

PROFORMA FOR SUBMITTING INFORMATION ON SOLID WASTE MANAGEMENT

Source: solid waste management salient features –2002

Name of City/Town:	Chennai	District:	Chennai
Name of Municipal Body:	Chennai Municipal Corporation	Division:	
Address:		State:	Tamilnadu
Telephone:		Fax:	
Email:		Website:	
• DEMOGRAPHY			
.1	Name of Officer In-Charge	Assistant Executive Engineer	
.2	Area of Municipal Corporation /Council (Please provide map showing legal limits of municipal body) (km ²)	174	
.3	No. of wards / zones		
.4	Total population (as per 1991 census)		
.5	Total population (as per 2001 census)	50,00,000 (2002)	
.6	Population		
	• Urban	35,00,000	
	• Slums	15,00,000	
.1	Floating population	10,00,000	
.2	Total no. of household	20,000	
.3	Average maximum temperature (°C)	41	
.4	Average minimum temperature (°C)	19	
.5	Average yearly maximum rainfall (mm)	Medium rain fall during the November and December	
.6	Average maximum humidity		
.7	Average minimum humidity		
.8	Average depth of water table		
.9	Altitude (<i>i.e.</i> mean sea level)		

- **GENERATION OF MUNICIPAL SOLID WASTE**

.1	Total MSW generation (MT/day)	Garbage 3200 Building debris 500
.2	MSW generation (gms/capita/day)	500
.3	Of the total MSW generated	
	• Quantity of domestic MSW (MT/day)	2516
	• Quantity of commercial MSW (MT/day)	518
	• Quantity of industrial (non-toxic and non-hazardous) waste (MT/day)	74
	• Quantity of waste from markets (MT/day)	
	• Quantity of waste from hotels and restaurants (MT/day)	444
.1	Composition of MSW (Attach separate sheet)	
	• Physical characteristics	
	○ Biodegradable (%)	49.06
	○ Paper (%)	6.45
	○ Rags	4.50
	○ Plastic (%)	2.50
	○ Leathers and rubbers	1.45
	○ Glass inerts (%)	37.50
	○ Metal (%)	0.04
	○ Others (%)	1.40
	• Chemical characteristics	
	○ Moisture content (%)	27.60
	○ Ph value (%)	7.68
	○ Organic content (%)	39.06
	○ Carbon content (%)	21.53
	○ Nitrogen content (%)	0.73
	○ Phosphorus P ₂ O ₅	0.63
	○ Calorific value (kj/kg)	4565
	○ Potassium K ₂ O (%)	0.63

- **SWEEPING**

.1	Total length of roads (with or without footpath)	2777
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	(km)	
	• Total length of cement-concrete roads (km)	Not mentioned
	• Total length of asphalted roads (km)	
	• Total length of Kutchha roads (km)	
.1	Total no. of sweepers employed	10,130
	• Departmental	10,130
	• Contracted	1666
.1	Working hours of sweepers	6.30-10.30 2.30-5.00
.2	Norms of sweeping (e.g. one sweeper per ... population, or one sweeper per ... sq. m. area, or one sweeper per ... RMT road)	4 sanitary workers for sweeping collecting and loading per one tonne of waste
.3	Sweeping carried out at a location by	○ Two sweepers ○
.4	Sweeping waste is put in a...	○ Box type wheel barrow ○ Containerised handcart ○ Cane or bamboo basket ○ Roadside bin ○ Open dump ○ Directly in the vehicle
.5	Frequency of sweeping	○ All seven days a week
.6	Total no. of wheel barrows provided	1000
.7	Total no. of containerised handcarts provided	2000
.8	Total capacity of wheel barrow (kg)	
.9	No. of containers and its capacity in kg	
.10	Type of broom provided	○ Long handle (No.:)
.11	Any other equipment provided (e.g. spade, shovel, tikow)	Brooms,baskets,brushes iron plate ,contaierzed push carts etc
.12	Protective gear provided (e.g. leather hand gloves, gumboots, mask)	Not mentioned in the report
	• COLLECTION, STORAGE AND TRANSPORTATION	
.1	Area covered for collection of MSW	All the area covered
.2	No. of households covered	
.3	No. of households covered under door-to-door collection (bell ringing)	

