BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
EASTERN ZONE BENCH, KOLKATA
ORIGINAL APPLICATION NO. 207/2025/EZ

In the matter of:
Jana Kalyan Samiti ... Applicant.
Versus

Bhubaneswar Municipal Corporation & Others. .... Respondents

Affidavit on behalf of Bhubaneswar Municipal Corporation, Respondent No. 1.

INDEX

SL	PARTICULARS	ANNEXURE	PAGE
1.	Affidavit		01 to 05
2.	Photocopy of the letter No.13408 dated 30.07.2019 of the Govt. in H & U.D. Department	A/1	06 to 38
3.	Photocopy of Letter No.19700, dated 18.12.2020	B/1	39 to 70
4	Photocopy of Letter dated 20.12.2022	C/1	71 to 139
5	Photocopy of the letter dated 16.10.2019 of Bhubaneswar Municipal Corporation (BMC)	D/1	140 to 143
6	Photocopy of Rule 15(y) of the Solid Waste Management Rules, 2016	E/1	144 to 234

Filed by:

Mr. Rajib Ray,
Advocate,
Bar Association Room No. 13,
High Court, Calcutta
Mob-9830132729/7980422764
Email: rajib.ray.official23@gmail.com

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
EASTERN ZONE BENCH, KOLKATA
ORIGINAL APPLICATION NO.207/2025/EZ

In the matter of:
Jana Kalyan Samiti
... Applicant.

Versus

Bhubaneswar Municipal Corporation & Others.
.... Respondents

Affidavit on behalf of Bhubaneswar Municipal Corporation, Respondent No. 1.

I, Sri N.Ganesh Babu, son of Sri N.Sankar Rao, aged about 38 years, by faith Hindu, by occupation Service, presently working as Deputy Commissioner, Bhubaneswar Municipal Corporation, District-Khurda, do hereby solemnly affirm and state as follows: -

1. I am the Deputy Commissioner (Sanitation) working under the Commissioner, Bhubaneswar Municipal Corporation, being duly authorised to swear this affidavit on behalf of the Respondent No. 1. I have duly consulted the records available in my office and thereafter, I have made myself acquainted with the facts and circumstances of this case and competent to affirm this affidavit.

2. That this counter affidavit is being filed on behalf of the Respondent No. 1 in compliance with the orders passed by this Hon'ble Tribunal and to place on record the true and correct factual position so far as the Department of Fisheries is concerned.

3. That at the outset, this Respondent denies each and every allegation, averment, inference and insinuation made in the Original Application, save and except those specifically admitted herein.

4. That the present Original Application is misconceived, based on incomplete facts, suppression of material documents, and an erroneous interpretation of the Solid Waste Management Rules, 2016, and is liable to be dismissed in limine.

N. Ganesh Babu.
Deputy Commissioner (Sanitation)
Bhubaneswar Municipal Corporation

5. That the Applicant has approached this Hon'ble Tribunal without appreciating the statutory mandate cast upon Urban Local Bodies, including this Respondent, to ensure scientific, decentralised and environmentally sustainable solid waste management, in compliance with directions of the Hon'ble National Green Tribunal and the Government of Odisha.

6. That the Bhubaneswar Municipal Corporation is a statutory local authority responsible for collection, segregation, processing and disposal of municipal solid waste within its territorial jurisdiction, strictly in accordance with the Solid Waste Management Rules, 2016.

7. That in order to comply with Rule 12(a) of the Solid Waste Management Rules, 2016 and pursuant to the directions of the Hon'ble National Green Tribunal in O.A. No. 606 of 2018, the Government of Odisha, Housing & Urban Development Department, issued a Standard Operating Procedure (SOP) on decentralised waste management vide letter dated 30.07.2019, followed by further SOPs dated 18.12.2020 and 20.12.2022.

Photocopies of the said letter No.13408 dated 30.07.2019, etter No.19700, dated 18.12.2020 and letter dtd.20.12.2022 are annexed herewith as Annexure-A/1, B/1 & C/1 respectively.

8. That in consonance with the aforesaid statutory framework, this Respondent identified suitable Government land for establishment of Micro Composting Centers (MCCs) and formally requested the General Administration & Public Grievance Department for allotment of land vide letter dated 16.10.2019, including land at Bharatpur Mouza, Ward No. 22.

Photocopy of the letter dated 16.10.2019 of Bhubaneswar Municipal Corporation (BMC) is annexed here with as Annexure-D/1.

9. The allegation that the Micro Composting Centre (MCC) has been established illegally or arbitrarily is wholly false and misleading. The land in question was identified following due procedure under Rule 12(a) of the Solid Waste Management Rules, 2016 and Government instructions issued by the Revenue & Disaster Management Department.

