

PROFORMA FOR SUBMITTING INFORMATION ON SOLID WASTE MANAGEMENT

Name of City/Town:	KOLHAPUR	District:	KOLHAPUR
Name of Municipal Body:	KOLHAPUR MUNICIPAL CORPORATION	Division:	Pune
Address:	C Ward Bhausingji Road, Post Box – 33, Kolhapur – 416 002.	State:	Maharashtra
Telephone:	530291 to 530299	Fax:	531830
Email:		Website:	
<b>1 DEMOGRAPHY</b>			
1.1	Name of Officer In-Charge	Commissioner K.M.C.	
1.2	Area of Municipal Corporation /Council (Please provide map showing legal limits of municipal body) (km <sup>2</sup> )	66.82 sq. kms	
1.3	No. of wards / zones	11 Sanitation Wards	
1.4	Total population (as per 1991 census)	4,06,370	
1.5	Total population (as per 2001 census)	4,85,183	
1.6	Population		
	Urban	4,12,969	
	Slums	72,214	
1.7	Floating population	5000	
1.8	Total no. of household	90,000	
<b>2 GENERATION OF MUNICIPAL SOLID WASTE</b>			
2.1	Total MSW generation (MT/day)	165 MT	
2.2	MSW generation (gms/capita/day)	370 gm	
2.3	Of the total MSW generated		
	Quantity of domestic MSW (MT/day)	105	
	Quantity of commercial MSW (MT/day)	15	
	Quantity of industrial (non-toxic and non-hazardous) waste (MT/day)	10	
	Quantity of waste from markets (MT/day)	25	
	Quantity of waste from hotels and restaurants (MT/day)	10	
2.4	Composition of MSW (Attach separate sheet)		
Physical characteristics			
	1. Biodegradable (%)		

1.	Paper (%)	6
1.	Plastic (%)	3.5
1.	Glass (%)	5
1.	Metal (%)	0-1
1.	Inert, ash, debris (%)	
<b>Chemical characteristics</b>		
2.	Carbon (%)	
3.	Nitrogen (%)	
4.	Phosphorous as P <sub>2</sub> O <sub>5</sub> (%)	
5.	Potassium as K <sub>2</sub> O (%)	
6.	C/N ratio	27%
7.	Calorific value (kCal/kg)	
8.	Density of MSW (kg/m <sup>3</sup> )	
<b>3</b>	<b>SWEEPING</b>	
3.1	Total length of roads (with or without footpath) (km)	438 Kms
	Total length of cement-concrete roads (km)	14 km
	Total length of asphalted roads (km)	335 kms
	Total length of Kutchha roads (km)	89 kms
3.2	Total no. of sweepers employed	1050
3.3	Working hours of sweepers	8 hours (6 AM to 2 PM)
3.4	Norms of sweeping (e.g. one sweeper per ... population, or one sweeper per ... sq. m. area, or one sweeper per ... RMT road)	<b>One sweeper per 500 population</b>
3.5	Sweeping carried out at a location by	<ol style="list-style-type: none"> <li><b>1. One sweeper</b></li> <li>1. Two sweepers</li> <li>1. Three or more sweepers</li> </ol>
3.6	Sweeping waste is put in a...	<ol style="list-style-type: none"> <li><b>2. Box type wheel barrow</b></li> <li><b>3. Containerised handcart</b></li> <li>4. Cane or bamboo basket</li> <li><b>5. Roadside bin</b></li> <li><b>6. Open dump</b></li> <li>7. Directly in the vehicle</li> </ol>
3.7	Frequency of sweeping	<b>8. All seven days a week - Partly everyday</b>

