



Ministry of Housing
and Urban Affairs
Government of India



BULK SOLID WASTE GENERATORS

A Step by Step Guidance for Urban Local Bodies to implement
the Solid Waste Management Rules, 2016

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(Independent Charge)
Ministry of Housing & Urban Affairs

MESSAGE FROM HON'BLE MINISTER OF STATE (INDEPENDENT CHARGE)

As a befitting tribute to the Father of Nation on 2nd October 2019, our government has taken the ambitious pledge to achieve cleanliness with 100% scientific disposal of solid waste through best solid waste management practices under the Swachh Bharat Mission (SBM).

We have taken up multi-pronged strategies for making the mission successful and turning it into a people's movement. Three years since launch, it is heartening to note that the Swachh Bharat Mission has caught the imagination of citizens.

The increased participation of individual citizens and organizations in thematic cleanliness drives and voluntary 'Swachhata' activities, is slowly but surely making the Mission a 'Jan Andolan'.

Waste management is the responsibility of every citizen and their efforts will help us in achieving the target of 100% effective waste management. In this context, the Bulk Generators of waste can play a significant role in improving civic services.

I am pleased to see the Guide Book for Urban Local Bodies (ULBs) on Bulk Solid Waste Generator's Compliance of Solid Waste Management Rules 2016 which lays out the roles and responsibilities of bulk waste generators and handholds the ULBs in giving effect to the Rules. I am sure that this will go a long way in improving cleanliness and contribute towards a truly 'Swachh Bharat'.



DURGA SHANKER MISHRA

Secretary

Ministry of Housing & Urban Affairs

MESSAGE FROM **SECRETARY- HOUSING AND URBAN AFFAIRS**

With the Swachh Bharat Mission (Urban) completing 3 years since launch, it becomes imperative for us to expedite efforts towards making our urban areas clean, healthy and livable. Scientific management of solid waste is often the prime area of intervention for cleanliness in urban areas.

For Swachh Bharat Mission to be a continuing success, it is important that the Urban Local Bodies (ULBs) and the Society work together for attaining the common goal of cleanliness. The Bulk Generators of Solid Waste are tasked under the Solid Waste Management (SWM) Rules 2016 to process waste in their own premises, which goes a long way in strengthening the ULBs efforts. Since this is a new area of civic responsibility, Ministry felt the need for bringing out a guide book detailing the steps and processes for the ULBs to give effect to the Bulk Generators responsibilities under the SWM Rules 2016. Also, the bulk generators themselves need to be well informed on how to comply with the Rules.

Accordingly, the Ministry of Housing and Urban Affairs is releasing this Guidance Book for ULBs on Bulk Solid Waste Generators' Compliance with SWM Rules 2016, which lays out roles and responsibilities of bulk waste generators and provides handholding for ULBs in giving effect to the Rules. It is estimated that roughly 30% waste is from bulk generator premises. As such, I am confident that this guide book will have positive impact on cleanliness and boost the Swachh Bharat Mission.

PREFACE

Bulk generators contribute substantial amount of waste-nearly 30-40% of the daily waste. According to the Solid Waste Management Rules 2016, Bulk Waste Generators are responsible for managing their own waste. Municipalities have to identify different bulk generators in accordance as defined in SWM Rules 2016. The rules mandate effective waste management by bulk waste generators and empower ULBs to ensure compliance with SWM Rules 2016.

To comply with the rules, ULBs are required to identify the bulk waste generators, prepare and notify byelaws, impose user fees and penalties, handhold bulk generators for implementation and ensuring compliances with various duties as mentioned in the rules. The process could be cumbersome for ULBs without a guide book for compliance by bulk generators. To simplify the process, Ministry of Housing and Urban Affairs is releasing this guide book which provides step by step advice on various steps that need to be followed by ULBs. The guide also presents model documents which can be referred and used by ULBs in the process of Bulk Generator compliance.

**Bulk Solid Waste Generators Compliance –
A Step by Step Guidance for
Urban Local Bodies to implement the
Solid Waste Management Rules, 2016**

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1. BACKGROUND

The Government of India has launched the Swachh Bharat Mission on 2nd October, 2014 with the target to make the country clean by 2nd October, 2019. Various measures have been taken to achieve the target in time bound manner. Solid Waste Management is an important component of the Mission and is to be implemented in all notified Urban Local Bodies. Within solid waste management domain, bulk waste generators can play a significant role in achieving above target.

Realizing the importance of Bulk Waste Generators in management of solid waste, the Government of India has revamped the Municipal Solid Waste (Management and Handling) Rules 2000 and notified the Solid Waste Management Rules, 2016 on April 8, 2016. The Rules mandate for effective solid waste management by bulk waste generators also. Further, they lay emphasis on the duties and responsibilities of waste generators including bulk waste generators with timeframe for implementation and monitoring by the Government/ ULB.

1.1 Definition of Bulk Generator

As per Solid Waste Management Rules 2016, “Bulk Waste Generator” means and includes buildings occupied by the Central Government Departments or Undertakings, State Government Departments or Undertakings, Local Bodies, Public Sector Undertakings or Private Companies, Hospitals, Nursing Homes, Schools, Colleges, Universities, other Educational Institutions, Hostels, Hotels, Commercial Establishments, Markets, Places of Worship, Stadia and Sports Complexes etc having an average waste generation rate exceeding 100kg per day (of all waste streams put together).

1.2 Various indicative categories of Bulk Waste Generators

The broad categories of the bulk generators as per SWM Rules, 2016 as well as their duties assigned are as below:

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4 Duties of waste generators.- (1) Every waste generator shall,-

(6) All resident welfare and market associations shall, within one year from the date of notification of these rules and in partnership with the local body ensure segregation of waste at source by the generators as prescribed in these rules, facilitate collection of segregated waste in separate streams, handover recyclable material to either the authorised waste pickers or the authorised recyclers. The bio-degradable waste shall be processed, treated and disposed off through composting or bio-methanation within the premises as far as possible. The residual waste shall be given to the waste collectors or agency as directed by the local body.

(7) All gated communities and institutions with more than 5,000 sqm area shall, within one year from the date of notification of these rules and in partnership with the local body, ensure segregation of waste at source by the generators as prescribed in these rules, facilitate collection of segregated waste in separate streams, handover recyclable material to either the authorised waste pickers or the authorised recyclers. The bio-degradable waste shall be processed, treated and disposed off through composting or bio-methanation within the premises as far as possible. The residual waste shall be given to the waste collectors or agency as directed by the local body.

(8) All hotels and restaurants shall, within one year from the date of notification of these rules and in partnership with the local body ensure segregation of waste at source as prescribed in these rules, facilitate collection of segregated waste in separate streams, handover recyclable material to either the authorised waste pickers or the authorised recyclers. The bio-degradable waste shall be processed, treated and disposed off through composting or bio-methanation within the premises as far as possible. The residual waste shall be given to the waste collectors or agency as directed by the local body.

Residential	• The cooperative group housing society having more than 300 flats, markets* • Central Government Residential colonies* • RWAs
Commercial	• Restaurant(s) with more than 200 seating capacity* • All 4 and 5 Star Hotel(s)* • Shopping Complex(es)/ Mall(s) having built-up area of more than 5,000 sq.mts.*
Government, Public Sector or Private Bodies	• Central Government Ministries, Departments and Undertakings • State Government Ministries, Departments and Undertakings • Local Bodies • Public Sector Undertakings • Private Sector Offices, Complexes, Buildings
Social Infrastructure	• Hospital(s) / Nursing Home(s) which have more than 200 beds whether private or Government* • Places of Worship • Stadia and Sports Complexes • Clubs • Marriage Halls • Recreation/Entertainment Complexes • Hostel/Schools, Colleges, Universities, Educational & Training Institutions having more than 500 students for accommodation* • Railway Stations / Bus Stations/ Airports etc.

