

PROFORMA FOR SUBMITTING INFORMATION ON SOLID WASTE MANAGEMENT

Name of City/Town:	Bangalore	District:	Bangalore
Name of Municipal Body:	Bangalore Municipal corporation	Division:	
Address:		State:	Karnataka
Telephone:		Fax:	
Email:		Website:	
• DEMOGRAPHY			
.1	Name of Officer In-Charge	Chief Health Officer	
.2	Area of Municipal Corporation /Council (Please provide map showing legal limits of municipal body) (km ²)	2,190 sq km	
.3	No. of wards / zones	100 wards	
.4	Total population (as per 1991 census)	26.60 Lakhs	
.5	Total population (as per 2001 census)	65 Lakhs	
.6	Population		
	• Urban	55,25,000	
	• Slums	9,75,000	
.1	Floating population	No Information	
.2	Total no. of household	400 pockets	
.3	Average maximum temperature (°C)	33	
.4	Average minimum temperature (°C)	14	
.5	Average yearly maximum rainfall (mm)	1,060	
.6	Altitude (i.e. mean sea level)	Latitudinal parallels: 12 ^o 8' north longitudinal meridians :77 ^o 37' east 920 meters above sea level	

- **GENERATION OF MUNICIPAL SOLID WASTE**
- .1 Total MSW generation (MT/day) 2500
- .2 MSW generation (gms/capita/day) 384
- .3 Of the total MSW generated
 - Quantity of domestic MSW (MT/day) 1000
 - Quantity of commercial MSW (MT/day) 600
 - Quantity of industrial (non-toxic and non-hazardous) waste (MT/day) No Information
 - Quantity of waste from markets (MT/day) 600
 - Others waste (MT/day) 300
- .1 Composition of MSW (Attach separate sheet)
 - Physical characteristics
 - Organic waste (%) 60
 - Dust(%) 5
 - Paper (%) 12
 - Plastic (%) 14
 - Glass (%) 4
 - Metal (%) 1
 - Bio Medical Waste 1
 - Card Board 1
 - Rubber 1
 - Miscellaneous (%) 1
 - Chemical characteristics
 - Carbon (%)
 - Nitrogen (%) No Information
 - Phosphorous as P₂O₅ (%)
 - Potassium as K₂O (%)
 - C/N ratio
 - Calorific value (kCal/kg)
 - Density of MSW (kg/m³)
- **SWEEPING**

.1	Total length of roads (with or without footpath) (km)	1924.81
.2	Total no. of sweepers employed	11,331
	• Departmental	5896
	• Contracted	5435
.1	Working hours of sweepers	6.30 A.M , 1.30 P.M
.2	Norms of sweeping (e.g. one sweeper per ... population, or one sweeper per ... sq. m. area, or one sweeper per ... RMT road)	The city has a 1924.81 kms . an area of 20,000 i.e 2000 sq mts . of road length is given to the sweepers for street sweeping
.3	Sweeping carried out at a location by	○ One 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	5000
.7	Total no. of containerised handcarts provided	No Information
.8	Total capacity of wheel barrow (kg)	45
.9	No. of containers and its capacity in kg	No Information
.10	Type of broom provided	○ Long handle (No.:)
.11	Any other equipment provided (e.g. spade, shovel, tikow)	Ghamela, Spade, Collecting tray
.12	Protective gear provided (e.g. leather hand gloves, gumboots, mask)	Hand gloves, Gum Boot, Face Mask, caps etc
	• COLLECTION, STORAGE AND TRANSPORTATION	
.1	Area covered for collection of MSW	No Information
.2	No. of households covered	No Information
.3	No. of households covered under door-to-door collection (bell ringing)	Not mentioned in the report
.4	Is the collection carried out by municipal authority or private contractor or NGO?	Yes
.5	Is the segregation is carried out at source?	Yes
.6	Total quantity collected (MT/day)	No Information

