Chapter 3

MACRO LEVEL ANALYSIS

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3.1 SOCIO-ECONOMIC CLIMATE

The State of Kerala

The tiny state in the south west corner of the Indian Peninsula, Kerala is having an area of 38863 sq. km. with a population of 31.8 million in the year 2001. The density of population in 1991 was 749 persons per sq. m., while in the year 2001 it has increased to 819 persons per sq. km. The two states having density higher than Kerala are Bihar and West Bengal (Census Report 2001).

The State of Kerala received world-wide acclamation due to its unique settlement pattern and the achievements in the socio-economic sectors without economic growth. For Richard Franke and Barbara Chasin (1990) Kerala’s experience is an example for the ‘development without growth’. Kerala State attained the highest physical quality of life, while enjoying the lowest per capita income among the states of India (Tewari et al. 1988). The physical quality of life index (PQLI) is a composite index formed by Overseas Development Council of United States in their report ‘United States and World Development, Agenda for 1977’, to measure the economic and social welfare of the people by taking three components namely life expectancy, infant mortality and literacy. Following this methodology Tewari and Joshi (1988) have worked out PQLI for Indian states and India. The PQLI of Kerala and India from 1961 onwards are as per the Chart below (Pillai 1994). The per capita income is not taken in the PQLI calculations.

<table>
<thead>
<tr>
<th>Physical Quality of Life-Kerala and India</th>
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<tbody>
<tr>
<td>Physical Quality of Life Index (PQLI)</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>Kerala</td>
</tr>
<tr>
<td>India</td>
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</tbody>
</table>
Chart 3.1 Physical Quality of Life Kerala and India

Later United Nations Development Program (UNDP) formulated the concept of Human Development Index (HDI) as a measure of socio-economic welfare of the people. In HDI calculations health and educational attainment along with per capita income is considered. Human Development Index of Kerala is found to be low compared to developed countries which enjoy the same physical quality of life. This is due to the low per capita income of Keralite. However, HDI is found to be greater than all India average due to the health and educational attainments by Kerala. HDI of India is estimated as 0.41 in 1990, while Kerala’s HDI is estimated as 0.651 in 1987 (Sivakumar 1991). Without having per capita income, urbanisation and industrialisation the state has reached the third stage of demographic transition with good medical care and education (Jeromi 2002).

The highly impressive performance of Kerala among the states of India is due to the welfare-oriented strategy of developments adopted by the ‘Native Kings’ of Kerala and followed by the successive state governments. During the past five decades Kerala gave great emphasis to education, health and infrastructure coupled
with several radical redistributive policies like distribution of landholdings. Some critics have considered Kerala’s development experience as ‘naive romanticism’ (Parayil 2000) and some others have underlined ‘Limits to Kerala Model’ (George 1999) They have argued that the deteriorating finance of the state government, due to stagnancy in economic growth, limit the government expenditure on social welfare measures and thus the sustenance of achievements already made (Pay Revision Report 2006).

Kerala has started tasting the bitterness of ‘Kerala Model’. Now it has been facing a serious crisis due to low growth, high cost, low productivity, low investment and low employment in the state’s economy (Jeromi 2002). Kerala stood to suffer in the growth and development of primary and secondary segments of the economy. Agriculture is badly affected due to the high cost of cultivation, poor productivity, unviable smaller holdings, and unremunerative price of products. Families depended on agricultural activities, borrowed funds to launch agriculture, fall victims to debt traps, leading to suicides. The state has invested lion’s share of the economy for human resource development, not resulting in activities contributing to the state’s primary and secondary sectors of the economy (Pay Revision Report 2006). The salaries and pensions in Kerala constitute a very high percentage of the state’s revenue. A vicious circle of deficit, debt, debt service charges prevails in Kerala. As per the Economic Review 2008 the debt to Gross State Domestic Product (GSDP) ratio of Kerala is found to be the highest among the states of South India (42%), while our neighboring state of Tamil Nadu is having only 27%. Per capita debt is also the highest among the states of South India (Rs 12,681.-), while Tamil Nadu and Karnataka are having only Rs 7782.- and Rs 7446.- respectively.

