

## Chapter - VIII

### Solid Waste Management

#### A. Current Scenario

Solid waste includes domestic and commercial waste, industrial waste, hospital waste, e-waste and construction debris.

8.2 The Corporation of Chennai is the largest generator of solid waste estimated at 3000 tonnes per day. It has a network of transfer stations and two land fill sites at Kodungaiyur and Perungudi. The present system of collection, transfer and dumping does not make any distinction between types of waste other than domestic and commercial waste and to some extent construction debris. The disposal of hospital waste and industrial waste is the responsibility of the generator but much of this waste also gets into the Corporation system. Separate system has not been established for e-waste so far.

8.3 The following table provides an estimate of current daily generation of various types of waste.

<b>Table No. 8.1 Solid Waste Generated Daily in CMA (in tonnes)</b>					
<b>Area</b>	<b>Residential &amp; Commercial</b>	<b>Hospital</b>	<b>Total</b>	<b>e-waste</b>	<b>Construction Debris</b>
Chennai City	2620	80	2700	5	500
Municipalities	1073	11	1084	2	50
Town Panchayats	207	1	208	1	NA
Panchayat Union	255	1	256	2	-
<b>Total</b>	<b>4155</b>	<b>93</b>	<b>4248</b>	<b>10</b>	<b>550</b>

NA – Not Available

8.4 The current solid waste management system in the Corporation needs to be improved and the management in the rest of CMA requires immediate attention. The City Corporation has privatized (contracted) solid waste collection in a few zones. This has improved the quantity collected but no progress has been made in respect of total solid waste management. The Consultants M/s. Environmental Resource Management, UK (ERM) in 1996, made a study on Solid Waste Management in CMA but the recommendations of the study are yet to be implemented.

8.5 The Corporation maintains two solid waste dumping yards one at Kodungaiyur in the north and the other at Perungudi in the south. Both are over loaded and cause serious health problems to nearby residents. Besides the sites and surroundings are environmentally highly degraded. The municipalities of Alandur, Ambattur, Avadi and Thiruvottiyur have small sites of about 5 to 6 ha. being used as dumping grounds. Out of 16 municipal bodes in the CMA, 8 do not have any designated disposal facilities.

## Principal Stakeholders

8.6 Solid waste management is an obligatory function of Municipal Corporations, Municipalities, Town Panchayats and Village local bodies.

8.7 The Tamil Nadu Pollution Control Board is responsible for enforcing the following rules in the Chennai Metropolitan Area

- i) Municipal Solid Waste (Management & Handling) Rules 2000
- ii) Hospital Waste (Management & Handling) Rules.

8.8 EXNORA through its several civic associations and several other resident associations have been active in door-to-door collection of solid waste in their neighbourhoods. This has been a significant feature for several years and Chennai City has a good standard of awareness and action for solid waste management at local levels.

## Estimates of Generation of Solid Waste

8.9 Based on the per capita generation of solid waste it is estimated that by 2026 about 6590 tonnes of solid waste will be generated in the local body areas of CMA including Chennai City.

Local Body	Tonnes
Chennai Corporation	3400
Municipalities	2050
Town Panchayats	550
Panchayat Unions	540
<b>All Local Bodies</b>	<b>6590</b>

8.10 The ERM study of 1996 had recommended solid waste management coverage in the City to be increased from 90% (1996-2000) to 100% (2001-2005). In respect of municipalities from 50% (1996-2000) to 70% (2001-2006) and 100% (2005-2011). In respect of Town Panchayat it was to be 10%, 30% and 70% respectively. More information on this study may be seen in Volume III.

8.11 No separate estimates are available for other types of wastes. There is urgent need to institute a study to assess the quantities of the following categories of wastes to plan for their management.

- i) Domestic and commercial waste – Compostable, recyclable
- ii) Industrial waste – non-hazardous and hazardous
- iii) Hospital/biomedical waste – non-hazardous and hazardous
- iv) E-waste – recyclable and non-recyclable
- v) Construction debris – reusable as building material

## **B. Policies and Strategies**

- 8.12 a) The provisions of the Central Act relating to solid waste management and the MSW (Handling and Management) Rules, 2000 should be strictly enforced by the concerned agencies within CMA.
- b) Environmental assessment has to be made for existing landfill sites and suitable measures have to be taken for their improvements.
- c) Solid waste management is one area where citizens and private sector participation is crucial to ensure health and safety in cities. Awareness should be generated about the need for source segregation and differential disposal. Residents associations and NGOs have attempted to reduce the burden on the local bodies through local segregation of solid waste, composting and recycling but these have not made any sustained impact due to several reasons including little encouragement from local bodies.
- d) Under the “Polluters Pay” principle, local bodies can collect a levy from bulk garbage generators such as hotels, marriage halls, markets and commercial complexes.
- e) Mechanical handling of wastes using auto-tippers, tricycle and push carts can be encouraged to minimize human contact.
- f) Since solid waste management is becoming complex, the technical and managerial skills including project formulation, financing and monitoring and supervision of personnel in the local bodies should be strengthened.
- g) A separate solid waste management action plan will be required to be made with the principal stakeholders and including the citizens and private sector following the comprehensive ERM study.

## **C.The Plan**

8.13 A comprehensive solid waste management Action Plan as a sequel to the ERM Master Plan has to be prepared taking into account

- i) The mechanisms to be introduced for segregation of wastes at the source
- ii) Reducing extent of waste to be handled at landfill through local and neighbourhood level composting and recycling facilities.
- iii) Establishing a number of decentralized sanitary landfill facilities to be shared with local bodies in the area.
- iv) Establishing safe recycling facilities for e-waste and construction debris.
- v) Instituting an education and awareness programme for children, youth and citizens on scientific solid waste management.

- vi) Providing incentives to private sector to participate in the reduction, segregation, transport, recycling and final disposal of all types of solid wastes.
- vii) The specific responsibility to be assigned to stakeholders in the implementation of the plan

8.14 The Plan identifies the existing landfill sites and the new sites proposed by municipal bodies and restrictions on development of residential, commercial activities in their neighbourhood.

8.15 The Plan recommends strict enforcement by TNPCB of the statutory rules relating to solid waste management, bio-medical waste and other wastes both hazardous and non-hazardous.

8.16 The Plan identifies the parameters to be adhered to with respect to aspects of solid waste management to be complied by new developments, houses, apartments, commercial complexes, and industries. These have been incorporated in the Development Regulations in Volume II.

8.17 The Plan recommends institution of decentralized waste to energy plants on the lines of the Bio-Methanation plant set up by CMDA in Koyambedu Market and other successful and well proven technologies available.

## **E. Monitoring and Review**

8.18 A committee to be known as “Shelter and Infrastructure 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 including solid waste management and to initiate such studies and assemble such information as needed for the purpose. This committee will meet at least 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.

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