N. Ganesh Babu
Deputy Commissioner (Sanitation)
Municipal Corporation

GOVERNMENT OF INDIA * JAGYNESWAR RATH * NOTARY Regd. No.-7791/2009 Dist.- Khurda BBSR, Odisha EXP. 11.2.29 9861006174

10. That the Micro Composting Centre (MCC) at Bharatpur forms part of the decentralised waste management model adopted by the State of Odisha, wherein multiple small-capacity facilities are established to reduce transportation distance, fuel consumption, air pollution, and pressure on centralised dumping sites.

11. That it is specifically denied that the Micro Composting Centre (MCC) has been established in violation of any forest law. The land was identified as Government land and was proposed for allotment for public utility purposes. No commercial or private activity is being carried out on the said land.

12. That the allegation that the Micro Composting Centre (MCC) is operating beyond permissible capacity is factually incorrect. The Micro Composting Centre (MCC) at Bharatpur is operating with a capacity of 5 Metric Tonnes Per Day (TPD) or below, strictly in accordance with the SOP issued by the Housing & Urban Development Department.

13. That it is submitted that under Rule 15(y) of the Solid Waste Management Rules, 2016, authorisation from the State Pollution Control Board is required only when the processing capacity exceeds 5 TPD. Since the MCC in question operates within the prescribed limit, the allegation of illegal operation is untenable. Any residual waste not processed at the Bharatpur MCC is scientifically transported to authorised processing facilities, including windrow composting facilities of Bhubaneswar Municipal Corporation (BMC).

Photocopy of Rule 15(y) of the Solid Waste Management Rules, 2016 is annexed here with as Annexure-E/1.

14. That the allegation that the Micro Composting Centre (MCC) causes air, water or noise pollution is denied. The facility is operated strictly as per the SOPs issued by the Government of Odisha, which provide detailed protocols for odour control, leachate management, vector control, and sanitation.

15. That it is submitted that the Micro Composting Centre (MCC) does not have "pen ponds" as alleged. Composting is carried out in scientifically designed compost tubs, as prescribed under the SOP. The outer boundary wall of the Micro Composting Centre (MCC) does not obstruct any sewerage line. Necessary site-

Deputy Commissioner (Sanitation)
Bhubaneswar Municipal Corporation

GOVERNMENT OF INDIA ★ JAGYNESWAR ACHARYA ★ NOTARY Regd. No.-7791/2009 Dist.:- Khurda BBSR, Odisha ENR. 11.2.23 9861005114

specific civil works, including land filling, were undertaken only to ensure safe and hygienic operation of the facility.

16. That the decentralised waste management system adopted by Bhubaneswar Municipal Corporation (BMC) is community-driven, involving Mission Shakti Self Help Groups, Swachha Sathi workers and other stakeholders, thereby generating livelihood, ensuring segregation at source, and reducing environmental burden.

17. That the Applicant has selectively relied upon representations while ignoring the larger public interest involved in scientific waste management for the entire city.

18. That the Applicant has failed to demonstrate any grave environmental damage warranting intervention by this Hon'ble Tribunal. The Application is based on apprehensions and conjectures rather than verified scientific data.

19. That the reliefs sought, if granted, would severely hamper statutory solid waste management functions and result in public health hazards for a much larger population.

20. That it is most respectfully prayed that this Hon'ble Tribunal may be pleased to dismiss the Original Application as being devoid of merit and hold that the Micro Composting Centre at Bharatpur is established and operated in accordance with law.

21. It is respectfully submitted that this answering respondent shall abide by any order or direction, passed by this Hon'ble Tribunal.

22. That the statements made in paragraph 1 to 16 are based on information derived from the record which are usually kept and maintained by the answering respondent in the ordinary course of business and which I belief to be true and rest thereof are my humble submission before this Hon'ble Tribunal.

Prepared in my office

31/1/2026

Jagyneswar Acharya
Notary, Govt. of India
Odisha, BBSR, Dist.- Khurda
Regd. No.-7791/2009
9861006174

31/1/26

Advocate

N. Ganesh Babu.

Deponent

Deputy Commissioner (Sanitation)
Bhubaneswar Municipal Corporation

31 JAN 2026

JAGYNESWAR ACHARYA ★ NOTARY Regd. No.-7791/2009 Dist.- Khurda BBSR, Odisha EXP. 11.2.29 9861006174 ★ GOVERNMENT OF INDIA ★

e-mail : sanitationhud@gmail.com

Government of Odisha
Housing & Urban Development Department,
Odisha Secretariat, Sachivalaya Marg, Bhubaneswar-751001
***

File No.: HUD-SANT-SCH-0026-2019 Letter No.: 13408 Date: 30/7/19

From

Sangramjit Nayak, IAS
Director, Municipal Administration &
Ex-officio Additional Secretary to Government

To

The Municipal Commissioners, Bhubaneswar,Berhampur, Cuttack, Rourkela and Sambalpur
The Executive Officers of all Municipalities and NACs

Sub: SOP on decentralised solid waste management

Madam/Sir,

I would like to draw your attention to the subject and in this connection I am to say that in Letter No. 13089 Dated 24.07.2019 of this Department draft SOP was circulated amongst the ULBs inviting suggestions thereon if any. In the meantime valuable suggestions have been received which have been examined. Taking into consideration the suggestions received, the **Standard Operating Procedure on decentralised solid waste management** has been approved by Government which is enclosed herewith for implementation immediately. The timeline prescribed therein for different stages of operation should be strictly adhered to.