The high standard of living enjoyed by Keralite is often supported by external remittances from Non-Resident Keralites (NRKs) who work outside Kerala and outside India. The result is the ageing of the resident population of Kerala as
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educated and energetic working class work outside Kerala, leaving alone their old parents in palatial bungalows constructed with their remittances. The extreme consumerism converted Kerala a destination for marketing consumer goods and luxury items (Pay Revision Report 2006).

The development trajectory of Kerala has come to a halt as the state is not finding enough means to maintain the educational and health achievements it has acquired. High consumption standards of people without considering the long-term consequences make the situation further worse. To tide over the crisis of Kerala model, prudent diagnosis coupled with strategic intervention and awareness campaign is required. In this situation it is very much apt to examine whether the scattered settlement habit prevalent in Kerala has any cause-effect relationship to the socio-economic scenario of the state. In this back-ground it is appropriate to have an overview of the urbanisation characteristics of Kerala State.

3.2 URBANISATION CHARACTERISTICS

The State of Kerala

Urbanisation of a state is expressed by the percentage of people living in an urban area. Apart from all the urban designated areas Census of India has formulated three-fold criteria to declare an area as 'urban'. They are the following:

1. Population concentration criterion (not less than a population of 5000)
2. Density criterion (not less than 400 persons per sq. km.)
3. Productivity criterion (the percentage of male working population engaged in non-agricultural activities is more than 75).

Accordingly the percentages of urban population and percentage of urban land from 1961-2001 is as per Table 3.2 and depicted as per Chart 3.2:
Table 3.2

Urbanisation Trend of Kerala

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<tbody>
<tr>
<td>Urban Land %</td>
<td>2.88</td>
<td>3.46</td>
<td>4.6</td>
<td>8.65</td>
<td>8.37</td>
</tr>
</tbody>
</table>

Chart 3.2 Urbanisation Trend of Kerala, Urban Land and Urban Population

It is seen that during the period 1961-1981 the urban land and urban population are almost going parallel. During 1981-1991 urban land has increased disproportionate to the urban population which indicates the existence of urban sprawl. Urban sprawl is unplanned urban spread with non-optimal density of population to support urban infrastructure. The after-effect of urban sprawl is experienced in the next decade (1991-2001) with a substantial decrease of urban population. Many of the areas declared as Census Towns (CTs) in 1991 are declassified as rural areas and Urban Out Growths (OGs). As per the Census of India definition, OGs are urban spreads which do not fulfill the three-fold urban criteria to be treated as independent CTs, but at the same, have all the other urban characteristics and infrastructural facilities.
As per the 2001 Census 17 numbers of Kerala Urban Agglomerations (UAs) have 33 numbers of urban Out Growths (OGs) which are lying at the periphery. Urban OGs are not ‘true urban’ as per the three-fold criteria of Census of India. Kerala is the state having the highest number of UAs even though it lacks a million plus city. As per the 2001 Census (Census Report 2001) 17 numbers of UAs in the state spread in an area of 57 % of the urban Kerala, carrying 72 % of the urban population. Comparing the Kerala UA with Delhi UA, Kerala UA carries only 46% of the population of Delhi UA as per the 2001 Census while its area is 2.2 times area of Delhi UA. In effect Delhi UA carries a residential density of 3.2 times of Kerala UA’s residential density. 20% of Kerala UA area comprises OGs and 14% of the Kerala UA population is from OGs.

Chart 3.3.1 Area and Population —UA Kerala
Chart 3.3.2 Area and Population — OG Kerala

If microscopically examined the Urban OGS of Kerala, one can see that all the criteria of Census of India, other than the productivity criterion, are satisfied. At the same time these areas are having urban infrastructure. This phenomenon is prevalent throughout the State of Kerala, even though no such classification has been made by the Census of India in areas other than UA. Kerala’s rural resident has access to road, electricity, cooking gas, telephone and internet along with educational and health facilities. Only thing they lack is higher order shopping facilities. This may be the reason behind the high revenue expenditure with less revenue receipts prevalent in Kerala.

Government, in the name of welfare policies, continues investing in infrastructure for inadequate population concentration. When serviced land with ample spare capacity is idling in the city, people go further from the rural area invading agricultural/forestlands and pester government for infrastructure. This
causes loss of productivity of the agricultural and forestlands due to non-conforming and fragmented land utilisation pattern. The settlement pattern gets further scattered leading to more fossil fuel consumption to reach the human development-prone centers. This again contributes negatively towards the economy of the state.