***Bulk Garbage Generators as defined by National Green Tribunal (NGT) in Court Order of Original application No. 199 of 2014 in the matter of Almitra H. Patel Vs UOI and application no. 281 of 2016 in the matter of Kudrat Sandhu Vs Govt. of NCT of Delhi & Govt. of India**

1.3 Duties of Bulk Waste Generator as per SWM Rules, 2016:

- Segregate and store the waste generated in three separate streams namely – (i) bio-degradable (wet waste); (ii) non-biodegradable (dry waste); and (iii) domestic hazardous wastes in suitable bins/containers. Details of various components of municipal solid waste categories in above three categories can be seen at Annexure-1.
- Process wet waste (Bio-degradable waste) to the extent feasible in premises itself and develop a system of reuse of products of processing, that is, compost or biogas etc;
- Handover segregated dry wastes to ULB waste collector or agency authorized by ULB to collect waste on its behalf as per the direction or notification by the local authorities from time to time;
- Handover segregated domestic hazardous wastes to authorised waste pickers or waste collectors as per the direction or notification by the local authorities from time to time;
- Wrap securely the used sanitary waste like diapers, sanitary pads etc., in the pouches provided by the manufacturers or brand owners of these products or in a suitable wrapping material as instructed by the local authorities (such as newspaper, paper etc) and handover separately to waste collector or place the same in the bin meant for dry waste or non- bio-degradable waste;
- Store horticulture waste and garden waste generated from premises separately in own premises and carry out composting in compost pits within the premises. In case of non-availability of land, dispose off as per the directions of the urban local body from time to time;
- Store separately Construction & Demolition waste generated in own premises and dispose off as per the Construction & Demolition Waste Management Rules, 2016
- In addition to above, bulk waste generators are required not to mix E-waste - it should be separately stored as and when generated and should be handed over to recycling chain.

2. STEP BY STEP GUIDANCE TO URBAN LOCAL BODIES TO FACILITATE BULK WASTE GENERATORS TO COMPLY WITH THE DUTIES ASSIGNED AS PER SWM RULES, 2016

2.1 STEP 1: Prepare and notify Byelaws

- The Urban Local body (ULB) will set up a bulk waste generator monitoring cell headed by an Officer designated by the Commissioner/ Chief Officer within the solid waste management department of the ULB.
- ULB needs to bring out adequate provisions for Solid Waste Management, cleanliness and anti-littering in their byelaws. Guidance may be taken from the Draft Rules/ Byelaws published by SBM in Sept 2016. The byelaws must clearly state the User Charges/ Fees along with Fines/ Penalties for non-compliance and related operational issues.
- Further, Byelaws should clearly bring out provisions of SWM Rules 2016 and duties and responsibilities of bulk waste generators and the necessary instructions for them to comply with SWM Rules, 2016. ULBs can adopt stringent norms over and above SWM Rules, 2016 depending on feasibility in its area and in accordance with their vision.
- Even if existing byelaws do not have adequate provisions as mentioned above, ULBs can go ahead with implementing the duties of bulk waste generators in compliance to SWM Rules 2016 and in parallel, modify the existing byelaws.

2.2 STEP 2: Identification of bulk waste generators: Issue Public/ Individual Notices/ Conduct field survey

- Issue Public Notice by the Urban Local Body informing public that the provisions of the SWM Rules, 2016 for Bulk Generators which came into effect from 08.04.2016, is mandated to be complied within one year. Therefore, all bulk waste generators are instructed by ULB to install such onsite waste management facilities within 60 days from the date of publishing of the public notice. Sample Public Notice by ULB for bulk waste generators is given at Annexure-2. While issuing public/individual notices, the option for self-declaration as non-bulk generator shall also be provided as per sample at Annexure-3.
- In addition, ULB to carry out field survey as per its own records to identify Individual bulk waste generators and issue notices to them as per sample placed at Annexure 4 instructing them to comply with SWM Rules 2016 provisions.

2.3 STEP 3: Bulk Waste Generator Identification/Verification Process

The Officers and staff of bulk waste generator monitoring cell will carry out identification/ verification of bulk generators identified through field survey as mentioned in step 2.

It will be done as intensive drive for a month to cover all likely bulk generators.

Later, random verification will continue. If any self-declaration is found untrue, the occupier of the premises will be liable to bulk generator charges/fees from the date of effect as per public notice and in addition, another 100% as penal charges.

Commissioner/ Chief Officer may give authority to Monitoring Cell officials to enter bulk waste generator's premises to search for waste and weigh it on Weighing scales/ benches if need so arises to identify a bulk waste generator.

- The verification shall be done on 3 separate days, during the 1st, 2nd and 3rd week of the month respectively. Verification shall not be done during the 4th/last week of the month.
- The days chosen for verification shall be First- a Sunday/ Gazetted holiday (this will be sufficient to verify self-declarations, to affirm or cancel them); Second- a day before such Sunday/holiday and Third- any working day.
- Visit the premises for verification at time of closing of market/ business or after dinner time or early morning in case of residential complexes
- For de-listing bulk waste generator from ULB list, at least 2 such verifications must show waste is less than 100kg/day and 1 verification may fail by not more than 10 kg/day (i.e., 110 kg/day total). As per this formula, de-listing can be done.
- If claim is found correct, no charges shall be collected & Certificate issued (valid till next verification by the Urban Local Body)
- If certificate (as non-bulk waste generator) fails, penal charges equal to the previous month user fees/ charges shall be levied, in addition to the regular monthly bill.
- ULB has to monitor waste generation from all target premises at least once in 6 to 12 months, preferably during the festival season.
- The option for application for de-classification from bulk generator category at a later date may also be given. (sample at Annexure-5)

2.4 STEP 4: Handholding the Bulk Waste Generators

- The ULB shall extend all necessary technical support and handholding, except financial assistance, to bulk waste generators to set up decentralized waste management facility.

- ULBs may support for utilization of resources/products like compost, gas, recyclable waste if bulk waste generator is not able to utilize these or not able to link up with authorized agencies.
- The ULB can also support by collecting the segregated waste and inert for further processing and disposal, as per its practice.
- The RWAs can jointly set up a decentralized treatment unit or can outsource the waste to any private party to manage their waste on their behalf.
- A checklist for ULBs for periodic monitoring of bulk waste generator's premises is placed at Annexure- 6.
- An indicative table of per capita waste generation by various bulk waste generator is given at Annexure-7 for identifying Bulk Waste Generator.
- A case study of Bruhat Bangalore Mahanagara Palike (BBMP) on Bulk Waste Generators is attached at Annexure- 8, which has successfully implemented provisions of Solid Waste Management Rules 2016, for guidance of ULBs
- The ULB shall be responsible for guiding bulk waste generators with feasible and cost effective on site waste treatment facility. ULB will provide a list of waste treatment options with capital and O&M cost along with the list of vendors as attached at Annexure- 9. The list of vendors is for guidance and bulk generator/ ULB may further verify their technical and financial capacities before awarding work order for any onsite waste processing.

Timelines for Implementation of Bulk Generator responsibility under SWM Rules 2016:

S. No.	Bulk Generator Implementation Activities	Time
1.	Preparatory time -Approval of Bulk Generator Notice, Self-Declaration Formats / de-listing, Bye-laws for user fees/ charges and fines/ penalties (where user charges/ penal provision are not in municipal byelaws same should be incorporated in parallel following due procedures) -Verification Cell- setup & procedure	1-7 days
2.	Public Notice issued	8 th day
3.	Survey and identification of bulk waste generators including examination of claims on self-declaration/ de-listing/ random verification etc.	9-30 days
4.	Procuring, Installation & commissioning/ setting up of decentralized waste management system in bulk waste generator premises	Within 60 Days
5.	Final Date for bulk waste generator to ensure compliance of SWM Rules, 2016	61 st day
6	Monitoring & Evaluation	Continuous

3. ANNEXURE-1: EXAMPLES OF WASTE TYPES:

Biodegradable/ Wet Waste	Non-biodegradable / Dry/ Recyclable Waste	Domestic Hazardous Waste
• Kitchen Waste including: tea leaves, egg shells, fruits and vegetable peels • Meat and Bones • Garden and Leaf litter, including flowers • Soiled paper • House dust after cleaning • Coconut shells • Ashes	• Newspaper • Paper, books and magazines • Glass • Metal objects and wire • Plastics • Cloth Rags • Leather • Rexene • Wood/Furniture • Polystyrene/ Packaging material	• Aerosol cans • Batteries • Bleaches and household kitchen and drain cleaning agents and its container • Car batteries, oil filters and car care products and consumables • Chemicals and solvents and their container • Cosmetic items, chemical based insecticides and their containers • Paints, oils, lubricants, glues, thinners, and their container • Pesticides and herbicides and their container • Photographic audio/video tapes and their containers, • chemicals • Styrofoam and soft foam packaging of furniture, packaging and equipment • Thermometers and mercury-containing products • Discarded medicine and disposable syringes

Lists not exhaustive

4. ANNEXURE-2: SAMPLE PUBLIC NOTICE

Date:

(Name of the Urban Local Body)

Address:

Phones:

Email:

Website:

Whereas the Solid Waste Management (SWM) Rules 2016 notified by the Government on 8.4.2016 mandate the Bulk Generators of municipal waste to carry out certain waste management functions by themselves, the _____ (name of the urban local body), notwithstanding any other rule/provision, hereby directs all Bulk Generators of municipal solid waste defined as generating more than 100 kg of waste per day in total from the identified premises/property/establishment to implement the provisions of the SWM Rules 2016 and the Byelaws thereof notified by the urban local body (available at website at _____) not later than 60 days (by date.....) from the date of this notice, including segregation into 3 (three) categories/streams (Biodegradable, Non-biodegradable and Domestic hazardous waste) at source; storage within premises for door to door collection and in-premises processing and treatment of biodegradable waste. Detailed instructions are available on urban local body website at _____

All RWAs, Market Association Members, Hotels and Restaurants etc as defined will be classified as Bulk Generators unless they submit within the notice period, a self- declaration of generating less than 100 kg of waste from their premises. Such self-declaration will be subject to verification and penal costs (up to Rs._____) if found untrue. Such self-declarations shall be submitted to the urban local body within 20 days (by date.....) of this notice for enabling verification. Self-declarations sent/submitted after the due date will be summarily rejected.

