CHAPTER VII

SUMMARY AND CONCLUSION

Prelude

The Madras Municipal Corporation, housed in the historic building bearing the name of Lord Ripon, the father of decentralised self-government during British India, has presently been reduced to a situation whereby it is unable to meet the growing demands of the city - both as a service provider and as a regulator. It is a body without a soul, i.e., the people’s representative body called the Corporation Council.

The ideas of the local people in running the local administration do not get expression in the absence of any elected representative for the past two decades. There are two main reasons for the present situation.

a) The absence of an elected body of councillors and

b) the consequent setting up of multiple agencies to look into specific areas.

While the non-conduct of civic elections to the local body has consequently bestowed unlimited powers on the bureaucratic machinery, with the only political check in the form of a State Minister for Local Administration, accountable to the State Legislative Assembly, the multiplicity of service provider agencies
has resulted in the establishment of the Madras Metropolitan Area Development Authority as the co-ordinating body from the service providers.

The world over, elected local bodies are the backbone of any democracy. But unfortunately in Tamil Nadu, there has been no elected body for many years, and Madras, the fourth important city of the world’s largest democracy has been functioning without an elected local body since the 1970s.

The official reasons for putting off the polls vary from inadequate time to prepare electoral rolls to legal representations on the issue of communal reservation for elections at the wards. However, it is possible that the reason for putting off the polls is due to the adverse impact a ruling party may have on the masses, if it were to be defeated in a civic poll.

It is a sad reflection on Indian democracy that a ruling party does not have the maturity to realise that in content, an anti-establishment vote is a common and positive feature of democratic functioning.

The new Government at the State, in 1996 has assured the electorate that civic polls would be held to all local bodies in the State and has set for itself a time-limit before which it would fulfil the promise. As a political party which entered the corridors of power through the local bodies, the present ruling party (DMK) would perhaps realise the importance of local body elections and conduct them at the earliest. It is in this backdrop that any analysis of the service providers in Madras should be viewed.
Summary

The study has taken for analysis the status of the urban service providers in the City of Madras with regard to their sustainability with the growth in urbanisation.

The need for such a study was felt in the backdrop of the growing concern over urbanisation globally. The choice of the topic and its importance to the contemporary international development scenario is amply underlined by the United Nations Conference on the problems of urbanisation scheduled to be held in June, 1996 at Istanbul.

In addition, various reports have pointed to the trend of increases in urban population over the coming decades. For instance, the 1990 U.N. publication, "World Urbanisation Prospects" has observed that urban population, which was 17 per cent of the total population of developing countries in 1950 would rise to as high a figure as 61.2 per cent by the year 2025.

As a metropolis, Madras plays an important role in the development of India as it is the most important city in Southern India. This importance is further justified by the recent trend of international industrial houses and financial institutions looking towards Madras for locating their offices. This would imply an increase in the demand for the urban service providers in the city.

The study includes an outline of the city, its location in India and its
economic and commercial backdrop. A brief history of the City is also provided. In addition an outline of the urbanisation at the national level is also provided.

The review of literature provides an overview of the published literature in the field of environmental economics and includes the Marxian perspective of environment, which is not part of the mainstream research on studies pertaining to the problems of environment in this area. The overview also contains the various approaches to analysing and solving the problems related to environmental issues presently being debated in academic circles.

The study is based on both primary and secondary data sources. For primary data, a survey of selected slum households in the city of Madras, along river embankments was conducted.

One could consider the relationship between urbanisation and climate change. Madras, which is characterised by a humid climate, with normal temperatures ranging around 30 degrees C, could serve as the city for study. The city’s observatory at Meenambakkam is one of the oldest in Asia and the records are available at the Metreological Station at Pune. This data could be used to study the pattern of climate change over a long time-frame and relate it to the change in urbanisation, with respect to the number of vehicles, population increase and industrial growth.

The broadest environmental concern today is that of global warming and its impact on the future. A finger of suspicion has been pointed at the rapid economic development and the growth attained globally during the current
century, especially by the use of fossil fuels and chlorofluorocarbons (CFCs). Nordhaus (1994) points out the importance of climate in the environmental agenda as follows: "In the past few years, scientists have become increasingly concerned about the greenhouse effect - the process by which greenhouse gases such as carbon dioxide, selectively absorb radiation at different points of the spectrum and thereby warm the surface of the Earth. The major greenhouse gases are carbon dioxide, ethane, and chlorofluorocarbons. The trend towards greenhouse warming is a pressing concern."

