

PROFORMA FOR SUBMITTING INFORMATION ON SOLID WASTE MANAGEMENT

Name of City/Town:	Ludhiana	District:	Ludhiana
Name of Municipal Body:	Municipal Corporation Ludhiana	Division:	Ludhiana
Address:	M.C. Ludhiana	State:	Punjab
Telephone:	220111, 232226	Fax:	
Email:		Website:	
• DEMOGRAPHY			
.1	Name of Officer In-Charge	Mr. A. K. Sondhi (Asst. Comm)	
.2	Area of Municipal Corporation /Council (Please provide map showing legal limits of municipal body) (km ²)		
.3	No. of wards / zones	70 wards	
.4	Total population (as per 1991 census)		
.5	Total population (as per 2001 census)		
.6	Population	19,14,471	
	• Urban	----	
	• Slums	----	
.1	Floating population		
.2	Total no. of household	No information	
.3	Average maximum temperature (°C)		
.4	Average minimum temperature (°C)		
.5	Average yearly maximum rainfall (mm)		
.6	Average maximum humidity		
.7	Average minimum humidity		
.8	Average depth of water table		
.9	Altitude (i.e. mean sea level)		

<ul style="list-style-type: none"> • GENERATION OF MUNICIPAL SOLID WASTE 		
.1	Total MSW generation (MT/day)	861.51 Metric tonnes per day
.2	MSW generation (gms/capita/day)	
.3	Of the total MSW generated	
	<ul style="list-style-type: none"> • Quantity of domestic MSW (MT/day) 	
	<ul style="list-style-type: none"> • Quantity of commercial MSW (MT/day) 	
	<ul style="list-style-type: none"> • Quantity of industrial (non-toxic and non-hazardous) waste (MT/day) 	
	<ul style="list-style-type: none"> • Quantity of waste from markets (MT/day) 	
	<ul style="list-style-type: none"> • Quantity of waste from hotels and restaurants (MT/day) 	
.1	Composition of MSW (Attach separate sheet)	
	<ul style="list-style-type: none"> • Physical characteristics 	
	<ul style="list-style-type: none"> o Biodegradable (%) o Paper (%) o Plastic (%) o Glass (%) o Metal (%) o Inert, ash, debris (%) 	
	<ul style="list-style-type: none"> • Chemical characteristics 	
	<ul style="list-style-type: none"> o Carbon (%) o Nitrogen (%) o Phosphorous as P₂O₅ (%) o Potassium as K₂O (%) o C/N ratio o Calorific value (kCal/kg) o Density of MSW (kg/m³) 	
<ul style="list-style-type: none"> • SWEEPING 		
.1	Total length of roads (with or without footpath) (km)	2910 km

• Total length of cement-concrete roads (km)	440 km
• Total length of asphalted roads (km)	1210 km
• Total length of Kutchha roads (km)	670 km
• Total length of Other roads (km)	582 km
.1 Total no. of sweepers employed	1900 but present 1842
• Departmental	1842 (1900)
• Contracted	No
.1 Working hours of sweepers	8 Hours
.2 Norms of sweeping (e.g. one sweeper per ... population, or one sweeper per ... sq. m. area, or one sweeper per ... RMT road)	1/2 km for per sweeper & collecting solid waste One sweeper
.3 Sweeping carried out at a location by	<ul style="list-style-type: none"> ○ One sweepers ○ Two sweepers ○ Three or more sweepers
.4 Sweeping waste is put in a...	<ul style="list-style-type: none"> ○ Box type wheel barrow ○ Containerised handcart ○ Cane or bamboo basket ○ Roadside bin ○ Open dump ○ Directly in the vehicle
.5 Frequency of sweeping	<ul style="list-style-type: none"> ○ All seven days a week ○ Six days in a week ○ Alternate days ○ Any other frequency (Please mention) ○ Five days in a week
.6 Total no. of wheel barrows provided	800 nos
.7 Total no. of containerised handcarts provided	No
.8 Total capacity of wheel barrow (kg)	35 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)	They give chaba & khanjar for collecting solid waste
.12 Protective gear provided	Only for Nala Safai Kamgar (Gumboots)

