

Chapter 12

Aspects of the Quality of Life in India and Its Macro Region



S. C. Mukhopadhyay

Abstract The density of population in India, in general, and Northeast Macro Region India, in particular, has been increasing (2011 Census) very rapidly since 1991. An analysis of 2011 Census revealed that the higher rate of population growth has increased large number of population in India especially in the east and north-east macro-regions including Andaman–Nicobar Islands. This causes difficulty in maintaining the quality of life in both the rural and urban areas as referred by the sociologists, economists and politicians. Recently, the economists have highlighted an index of quality of life (2005) with the eight major points like material well-being, health, political stability and security, family life, community life, climate and geography, job security and political freedom. They have also presented an idea of quality of life in terms of different statistics, regression statistics—Tables of some countries' score from 1 to 10 (Global 2005) including so-called developing–undeveloped countries.

Keywords Density of population · Urban and Rural areas · Well-being · Social life

12.1 Introduction

The present paper is concerned with a study on aspects of the quality of life in India and its macro region. It relates to some aspects of quality development in terms of a number of dimensions—social, cultural, political as well as economic quality development. It refers to certain characteristics of social life such as free participation and fairness in the distribution of benefits, i.e. to certain moral types of a society such as justice, equity, peace and liberty: UN definition clearly brings back the focus on human endeavour for the process of change which is seen as good. Development is also inclusive of certain other concepts such as liberty, self-

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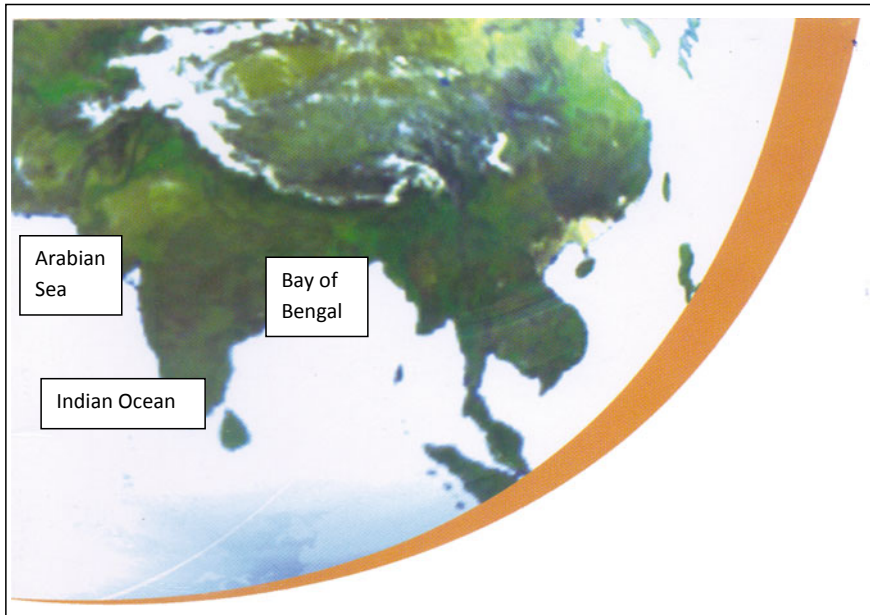


Fig. 12.1 Physical map of India with special reference to its NE Macro Region including the Andaman and Nicobar Islands, a Union Territory (UT) in the eastern part and surroundings, scale 1.50 Million

determination, autonomy, participation and empowerment (Figs. 12.1, 12.2, 12.3, 12.4 and 12.5) (Mukhopadhyay 1997, 1998, 2009, 2011, 2013; Bhattacharyya 1997; Ghosh 2009).

The author has banked upon the modern methodology—the use of Remote Sensing, GIS, Internet, software, etc. including the works of the predecessor and the like. We should agree that development is essentially economic growth and the way to achieve economic growth is through modernization of and increases in industrialization, advanced technology, modern bureaucratic and economic mechanisms. But during the later years of the 1990s and in the beginning of the new millennium, it was found that a large section of the population in the African, Asian and Latin American countries remained poor, undernourished, underfed, underemployed and deprived of the even most basic social and cultural need including our country (India). This led the social scientists to explore the possible causes of such an object of poverty and deprivation existing among the people of the developing nations to come up with alternative theories. These have included particularly those related to the distribution of the wealth mainly in terms of money and the like. This author has tried to establish some aspects of Quality life of India considering North–Eastern Macro Region Andaman and Nicobar Islands too.

Development of a nation is the interplay of politico-eco-cultural phenomena. Based on the active participation of the entire population in hierarchical stages of