As early as 1915, Huntington had established the relationship between climate and economic development. However, as Nordhaus (1994) puts it: "About the middle of this century, climate virtually disappeared from the economic development literature, eclipsed by such "modern" factors as investment, trade policies and education. In the past few years, however, with the threat of global warming, climate has re-emerged as the centrepiece of international environmental issues."

Studies of anthropogenic climate change such as those by Panofsky (1976) provide the base for the need for such a study to be undertaken for the city of Madras. According to Panofsky, the by-products of human activity that affect climate are in the areas of agriculture, urbanisation, industrial activity and transportstion.

Goldman, who has dealt about the effects of urbanisation on climate change in detail, broadly classified the effects into cyclical and acyclical. Natural
phenomena and "urban complexes on the order of thousands of years" are
cyclical. When urban situations involve a period of 100 years or less, they
could be termed "acyclical." Goldman also furnishes evidence of the effect of
the climate change on urban settings from a study made of the city of Houston.

The last quarter of the 20th century is emerging as an epoch of
environmentalists in the fields of material and life sciences, Economics being
a study of man in the ordinary business of life, having innumerable wants to
be matched by scarce resources capable of alternative uses. The role of
environmentalists in urban complexes is tending to be a dominant feature
because of the increasing share of population living in urban areas, decade
after decade since 1950s. In Tamil Nadu, and particularly in the city of Madras,
the Second World War witnessed massive usage of natural resources for war
purposes and subsequently urban nodes became centres of mass production
and consumption. Urbanisation is the most significant characteristic for the
modern era after the agricultural and industrial revolutions in the earlier centuries.

In development economics environmental fall out is as much a warning
as it is a challenge for the practitioners of social and other sciences. There
are global, national and local issues arising out of global warming, ozone
depletion, the flow of population from rural to urban modes, and more
specifically environmental land, water, and air hazards of urbanisation.
The holistic approach of welfare economics is to highlight the social benefits and social costs of exhaustible material and human resources. Globally, the first UN Conference on Human Settlements in 1972 known as Stockholm Conference highlighted the need for global thinking. Fifteen years later there was the World Commission on Environment and Development. It had a wide scope of enquiry and aroused international environmental consciousness. This body known as the Brundtland Commission as had its mandate to ensure a long period environmental strategy towards 2000 A.D. by meeting the needs of the present without compromising the ability of the future to meet its demand.

Our biosphere consists of plants and other living species and the social and technological features of sustainable development have to be articulated for comprehensive urban environmental management. In the city of Madras slums and squatter settlements, air and land congestion, water pollution, deterioration of urban infrastructure and inequitable access to urban services are some of the glaring consequences. Most cities were founded in the past on river banks and over thousands of years rivers have become the most polluted waterways. And among the cities of the world, Madras, the earliest among the West influenced urban centres of Asia, has many firsts to its credit. As early as 1639, the city of Madras was founded, hardly 3 years after Harvard, and has made its acclain as the intellectual capital of India. In 1688 the Corporation of Madras was established as the forerunner of local governments in India. The medical, engineering and art and sciences and fine arts centres of learning
were established in quick succession. Thus Madras has had both advantages as a pioneer, and serious handicaps in resource management arising out of enormous demands.

The aims, objectives and related hypotheses of this research are set in the background of the historical evolution of the city of Madras and specific characteristics of population growth, water, energy and transportation supply, the trends in urbanisation, the relationship between levels of economic activity and infrastructural availability. While suggesting policy solutions the three-fold hypotheses were tested for the tempo of growth in social infrastructure in relation to urbanisation, the lack of power and political will of the city governments and the environmental degradation entrenched by the vicious cycle of poverty, ignorance and cultural deprivation.

