

PROFORMA FOR SUBMITTING INFORMATION ON SOLID WASTE MANAGEMENT

Name of City/Town:	Haridwar	District:	
Name of Municipal Body:	Nagar Palika Haridwar	Division:	
Address:		State:	Uttaranchal
Telephone:	227006(01334)	Fax:	
Email:		Website:	
<b>• DEMOGRAPHY</b>			
.1	Name of Officer In-Charge	Senior Health Officer Health Officer (Dr. Tagaji)	
.2	Area of Municipal Corporation /Council (Please provide map showing legal limits of municipal body) (km <sup>2</sup> )	4.7 Sq.Miles	
.3	No. of wards / zones	25 wards	
.4	Total population (as per 1991 census)	1,47,000	
.5	Total population (as per 2001 census)	1,75,000	
.6	Population		
	• Urban		
	• Slums		
.1	Floating population	2 lakhs (16 mela) 148 lakhs with an average of 45,548 per day	
.2	Total no. of household		
.3	Average maximum temperature (°C)	42	
.4	Average minimum temperature (°C)	3	
.5	Average yearly maximum rainfall (mm)		
.6	Average maximum humidity	100%	
.7	Average minimum humidity	20%	
.8	Average depth of water table		
.9	Altitude (i.e. mean sea level)		

- **GENERATION OF MUNICIPAL SOLID WASTE**

- .1 Total MSW generation (MT/day)
- .2 MSW generation (gms/capita/day)
- .3 Of the total MSW generated
  - Quantity of domestic MSW (MT/day)
  - Quantity of commercial MSW (MT/day)
  - Quantity of industrial (non-toxic and non-hazardous) waste (MT/day)
  - Quantity of waste from markets (MT/day)
  - Quantity of waste from hotels and restaurants (MT/day)

- .1 Composition of MSW (Attach separate sheet)

- Physical characteristics
  - Biodegradable (%)
  - Paper (%)
  - Plastic (%)
  - Glass (%)
  - Metal (%)
  - Inert, ash, debris (%)
- Chemical characteristics
  - Carbon (%)
  - Nitrogen (%)
  - Phosphorous as  $P_2O_5$  (%)
  - Potassium as  $K_2O$  (%)
  - C/N ratio
  - Calorific value (kCal/kg)
  - Density of MSW ( $kg/m^3$ )

- **SWEEPING**

- .1 Total length of roads (with or without footpath) (km)

	• Total length of cement-concrete roads (km)		
	• Total length of asphalted roads (km)		
	• Total length of Kutchha roads (km)		
.1	Total no. of sweepers employed		
	• Departmental	450	
	• Contracted	100	
.1	Working hours of sweepers	Summer	Winter
		6.00 AM-10.00AM	7.00 AM-11.00 AM
		3.00 PM-6.00 PM	2.00 PM-5.00 PM
.2	Norms of sweeping (e.g. one sweeper per ... population, or one sweeper per ... sq. m. area, or one sweeper per ... RMT road)		
.3	Sweeping carried out at a location by	○ One sweepers	
.4	Sweeping waste is put in a...	○ Containerised handcart	
.5	Frequency of sweeping	○ Six days in a week	
.6	Total no. of wheel barrows provided	Approximately 200	
.7	Total no. of containerised handcarts provided		
.8	Total capacity of wheel barrow (kg)	3-4 cu ft	
.9	No. of containers and its capacity in kg		
.10	Type of broom provided	○ Short handle (No.: )	
.11	Any other equipment provided (e.g. spade, shovel, tikow)	Wheel barrows, phawda and equipments	
.12	Protective gear provided (e.g. leather hand gloves, gumboots, mask)	Clothes	
	• <b>COLLECTION, STORAGE AND TRANSPORTATION</b>		
.1	Area covered for collection of MSW		
.2	No. of households covered		
.3	No. of households covered under door-to-door collection (bell ringing)	No	
.4	Is the collection carried out by municipal authority or private contractor or NGO?	Municipal authority	
.5	Is the segregation is carried out at source? If no, what steps have been taken?	No	
.6	Total quantity collected (MT/day)		

.7	MSW collected in mixed form (MT/day)	
.8	MSW collected in segregated form (MT/day)	
.9	Whether littering is prohibited by the municipality?	No.
.10	Whether litterbins are provided?	No
.11	Frequency of waste collection	o Twice in 24 hours
.12	Is waste collected every day <i>i.e.</i> 7 days a week and 365 days a year?  If no, give details	6 days in week
.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?	Manually and mechanically

.17 Vehicle details					
Type	Total No.	Capacity (MT)	Daily required	At present available	Additional proposed
Compactor (mobile)					
Dumper placer (with 2.5 m <sup>3</sup> containers)	50	1.5m <sup>3</sup>			
Dumper placer (with 4.5 m <sup>3</sup> / 7 m <sup>3</sup> containers)	35	4.5 m <sup>3</sup>	Yes	All	No
Open truck					
Open truck with tipping					
Tractor-trailer with tipping	3	5/6 m <sup>3</sup>	Yes	All	No
Tractor-trailer without tipping					
Auto rickshaw with or without tipping					
Tricycle with or without tipping	4	1.5 m <sup>3</sup>	Yes	All	No
Any other type (please mention)					
J.C.B Loaders	1				
Simple Loaders	4				

.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 place R.C trucks (with 1.5 m <sup>3</sup> containers)	1	2	Carries 1.5 m <sup>3</sup> container bin	2or 3or 5	10to 12 kms			2
Dumper placer (with 4.5 m <sup>3</sup> / 7 m <sup>3</sup> containers)	2	2	Carries 4.5 m <sup>3</sup> container bin	Depends				4
Open truck								
Open truck with tipping	3	2	5or6 m <sup>3</sup>	Depends				2
Tractor-trailer with tipping								
Tractor-trailer without tipping								
Auto rickshaw with/ without tipping								
Tricycle without tipping	4	2	1.5 m <sup>3</sup>	depends				3