Any violation of the SWM Rules 2016 for bulk generators after 60 days of this notice (after date) will attract penal charges/fines (up to Rs._____) as stated in the byelaws of the urban local body.

The declaration if found false at a later date will attract penalties as per the byelaws of the urban local body.

Place:

(signed)

Authorised Signatory

----- Urban Local Body

5. ANNEXURE-3: SELF DECLARATION FORMAT

Self-Declaration Format

I/We/M/s. ** _____ located at premises _____
_____ (address) _____ (phone) _____ (mobile) _____
(e-mail) am/are a member of _____ RWA/ Market Association/ Hotel/ Restaurant/
_____ (mention trade) and holder of _____ urban local body
occupancy certificate/ Property Tax Assessment No. _____ or trade license
no. _____. The business activity at the premises is _____ or
the premises is used for multipurpose activities/gatherings / domestic / commercial purposes.

I/We/M/s. _____ hereby self-declare that the total daily waste
generated from our premises is 100 kg or less, hence not a bulk generator.

I/We/M/s. _____ understand that the _____ urban local body is free to
enter the premises to check and verify the quantity of waste generated in the premises. During any
such verification, if more than 100 kg waste is found generated, this self-declaration becomes void
and I/we/M/s. can be categorized as bulk generator and _____ urban local body can impose
penal charges as applicable from the date of effect for bulk generator's responsibilities as per public
notice.

(Authorized signatory)
For the Premises Occupier/Owner

To
_____ Urban Local Body
** strike out whatever not applicable

Acknowledgement (please fill-up your details)

Received a self-declaration from Mr/Ms./M/s. ** _____
located at premises _____ (address) _____ (phone)
_____ (mobile) _____ (e-mail), a member of _____ RWA/
Market Association/Hotel/Restaurant/Establishment _____ (mention trade) and
holder of _____ urban local body occupancy certificate/Property Tax
Assessment No. _____ or trade license no. _____, stating that
they are not a bulk generator of waste.

This acknowledgement serves as certificate of exemption from Bulk Generator category and will be
exchanged with a Verification certificate to be issued in due course or cancelled.

Date & Stamp of Urban Local Body:
(Authorized signatory)

** strike out whatever not applicable

6. ANNEXURE-4: INDIVIDUAL NOTICES TO BULK GENERATORS

Notice Format

_____ Urban Local Body

To

RWA/ Market Association/
Hotel/Restaurant/Establishment/
Institution/Building/Place

Subject: Categorization as Bulk Waste Generator for implementing provisions of SWM Rules, 2016- reg.

Sir/Madam/Messers,

Considering the activities/ business carried out at your premises, the competent authority has designated you as Bulk Waste Generator generating more than 100 kg waste/day. Accordingly, you are directed to comply with the provisions of the SWM Rules, 2016 and implement segregation of waste at source, segregated storage within premises, facilitate segregated door-to-door collection and processing & treatment of bio-degradable waste within premises or processing tied-up with a service provider. You will also attract the provisions of bye-laws for municipal solid waste management and costs/fees/charges thereof.

In case you claim not to be a bulk generator you are required to submit a self-declaration to that effect within 20 days otherwise it will be deemed that you have no objection to be classified as a Bulk Generator.

The self-declaration proforma is attached which should be filled up and submitted to the Urban Local Body's designated officers and acknowledgement obtained, which will serve as "Certificate of Non-Bulk Generator" till a verification certificate is issued. In case your self-declaration is found untrue, the same will be cancelled and penal costs/ charges @ double the applicable charges will be levied for the period from effective date to date of verification.

Signed

Authorised Signatory

for the Municipal Commissioner/ Chief Officer

_____ Urban Local Body

7. ANNEXURE-5: APPLICATION FOR DE-LISTING AS BULK GENERATOR

(To be used after 6 months of successful implementation of Bulk Generator SWM Rules)

Application for de-listing as Bulk Generator

To

Urban Local Body

Subject: Application for de-listing as Bulk Generator

I/We/M/s. ** _____ located at premises _____
_____(address) _____ (phone) _____(mobile) _____
(e-mail) am/are a member of _____RWA/ Market Association/ Hotel/ Restaurant/
_____(mention trade) and holder of _____ Urban local body
occupancy certificate/ Property Tax Assessment No. _____ or trade license
no. _____. The business activity at the premises is _____ or
the premises is used for multipurpose activities/gatherings / domestic / commercial purposes.

We have been listed as Bulk Generator by you. But due to better waste management and reduction, we are now consistently generating less than 100 kg/ day of waste. It is requested to verify the waste generated at our premises and de-list us from Bulk Generator category. We will co-operate with the officials verifying our claim without any notice at any time of our business.

We undertake to pay additional one month of our present SWM charges/fees as penalty if our claim fails on verification.

(Authorised signatory)

** strike out whatever not applicable

8. ANNEXURE-6: CHECKLIST FOR PERIODIC VERIFICATION OF PREMISES OF BULK WASTE GENERATORS BY URBAN LOCAL BODY

S No	Activities	Yes / No
1.	Is bulk waste generator segregating the municipal solid waste as per SWM Rules, 2016	
2.	Are all the Segregated wastes being stored in separate bins, containers or bags etc.?	
3.	Has the bulk waste generator demarcated a separate space for the segregation, storage and decentralised processing of municipal solid waste in society, RWA, gated community, market association, etc.?	
4.	Is the bulk waste generator storing separately the Construction and Demolition waste?	
5.	Is the bulk waste generator storing the Garden and Horticulture waste separately?	
6.	Is the bulk waste generator burning any waste?	
7.	Is the bulk waste generator burying any waste?	
8.	Is the bulk waste generator paying user fee/charges for solid waste management	
9.	Is the bulk waste generator intimating the urban local body / authority in case of organizing an event or gathering of more than 100 persons at any of unlicensed premises?	
10.	Is the bulk waste generator handing over recyclable waste to the authorised waste picker or recycler?	
11.	Is the bulk waste generator processing bio-degradable (wet) waste in own premises?	
12.	If so, what is the process – composting or bio-methanation or any other? Please mention.	
13.	Is the bulk waste generator handing over the residual waste from process to the waste collector or agency designated by Urban local authority?	
14.	Is the waste collection organised by RWA, Association?	
15.	If so, is the waste collector an informal rag picker / waste collector?	
16.	Is the Payment to the waste collector made by the association or by the waste generators/premises owners directly?	
17.	Whether the association/complex is using waste collection personnel provided by the Urban local body?	
18.	Is the RWA /Association organizing IEC activities for proper management of municipal solid waste?	
19.	Has the bulk waste generator tied up for authorized agency for collection of segregated waste?	

9. ANNEXURE-7: USER CHARGES/FEES FOR BULK GENERATOR FOR SOLID WASTE MANAGEMENT SERVICES

Following the Polluter Pays Principle, ULBs need to make efforts to estimate waste generation by each entity and levy adequate user charges to recover cost towards collection, segregation, transportation and processing & disposal.

The below mentioned is an indicative list containing waste generated per unit. ULB can notify user charges considering the prevailing factors in the cities and the guidance given below.

User charges are to be levied on the basis of waste generated by the bulk generator.