The significance of the points of time 1950 and 1991 is that these years represent the commencement and end years of this study and the continuing economic background of the period of 40 years. 1950 is the year of the emergence of the Indian Republic and in the next year the Indian Census of 1950 took place, while by 1991, five decennial census reports are available. In pursuing modern research methodology, both primary and secondary sources of the data have formed the basis of analysis. A field survey was conducted using appropriate quantitative techniques. The data from field study of slum households provide first hand information on several environmental conditions and awareness thereof. The growth rate of the city, evaluation of the levels of pollution, traffic congestion, levels of employment, work participation rates
of men and women are indicators of environmental qualities and the facets of study. A review of literature of the subject is given in the second chapter.

Though environmental economics is a nascent discipline the seeds of contemporary treatises were sown by early economists like Malthus and Ricardo, Marshall and Pigou, Samuelson and Scitovsky, Arrow and Hicks and from India, there were contributions to environmental economics, and the evolution of the city of Madras from Gilbert Slater and R.Balakrishna, Ashish Bose and Arcot Ramachandran, besides many national and international bodies, like the Departments of Union and State Governments, Pollution Control Boards and UN agencies for Human Settlements.

Technological implications of environmental economics like pollution by sulphur dioxide in the atmosphere, global warming, water assimilative chemicals, non-renewable resources and nuclear options for environmental safety are appraised as background material for further studies.

The linkages between environmental urbanisation and economic development are delineated in the next chapter. The impact of the degree of industrialisation on urbanisation and the level of urbanisation is stated to be positive at the initial periods while urbanisation tends to slow down at higher levels of industrialisation. The openness of an economy and overall population growth also have a positive effect on spatial concentration. The socio-economic potential of the city is being utilized to achieve a balance between growth, equity and employment. The concept of Local Sustainable Development
developed by the UNCHS is viewed in the light of planning and other policies of the state and local governments.

Environmental use of land, processes of state acquisition of the land, training programmes for sustainable development and sound financial management are some of the important policy issues. Shelter in terms of ownership and rental rates, legislation governing private and cooperative housing and the institutional aspects of urban governance are important links between environment and urban economic development, and international experience in these areas give possible lines of action.

The relative rates of urbanisation for India as whole and Tamilnadu in particular give a comparative picture of the high tempo of urbanisation of city of Madras. Demographic and economic structure, the qualitative improvements, both attempted and realized form the subject matter of chapter IV.

The demographic and Economic features of the city of Madras give new characteristics and have a bearing on future environment policy. The contribution of large manufacturing sectors to employment, seems to be limited though this has high capital intensity. In the tertiary sector of Trade and Commerce and Financial services, there is welcome growth of employment without hazards to environmental pollution. The pathetic condition of housing and health of the slums were noticed. The majority of the population are at the low level of income, because it is the informal sector with the low level of educational skill and poor income that give livelihood to most of the slum workers with
seasonal and uncertain employment. The construction industry depends on floating population in the city with seasonal employment. Children in slums are neglected in education and health.

The index of relative development of infrastructure development prepared for the Government of Tamilnadu is available for several districts. The status of state capital which the city of Madras enjoys, gives it a five-fold advantage over the districts Coimbatore, Nilgiris and Periyar. Around half the total urban population of Tamil Nadu is located in the five large cities of Madras, Madurai, Coimbatore, Trichy and Salem. The unique status of Madras city depends on the Madras Port which handles ocean going carriers to transport massive quantities of crude oil, coal, iron ore and a growing volume of container traffic. The two major Industrial Estates in Guindy and Ambattur and the largest base of Indian film industry in Kodambakkam add to the industrial potential. The Anna International Airport and Kamaraj National Airport are being continuously enlarged. There are four Universities and several national institutes along with regional centres of education. The two rivers of Cooum and Adyar are supplemented by a man-made waterway - the Buckingham Canal.

Environmental concerns of the city of Madras are largely in infrastructural conditions tracable of early decades of neglect precipitated by massive increase of population. The Corporation of Madras was for a long time taking care of early settlements like Triplicane, Mylapore, and Egmore and George Town in which water supply, underground drianage, sanitation have been
provided for an estimated population of less than million whereas the current population is near 5 millions.

