BKM Sun member).

Y, a female beneficiary, who started borrowing money from PNPM in 2007, was able to start a small restaurant and in 7 years her business has expanded to a second

restaurant, employing a total of four people. She added on other benefits from the programme:

> My children can go to school after I joined PNPM. Before that, it is no way I could pay for my children's education. [Now] they can go to university. I have three children. Right now two kids go to university… and the last kid is in junior high school… Thanks God, thanks so much, without the help from PNPM, I could not get education for my children… Also I went to Mecca with my mother in 2010. So the result is very nice. Many thanks to God (Y, member of Progress community).

As a result of her success, some years later this lady was able to borrow money from a commercial bank. This person received a national award from the former Indonesian president for her success and progress as part of the PNPM.

The BKM River is considered a 'successful BKM' by PNPM officers and other government officials because it has managed to establish a partnership with a company from the private sector. This company, located near this community, provided funding for the rehabilitation of a river bridge, through the company's corporate social responsibility programme. This BKM was created in 2000 and started working with the PNPM programme in 2007. It is a community located on the bank of one of the main rivers in Yogyakarta. The community has rehabilitated 256 m of the riverbank and is working on an additional 160 m. This rehabilitation included building a river defence, a pedestrian sidewalk along the river and cleaning the area. All houses located by the river had to change their face to the river to create more community interaction at the riverside. The leader of the BKM, explained: 'We do not only improve the river condition; we also improve the houses alongside the river. The houses used to have the river as their back, now they all face the river' (P, leader of BKM River). This person agreed that community members supported the programme and the BKM because they could see the results: '…they agree [with the programme], particularly the households living at the riverside, because it used to be a slum area. We can say that it was full of garbage, and Javanese people say that it was haunted; there were many bamboos; then we managed the area and it's getting better, then everyone supports [it/us]'.

11.5.3 Functioning of the Programme

The PNPM works in a very structural and hierarchical form. The community gets organised in a group called KSM (*Kelompok Swadaya Masyarakat*) (self-organised community group) and the KSM makes a proposal and writes a letter outlining that proposal to the BKM (Independent Community Board). The BKM plays a key role in this programme. Its members (from 9 to 13, always an uneven number for voting purposes) are elected within the community for a 3-year period. It is a voluntary role. These are trusted community members with a high standing within the community, and one participant reported, 'The idea is that they are good people, honest people, fair people that can inspire other members and reinforce humanitarian values in the community' (M, PNPM officer). Several interviews indicated that good

standing and good values are considered the central characteristics for these members. Being poor and a potential beneficiary of the programme is not a requisite to be a member of the BKM. Other skills, like being able to 'lobby' other stakeholders outside the community, are considered good additional features, but not a priority. Some BKMs have links with other society members with high standing ('politicians, academics, medical doctors', as defined by an interviewee) who might also be able to establish links with other stakeholders and facilitate new partnerships between the community and the government, or with other organisations that might lead to the self-sustainability of the community, as later discussed. Interviewees also explained that although the community receives current assistance from the PNPM officers, 'in the future, they expect to be independent; the planning process, the implementation, evaluation process, should be done by themselves' (M, PNPM officer). However this is not yet the case of the BKMs analysed here.

The BKM mobilises the community and acts as liaison between the community and the programme officers. It also prioritises and selects projects. There are around 250 proposed projects for infrastructure in Yogyakarta city yearly. These projects can be street improvement, drainage, sanitation improvement, or similar infrastructure projects. Other economic projects that aim to strengthen the livelihoods of households through microcredits, and social projects to reinforce capacity building through training, education are also included. In all projects the community or household is expected to contribute a percentage of the total funding (usually 30–40 %). The funding from the central government varies according to the type of project. Individual households can get from Rp5,000,000 to Rp15,000,000 (USD $385–1160) per unit for housing improvement. The programme also uses the principle of *gotong-royong* (mutual assistance), a Javanese cultural value to promote community solidarity and help to achieve a shared goal, when mobilising the community to take part in the PNPM.

The programme considers the formation of partnerships as a key element for the future sustainability of the programme. Participants argued that the BKM should try to engage with other actors, in particular the provincial government and the private sector, in order to strengthen their capacity and their ability to procure their own resources. However, there are three challenges. The first is the time required to establish trust and solid working relationships. As explained by a PNPM officer: 'The first challenge is to build internal BKM trust first, then external trust. For a BKM that has a solid team within itself, I believe they can build a partnership…' (M, PNPM officer).

The second challenge refers to the personal skills of BKM members and the time they can devote to this role. Since the role is volunteer and unpaid, not all members can spend a lot of time on the activities related to the board. In addition, interviewees claimed that the BKMs with proactive members have better outcomes. The same is also applied to the KSMs: 'The results are different depending on the people… if they are active or not… The active people will achieve a better neighbourhood' (F, programme facilitator). A BKM member added: 'If the KSM is solid, it is proven that the people in the neighbourhood is active, willing to participate, and have a high spirit. That is how we can see whether they have a high willingness to alleviate poverty or not' (O, from BKM Sun). Leaders of KSMs also struggle to

encourage participation within their groups. One leader explained: 'I was chosen as the leader…. a group consist of eight people. I made the following rule: "I would be the group leader if the members participate"'. Some members also criticised the programme facilitators (government officers) and made them responsible for the bonding (or not) of the community. For example one KSM participant argued that:

> I think the BKM here don't have strong social bonding. Because the process of socialization from facilitator is very weak. The relationship between facilitator and KSM is not really strong. Actually, like I said before, we are happy if there is a meeting once or twice a year. [But if it would be more regularly] It will strengthen our social bonding. And also stimulate members to make a loan regularly. So at the end the money will increase (Y, leader of a KSM).

This last opinion reveals how some beneficiaries appear to still put a big responsibility on the government as the leading actor, when on the contrary, the programme aims at encouraging communities to become independent.

A third challenge for the programme also appeared to be getting loan payments back from beneficiaries. One BKM member explained:

> We believe that every person has his or her own reason why they cannot pay back. Maybe we can give a suggestion or solution. We try to make them realise that is not only about them paying back things but they can help other people with that money. We want them to have a mind set that the money can be very useful for other people. (L, from Sun BKM)

And a programme facilitator further explained: 'Sometimes they think that the money is *hibah* (grant or gift) from the government' (F, programme facilitator). Y, from one KSM commented on this challenge:

> Thanks God, I have good intention. I did never get a loan before. My parents never taught me to borrow money so easily. …I was so afraid to get a loan, so I told my [group] members and my friends that it is not our money. We have to pay it back and the money is not our right. I have pure intention to get a loan, to run the business. (Y, KSM leader)

The BKM is responsible for the monitoring and evaluation of the activities in the first instance, and then the programme coordinators (government officials) also do monitoring. Additionally, there is an audit done by an audit board from the national government (*Badan Pemeriksa Keuangan* – Finance examiner agency).

11.5.4   Community Participation and Empowerment

PNPM officers agreed that communities have currently more power in decision making processes than before decentralisation: 'particularly in this programme because in this programme the one who makes the decision is the community, but there still needs to be coordination so that there would be no overlapping programmes' (D, PNPM officer). Another programme facilitator mentioned: 'before PNPM started poor people kept quiet [and] they did not speak what they want, but after [that] the PNPM empowered poor people and they can speak louder at the village level, but not higher up because they are not confident [enough]' (G, programme facilitator).

Communities recognise that there has been an increase in opportunities for community participation and that they are now better placed to express their needs and make decisions. However, they recognise that they cannot influence policies. The leader of BKM River explained:

> The programme at the sub-district level is a bottom-up programme. It used to be top-down, but now it is bottom-up, based on the needs of the people. Whatever the aspirations are, we collect them at the sub-district level, through the BKM… We discuss about the aspirations at the *musrenbang* [*Musyawarah Perencanaan Pembangunan,* Annual Discussion for Planning and Development]. From every institution [community] we collect the inputs and verify them at the site, whether this proposal is suitable with the condition or not. Certainly today the role of the community to plan the area has been increasing, that's what has been developed, from the community. [But] To influence the policy, I don't see that…. (P, leader of BKM River)

Such findings, echoed by other participants in this research, indicate that the possibilities for communities to influence policy-making still remain limited. This might be a consequence of the national government still having a key role in the design of the policies and the provision of funding. A PNPM programme evaluation conducted for eight cities (not including Yogyakarta) found that although there was community participation, this only occurred during the initial formulation of proposals and the mapping stage of the communities, but participation became more limited in the following stages. For example, the community plan is usually done by the BKM members and the PNPM officers, and not by the residents of the area (Betke and Ningsih 2011).

Another weak aspect mentioned by some interviewees is related to the communities that benefit from this programme. Although they are poor communities, they do not seem to be the most deprived communities in Yogyakarta. For example, P, the leader of BKM River said his community 'is not very poor'. He explained: 'It is about 600 poor people [out of 4000]'; 'there are still poor people but not too many'. He continued: 'We are getting the funding because of our ability to manage the funding… and the return rate which is the highest: 96 %'. The BKM River has currently a revolving fund of about Rp1,000,000,000 (about USD $77,000) to be used for community and individual projects. The fact that this poverty alleviation programme is not targeting the most needy population and has within its beneficiaries some groups who are not poor has been pointed out by other sources. According to the programme evaluation in eight cities (Betke and Ningsih 2011), some activities related to housing rehabilitation and public sanitary facilities were focused on poor beneficiaries, while other activities had a percentage of non-poor beneficiaries. As shown in Table 11.3, about 75 % of the PNPM beneficiaries in Yogyakarta are poor but this is lower for the country as a whole (Table 11.2).

As already mentioned, community participation is a key element in this programme since the community establishes their own needs and implements the project. PNPM officers agreed that participation is 'quite good', but they also recognised the difficulties in engaging people, with one officer explaining that: 'We find it quite difficult to motivate the volunteers and trigger the participation; quite difficult' (M, PNPM officer). A member of a KSM also argued: 'I think the condition right now

is quite passive' (Y, KSM leader). In this sense, the World Bank evaluation on the PNPM acknowledges the need for 'ensuring more participation by women and the poorest in communities'[7] (World Bank 2013: vi). Most interviewees involved in the PNPM agreed on the programme being 'bottom-up'. One programme facilitator explained

> The concept of PNPM is bottom-up… So, the one who makes a plan, executes and evaluates the programme is the people itself. The PNPM money becomes a "stimulant" to generate people empowerment. At the end we hope that the community will become independent and also can make all the planning process and implement it. (F, programme facilitator).

Another programme facilitator explained 'Firstly, PNPM became like a moral movement after the financial crisis in 1998. After the crisis, people hardly believed in the government. Mostly people were convinced that top-down approach is not good. And then right now the approach is more like enhancing the people at bottom level. Basically, the PNPM is a moral movement on how we help each other and also improve the capacity building of the community. The development is held by the bureaucracy, in the sub-district level, everything from the sub district, and the government gives an authority to the people. I think it's very good and very important, about the people empowerment. With a slow but sure step, I don't know how long PNPM will last, but I think if the PNPM exists in the community, they will become independent and they won't depend on the government' (B, programme facilitator). A BKM member provided a clear distinction on this: 'The rule of the government is top-down. But what we do and will do is bottom-up' (O, BKM Sun member). A local researcher explained,

> in PNPM the participation of local people is not very high… the local government implements the programme' and he continued: 'the government wants to have a more bottom-up [approach] but the problem is that in our bureaucracy, they like more the top-down than the bottom-up…Also it is not easy to make it bottom-up… some times when I do FDG, the poor people are just silence and they just agree with things… and also in the local village, the role of the elite is very strong'. (A., researcher)

Other poorer communities in Yogyakarta have argued that they would like some changes in the system. Some of these communities are beneficiaries of PNPM projects but they would like to be able to participate further: 'The government gives the aid without any participatory project, without seeing the resource of the people, without seeing the collective actions of the people' (N, leader of a community called Green). This leader added: 'The government does not target the very poor people, but the middle class'. In addition, some community members do not feel represented by their RT or RW (the community associations at the sub-district levels): 'RT or RW is regarded as the voice of the people, but it is not always like that, and the people sometimes disagree with that. People are not asked to talk directly, only represented by the one or two people of the RW or RT' (W, community member from Green).

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[7]Although this chapter does not include a gender analysis in relation to the PNPM, some interviewees mentioned that in general community participation is still male dominated in Yogyakarta.

As stated by interviewees, and illustrated in the extracts of the interviews provided in this section, the PNPM involves actors coming from the public sector (national and local governments) and from the civil society (different community groups). The next section examines the governance dynamic related to this programme.

11.6   The Governance Process for the PNPM

Based on the key elements identified as part of a governance process in Sect. 2 in this chapter, it is possible to say that the PNPM *Mandiri* programme follows a process of governance that involves the engagement of several stakeholders as explained in the previous section. It is a process in constant change that tries to improve every year based on the limitations and difficulties encountered by the stakeholders and the lessons learned within the evaluation processes. The direction of this process is set by the objectives of poverty reduction and community empowerment. The implementation of this programme has facilitated partnerships and good relationships between actors. There are also some conflicting relationships but these seem to be still hidden from the discussion about the programme during the interviews.

PNPM allows communities to have some degree of 'room for manoeuvre' (Safier n.d.) so that they can make decisions on what they need and want and identify those members of their community whose needs are greatest. They can apply for government funding for these projects in the form of individual or community cash transfers. This would suggest that there is a bottom-up approach with more democratisation of decisions and more power to the communities. The process shows how communities grow in maturity. However, the national government still has a central role, and it was considered by most interviewees as one of the actors with the highest level of interest in housing policies and highest level of power or influence (see Diagrams in next page). In addition, after initial consultation with communities, most of the planning is left to a reduced number of community members (usually the BKM) to make decisions and priorities for the whole community. According to the evaluation programme on eight cities by Betke and Ningsih (2011: 74), there is a 'general lack of truly participatory processes (as differentiated from formally participatory procedures) in programme formulation which is characterised by domination of local elites (such as neighbourhood chiefs and PKK[8] cadres) in the process. In other words, the postulated goal of introducing bottom-up community-level planning has not (yet) been achieved'.

As elaborated in Sect. 2 in this chapter, the analysis of the governance process requires the understanding of the perceptions that each stakeholder has in relation to the position and roles and responsibilities of themselves and other peers. The use of

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[8]PKK is *Pemberdayaan dan Kesejahteraan Keluarga* (Family Welfare and Empowerment) movement.

actor mapping allows for these perceptions to be visually expressed. In this research, actor mapping was intended to see how much power/influence and how much interest stakeholders perceived for themselves and other stakeholders involved in housing and poverty alleviation policies in Yogyakarta. Three different stakeholders have been selected to show the diverse perceptions regarding the interplay of these actors and their levels of power/influence and interest on this topic.

The three diagrams present similarities and differences related to the position of each stakeholder and his/her own perceptions. The main similarity among the three cases is that most actors are considered to have high level of interest on these policies as they are positioned on the top part of the diagram. There also seems to be an agreement that the national government (#1) and the local government (#2) have high level of interest and high level of power. As shown in previous sections of this chapter, in the case of the PNPM the national government is the actor driving the process within the government sector and the local government supports the national government. It is also interesting to see that international donors are perceived as having high level of power and high level of interest on housing policies. In the case of the PNPM, the World Bank is the main international donor, responsible initially for partial funding of the programme and also for external evaluation. However, these multilateral agencies are seen as a secondary stakeholder.

The analysis of these three actor mapping diagrams also shows diverse perceptions. The head of the sub-district (Diagram 2; shown in Fig. 11.2) thought that all stakeholders had high level of interest and power, while the PNPM (Diagram 1; shown in Fig. 11.1) coordinator and the BKM leader (Diagram 3; shown in Fig. 11.3) considered that communities had high level of interest but low level of power. The latter might be related to some of the opinions provided in the previous sections on the limitations faced by communities to influence policy-making. The three diagrams also show that the provincial government does not seem to play a key role in the elaboration and implementation of these policies (low interest according to the PNPM coordinator and low power according to the BKM leader, and not even considered by the head of the sub-district).

In relation to how stakeholders perceived their own organisations, it is interesting to notice that the head of the sub-district (which is part of the local government) thought that the local government had high level of interest and power and also recognised that the local government (#2) had more power than communities (CBOs, #4), but communities had more interest in the policies (Diagram 2; shown in Fig. 11.2).

The PNPM coordinator (Diagram 1 shown in Fig. 11.1) did not consider his organisation as part of the government (neither national nor local government) and recognised his organisation (#9) to have low power but high interest, close to the position of the community (#4). The BKM leader (Diagram 3 shown in Fig. 11.3) made a distinction between his organisation (#9) with high interest and power on housing and poverty alleviation policies and other communities (#4) with lower interest and lower power. This person also thought that there was a big difference between the high level of interest of the national government and the lower level of interest of the local government.