.4	Is the collection carried out by municipal authority or private contractor or NGO?	Yes
.5	Is the segregation is carried out at source? If no, what steps have been taken?	Yes
.6	Total quantity collected (MT/day)	Not mentioned Figure
.7	MSW collected in mixed form (MT/day)	Not mentioned Figure
.8	MSW collected in segregated form (MT/day)	
.9	Whether littering is prohibited by the municipality?	Yes/No.
.10	Whether litterbins are provided?	Yes/No
.11	Frequency of waste collection	<input type="radio"/> Once in 24 hours <input type="radio"/> Twice in 24 hours <input type="radio"/> Thrice in 24 hours <input type="radio"/> Alternate days <input type="radio"/> Any other frequency (Please mention)
.12	Is waste collected every day <i>i.e.</i> 7 days a week and 365 days a year? If no, give details	Yes/No
.13	Total number, type, size, and capacity of storage bins / container / trailers provided	
.14	Whether the bins are open or closed?	
.15	Whether all bins are attended/cleaned daily? <i>(i.e.</i> 7 days a week and 365 days a year) If no, mention details	Yes/No
.16	Whether the lifting of waste from the bins is manual or mechanical?	

Open truck

Open truck
with tipping

Tractor-
trailer with
tipping

Tractor-
trailer
without
tipping

Auto
rickshaw
with/
without
tipping

Total

.19 If the vehicles are open to atmosphere, are they covered with temporary plastic sheet? Yes/No

• **COLLECTION SYSTEM**

.1 Approximate MSW collected (MT) Around 3100 MSW is disposed into a dumping sites

- Household (urban)
- Slums
- Street sweeping
- Shops & commercial establishments
- Markets
- Hotels, restaurants, eating houses
- Gardens, parks, fairs
- Slaughter houses
- Building sites (debris, earth, etc.) 450 – 500

- .2 No. of premises / establishments
- House holds
 - Shops, commercial establishments
 - Slums, households, population 15,00,000
 - Vegetable and fruit markets 21
 - Fish and meat markets
 - Hawkers

.3 No. of hotels, restaurants, eating houses

	○ Grade / class I	
	○ Grade / class II	
	○ Grade / class III	
	○ No. of star hotels	
.4	Guesthouses	
.5	Marriage halls	
.6	Hostels	
.7	Cinema halls	
.8	Theatres	
.9	Stables and no. of animals	
.10	Hospitals/ clinics/ nursing homes	212
	Total no. of beds	
.11	Parks, gardens, recreation places like lakes, amusement parks	161
.12	Building sites (under construction)	
.13	Slaughter houses	
	• PROCESSING AND DISPOSAL OF MSW	
.1	Total quantity of MSW processed (MT/day)	
.2	Technology / technologies adopted	Not mentioned in the report
	○ Composting (MT/day)	
	○ Vermiculture (MT/day)	
	○ Pelletisation (MT/day)	
	○ Waste to energy (MT/day)	
.3	Composting	
	Compost produced (MT/year)	
	Is it done mechanically?	Yes/No
	Is it the compost sold?	Yes/No
	If yes, the quantity sold (MT/year)	
	• Total revenue generated (Rupees/year)	
.1	Vermi-composting	Proposed
	Vermi-compost produced (MT/day)	
	Is the vermi-compost sold?	Yes/No
	If yes, the quantity sold (MT/year)	
	• Total revenue generated (Rupees/year)	
.1	Pelletisation	Pelletisation not mentioned in the report

	Pellets produced (MT/day)	
	Are the pellets sold?	Yes/No
	If yes, the quantity sold (MT/year)	
	• Total revenue generated (Rupees/year)	
.1	Waste to energy	The MOU signed between chennai municipal corporation and the Australian company
	• Energy produced (MW/MT/day)	Not mentioned any figure
	Incineration	
	Pyrolysis	
	Bio-methanation	
	Any other (Please mention)	
	• Revenue generated (Rupees/year)	
.1	Dumping grounds/landfill sites	
	• MSW disposed off by open dumping (MT/day) [mixed/inert]	Approximately 3100
	• MSW disposed off by controlled dumping (MT/day) [mixed/inert]	No control disposal site
	• MSW disposed off by sanitary landfill (MT/day) [mixed/inert]	No sanitary landfill
	• No. of dumping grounds/ landfill sites	2
	Whether municipality legally owns them?	Partly owned by the municipality
	• Area of each dumping ground/ landfill site	Kodungaiyur (within city)- 415 acres (350 owned by C.O.C, 65 acres owned by CMWSSB 285 acres Perungudi (out of city - 800 acres owned by CMWSSB board waste water disposal marshy land
	• Whether the area will be sufficient for next 25 years	Kodungaiyur site – sufficient for up to 2008 Perungudi site - sufficient for up to 2008
	• If no, then what steps have been taken to acquire land?	Yes
	• Distance (in km) of dumping ground / landfill site from ...	
	○ Habitation	
	○ Drinking water source	
	○ Religious or monument places	