The finances and development in the first phase 1833-1870 came from the Imperial Government of India, between 1870-1907 from local rates and cesses and during the third and fourth phases between 1907-1950 provincial autonomy took care of resources. However, the democratically elected local Government is not in vogue in recent years since the seventies. The result is the total absence of necessary feed back on the neglected felt needs of the population like the supply of electricity, transport facilities, sanitation, water supply, housing and health care. The Madras Metropolitan Area has 11,000 shelter units in 1500 slums. 7 lakhs of slum people pose the most urgent problem to be tackled. Madras city earlier had the Board of Slum Improvement and later it was replaced by Slum Clearance Board, to provide fire proof modern multi-storey buildings, a common water tap, street lighting and other housing amenities. The urban services contemplated upto 2000 A.D. include a modest 150 litres per capita per day (lpcd) within city limits and 100 lpcd for industry the present supply is 45 lpcd. Currently the state of underground sewerage systems, the oxidating ponds and septic tanks are inadequate. Measures to augment these are considered equally important and most urgent.

An analytical study of environmental degradation is carried out by means of the field survey data from a case study and from published data from annual Statistical Abstracts of the Government of Tamil Nadu.
The cultural and social behaviour of the human groups, the lack of knowledge of healthy leisure time activities, the breakup of earlier customs and manners which formed the basis of family and societal living of people are the outcome of level of income. The slum population taken for the case study is steeped in poverty. In the aforestated summary, in VI Chapter, the issues raised and the findings based on field study and other data and documents are given.

The overcrowding of the city’s roadways can be traced to two recent developments. The increase in the general living standards, brought in by the increased service sector activities in the State, resulting in greater disposable incomes to its citizens and the easy availability of finance for purchasing motor vehicles by the various financing firms. These have contributed to the increase in the vehicular population in the city’s roads. In this backdrop, the solutions to be chalked out on the road front should include economic measures which restrict and discourage the frequent use of motor vehicles. These could include, higher parking fees, penalties for the use of badly-maintained vehicles which pollute the environment and similar measures.

The recently-released ‘World Resources - A Guide to Global Environment’, the 1996-97 annual report of the World Resources Institute has suggested that the following measures such as full cost pricing and road pricing be adopted to solve the urban transportation problems:

This measure follows from the fact that one of the major factors contributing
to the urban transportation problems is that people do not pay for the full costs of their travel. Neither do motorists pay enough taxes to support the investments required for road building and maintenance, nor do petrol prices reflect the negative costs such as the negative health effects of automotive air pollution of productivity losses incurred by traffic delays. The Report, therefore suggests that such uncovered costs should be fully recovered so as to reduce uneconomical travel and spread trips across longer periods of a day.

The first step towards such a move would be to undertake a study focussing on the extent of uneconomical travel in the city, and the cost of the negative effects of automobile travel. Based on the results of such a study, the pricing system of vehicles can be suitably adjusted, not only for Madras, but also for the whole of the country. In addition, as the Report suggests, several policy tools could be used to at least recover some of these costs, including road pricing, fuel taxes and parking fees.

Recommendations

In a subject as fast changing and varied as the one under discussion which is environmental urban resources, some recommendations of generalised nature and a few specific for the city of Madras seem to be important.

1. The underground sewage system which made Madras a pioneer in sanitary history of India, was built over half a century back for a population hardly a fifth of the present strength. Consequently sewage in the old Corporation area is under severe strain and its capacity
should be raised many fold as a high priority.

2. In the far flung new areas of habitat, in three directions North, South and West, houses have been built without underground drainage and this is a matter of intense environmental hazards. Septic tanks and open drains are injurious to public health. Sooner the Madras metropolitan area is covered with modern drainage sewage, the better it is as a preventive public health measure.

3. In respect of both these recommendations, the role of Cooum in the 21st century gives a ray of hope. It could be made a tidal river by directing all storm water systems to it, supplemented by the inflow of sea water during high tide and cleaning of sand bar during the low tide. Cooum was a century back a tidal river. Deepening it and making it navigable is within the reach of modern technology as it was envisaged in the 1960s.

4. The pollution of land requires urgent preventive and remedial measures. In all developed countries collection is orderly and its disposal scientific. The training of urban households to sort out the household garbage in terms of perishable and other articles would make it easy for the city authorities to collect and recycle them in terms of manure or energy generating gas. This is a long term remedy for putting waste to wealth.