Stakeholder/Actor Mapping
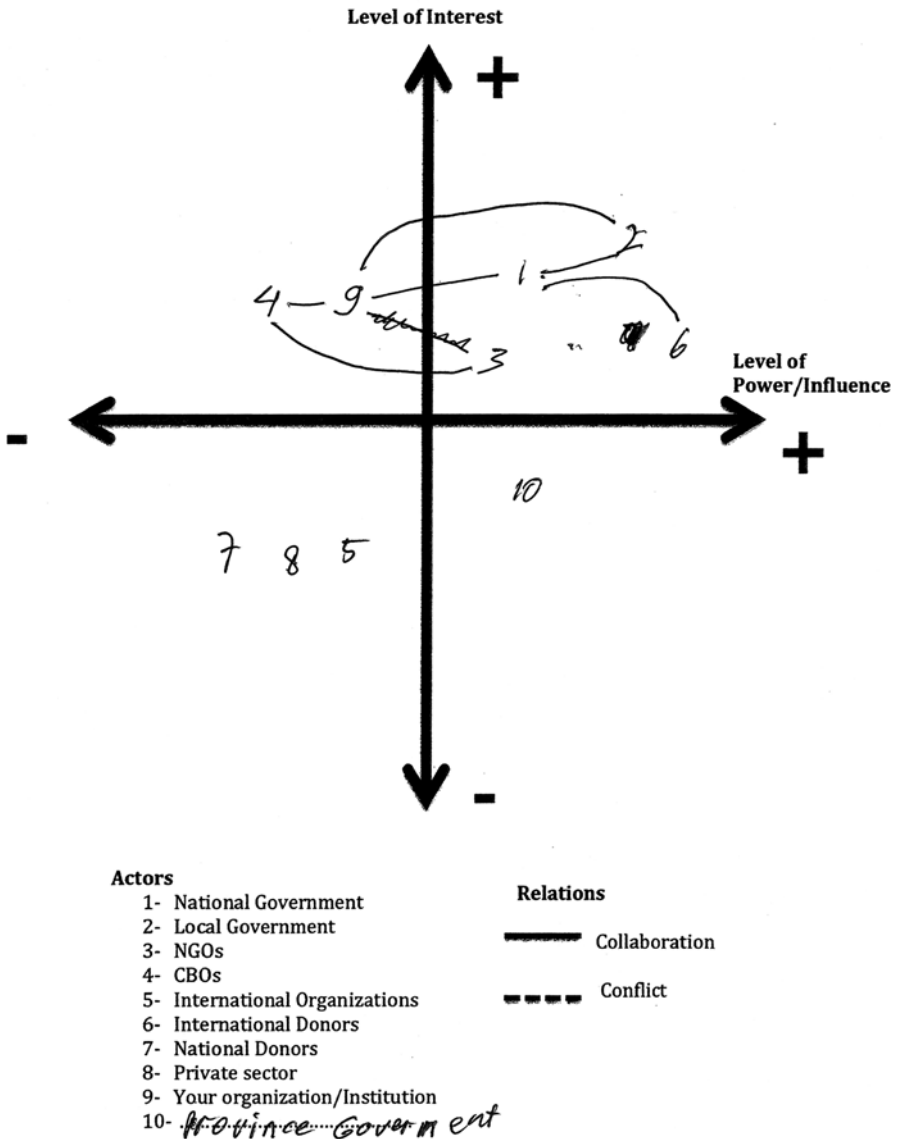
Fig. 11.1 Diagram 1: perceptions of PNPM coordinator (Source: Developed by author)

The analysis of these three diagrams provides the visual expression of the perceptions about roles, responsibilities and capabilities of all the actors involved in housing and poverty alleviation policies in Yogyakarta. These diagrams offer an important contribution to the understanding of the process of governance. The actor

Stakeholder/Actor Mapping

Actors

1- National Government
2- Local Government
3- NGOs
4- CBOs
5- International Organizations
6- International Donors
7- National Donors
8- Private sector
9- Your organization/Institution
10- ....

Relations

———— Collaboration

- - - - Conflict
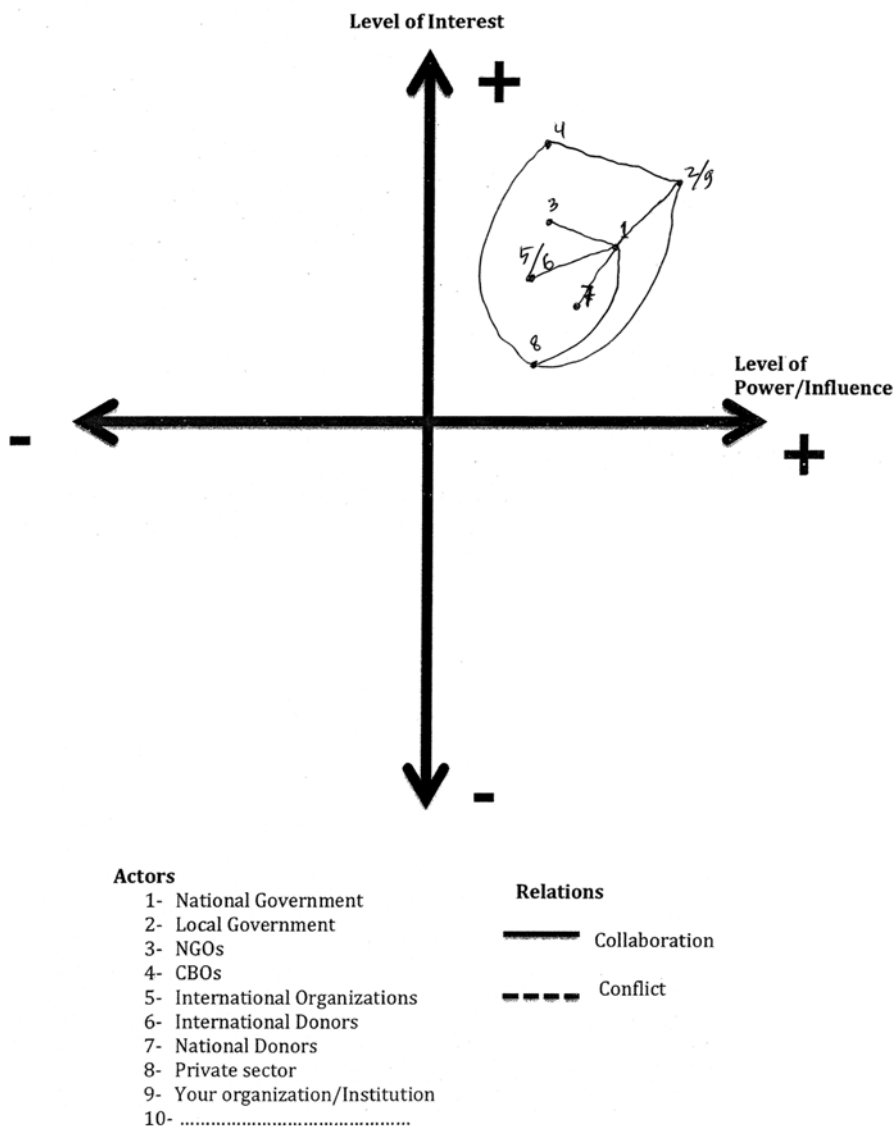
Fig. 11.2 Diagram 2: perceptions of head of sub-district (Source: Developed by author)

mapping visualises the 'room for manoeuvre' or degree of freedom that each stakeholder has in relation to the power or influence they can exercise. In particular, the position occupied by communities shows that they are still limited in their capacity to influence policy-making. The PNPM indicates an evolving process towards

Stakeholder/Actor Mapping
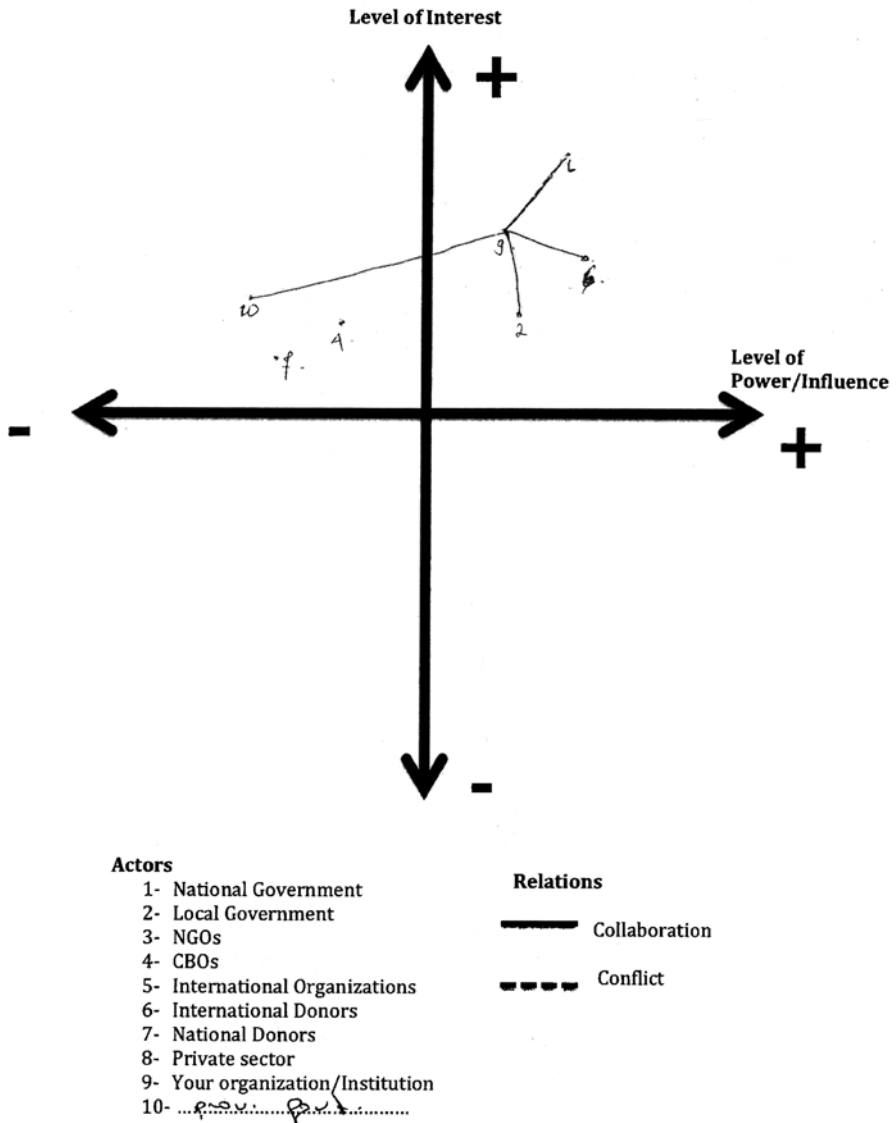
Fig. 11.3 Diagram 3: perceptions of a BKM leader (Source: Developed by author)

acquiring more power and, therefore, more opportunities for self-sufficiency and independence, although this is still limited.

Although the programme has now been in place for 7 years, communities (excluding BKM River, which is one of the 'best-practice' examples, and a handful of other BKMs considered 'successful') are still dependent on the funding provided by the government and have not yet been able to establish long lasting and solid partnerships with other actors such as private companies or local NGOs. It is also interesting to note that actors alluded to collaborative relationships they had established but did not acknowledge the existence of conflictive relationships. It is to be expected that conflictive relationships would occur during this governance process, even if they would not be made explicit or known within the research or elsewhere. There is also concern about whether enough of the poorest communities can obtain access to this programme – or whether it is only those communities with a high degree of community organisation and a strong structure that are able to make successful proposals, thereby denying opportunities to new communities that might wish to participate.

11.7   Conclusion

Housing and poverty alleviation policies in Indonesia show the constant changes in the governance process that require the establishment of partnerships between stakeholders to achieve common goals. The PNPM *Mandiri* programme has two clear objectives: to reduce poverty and empower communities.

With regards to the first objective, the analysis of Yogyakarta shows similarities to other cities. Communities and individual households benefitted from the programme. However, the beneficiaries are not all poor and not always the most vulnerable communities. It would be important to address this if the government is trying to achieve a reduction of slum population to only 6 % by 2020. In relation to the second objective, community participation seems to be limited to the initial stages of the programme and later the decision-making processes are carried out within the elite group of the community or at the national government level.

The analysis of PNPM as a case study of how housing and poverty alleviation policies in Indonesia are currently designed and implemented offers evidence that the process of decentralisation has taken place. However, there are still significant limitations to this process because the national government still has significant power to influence what is developed at the community level. This chapter concludes that the participation and engagement of communities is still limited in terms of the 'room for manoeuvre' of communities within the programme. The PNPM has not yet totally achieved the goal of community driven development. Communities are not yet able to influence the design of either policies or programmes; instead their focus is on the particular projects and activities. Although some reforms have enabled more democratization and more community empowerment, the system appears to be very hierarchical. The governance process can be defined as neither a

top-down nor a bottom-up system but rather as a hybrid type of governance that combines both strategies. Further institutional reforms are necessary to facilitate a more truly bottom-up approach in the near future that would allow communities to become independent (*Mandiri*) and self-sustained communities that are able to form solid and long-lasting partnerships with other stakeholders and get funding to support their projects and fulfil their objectives and ultimately to be the main drivers of development.

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Chapter 12
A South-South Dialogue on Housing; The Facilitator Model and Its Limitations in Brazil and India

Hector Becerril

Abstract Over the past decade different governments across the globe have developed innovative housing policies and strategies, aiming to tackle housing deficits and improve the quality of life of people living in informal settlements. However, there are few studies that focus on these latest policies and propose a south-south dialogue. Aiming at contributing to address this gap, this chapter analyses the Indian and Brazilian housing experiences. It argues that in both countries the national governments adopted in the past decade a 'facilitator role', constituting and using 'Agreement-based and Incentive-based instruments' for addressing housing issues. Accordingly, instead of following a top-down approach, both national governments sought to mobilize and involve other housing policy actors and in particular subnational governments, the private sector and civil society. However, this shift entails several policy materialization limitations, which reveal the need to find ways to improve the facilitator model. This chapter is divided into three parts. The first part presents the chapter background, analytical lenses, objective and methods. The second part explores the Brazilian and Indian experiences drawing the major convergences. The last part discusses the limitations of both cases.

Keywords Housing policy • Policy instruments • Facilitator model • Housing governance • Incentive based instruments

12.1   Background

Housing has been at the core of key urban disputes and transformations across the globe, and a major issue in cities in the Global South. During the past decades governments across the globe have developed public policies aiming at tackling housing deficit; however, these initiatives have not been as effective and efficient as expected. The number of people living in informal settlements continues to increase,

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the construction of formal houses remains below the demand and millions of people still live in inadequate housing.

In order to overcome previous policy limitations and successfully address housing deficit several governments such as Brazil and India have adopted a 'facilitator role', i.e. they sought to enable and coordinate the design and implementation of policies, mobilizing other housing actors and in particular sub-national governments, the private sector and the civil society. However, the existing literature has under-studied this shift and few are the studies that propose a comparative analysis. The exploration of this shift is of vital importance as it can contribute to the development of a more comprehensive understanding on the advantages and limitations of the facilitator role and the extent to which latest housing policies are more efficient and effective. Furthermore, a comparative analysis of such experiences can contribute to expand the knowledge and know-how of scholars as well as housing policy actors working in countries of the Global South were housing remain a major problem.

Aiming at addressing this gap and develop further the understanding of latest housing policies in the Global South, the chapter explores Brazilian and Indian national housing policies through the Political Sociology of Public Policy Instruments (PPI) (Lascoumes and Le Galès 2007).

12.2   Analytical Lenses

The Political Sociology of Public Policy Instruments (PPI) approach (Lascoumes and Le Galès 2007) considers public policies in relation to sociological, political and State transformation dimensions. It argues that 'Policy Instruments' create effects according to their own logic, contributing to the shaping of policies regardless of the objectives attributed to them, 'public policy is a socio-political space constructed as much through techniques and instruments as through aims or content' (Ibid: 7). Accordingly, the PPI approach stresses that 'Policy Instrumentation', i.e. policy instruments' choice and use, is key to the policy process as it produces political and social implications.

The PPI approach argues the existence of five types of policy instruments based on the political relationship and legitimacy they tend to generate (Lascoumes and Le Galès 2007). The first two types relate to the traditional policy instruments used by the State: 'Legislative and Regulatory instruments' and 'Economic and Fiscal instruments'. The three other types relate to the 'new public policy instruments'. The PPI approach observed that these types of instruments involve less interfering forms of regulation and by fostering political relationships through communication and consultation, they have contributed to the renewal of the State's legitimacy. These types of instruments are: 'Communication-based and information-based instruments', 'De jure et de facto standards and best practices instruments' and 'Agreement-based and incentive-based instruments'.

In particular, the PPI approach argued that the 'Agreement-based and incentive-based instruments' relate to a mobilizing State as type of political relationship and their legitimacy is built on the direct involvement of the other policy actors (Lascoumes and Le Galès 2007: 13). It also stressed that their development was fostered by the growing criticism of bureaucracy, and the rigidity and universality of legislative and regulatory instruments. The 'Agreement-based and incentive-based' instruments were considered as ideals for regulating societies marked by an increasing mobility and constituted by sectors in quest of a greater normative autonomy (Ibid).

The PPI approach highlighted that through the constitution and use of 'Agreement-based and incentive-based' instruments the State has tended to create contractual synergies, abandoning its traditional role and ways of exerting its power: '*the interventionist state is therefore supposed to be giving way to a state that is prime mover or coordinator*, *noninterventionist and principally mobilizing*, *integrating and bringing into coherence*' (Lascoumes and Le Galès 2007: 12). Accordingly, this type of instruments can be related to the adoption of the facilitator role which is underpinned by the understanding that the State's responsibility is to enable rather than impose.

Nevertheless, the PPI approach observed that the matters '*of autonomy of will*, *of reciprocity of benefits*, *and of sanction for nonobservance of undertakings*' (Ibid) are often overlooked when discussing about 'Agreement-based and incentive-based' instruments. Furthermore, it stressed that these instruments' legitimacy tend to be underpinned by '*the modernist and*, *above all*, *liberal image of public policy*, *of which it is the bearer*' (Ibid) rather than by their real effectiveness.

12.3 Objectives and Methods

Building on the PPI approach, the chapter analyses Brazilian and Indian housing 'policy instrumentation' from the first decade of the 2000s. Through this analysis the chapter seeks to explore the type of housing policy instruments constituted and used, the role national governments have adopted, and the effectiveness and efficiency of policies by exploring actors' autonomy of will, the reciprocity of benefits and the sanctions inflicted to policy actors that did not performed their responsibilities.