In the tri-academy project (2001) report ‘Growing Population, Changing Landscapes’ it is reported (page 25) that South Florida and Kerala urbanisation characteristics are two extreme cases. In South Florida 96% of the people are urban and it is densely settled along the coast. Much of the inland areas are reserved for national parks and conservation areas. In the case of Kerala with its scattered settlement pattern throughout the state, the urban population remains as low as 26%.

Metropolitan Areas in Kerala

Until 1991 Census there was no area in Kerala having a million plus population. As per 1991 Census of India, Kochi is included as a ‘million plus’ city considering the population of Kochi Urban Agglomeration which spreads over an area of 373.30 sq. kms. Subsequent to this, the Government of Kerala declared Thiruvananthapuram, Kochi and Kozhikode as metropolitan areas in 1995, even though Kochi only is having a million plus population, and that too for the Urban Agglomeration. While the other million plus UAs of the nation are having a substantial core population, Kochi UA graph has a small hump at the core area and is flat towards the periphery.

Kochi Urban Agglomeration

In the case of Kochi the original jurisdictional area of Greater Cochin Development Authority (732 sq. km.) is included in the metropolitan area. Decade after decade urban agglomeration area of Kochi is expanding and it has spilled over the metropolitan declared area with a reduction in residential density. This is due to the lack of effective policies, to contain the population, to reduce transportation cost
and to save farmland which, in turn, saves forestland and limit the infrastructure cost. Kochi UA is the bread winner of the state as major share of the states’ revenue is collected from Kochi UA.

**Table 3.3 Area, Population and Density of Kochi UA**

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<thead>
<tr>
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<tbody>
<tr>
<td>Area (sq. km.)</td>
<td>182.24</td>
<td>373.27</td>
<td>452.64</td>
</tr>
<tr>
<td>Population</td>
<td>686,000</td>
<td>1140605</td>
<td>1355972</td>
</tr>
<tr>
<td>Density (pp sq. km.)</td>
<td>3764</td>
<td>3056</td>
<td>2996</td>
</tr>
</tbody>
</table>

**Table 3.4 Area, Population and Density of GKMA**

<table>
<thead>
<tr>
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<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Area (sq. km.)</td>
<td>731.31</td>
<td>731.31</td>
<td>731.31</td>
</tr>
<tr>
<td>Population</td>
<td>1481494</td>
<td>1660273</td>
<td>1819335</td>
</tr>
<tr>
<td>Density (per per sq. km.)</td>
<td>2026</td>
<td>2268</td>
<td>2483</td>
</tr>
</tbody>
</table>

If the productivity criterion of the Census of India is set apart, it is estimated that the major portion of Kerala is urban. This depicts the unsustainable development paradigm of Kerala which lacks efficiency. Effective policies and legislative tools are the need of the hour.

**3.3 HD-EFp-Bc SCENARIO**

The present HD-EFp-Bc scenario of Kerala State, which contains the Greater Kochi Metropolitan Area, can be characterised by the following:

a. Halting human development
b. Spiraling ecological footprint
c. Diminishing biocapacity
d. Diminishing HD/EFp and Bc/EFp
**Halting Human Development**

The State of Kerala attained laudable achievements in the case of health and education (basic level). Due to the lack of economic development the state is unable to go further to maintain the health and educational achievements in the business as usual scenario.

Although Kerala State as a whole is having substantial gross residential density (3rd among the states of India) the state lacks population concentration in cities where the quality of life enhancement can be made with higher order infrastructure. The viability of higher order infrastructure and facilities depends on the number of users in the case of private investment and the amount of tax collected in the case of government. The revenue expenditure of the state government is very high compared to the revenue receipts. State government is borrowing money from the external sources and major share of the state income is being expended for debt service charges. Hence the state is unable to provide the world class standards, which contribute to the desired human development. Further, it is stated that many of the human development-prone facilities provided are under-utilised due to insufficient accessibility. The major share of time is spent on travelling due to the inefficient transport system.

**Spiraling Ecological Footprint**

The ecological footprint of an average Keralite is very high due to the following reasons:

1. The food he consumes is manufactured or cultivated outside Kerala and fossil fuel is burnt to transport the same. More forestland is required to sequestrate the carbon dioxide discharged during burning. Thus carbon footprint of food consumption is more.