Indicative waste generation for different category of bulk users may be considered as under (if no actual weighment is available) for estimation of waste generation:

S. No.	Category of Bulk Generator	Criteria	Per unit waste generation (in gms)
1.	Hostel	Per bed per day	300
2.	Hotel/ Guest Houses	Per bed per day	600
3.	Restaurant	Per table per day	2000
4.	Commercial offices, Government offices, Bank, Insurance offices, coaching classes, education institutes etc.	Per capita per day	400
5.	Marriage halls, festival halls, exhibition and fairs	Per capita per day	600

ULBs can adopt any other method/ criteria for estimation of waste generated by bulk user.

Details of user charges along with penalty adopted in South Delhi Municipal Corporation is enclosed for guidance in Schedule I and II.

A discount of 80-90% may be considered for those entities which have set up/ or made arrangements for processing of waste on their own.

SCHEDULE –I

USER FEE FOR SOLID WASTE MANAGEMENT

1	2	3
S. No.	Categories	User Fee from each premises/ House/ Dwelling Unit/ Flat per month (in Rupees)
1.	Residential dwelling unit	
(i)	Up to 50 sq. m.	50
(ii)	Over 50 sq. m. up to 200 sq. m.	100
(iii)	Over 200 sq. m.	200
2.	Street Vendor	100
3.	Commercial establishments, shops, eating places (Dhaba/ sweet shops/ coffee house etc.)	500
4.	Guest House/ Dharmshalas	2,000
5.	Hostel	2,000
6.	Restaurants up to the sitting of 50 persons	2,000
7.	Restaurants with sitting of more than 50 persons	3,000
8.	Hotel (Unstarred)	2,000
9.	Hotel (Up to 3 star)	3,000
10.	Hotel (above 3 star)	5,000
11.	Commercial offices, government offices, bank, insurance offices, coaching classes, educational institutes etc.	2,000
12.	Clinic, dispensary, laboratories (upto 50 beds) only non-bio medical waste	2,000
13.	Clinic, dispensary, laboratories (upto 50 beds) only non-bio medical waste	4,000
14.	Small and cottage industry, workshops, (only non-hazardous waste)	3,000
15.	Godowns, cold storages (only non-hazardous waste)	5,000
16.	Marriage/ Party Halls, festivals halls, Party Lawns, exhibition and fairs	5,000
17.	Clubs, Cinema Halls, Pubs, Multiplexes and other such places	4,000
18.	Any other non-commercial, commercial, religious or charitable institutions not covered in any other category	2,000
19.	Other places/ activity not marked as above	As decided by the Commissioner/ Chief Officer of ULB by general or special order

* Hotels and Restaurants to be counted separately

Late Payment Surcharge (LPSC) shall be charged at the rate of 10% of the user fee/ charges if the user fee/ charges are not paid within 30 days of raising the demand.

SCHEDULE -II

FINE/ PENALITY

S. No.	Rule/ Bye-Laws No.	Offences	Applicable to	Fine for every default (in Rupees)
1.	Rule 4(1) of SWM Rules	Failure to segregate and store waste and handover segregated waste in accordance with the Rules	Residential	200
			Marriage / Party Halls, Festival Halls, Party Lawns, Exhibition and fairs with area less than 5000 sqm.	10,000
			Clubs, Cinema Halls, Pubs, Community Halls, Multiplexes and other such places with area less than 5000 sqm.	5,000
			Other non-residential entities with area less than 5000 sq.m.	500
2.	Rule 4(1) (b) and (d) of SWM Rules	- Failure to deal with sanitary waste in accordance with the Rule - Failure to deal with horticulture waste and garden waste in accordance with the Rule	Residential	200
			Non- Residential	500
3.	Rule 4(1) (c) of SWM Rules	Failure to deal with construction and demolition waste in accordance with the Rule	Residential	1,000
			Non- Residential	5,000
4.	Rule 4(2) of SWM Rules	Open burning of solid waste	Violator	5,000
5.	Rule 4(4) of SWM Rules	Organizing an event or gathering of more than one hundred person at any unlicensed place without following the prescribed procedure	Person(s), who has/ve organized such event or gathering or, on whose behalf such event or gathering has been organized and the event manager(s), if any, who has/ve organized such event or gathering	10,000
6.	Rule 4(5) of SWM Rules	Street vendor failing to deal with waste in accordance with the Rule	Violator	200

7.	Bye-law 13(1) read with Rules 15(g) of SWM Rules	Littering	Offender	500
Fine shall be levied only one in a month for the following violations				
8.	Rule 4(6) of SWM Rules	Failure to deal with waste in accordance with the Rule	Resident Welfare Association	10,000
			Market Association	20,000
9.	Rule 4(7) of SWM Rules	Failure to deal with waste in accordance with the Rule	Gated Community	10,000
			Institution	20,000
10.	Rule 4(8) of SWM Rules	Failure to deal with waste in accordance with the Rule	Hotel	50,000
			Restaurant	20,000
11.	Rule 17(2) of SWM Rules	Selling or marketing of disposable products without a system of collecting back the packaging waste generated due to their production	Manufacturer and/ or Brand Owner	1,00,000
12.	Rule 17(3) of SWM Rules	Failure to take measure in accordance with the Rule	Manufacturer and/ or Brand Owner and/ or marketing companies	50,000
13.	Rule 18 of SWM Rules	Failure to replace fuel requirement by refuse derived fuel	Industrial unit	1,00,000

10. ANNEXURE-8: CASE STUDY- BRUHAT BENGALURU MAHANAGARA PALIKE (BBMP)



Case Study: Bulk Generators Notification in Bengaluru- Issues, Intervention and Results

Place: Bengaluru

Background, Problems and Issues

Bangalore generates nearly 4000 MT of waste every day out of which 35-40% are generated by bulk generators. Bangalore is a city which has been developed in last two decades with the spurring growth of IT industry resulting high population increase in a small span of time. With the increase in population, there were demands of infrastructural developments leading to increase in housing complexes, apartments, schools, hospitals, clubs, hotels, restaurants, etc. Thus, a larger chunk of waste generators in Bangalore falls under the category of bulk generators and left untreated/unprocessed, started causing problems for BBMP to handle the waste. This untreated waste started causing blackspots in the city, unhygienic environment, rotting of waste and inviting citizen protests across the city.

BBMP Intervention

BBMP issued a public notice regarding the delivery and disposal of Municipal Solid Waste from Bulk Generators within BBMP Area, with effect from October 1st, 2012.

As per the notification, Bulk Generator is “any hotel/restaurants, choultry, mall, shopping complex, marriage halls, convention hall, temple, residential apartments (10 units and above), institutions, public offices, railway stations, bus stands or any other residential, commercial or a public entity which generates 100 Kg and more wet waste per day and any other such entity that is specifically identified and notified by the Commissioner as bulk generator”

BBMP also issued notification (Dt. 15.09.2012) which illustrated collection schedule for Bulk Generators as:

Type of Waste	Collection Frequency
Wet waste	Daily Collection
Dry waste	Weekly pickup
Sanitary waste	Daily (separately)
Garden waste	Weekly
E-waste	Quarterly pick up or drop off
Domestic hazardous waste	Quarterly pick up or drop off

The notification focused on managing the waste at its own site (in-situ) and to make own arrangements for the bulk generators. The notification stressed on adopting technologies like biogas units, composting and vermi composting units.

BBMP has made it mandatory for the bulk generators to give their waste (dry, wet and C&D Waste) only to the empannelled vendors by BBMP and to develop a contract between the bulk generators and the empannelled agency.

Results:

1. Majority of the bulk generators especially the resident welfare associations (RWAs) and apartment complexes have started segregating the waste and disposing the waste through appropriate vendors
2. BBMP has been efficiently collecting meat/slaughter house waste from ward No. 6 and 11 which has the highest no. of slaughter houses. Waste is collected from each shop with a fee of Rs. 200/ week from each shop.
3. Festival wastes from Bakri-id, Ganesha and Dusherra festival are being disposed off scientifically for past few years.

BRUHAT BANGALORE MAHANAGARA PALIKE

PUBLIC NOTICE

In exercise of powers conferred by Section 256, 257 and 260 of the Karnataka Municipal Corporations Act, 1976 (Karnataka Act 14 of 1977) and in continuation of the Public Notice dated 15/09/2012, the following Public Notice is hereby issued regarding delivery and disposal of Municipal Solid Waste from **Bulk generators** within the BBMP area, with effect from October 1st 2012.

- (1) Unless the context otherwise requires, the following shall be understood as definitions under this Notice.