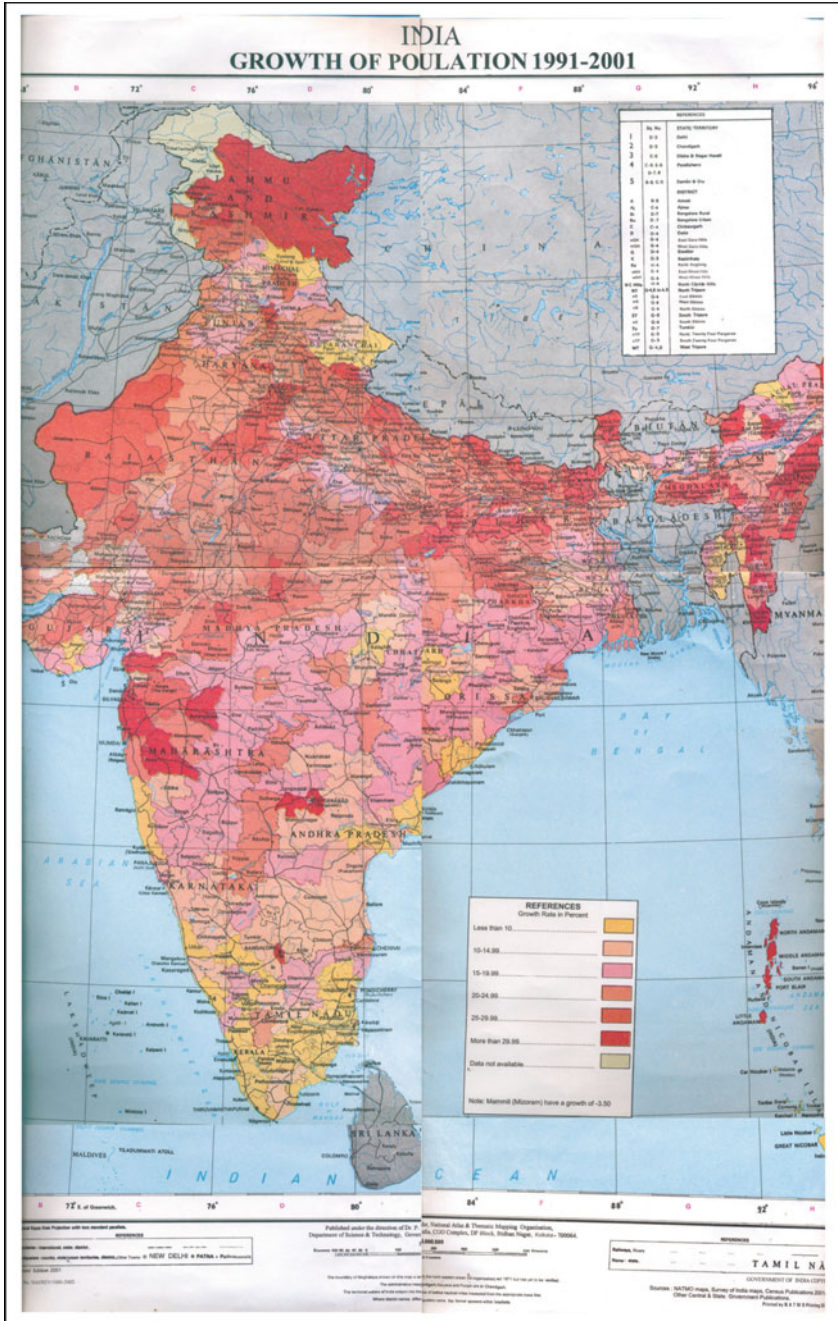


Fig. 12.2 Map of India showing the growth of population on 1991–2001, NATMO (Govt. of India under P. Nag)

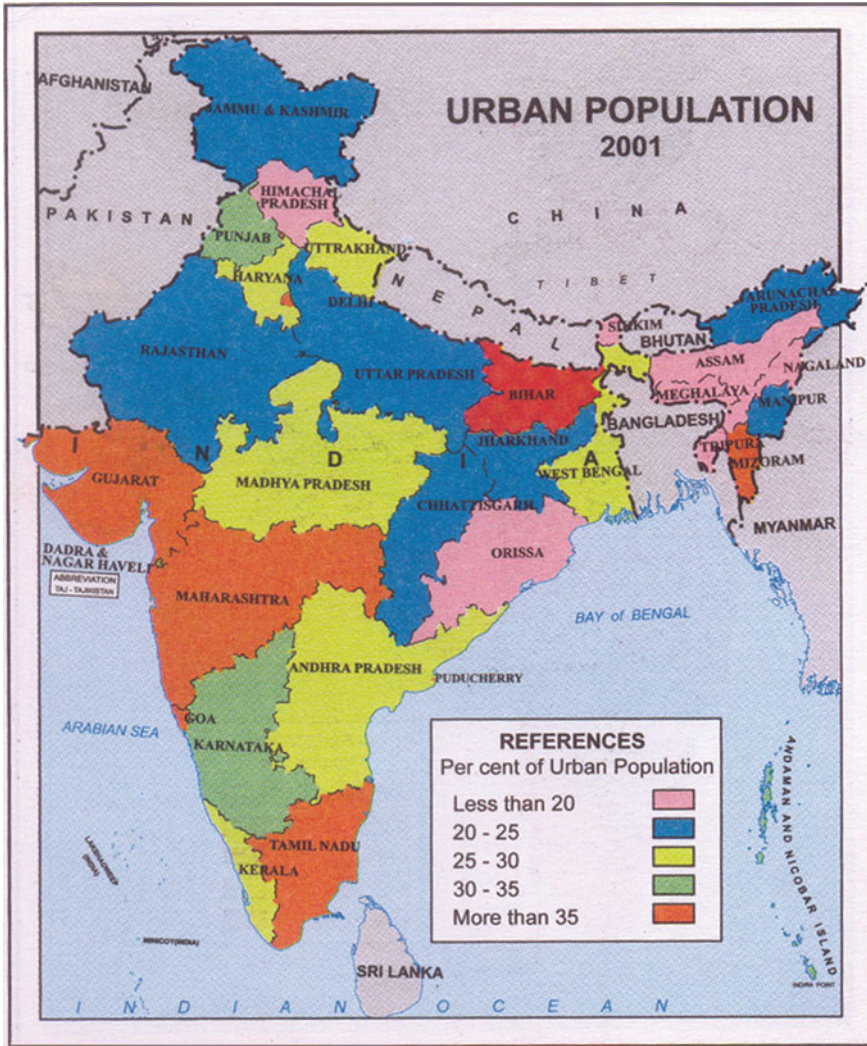


Fig. 12.3 Map of India displaying urban population on 2001, NATMO (Govt. of India under P. Nag)

development, it seeks to achieve uniformity in their well-being and enhance it by the allocation and dissemination of the range of benefits accruing from it (Tables 12.1, 12.2, 12.3, 12.4 and 12.5).