2. As the settlement pattern is scattered huge energy is wasted on transportation to reach the human development-prone centers, again leading to more fossil...
fuel consumption, which is either shouldered by individual or by government. ‘Kerala State Road Transport Corporation’ is not profitable in Kerala and the reason may be the inadequate number of passengers from intake points due to the lack of population concentration phenomenon.

3. Due to the scattered settlement pattern ‘built-up area / land’ footprint is very high as scattering of built-up area reduces the productivity of the intermittent land (which remains underperforming or non-performing). High electrical distribution losses prevail in Kerala as distribution lines are covered in non-performing areas also.

4. The economic base of Kerala is the remittances of Non-Resident Keralites (NRKs). The energy footprint of a non-resident Keralite is high, as he often depends on air travel to reach the homeland burning huge amount of fossil fuel.

From all the above, the EFp of a Keralite is very high which can be a comparable figure to the EFp of developed countries, while enjoying less comfort than the people in developed countries. This illustrates the importance of finding the human development achievements with respect to the ecological footprint leading to HD/EFp Index.

**Diminishing Biocapacity**

As per the procedure adopted by the WWF in the Living Planet Report, biocapacity of Kerala can also be calculated which will be a diminishing figure as the productivity of agriculture, forest, marine and wet land ecosystems are less compared to the world average productivity. Integrity of ecosystems is lost due to the disturbance to the ecosystem due to human activities.
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Diminishing HD/EFp and Bc/EFp

The efficiency indicator HD/EFp in the urban context and Bc/EFp in the regional context, both are having a diminishing trend in the case of the State of Kerala.

From all the above it is clear that any sincere effort to improve the crisis of Kerala model is to concentrate on the efficiency indicators HD/EFp and Bc/EFp and formulate policies, programs and legal tools to improve the same. Also it is true that there is no magic wand to improve the Kerala situation other than long-term measures. Through reforms in urban planning and applying energy-efficient technologies HD/EFp of Kerala can be improved in a phased manner. Encouraging planned, compact, high density development with compatible mixed land use around human development-prone centers alongside the energy conservation technologies can go a long way to improve HD/EFp of Kerala. This, in turn, improves the Bc/EFp also as Bc improves when the ecosystems are undisturbed. Bc/EFp can further be improved through regional planning measures and inculcating functional dependencies in the region which, in turn, can reduce the fossil fuel consumption for the transportation of resources.

3.4 HISTORY AND PLANNING BACKGROUND

Development of Kochi as a primate city of Kerala is closely linked with the political and administrative history of Malabar Coast. Kerala was the important maritime nation in the dawn of the Christian Era. Early rulers had their capital at Thiruvanchikulam, located around 18 kms north of Kochi. Ancient port of Musiris served as the international centre of trade and commerce. Cochin port was formed in the year 1341 when the heavy floods of that year silted up the mouths of the Musiris Harbour and the surging water drained to the sea through Kochi Channel. Traders
subsequently shifted their activity to Kochi. Fort Kochi became the colonial settlement, Mattancherry the market town and Ernakulam mainland became the administrative centre with public buildings and educational centers. The existence of sand bar at the sea mouth prevented large ships to enter the port. It was in 1920 under the direction of Sir Robert Bristow the sand bar at the sea mouth was cut open and Cochin became an all weather port (GCDA 1991).

Development of the port has coincided with the commissioning of the Pallivasal Hydro electric project supplying ample power heralding a new era of industrial growth in the region. Fort Kochi, Mattanchery and Ernakulam were three separate municipalities and evolved schemes and projects in their respective areas of jurisdiction. In 1966 joint town planning committee was constituted by the government to co-ordinate the planning efforts of these municipalities. In 1967 the three municipalities, along with the adjoining areas, were merged to form the Corporation of Cochin.