Definitions:

- a) **Bulk generators** means any hotel/restaurant, choultry, mall, shopping complex, marriage hall, convention hall, temple, residential apartments (10 units and above), institutions, public offices, railway stations, bus stands or any other residential, commercial or a public entity which generates 100 kg and more wet waste per day and any other such entity that is specifically identified and notified by the Commissioner as bulk generator;
- b) **Shopkeeper** is broadly defined as a person who offers goods or services for sale to the public having a permanent / semi-permanent built up structure;
- c) **Street vendor/hawker** is broadly defined as a person who offers goods or services for sale to the public without having a permanent built up structure but without a temporary static structure or mobile stall or headload;
- d) **Composting** means a controlled process involving microbial decomposition of organic matter; for conversion of bio-degradable waste into compost.

- (2) Bulk Generators shall not mix Wet Waste with any other types of waste. Wet waste and garden waste generated shall be composted at source or processed using bio methanisation technique. Where it is not possible to compost wet waste at site, due to space constraint, alternate arrangements shall be made by the generator to hand over wet waste to private composters or BBMP wet waste collectors, on payment, as specified by concerned Zonal Commissioners.
- (3) Bulk Generators shall retain Dry Waste within their premises to be handed over directly to the nearest authorized Dry Waste Collection Centers.
- (4) Bulk Generators shall cause the Sanitary Wastes to be separately collected by in-house staff and deposited at the nearest Bio-Medical Waste Collection Centre to be specified by the BBMP or arranged by mutual consent.
- (5) BBMP will collect rejects / inerts from the bulk generators once a week on payment basis.
- (6) All shopkeepers/vendors/hawkers shall keep their wet and other waste unmixed in containers/bins at the site of vending for the collection of any waste generated by that vending activity. It will be their responsibility to deliver this waste duly segregated to the authorized waste collectors of BBMP. Failure to do so will attract fines.
- (7) No wastes of any kind shall be deposited at any time by Bulk generators and street shopkeepers/vendors/hawkers on the streets, public spaces or vacant sites and violations will attract fines.

DATE: 20-9-2012

Sd/-
(Rajneesh Goel)
Commissioner
Bruhath Bangalore Mahanagara Palike

11. ANNEXURE-9: LIST OF COMPOST MACHINE MANUFACTURERS

S. No.	Machine	Model	Company Name	Location	Contact Details	Applicability (Ward /city/cluster/field/ household level)	Space Needed	Quantity of Compost produced/ day	Energy Requirement	Price	Warranty	Servicing Details	Sale made to Govt. Agency (Y/N)
1	ECOPOTS		We Farm Techs- DIPP292	CHENNAI	9444295676 vijayanrd@gmail.com	Household- organic waste is fertiliser for plants	40 sq. ft of space for 20 pots for 40 plants	Each 7 liters/ day, 140 liters in 20pots	NIL Veg & Non veg wastes	250Rs/ pot	No moving parts	Nli needed	Yes
2	Microbial Composting technology		NARMADA BIOTECH LTD.	BARWAHA (M.P.)	8989521999 pranayhira@rediffmail.com	Can be used at any Level	75 Sq. Ft./M. Ton Waste	50-70% of treated waste Material	No Power Required	Rs.30000/- per 20 M.tons	N.A.	N.A.	Yes
3	OWC (Organic Waste Converter)	OWC 30 (100kgs/day)	Excel Industries Limited	Mumbai	022-66464342 owc@excelind.com	Apartments Complexes, Corporates Offices, Hotels, Resorts, Schools, Temples, Industry & Hospital Canteens, Marriage Halls etc	150 sqft	30%	2 units / day	Rs. 3,52,000	1 year	Within 48 hours anywhere in India	Yes
4	OWC (Organic Waste Converter)	OWC 60 (200kgs/day)	Excel Industries Limited	Mumbai	022-66464342 owc@excelind.com	Apartments Complexes, Corporates Offices, Hotels, Resorts, Schools, Temples, Industry & Hospital Canteens, Marriage Halls etc	200 sqft	30%	4 units / day	Rs. 4,70,000	1 year	Within 48 hours anywhere in India	Yes
5	OWC (Organic Waste Converter)	OWC 130 (600kgs/day)	Excel Industries Limited	Mumbai	022-66464342 owc@excelind.com	Apartments Complexes, Corporates Offices, Hotels, Resorts, Schools, Temples, Industry & Hospital Canteens, Marriage Halls etc	600 sqft	30%	12 units / day	Rs. 9,40,000	1 year	Within 48 hours anywhere in India	Yes
6	OWC (Organic Waste Converter)	OWC 130 (1000kgs/day)	Excel Industries Limited	Mumbai	022-66464342 owc@excelind.com	Apartments Complexes, Corporates Offices, Hotels, Resorts, Schools, Temples, Industry & Hospital Canteens, Marriage Halls etc	1000 sqft	30%	20 units / day	Rs. 14,05,000	1 year	Within 48 hours anywhere in India	Yes

S. No.	Machine	Model	Company Name	Location	Contact Details	Applicability (Ward /city/cluster/field/ household level)	Space Needed	Quantity of Compost produced/ day	Energy Requirement	Price	Warranty	Servicing Details	Sale made to Govt. Agency (Y/N)
7	OWC (Organic Waste Converter)	OWC 300 (upto 2000kgs/day)	Excel Industries Limited	Mumbai	022-66464342 owc@excelind.com	ULBs, APVC Markets, Municipal Councils, City Councils, Food Processing Industries etc.	2000 sqft	30%	40 units/day	Rs. 27,65,000	1 year	Within 48 hours anywhere in India	Yes
8	OWC (Organic Waste Converter)	OWC 500 (upto 3000kgs/day)	Excel Industries Limited	Mumbai	022-66464342 owc@excelind.com	ULBs, APVC Markets, Municipal Councils, City Councils etc.	3000 sqft	30%	60 units / day	Rs. 39,35,000	1 year	Within 48 hours anywhere in India	Yes
9	Bioneer	Bioneer 50 (50 kgs/day)	Excel Industries Limited	Mumbai	022-66464342 owc@excelind.com	Corporate Offices, Hotels, Resorts, Industrial Canteens, Food Processing Industries, Residential Colonies etc.	75 sqft	10%	5.8 HP	Rs. 5,70,000	1 year	Within 48 hours anywhere in India	Yes
10	Bioneer	Bioneer 100 (100 kgs/day)	Excel Industries Limited	Mumbai	022-66464342 owc@excelind.com	Corporate Offices, Hotels, Resorts, Industrial Canteens, Food Processing Industries, Residential Colonies etc.	100 sqft	10%	9.5 HP	Rs. 7,80,000	1 year	Within 48 hours anywhere in India	Yes
11	Bioneer	Bioneer 200 (200 kgs/day)	Excel Industries Limited	Mumbai	022-66464342 owc@excelind.com	Corporate Offices, Hotels, Resorts, Industrial Canteens, Food Processing Industries, Residential Colonies etc.	200 sqft	10%	15.45 HP	Rs. 9,70,000	1 year	Within 48 hours anywhere in India	Yes
12	Bioneer	Bioneer 300 (300 kgs/day)	Excel Industries Limited	Mumbai	022-66464342 owc@excelind.com	Corporate Offices, Hotels, Resorts, Industrial Canteens, Food Processing Industries, Residential Colonies etc.	300 sqft	10%	19.3 HP	Rs. 11,60,000	1 year	Within 48 hours anywhere in India	Yes
13	Bioneer	Bioneer 400 (400 kgs/day)	Excel Industries Limited	Mumbai	022-66464342 owc@excelind.com	Corporate Offices, Hotels, Resorts, Industrial Canteens, Food Processing Industries, Residential Colonies etc.	400 sqft	10%	29 HP	Rs. 14,50,000	1 year	Within 48 hours anywhere in India	Yes

