

## **Chapter XI**

### **Environment**

#### **A. Introduction**

Sustainable cities are fundamental to social and economic development. As stated in the tenth plan document of the National Planning Commission, sustainability is not an option but imperative. For a better world to live in, we need good air, pure water, nutritious food, healthy environment and greenery around us. Without sustainability, environmental deterioration and economic decline will be feeding on each other leading to poverty, pollution, poor health, political upheaval and unrest. The environment is not to be seen as a stand-alone concern. It cuts across all sectors of development. We have to improve our economic growth rate, provide basic minimum life support services to large section of our population and deal with the problems of poverty and unemployment. At the same time, we have to pay attention to conserving our natural resources and also improving the status of our environment.

11.2 Environmental deterioration is not a necessary or inescapable result of urbanization; what needs to be done is striking a right balance – in making development in such a way that they are more effectively attuned to environmental opportunities and constraints.

11.3 The metropolitan environment comprises mainly two components viz. (i) environment per se, and (ii) the habitat. The environment per se relates to natural features and resources including the air, noise, water and land (open spaces, forests etc.). The habitat is related to built environment and infrastructures such as water supply, sewerage, and solid waste disposal. The conservation of natural resources includes management of air, noise, water and land.

#### **B. Current Scenario**

11.4 One of the principal targets of Millennium Development Goal 7 is ‘to ensure environmental sustainability’. In the past few years under pressure of development environmental sustainability in CMA has received a heavy beating.

#### **Pollution of Waterways**

11.5 The most visible manifestation is the severe pollution of the six major waterways and drains, viz. Cooum, Adyar, Buckingham Canal, Captain Cotton Canal, Otteri Nallah and Mambalam drain. The sewage carried by them is of the order of 532 MLD, which is more than the quantity of sewage collected from the City for treatment by the Metro water treatment plants. The waterways of Chennai are not perennial in

nature and receive flood discharge only during monsoon season; in the rest of the year they act as carriers of wastewater from sewage treatment plants and sewage from defective storm water outlets.

11.6 TNPCB under the Monitoring of Indian National Aquatic Resources(MINARS) programme periodically monitors the water quality of the City waterways. Water samples are collected and analyses by TNPCB every month at Buckingham Canal (at north, central and south stretches), Otteri Nallah, Adyar River and Cooum River. According to TNPCB, all these water bodies in the City are polluted and not suitable for any designated uses (viz. drinking, bathing, propagation of wild life like animal husbandry and fisheries, industrial, cooking and washing and agriculture); level of contamination is relatively high in Buckingham Canal followed by Otteri Nallah and Cooum River.

11.7 The sludge disposal consultancy study conducted in 1994 by the consultant M/s. Mott MacDonald Inc. has revealed that contamination of waterways and anaerobic digestion of wastewater flowing in the waterways has led to the accumulation of sludge causing hindrance to the hydraulic functioning of the waterways and also causing contamination of waterways in the eco system.

#### **Air Pollution**

11.8 The invisible part yet the more dangerous one is the air pollution load. The major contribution is by the vehicular sector (71.28%) followed by industrial sector (19.70%). According to TNPCB at major traffic intersections the TSPM and RSPM values are exceeding the standard values. Pollution by industries is widely prevalent in the Manali industrial complex and surrounding areas. The annual average pollution load for industrial areas—sulphur-di-oxide, oxides of nitrogen, RSPM & TSPM are way above the acceptable levels.

#### **Pollution by Urban Solid Waste**

11.9 The disposal of wastes – solid waste, bio-medical waste, hazardous industrial wastes is a major problem and the municipal dumping yards at Kodungaiyur and Perungudi which are generators of green house gases and smoke due to burning have degraded the environment around them severely.

11.10 In the recent past, one of the major pollution problems identified is the one due to the non-degradable plastic wastes. The preventive, promotional and mitigative aspects considered to tackle this problem by the authorities concerned include source segregation of municipal wastes, raising consumer and public

awareness, specifying plastics suitable for recycling, penalties for littering and specifying minimum thickness of plastic carry bags.

### **Noise Pollution**

11.11 The noise level survey conducted by the TNPCB reveals that noise level exceeded the limits mostly in commercial areas, mainly due to vehicular movement. During festive seasons in Chennai, the noise levels were noted high and particularly during Deepavali it exceeded 120 dB.

### **Environmental Hotspots**

11.12 Chennai is blessed with diverse types of environmental areas natural as well as manmade, which is rare for urban areas. The long coastline, with wide sandy beaches, Marina being the foremost, wetlands and estuaries, hillocks with forest cover are the few. The Guindy National Park and the Vandalur zoo area are unique to urban areas. Manmade reservoirs designed for urban water supply and irrigation, patches of productive agricultural land, good aquifer recharge areas add to the value of CMA. The environs of CMA are equally well bestowed in this respect with the Pulicat Lake in the north, the Nagari hill range in the northwest and Muttukadu in the south. Many of these features are home to local and migrating birds, turtles and other wild life.

### **Green Cover:**

11.13 Chennai City has only about 2% of the area as declared parks. In Chennai Metropolitan Area, the declared forest cover is about 24 sq. kms, which is about 2 percent of the CMA area. However, satellite imageries show that green cover over the City due to trees along roadside and within the sites is of considerable extent. There is ample scope for further development of this green cover within the City and also in the rest of CMA, particularly along roads, drains, riverbanks etc.

### **Climate Change**

11.14 It is recognized now that climate change due to global warming is going to be an important threat to safety of millions of people not only living near the coastline but also in the interior because of its impact on changing rainfall patterns and cyclones.