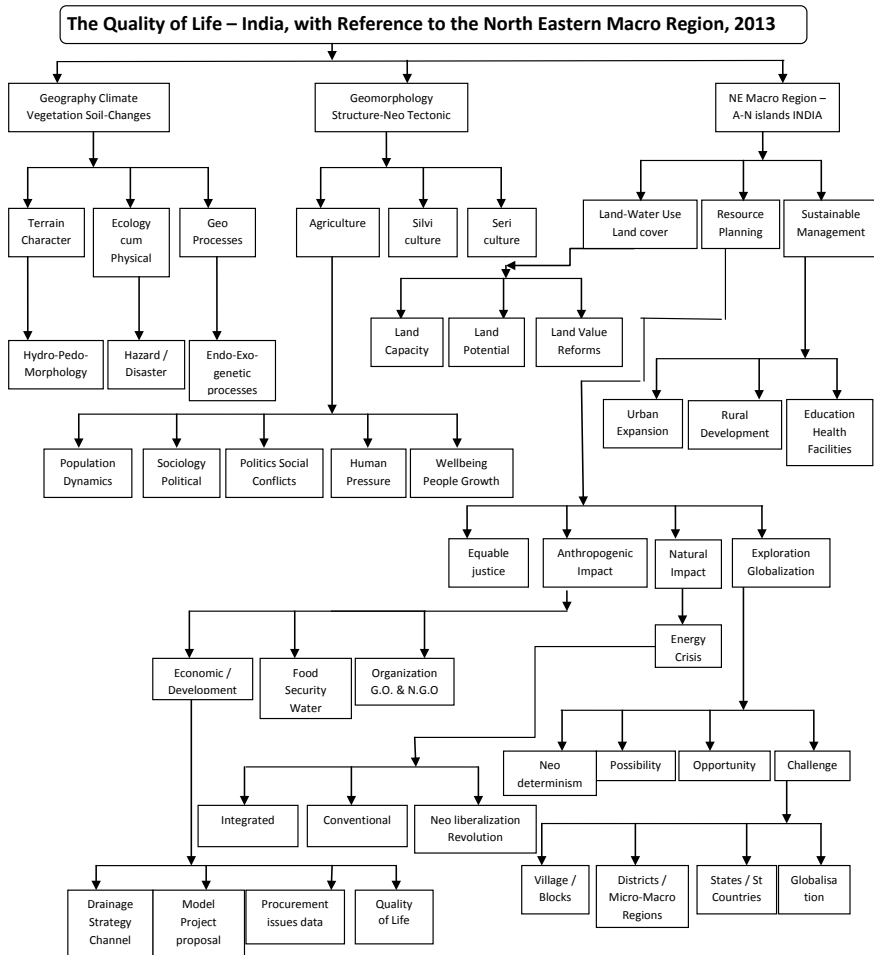


Fig. 12.4 Flow chart of the different aspects of quality of life in India, and Northeastern Macro Region including Andaman and Nicobar Islands

12.2 Status of Quality of Life, Especially in the Northeastern Macro Regions

Nowadays a large section of the population in the developing countries remained socially deprived, culturally marginalized and economically deprived in spite of the governmental efforts. In a pluralistic society like India, the problem of deprivation among minorities and backward communities such as scheduled castes and scheduled tribes posed a great threat to the social fabric of the nation-state. So far as the socio-politico-economic and related conflicts are concerned. The philosophical thrusts for the development studies in Geography as an academic discipline came from several

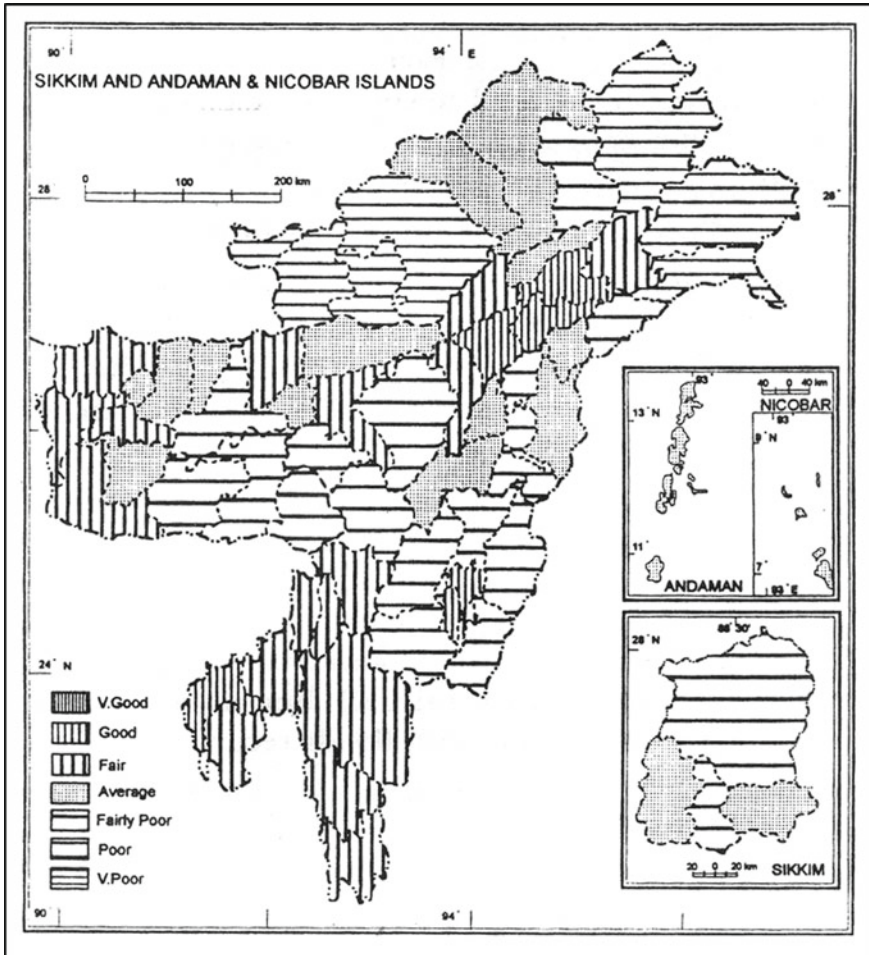


Fig. 12.5 The macro region of India and land use patterns with eight states and one union territory (UT), i.e. Andaman and Nicobar Islands in the eastern part exhibition land use patterns with the reflective status of very good, poor, very poor and the like

theoretical approaches among which, mention be made of Radical geography, Liberal views in geography, Humanistic geography and Geography of Welfare. These sub-disciplines individually and sometimes in accord with allied disciplines tried to focus on a theoretical basis of underdevelopment, for the country under consideration.

In a span of about sixty (60) years, the philosophy of development has undergone several paradigmatic shifts. It started with the need for development mainly in terms of economic growth. A quantitative approach was then replaced by qualitative transformation in terms of both time and space and still later a time-space compression, etc. The quality of life or geography of welfare is closely interrelated with devel-

Table 12.1 Present Borders along the Macro Region (State wise) including Andaman and Nicobar Islands (UT)

	International boundary percent to total state boundary (Approx)	State UT of area to total area (India)
Arunachal	70.12	2.55
Assam	18.58	2.38
Manipur	44.44	0.68
Meghalaya	33.89	0.68
Mizoram	71.66	0.64
Nagaland	22.64	0.50
Tripura	82.81	0.32
Sikkim	77.78	0.21
Andaman and Nicobar Island	100.00	0.003

Table 12.2 General status of quality of life (2012) and sustainable as observed in the Northeastern States—a macro region including Andaman and Nicobar Islands up to Indira Point in the southeast of India

Country	Quality o life score	Sustainability
India	6.246	High
Mizoram	5.868	Mod. high
Meghalaya	5.068	Mod. high
Sikkim	5.093	Moderate
Tripura	5.007	Low
Assam	5.001	Low
Manipur	4.895	Low
Nagaland	4.877	Low
Arunachal Pradesh	4.826	Very low
Andaman and Nicobar Islands	3.327	Extremely low

opment economics although there are departures too in this respect. Several other themes such as geography of inequality, geography of hunger, and in later years gender-based issues in development geography, post-structural, post-colonial and post-modern views of the development of fragmented social groups in Third World metropolises have become very widespread in the literature of geography during the 1980s and 1990s. Uneven development which is a result of the capitalist system of production came to be regarded as the root cause of absolute poverty prevailing in the developing countries. All these focused on developmental issues particularly the differences between societies on the basis of caste, class, race, gender and ethnicity. During the post-1990s, again the focus shifted on human and social development as it was found that economic well-being alone could not bring equitable justice (Tuathail and Agnew 1992; Varshney 1991).