S. No.	Machine	Model	Company Name	Location	Contact Details	Applicability (Ward /city/cluster/field/ household level)	Space Needed	Quantity of Compost produced/ day	Energy Requirement	Price	Warranty	Servicing Details	Sale made to Govt. Agency (Y/N)
14	EcoComposter		Eco Support Pvt. Ltd.	Thane (Mumbai)	9920461282 / 9892831668 ecosupindia@gmail.com	Cluster Level/Field Level/ Household level	15 sq. m to 100 sq.m	40 kg to 1 tonnes (Depends on capacity) (Capacity 100 kg to 2 tonnes waste/day)	2 Units-15 units/day (Depends on capacity)	Rs. 4 lakhs-30 lakhs	1 year	2 services/ year	Yes
15	Eco Bin					Household level	1 sq. m to 2 sq.m	300 gms. To 2.5 kg (Depends on capacity)	Manual	Rs. 30,000-75,000	1 year	2 services/ year	No
16	Waste to Compost	WTC-25	Bhor Engineering Pvt Ltd	Pune	Mr. Sachin Bhor 9011200000/ 9011010594	Household Level and for Society , Industrial Canteen	25 sq.ft.- L 1430 x H 850 x W 700 mm	10-15 % of Total waste	3 Phase Connection- 1.5 KW				No
17	Waste to Compost	WTC-50	Bhor Engineering Pvt Ltd	Pune	Mr. Sachin Bhor 9011200000/ 9011010594	Society , Industrial Canteen, Education Institutes	30 Sq.ft (L 1500 x H 900 x W 600)	10-15 % of Total waste	3 Phase Connection- 2.2 KW				
18	Waste to Compost	WTC-100	Bhor Engineering Pvt Ltd	Pune	Mr. Sachin Bhor 9011200000/ 9011010594	Society , Industrial Canteen, Education Institutes, city level/ cluster level/field level	40 Sq. ft (L 2100 x H 1200 x W 850)	10-15 % of Total waste	3 Phase Connection- 6.5 KW		1 Year free Warranty from the date of Installation	Service Support Available Within 48 Hours in any part of INDIA	
19	Waste to Compost	WTC-150	Bhor Engineering Pvt Ltd	Pune	Mr. Sachin Bhor 9011200000/ 9011010594	Society , Industrial Canteen, Education Institutes	46 Sq.ft (L 2300 x H 1320 x W 1100)	10-15 % of Total waste	3 Phase Connection- 8.5 KW		1 Year free Warranty from the date of Installation	Service Support Available Within 48 Hours in any part of INDIA	

S. No.	Machine	Model	Company Name	Location	Contact Details	Applicability (Ward /city/cluster/field/ household level)	Space Needed	Quantity of Compost produced/ day	Energy Requirement	Price	Warranty	Servicing Details	Sale made to Govt. Agency (Y/N)
20	Waste to Compost	WTC-250	Bhor Engineering Pvt Ltd	Pune	Mr. Sachin Bhor 9011200000/ 9011010594	Society, Industrial Canteen, city level/ cluster level/field level	56 Sq. ft (L 2500 x H 1500 x W 1200)	10-15 % of Total waste	3 Phase Connection- 13.5 KW		1 Year free Warranty from the date of Installation	Service Support Available Within 48 Hours in any part of INDIA	
21	Waste to Compost	WTC-500	Bhor Engineering Pvt Ltd	Pune	Mr. Sachin Bhor 9011200000/ 9011010594	Ward level/ city level/ cluster level/field level	90 Sq. ft (L 3300 x H 1800 x W 1300)	10-15 % of Total waste	3 Phase Connection- 16 KW		1 Year free Warranty from the date of Installation	Service Support Available Within 48 Hours in any part of INDIA	
22	Waste to Compost	WTC-1000	Bhor Engineering Pvt Ltd	Pune	Mr. Sachin Bhor 9011200000/ 9011010594	Ward level/ city level/ cluster level/field level	30 Sq.ft (L 4200 xH 3000 x W 1800	10-15 % of Total waste	3 Phase Connection- 30 KW		1 Year free Warranty from the date of Installation	Service Support Available Within 48 Hours in any part of INDIA	
23	Waste to Compost	WTC-1500- WTC-5000	Bhor Engineering Pvt Ltd	Pune	Mr. Sachin Bhor 9011200000/ 9011010594	Ward level/ city level/ cluster level/field level	System We provide- Crusher, Screw Press, Conveyor)				1 Year free Warranty from the date of Installation	Service Support Available Within 48 Hours in any part of INDIA	
24	Foodie Capacity	FOODIE Capacity F-25	Ecoman Enviro Solutions Pvt Ltd	Pune	7720999222 parimal@ecoman.in; vaibhav@ecoman.in	We have various kind of Waste to Compost Machine From Capacity F-25 to F-5000, So Applicability (Ward level/ city level/cluster level/ field level/household level)	5.5 x 3 x 3 ft.	Approx 2.5 Kg / Day	1.5 KW /2 HP	Rs 4,05,000 /-	12 Months From the Date of Installation	Service Support Available Within 48 Hours in any part of INDIA	Yes

S. No.	Machine	Model	Company Name	Location	Contact Details	Applicability (Ward /city/cluster/field/ household level)	Space Needed	Quantity of Compost produced/ day	Energy Requirement	Price	Warranty	Servicing Details	Sale made to Govt. Agency (Y/N)
25		FOODIE Capacity F-75					7 x 4 x 4 ft.	Approx 7.5 Kg / Day	3.5 KW/ 5 HP	Rs 6,65,000 /-			Yes
26		FOODIE Capacity F-125					7.5 x 4.5 x 4.5 ft.	Approx 12.5 Kg / Day	5.5 KW/7.5 HP	Rs 9,55,000 /-			Yes
27		FOODIE Capacity F-250					9 x 5.5 x 5.5 ft.	Approx 25 Kg / Day	10.5 KW/ 14 HP	Rs 12,25,000 /-			Yes
28		FOODIE Capacity F-500					12 x 6.5 x 7.5 ft.	Approx 50 Kg / Day	15 KW/ 21 HP	Rs 17,99,000 /-			Yes
29		FOODIE Capacity F-700					13.5 x 7.5 x 8.5 ft.	Approx 70 Kg / Day	25 KW/ 34 HP	Rs 24,78,000 /-			Yes
30		FOODIE Capacity F-1250					16 x 8 x 9.5 ft.	Approx 125 Kg / Day	40 KW/ 54 HP	Rs 35,99,000 /-			Yes
31		FOODIE Capacity F-1000					800 to 1000 Sq Ft	Approx 200 Kg / Day	23 KW / 31 HP	Rs 29,00,000 /-			Yes
32		FOODIE Capacity F-1500					1000 to 1200 Sq Ft	Approx 300 Kg / Day	35 KW / 46 HP	Rs 38,00,000 /-			Yes
33		FOODIE Capacity F-2500					1500 Sq Ft	Approx 500 Kg / Day	46 KW / 60 HP	Rs 55,00,000 /-			Yes
34		FOODIE Capacity F-3000					2000 Sq Ft	Approx 600 Kg / Day	48 KW / 64 HP	Rs 66,00,000 /-			Yes
35		FOODIE Capacity F-5000					3000 Sq Ft	Approx 1000 Kg / Day	73 KW / 97 HP	Rs 94,00,000 /-			Yes
36	Smart Composter Planter (Mini Earth)	Smart Composter Planter (Mini Earth)	EnSURE Consortium	Ghaziabad	9891178641 / 42/43/44/46 ensure consortium@gmail.com	House Hold level	2X2 feet	100-200 Gms	Zero	Rs. 6,000	6 Month	All over India	No

S. No.	Machine	Model	Company Name	Location	Contact Details	Applicability (Ward /city/cluster/field/ household level)	Space Needed	Quantity of Compost produced/ day	Energy Requirement	Price	Warranty	Servicing Details	Sale made to Govt. Agency (Y/N)
37		Smart Composter Planter (Micro Earth)				House Hold level	1.5X1.5 feet	50-100 Gms	Zero	Rs. 4,200	6 Month	All over India	No
38		Easy & Fast Composting				Ward /Cluster /City level	10 Sqm to 1000 Sqm	10-20% of waste input	Yes (Only for shredding)	3 Lac onwards	6 Month	All over India	No
39		Easy Composter				Ward /Cluster /City level	160 Sq. Feet for 1 TPD	10-20% of waste input	Yes	Rs.3Lac -20 Lac	One Year	All over India	No
40		BioCylinder (Kitchen waste to cooking gas plant)				House Hold level to City level	4X4 Feet to Acrs	10-20% of waste input	Yes	Rs.25000/- to Crores	One Year	All over India	No
41		Biomass to Fuel Pellets				Cluster to City level	100Sqm to Acrs	No	Yes	Rs.3Lac -20 Lac	One Year	All over India	No
42		Smart Wormy Composting				Cluster to City level	100Sqm to Acrs	10-20% of waste input	yes	Rs.3Lac -20 Lac	One Year	All over India	No
43		Compost Fast Composting Culture				House Hold level to City level			No	Rs.2000/Kg	No	All over India	No
44		Earth Worms				House Hold level to City level			NO	Rs.700/Kg	No	All over India	No
45	Waste go	Waste go	Waste Management Corporation	New Delhi, India	9811169618 akarora@gmail.com; ajayarora@wastemanage.com mentcorp.com	House hold to City level	100m2 to 5000m2	Depends upon the type of waste input (15-20% of the input)	2HP to 150HP	Rs.5Lac to 5Cr.	Negotiable	All over India	No
46	Green Waste Reprocessor		Clean India Ventures	New Delhi	9871692007, 9910332007 abhishek@graphisads.com	City Level	15ft X18 ft	800-1000kg	20 KW	Rs. 25,000	1 year	Yes, By CML	No
47						Ward Level	20ft X 20ft	100-150 kg	15KW	Rs. 30,000	2 year	Yes, By CML	No
48						Cluster Level	25 ft By 20 ft	1000kg of Fuel Sticks	25KW	Rs. 60,000	3 year	Yes, By CML	No
49						Ward Level	15 ft X 10 ft	80 kg	10KW	Rs. 15,000	4 year	Yes, By CML	No
50						City Level	20 ft X 20 ft	1000kg of Fuel Sticks	25KW	Rs. 60,000	5 year	Yes, By CML	No
51						Ward Level	20 ft X 20 ft	800 kg of Fuel Sticks	18KW	Rs. 20,000	6 year	Yes, By CML	No