5. City of Madras depended for over a century on Chemparambakkam, and Red Hills for water supply. These turned out to be niggardly.
There is a welcome event of waters of Krishna river from the neighbouring Andhra Pradesh being supplied in adequate quantity for the present. The work is in progress. Nevertheless the distribution aspect, especially the piped supply to the far flung areas poses question of cost and maintenance of the system. A proper pricing policy of the urban water supply is recommended to ensure the economic validity of effectively maintained water supply.

6. Part of the income by pricing water has to be invested in appropriate schemes for collecting rain water in the South-West monsoon and North-East monsoon covering almost three months in the year when the city is lashed by monsoonic rain.

7. Air pollution caused by Thermal Power Station at Ennore and effusion of motor vechiles in theory is under control by environmental laws. Strict enforcement of engine specifications and other devices for factories is recommended.

8. Noise pollution is not any the less an urgent issue. Both secular and religious events have given rise to disputes and quarrels because of uncontrolled noise by congregations and groups. Persuasive methods are required to prevent noise pollution.

9. The first Initiative which has to be taken is to ensure that the elections to the civic body are held at the earliest. The various changes that have taken place during the interregnum, by way of creation of new
bodies when the civic body did not have people's representatives have to be discussed and their roles specified by the Council of the Madras Municipal Corporation. This will only be in tune with commonly-accepted democratic norms. Unless such a step is taken ensuring direct reponsibility to the constituents of a Corporation division, the civic body cannot serve its intended purpose.

10. Another suggestion would be to relocate certain institutions which are presently in the heart of the city to the suburbs. One such place could be the Madras Central Jail, which is housed in the heart of the city. If this is to be relocated outside the city, the land could be used for providing urban services such as a bus transport terminus.

11. As the city of Madras is entirely urban, the relationship between urbanisation and climate change could be brought out. For this purpose temperature and rainfall data for the past 150 years can be used from recorded observations. The reason for this recommendation based in climatological data has been the conclusive evidence that the City has pockets where the temperature is either higher or lower than the surrounding areas. An attempt could be made to incorporate this common meterological phenomena of heat/cold islands into economic analysis by interpreting it with demographic data. It is hoped that such an exercise would throw up some further areas of relationship between the physical and the social sciences in studies pertaining to not only areas related to the present study, but also in other areas of academic interest.
12. While efforts are being directed towards the expansion of the City and grandiose plans are being drawn up for bringing about a change to the city by embarking upon a Vision 2000 plan and a city development plan, the basic infrastructure inadequacies continue to exist. As has been brought out earlier, most of the crucial service providers have not registered an increase which could be considered sustainable with the increase in population and urbanisation. Given the growth pattern of the economy and going by the past trend, the inequalities are bound to be increasing with the disparities widening.

13. In addition to concerted efforts by the government and non-governmental agencies, the overall public hygiene has to be taken up at the family level. The working of various NGOs in creating awareness among the people also bears hope for the future. However, unless a systemic rehauling is carried out, there remains a pall of uncertainty as far as the bridging of the gap between the haves and the have-nots in this ancient city of Madras.

14. Another possible effort would be the economic implications of the creation of the various agencies to go into the provision of civic infrastructure. While there is an overall impression that the multiplicity of agencies has considerably reduced the working powers of the Corporation of Madras; research level studies are lacking to establish the impact of such multiple agencies.
15. In addition to this exercise, taking up the issue of the legal status of the Madras Corporation and its implications to its economic viability and effectiveness could also be attempted.

16. The city could also chart out a series of economic measures to overcome its problems arising out of the lack of appropriate physical infrastructure.

17. In addition, pollution fees and taxes could be considered. Under this, when the vehicle goes in for its fitness test, which is required periodically for transport vehicles, a charge can be made on the total kilometres travelled by the vehicle as pollution fees. For instance, if the vehicle has travelled 2,000 km between its previous test and the latest, a charge per k.m. can be made and the product of the charge on the total distance travelled could be collected as pollution fees.

18. Beside these direct pricing and tax methods, substantial importance should also be accorded towards improving the alternate modes of transport such as rapid transit systems and well-maintained public transport systems. For improving existing public transport systems, a deregulation of the bus transport, with strict norms for safety and pricing could be considered to break the monopoly of the State-operated transport systems, as well as to supplement them. Simultaneously, the use of non motorized vehicles such as bicycles can also be encouraged to ease the pollution problem.