	(e.g. leather hand gloves, gumboots, mask)	
<p>• COLLECTION, STORAGE AND TRANSPORTATION</p>		
.1	Area covered for collection of MSW	861.51 Metric tonnes per day
.2	No. of households covered	No information
.3	No. of households covered under door-to-door collection (bell ringing)	One sweeper 50 to 60
.4	Is the collection carried out by municipal authority or private contractor or NGO?	Only Municipal Authority
.5	Is the segregation is carried out at source?	No
	If no, what steps have been taken?	It will be dump as it is
.6	Total quantity collected (MT/day)	861.51 Metric tonnes per day
.7	MSW collected in mixed form (MT/day)	Yes
.8	MSW collected in segregated form (MT/day)	No
.9	Whether littering is prohibited by the municipality?	No.
.10	Whether litterbins are provided?	No
.11	Frequency of waste collection	<ul style="list-style-type: none"> ○ Once in 24 hours ○ Twice in 24 hours ○ Thrice in 24 hours ○ Alternate days ○ Any other frequency (Please mention)
.12	Is waste collected every day <i>i.e.</i> 7 days a week and 365 days a year?	No Five days in a week
	If no, give details	Saturday & Sunday weekly off
.13	Total number, type, size, and capacity of storage bins / container / trailers provided	Container 240 Nos. 2.5 Tonnes capacity
.14	Whether the bins are open or closed?	Closed
.15	Whether all bins are attended/cleaned daily? <i>(i.e.</i> 7 days a week and 365 days a year)	No Five days in a week
	If no, mention details	
.16	Whether the lifting of waste from the bins is manual or mechanical?	Mechanical

.17 Vehicle details					
Type	Total No.	Capacity (MT)	Daily required	At present available	Additional proposed
Compactor (mobile)					
Dumper placer (with 2.5 m ³ containers)	25 Nos.	2.5 Tones	5 days in a week	Same	
Dumper placer (with 4.5 m ³ / 7 m ³ containers)	4 Nos.	5 Tones	5 days in a week	Same	
Open truck	26 Nos.	5 Tones	5 days in a week	Same	
Open truck with tipping	26 Nos.	5 Tones	5 days in a week		
Tractor-trailer with tipping					
Tractor-trailer without tipping	8 Nos.	1.5 Tones	5 days in a week	Same	
Auto rickshaw with or without tipping					
Tricycle with or without tipping	250 Nos.	40 to 50 kg	5 days in a week	Same	
Loaders	10 Nos.				
JCB	4 Nos				
Vacuum Cleaner	4 Nos.				

.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)	25 Nos.	1	2.5 Tone	4	10 to 15 km	10 Tones		1 + 1
Dumper placer (with 4.5 m ³ / 7 m ³ containers)	4 Nos.	1	5 Tone	4	10 to 15 km	20 Tones		1 + 1
Open truck								
Open truck with tipping	26 Nos.	1	5 Tone	4	10 to 15 km	20 Tones		1 + 4
Tractor-trailer with tipping								
Tractor-trailer without tipping	8 Nos.	1	1.5 Tone	4	10 to 15 km	6 to 8 Tones		4 to 5
Auto rickshaw with/ without tipping								
Tricycle with/without tipping	250 Nos.	1	40 to 50 kg	1	10 to 15 km	1 Tones		1
Any other type								
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) <ul style="list-style-type: none"> ○ Household (urban) ○ Slums ○ Street sweeping ○ Shops & commercial establishments ○ Markets ○ Hotels, restaurants, eating houses ○ Gardens, parks, fairs ○ Slaughter houses ○ Building sites (debris, earth, <i>etc.</i>)
.2	No. of premises / establishments <ul style="list-style-type: none"> ○ Households ○ Shops, commercial establishments ○ Slums, households, population ○ Vegetable and fruit markets ○ Fish and meat markets ○ Hawkers
.3	No. of hotels, restaurants, eating houses <ul style="list-style-type: none"> ○ 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 Total no. of beds
.11	Parks, gardens, recreation places like lakes, amusement parks
.12	Building sites (under construction)

.13	Slaughter houses	Authorised
<ul style="list-style-type: none"> PROCESSING AND DISPOSAL OF MSW 		
.1	Total quantity of MSW processed (MT/day)	861.51 Metric Tones per day
.2	Technology / technologies adopted	No
	o Composting (MT/day)	No
	o Vermiculture (MT/day)	No
	o Pelletisation (MT/day)	No
	o Waste to energy (MT/day)	No
.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)	
	<ul style="list-style-type: none"> 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)	
	<ul style="list-style-type: none"> Total revenue generated (Rupees/year) 	
.1	Pelletisation	
	Pellets produced (MT/day)	
	Are the pellets sold?	Yes/No
	If yes, the quantity sold (MT/year)	
	<ul style="list-style-type: none"> Total revenue generated (Rupees/year) 	
.1	Waste to energy	
	<ul style="list-style-type: none"> Energy produced (MW/MT/day) 	
	Incineration	
	Pyrolysis	
	Bio-methanation	
	Any other (Please mention)	
	<ul style="list-style-type: none"> Revenue generated (Rupees/year) 	
.1	Dumping grounds/landfill sites	Dumped in landfill site