			9. Six days in a week		
			10. Alternate days		- Partly alternate day
			11. Any other frequency (Please mention)		
3.8	Total no. of wheel barrows provided		40		
3.9	Total capacity of wheel barrow (kg)		Containerised with 2 containers		
3.10	No. of containers and its capacity in kg		25 Kg each container		
3.11	Type of broom provided		12. Long handle - 2 brooms /per head/Month		
			13. Short handle		
<b>4</b>	<b>COLLECTION, STORAGE AND TRANSPORTATION</b>				
4.1	Area covered for collection of MSW		66.82 sq. km		
4.2	No. of households covered		90,000		
4.3	No. of households covered under door-to-door collection (bell ringing)		10 km		
4.4	Is the collection is carried out by municipal authority or private contractor or NGO?		By Kolhapur Municipal Corporation		
4.5	Is the segregation is carried out at source?		No		
4.6	MSW collected in mixed form (MT/day)		Mixed		
4.7	Whether all bins are attended/cleaned daily? (i.e. 7 days a week and 365 days a year)		No		
4.8	Whether the lifting of waste from the bins is manual or mechanical?		MANUAL and LOADER		
			1) Refuse collector 2) Dumper placer with container		
4.9	Vehicle details				
	Type	Total No.	Capacity (MT)	Daily required	At present available
					Additional proposed
	Dumper placer (with 2.5 m <sup>3</sup> containers)		1 MT	2	2
	Open truck		4 MT	11	11
	Open truck with tipping		2.5 MT	6	6
	<b>Refuse Collector</b>		2 MT	2	2
					0

4.10 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
Dumper placer (with 2.5 m <sup>3</sup> containers)	2		1 MT	20	140 Km	20		
Open truck	11		4 MT	22	361 Km	88		
Open truck with tipping	6		2.5 MT	18	214 Km	45		
<b>Refuse Collector</b>	2		3 MT	4	54 Km	12		

**5 COLLECTION SYSTEM**

5.1	Approximate MSW collected (MT)	165 MT
	1. Household (urban)	40 MT
	1. Slums	15 MT
	1. Street sweeping	20 MT
	1. Shops & commercial establishments	15 MT
	1. Markets	20 MT
	1. Hotels, restaurants, eating houses	10 MT
	1. Gardens, parks, fairs	10 MT
	1. Slaughter houses	5 MT
	1. Building sites (debris, earth, etc.)	10 MT
5.2	No. of premises / establishments	
	2. Households	90,000
	3. Shops, commercial establishments	11,286
	4. Slums, households, population	54 Slums; Houses 10564; Population 56720
	5. Vegetable and fruit markets	10
	6. Fish and meat markets	8
	7. Hawkers	3000
5.3	No. of hotels, restaurants, eating houses	1053

5.4	Guesthouses	2
5.5	Marriage halls	125
5.6	Hostels	25
5.7	Cinema halls	15
5.8	Theatres	2
5.9	Stables and no. of animals	16681 (1997 – Animal census)
5.10	Hospitals/ clinics/ nursing homes	584
	Total no. of beds	3278
5.11	Parks, gardens, recreation places like lakes, amusement parks	Park & Garden – 52 Lakes : 4
5.12	Slaughter houses	2
<b>6</b>	<b>PROCESSING AND DISPOSAL OF MSW</b>	
6.1	Technology / technologies adopted	
1.	Composting (MT/day)	Under Construction (BOOT) Basis (Details Attached)
6.2	Dumping grounds/landfill sites	Crude Open dumping & filling of dangerous quarries in private land
	No. of dumping grounds/ landfill sites	No
6.3	Whether the following facilities are provided	
	Weighbridge	No
	Fencing	No
	Lighting facility	No
	Covering material used daily as per Rules 2000	No
	Gas venting arrangement	Not available
	Leachate collection system	Provision not made
<b>7</b>	<b>INSTITUTIONAL ARRANGEMENTS</b>	
7.1	SWM services provided in the city/town by	Kolhapur Municipal Corporation, Kolhapur
7.2	Total no. of Supervisory Staff provided (e.g. Health officer/ Assistant Health officer/ Chief Sanitary Inspector/ sanitary Inspector/ Sanitary Supervisors, etc.)	110
7.3	Total no. of sweepers/ Pourakarmikas/ labourers/ Mukadam/ Jathedars/ Daffedars, etc.	1050
7.4	Organisational structure	Attached
<b>8</b>	<b>PRIVATISATION</b>	