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

● **COLLECTION SYSTEM**

- .1 Approximate MSW collected (MT)
  - o Household (urban)
  - o Slums
  - o Street sweeping
  - o Shops & commercial establishments
  - o Markets
  - o Hotels, restaurants, eating houses
  - o Gardens, parks, fairs
  - o Slaughter houses
  - o Building sites (debris, earth, etc.)
- .2 No. of premises / establishments
  - o Households
  - o Shops, commercial establishments
  - o Slums, households, population
  - o Vegetable and fruit markets
  - o Fish and meat markets
  - o Hawkers
- .3 No. of hotels, restaurants, eating houses
  - o Grade / class I
  - o Grade / class II
  - o Grade / class III
  - o 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  
Total no. of beds
- .11 Parks, gardens, recreation places like lakes,  
amusement parks
- .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
  - 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
  - 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
  - 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
  - Energy produced (MW/MT/day)
  - Incineration
  - Pyrolysis
  - Bio-methanation
  - Any other (Please mention)
  - Revenue generated (Rupees/year)
- .1 Dumping grounds/landfill sites Landfill site



• MSW disposed off by open dumping (MT/day) [mixed/inert]	Open
• MSW disposed off by controlled dumping (MT/day) [mixed/inert]	
• MSW disposed off by sanitary landfill (MT/day) [mixed/inert]	
• No. of dumping grounds/ landfill sites	One
Whether municipality legally owns them?	No irrigation
• Area of each dumping ground/ landfill site	15 acres approximately
• Whether the area will be sufficient for next 25 years	Yes
• If no, then what steps have been taken to acquire land?	
• Distance (in km) of dumping ground / landfill site from ...	
○ Habitation	1-1.5 kms
○ Drinking water source	Ganga is about 0.5 kms
○ Religious or monument places	0.5 km chandidevi mandir
• Distance from airport or airbase	35 kms
• Has it been designed scientifically	No
• Has the existing dumping ground been upgraded as required by MSW Rules, 2000	No
If no, what steps have been taken (provide details)	
.1 Whether the following facilities are provided	
• Weighbridge	No
• Fencing	No
• Approach roads/ internal roads	No
• Lighting facility	No
• Site office with monitoring equipment	No
• Managerial staff and manpower	No
• Covering material used daily as per Rules 2000	No
Is it available in sufficient quantity?	Yes

•	Gas venting arrangement	No
•	Leachate collection system	No
•	<b>INSTITUTIONAL ARRANGEMENTS</b>	
.1	SWM services provided in the city/town by	Municipality
.2	Total no. of Supervisory Staff provided (e.g. Health officer/ Assistant Health officer/ Chief Sanitary Inspector/ sanitary Inspector/ Sanitary Supervisors, etc.)	Sr. health officer –1 Sanitary inspector –2 Supervisor –16
.3	Total no. of sweepers/ Pourakarmikas/ labourers/ Mukadam/ Jathedars/ Daffedars, etc.	450 approximately
.4	Organisational structure	(Furnish separate sheet)
•	<b>PRIVATISATION</b>	
.1	Whether any of the following service is privatised?	
•	Sweeping	No
•	Door-to-door collection	No
•	Community collection	No
•	Transportation	No
•	Processing of MSW	No
•	Sanitary landfilling	No
	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	
•	<b>COST IMPLICATIONS IN SWM</b>	
.1	Expenditure (in Rupees/Year)	

- Total cost of SWM services under various heads
- Establishment including salaries, uniforms, *etc*
- Tools, equipment, and consumables including disinfectant
- Operation and maintenance of garbage vehicles including fuel, oil, spare parts, tyres, batteries, *etc*
- Hiring charges for contractors' vehicle & machinery, bulldozers, JCBs, *etc*
- 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

- Tipping fee or trade refuse charges (Rupees/Year)
- Revenue generation (by sale of compost, vermi-compost, energy/ gas, *etc.*) (Rupees/Year)
- Annual expenditure for SWM services

Cost of SWM services in Rupees per capita per year

Cost of SWM services in Rupees per tonne of MSW

- **OTHER FACILITIES**

.1 What facilities are provided for the following?

•	Biomedical waste	
•	Diary related activities	
•	Slaughter house and unauthorised slaughtering	
•	Construction, demolition, debris and silt	
•	Encroachments on footpaths, in parks	
•	How many slums have been identified and whether there are provided with sanitation facilities?	
•	Is there any enforcement wing for taking renal actions?	Yes/No
	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
	No. of cases registered during last three years	
	No. of cases settled during last three years	
	Total recovery during last three years	
•	<b>SPECIAL/ UNIQUE SCHEMES OR INITIATIVES<sup>1</sup></b>	
.1	Recycling schemes for plastic, PET bottles	No
.2	Encouraging community activity such as ALM <sup>2</sup> formation	No
.3	Encouraging people's participation by building-wise or building complex-wise waste segregation and processing of organic waste by vermi-composting or composting	No
.4	Training needs for sanitary workers on health and safety issue	No
.5	Development of tools and implements	No
.6	Please provide list of potential NGO for implementing any of the initiatives (any association registered with municipal body/ unregistered local area management)	

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

<sup>2</sup> Advance Locality 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 Yes
- Recycled Plastics Manufacture and Usage Rules, 1999 No
- Biomedical Waste (Management and Handling) Rules, 1998 Yes
- Coastal Regulatory Zones Rules, 1991 (amended up to 2002) No

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.*