11.15 Chennai is a flat coastal city subject to regular cyclonic storms and extensive inundation during the northeast monsoon period. Hence it is necessary to take into account ways and means of tackling the effects of climate change in a planned manner. Knowledge on this subject is only gaining ground in recent times. We need to absorb latest information and technology in this discipline not only to cut

down green house gas emissions from urban activities but also anticipate the effects of climate change on the economy and life of people to take timely remedial measures.

### **Cremation grounds**

11.16 Chennai Corporation is maintaining 29 conventional burial and cremation grounds and 4 electrical crematoriums. The conventional burial and cremation grounds require more space and firewood to burn the bodies and conventional burning has the element of air pollution in the vicinity apart from adding to the depletion of tree cover.

### **CMDA's Programme**

11.17 Following the implementation of Sustainable Chennai Project, CMDA has been promoting a Community Based Environmental Programme (CBED), which aims to achieve sustainable urban development with the active involvement of stakeholders particularly in identifying the local environmental problems, formulating workable proposals and providing monetary contributions. While CMDA gives 80% of the project cost as grant, the local body and the community have to contribute 10% each. Every local body can avail a maximum of Rs15 lakhs per year as grant under this programme.

### **C. Principal Stakeholders**

11.18 Environment has strong intersectoral linkages and hence safeguarding the environment becomes the responsibility of almost all development agencies both Government and non-government besides the citizens residents and entrepreneurs irrespective of their occupation. The principal stakeholders are TNPCB, which is the standard setting and monitoring agency for pollution control and abatement, the local bodies, PWD, Department of Environment, Government of Tamil Nadu and CMDA itself.

### **D. Policies and Strategies**

11.19 The emerging environmental problems related to land, air, noise and water have to be dealt with and the natural assets safeguarded through sound policies and effective action.

- a) In view of the intersectoral linkages and existence of a large number of stakeholders TNPCB should be designated as the nodal agency responsible for all environment matters in the region.

- b) A sustainable environmental policy for Chennai in line with the National Environment Policy incorporating resource efficiency, efficient, cost minimisation and 'polluter pays' principles should be formulated.
- c) Environmental planning and development units in every department concerned in the development of CMA should be established.
- d) A campaign to reduce emission from vehicles should be launched. This should be combined with stricter enforcement, increasing the share of public transport vis-à-vis private transport and encouraging fuels like CNG, LPG etc.,
- e) Corporation of Chennai and other local bodies should construct adequate number of toilets in public places. Once this is completed, the obnoxious practice of defecating in the open should be strongly discouraged through effective action.
- f) CRZ regulations should be strictly enforced.
- g) All the development agencies within CMA and the local bodies should be required to prepare for their area of jurisdiction and sector a long term plan for environmental conservation and enhancement and implement it through annual plans and programmes.
- h) Pollution levels should be reduced to acceptable standards in the waterways of Chennai in the next five years and establish a system to improve the quality of waterways to desirable standards progressively.
- i) Grey water recycling / harvesting should be encouraged.
- j) Government may examine the levy of congestion tax. At the same time, incentives for contribution to environmental improvement by way of tax concession may be examined.
- k) To reduce noise pollution, measures such as traffic calming in residential areas and declaration of certain busy streets as pedestrian precincts in consultation with the business and local community can be considered.
- l) TNPCB can conduct a detailed study and prepare an Environmental Management Plan (EMP) for Chennai Metropolitan Area identifying the problem areas, hotspots, and proposing solutions for improving environment by the concerned agencies.
- m) To increase green cover local bodies concerned particularly in the rest of CMA have to plan and implement tree planting programmes not only along the public roads maintained by them but also within the public premises with local people's participation.

- n) Maintenance of existing parks / playgrounds and provision of new parks and playgrounds in the rest of CMA requires attention. A database on the existing parks & playgrounds within CMA can be created which is required for planning and its development.
- o) Water bodies should be developed as picnic spots, which would not only help in preservation but also generate revenue for better maintenance.
- p) Conservation of heritage buildings and precincts should be promoted through incentives and the mechanism of Development Regulations.

## **E. The Plan**

- 11.20 a) The plan identifies TNPCB as the nodal agency for the environment sector.
- b) The plan identifies the environmentally sensitive areas for protection, conservation and environmental enhancement. A few of these sites such as Nanmangalam RF can be developed as nature appreciation parks for the environmental sensitization of people of all age groups.
  - c) The Plan has recommended specific actions in the sectors of economy, land-use, shelter, infrastructure particularly water supply, sanitation and drainage, traffic & transportation and waste management in the respective chapters.
  - d) The Plan incorporates regulations for land and building use development to achieve green building parameters and increasing greenery in all developments.
  - e) The Greening concept which includes development of greenery and tree planting in public and private spaces, protection of trees and enhancing biodiversity will be implemented through specific action plans.
  - f) The Plan provides for strengthening the community based environment improvement projects in the local body area.
  - g) The Plan provides for the conservation of natural assets like the coastal areas including beaches and the Pallikaranai swamp.

A map showing eco sensitive and other conservation areas is annexed.

## **F. Monitoring and Review**

11.21 A committee to be known, as “Land use and Environment Committee” with representation of Government and non-government stakeholders and experts will be constituted to monitor the implementation of policies and strategies in this sector and to initiate such studies and assemble such information as needed for the purpose.

This committee will meet atleast once in three months or as many times as needed. It will draw up detailed terms of reference for its work in consultation with the concerned stakeholders.

11.22 This committee may work through special working groups created for the purpose for the different sub-sectors under it.