Based on policy documents, programme evaluations, semi-structured interviews and field visits,[1] the chapter analysed policy instrumentation through 'detective work' which includes '*explication and unpleating*: *tracing and unfolding complex arrangements to reveal the implicate*, *unforeseen elements and practices that constitute them*' (Austrin and Farnsworth 2005: 148).

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[1] The investigation was conducted between September 2013 and January 2014 at the Indian Institute for Human Settlements in Bangalore (IIHS), thanks to the Urban Knowledge Network Asia (UKNA) fellowship funded by a grant awarded by the Marie Curie Actions 'International Research Staff Exchange Scheme' (IRSES), which is part of the European Union's Seventh Framework Programme.

12.4 Adopting the Facilitator Role

12.4.1 Brazil

In Brazil, Federal Government housing-related initiatives involved three main milestones during the first decade of the 2000s. The first one relates to the institutional restructuring of the national housing sector. In 2003, the Federal Government created the Ministry of Cities for coordinating sanitation, urban planning, transport and housing. Within the Ministry of Cities the National Housing Secretariat (SNH) was mandated to institutionally and legally restructure the housing sector, review existing housing initiatives, and increase housing investments (Governo Federal 2010c). One year later (2004), the SNH elaborated a National Housing Policy which aimed to generalize the access to housing, integrate housing and urban policies, reinforce government's role, address the housing need of the lower income groups, and invigorate the Brazilian's economy (Governo Federal 2004).

The second milestone relates to the implementation of the National Housing Policy through the creation of the National Social Housing System (SNHIS) in 2005. The SNHIS aimed at coordinating all the housing initiatives across the country and securing the access to housing for the lowest income groups by fostering housing construction, informal settlements upgrading and land regularization. The SNHIS functioning was based on the creation of housing funds and elaboration of housing plans (Governo Federal 2010c). At national level, the Federal Government created the National Social Housing Fund (FNHIS), its managing council constituted by public sector and civil society representatives (CGFNHIS) and elaborated a National Housing Plan in partnership with several stakeholders, aiming at developing a national inclusive and long-term housing strategy (Governo Federal 2009). At the local level, to join the SNHIS and benefit from FNHIS resources the regional states and municipalities required to sign an agreement (Term of Adhesion), create local social housing funds (FLHIS), local managing council (CGFLHIS), and elaborate local housing plans (PLHIS). Through these instruments the Federal Government sought to mobilize the local governments, fostering local housing solutions and civil society participation.

The third milestone relates to the launch of two major housing programmes that sharply increased federal investments for informal settlements upgrading and housing construction. The first one was the Accelerated Growth Programme (PAC) launched in 2007. The PAC aimed to accelerate Brazil's economic growth pace, maintain the macroeconomics fundamentals and increase income and jobs while decreasing social and regional inequalities (Governo Federal 2007). PAC investments in social and urban infrastructure included $R 106.3 billion (US$ 50 billion) for housing financing, housing construction and informal settlements upgrading (Ibid). These investments increased in the following years, reaching by the end of 2010 R$ 217 billion (US$ 125 billion) (Governo Federal 2010a). PAC housing initiatives followed a project-based approach, seeking to mobilize housing policy actors. The Federal Government launched calls for housing projects and the regional

states and municipalities elaborated proposals. The Federal Government analysed each proposal on the basis of regional priorities, high social and economic impact, integration with other projects, modernization of existing infrastructure, and completion of unfinished projects (Governo Federal 2010c). The approved projects were implemented by private construction companies selected thought public tender.

The second major housing programme was "My Home My Life Programme" (MCMV). It was launched in 2009 and aimed to incentivize the development of formal housing market for the low income and the middle class (Ibid). The Federal Government earmarked R$ 34 billion (US$ 15 billion) for the construction of one million houses. MCMV included the creation of a guarantee fund (FGHAB) that secured borrower installments, and a decrease in insurances' cost, notary fees and time, taxes for low-income housing construction and environmental licensing time (Becerril 2015). It also established regulations for squatter settlements' regularization and titling. To benefit from MCMV investments, the regional states and municipalities were required to sign an agreement (Term of Adhesion). This agreement established local governments' responsibilities. Among others, local governments were expected to create a beneficiaries' register and facilitate private developers' projects elaboration and licensing (Governo Federal n.d.). The Federal Government through the Federal Saving Bank was responsible for analysing, authorizing and commercializing the projects.

In 2010 the Federal Government launched the PAC 2 earmarking $R 278.2 billion (US$ 153 billion) for housing financing, urbanization of informal settlements and construction of two million houses in 4 years out of which 60 % were for the lowest income group, and 30 % for the lower medium income (Governo Federal 2010b; PAC n.d.).

12.4.2   India

In India, similar actions and initiatives were developed by the central government during the first decade of the 2000s. In 2004, a specific Ministry responsible for housing was created, named officially in 2006 the Ministry of Housing and Urban Poverty Alleviation (MoHUPA) (MoUD n.d.). At the same time the Central Government increased its housing-related investments through the Jawaharlal Nehru National Urban Renewal Mission (JnNURM). Launched in 2005, JnNURM earmarked Rs. 120,536 Crores (US$ 26 billion) for 63 cities to boost Indian urban development by encouraging reforms, improving urban infrastructure and delivery of services, and enhancing government's accountability and community participation (Government of India n.d.). Specifically, JnNURM included the Basic Service for the Urban Poor sub-mission (BSUP) which objective was to improve informal settlements by addressing primarily housing and basic infrastructure needs (Government of India 2005: 3). To access JnNURM funds the regional states and the Urban Local Bodies (ULBs) needed to sign a Memorandum of Agreement

(MoA) that stated their commitment and JnNURM mandatory reforms schedule. In addition, ULBs were required to elaborate City Development Plans (CDPs), which should contain their housing policy, financing plan and the role of the private sector in the development and financing of urban infrastructure for a period of 20–25 years (Government of India 2005). Based on the CDPs, ULBs were compelled to elaborate Detailed Project Reports (DPRs) for each informal settlement in order to access BSUP funds.

The second milestone witnesses the elaboration of a National Housing Policy in 2007 carried by MoHUPA that aimed at generalizing access to land and housing (Government of India 2007: 5). Two years later it launched the 'Affordable Housing in Partnership' scheme (AHP) seeking to generate employment for the urban poor affected by the economic crisis, increase the supply of housing, land and services, and reduce the growth of informal settlements (Government of India 2009). AHP was directed to the JnNURM selected cities and included Rs. $5000 Crores (US$ 1 billion) in investments (Government of India 2013a). Its implementation also followed a project-based approach, seeking to mobilize local actors. To benefit from the scheme, the regional states and ULBs were obliged to sign a Memorandum of Agreement (MoA). Then, the ULBs or the other 'implementing agencies' should elaborate housing projects and submit them to the regional states or Union Territories (UTs) governments. Once approved they needed to be sent to the central government for final sanctioning.

The last milestone in the Indian experience related to the launch of the Rajiv Awas Yojana (RAY) scheme in 2011. RAY aimed at 'eradicating' India's informal settlements (Slum-free India) by providing them with the same level of basic infrastructure and services as the rest of the city and increasing the supply of housing units and urban land (Government of India 2011: 2). It entailed four main schemes: (i) provision of integrated slum redevelopment with basic civic and social infrastructure and shelter, (ii) Affordable Housing in Partnership, (iii) credit enablement, and (iv) support for capacity building (Government of India 2011). The RAY mission also aimed at mobilizing and empowering local actors, following a plan/project based approach. To benefit from RAY funds, the regional states and ULBs were required to elaborate 'Slum Free Plans of Action' (POA) and sign a Memorandum of Agreement (MoA) indicating their commitment to POA's implementation and urban-related reforms schedule. Each POA was expected to be in accordance with the CDPs (City Development Plans) elaborated through JnNURM, include a whole city and long term vision, and develop strategies for all the informal settlements and containment of future informal settlements through the construction of affordable housing, and revision of existing urban policy and programmes (Ibid.). Specifically, sub-nationals governments were expected to define their commitments for addressing the lack of land and affordable housing scarcities through policies and legislative amendments. The POA needed to be submitted to the MoHUPA together with the Act or legal document for assignment of property rights. Once cleared, the process of release and approval was project wise. ULBs were obliged to formulate DPRs (Detailed Project Report) for each slum in conformity with the POA and submit them to the regional states and then to the central government for approval. By 2013 the government detailed and launched RAY second phase (2013–2022) (Government of India 2013b).

12.4.3 Convergences

The previous experiences show that during the first decade of the 2000s both countries made institutional changes at the national level, creating specific bodies dedicated to housing policies: the National Housing Secretariat (SNH) within the Ministry of Cities in Brazil and the Ministry of Housing and Urban Poverty Alleviation (MoHUPA) in India. In addition, both countries elaborated national housing policies that share similar objectives: (i) to generalize access to housing, (ii) to improve informal settlements,(iii) to address land issues, (iv) to invigorate private sector and community participation, (v) to focus on the lowest income groups. Moreover, they included informal settlements upgrading as well as housing construction as policy strategies, and important national investments (Table 12.1).

To materialize these ambitions, instead of following a top-down approach, both national governments sought to mobilize and involve, through agreement-based and incentive-based instruments, other housing-related actors, and in particular sub-national governments, the private sector and civil society. The creation and use of these policy instruments also aimed at fostering the development of planned and coherent housing strategies while discouraring the implementation of ad hoc and random solutions.

In both cases, the national governments incentivized the involvement and mobilization of sub-national goverments, the private sector and civil society for implementing and legitimizing the latest housing policies. Thus, the development of innovative housing policies and strategies in Brazil and India during the past decade, relates to the adoption of a facilitator role by the national governments and constitution and the use of 'Agreement-based and Incentive-based instruments'.

Table 12.1 Housing initiatives in Brazil and India from the first decade of the 2000s

Year	Brazil	India
2003	National Housing Secretariat (SNH) – Ministry of Cities	
2004	National Housing Policy	Ministry of Housing and Poverty Alleviation (MoHUPA)
2005	Creation of the National Social Housing System (SNHIS)	Basic Service for the Urban Poor programme (BSUP) within the JnNURM
2006		Rename of MoHUPA
2007	Growth Acceleration Programme (PAC)	National Housing Policy
2008	National Housing Plan (PlanHab)	
2009	My Home My Life (MCMV) Programme	Affordable Housing in Partnership (AHP)
2010	PAC 2 and MCMV 2	
2011	Regulations for MCMV 2	Rajiv Awas Yojana (RAY)
2013		Rajiv Awas Yojana (RAY) second phase

Source: Developed by author

12.5 Common Problems and New Issues

12.5.1 Brazil

The development of the National Social Housing System (SNHIS) continued during the past years. By 2012 about 95 % of local governments joined the SNHIS, 72 % of them created a local housing fund (FLHIS) and 68 % created funds' managing councils (CGFLHIS); however, only 633 out of more than 5000 municipal governments submitted their local housing plans (PLHIS) to the Federal Government (Arretche et al. 2012). Thus, the majority of local governments did not fully respect the agreement of developing local long term housing strategies. In addition, the bulk of federal resources were granted directly to regional states, municipalities and private developers through PAC and MCMV programmes which ensuring a faster implementation. This limited local actors' autonomy beacuse by granting important financial resources, the national government weakened the role of local housing funds, managing councils (FLHIS and CGFLHIS), and housing plans (PLHISs) which were supposed to enable local actors to influence and guide housing interventions. For instance, in the municipality of Rio de Janeiro the PLHIS was approved in December of 2012, yet by the end of that year through MCMV already 50,000 houses were contracted and 30,000 housed were completed, and through PAC several large scale slum upgrading projects were implemented (Becerril 2015).

The materialization of the PAC programme also entailed several issues. In particular, the construction companies responsible for the implementation of projects did not execute the works in the way it was agreed and there was a lack transparency and civil society participation in the process (Simpson 2013).

Lastly, the MCMV has been criticized as the quality of materials is deficient and housing estates have been often constructed in areas with few job opportunities and without infrastructure and public services (Becerril 2014). Therefore, several actors involved in the MCMV and in particular local governments and private developers did not play the roles assigned to them as they were responsible for housing estates quality.

12.5.2 India

The housing initiatives implemented through the BSUP entailed major problems (Patel 2013). Firstly, local governments did not have the capacity for developing the BSUP's projects: '*in most cities*, *there is no group or cadre of government officials with the knowledge to design and implement upgrading initiatives – working with the inhabitants – or able to obtain the necessary agreements from different agencies and coordinate their inputs*' (Ibid: 10). Secondly, the lack of accountability of public tender processes and previous problems of bureaucracy continued. Thirdly, the implemented projects involved housing construction rather than slum upgrading which was set up as a major objective. These housing units tended to be of poor

quality, unfinished, and located in areas without public services and livelihood opportunities. Lastly, civil society and in particular the beneficiaries of housing projects remained outside the implementation process, projects were imposed on them. Therefore, several housing actors involved in this scheme did not or could not assume the responsibilities acquired by participating in the BSUP sub-mission.

In addition, the private sector did not play the role as assigned by the central government through the AHP scheme: '*currently*, *any builder can approach the government for subsidies in the name of constructing homes for the poor*, *and while there are stipulations*, *these are only on paper*' (Warthon University of Pennsylvania n.d.). Furthermore the AHP scheme did not overcome the 'traditional' limitations: (i) land scarcity, (ii) complicated and lengthily administrative construction processes, (iii) lack of land with adequate infrastructure and public services, (iv) high construction costs and (v) and inadequate financing schemes for the lowest income groups (Ibid.).

Although the RAY mission stressed on the involvement of the civil society in the process, yet the several initiatives conducted under this scheme lacked community participation (Singh and Bishe 2013). Furthermore, the scheme aimed at mobilizing the states to enact property right laws for the informal settlement dwellers. Few were the states that drafted and/or voted for such laws (Ibid).

12.6   Limitations

The adoption of the 'facilitator role', and constitution of 'Agreement-based and Incentive-based' instruments confronted several issues. In Brazil the main financial resources have been channelled through the PAC and MCMV without synergies. While in India, despite the aim to enable ULBs, states and the central government still strongly influence what has been happening at city level as, ultimately, they are the ones to approve or reject the housing projects. Also in both cases several actors mobilized and involved did not play the role they were expected to perform. And finally, the data collected in both cases did not show that housing actors who did not perform their duties were sanctioned.

12.7   Conclusion

The chapter explored Brazilian and Indian policy instrumentation, aiming to reveal the advantages and limitation of the adoption of the facilitator role and foster a South-South dialogue. Specifically, it analysed the type of policy instruments constituted and used, the role that national governments have adopted and the efficiency of the latest housing initiatives.

The chapter presented how both national governments have adopted the facilitator role through the constitution and use of 'Agreement and Incentive-based instruments'. In both cases they sought to mobilize and involve other housing actors and in particular sub-national governments, the private sector and civil society, in order to develop innovative policies and strategies such as the development of long term housing plans and projects at city level.

However, both experiences proved that there is still much to do to reach adequate housing policies. The chapter showed that in both cases the autonomy of will of local actors remained limited, the agreements were not always respected and housing actors that did not perform their responsibilities were not sanctioned. Therefore, the adoption of the facilitator role did not lead directly to the development of better housing policies in Brazil or India in the past decade.

Based on these results, the chapter suggests that the facilitator role should not be prescribed as a recipe or ideal model for developing a responsive urbanism in the Global South. Instead, it should be carefully scrutinized in order to move beyond the image of the modern State observed by the PPI approach, and find ways in which the facilitator role can be improve or transformed, fostering more effective housing policies and, ultimately, develop a responsive urbanism.

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Chapter 13
Residential Mobility in Egypt; A Must or a Myth

Rania Nasr Eldin, Heba Allah E. Khalil, and Rowaida Kamel

Abstract Residential mobility is a key element in a responsive housing market and specifically crucial in countries with limited resources as in Egypt. This chapter discusses the current residential mobility status and patterns in order to help improve the heavily burdened housing market. It seeks to provide a deeper understanding of family life cycle within residential mobility process and the reciprocal influences. It theoretically develops and empirically tests the acceptability of residential mobility in the Egyptian context, enhancing the rents mechanisms and the subsidy policies to ensure the affordability of middle-income housing.

The research (This chapter is derived from Ph.D thesis titled: "Residential Mobility: An Operational Framework for Middle-Income Housing in Egypt") models residential mobility, using unique survey data that examines specific life-cycle variables to evaluate the concept in the Egyptian housing market as a whole and find out why residential mobility through rental housing became a myth in the Egyptian housing market after it was mainstream for a long time.

The findings suggest that residential mobility through a secured rental housing process could be a popular tool that helps middle-income groups in Egypt to find affordable and appropriate housing units within its life cycle development. This can further diminish the current reliance of this stratum on informal housing as the only affordable, non-preferred, solution.

Keywords Residential mobility • Family life cycle • Rental housing market in Egypt • Middle income housing

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13.1   Introduction

The study of residential mobility has a long tradition: geographers, sociologists, economists and psychologists have contributed extensively to the literature regarding the process and its associated relationship to changes in the urban fabric. The work by Rossi (1955) and Clark (Clark and Dieleman 2000) emphasized the importance of housing size in a residential mobility decision.

Quigley and Weinberg (1977), Clark and Onaka (1983), and Clark and Dieleman (2000) found positive results on the significance of the family life cycle to housing consumption and ownership choice. For Clark (Clark et al. 2003), it is important to think of housing over the life course as a sequence with periods of stability interspersed by often significant change, this was also emphasized by Jonathan Halket (Halket and Caplin 2009) who studied home ownership, savings, and mobility over the life cycle in U.S.A. Additionally, Beer and Faulkner (2011) discussed housing transitions through life course and the effect of housing policies, needs and aspirations on the process in U.S. housing market.