8.1 Whether any of the following service is privatised?

Sweeping	No
Door-to-door collection	No
Transportation	No
Processing of MSW	No
If no, whether any future plans for privatisation	No

Details of NGO/ CBO/ Residential groups involved in any schemes/ projects initiated by municipal body in SWM/ clean city program

- ALM – Residential group, group of societies, apartments are involved in ALM programs
2. Rag-pickers – Identify rag pickers in Clean City program
  3. NGO – some of the NGO are participating in various clean city programs

## 9 COST IMPLICATIONS IN SWM

9.1 Expenditure (in Rupees/Year)

Total cost of SWM services under various heads

Establishment including salaries, uniforms, etc	Rs. 7,62,20,569
Tools, equipment, and consumables including disinfectant	Rs. 3,37,879
Operation and maintenance of garbage vehicles including fuel, oil, spare parts, tyres, batteries, etc	Rs. 19,00,800

9.2 The above total cost in terms of following activities (Rupees/Year)

Sweeping cost	}
Collection cost	} Rs. 7,65,58,448
Transportation cost	Rs. 19,00,800

9.3 Cost recovery

Tipping fee or trade refuse charges (Rupees/Year)	NIL
Revenue generation (by sale of compost, vermi-compost, energy/ gas, etc. (Rupees/Year)	NIL
Annual expenditure for SWM services	Rs. 7,84,59,248
Cost of SWM services in Rupees per capita per year	Rs. 161
Cost of SWM services in Rupees per tonne of MSW	Rs. 1343

## 10 OTHER FACILITIES

10.1 What facilities are provided for the following?

Biomedical waste	Bio-medical is disposed as per BMW rules 1998			
Diary related activities	Garbage from dairy collected as usual domestic waste			
Slaughter house and unauthorised slaughtering	Slaughter house provided with all facilities			
Encroachments on footpaths, in parks	Anti-encroachment and Nuisance detection squad established by KMC			
How many slums have been identified and whether there are provided with sanitation facilities?	Identified 42 slums, provided sanitation facilities			
Is there any enforcement wing for taking renal actions?	Yes, Nuisance detection squad established for recovery of administrative charges			
Recovery of administrative charges				
Fines under Municipal/Police Act				
Recourse to Municipal Act bye-laws				
Whether any cases are registered and settled during last three years?	Yes			
No. of cases registered during last three years		1999-00	00 - 01	01 – 02
No. of cases settled during last three years	Cases reg.	375	429	1374
Total recovery during last three years	Recovery	79775	164650	290100
<b>11</b>	<b>SPECIAL/ UNIQUE SCHEMES OR INITIATIVES<sup>1</sup></b>			
11.1	Recycling schemes for plastic, PET bottles	No		
11.2	Encouraging community activity such as ALM <sup>2</sup> formation	Yes		
11.3	Encouraging people's participation by building-wise or building complex-wise waste segregation and processing of organic waste by vermi-composting or composting	Yes		
11.4	Training needs for sanitary workers on health and safety issue	Yes		
11.5	Development of tools and implements	Containerised dumper placer, HDP Plastic Gamela, long handed Broom		
11.6	Please provide list of potential NGO for implementing any of the initiatives (any association registered with municipal body/ unregistered local area management)	1. Clean School competition program 1. Encouraging people for waste segregation & Vermicomposting 1. Encouraging committee awareness for city & other		

<sup>1</sup> Details of schemes can be provided on a separate sheet

<sup>2</sup> Advance Locality Management

**12 AWARENESS**

12.1 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 Yes

Recycled Plastics Manufacture and Usage Rules, 1999 Yes

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.*