S. No.	Machine	Model	Company Name	Location	Contact Details	Applicability (Ward /city/cluster/field/ household level)	Space Needed	Quantity of Compost produced/ day	Energy Requirement	Price	Warranty	Servicing Details	Sale made to Govt. Agency (Y/N)
52	Aerobic Digester	Aerobic Digester (50Kgs / Day Layered)	Shudh-Labh Solutions Pvt Ltd	Bangalore	080-49516689 09880710830 ramanan@sudh-labh.in	Cluster Level upto 70Households	150Sqft / digester	15KGs	Aerobic Digester - no power needed	Rs. 63,000			No
53		Aerobic Digester (35Kgs / Day Layered)	Shudh-Labh Solutions Pvt Ltd	Bangalore	ramanan@sudh-labh.in	Cluster Level upto 50Households	150Sqft / digester	10KGs	Aerobic Digester - no power needed	Rs. 57,000			No
54		Blue Drum Aerobic Digester	Shudh-Labh Solutions Pvt Ltd	Bangalore		Cluster Level upto 10Households	100Sqft / digester	1-2Kgs	Aerobic Digester - no power needed	Rs. 8,000			No
55		Custom Aerobic Digester	Shudh-Labh Solutions Pvt Ltd	Bangalore		Cluster Level	Custom Designed - can utilise available space and process higher quantities - 1 Tonne or 2 Tonnes		Aerobic Digester - no power needed				No
56	Smart Xpress 50	50 kg/day	Smart Enviro Systems	Pune	Mr. Rakeshprashar, Email ID: prashar_rakesh@yahoo. inMobile Number: 09871443052	Field Level	17 m sqr	7.5	300	4,75,000.00	1 Year	Quarterly Visit	Yes
57	Smart Xpress 100	100 kg/day				Field Level	21 m sqr	15	600	5,80,000.00	1 Year	Quarterly Visit	Yes
58	Smart Xpress 200	200 kg/day				Field Level	28 M sqr	30	900	8,75,000.00	1 Year	Quarterly Visit	Yes
59	Smart Xpress 300	300 kg/day				Field Level	28 M sqr	45	1200	12,50,000.00	1 Year	Quarterly Visit	Yes
60	Smart Xpress 500	500 kg/day				Field Level	32 M sqr	150	2400	16,00,000.00	1 Year	Quarterly Visit	Yes
61	Smart Drum Composter 250	250 kg/day				Field Level	40 M sqr	37.5	179	8,50,000.00	1 Year	Quarterly Visit	Yes

S. No.	Machine	Model	Company Name	Location	Contact Details	Applicability (Ward /city/cluster/field/ household level)	Space Needed	Quantity of Compost produced/ day	Energy Requirement	Price	Warranty	Servicing Details	Sale made to Govt. Agency (Y/N)
62	Smart Drum Composter 375	375 kg/day				Field Level	40 M sqr	56.25	224	10,25,000.00	1 Year	Quarterly Visit	Yes
63	Smart Drum Composter 500	500 kg/day				Field Level	47 M sqr	75	269	11,50,000.00	1 Year	Quarterly Visit	Yes
64	Smart Drum Composter 600	600 kg/day				Field Level	47 M sqr	90	269	14,00,000.00	1 Year	Quarterly Visit	Yes
65	Smart Drum Composter 750	750 kg/day				Cluster Level	66 M sqr	112.5	448	17,50,000.00	1 Year	Quarterly Visit	Yes
66	Smart Drum Composter 1000	1000 kg/day				Cluster Level	80 M sqr	150	560	26,00,000.00	1 Year	Quarterly Visit	Yes
67	Smart Drum Composter 2000	2000 kg/day				Cluster Level	168 M sqr	630	783	42,00,000.00	1 Year	Quarterly Visit	Yes
68	R Nature		Reddonatura India Private Limited	Bangalore	Aayush Gupta aayush@reddonatura.com; info@reddonatura.com 080 25200189/080 25276008					25 lac/MT	1 Year		
69	Greenaria Fully Automatic Compost Machine	G-50/G-100/G-125/G-250/G-500/G-750/G-1000/G-1250/G-1500	Aruna Green ventures Pvt ltd	Bangalore	Kumar Subbarao 8861075555/ 88619211617 sales@arunagreen.com	House Hold level to City level				28 LAC	1 Year		
70	Biogas Plant	G-02 to G-5 Million KG											
71	Alfa-Therm Composter- Semi Auto	Compost- Eco-50	Alfa Therm Limited	Delhi/All India	Vijay Saroj -9958692424 vijay@alfatherm.in	We have various capacity of Waste to Compost machine/plant From 5 kgs per day to 2000 TPD	100 SQF	Upto 60%	2.5 HP	As per Capacity	12 Months From the Date of Installation	Service Support Available Within 48 Hours in any part of INDIA	Yes

S. No.	Machine	Model	Company Name	Location	Contact Details	Applicability (Ward /city/cluster/field/ household level)	Space Needed	Quantity of Compost produced/ day	Energy Requirement	Price	Warranty	Servicing Details	Sale made to Govt. Agency (Y/N)
72	Alfa-Therm Composter-Semi Auto	Compost-Eco-100	Alfa Therm Limited	Delhi/All India	Vijay Saroj -9958692424 vijay@alfatherm.in	We have various capacity of Waste to Compost machine/plant From 5 kgs per day to 2000 TPD	200 SQF	Upto 60%	3.5 HP	As per Capacity	12 Months From the Date of Installation	Service Support Available Within 48 Hours in any part of INDIA	Yes
73	Alfa-Therm Composter-Semi Auto	Compost-Eco-400	Alfa Therm Limited	Delhi/All India	Vijay Saroj -9958692424 vijay@alfatherm.in	We have various capacity of Waste to Compost machine/plant From 5 kgs per day to 2000 TPD	300 SQM	Upto 60%	6 HP	As per Capacity	12 Months From the Date of Installation	Service Support Available Within 48 Hours in any part of INDIA	Yes
74	Alfa-Therm Composter-Semi Auto	Compost-Eco-600	Alfa Therm Limited	Delhi/All India	Vijay Saroj -9958692424 vijay@alfatherm.in	We have various capacity of Waste to Compost machine/plant From 5 kgs per day to 2000 TPD	500 SQM	Upto 60%	8 HP	As per Capacity	12 Months From the Date of Installation	Service Support Available Within 48 Hours in any part of INDIA	Yes
75	Alfa-Therm Composter-Semi Auto	Compost-Eco-800	Alfa Therm Limited	Delhi/All India	Vijay Saroj -9958692424 vijay@alfatherm.in	We have various capacity of Waste to Compost machine/plant From 5 kgs per day to 2000 TPD	600 SQM	Upto 60%	16 HP	As per Capacity	12 Months From the Date of Installation	Service Support Available Within 48 Hours in any part of INDIA	Yes
76	Alfa-Therm Composter-Semi Auto	Compost-Eco-2000	Alfa Therm Limited	Delhi/All India	Vijay Saroj -9958692424 vijay@alfatherm.in	We have various capacity of Waste to Compost machine/plant From 5 kgs per day to 2000 TPD	800 SQM	Upto 60%	28 HP	As per Capacity	12 Months From the Date of Installation	Service Support Available Within 48 Hours in any part of INDIA	Yes
77	Alfa-Therm Composter-Semi Auto	Compost-Eco-3000	Alfa Therm Limited	Delhi/All India	Vijay Saroj -9958692424 vijay@alfatherm.in	We have various capacity of Waste to Compost machine/plant From 5 kgs per day to 2000 TPD	2500 SQM	Upto 60%	Customized	As per Capacity	12 Months From the Date of Installation	Service Support Available Within 48 Hours in any part of INDIA	Yes