	• Distance from airport or airbase	
	• Has it been designed scientifically	No
	• Has the existing dumping ground been upgraded as required by MSW Rules, 2000	Yes
	If no, what steps have been taken (provide details)	
.1	Whether the following facilities are provided	
	• Weighbridge	Yes/No
	• Fencing	Yes/No
	• Approach roads/ internal roads	Yes/No
	• Lighting facility	Yes/No
	• Site office with monitoring equipment	Yes/No
	• Managerial staff and manpower	Yes/No
	• Covering material used daily as per Rules 2000	Yes/No
	Is it available in sufficient quantity?	Yes/No
	• Gas venting arrangement	Yes/No
	• Leachate collection system	Yes/No
	• INSTITUTIONAL ARRANGEMENTS	
.1	SWM services provided in the city/town by	Municipality/ Private contractor/ NGO
.2	Total no. of Supervisory Staff provided (e.g. Health officer/ Assistant Health officer/ Chief Sanitary Inspector/ sanitary Inspector/ Sanitary Supervisors, etc.)	23,143
.3	Total no. of sweepers/ Pourakarmikas/ labourers/ Mukadam/ Jathedars/ Daffedars, etc.	10,130
.4	Organisational structure	(Furnish separate sheet)
	• PRIVATISATION	
.1	Whether any of the following service is privatised?	

	• Sweeping	Yes
	• Door-to-door collection	Yes
	• Community collection	Yes
	• Transportation	Yes
	• Processing of MSW	Yes
	• Sanitary landfilling	The sanitary are improved as engineered land fill
	If yes, provide details	
	If no, whether any future plans for privatisation	
	• Details of NGO/ CBO/ Residential groups involved in any schemes/ projects initiated by municipal body in SWM/ clean city program	
	• COST IMPLICATIONS IN SWM	
.1	Expenditure (in Rupees/Year)	
	• Total cost of SWM services under various heads	
	• Establishment including salaries, uniforms, <i>etc</i>	
	• Tools, equipment, and consumables including disinfectant	
	• Operation and maintenance of garbage vehicles including fuel, oil, spare parts, tyres, batteries, <i>etc</i>	
	• Hiring charges for contractors' vehicle & machinery, bulldozers, JCBs, <i>etc</i>	
	• Other miscellaneous expenses	
.1	The above total cost in terms of following activities (Rupees/Year)	
	• Sweeping cost	
	• Collection cost	
	• Transportation cost	
	• Processing cost	
	• Disposal / sanitary landfill cost	
.1	Cost recovery	

formation

.3 Encouraging people's participation by building-wise or building complex-wise waste segregation and processing of organic waste by vermi-composting or composting Yes

.4 Training needs for sanitary workers on health and safety issue Yes

.5 Development of tools and implements Yes

.6 Please provide list of potential NGO for implementing any of the initiatives (any association registered with municipal body/ unregistered local area management)

• **AWARENESS**

.1 Are you aware of the various notifications of the Ministry of Environment and Forests, Government of India

- Municipal Solid Waste (Management and Handling) Rules, 2000
- Recycled Plastics Manufacture and Usage Rules, 1999
- Biomedical Waste (Management and Handling) Rules, 1998
- Coastal Regulatory Zones Rules, 1991 (amended up to 2002)

Place:

Date:

Signature of the Municipal Commissioner /
The Health Officer/ The Chief Engineer (SWM)

Stamp

Note: Please provide small note on the geographical and historical background of the city, tourist places, monuments, pilgrimage places, main industrial areas, industries, GNP, GDP, Airport, Airbase, main events and main people of national and international importance, etc.