<ul style="list-style-type: none"> MSW disposed off by open dumping (MT/day) [mixed/inert] 	Yes
<ul style="list-style-type: none"> MSW disposed off by controlled dumping (MT/day) [mixed/inert] 	Yes
<ul style="list-style-type: none"> MSW disposed off by sanitary landfill (MT/day) [mixed/inert] 	Yes
<ul style="list-style-type: none"> No. of dumping grounds/ landfill sites 	2 landfill sites
Whether municipality legally owns them?	Yes
<ul style="list-style-type: none"> Area of each dumping ground/ landfill site 	44 Acers total landfill area
<ul style="list-style-type: none"> Whether the area will be sufficient for next 25 years 	No
<ul style="list-style-type: none"> If no, then what steps have been taken to acquire land? 	
<ul style="list-style-type: none"> Distance (in km) of dumping ground / landfill site from ... 	
<ul style="list-style-type: none"> o Habitation 	10 km }
<ul style="list-style-type: none"> o Drinking water source 	1 km } Approximately
<ul style="list-style-type: none"> o Religious or monument places 	1 km }
<ul style="list-style-type: none"> Distance from airport or airbase 	
<ul style="list-style-type: none"> Has it been designed scientifically 	No – Row Hand
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> Weighbridge 	Yes
<ul style="list-style-type: none"> Fencing 	No
<ul style="list-style-type: none"> Approach roads/ internal roads 	Yes
<ul style="list-style-type: none"> Lighting facility 	Yes
<ul style="list-style-type: none"> Site office with monitoring equipment 	Yes
<ul style="list-style-type: none"> Managerial staff and manpower 	Yes
<ul style="list-style-type: none"> Covering material used daily as per Rules 2000 	No 5 days in a week
Is it available in sufficient quantity?	No

• Gas venting arrangement	No
• Leachate collection system	Yes
• INSTITUTIONAL ARRANGEMENTS	
.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.)	Chief Sanitary Inspector = 7 Nos. Sanitary Inspector = 26 Nos. Sanitary Supervisor = 65 Nos.
.3 Total no. of sweepers/ Pourakarmikas/ labourers/ Mukadam/ Jathedars/ Daffedars, etc.	Total Sweeper = 1842 Nos.
.4 Organisational structure	(Furnish separate sheet)
• PRIVATISATION	
.1 Whether any of the following service is privatised?	No
• Sweeping	Yes/No
• Door-to-door collection	Yes/No
• Community collection	Yes/No
• Transportation	Yes/No
• Processing of MSW	Yes/No
• Sanitary landfilling	Yes/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	No
• COST IMPLICATIONS IN SWM	
.1 Expenditure (in Rupees/Year)	

• Total cost of SWM services under various heads	Over all 12 lacs to 15 lacs approximately
• 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	No
• Tipping fee or trade refuse charges (Rupees/Year)	
• Revenue generation (by sale of compost, vermi-compost, energy/ gas, <i>etc.</i> (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	Dispatched for testing
• Diary related activities	Diary's are being shifting to dairy complex
• Slaughter house and unauthorised slaughtering	1 Slaughter house authorised
• Construction, demolition, debris and silt	----
• Encroachments on footpaths, in parks	----
• How many slums have been identified and whether there are provided with sanitation facilities?	No information
• Is there any enforcement wing for taking renal actions?	Yes
Recovery of administrative charges	Yes
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	These cases solved in court
No. of cases settled during last three years	No information
Total recovery during last three years	
• SPECIAL/ UNIQUE SCHEMES OR INITIATIVES¹	
.1 Recycling schemes for plastic, PET bottles	No
.2 Encouraging community activity such as ALM ² 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	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/	No

¹ Details of schemes can be provided on a separate sheet

² Advance Locality Management

unregistered local area management)		
<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	Yes
	<ul style="list-style-type: none"> Municipal Solid Waste (Management and Handling) Rules, 2000 	Yes
	<ul style="list-style-type: none"> Recycled Plastics Manufacture and Usage Rules, 1999 	----
	<ul style="list-style-type: none"> Biomedical Waste (Management and Handling) Rules, 1998 	
	<ul style="list-style-type: none"> Coastal Regulatory Zones Rules, 1991 (amended up to 2002) 	
	Place: Ludhiana	(Mr. Diwan) Chief Sanitary Inspector
	Date: 07.05.2003	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.*