Table 12.3 Stages of development and quality of life by inputs, throughputs and outputs of India's societies

Inputs	Throughputs	Outputs
Environmental-Improvements	Biotic and Abiotic-Built-Environment	Environmentalism-Protection
Ecology-Feed Back	Nature-Concepts-Principles-Application	Ecosystems-Processes-Policy
Space ship Earth-Concepts-Planate	Time-Space-Energy, Agenda	Earth Environ-Geo-Sciences-Scarcity
Land-Ocean-Climate-Conference	Science-Technology-Productivity	Approaches-Methodology-Models
Landforms-Biogeo.-Chemical-Chronology	Cycles-Evolution-Basins-Spatial-Development	Slopes-Erosional-Depositional-Terraces
Resources-Land Bank-Values-Employment	Water-Soil-Vegetation-Fertility	Aesthetic-Conservation-Capability
Agri-Sylvi-Horti Culture, Hydrology	Industries-Chimney—Chimney less	Afforestation, Eco-Tourism-Dualism
Evolution-Thoughts-Equation	Population Dynamics-Tribal-Ethnic	Migration-National-International
Hazard-Disasters-Disciplines	Natural-Human-Impacts-Forests-Jt.-forest Man.	Mitigation-Challenges-Management
Plans-Index-Parity Progression-Equity	Interface-Sc-Eco.-Jet-streams-Behavioural	Basin strat.-Gen.-Biasness-Rad. Human Prob.
Civzn.-EAP-EIA-EFZ-Women-Emp.-Soc.	Socia-Politico-Conflict-Local-Global-Qualitative	Pollu.-Acid rain-Ecological Eco.. Colonization.
Env.-Move.-Irri.-Future-Possibilities	Industrialized-Eco.-Rural-Dev.-Scenario Modi.	Greenhouse Gases-man-Env. Relationship
Land Use-Actual-Potential-Initiatives	Society-Land Capability-Growth	Environ-Land Use, Conurbation Urbanization
Explosions. Inclusive-development	G.O.-N.G.O. (G.I.S.-R.S.) Sophisticate	Envr. Degradation Sustainable Develop
Revolutions-Welfare-Human Green	Rainbow Revolution-Wet-lands-Ramsar sites	Green-Blue-Red-White-Yellow, second Gr.-Brown
Global Warming, Socio-Spatial-Interaction	Sea level rises-Coastal Plains	Interdisciplinary knowledge, Geographers
Tools, Equipment Instrument-creation	Applied sense-Systems, Regions	Internets-Futuristic-Entrepreneurship

(continued)

Table 12.3 (continued)

Inputs	Throughputs	Outputs
Perspectives–Geographic-Quantitative	General-Physical-Cultural	Poverty–BPL-Crime
Examination–Stability-Security	Employment–Regional Imbalance	Techniques Diagrams-Maps
Liberal Views–Secretariat-expertise	Growth Development	Simulations Life–Neo-Determinism
Incomes–Gender equality	Education-Health-Multi-scalar-Institution	Fieldwork-RS-Softwares
Climate Landform–New Geographies	Intelligence Units–Mountain	Tropical–Monsoons–Drinking Water
Material Well-being,-Peace- & Happiness	Political Stability Freedom–Welfare	Political Freedom-Hills–Food Security
Family life-Human Resource Dev.	Community life Sanitation	Planners – Greening
Peri glacial-Glacial-Fluvial–Aeolian-Marine	Himala. Fore Deeps-Indo-Gangetic basin Plateau	Plains with facilities Coastal Plains.
Democracy–Municipal-Maya	Law-Order-Factors, Panchayats	Paradigm-Shifts-Aspirations- Neoliberalization
Global visualization–Time Space	Geopolitical Order–Discourse	Ideological–Enlargement- Geopolitical
Cybrogs–Dromological crisis situations	Spatial Representative-Modern Geopolitics	State Centred Terrestriality
Panchayat-Scales–Macro-Meso-Micro-Units	Quality of Life–Landscape Patterns	Global-Environmental- Governance

Table 12.4 Broad correlation matrix for land use variables of the macro region

Non-agricultural use	–0.8272	0.9385
	–0.7582	
Barren uncultivable	–0.6624	
Net sown area	–0.8674	

Correlation coefficients Significance level >0.714, 0.05 > 0.893, 0.01

Table 12.5 Aspects of quality of life perspectives (physical and cultural) of India and eight states (2010–2011) including Andaman and Nicobar islands—a distinct macro region in India

Selected variables	Northern			Eastern			NE A & N Island		
	A	B	C	A	B	C	A	B	C
Land use (%)									
A: agriculture	30.2			41.5			5.24		
B: forest covers		45.0			49.3			38.2	
C: settlements			7.8			32.23			36.49
(i) Rural			98.6			79.56			82.36
(ii) Urban			29.3			38.42			34.87
Density of population (per sq. km)	980.00			913			503		
Average annual (%) growth	5.92			4.9			4.01		
GNI per capita (Dollars)	387.5			587.6			523.69		
Growth in per capita real wealth savings	1.7			0.87			1.82		
Population lying below the poverty line (BPL %)	Rural—31.25			Rural—29.47			Rural—22.34		
	Urban—6.34			Urban—36.23			Urban—12.58		
Genuine domestic saving (% of GDP)	4.92			8.27			3.82		
Adult literacy (%) of people 15 and above	79.31			79.49			40.23		
Agricultural productivity agri. value added per agri. worker (dollar)	313.4			397.24			302.4		
Per capita agri. land (ha)	0.91			0.42			1.08		
Per cent change in forest and woodlands	3.24			2.79			3.12		
Freshwater resources per capita (m ²)	1800			2000			1998		
Under 5, mortality rate per 1000	80			82			88		
Rank of socio-economic (comp Z score) quality of life (cultural)	5 (low moderate)			8.64			3 (moderate) 8.92		
Conservation index statistical method	0.93			0.86			0.43		