S. No.	Machine	Model	Company Name	Location	Contact Details	Applicability (Ward /city/cluster/field/ household level)	Space Needed	Quantity of Compost produced/ day	Energy Requirement	Price	Warranty	Servicing Details	Sale made to Govt. Agency (Y/N)
79	Alfa-Therm Composter-Semi Auto	Compost-Eco-5000	Alfa Therm Limited	Delhi/All India	Vijay Saroj -9958692424 vijay@alfatherm.in	We have various capacity of Waste to Compost machine/plant From 5 kgs per day to 2000 TPD	2800 SQM	Upto 60%	Customized	As per Capacity	12 Months From the Date of Installation	Service Support Available Within 48 Hours in any part of INDIA	Yes
80	Alfa-Therm Composter-Fully Auto	Compost 24-10	Alfa Therm Limited	Delhi/All India	Vijay Saroj -9958692424 vijay@alfatherm.in	We have various capacity of Waste to Compost machine/plant From 5 kgs per day to 2000 TPD	25 SQF	Upto 20%	2.5 HP	Rs.285000/-	12 Months From the Date of Installation	Service Support Available Within 48 Hours in any part of INDIA	Yes
81	Alfa-Therm Composter-Fully Auto	Compost 24-25	Alfa Therm Limited	Delhi/All India	Vijay Saroj -9958692424 vijay@alfatherm.in	We have various capacity of Waste to Compost machine/plant From 5 kgs per day to 2000 TPD	50 SQF	Upto 20%	5 HP	Rs.375000/-	12 Months From the Date of Installation	Service Support Available Within 48 Hours in any part of INDIA	Yes
82	Alfa-Therm Composter-Fully Auto	Compost 24-50	Alfa Therm Limited	Delhi/All India	Vijay Saroj -9958692424 vijay@alfatherm.in	We have various capacity of Waste to Compost machine/plant From 5 kgs per day to 2000 TPD	100 SQF	Upto 20%	8 HP	Rs.575000/-	12 Months From the Date of Installation	Service Support Available Within 48 Hours in any part of INDIA	Yes
83	Alfa-Therm Composter-Fully Auto	Compost 24-100	Alfa Therm Limited	Delhi/All India	Vijay Saroj -9958692424 vijay@alfatherm.in	We have various capacity of Waste to Compost machine/plant From 5 kgs per day to 2000 TPD	150 SQF	Upto 20%	13 HP	Rs.735000/-	12 Months From the Date of Installation	Service Support Available Within 48 Hours in any part of INDIA	Yes
84	Alfa-Therm Composter-Fully Auto	Compost 24-200	Alfa Therm Limited	Delhi/All India	Vijay Saroj -9958692424 vijay@alfatherm.in	We have various capacity of Waste to Compost machine/plant From 5 kgs per day to 2000 TPD	250 SQF	Upto 20%	20 HP	Rs.950000/-	12 Months From the Date of Installation	Service Support Available Within 48 Hours in any part of INDIA	Yes

S. No.	Machine	Model	Company Name	Location	Contact Details	Applicability (Ward /city/cluster/field/ household level)	Space Needed	Quantity of Compost produced/ day	Energy Requirement	Price	Warranty	Servicing Details	Sale made to Govt. Agency (Y/N)
85	Alfa-Therm Composter-Fully Auto	Compost 24-300	Alfa Therm Limited	Delhi/All India	Vijay Saroj -9958692424 vijay@alfatherm.in	We have various capacity of Waste to Compost machine/plant From 5 kgs per day to 2000 TPD	400 SQF	Upto 20%	22 HP	Rs.1150000/-	12 Months From the Date of Installation	Service Support Available Within 48 Hours in any part of INDIA	Yes
86	Alfa-Therm Composter-Fully Auto	Compost 24-500	Alfa Therm Limited	Delhi/All India	Vijay Saroj -9958692424 vijay@alfatherm.in	We have various capacity of Waste to Compost machine/plant From 5 kgs per day to 2000 TPD	500 SQF	Upto 20%	27 HP	Rs.1950000/-	12 Months From the Date of Installation	Service Support Available Within 48 Hours in any part of INDIA	Yes
87	Alfa-Therm Composter-Semi Auto	Compost-Eco-800	Alfa Therm Limited	Delhi/All India	Vijay Saroj -9958692424 vijay@alfatherm.in	We have various capacity of Waste to Compost machine/plant From 5 kgs per day to 2000 TPD	600 SQM	Upto 60%	16 HP	As per Capacity	12 Months From the Date of Installation	Service Support Available Within 48 Hours in any part of INDIA	Yes
88	Alfa-Therm Composter-Fully Auto	Compost 24-1000	Alfa Therm Limited	Delhi/All India	Vijay Saroj -9958692424 vijay@alfatherm.in	We have various capacity of Waste to Compost machine/plant From 5 kgs per day to 2000 TPD	1000 SQF	Upto 20%	53 HP	Rs.3750000/-	12 Months From the Date of Installation	Service Support Available Within 48 Hours in any part of INDIA	Yes
89	Alfa-Therm Composter-Fully Auto	Compost 24-2000	Alfa Therm Limited	Delhi/All India	Vijay Saroj -9958692424 vijay@alfatherm.in	We have various capacity of Waste to Compost machine/plant From 5 kgs per day to 2000 TPD	2000 SQF	Upto 20%	Customized	Customized	12 Months From the Date of Installation	Service Support Available Within 48 Hours in any part of INDIA	Yes
90	Alfa-Therm Composter-Fully Auto	Compost 24-5000	Alfa Therm Limited	Delhi/All India	Vijay Saroj -9958692424 vijay@alfatherm.in	We have various capacity of Waste to Compost machine/plant From 5 kgs per day to 2000 TPD	5000 SQF	Upto 20%	Customized	Customized	12 Months From the Date of Installation	Service Support Available Within 48 Hours in any part of INDIA	Yes

S. No.	Machine	Model	Company Name	Location	Contact Details	Applicability (Ward /city/cluster/field/ household level)	Space Needed	Quantity of Compost produced/ day	Energy Requirement	Price	Warranty	Servicing Details	Sale made to Govt. Agency (Y/N)
91	Organic Waste Composting machine	We have various model and capacity	Smart India Solutions	Delhi/ NCR, Uttar Pradesh, Bihar, West Bengal, Mumbai, Orrisa	Md. Naushad Hussain- 9999925361 Email id: info@smartindiasolutions.com, smartindia2030@gmail.com	City/cluster/field/ household level	As per capacity	Upto 70%	As per Capacity	As per Capacity	12 Months From the Date of Installation	Service Support Available Within 48 Hours in any part of INDIA	Yes
92	Organic Compost	1 Kg, 2 Kg, 5 Kg, 10 kg Packet	Smart India Solutions	Delhi/ NCR, Uttar Pradesh, Bihar, West Bengal, Mumbai, Orrisa	Md. Naushad Hussain- 9999925361 Email id: info@smartindiasolutions.com, smartindia2030@gmail.com	City/cluster/field/ household level	NA	NA	NA	As per Capacity	NA	NA	Yes
93	Kwik Composting Accelerator		Earth Care Equipment's	Pune	Dilip Beladar 9890660392 / 7028020135 dilipb@ecepl.com								
94	OWD (Organic Waste Digester)	VG 50-Kg To 3000-Kg	Vermigold Ecotech Pvt Ltd	Mumbai	Mr. Amol Chorghe +919619664810 amol.c@vermigold.com Mr. M.V. Manohar +918884444121 manohar.v@vermigold.com Mr Jaideep Saptarshi jd@vermigold.com www.vermigold.com	Organic-Waste to Vermi-Compost & Vermi-Wash 50-nos- Household to Field / Ward level		10% - Vermi-Compost & 15% - Vermi-Wash ON Actual Organic-Wet & Dry Waste Loaded	3~4 Units/Day Depending on Capacity		-12 Months from the date of Installation	All India within 48 hours	Yes
95	Compact Biogas	250 kg -10000 Kg											



**Ministry of Housing
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