.7	MSW collected in mixed form (MT/day)	Yes (quantity not mentioned)
.8	MSW collected in segregated form (MT/day)	No Information
.9	Whether littering is prohibited by the municipality?	Yes
.10	Whether litterbins are provided?	Yes
.11	Frequency of waste collection	o Once in 24 hours
.12	Is waste collected every day <i>i.e.</i> 7 days a week and 365 days a year?	Yes
.13	Total number, type, size, and capacity of storage bins / container / trailers provided	14,000 bottomless cements bin (0.9 mts dia)and 0.6 cu mts storage capacity and large masonry bins for depositing the waste at distance of about 100-200 mts, 1500 placer,
.14	Whether the bins are open or closed?	Both closed and open type
.15	Whether all bins are attended/cleaned daily? <i>(i.e.</i> 7 days a week and 365 days a year)	Yes
.16	Whether the lifting of waste from the bins is manual or mechanical?	Both manually and mechanically

.17 Vehicle details					
Type	Total No.	Capacity (MT)	Daily required	At present available	Additional proposed
Trucks	82				
Lorries	72				
Dumper placer	13	2.5-3.0			
Three wheelers trolleys plastics containers	2000	20 litres			
Tractors trailers	350	5			
Dumper placer	19				
Animal carts	2				

.18 Collection details

Type of vehicle	No. of vehicles used	No. of shifts	Capacity (MT)	No. of trips/ shift	Distance travelled / shift	Quantity of MSW carried / shift (MT)	Quantity of MSW carried out / day (MT)	No. of workers / vehicle
Compactor (mobile)								
Dumper placer (with 2.5 m ³ containers)								
Dumper placer (with 4.5 m ³ / 7 m ³ containers)								
Open truck								
Open truck with tipping								
Tractor-trailer with tipping								
Tractor-trailer without tipping								
Auto rickshaw with/without tipping								
Tricycle with/without tipping								
Any other type								
Total								

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

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• **COLLECTION SYSTEM**

.1	Approximate MSW collected (MT)	
	○ Household (urban)	1,000
	○ Shops & commercial establishments	600
	○ Markets	600
	○ others	300
.2	No. of premises / establishments	
	○ Households	No Information
	○ Markets	103
	○ Shops, commercial establishments	No Information
	○ Slums, households, population	12
	○ Vegetable meat and fruit markets	No Information
	○ Fish and meat markets	No Information
	○ Hawkers	No Information
.3	No. of hotels, restaurants, eating houses	4943
.4	Guesthouses, Marriage halls, Hostels, Theatres, Stables and no. of animals,	
.5	Cinema halls	135
.6	Hospitals/ clinics/ nursing homes Total no. of beds	186
.7	Parks, gardens, recreation places like lakes, amusement parks	No Information
.8	Building sites (under construction)	No Information
.9	Slaughter houses	No Information

- **PROCESSING AND DISPOSAL OF MSW**

.1	Total quantity of MSW processed (MT/day)	1700
.2	Technology / technologies adopted	No
	o Composting (MT/day)	800 MT/day MSW is used for composting by pvt companies M/s sunrise enterprise Karnataka compost Terra pharma
	o Vermiculture (MT/day)	No Information
	o Pelletisation (MT/day)	No Information
	o Waste to energy (MT/day)	No Information
.3	Composting	
	Compost produced (MT/year)	10,000 per annum
	Is it done mechanically?	Yes
	Is it the compost sold?	Yes
	If yes, the quantity sold (MT/year)	Figure not mentioned
	• Total revenue generated (Rupees/year)	
.1	Vermi-composting	
	Vermi-compost produced (MT/day)	No Information
	Is the vermi-compost sold?	Yes
	If yes, the quantity sold (MT/year)	No Information
.2	Pelletisation	
	Pellets produced (MT/day)	No Information
	Are the pellets sold?	Yes/No
	If yes, the quantity sold (MT/year)	No Information
.3	Waste to energy	
	• Energy produced (MW/MT/day)	No Information
	• Revenue generated (Rupees/year)	No Information
.1	Dumping grounds/landfill sites	