Source Based on Sample Survey, 2012: Primary source (fieldwork 2010–2012), Central Water Commission (CWC 2011). Population Census Report (2009), NIRD: Rural Development Statistics (2010–2011). Indian Economy, Sept. (2011). CMIE. Mumbai Ministry of Environment and Forest, G.O.I., Dehradun (2004–2010). Indian Agriculture in Brief (2009–2011). National Remote Sensing Agency (NRSA). Hyderabad (2008–2011). Profile District (2009–2012). Centre for Monitoring Indian Economy. Mumbai Food Security and Agricultural Dev. Dept. Sikkim 92008), Economic Review. Bureau of Applied Economics and Statistics. Govt. of W. Bengal (2009–2010). F.A.O. and World Development Reports (2009–2012). World Resource Institute (2011). UNDP (Human Development Report 2010–2012). Brahmaputra Board (2009–2010), Mukhopadhyay (2009, 2011, 2012, 2013) and Fieldworks 2012

12.3 The Importance of Income on Quality of Life

There is no denying fact that real GDP has an ever-reaching impact on quality of life. GDP and satisfaction from well-being are interrelated and depicts a linear relationship where the variation of GDP per capita contributes to variation in life contentment within the country by 50%. More the income more is the satisfaction achieved from life as is evident from surveys conducted on rich countries, where people earning more are noticed to be contented with their life than others with lower earning. Among 28 member states of EU, material well-being is recognized as the most significant indicator of life satisfaction on the basis of a survey conducted by Eurobarometer.

Though there has been a constant and notable increase in average income of developed nations, average life satisfaction growth trend is somewhat moderate and

satisfactory. The existing contradiction between rising level of income and slow-moving level of life satisfaction cannot be explained due to lack of enough evidence that support the proposition of increasing income on one hand and diminishing state of community welfare on the other. On the basis of the present estimates, variation in levels of income poses least or no influence on the level of life satisfaction, where the latter is seen to be influenced more by absolute status than relative one associated with one's state of mind and level of aspiration. There is co-existence of factors of modernization that perfectly balance the positive impact emerging from it. The decline of traditional institutions is evident from the decline of religious faiths associated with the dwindling of trade unions that has given rise to social discrepancies in the form of crime, drug and alcohol addiction followed by the decline in public involvement that exists in form of politics thereby the reduction of trust and belief in public institutions and the continued waning of family and marriage institutions. This is also indirectly apparent from the increasing unreliability causing a great deal of personal risk associated with the gradual rise of income and associated higher choices. Stable family life and community are also on the verge of severe decline though being highly valued. Economists from all over the world have attached more importance on eight determinants and related factors of quality of life in terms of their coefficients provided in the equation in 2005.

12.4 The 2005 Quality-of-Life Index

For the computation of quality of life index for the year 2005, the following indicators have been taken into consideration: GDP, life expectancy, unemployment rate, and political stability. Changes in these factors are gradual are their estimation relies on the latest available data. The forecast index for 2005 and GDP per capita at PPP have been summed up in the table considering 111 countries (Bhattacharyya 1997).

An extensive and electronic survey was carried out on around 3000 respondents for the whole world in 2005, available from www.economist.com on people's perception and opinion on the factors contributing to the quality of life. The survey mostly covers the affluent, rich, English speaking and the globalized people that cannot be considered as true representative for the whole world. However, the immediate survey responses being compared with the approach undertaken by the Government of India in 2002 yield differences which are less striking as what has been expected supporting and properly justifying the undertaken approach (Govt. of India 2002).

12.5 Accounting for the Difference

The basis for estimation of quality-of-life indices compares and differentiates the variations in sources of quality of life between countries and regions wherein, the values are multiplied by equation coefficients. The position of Ireland at the top in

the international quality-of-life league table is better explained by the combination of tradition and modernity including low unemployment rates, political liberties, stable family life and confronting joint family structures. The scores on these factors are well above the average of EU-15 countries that counterbalances its lower scores in attributes such as health, climate and gender equality. The United Kingdom, on the other hand, is at 29th position in the same list and is near the bottom as compared to the scores of the EU-15 countries. The United Kingdom is characterized by high rates of nuclear family structure and community breakdown coupled with low performance of health, liberty and freedom of people and social security that essentially balances the high per capita income and a higher percentage of employment opportunities. Italy holds a secured position among these countries, whereas Germany and France lag far behind contradicting the fact that these European nations repay for their productivity and fall behind the quality of life in a better way than America.

Economic growth model advocates that all countries pass through continuous and sequential stages of development. However, this theory was replaced on two basic grounds; *first*, by economic theories which employ statistical techniques to analyse the inherent processes of changes that a country passes through, and *second*, by theories that are more rational and political in nature. The modern theory proposes underdevelopment as an interlink and tussle between the continuously changing international and national connections, inelastic organizational economies leading to the expansion of intra-regional and inter-regional dual economies and dual societies. This theory essentially calls for the eradication of poverty and reduction in income inequality by bridging the gap between employment and unemployment scenario. All these factors provided the impetus for a neoclassical counter-revolution that emerged during the 1980s involving the economists who emphasized on the role and benefits of free markets and the huge costs underlining the interference of government in the achievement of development.

The unequal power relation between haves and have-nots is detrimental for the development of poor countries. The scholars such as Frank and others are of the opinion that underdevelopment is a consequence of capitalist development. They advocated that underdevelopment is associated with colonization and is an off-shoot of the capitalist system of production. The theory of dualism in economics that tends to separate two different economies on the basis of development, technology and related factors considers three indicators in terms of their concurrence for the analysis of levels of underdevelopment prevailing within a nation: conventional and contemporary methods of production in urban and rural economy; affluent-literate elite class and impoverished-illiterate section; powerful industrialized economies and weak agrarian economies. There has been growing emphasis on uneven development within metropolitan areas of the developing nations, accentuation of inequality among classes in urban areas, pauperization of already marginalized groups, and resulting poverty and deprivation at a large scale both at intra- and inter-regional level. This creates a disparity in the eco-cultural and socio-political condition of the mainstream population and a deteriorating quality of life. The initiation of neoclassical counter-revolution in the 1980s emphasized on the privatization and decentralization of the public sector in developed countries of the world that called for the

deconstruction of public planning and management of economic activities. In this context, mention must be made of utilitarianism that provides the sound base for social justice in the achievement of overall welfare. The proponents of this approach are better known as ‘maximisers’ owing to their tendency to find out the means to the greatest overall well-being. The main focus is the distribution and allocation of goods, services, rights, freedom and political power in such a way so as to maximize the benefit accruing from them.

In this theory there are two advantages; one goods are produced efficiently and distributed equitably. This theory is criticized by on the ground that ‘maximizing the sum of individual utilities is supremely unconcerned with the interpersonal distribution of that sum’. After this, the Theory of Justice as propounded by Rawls in 1971 can be taken as a point of illustration. For Rawls the natural right, and hence the primary aim of the institution, is social justice: thus each person possesses an inviolability founded by justice that even the welfare of society as a whole cannot override. Rawls advocates:

(a) Democratic Equality, (b) Equality of Opportunity, (c) Formal Equality of Opportunity, (d) Economic Equality and (e) Equality of Functioning Capabilities.