A comprehensive approach to the planning of urban areas of Kochi and its environs was initiated after the formation of Kerala State in 1956 and the Department of Town Planning was constituted in the year 1959. Sanction for the preparation of development plan for Cochin Region was given by the Government of Kerala in 1961. Interim development plan for Cochin Region was prepared by the Department of Town Planning. Cochin town planning trust was constituted in the year 1968 to implement the proposals of interim development plan. Development Plan for Cochin Region was formulated in the year 1976 as a comprehensive policy document to stimulate balanced growth of the region. For effective implementation of the proposals in development plan Greater Cochin Development Authority was constituted in the year 1976, jurisdictional area being the present Greater Kochi Metropolitan Area.
3.5 DEVELOPMENT MANAGEMENT SCENARIO OF GREATER KOCHI

Presently the development management system of Greater Kochi is governed by:


2. Coastal Regulation Zone rules formed as per the provisions in the Environmental Protection Act of 1986

3. Airport Vicinity Control exercised by the Airport Authority of India.

4. Land Utilisation Order of 1967 which is notified as per the provisions in the Essential Commodities Act of 1955

5. Master plan prepared for the central city area (1/3rd core area) namely the Structure Plan for the Central City and 24 detailed town planning schemes (prepared as per provisions of Town Planning Act). The list of 24 detailed town planning schemes which are under the various stages of implementation by the Greater Cochin Development Authority is as per Annexure 2.

Subsequent to the enactment of the 73rd and 74th Constitutional Amendment Act of 1992, the Government of Kerala enacted the Municipalities Act in 1994 to cater to the provisions of 74th Constitutional Amendment Act. Till 1999 development permits were given by the Greater Cochin Development Authority, while building permits were given by the respective local bodies. Government issued G.O.(MS) No.5122/E3/99/LSAD dated 5-12-1999 delinking the development authority from the development management scenario by giving the sole authority to the local governments including panchayats which is under the supervision of the Town Planning Department of the Government of Kerala. In this case it is noted that the 11th schedule of the 73rd Constitutional Amendment Act and Panchayat Raj Act does not envisage the spatial planning function to be given to local governments.
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After the enactment of the Municipalities Act of 1994 the Greater Cochin Development Authority was unable to take up new town planning schemes. Local governments also could not take up new town planning schemes. Effectively development management scenario has come to a halt in Greater Kochi Metropolitan area. Apart from Municipalities and Corporation, Building Rules were applicable only in very few panchayats in the Greater Kochi Metropolitan Area till Government of Kerala issued orders to implement building rules in all panchayats in Kerala in 2007.

Meanwhile the Government of India accorded sanction to form an International Container Transshipment Terminal at Kochi and many national and international real estate development agencies moved their activities to Greater Kochi. As there was no building rule in panchayat areas real estate market has started booming up in panchayat areas. Witnessing the haphazard development scenario and umpteen number of court cases the Government of Kerala extended the KMBR regulation to all the panchayats in 2007 instead of making a separate panchayat building rules.

Twenty three out of 24 DTP schemes were silent on Floor Area Ratio stipulations, while structure plan for central city had a FAR limit of 1.5. Subsequently vide G.O. (MS) No 143/07/LSGD dated 31st May 2007 government issued variation to the structure plan giving an FAR upto 2.5 depending on the access road width.

Effective development management scenario in Greater Kochi Metropolitan Area is that in core area, where structure plan exists, maximum FAR permissible is only 2.5, while at peripheral areas, where there is no planned development, an FAR upto 4 is permissible.
On the other hand, Coastal Regulation Zone (CRZ) rules applicable to coastal panchayats and municipalities categorise the coastal zone of Greater Kochi to category I, II and III. Ecologically fragile ecosystems are categorised as Zone I, where no building activity is permitted. As per the coastal zone management plan of Kerala, coastal area of panchayats are categorised as Zone III, while coastal area of municipalities and corporation is categorised as Zone II. CRZ rules are more relaxed for Zone II which is already developed.

However it is ironical to note that the Land Utilisation Order of 1967 imposes restrictions on the reclamation of paddy fields, irrespective of whether it is in a developed area/ area proposed for non-agricultural development in the sanctioned town planning schemes. However this inconsistency has been overcome by a judgement from the Hon.High Court of Kerala. The judgement of the case Reliance Industries versus Commissioner of Land Revenue reported in 2007(2) KLT page 850 that no permission under Kerala Land Utilisation Order is necessary for any activity of construction or use of any land in residential use zone or any other zone in the town planning scheme area other than green strip area.
REFERENCES