• MSW disposed off by open dumping (MT/day) [mixed/inert]	1700
• MSW disposed off by controlled dumping (MT/day) [mixed/inert]	No Information
• MSW disposed off by sanitary landfill (MT/day) [mixed/inert]	1700
• No. of dumping grounds/ landfill sites	4sites Seegihalli – 7 acres Kannahalli – 29 acres Giddanhalli-50acres Medigarahara-25acres
Whether municipality legally owns them?	Yes
• Area of each dumping ground/ landfill site	111 acres
• Whether the area will be sufficient for next 25 years	No
• If no, then what steps have been taken to acquire land?	Proposed
• Distance (in km) of dumping ground / landfill site from ...	
○ Habitation, Drinking water source, Religious or monument places	No Information
• Distance from airport or airbase	No Information
• Has it been designed scientifically	No
• Has the existing dumping ground been upgraded as required by MSW Rules, 2000	Yes/No
.1 Whether the following facilities are provided	
• Weighbridge	Yes
• Fencing	Yes
• Approach roads/ internal roads	Yes
• Lighting facility	Yes
• Site office with monitoring equipment	Yes
• Managerial staff and manpower	Yes
• 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.)	527
.3	Total no. of sweepers/ Pourakarmikas/ labourers/ Mukadam/ Jathedars/ Daffedars, etc.	8246
.4	Organisational structure	(Furnish separate sheet)
	• PRIVATISATION	
.1	Whether any of the following service is privatised?	
	• Sweeping	Yes/No
	• Door-to-door collection	Yes/No
	• Community collection	Yes/No
	• Transportation	Yes/No
	• Processing of MSW	Yes/No
	• Sanitary land filling	Yes/No
	• Details of NGO/ CBO/ Residential groups involved in any schemes/ projects initiated by municipal body in SWM/ clean city program	No Information
	• COST IMPLICATIONS IN SWM	
.1	Expenditure (in Rupees/Year)	No Information
	• Total cost of SWM services under various heads	No Information
.1	The above total cost in terms of following activities (Rupees/Year)	
	• Sweeping, Collection, Transportation, Processing, Disposal / sanitary landfill cost	No Information
.1	Cost recovery	

•	Tipping fee or trade refuse charges (Rupees/Year)	No Information
•	Revenue generation (by sale of compost, vermi-compost, energy/ gas, etc. (Rupees/Year)	No Information
•	Annual expenditure for SWM services	No Information
•	OTHER FACILITIES	
.1	What facilities are provided for the following?	
•	Biomedical waste	No system of primary collection of hospital exists in the corporation in the city a few hospital have their own incinerators. Rest of them not have facility they are dispose into municipal waste in mixed form
•	Diary related activities	No Information
•	Slaughter house and unauthorised slaughtering	No Information
•	Construction, demolition, debris and silt	There is no arrangement made for the primary collection of construction waste.
•	Encroachments on footpaths, in parks	No Information
•	Is there any enforcement wing for taking renal actions?	Yes
	Recovery of administrative charges	No Information
	Fines under Municipal/Police Act	Yes
	Recourse to Municipal Act bye-laws	No Information
•	Whether any cases are registered and settled during last three years?	Yes
•	SPECIAL/ UNIQUE SCHEMES OR INITIATIVES¹	
.1	Recycling schemes for plastic, PET bottles	Yes
.2	Encouraging community activity such as ALM ² formation	Yes
.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

¹ Details of schemes can be provided on a separate sheet

² Advance Locality Management

.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)	No Information
<ul style="list-style-type: none"> • AWARENESS 		
.1	Are you aware of the various notifications of the Ministry of Environment and Forests, Government of India	No Information
	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.*