UNDP and World Bank while defining well-being have put emphasis on the removal of six important factors that retard development: malnutrition, disease, illiteracy, slums, unemployment and inequality. As measured on the basis of aggregate growth rates, development of a nation stands at a successful position but it is only a partial outcome or a complete failure when the indicators of employment, social justice and poverty eradication is considered separately as indicated by the World Development Institute. Development in the contemporary world is not only confined to economic means, moreover, it associates a multitude of factors in its determination thereby replacing the single focus. According to the former President of United Nations University Tokyo, the development effort of a nation is the strategic interplay and interconnection between the international and domestic indicators involving the potential of human beings.

In India the current thrust on development and welfare and well-being is on; our participatory approach in planning, on Micro level development through decentralized planning, Community development projects, Social welfare through “Basic Needs” approach and Universal education and justice (Govt. of India 2002; Varshney 1991). According to Prof. Amartya Sen, efficiency and competence of people with the utilization of resources, being possessed by them presume the most significance and care should be undertaken to their proper functioning, thereby highlighting capability over functions (Mukhopadhyay 1997, 1998).

12.6 Other Views of Quality of Life

In the later years, the welfare views in geography have become very popular. The important profounder of welfare approach in understanding development and underdevelopment has been initiated. Dworkin defines equality on two grounds; equality

of welfare and equality of resources. The first notion describes equality in terms of resource distribution and resource allocation in such a way that brings equal welfare in every person's life. The second one focuses on the equal holding of resources by each person that determine their 'option luck', depending on the individual assessment and functioning of the market. The approach for 'equal opportunity for welfare' seems to fluctuate among people depending on how someone perceives the idea of welfare or well-being for his or her own sake.

In an effort to uplift the condition of the poor the state has adopted a decentralized planning so that the voices of the poorest of the poor and the marginalized section are heard. In order to look into the gender-based issues affecting the women belonging to the backward class and minority sections of the population, an emphasis is put on their political and economic empowerment. After the model of development suggested by Dreze and Sen in 1995, attention is given towards achieving social opportunity, i.e. school enrolment of female and male children, reproductive health care, provision for greater work participation of women, etc. In other words, more efforts are given toward attaining a better quality of life and capability building at the grass root level. In India, we face a problem of imbalance in sex ratio in the northern states, steps are taken in this direction so as to improve the sex ratio through social awareness campaign. It can be said that the recent trend in development studies focuses on the development of the Third World on the basis of Participatory Model of the Marxist mould. This model takes cognizance of environmental protection that is, ecological sustainability of the environment in relation to development. It also recognizes the division and diversity of the Third World countries and stresses on mass participatory politics. It further points out that the resolution of the environmental crisis is essentially a global political solution. The tremendous development thrust in the Third World countries due to their desperate need for survival is a major concern for environmentalists. The Participatory model seems to be more feasible as it takes into consideration the collective human good. At the same time, this model of development conceives of overcoming the environmental crisis by transforming the society politically, on a world scale.

Thus, the 1990s became the era of globalization when armed with the IMF and World Bank the expansion of global capital permeated the entire World economy. At present no country developed or developing more developed or less developed is entirely free from the impact of the market economy. Many countries have undertaken economic reforms so as to heighten the process of globalization. India has also undertaken economic reform during the 1980s. Since then has introduced a series of measures, i.e. privatization, liberalization and de-licensing in industrialization process. The country has experienced the multi-dimensional impact of globalization. How far this has minimized the extent of disparity among the rich and the poor and been able to reduce intra-regional and inter-regional disparities is a matter of debate.

1. Material well-being—GDP per person, at PPP is \$. Source: Economist Intelligence Unit.
2. Health—Life expectancy at birth, years, Source: US Census Bureau.

3. Political stability and security—Political stability and security ratings. Source: Economist Intelligence Unit.
4. Family life—Divorce rate (per 1,000 population), converted into an index of 1 (lowest divorce rates) to 5 (highest). Sources: UN Euro monitor.
5. Community life—Dummy variable taking value 1 if the country has either a high rate of church attendance or trade-union membership; zero otherwise. Sources: 110; World Values Survey.
6. Climate and geography—Latitude, to distinguish between warmer and colder climates. Source: CIA World Factbook.
7. Job security—Unemployment rate, %. Source: Economist Intelligence Unit; 110.
8. Political freedom—Average of indices of political and civil liberties. Scale of 1 (completely free) to 7 (unfree). Source: Freedom House.
9. Gender equality—Ratio of average male and female earnings, latest available data. Source: UNDP Human Development Report.

GDP measures have, however, failed to quantify the various non-marketed activities such as changes brought about by environmental pollution. However, these non-valuation techniques have faced great difficulties in imposing monetary values to the ecosystem services that provide benefits to human beings and bring welfare to the community. However, all these measures reflect selection bias in the factors selected for the thorough determination of quality of life and more precisely on the weightage to be imposed on them. Considering GDP as a measure, though is subject to various flaws in the estimation of purchasing power parity, pose a clear-cut framework in assigning values to different indicators for the goods and services. The survey outcomes are positive and grab attention in the recent years in spite of the criticisms faced during the early years due to the presence of cultural contrast and its resultant impact of differences of language across nations. However, attempt to summarize the problems arising out of these surveys include the inadequacy of the responses to reflect what people feel about their lives; instead, they claimed about their expectation from the range of satisfaction. Non-response rates are very low and the basic measure is seen to have been associated more with advanced tests and rating schedule by others aware of the individual and behavioural patterns. The survey results proved to be genuine and valid more than it was expected. The UN's Universal Declaration of Human Rights sounds appropriate in the determination of the indicators that require immediate inclusion in a quality-of-life measure as reported by some researchers. But that does not provide information on the weightage to be put on each of these indicators thus resorting to an 'Expert opinion'.

Here, an attempt has been made to analyse the important aspects of quality of the in India thus correlating mainly the development of landforms, and drainage—channel patterns along with the related hazards or disasters by adopting the modern methodology and fieldwork both qualitatively and quantitatively. These are well illustrated in terms of maps, diagrams, photographic evidence and for the advancement of the Hindukush–Himalayan environment. Some suggestion are made like the more measures in the conservation of the flora and fauna, area with specific land use, trauma centres, pollution-free water, etc. as a part of the organized resource utilizations, establish-

ment of more trade centre, wide roads, introduction of modern/rapid transport and communications, afforestation, arrangements for education, health keep and secured accommodations, tourist centres arrangements for Environment Impact Assessments Emergency Action Plans (EAP), to boost up economic development and the like.