19. Another important measure to overcome the problems facing the urban
environment is the strengthen the local government, namely the Corporation of Madras. As local governments play a central role in managing the urban environment, they should be sufficiently strengthened to emerge as "effective environmental managers." Unfortunately such a situation is not reflected in the present situation in Madras, which is governed by a multiplicity of agencies, which have superseded the Corporation of Madras. The co-ordination between these agencies should be stepped up and the there should be a co-ordinated approach towards developing the city's infrastructure. Prudency in revenue management should also be practiced to ensure that the people's needs are met.

20. The role of Non-Governmental Organisations has been on the rise in the management of the city's civic problems. There are various NGOs catering to the needs of the civic management, which operate in tandem with the Corporation of Madras. These need to be sufficiently strengthened and encouraged so that they emerge as partners in development of the city's infrastructure.

21. To encourage people to use alternate modes of transportation, a combination of road pricing methods such as the use of toll charges, area licensing system and electronic road pricing are suggested. While toll charges and area licensing could be introduced with the existing supportive infrastructure, the implementation of electronic road pricing would require the introduction of electronics on the roads.
POSTSCRIPT

Has humanity seen the last of City-States?

In the evolution of societies and nations, one of the earliest recognised forms of political entity was that of the City-State. The oldest of the City-States according to recorded history were in the present day Middle-East, along the banks of the Tigris and the Euphrates. These were founded sometime between 3000 and 4000 B.C. and were able to hold their freedom for about 1000 years. The other examples of City-States in ancient history were those in Greece and Rome (1000 - 500) B.C. These were varied in their political constitutions. And it was from these City-States that the variety of words used today such as democracy, oligarchy, aristocracy, tyranny, were derived, as they actually characterised various city-constituions.

In addition to political formations, City-States also served as strong stimuli to cultural development, administration of lands, the maintenance of complex irrigation and sanitation systems, the development of written records, the use of standardised weights and measures and mathematical calculations. However, City-States fell with the steady growth of centralised territorial states, which in turn undermined the independence of City-States. Presently, but for Singapore, Hong Kong and the Vatican, there could not be many examples of City-States.

But politics is an ever-evolving dimension of society. It has no end, save that of what is perceived to be in the interest of the overall benefit of an overall majority. The present century has seen the rise and fall of Fascism,
the challenge to and the resurgence of Capitalism, the success and defeat of Communism. It has also heard overwhelming cries of liberation from many parts of the world entities which are qualified to become full-fledged City-States. Jaffna, in Sri Lanka; Palestine, in the Middle-East, Bosnia-Herzegovina, Croatia and the newly independent regions of the erstwhile phenomenal empire of the Soviet Union. In India, the movements for smaller States gained importance in the political agenda, that a major political party made an election promise favoring the creation of smaller states.

These would, of course, pale ancient City-State into insignificance if one were to take developments in technology into account, but there seems to be a perceptible trend towards smaller entities.

Humanity might not have yet seen the last of the City-States. If such a phenomenon was to recur as a global one, the words of the legendary figure of modern macroeconomic policy, John Maynard Keynes, on the permanance of academic thinking and the "potency" of an idea "over a period of time" would ring loud and clear as his following observation in the concluding notes of his General Theory of Employment, Interest and Money would still be true:

"At the present moment people are unusually expectant of a more fundamental diagnosis; more particulary ready to receive it; eager to try it out, if it should be even plausible. But apart from this contemporary fact, the ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed the world is ruled
by little else. Practical men, who believe themselves to be quite exempt from any intellectual influences, are usually the slaves of some defunct economist. Madmen in authority, who hear voices in the air, are distilling their frenzy from some academic scribbler of a few years back. I am sure that the power of vested interests is vastly exaggerated compared with the gradual encroachment of ideas."

The suggestion to undertake economic analyses of cities, of which the present study is a very modest approach, bearing in mind the evolutionary nature of politics, is one such idea.

The importance of addressing the problems of the urban centres cannot be underestimated as the number of people who live in urban areas is expected to double to more than 5 billion people between 1990 and 2025. With rapid industrialisation, the population growth rates of urban centres, coupled with the lack of infrastructure facilities will result in a situation whereby congestion, air and water pollution, lack of civic amenities and other problems make the residents who come from villages or other towns in search of better opportunities, live in the worst of both the worlds.