Residential mobility spurred up in the Egyptian housing market, through rental housing as a result of the new rental law in 1996 which is "the most common and prevalent rent law in Egypt" (Sims et al. 2008), especially for middle income housing. However, there is a dire need for special attention to the methodology and mechanisms of application to ensure that rental housing arrangements are sustainable, secure and affordable.

The authors argue that linking housing mobility with household life cycle can solve many housing problems for middle-income groups; this can be ensured only if proper amendments to rental law and regulations are provided to grantee a secured mobility process.

13.2   Residential Mobility: Definition and Underlying Factors

According to Rossi (1955), residential mobility is "a housing adjustment process" providing a proper housing that fits the new residential requirements as a result of changing family structure and characteristics across the family life cycle. This process of residential relocation is the fundamental dynamic change in the living conditions of individuals and households. Dieleman considers it to be "the key to understand the changing geography of residence in metropolis area" (Dieleman 2012), while for Pickles and Davies (1991) it is the "sequence of dwellings that a household occupies during its history" (Pickles and Davies 1991).

Residential mobility passes through many stages, Baum and Hassan (1999) divide residential mobility process into two stages as shown in Fig. 13.1. First, people become dissatisfied with their present housing situation, second, they search for a vacancy in the housing stock and the decision is then taken; either to relocate or to stay in the present dwelling (Baum and Hassan 1999).
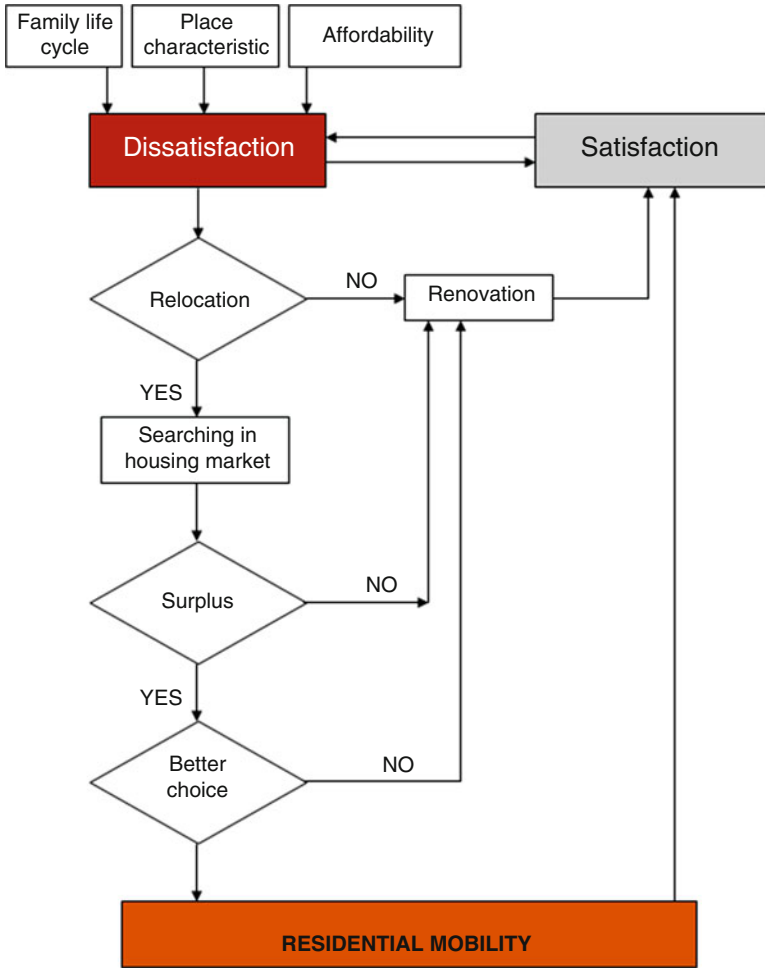
Fig. 13.1 Stages of residential mobility (Source: Developed by authors)

Factors affecting residential mobility are numerous as shown in Fig. 13.2, where six stages are recognized:

The first stage relates to **household characteristics** (Rossi 1955) including: family size, income, stage of life cycle, life events, educational level (Clark et al. 2003: Clark 2008: Dieleman 2001) and marital status (Halket and Caplin 2009) are the most salient, seeking a better job is one of the main factors affecting residential mobility (Clark et al. 2003; Clark and Withers 1999), where residential mobility allows people to remain mobile and relocate when better jobs are available elsewhere, without being tied down to any particular place or to regular house payments (Un-habitat and ESCAPE 2008; Baum and Hassan 1999).
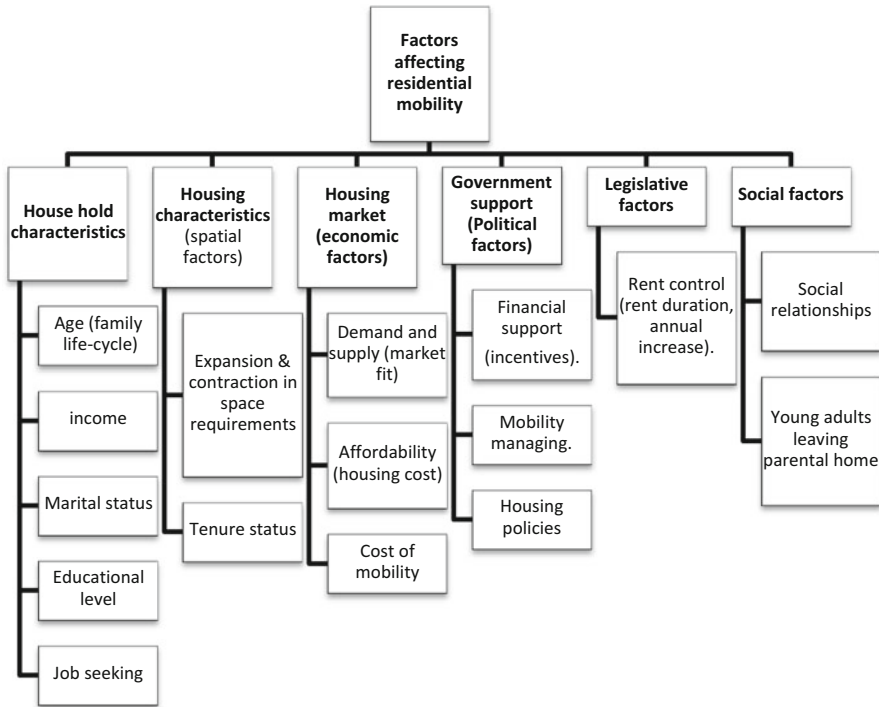
Fig. 13.2 Factors affecting residential mobility (Source: Developed by authors)

The second stage, **residential space requirements**, which is a critical element in the selection process for households engaged in residential mobility (Clark et al. 1994) and tenure status (Li 2003), where rental housing allows mobility much more than purchase (Gilbert 2004).

The third stage is about **economic conditions and housing market**, with a focus on the relationship between the demand and the supply of housing; i.e. market fit or market tightness (Clark and Dieleman 2000), and the cost of mobility or adjustment cost (Baum and Hassan 1999), where residential mobility is an equilibrating factor in this allocating function of housing markets. When institutional constraints or other barriers impede residential mobility, this allocating role of housing markets is disrupted (Sumita 2010).

Political factors come in the fourth stage, where the government provides any financial incentives or manages the mobility process, in addition to the housing policies employed by the government to develop the housing market and provides appropriate housing options.

Fifth, the **social factors** that can impact residential mobility, differing from place to another, like young adults leaving parental home (Clark and Mulder 2000) which is a common phenomenon in the developed world. In addition, social relationship and sentimental costs affect residential mobility including moving away from

familiar surroundings, social networks (Baum and Hassan 1999) and social security (Chen 2010).

The last stage, where **strong regulations**, such as rent laws, rent control and the annual increase in the monthly rent are identified in the process of residential mobility (Un-habitat and ESCAP 2008).

In an alternate perspective of residential mobility; three concepts are used implicitly or explicitly in many of the sociological and demographic researches: the housing ladder (income, education), the housing life-cycle (family size, age of children, marriage duration) and the housing life-course (first purchase, length of time since first home purchase) (Morrow-Jones and Wenning 2005).

The next part of this chapter will adapt the family life cycle concept as a basis for its study of housing mobility in Egypt.

13.3   Family Life-Cycle Concept

Family life cycle concept is "the categorical system of operationally slicing the family career into segments that modally represent families whose incumbents display particular configurations of characters" (Kapinus and Johnson 2003).

Family life cycle passes many different cycles that automatically change residential needs (Morrow-Jones and Wenning 2005). These main milestones can be defined as: (1) Family formation (marriage), (2) Expansion (birth of children), (3) Contraction (maturation of children) and (4) Dissolution (death of a spouse).

These stages are typically defined in terms of factors such as: the presence and age of children (Kapinus and Johnson 2003), age (Kapinus and Johnson 2003; Nock 1979), length of marriage (Beer and Faulkner 2011) and the socio-culture background.

Transition into a new stage in the family's life cycle increases the household's potential for moving. If the house can not cope with these changes, mismatch occurs and the household may decide to move for more responsive housing to fit with new needs and preferences (Clark and Onaka 1983). This means that housing appropriate for one life-cycle stage became inappropriate at a later stage (Rossi 1955).

Residential mobility is a necessity for efficient use of housing stock and providing residential space as required by the changes in family life-cycle. However, the efficiency of residential mobility differs from housing market to another.

13.4   Housing Market in Egypt

The implications of Cairo's unbalanced housing market have had direct adverse impacts on both middle and low income sections of the population, leading to urban inequity and the spread of informality, this can be summarized in "suffering deficiency and inappropriateness" (Khalil 2012). It is estimated that at least 45–50 % of

the urban housing stock in Egypt faces problems such as vacancy, uncontrolled rent, and informality (UNDP 2010).

Closed units are almost over two million just in Greater Cairo Region (Rageh 2008). Paradoxically the housing market is equally active and dynamic in both formal and informal sectors, however, it operates mostly using straightforward and inexpensive traditional contractual deals, often without any governmental involvement (UN-HABITAT 2011).

It is vital to note that over the last decade, the government has developed and implemented several housing subsidy programs. However, subsidies were mostly directed to construction of high standard housing which came to be unaffordable for targeted groups of low and middle income groups. This misallocation of resources have caused acute destortion in the housing market accentuating shortage of affordable formal housing (Walley and Nasr 2012).

This chapter mainly focuses on middle income housing in the Egyptian housing market as demonstrated in the following parts.

13.4.1 Middle Income Housing in Egypt

According to Rageh (2008) the middle class is the most difficult class to find suitable housing. Higher income household can purchase whatever units that suit their needs and desires through private housing market, while the government subsidizes units for lower income household, or they revert to the informal market for appropriate housing market, However, middle class newly married are unable to purchase formal housing, without the help of their families. Additionally, while they cannot be engaged in informal housing market, their way out is to rent in the formal sector, where they reside in about 47 % of the new rent law housing stock (UNDP 2010, p. 204).

This means that a gap exists between middle income housing, whether provided by the government or private sector, and the actual housing that middle-income class in Egypt turn to. This is especially apparent in the first phases of their lives; where their financial abilities are limited and would thus need a temporary subsidization.

13.4.2 Rental Housing Market in Egypt

In Cairo, renting accounts for about 63 % of the housing tenure, while ownership accounts for the remaining 37 % (Un-habitat and ESCAPE 2008). Among the 63 % renting, a third rents in the formal market, two-thirds in the informal market (Malpezzi 1998). Rental housing market has always been influenced by local

economic and political conditions and regulatory frameworks (Un-habitat and ESCAPE 2008). The rental market suffered the consequences of rent control legislation and rigid tenant protection practices, which over five decades managed to freeze investments in the sector and created a developer-bias towards supply for home ownership (World Bank 2007).

Prior to 1952, there was no housing problems in egypt, renting was mainstream; there was a surplus in rental units, families were moving smoothly and automatically to cope with any changes in housing requirements, jobs or income changes (El Kafrawy 2012).

İn 1974, Sadat's open door policy was enacted, thus helping the shift of tenure to mostly purchase dwellings rather than rent. In addition, the rent control enforced by the government in the 1960s made it illegal for landowners to evict tenants except under the strictest circumstances and allowed for the inheritance of rental agreements (Soliman 1996). Thus, residential mobility rates decreased, resulting in an increase in housing and transportation problems, consequently, informal areas increased. It is vital to note that rent-control laws have also led to physical deterioration of the housing stock and an increase in the number of leased but deserted dwellings, where up to 50 % of existing dwelling units nationally remain under rent control with unrealistically low rents set in the 1940s and 1950s. Moreover, this has resulted to the withdrawal of the private sector from the rental market. Therefore, the private sector shifted its focus on supplying formal housing for the upper-middle and high income housing units for ownership, and informal housing for low, moderate and middle-income groups who were left without affordable housing alternatives (World Bank 2007).

Fortunately, in 1996 a law was issued imposing a new time-bound contractual rent system for all units rented subsequently (UN-HABITAT 2011), although it did not abolish rent control on existing unit. This new rent law has progressively become a prominent feature of housing market in Greater Cairo (Sims 2012). In addition, the rents cannot be increased with limited grounds for eviction (Sims 2002).

New law rentals are not providing a secure tenure since the contractual process is only between individuals. Neither the government nor the corporates private sector play any role in this process, and the law leaves both rental duration and price to the landowners. Studies show that rental units attract moderate income youth households, with 5–10 year lease duration, as they can not afford the required down-payment for ownership (UNDP 2010; Sims 2012). According to USAID/TAPRII (Sims et al. 2008) the median rental period under New Rent Law (2003–2008) is 5 years, while the Annual Rent to Income Ratio (RIR) for the same law is 20.

In another study the rent to income ratio is 15 % for low income rental housing and 25 % for middle and upper middle income rental housing (Rageh 2008). This ratio seems to be less than the international ratio because of the housing stock is under rent control (old rent law), this indicator demonstrates the imbalance in the rental housing market in Egypt.

13.5   Residential Mobility in Egypt

As previously mentioned, residential mobility is taking place in the Egyptian urban housing market especially in Cairo after the issuence of the New rental law 1996. However, this renting process has no constrains or control over its mechanisms.

According to the housing study for urban Egypt (Sims et al. 2008) the average residential mobility is approximately 4 % yearly, and 19 % move within 5 years. While such mobility rates are low when compared to western cities, they are significant considering that some of the housing stock is under rent control.

Moreover, according to the survey made by the U.S. Agency for International Development (USAID/TAPRII) in 2008, residential mobility demand ratios are: newly married (46 %); current unit is too small (16 %); nuclear family wants to live independently (10 %); changing tenure status to ownership (9 %), changing tenure status to long lease (6 %); and other reasons (12 %). This study shows the importance to adress the demand for residential mobility and the respective available options. The following part will investigate the current practices and possible options for a more secure residential mobility.

13.6   Field Study

This chapter aims at contributing to the debate over the solutions of informal areas in Egypt by providing an overview of existing rental market in Egypt to know why residential mobility through rental housing became a myth in the Egyptian housing market after it was mainstream for a long time. The chapter used questionnaires for a sample of the targeted middle-income households.

The data used in the present study are based on a household survey conducted by the authors of this chapter in Great Cairo Region from March to May 2013; a descriptive research design was adopted for this study with a survey questionnaire. The survey questionnaire instrument comprised four sections. The first section was designed to identify residents' age through a number of demographic data, the second section was about household financial data (total monthly income), the third section was about the current housing data, and the last section examined the concept of residential mobility in Egypt and its points of strenth and weakness.

The target respondents were heads of households aged 25 up to 40 from middle income groups with monthly income from 2000 to 5000 LE./month [1]with higher education. The questionnaire was distributed among a random sample of various

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[1]According to CAPMAS household expenditure, consumption and income survey of 2012/2013plus the new national housing program (NHP), 2005, and the housing study for urban Egypt (HSUE), 2008.

professionals (Engineers – physicians – faculty members – officers – teachers) to identify the different housing needs with the stability of income group.

Number of statistical methods were used to reach the final results for the target groups including: frequency, cross tabulation, and T-test as shown in Tables 13.1 and 13.2.

13.7   Results and Discussion

The questionnaire results show that the target sample (middle income groups) demographic data was as follows: most of them are between 31 and 35 years with this cohort representing 55.7 %, and high level educated 80.3 %, the common family size is four persons 62.2 %, while the common residential area is 90–120 m² as shown in Table 13.1. Table 13.2 presents the factor analysis and cross tabulation analysis of the data using SPSS program.

By asking if the new rent law, in its current wording, offers an affordable housing for middle income, 36.1 % of the respondents disagree and 16.4 % strongly disagree. İnterestingly, 45.9 % disagree and 31.1 % strongly disagree to be renters all through their life. Although 55.7 % of middle income groups strongly agree with the importance of residential mobility when family life cycle changes, and they also agree with the concept of the residential secured rental sequence housing by a ratio of 62.3 %.

A histogram analysis between income, education and the acceptance of residential mobility concept as shown in Fig. 13.3, demonstrates that middle-income groups with high level of education agree with the concept of residential mobility provided there is a secured residential sequence especially at the beginning of the household life. We noticed that the ratio of "don't know" is high, probably due to the absence of the concept in Egypt for long decades. However, most respondents would move eventually to purchased units at one point or the other in their household life cycle.

This chapter argues that linking housing mobility with household life cycle can solve many housing problems for middle-income groups; this can be ensured only if proper amendments to rental low and regulations are provided to grantee a secured mobility. This was evident in the agreement of the majority of respondents on the importance of residential mobility along with the change in the family's requirements and its specifications throughout the family's life-cycle.