12.7 Features of Ethnic People

In a general way, the people of the Northeast Micro Region belong to diverse stock who migrated to this region during different periods of history. For example, the Ahoms from the Shan State of Myanmar crossed over the Patkai range in the thirteenth century and occupied and ruled Assam for over 600 years. There were hordes of migratory tribes such as the Khampis, whose script and languages is identical to the people of Thailand. The Khasis of Meghalaya have brought with them the tradition of Indo-Chinese races, who established themselves in the area from very early times. Their language has outlived among the Mon Khmer dialect, which has a well-defined and well-marked correspondence to that of Khasi dialect that is found to be existing in Myanmar and Thailand. With the exception of the autochthonous plains, tribals of the Brahmaputra valley, the Assamese today are not all indigenous people. Waves of migratory people from Uttar Pradesh and Bihar have settled in Assam from time to time mainly for carrying out trades and establishment for Business Centres.

The latest conquerors were the British, who invaded Assam from their base in Bengal and annexed Assam to their Indian realm, in around 1626. The British were interested in the timber, ivory and silks (eri, muga, etc.) of the North-East and the East India Company developed trade relations with the area. For governance, a new system known as the Non-Regulated System was evolved.

12.8 The Current Economic Scenario

Figures 12.1, 12.2, 12.3, 12.4, 12.5, 12.6 and 12.7, Tables 12.1, 12.2, 12.3, 12.4, 12.5) given in the text illustrate the current development of the Macro Region in India—The Brahmaputra basin and surrounding including Andaman and Nicobar Islands. It was felt in 1972 that the Northeast region presented a single geographical unit, where people had common interlinked developmental problems and shared the same destiny for security, in this strategic sub-continent border of India. The geographical conglomerate of seven states has the potential of becoming the richest segment of the country. Industries based on tea, paper, wood, oil, electricity, as well as agro-based and cottage industries have immense potentiality. To plan and implement projects for all round development the North-East Regional Council Act was promulgated in 1972 (Mukhopadhyay 2009, 2011, 2013).

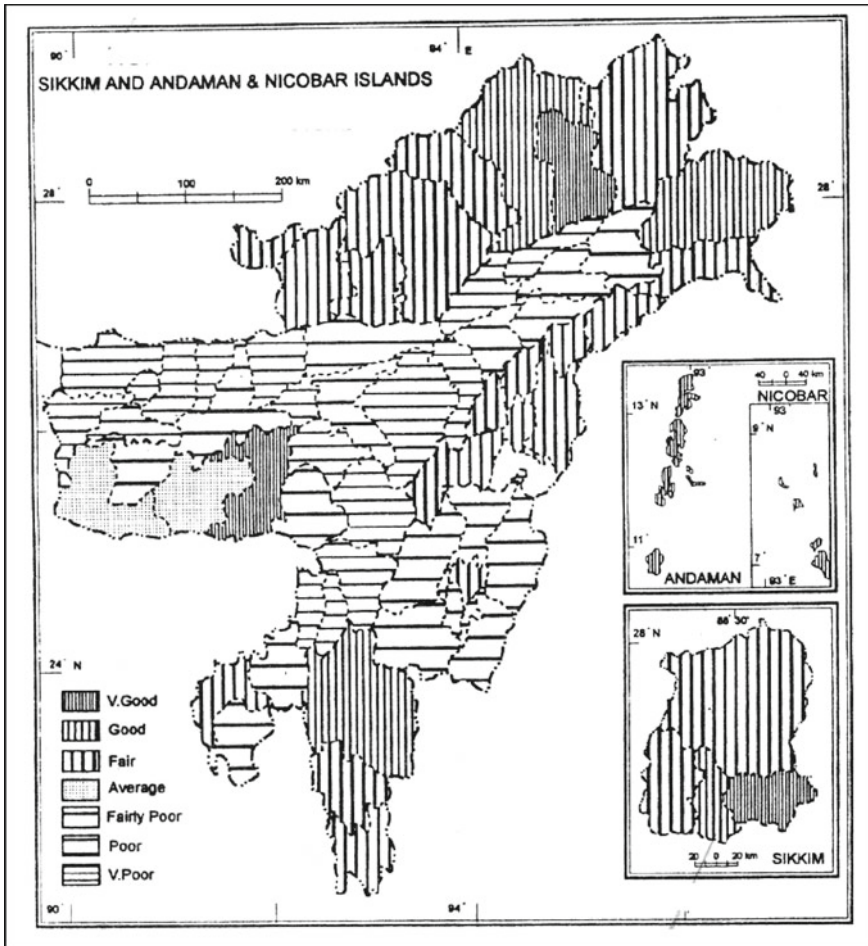


Fig. 12.6 Map of macro region displaying the degree of economic infrastructure in terms of good, poor, etc.

12.9 Locational Characteristics of the Northeast India

The states of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland and Tripura lie in the northeastern corner of India. The region is joined to the rest of the country by only a narrow neck of land hardly 80 km wide through the Terai region of West Bengal. The rest of its 3500 km boundary is shared with the neighbouring countries of Bhutan, China, Myanmar and Bangladesh. This gives the region its strategic significance.