13.8   Conclusion

Unlike most related research on residential mobility, this study analyzes the process of linking household changes through lifecycle for achieving efficient use of housing stock, and factors affecting mobility in the Egyptian housing market.

Table 13.1 Results of the questionnaire using SPSS- demographic data

Income			New rent low					Rent					Mobility				The acceptance of the concept				
			Strongly agree	Agree	Dont know	Dissagree	Strongly dissagree	Strongly agree	Agree	Dont know	Dissagree	Strongly dissagree	Strongly agree	Agree	Dont know	Strongly dissagree	Strongly agree	Agree	Dont know	Dissagree	Strongly dissagree
Income	Less than 1500	Count	0	7	0	3	1	0	1	1	2	7	3	7	1	0	0	5	0	6	0
		%	0.00	63.60	0.00	27.30	9.10	0.00	9.10	9.10	18.20	63.60	27.30	63.60	9.10	0.00	0.00	45.50	0.00	54.50	0.00
	1500–5000 LE	Count	1	15	13	22	10	3	9	2	28	19	34	21	3	3	6	38	12	3	2
		%	1.60	24.60	21.30	36.10	16.40	4.90	14.80	3.30	45.90	31.10	55.70	34.40	4.90	4.90	9.80	62.30	19.70	4.90	3.30
	More than 5000	Count	6	10	9	15	8	0	0	2	25	21	15	27	3	3	2	20	18	4	4
		%	12.50	20.80	18.80	31.30	16.70	0.00	0.00	4.20	52.10	43.80	31.30	56.30	6.30	6.30	4.20	41.70	37.50	8.30	8.30
Total		Count	7	32	22	40	19	3	10	5	55	47	52	55	7	6	8	63	30	13	6
		%	5.80	26.70	18.30	33.30	15.80	2.50	8.30	4.20	45.80	39.20	43.30	45.80	5.80	5.00	6.70	52.50	25.00	10.80	5.00

Source: Developed by authors

Table 13.2 Concept of residential mobility in Egypt

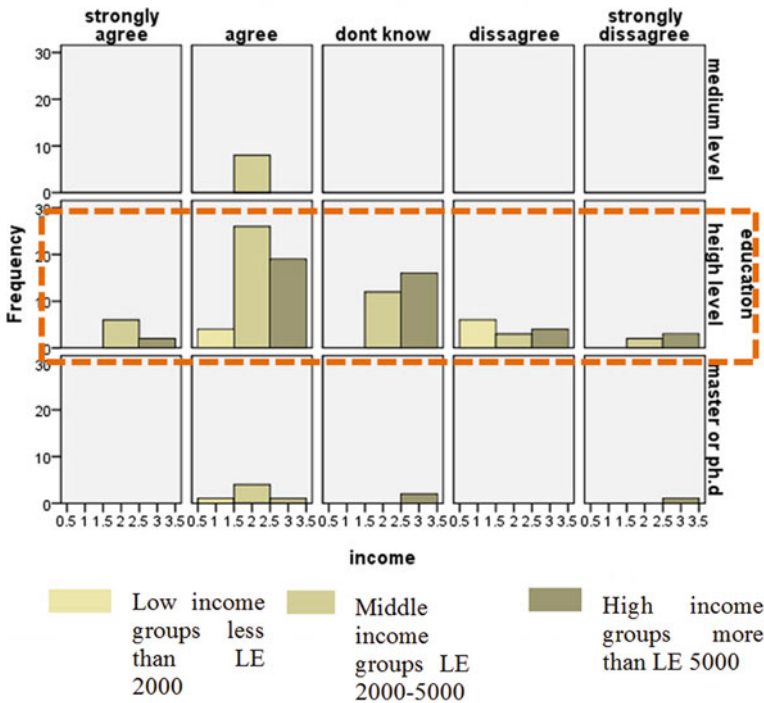|			Age					Education			Family size				Tenure			Rent price					Area			Total
Income			Less than 25	26–30 years	31–35 years	36–40 years	More than 40	Medium level	Heigh level	Ph.d and master	2 persons	3 per.	4 per.	More than 4	Purchase	New rent low	Old rent low	Less than 1000 LE	1000–1500 LE	1500–2000 LE	More than 2000	Purchase	Less than 90 m²	90–120 m²	More than 120 m²	
Income	Less than 1500	Count	1	5	4	1	0	0	10	1	1	3	2	5	4	7	0	6	1	0	0	4	5	4	2	11
		%	16.7	11.9	6.8	10.0	.0	.0	9.7	11.1	20.0	10.7	3.1	21.7	6.7	13.0	.0	30.0	5.0	.0	.0	6.7	21.7	7.0	5.0	9.2
	1500–5000 LE	Count	3	21	34	2	1	8	49	4	3	12	38	8	33	25	3	7	10	11	0	33	10	35	16	61
		% Income	4.9	34.4	55.7	3.2	1.6	13.1	80.0	6.6	4.9	19.6	62.3	13.1	54.1	41.0	4.9	11.5	16.4	18.0	0.0	54.1	16.4	57.4	26.2	100.0
		% Variable	50.0	50.0	57.6	20.0	33.3	100.0	47.6	44.4	60.0	42.9	59.4	34.8	55.0	46.3	50.0	35.0	50.0	68.8	.0	55.0	43.5	61.4	40.0	50.8
	More than 5000	Count	2	16	21	7	2	0	44	4	1	13	24	10	23	22	3	7	9	5	4	23	8	18	22	48
		%	33.3	38.1	35.6	70.0	66.7	.0	42.7	44.4	20.0	46.4	37.5	43.5	38.3	40.7	50.0	35.0	45.0	31.3	100.0	38.3	34.8	31.6	55.0	40.0
Total		Count			59	10	3	8	103	9	5	28	64	23	60	54	6	20	20	16	4	60	23	57	40	120

Source: Developed by authors

Fig. 13.3 Histogram of income, education, and the concept of rental sequence housing model (Source: Developed by authors)

This work has attempted to contribute a conceptual framework that supports continued progress in developing a better understanding of the process of residential mobility and how it can solve many housing problems in the Egyptian housing market and how it can limit the increase of informal areas.

The chapter highlighted the importance of residential mobility process as a solution for many housing problems in the Egyptian housing market, the results provide evidence of the need for proper amendments to rental law and regulations to ensure secured mobility and tenure for renters..

The main challenge will be to devise affordable housing policies that address the distortions that to date still constrain the housing market from functioning efficiently. The first critical steps in this regard were the 1996 of the rent control legislation.

The key remaining challenges that both the new affordable housing policy and strategy to decrease the expansion of informal areas will need to address are to increase the supply units in the formal housing market by using unoccupied apartments, counting up to about two million in Cairo only and 20–30 % of housing stock (UN-HABITAT 2011), through encouraging individuals to open their units for rent after providing more security to rental law. In addition, providing a secure residential mobility process for renters should be a top priority for policy makers to

reintegrate renting in the formal market and ensure efficient use of current housing stock.

This is a multifold, where it is essential to provide instant judicial mechanism to regulate the relation between landlords and tenant when needed. Moreover, the government has to encourage private sector to provide rental housing for middle and low income instead of purchase. Furthermore, new articles to new rental law of 1996 must be added to introduce residential mobility in the Egyptian housing market, via unoccupied housing unit in private market or in the national housing program, with providing a secured tenure.

Finally, it is crucial to note that this study has some limitations regarding the lack of official data available on Egyptian housing market, in particular the new law rental housing market. Moreover, political and economic instability after the revolution in 2011 and the huge number of refugees who came to Egypt, caused further disturbance in the rental housing market as the demand drastically increased.

Future research should be carried out to validate the findings of this study in different destinations. This might expand a model for a secure rental housing sequence for middle income to assess the external validity of the findings.

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Chapter 14
A Proposed Statistical Model for Real Estate Appraisal in Historical Mixed Use

Asmaa Ibrahim

Abstract This chapter (This chapter was published in the International Journal of Sustainable Development and Planning.) introduces a new statistical methodological approach for the real estate appraisal based on the consideration of the changing purchasing power of money, by deducing an equation based mainly on all the affecting urban context variables other than the market, cost and income approach that are currently used for that purpose. This is achieved through testing the proposed statistical model using these urban variables on one of the most important districts in downtown Cairo, Maspiro (next to Tahrir Square incorporating 1,130 land lots), together with comparing its predicted values with a sample evaluated by professional real estate appraisers to ensure its validity. Maspiro district confronts the Nile River, and faces the Egyptian Union of Radio and Television Building, Ministry of Foreign Affairs, Embassy of Brazil, Embassy of Italy and others. Accordingly, the chapter finally illustrates that all theoretical approaches dealing with the real estate appraisal are subject to some defects ignoring the changing circumstances of each district and the urban planning variables that constitute its real value. They mainly depend on factors that are subject to change from time to time in accordance with the surrounding political, social, and economic circumstances. Over or under estimations may lead to economic loss and mislead the proposed developmental plans for the regions. The urban variables, on the other side, once measured for each real estate are not subject to these changes. Therefore, the research tests the validity of finding strong correlation between these variables and their real value, in the form of an equation by using statistical methods.

Keywords Real estate appraisal • Informal historic districts • Mixed use • Statistical method

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14.1 Introduction

The real estate industry has always been an 'information business' with high transaction costs and considerable inefficiency due to the difficulties in assessing what to do in markets where assets are heterogeneous and trading infrequent (Smullyan 1994). Property cycles, which extend back over a century and have affected most untenanted or unsalable real estate assets, can all contribute to many financial crises (Hendershott and Kane 1994; Kummerow 1999; Sterman 2000; Hanipah 2003).

Many theoretical approaches have presented different methodologies for the real estate appraisal. However, none of these have fully represented the real value of that real estate. This is attributed to the fact that there are too many variables affecting that value. In other means, any fixed theoretical approach would not yield any accurate values, as a result of many variations that are not taken into consideration. For example, the changing purchasing power of money, the urban context with all its variables, its location on street, elevation width, accessibility to major arterials and services……, etc. These are all urban planning variables that change and affect the value of the real estate. Ignoring these variables can mislead all the developmental plans proposed for the regions aiming at urban revitalizations for the deteriorated areas.

Accordingly, the goal of this chapter is to introduce a statistical methodology based on regression, that is capable of reviewing all the urban variables that can affect the appraisal of the real estate, as they represent absolute variables aside from any changing circumstances (social, economic, political…, etc.) or the changing purchasing power of money that may deviate the real values from reality. This methodology is further based on other regression approaches previously proposed by others such as Janssen and Yang who used the regression approach to estimate the market value of a townhouse)Janssen and Yang 1999), and Monte Carlo simulations that were used to incorporate the uncertainty of valuation parameters by Hoesli et al. (2006). The methodology proposed by the author of this chapter would be then applied on one of the most important districts in downtown Cairo, Maspiro, next to Tahrir Square, incorporating 1130 land lots. It confronts the Nile River, facing the Egyptian Union of Radio and Television Building, Ministry of Foreign Affairs, Embassy of Brazil, Embassy of Italy and others. This region is one of the most distinguished areas in Greater Cairo Region. It contains many old deteriorated buildings and few modern ones. Therefore, their appraisal needs great accuracy. Errors in that case mean loss of milliards of Egyptian pounds.

The chapter methodology begins by reviewing the theoretical approaches that have been introduced in the appraisal of the real estate so far. There will be a focus on the defects of these approaches. This would be followed by the presentation of the new proposed methodology and all the proposed variables for the real estate appraisal. In addition, these variables have to go through a strong statistical analysis including principal component and regression analysis to ensure the accuracy of results.

14.2 Deficiencies in Theoretical Approaches for Real Estate Appraisal

An appraisal is an estimate or opinion of value based on supportable evidence and approved methods (Galaty et al. 2006). It can also be defined as "independently and impartially prepared estimate expressing an opinion of a defined value of an adequately described property as of a specific date, which is supported by the presentation and the analysis of relevant market information" (Jacobus et al. 2008). This part illustrates the deficiencies in the three main theoretical approaches that were introduced in the appraisal of the real estate, including the cost approach, the market comparison approach and the income approach (Fisher 2007; Jacobus et al. 2008; Galaty et al. 2006):

14.2.1 The Market Comparison Approach

This approach incorporates all the variables that can control the price in a matrix. These variables are compared to similar real estate to distinguish the difference between them. The property being evaluated has to be defined, together with those existing in the same street, besides the distance between the evaluated one and the others. This is necessary, as the site ultimately influences the value of the real estate. This matrix includes address, how far from the evaluated real estate, selling price, price/area for living, payment facilities, time of sale, site, rent or full property value, area, design and relationship to adjacent buildings, construction quality, age, condition, number of rooms, basement, whether it can be practically used, hot and cold conditioning if available, energy units (if available), garage, courtyards, swimming pool, fencing. All these variables are being compared with the real estate values surrounding the one being evaluated. This might lead to some confusion due to the large number of variables being compared, without statistical computations for these variables (Fisher 2007). One of the most popular market comparisons is the gross rent multiplier (GRM), which is an economic comparison factor that relates the gross rent a property can produce to its purchase price. However, it does not allow for variations in vacancies, uncollectible rents, property taxes, maintenance, management, insurance, utilities, or reserves for replacements (Jacobus et al. 2008).

14.2.2 The Cost Approach

This approach is based on the estimation of the real estate value through the estimation of the value of the land upon which the building is located using the market comparison approach and the expenses required for its construction within the appraisal date (not within the date of its construction) (Fisher 2007). Accordingly,

its value includes the land value, the construction cost, and depreciation. As for the land value, it is being estimated by taking the land values for similar land lots, with the consideration of any constraints that may affect the price. The vacant land is being evaluated according to the rule "best use", incorporating the best economic value, the most appropriate use, possibility of implementation, flexibility of the law. This can further be illustrated by the following. As for the land lots that are being occupied by any use, there are two cases: First, if the plot area of the building is at its maximum according to the law, but it needs some modifications to reach the best economic value, the land value would be computed by the subtraction of the value of the vacant land from the lowest value of one of two variables (the cost required to make the best use or the economic loss resulting from not using the land lot with the best use or according to similar circumstances for the land lot). Second: if the existing use of the land lot is not the 'best use', and it cannot be achieved. An example of this is a building of 3 floors that cannot be raised higher, and laws allow till 12 floors, but do not allow demolition. In this case, the land value is the least from the following: according to similar land lots or with percentage of occupation that should have been existing together with expenses needed to raise the building quality if needed or according to the economic revenue with the best use for the land lot, as compared with the existing.

As for the construction cost, it can be computed by one of two alternatives. First, the reproduction cost, which is the cost needed to construct a similar building identical to the one being evaluated. Second, the replacement cost which is the cost needed to construct a new building with the same target but using materials and construction methods mostly used within the appraisal date. This can be achieved through three ways. First, areas (meter squared) representing the cost of the meter square estimated according to similar buildings and then multiplied by the meters in the building being evaluated. Second, enumeration: it depends on defining every building construction term (civil-architecture-electro mechanic: sanitary-electric-air condition-communication-computer…., etc.) with quantities to be multiplied by the cost unit for each. Third, index method, which depends on a coefficient representing the change (percentage) between the costs of construction within the appraisal date compared to that at the original time of construction, without taking into consideration the difference between buildings.

Finally, depreciation is defined as the loss in its value from its construction time till the time of appraisal. It can be classified into three categories. First, natural depreciation which can be either restored or not, and the value of the building would be assessed accordingly. Second, depreciation in the functional performance of the building, and whether it can be restored or not. Third, depreciation for external reasons (environmental-economic…, etc.) such as a hospital that became too crowded, or building a restaurant in the ground floor. It is clear from that approach that all the estimations are mainly based on similar land lots. This may incorporate many errors, as they are generally based on personal estimations.

14.2.3   The Income Approach

This approach considers the monetary returns a property can be expected to produce and converts that into a value the property should sell for if placed on the market today. This is called capitalizing the income stream, (Jacobus et al. 2008). All the expenses needed to make these revenues should be also computed. The net revenues are then estimated by subtracting the average interest taken on loans. Accordingly, the selling price is computed so that it is at least equal to the expenses and the interest on loans. This approach is not accurate as it ignores the purchasing power of money, and is based on personal assumptions.

After the previous review for all the approaches used for the appraisal of the real estate, it is clear that they incorporate many problems that might affect the accuracy of the price estimation. This is attributed to the fact that they mainly depend on personal estimations, ignoring how their surrounding variables might affect each other, and without taking into consideration the purchasing power for the money that changes periodically. Therefore, there is a necessity of having more accurate approaches for the precise estimation of the property.

14.3   The Empirical Study

This chapter accordingly tests another statistical methodology that incorporates many new variables related to urban planning that affect the real estate appraisal with validation from real estate appraisers using the previous approaches. This would first be introduced through a theoretical study that defines all the factors that affect the land value. This is followed by the explanation of all the statistical procedures that should be carried out to reach the final appraisal model using the regression that has been extensively used for that purpose by applying all the defined variables affecting the land value on Maspiro district, supported by many other studies in this domain (Mark and Goldberg 1988; Murphy 1989; Ambrose 1990; Fehribach et al. 1993; Lasen and Peterson 1988; Coleman and Larsen 1989; Newsome and Zeitz 1992).

14.3.1   Determining the Variables to Be Used in the Statistical Analysis

The urban planning related variables constitute the main factors that formalize the real value for the property and the real estate. Accordingly, the land uses, their interrelationships, accessibility, adjacency and nearness to services, industries, important arterials, or central business districts are main reasons in the land value appraisal. They can either raise or decrease the vitality and importance of the site for

the property being assessed. The land use for the property and for those surrounding it are being affected by many other factors including: legislation, road and transportation network, the new induced services such as commercial uses (shopping centers), entertainment, educational and health facilities, and the adopted economic and administrative policies.

Since there are many factors that affect the appraisal of the real estate, that vary not only from one district to another but also from one lot to another, these variables have to be determined precisely. Accordingly, the research has proposed all the possible variables concerned with the urban context that can affect the appraisal, in an attempt to prove that this set of variables can formalize a true estimated value for the appraisal of the real estate, when compared to the values estimated by experts in this field. These variables can be listed as follows:

1. Building type, each land lot is assigned numbers from 1 to 14 according to their building type value.
2. Floor number.
3. Building condition, each land lot is assigned number from 1 to 3 according to their condition (1 for good, 2 for fair, and 3 for bad).
4. Structure, with value 1 for skeleton structure, 2 for wall bearing, 3 for mud structures.
5. Area.
6. Street width (the street width of each land lot according to its address).
7. Street value, all streets were evaluated and assigned numbers from 1 to 7 according to their vital importance in the area not the width.
8. Position on street, each land lot is assigned number from 1 to 13 according to its position on street and degree of intersection of the street it is lying on.
9. View, each land lot is assigned a percentage according to its view and context.

All these variables were measured for the 1130 land lots existing in the study area.

14.3.2 Site Analysis on the District of Application (Maspiro)

The Egyptian Government is taking very serious steps towards solving the severe problems existing in downtown and in the rehabilitation of the high valued areas that suffer from bad conditions, even before the last events of the revolution that took place in Egypt on the 25th of January. These areas, despite their distinguished sites and economically valuable context, are not well developed. Instead they suffer from very serious deteriorations.

Accordingly, in view of the rehabilitation plan for one of the most important sites lying in downtown and surrounded by three major arterials, this chapter would represent a full survey for the study area, together with the complete statistical classification for the land lots existing in the site, as a step forward towards their final economical appraisal.
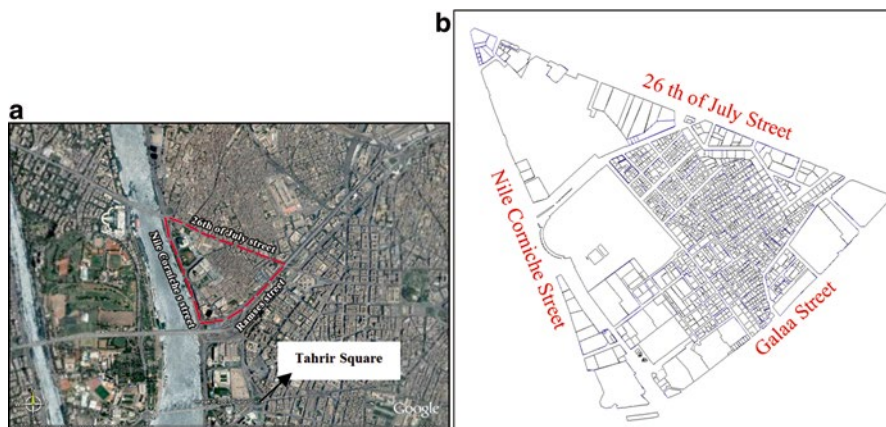
Fig. 14.1 (**a**) Study area site (Maspiro district). (**b**) The 1130 land lots surveyed in the empirical study (Source: Developed by author)

The study area lies in down town in Kism of Beaulac surrounded by three main streets, Nile Corniche street, 26th of July street, and Galaa street as shown in Fig. 14.1. It extends in three sheikhat in Cairo, known by Abou Al Ella, Al Sheikh Ali, and Sharkas. Figure 14.1 shows the 1130 land lots that exist in the area, and upon which all the proposed variables have been measured.

It is of vital importance to have an accurate appraisal for every lot existing in the area. Any over estimations may lead to severe loss in milliards of investments, as it won't yield the expected incomes. While any under estimations will ultimately mislead the master plans proposed for the development. Therefore, an accurate model for the property estimation for each land lot is seriously needed.

14.3.3   Site Analysis on the District of Application (Maspiro)

This part represents the statistical analysis with all its procedures that would be carried out to estimate the final prices of the land lots. These steps include performing the factor analysis, and the cluster analysis, to compare between them for further verification of the results. These two analyses are performed to reach a categorization for the land lots in order to obtain definite groups and select from them a representative sample, and also to determine the number of land lots to be evaluated by the real estate appraisers. Multiple regression analysis would be further performed between the predicted prices for the selected sample and the most important urban variables resulting from the factor analysis, to ensure the validity of the variables in representing the prices estimated by the experts. For further validation of the equation deduced, a simple regression analysis would be performed between the factor scores of all land lots and the estimated price resulting from the equation deduced from the previous step.

Table 14.1 Total variance explained by the factor analysis in the second run

| | Initial eigen values | | | Extraction sums of squared loadings | | |
Component	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	3.571	39.680	39.680	3.571	39.680	39.680
2	2.654	29.488	69.168	2.654	29.488	69.168
3	0.849	9.430	78.599			
4	0.765	8.495	87.093			
5	0.436	4.844	91.937			
6	0.269	2.984	94.921			
7	0.227	2.523	97.444			
8	0.144	1.600	99.044			
9	8.605E-02	0.956	100.000			

Source: Developed by author

Table 14.2 Component matrix by the factor analysis in the second run

| Variables | Component | |
	1	2
Street width	0.844	−0.346
Position on street	0.815	−0.268
Street value	−0.815	0.219
View	0.775	−0.356
Building type	−0.622	−0.614
Area	0.431	−0.307
Condition	0.231	0.900
Structure	0.350	0.896
Floor no.	0.427	−0.134

Source: Developed by author

14.3.4 Performing the Factor Analysis

In this step, all the variables are analyzed using the principal component analysis. From this analysis, it is clear that the total variance shown in Table 14.1 reaches 39.68 %, this percentage explains the percentage of variance among the first component constituting the most important variables. This component contains five main significant variables whose component loading in the component matrix reaches more than 0.5, as shown in Table 14.2. They are: street width, position on street, street value, view, and building type. This analysis also yields the factor scores, these are number rates given to the land lots (each case) according to their importance in accordance with the measured variables. Therefore, we find that the all lots looking the Nile, 26th of July street and Galaa street would be assigned high values. The land lots are also classified into 13 groups every 20 unit in the factor score. This would afterwards be compared with the cluster analysis result to test if they match with the clusters categorized or not.

14.3.5   Performing the Cluster Analysis

This analysis is used to classify all the cases (land lots) into homogeneous clusters or groups according to their homogeneous characteristics (their measured variables). Therefore, all the land lots are classified into number of clusters according to their homogeneity within the variables measured. This is typically shown in the dendogram.

14.3.6   Comparing Between the Factor Analysis and the Cluster Analysis Results

By comparing between the results of the factor analysis and the cluster analysis, it was evident that the groups classified in the factor analysis match with those resulting from the cluster analysis. This implies the validity of the factor analysis to start the final selection of the categories and their number from each group that represent the land lots existing in the study area.

14.3.7   Determining the Number and the Final Representative Land Lots' Samples to Be Selected from the Groups Defined in the Factor Analysis

This procedure was done using the graph shown in Fig. 14.2, which defines a confidence percentage of 85 % from the total samples, by selecting 62 samples from the different groups determined in the factor analysis. Therefore, a histogram, shown in Fig. 14.3, representing the number of land lots within the factor score range is to be plotted. This helps in determining the number of samples to be selected from each group in the factor score, taking the confidence percentage 85 %. Table 14.3 shows the final land lots sample selected.

14.3.8   Multiple Regression Analysis and Estimation of Predicted Prices Equation

This analysis is performed by having the nine variables listed in the previous section act as the independent variables and the price of the selected 62 categories act as the dependent variable. The results showed high correlations existing between the prices and the variables representing the different characteristics of the land lots that reached 0.948, as shown in Tables 14.4 and 14.5. This means that the deduced

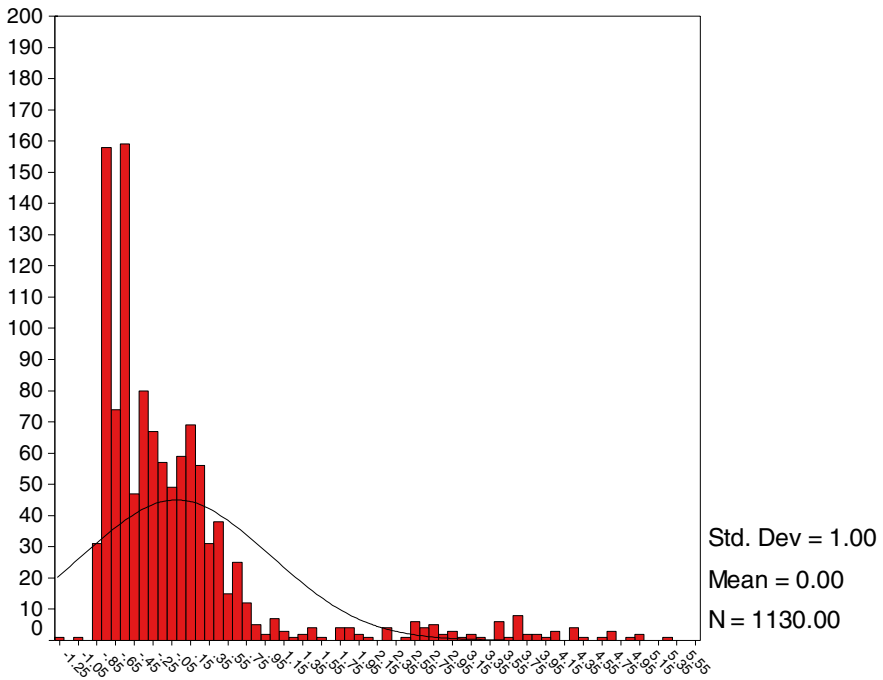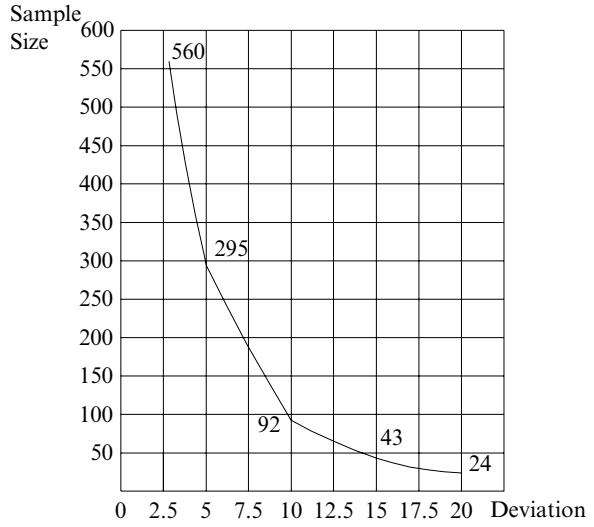**Fig. 14.2** Deviation for the land lots sample size from the norm (Source: Developed by author)

Fig. 14.3 Histogram for the resulting factor scores for all the land lots in Maspiro district (Source: Developed by author)

Table 14.3 The factor scores for the selected land lots sample according to the proposed categorized groups

No.	Block no.	Building no.	ID	Factor scores	Groups
46	39	30	738	0.42614	Group 3
47	4	19	28	0.47499	Group 3
48	11	25	163	0.58452	Group 4
49	28	Soap factory	631	0.66824	Group 4
50	26	10	621	0.78455	Group 4
51	7	34	98	1.00089	Group 5
52	28	4	637	1.48347	Group 5
53	40	106	756	1.83712	Group 6
54	27	Vacant land	626	2.29058	Group7
55	28	25	635	2.7445	Group 8
56	2	80	6	3.47474	Group 9
57	35	10	699	3.62069	Group 10
58	52	50	871	4.28825	Group 11
59	29	1129	641	4.50711	Group12
60	29	1119	647	4.6672	Group12
61	29	1127	642	4.96993	Group12
62	29	1121	645	5.24316	Group13
46	39	30	738	0.42614	Group 3
47	4	19	28	0.47499	Group 3
48	11	25	163	0.58452	Group 4
49	28	Soap factory	631	0.66824	Group 4
50	26	10	621	0.78455	Group 4
51	7	34	98	1.00089	Group 5
52	28	4	637	1.48347	Group 5
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54	27	Vacant land	626	2.29058	Group7
55	28	25	635	2.7445	Group 8
56	2	80	6	3.47474	Group 9
57	35	10	699	3.62069	Group 10
58	52	50	871	4.28825	Group 11
59	29	1129	641	4.50711	Group 12
60	29	1119	647	4.6672	Group 12
61	29	1127	642	4.96993	Group 12
62	29	1121	645	5.24316	Group 13

Source: Developed by author

Table 14.4 Multiple regression analysis (model summary)

Model	R	R square	Adjusted R square	Std. error of the estimate
1	0.974	0.948	0.940	1698.211

Source: Developed by author

Table 14.5 Multiple regression analysis (coefficients)

	Unstandardized coefficients		Standardized coefficients	t	Sig.
	B	Std. error	Beta		
(Constant)	−1,104.561	2,541.059		−0.435	0.665
Bldg type	54.883	127.599	0.023	0.430	0.669
Floor no.	1,118.642	137.256	0.358	8.150	0.000
Condition	−34.207	422.234	−0.004	−0.081	0.936
Structure	−1,340.161	724.544	−0.113	−1.850	0.070
Area	1.119	0.415	0.107	2.694	0.009
Street width	292.795	60.992	0.396	4.801	0.000
Street value	385.572	244.697	0.103	1.576	0.121
Position on street	64.141	174.862	0.026	0.367	0.715
View	88.692	21.801	0.316	4.068	0.000

Source: Developed by author

Table 14.6 Simple regression analysis (model summary)

Model	R	R square	Adjusted R square	Std. error of the estimate
1	0.854	0.729	0.725	3636.166

Source: Developed by author

equation is valid for 948 cases for every 1000 cases. The equation deduced based on the coefficients in this table can be represented in Eq. 14.1:

$$
\begin{aligned}
\text{Price of m}^2 =&\left(-1104.561\right)+\left(54.883 * \text{building type}\right) \\
&+\left(1118.642 * \text{floor no.}\right)+\left(34.2 * \text{condition}\right) \\
&+\left(-1340.161 * \text{structure}\right) \\
&+\left(1.119 * \text{area}\right)+\left(292.795 * \text{street width}\right) \\
&+\left(385.572 * \text{street value}\right)+\left(64.141 * \text{position on street}\right)+\left(88.692 * \text{view}\right)
\end{aligned}
\tag{14.1}
$$

In order to ensure the validity of this deduced equation, a correlation test using simple regression analysis has been performed between the prices resulting from the equation as the dependent variable and the factor scores that represent the characteristics of the land lots. The correlation was found to be 0.854 as shown in Table 14.6. This is a strong correlation that validates the deduced equation and can be generalized and used for the deduction of the prices for all the other land lots existing in Maspiro district.

14.3.9 *Defining the Different Prices Scenarios Alternatives for the Estimation of the Final Prices*

Since the equation has only defined the prices according to the land lots characteristics, without taking into consideration any compensations for the residents, in case of evacuation, alternatives have been developed, in which the final price would be reduced by different proposed percentages. In the first alternative, the percentage is 0.85, 0.75 in the second alternative, 0.65 in the third alternative, and the fourth alternative would incorporate many proposed percentages according to the number of floors, and which can be listed as follows: 0.85 for vacant land, 0.75 for buildings consisting of one or two floors and 0.65 for buildings more than two floors in the fourth alternative. This number in the four proposed alternatives is added to (750 Egyptian pounds* no. of floors* area of land lot) to represent the compensation fees for the residents. It is worth mentioning that the number 750 is replaced by 2000 Egyptian pounds if the land lot confronts the Nile, and 1500 Egyptian pounds if the land lot confronts Galaa street or 26th of July street, and 1000 Egyptian pounds if the land lot is near to one of the major arterials surrounding the study area. It is worth mentioning that these previous percentages and compensation numbers proposed in these alternatives are recommended by the author of this chapter based on the investigations made during the urban survey and from meetings with the real estate appraisers, performed at the beginning of the study. The final prices for the four proposed alternatives are shown in Table 14.7 (only a shown sample). The final total prices for all land lots existing in Maspiro are 1,454,247,475.6, 1,388,289,106.0, 1,256,372,366.9, 1,349,152,378.3 Egyptian pounds respectively.

It is worth mentioning that in this study, not only the prices for the land lots were evaluated, but also the compensations for the people owning or loaning the land lots. Thirty percent of these land lots were sold recently within 5 % more or less than the prices estimated by the study. This proves the validity of the methodology proposed by the research for the estimation of the land value and the appraisal of the real estate, depending on the urban characteristics of the land lots. This means that the methodology deduced for the estimation of the real estate value has overcome the disadvantages of the other theoretical approaches that include the changing purchasing power of money or personal estimations, and can thus be valid for all districts in all areas. As for the compensation fees, they have to be separated anyway from this procedure as they vary in accordance with the undergoing situations.