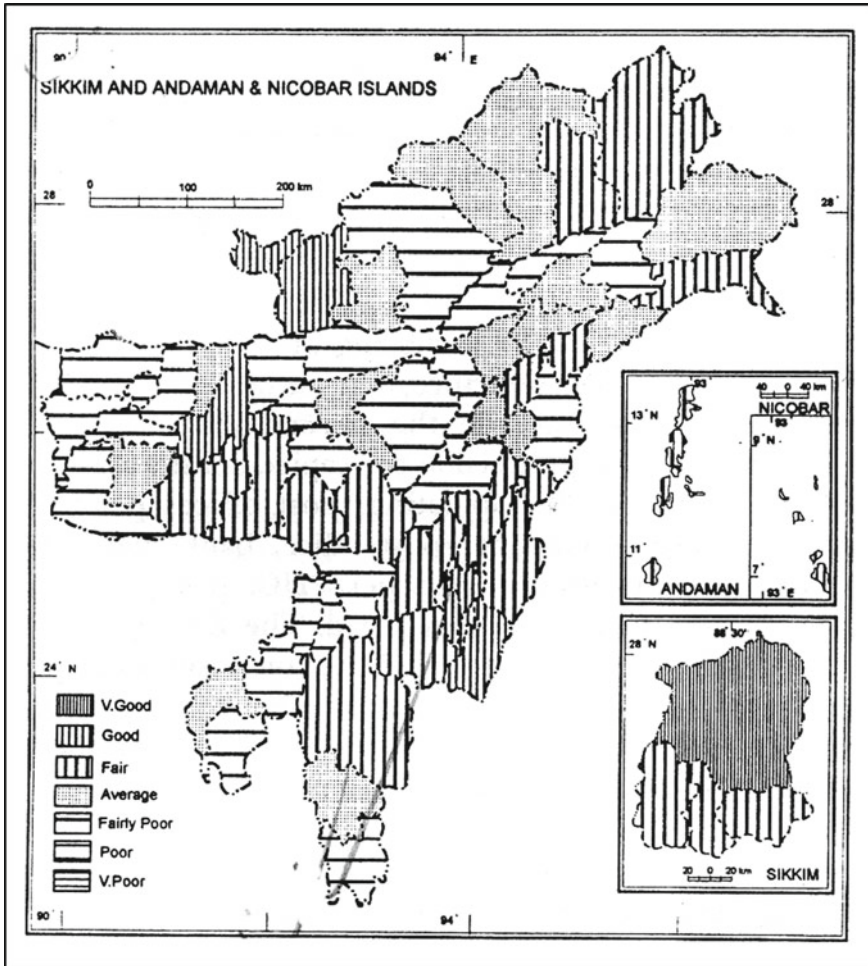


Fig. 12.7 Map of macro region showing the development of infrastructure

12.10 Physiographic Characteristics

Physiographically, the Northeast States can be divided into three units viz., the Assam valley—the continuation of the Indo-Gangetic trough; the Meghalaya Plateau—the eastern extension of the Chotonagpur Plateau; and the mountain ranges of Eastern Himalayas and its continuation southwards into the Patkai range, the Naga, Manipur and Mizo Hills (Figs. 12.1, 12.2 and 12.3).

Three main islands form the Great Andaman group. The Duncan passage separates the little Andaman from the Great Andaman. Off the main islands, lie numerous archipelagoes. Some of these like the Rutland and Cinque islands have been detached

from the main islands by wave action, others like the Ritchie Archipelago are formed of newer rocks. The coasts of these islands are fringed with coral reefs (Fig. 12.2).

12.11 Important Demographic Characteristics

Since the quality of life is related to population and is expressed in terms of population, it is only imperative that the demographic component of the population is duly stressed. However, in the present study, it has not been possible to enumerate the levels of well-being of different cohorts of the population. Here the demographic component has been dealt with as an indicator of development or non-development. The purpose is to emphasize the actual situation, stressing on how the region differs from the rest of India. Generally, 14 parameters have been selected to study the demographic characteristics of these areas. These include population density, sex ratio, growth rate of population total, rural and urban, change in growth rate between 1971–81 and 1991–2001, percent of scheduled castes and tribes, population less than 5 and 14 years, main and marginal workers and the ratio between workers and non-workers (Figs. 12.2, 12.3, 12.4, 12.5 and 12.6).

India's population witnessed an overall increase of 17.7% equivalent to an increase of 181.96 million persons during 2001–11 as compared to 21.5% increase during 1991–2001 and rate of growth of female population (18.3%) surpassed that of the male whose percentage share stood at 17.1. However, rural areas accommodate more people (833.5 million) than the urban counterpart that houses 377.1 million people. As compared to 2011, the proportion of population residing in urban areas registered a growth of 1.8 times increasing from 17.3 to 31.2% in 2011. There has also been a positive change in literacy rate with respect to two census years of 2001 and 2011. Though male literacy rate (80.9%) is more than that of female (64.6%), the rate of growth in literacy stands more for females (10.9%) than males (5.6%).

12.12 The Ideas of the Macro Region and Related Socio-economic Features

The author has given some ideas on socio-economic features of the macro region. So far as the related socio-economic aspects are concerned, education is a basic human right and every individual must enjoy the privilege of being educated. Education determines the aspiration, technology, productivity and vertical and horizontal mobility of the people. It changes the perception of cost and values, which contribute to the economy of the household and the nation. But, in a developing country like India, the percentage of the literate population is often used as a measure of the level of education. As compared to the rest of India, the Northeast, Sikkim and Andaman and Nicobar Islands have a high literacy rate. Rural literacy is well above the all

India average of 30%, reaching as high as 72% in Mizoram, lowest being recorded in Arunachal Pradesh. The urban literacy rate is also much above the all India average of 57%. In no state is urban literacy less than 70% and reaches as high as 80–90% in some states. However, Arunachal Pradesh records the total literacy rate lower than the all India average of 52.21. This is true for both male and female literacy rates, as well. Meghalaya too has a literacy rate lower than the all India average. The present author has not discussed in details in the education of the area under study for obvious reasons (Luke 1996).

It seems reasonable to refer the 2011 Census of India in the context of Quality of Life which is found to develop mainly in the urban centres like Mumbai, Kolkata, Delhi, Bengaluru, Chennai, and Pune. According to the Census Report (2011) as referred elsewhere, India's total population as on 1 March 2011 stands at 1,210,726,932 or 1.21 billion which registered an increase of 181.96 million persons in total with an increase of 90.97 million males and an increase of 90.99 million females during 2001–11. Bihar (25.4%) experienced the highest decadal growth in population. India's population is noticed to be more concentrated in rural areas with 68.85% (i.e. more than two-thirds of the total population) and the remaining of 31.14% of the population residing in the urban area (Tables 12.3, 12.4 and 12.5).

12.13 Concluding Remarks

Different aspects of quality of life of India and its macro region, i.e. Northeastern states including one union territory—Andaman and Nicobar Islands have been elaborated with seven figures and six tables. These islands, Andaman and Nicobar islands, are indicative both of Physical especially climatological, i.e. southwest monsoon (burst of monsoon on may end every year). Its southern limit is called as Indira point (97° 35' E, 6° 45' N). This macro region consisting of eight states and one union territory—is known as Terra incognita. The physical and cultural features mainly are in support of the development of the quality of life in all the urban centres although some part, geographically and climatically, is not in favour for the growth equity and development of quality of life. The waves of urbanization are well observed in the capitals of eight states and one union territories as above. In general, in Asian countries (on the basis of the author's own fieldworks) the effects of urbanizations and in association with quality of life which are confined mainly in the urban can be found almost in all the nearby zones of the urban areas as above. The tables and the figures present also some aspects of the quality of life in India and also in the Northeastern Macro Regions along with Andaman and Nicobar islands. This author also likes to include environmental governance—which is (in the opinions of contemporary environmentalists) one of the most complex challenges in the context of the quality of life as discussed above (Figs. 12.1, 12.2, 12.3, 12.4, 12.5, 12.6 and 12.7, Tables 12.1, 12.2, 12.3, 12.4, 12.5).

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