14.4 Conclusion

Since the real estate appraisal is one of the most important domains in the proposal of developmental plans especially in rehabilitation or demolition plans, it is of vital importance to have an accurate methodology that incorporates all the urban variables that might affect their land value. The research has accordingly introduced an approach that includes these variables concerned with the precise determination of

Table 14.7 The results of the final prices for a sample from 1,130 land lots existing in Maspiro district

ID	Factor score	Price from multiple regression/m2	Final price for the lot	Alt 1(*0.8)	Alt 2(*0.75)	Alt 3(*0.65)	Final price
1276.00	4.3128	22,868.18549	6,648,010.20	7,644,088.163	7,311,687.65	6,646,886.63	6,646,886.63
1277.00	3.4251	24,442.77385	10,196,303.1	13,788,567.48	13,278,752.3	12,259,122.0	12,259,122.0
1278.00	4.2337	20,984.54622	10,500,247.2	10,401,717.79	9,876,705.42	8,826,680.70	9,876,705.42
1279.00	4.3223	19,405.30605	5,529,541.95	4,993,533.567	4,717,056.46	4,164,102.27	4,717,056.46
1280.00	4.2845	20,301.28474	18,057,180.7	16,224,664.58	15,321,805.5	13,516,087.4	15,321,805.5
1274.00	3.1888	17,318.35262	4,796,837.30	5,499,349.847	5,259,507.98	4,779,824.25	4,779,824.25
1268.00	2.8015	16,886.08663	24,227,650.5	21,534,275.41	20,322,892.8	17,900,127.8	20,322,892.8
1269.00	1.987	14,405.65827	977,135.800	1,053,028.640	1,004,171.85	906,458.270	906,458.270
1270.00	2.0133	14,491.84365	2,099,143.55	2,258,714.842	2,153,757.66	1,943,843.30	1,943,843.30
1271.00	2.1039	14,605.32136	2,759,529.41	2,963,383.534	2,825,407.06	2,549,454.12	2,549,454.12
1272.00	2.0101	14,481.1572	1,959,300.56	2,108,640.455	2,010,675.42	1,814,745.37	1,814,745.37
1273.00	2.0612	14,466.10657	933,497.857	1,004,918.286	958,243.392	864,893.607	864,893.607
1233.00	2.0976	11,036.16689	11,309,974.1	10,585,194.35	10,019,695.6	8,888,698.22	10,019,695.6
1225.00	2.1546	6920.38363	10,455,107.9	9,874,856.381	9,352,100.98	8,306,590.18	9,352,100.98
1225b	1.383	5444.20212	508,924.014	547,359.211	521,913.010	471,020.609	521,913.010
1226.00	1.3811	11,450.87416	8,601,209.61	9,134,387.693	8,704,327.21	7,844,206.25	8,704,327.21
1227.00	1.3191	12,573.62719	10,995,762.1	8,796,610.171	8,246,822.03	7,147,245.76	8,796,610.17
1228.00	2.5876	12,571.93707	22,655,007.7	23,530,096.20	22,397,345.8	20,131,845.0	22,397,345.8
1229.00	1.4591	11,199.63225	16,544,656.7	15,451,600.39	14,624,367.5	12,969,901.8	14,624,367.5

1230.00	3.0089	12,443.06227	9,429,725.88	7,543,780.704	7,072,294.41	6,129,321.82	7,543,780.70
1231.00	2.6926	12,028.57179	25,944,546.7	23,991,002.42	22,693,775.0	20,099,320.4	22,693,775.0
1232.00	1.4191	13,344.66953	18,247,100.7	14,597,680.62	13,685,325.5	11,860,615.5	13,685,325.5
1233a	2.8741	20,937.94718	9,992,007.15	9,902,485.723	9,402,885.36	8,403,684.65	9,402,885.36
1233b	2.4314	29,868.74277	13,764,412.7	20,228,130.18	19,539,909.5	18,163,468.2	18,163,468.2
21.00	4.2201	4820.83589	418,496.763	465,012.411	444,087.572	402,237.896	444,087.572
22.00	4.8749	5814.63114	189,324.389	224,719.512	215,253.292	196,320.853	196,320.853
23.00	0.2438	5254.56542	557,929.756	525,978.805	498,082.317	442,289.341	498,082.317
24.00	0.2324	6428.82114	424,687.924	438,840.340	417,605.943	375,137.150	417,605.943
25.00	1.5183	2269.48094	73,213.4551	106,960.764	103,300.091	95,978.7458	103,300.091
26.00	1.328	1600.04649	65,937.9158	83,657.833	80,360.9368	73,767.1453	80,360.9368
27.00	−0.875	4947.77022	167,630.455	235,744.364	227,362.841	210,599.795	210,599.795
28.00	−0.885	3885.70486	328,108.918	452,477.135	436,071.688	403,260.796	403,260.796
29.00	−0.64	7494.8444	371,744.282	408,995.426	390,408.211	353,233.783	353,233.783
30.00	−0.706	6541.35495	327,394.815	336,990.852	320,621.111	287,881.629	320,621.111
31.00	1.4719	3717.78478	383,377.966	306,702.373	287,533.474	249,195.678	306,702.373
32.00	1.2058	7683.60843	1,236,830.44	1,351,646.859	1,289,805.33	1,166,122.29	1,166,122.29

Source: Developed by author

the properties of the real estate. It also incorporates the statistical evaluation of these variables and how they affect each other, in the form of a deduced equation. This can be used afterwards and can be applied on every real state being evaluated especially after the defects that have been discussed concerning all the theoretical approaches that ignore many variables and how they affect each other. The planning variables including the context, accessibility to services and major arterials, width of elevation, legalizations,…. are the most important factors that affect the land value. They also correlate with each other, and constitute the final price of the property.

The chapter has thus introduced a methodology including all the urban planning variables that affect the land value of the property, using a statistical model. It even tested their interrelationships and their vitality in causing change through a statistical model, by application on Maspiro district, incorporating 1130 land lots. The Egyptian government plans the redevelopment of this deteriorated region that despite its vitality lacks any important development projects. Therefore, errors in this area mean loss of milliards of pounds. Prices and compensations for residents were estimated depending on the urban planning variables for each land lot using the statistical model deduced. It is worth mentioning that 30 % of the land lots in this district were recently sold with 5 % more or less than the estimated values in the research.

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Chapter 15
Water, Food and Energy Nexus, Investigating the Feasibility of the Concept Through the Application of a Sustainable Sanitation System, the Case of Zerzara, Hurghada

Anas Alhowaily, Mohammed Hilal, Anas Khaled, and Ahmed Aly

Abstract This chapter investigates the potential of linking water and sanitation provision to energy saving and food security for the purpose of improving the living conditions of the residents in informal areas. It stresses on the need of new concepts, that should replace common and conventional interventions to fulfill basic functions to face the challenges met during the process of upgrading.

The informal settlement "Zerzara" located at the heart of the city Hurghada in Egypt, is selected as case study where infrastructure provision in informal settlements is revisited. The authors propose a development process to sustain and improve the environmental, social and economic aspects in both the short and long term. The integrated Nexus approach will thus help ameliorate the quality of life, solving different problems on the macro and the micro level. Within the context of Zerzara, wastewater treatment and reuse will help to tackle the problem of scarce water resources and aridity, providing irrigation and natural soil fertilizers to reclaim the adjacent desert land. Reclaimed land will be used as a laboratory field for practicing urban agriculture and livestock rearing to generate economic benefit for the residents and reduce unemployment rate. Biogas production is investigated and turned out to be unfeasible due to the governmental subsidies on fossil fuels. On the macro level, the system will contribute to sustain food security, the reduction of energy intensity used to desalinate water for irrigation.

Keywords Water-food-energy nexus • Sustainable sanitation • Decentralized treatment system • Urban agriculture • Informal settlement • Zerzara Hurghada

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15.1   Introduction

In the developed world, conventional sanitation systems of central wastewater management have become a standard solution for dealing with wastewater. Nowadays, raising criticism has, however, been leveled on these systems for ecological and economic reasons (Werner et al. 2002). Most prominently, the high water consumption and misuse of the valuable drinking water in waste transportation, the loss of many valuable nutrients in the excreta due to mixed wastewater transportation, and finally, the increasing investment, operation and maintenance costs (Lüthi et al. 2011). A sustainable sanitation system would close the loop of the urban resource cycle and sustain the material flow cycle instead of disposing wastewater into the environment.

The definition of the word "*nexus*" is described as connecting a group or series of elements together, alternatively, means of connection between members of a group or things in a series (Collins 2014). In the professional fields, Nexus approach has multiple understandings in many scientific and economic sectors. In the field of urban development, the German Ministry for Economic Cooperation and Development (BMZ) has introduced the term "Nexus" in 2011 to debate what they mean by the nexus of water, food and energy security. BMZ had the objective to enhance the efficiency and effectiveness of resource supply and management to and in cities (Atkinson 2014). The step was followed by introducing the topic on an internet platform (www.water-energy-food.org) to provide guidance and to document the several initiatives around the world.

This chapter discusses a part of a term project aiming to enhance the living conditions of the informal settlement Zerzara. The project took place during the master program studies of the Technical University Berlin Campus El Gouna in cooperation with the Red Sea Governorate (RSG). The term project was divided into three main subdivisions. This chapter is dealing with the third part, sanitation and urban agriculture.

15.2   Sanitation as a Part of a Nexus Approach

Conventional centralized treatment facilities are considered to be of a high cost and sophisticated technology (Sasse 1998). The systems often demand high-energy inputs for operation and extensive maintenance services to ensure continuous operation. The high startup and expansion cost for a conventional treatment plant is an economic obstacle that prevents the conventional sanitation infrastructure from spreading in developing countries. There is a high demand for low-cost wastewater treatment infrastructure especially in the most dense populated areas with low economic conditions (BORDA 2010). In informal settlements, adequate wastewater handling and treatment often does not exist, which endangers resident's health, pollute underground water and damage buildings conditions.

The concept of "wash the problem away" is today encountered by the concept of utilizing human waste into agriculture and energy production. Many initiatives such as ecological and sustainable sanitation eco-san by GIZ and Nexus by BMZ were introduced to utilize and recover nutrients of human waste as a very important resource which has to be integrated within the overall resource cycle of our cities and villages (Atkinson 2014).

The German NGO Bremen Overseas Research and Development Association (BORDA) has been working in many countries on solving wastewater management problems in an environmental, economic, and sustainable way. Wastewater treatment includes cleaning domestic wastewater for irrigation and urban agriculture and also biogas production from human waste composting, producing both fuel for cooking and a natural soil fertilizer (Atkinson 2014). The WHO organization has published several guidelines for the safe use of wastewater, excreta and gray water in agriculture. The use of domestic wastewater in agriculture contributes significantly to food security and nutritional status (WHO 2006).

Within the Egyptian context, the association Together Egypt (TE) has already established 15 affordable and low-tech water sanitation systems for Egyptian villages (Synergos 2013). Although the systems were established in rural areas, the affordability of the system is unquestionable, for two villages with a population of 10,000 capita in Beni-swaif Governorate. The initial investment cost was about $800,000 instead of $ 4,500,000 for a conventional treatment system (Ghali 2011). The systems installed, depend on natural biological treatment and constructed wetlands for wastewater treatment. Biogas and organic fertilizers are produced as well to reduce the community's use of chemical fertilizers.

15.3 General Outlook on the Nexus-Related Infrastructure and Services in Hurghada

About 30 years ago, the potential of the Red Sea Governorate and its capital Hurghada as a promising worldwide touristic destination paved the way for a booming and escalating construction sector. The city, originally developed under the British occupation in 1913 is no longer depending on the oil mining industry. The city switched into being one of the main fishing centers on the Red Sea coast and an international touristic center (Mustafa 1999). Hotels and resorts were built to serve the future raising numbers of tourists. The labor-intensive construction and tourism industries were the magnets for many migrants escaping from poverty, low living conditions and the lack of employment in the Upper-Egyptian cities and villages. Nowadays, migrants constitute the largest segment of the city, 89 % of the population (Elsayed 2009). Informal settlements inside the city have been a hosting environment for many of the migrating population to the city.

With more than 1100 houses and an area of 20 ha, the informal settlement Zerzara stands out at the heart Hurghada as one of six informal settlements in the

city. All the settlements are classified according to the Informal Settlements Development Facility (ISDF) classification in 2012 as "*unsafe informal areas of unsuitable shelter conditions*". This is the second degree of risk where the displacement of residents is not mandatory. In such cases, "upgrading" stands as the adequate type of intervention (ISDF 2012).

Discussions with the local residents and focus groups unveiled that Zerzara started to grow in the early 1990s. The settlement expanded at the hinterland of the new slaughterhouse established by the RSG. The migrating population started to settle down within this area. Livestock rearing started to grow thanks to the spatial proximity to the slaughterhouse. More residents started to move into the settlement depending on another source of economic potential, solid waste.

Due to the high consumption of food by the hotels and resorts in the city, many of the residents started to work within the informal sector of solid waste management. Therefore, Many of the informal solid waste management phases exist in Zerzara. People gather solid waste within their houses, yards and streets. Organic waste is sold or collected and fed to the livestock or used in poultry farming.

Moreover, due to the informal condition of the settlement, the absence of infrastructure has been persistent for many years. Discussions with focus groups reveal that the gradual provision of infrastructure started to take place due to the escalating pressure of the residents on the local authorities. On the other hand, infrastructure provision was used as a political card to gain the votes of the residents in the parliamentary and presidential elections. Electricity, water supply and even natural gas were supplied to the informal settlement. Yet, sanitation as service has not been provided for the settlement.

On the physical, economic and social level, sanitation is considered as a major problem in Zerzara that needs urgent intervention. Although the conventional sanitation system will represent a fast and a practical approach to the problem.

15.3.1   Water Supply and Sanitation

The Red Sea Company for Freshwater and Wastewater Management was established in 2004 with a core responsibility to deliver drinking water, to upgrade and monitor the current water or wastewater infrastructure and to establish new sewage infrastructure in the whole Red Sea Region. The company operates a central lab for monitoring the quality of the drinking water (RSG 2014). According to the chairman of the Board of Directors, Hurgahda suffers a shortage in drinking water of 60 % (Alsharief 2014). The city has a wastewater treatment plant on the northwestern edge of the city. The treatment of the wastewater depends on oxidation ponds, the treated wastewater is then utilized in irrigating an afforestation in the north western desert fringes of the city (Mustafa 1999).

At the level of Zerzara, local interviews with residents showed that drinking water is available two times a week. Regarding sanitation, the situation is much more problematic. Before the 25th of January Revolution, the company started to

provide Zerzara with a sewage network. Based on a previous step made by the Governor in January 2009 to open up six wide streets inside the area and two main collectors connecting the whole settlement with the main streets of Hurghada, the two million EGP plan paved the way for installing the sewage system. Unfortunately, sewage installation stopped directly after the 25th of January revolution.

15.3.2 Solid Waste Management (SWM)

Hurghada Environmental Protection and Conservation Association (HEPCA) are responsible for SWM in Hurghada; The NGO was founded in 1992 in response to the serious environmental threats that affect the Red Sea's delicate and pristine eco-system. Progressively, HEPCA gained more tools and institutional assets to extend the defense line for protecting the marine environment beyond the seashore. Due to the environmental characteristics of the Red Sea Region, inadequate SWM system in the urban area would result in a huge destructive impact on the marine life. Northwestern wind patterns drive light waste such as plastic bottles and cans into the sea, they end up in the food chain of the marine bio system causing death to a large number of creatures that affect the stability of the ecosystem, causing the destructive effect on the human health (HEPCA 2013).

The potential of using organic waste into livestock rearing or biogas production is considerably high. The composition of solid waste in the Egyptian cities contains up to 56 % organic waste (SWEEP-Net 2014), there is a great economic potential to use the organic waste in promoting livestock rearing in Zerzara.

15.3.3 Agriculture

Directorate of agriculture in RSG is responsible for the provision of chemical and biochemical fertilizers, pesticides. They are also in charge of maintaining planta-tions within the governorate, providing food supply for the residents.

The agricultural directorate carries on educational seminars for the farmers and helps them in supervising and monitoring the agricultural crops to ensure its quality and its safety (Agricultural Directorate 2012).

15.4 Chapter Methodology

The chapter method applied in this research relied on both deskwork and fieldwork research. In general, the process consisted of four stages: Literature review, field survey, data analysis and development of the proposed system.

Literature review was initiated to gain the theoretical knowledge of improving sanitation infrastructure as a part of a Nexus approach. Furthermore, to review the literature related to the case study of Zerzara and Hurghada city.

In terms of the case study of Zerzara, there was a lack in both quantitative and qualitative data. The decision was made to adapt an exploratory approach and engage in an intensive fieldwork to obtain the required data. The fieldwork consisted of self-observations, meetings with the focus groups and most importantly, field surveys. The main objective of the survey was to document the infrastructure conditions on the ground to triangulate the different data obtained from the local residents.

The field survey was an intensive fieldwork where 50 residents from all over Zerzara have been questioned on three main Nexus related aspects, water supply and sanitation, solid waste management and urban agriculture. This Field survey followed the procedure of a Simple Random Sampling (SRS). The variance of people opinions in the sample is a good indicator of variance in overall population.

The information obtained from the field survey helped to design the proposed sanitation system to best suit the context of Zerzara. Many constructive side talks highlighted several problems as well as solutions related to the context. The location where each survey was conducted was pinpointed on the settlement map to relate each survey spatially. The team obtained the physical properties of the settlement through satellite images, consequently, the maps were traced using a computer-aided software.

The third research procedure consisted of data analysis, benchmarking the different case studies, and fieldwork data analysis using the SWOT analysis as a tool to help shaping the final proposal. In the fourth stage the concept is developed, proposing different alternatives, and discussing all proposals with the local residents. After including their comments, the most suitable proposal is defined, and a preliminary feasibility study is developed in order to determine the overall potential of the concept including its economic viability.

15.5 Survey Findings and S.W.O.T Analysis

The results of the SWOT analysis are structured around the three themes of the chapter:

Water Supply and Sanitation Although drinking water inlets are available for each house, water is available only for 2 days a week. The issue that increases the dependency on water tanks in each household, some houses have more than one water tank to ensure water supply continuity. There are many problems accompanied with the use of water tanks, such as, the pollution of water due to the absence of regular maintenance, the difficulty of the cleaning process (many tanks are locally made and not certified). About 45 % of the surveyed residents complained from water related diseases, such as colic and kidney failure.

Table 15.1 SWOT analysis for the water supply and sanitation

	Water supply	Sanitation
Strengths	Drinking water provided through water piping to each house	Availability of wastewater pumping trucks by the private sector on site
		About 26 % of the residents already separate gray water for toilet flushing and/or irrigation
		The previous plan by RSG to open up and widen the streets will help to ameliorate the problems of infrastructure installation
Weaknesses	Drinking water are not continuously available on tap	100 % of the survey sample are full dependent on septic tanks
	Water is available 2 days a week and stored in the water tanks above the houses	75 % of the septic tanks are made from permeable materials that cause wastewater infiltration into the ground. Problems of bad smell also exist
		Wastewater leakages are threatening the structural stability of the houses
		Solid and rocky land might be an obstacle for sanitation networking
		Low connectivity, narrow roads inside some areas of Zerzara hard to be reached by the pumping trucks
Opportunities	Separation and utilization of gray water already exists as a culture. There is a high potential of developing the concept	70 % of the residents paid more than 1,000 LE to install the current septic tanks. In addition to monthly fees of 50 EGP to empty the septic tanks, the purchasing power of the residents indicates their financial ability to cooperate in the new satiation system
Threats	Many water tanks are not certified and not maintained. Polluted drinking water threatens residents Health	**The sanitation leakage on the houses constitutes a structural threat**
		Septic tanks are a hosting environment for cockroaches, rats and insects

Source: Developed by authors

The main deficit of the current sanitation system is the construction method of septic tanks. Septic tanks are closer to leaching pits. They are made with a poorly insulated structure such as bricks and timber. About 60 % of complains regarding the septic tanks was the bad smell, 40 % for the leakage. Although septic tanks were not built up probably, the cost of building the tanks is considerably high. Fifty four percent of the residents surveyed, stated that the pumping trucks are hard to reach in emergency cases. Some residents were forced to remove the wastewater from the septic tanks manually (see Table 15.1).

Solid Waste Management Many residents in Zerzara are depending economically on solid waste management. Waste generated from touristic and residential areas is collected, sorted and sold in an informal manner. Organic waste is of high economic potential, it is being sold and used in poultry farming. The nearby vacant military

Table 15.2 SWOT analysis for the SWM sector

Strengths	The high involvement of HEPCA in the solid waste collection despite the low connectivity inside the settlement. According to the survey sample, 89 % of solid waste collection is covered by HEPCA
	49 % of the residents have the tendency to participate in improving SWM
Weakness	Organic waste that has no economic potential is dumped in the military land and becomes a source of pollution
	Open dumping and waste incineration in the vacant military land
	The study area is already supplied with natural gas. Subsidized prices for natural gas might threaten the feasibility of producing biogas from solid waste and composting products
Opportunities	49 % of the survey samples have the tendency to participate in the SWM including separation and collection
Threats	Garbage dumping in open land result in health problems especially from waste incineration
	37 % of the residents drop their solid waste in the open area
	The spread of diseases and infections

Source: Developed by authors

land is an open dumpsite for the reject waste. Solid waste is piling up at the land edges and waste incineration is taking place inside the empty military bunkers. Some of the scarab collectors use the open military fields to burn electric wires to extract copper and sell it, since the military land is located to the north of the project area, wind carries the dust and smoke resulting from waste incineration over the residents, many of the families are threatened and children suffer from breathing difficulties (see Table 15.2).

Urban Agriculture Zerzara is a very compact settlement; Space available for agriculture is very limited. Although many residents have a good agricultural background as they are originally migrating from rural areas. The roofs of the buildings turned out to be not suitable for practicing roof plantation due to weak structural conditions (see Table 15.3).

15.6 Proposed Interventions, the Proposed Nexus System

The SWOT analysis revealed that a preceding development of the water supply infrastructure is necessary. A wide range of measures could be implemented, such as the replacement of uncertified water tanks, the reduction of water losses and water contamination through replacing bad sanitary connections. In General, the measures shall ensure the safety of the water, the main input to the sanitation system. On the other hand, SWM has to be developed in parallel. Organic waste would be separated, collected and utilized in co-composting with the sludge resulting from the wastewater treatment process. Co-composting of organic waste will help to optimize the process and the product (Tilley et al. 2014).

Table 15.3 SWOT analysis for the urban agriculture sector

Strengths	37 % of the sample are practicing livestock rearing and poultry farming
Weakness	Salty soil is considered as the main obstacle for urban agriculture
	65 % are refusing to plant their roofs, mainly because of weak structural conditions
	Solid and rocky land inside the settlement is an obstacle for agriculture
Opportunities	40 % are practicing economic activity inside their houses
	87 % are willing to practice an economic activity in their houses
	47 % of the residents have knowledge about agriculture
Threats	The settlement is surrounded by military lands Attempts by the residents to plant the nearby land were stopped immediately by the authorities as they considered their attempts as squatting
	The spread of rats and Insects threaten plants

Source: Developed by authors

The analysis of the current sanitation system revealed that septic tanks installed in Zerzara are a major infrastructural deficit that acquire urgent intervention. The deteriorated septic tanks are acting as leaching pits with a high infiltration of wastewater into the ground, creating an environmental problem as well as damaging the building conditions. They are accompanied by the problems of smell and considered as a hosting environment for rats and cockroaches. Pumping trucks are often unable to reach the septic tanks because of narrow streets and low accessibility.

With a new approach to consider wastewater as a source of income generation, new proposed design of septic tanks for faecal sludge separation is proposed. The new septic tanks would shift the residents from using their own deteriorated septic tanks. They will transfer their wastewater outside their property by piping it to central septic tanks shared by a group of households. The old septic tanks will be deactivated and backfilled. Afterwards, a shallow and solids free sewer will then transfer the primary treated wastewater into a decentralized treatment plant, where the wastewater will be treated for Agriculture through different treatment modules (Fig. 15.1).

15.6.1   Wastewater Treatment

At each household, the wastewater collection system will integrate both, the toilet flush water and the wash water together in one septic tank. At the treatment phase, the wastewater will be primarily treated at the septic tank through the settlement of the solid component (sludge) at the bottom of the first and second internal chambers. The primary treated water will drain into the sewerage as a solid free effluent (Tilley et al. 2014). Thus, it would be ready for the next treatment modules (Fig. 15.2). The settled sludge will be pumped by the trucks and transferred to the biogas reactor for composting.
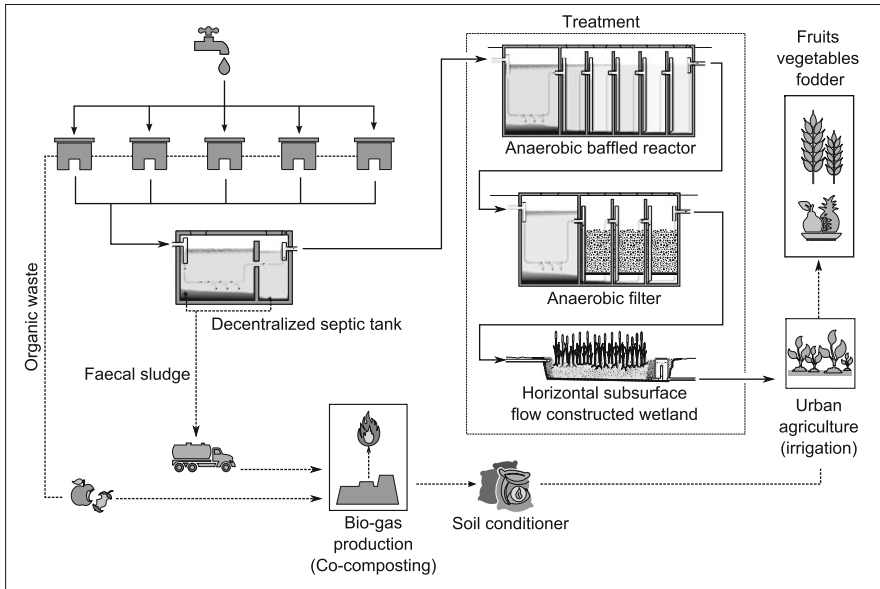
Fig. 15.1 The integrated Nexus system with its material and energy flows and main modules for physical and biological waste water treatment (Source: Developed by authors, adapted after Tilley et al. 2014)
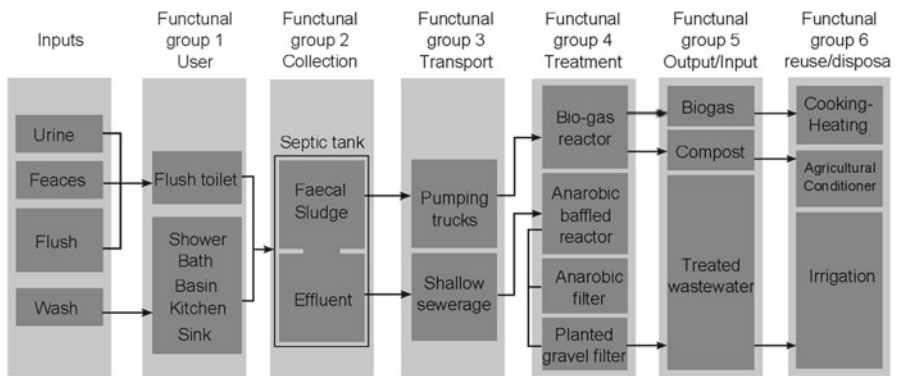

Fig. 15.2 Diagram shows the proposed decentralized wastewater system for residential buildings (Source: Developed by authors, adapted after Tilley et al. 2014)

Where septic tanks are connecting several households together, the anaerobic baffled reactor is working on the neighborhood level. The reactor contains several baffles in which wastewater flows. While enhanced removal and digestion of organic matters is provided, further reduction of BOD (Biochemical Oxygen Demand) up to 90 % is achieved, superior to the nearly 50 % already achieved by the septic tank (Tilley et al. 2014).

The third treatment process is within the anaerobic filter, which is a fixed-bed biological reactor with one or more filtration chamber in a series. The typical BOD and suspended solids is up to 80 % (Tilley et al. 2014).

The fourth treatment process is within the planted gravel filter, a horizontal sub-surface flow constructed wetland, in which a large gravel and sand filled basin planted with wetland vegetation. Wastewater flowing into the system is filtered from particles and microorganisms degrade the organic matters. The plants transfers a small amount of oxygen to the roots, aerobic bacteria is then activated colonize the area and degrade the organic matters (Tilley et al. 2014). A significant removal of pathogen is accomplished by decay, predation, higher organisms and filtration. Further, unlike other systems of wetlands, mosquitoes breeding risk is highly reduced since there is no standing water (Tilley et al. 2014).

The different levels of treatment and pre-treatment will depend on the quality of the effluent before the treatment process. Moreover, the water-testing lab available by RSG, shall regularly monitor and inspect the effluent and the treated wastewater and its adherence to the regulations of WHO for the safe usage of wastewater. The system needs a high commitment regarding regular desludging and maintenance (Tilley et al. 2014).

15.6.2   Urban Agriculture

On the City level, treated wastewater is already utilized in peri-urban agriculture, on the peri-urban areas northwest of Hurghada. Treated wastewater to irrigate trees used for wood production. Decentralized wastewater treatment in Zerzara aims to irrigate crops, with a possibility to be eaten uncooked. BORDA's decentralized wastewater treatment plant (DEWATS) has several success stories for the reuse of wastewater in irrigation. In the city of Tamil Nadu in India, the system was installed for a local community and enabled the residents to treat their wastewater and use it for the plantation of fruits and vegetables; the water was regularly tested and monitored by the local water-testing lab (BORDA 2014).

The Proposed decentralized wastewater treatment in Zerzara aims to irrigate crops, with a possibility to be eaten uncooked. The Egyptian code for the use of treated wastewater in agriculture specifies the required treatment level and the required wastewater specifications. According to the author preliminary calculations, Zerzara is expected to generate about 90 m^3 of wastewater per day and about 260 m^3 of faecal sludge per year. Calculations are based on the following numbers: according to (Ahmed 2011), the lowest average consumption of domestic wastewater for residential areas in Hurghada in 2006 was 154 l/capita/day. The population of Zerzara was 6500 in 2008 according to the local city council Census cited by the same author. 154*6500 = 100,100 l/day about 90 % go to sewerage (WHO 1999) average wastewater then produced is 900 m^3 per day. For sludge calculations, a person shall produce about 40 l per year (WHO 1999) 40 *6500 = 260 m^3 per year.
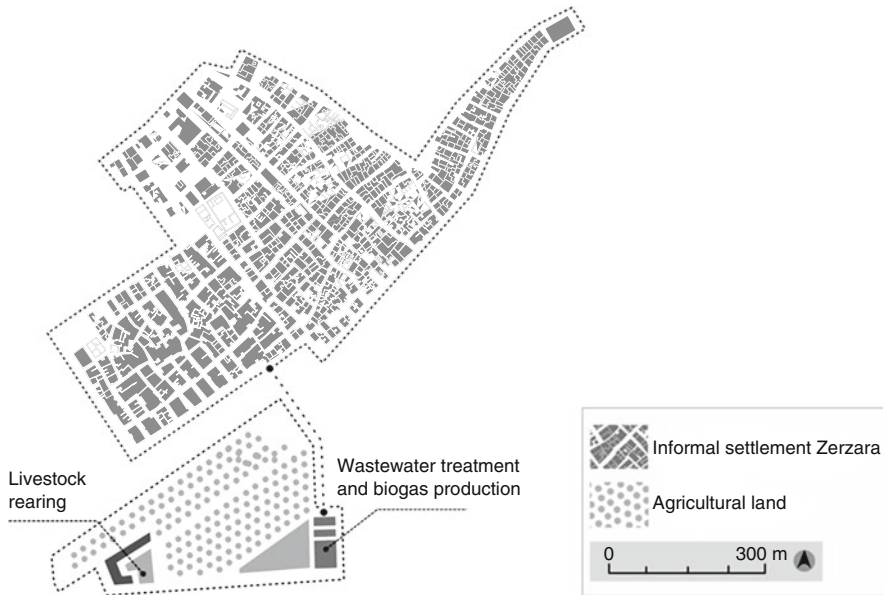
Fig. 15.3 Spatial illustration shows the location of the proposed land for the treatment plant, biogas generator, urban agriculture, and livestock rearing (Source: Developed by authors)

Zerzara is surrounded by vacant lands from the North and the South. The Northern land is allocated to the military and the southland is a vacant land adjacent to another military land. According to the SWOT analysis, the vacant land to the North is a source of high pollution to the residents. The southern land is a vacant land that has no specific land use but still constitutes a threat for informal expansion. For the purpose of urban agriculture, a selection of criteria is set to define the most suitable land. Further investigations by agricultural specialists including topography and soil characteristics are required. A strategic decision is to be taken by RSG to allocate one of these adjacent lands for the purpose of developing Zerzara is also required (Fig. 15.3). The land will be utilized in different ways, through a wastewater treatment plant, urban agriculture, and livestock rearing. Crops of high economic yield and suitability to arid desert conditions as well as high soil salinity is recommended, crops for feeding the livestock rearing needs lower level of treatment (MHPU 2005) and it's of a high economic benefit as well.

15.6.3 Biogas Production

Biogas resulting from the wastewater treatment is produced from the anaerobic digestion of domestic wastewater sludge. During the wastewater treatment process, solids from primary and secondary treatment are collected and further processed,

via biodegradation, to stabilize and reduce the volume of the sludge. Organic solid waste would be co-composted with the sludge. The main aim is to provide a high quality soil conditioner for agriculture. The author decided not to study the feasibility of the biogas production as Zerzara area is supplied with natural gas infrastructure. However, biogas production could benefit other informal settlement within the district. Further research is required to cover this aspect.

15.6.4   Economic Yield and the Expected Time for Cost Recovery

The Economic yield of such a project is based on several aspects and many variables such as land price, the required treatment level and sewerage networking cost. However, a rough estimate to the investment cost for the project of such a scale is an average of 675,000 $ (Gutterer et al. 2009). The basis of calculation is governed by the lifetime of such a system 20–30 years (Sasse 1998).

For cost recovery calculations, the residents used to pay an average 7 $ per month to empty their septic tanks, 7 * 1100 houses is 7700 $ per month and 92,400 $ per year. Thus, an average of 7 years cost recovery is needed in case of independent payment by the residents only. The profit from urban agriculture will help to reduce the duration for cost recovery. The involvement of several funding organizations and local stakeholders is a key factor. Moreover, meetings with the focus groups obtained the residents willingness to participate in construction and payment of regular service fees. The issue that can highly reduce the construction cost.

15.7   Conclusion

Wastewater treatment for the purpose of agriculture is a question of applied science, if the required treatment for irrigation quality is achieved in a cost-efficient way, there is a high potential to benefit the residents of Zerzara on both social and economic levels. The application of a Nexus system is feasible in the settlement.

In this chapter, sanitation infrastructure is a development process that enables the local residents to gain economic benefit during and after installation of project components. The spatial proximity to the agricultural land enables the residents (who are already with rural background) to engage in practicing agriculture. Repositioning livestock rearing from inside the settlement to the agricultural land will improve the health and environmental conditions inside the settlement. The decentralized treatment plant will reduce excavation cost thanks to shallow piping and provide treated wastewater on site. Treated wastewater could be used to irrigating fruits and vegetables, which acquire a high treatment quality. It may also be used for irrigating fodder for livestock rearing which acquire a lower treatment level (MHPU 2005).

Both techniques would have their economic benefit for the residents. Biogas production might not be useful for the residents of Zerrzara as they already have natural gas infrastructure. However, other informal settlements with a lower living conditions are a potential target group.

Mainstreaming sustainable sanitation require the initiation of pilot projects to optimize and improve the development model. The security of food water and Energy is up to the local authorities who are responsible for empowering such a development method.

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