It may be pertinent to mention here that, "solid waste management" has been included as one of the ingredients in the action plan of this Department under **"5-T"** for which special focus may be given to roll out the plan timely. This activity is being very keenly watched by the Hon'ble NGT and the State Level Committee headed by Hon'ble Justice Shri P.K.Mohanty, former Judge, High Court of Orissa.

Yours faithfully,

30/7/2019

Director, Municipal Administration &

//2//

Memo No. 13409 /HUD Date: 30/7/19

Copy along with copy of the enclosures forwarded to the P.S. to the Hon'ble Minister, Panchayati Raj & Drinking Water, Law, Housing & Urban Development for kind information.

30.7.2019
Deputy Secretary to Government

Memo No. 13410 /HUD Date: 30/7/19

Copy along with copy of the enclosures forwarded to the OSD to the Chief Secretary / P.S to the Principal Secretary to Government, H&UD Department for kind information.

30-7-2019
Deputy Secretary to Government

Memo No. 13411 /HUD Date: 30/7/19

Copy along with copy of the enclosures forwarded to the Director, (Environment), Forest & Environment Department / Member Secretary, State Pollution Control Board, Odisha for kind information and necessary action.

30.7.2019
Deputy Secretary to Government

Memo No. 13412 /HUD Date: 30/7/19

Copy along with copy of the enclosures forwarded to all the Collectors / Project Directors, District Urban Development Agency for kind information and necessary action. They are requested to ensure IMPLEMENTATION OF THE DIRECTIVES ISSUED IN THE SOP within the stipulated timeline.

30-7-2019
Deputy Secretary to Government

Memo No. 13413 /HUD Date: 30/7/19

Copy along with copy of the enclosures forwarded to the Team Leader, PMU, SBM (Urban) for information and necessary action.

Standard Operating Procedure

for

Decentralised Solid Waste Management in the State of Odisha

July, 2019

Housing & Urban Development Department

Government of Odisha

TABLE OF CONTENTS

The Solid Waste Management Rules, 2016 (herein after referred to as "The Rules") came into force with effect from 8th April, 2016. In order to facilitate implementation of various provisions of the Rules, this Standard Operating Procedure (SOP) has been prepared for implementation by the Urban Local Body (ULB).

1. Collection of Basic Statistics:

i. Map of ULB with ward boundary, roads, parks, bulk waste generators, commercial areas and other important land masses, etc.

ii. Demographic details:

Sl. No.	Ward No.	No. of Households	Population
1	Ward – 1		
2	Ward – 2		

2. Quantification of Waste Generation:

i. ULBs are required to conduct quantification of waste through sample survey for a duration of ten days as mentioned below:

a. Select a few households in each ward which have to be representative in nature

b. Record the number of family members of each households

c. Collect segregated waste for consecutive 10 days from the same households

d. Weigh the dry and wet waste separately every day and record in a register

e. Calculate Average per capita waste generation for ULB based on the above Sampling.

3. Assessment of Human Resources:

3.1 Engagement of Swachha Sathi:

Swachha Sathi would be the Community Link & act as a change agent to bring about collective behavioural changes in the household level in the ward areas towards door-to-door collection of segregated waste and to ensure decentralised composting of wet waste & collection of dry waste.

3.2 Who could be a Swachha Sathi?

(i) One of the Dynamic WSHGs of that locality will nominate suitable members as Swachha Sathi for different areas in the assigned wards having educational qualification not below +2 level (preferably). However, the educational qualification may be relaxed in case of non-availability of suitable candidate.

(ii) WSHG member having experience in community mobilisation and keen interest to work towards Solid Waste Management may be given preference by the WSHG.

(iii) Persons having criminal track records, political affiliation should not be used as Swachha Sathi.

(iv) ULB may also explore the possibility of engaging the services of Area Level Federation (ALF) wherever they are active & dynamic for performing this.

3.3 Role and Responsibilities of Swachha Sathi:

(i) Swachha Sathi should sensitise all households in the locality to do the source segregation at household level itself.

(ii) If people are not doing source segregation at home, she must demonstrate the source segregation before the family members in the premises of the house while collecting the garbage.

(iii) Swachha Sathi must sensitise local markets/Schools / institutions / Parks regarding Source segregation and demonstrate the same for better understanding.

(iv) She must generate awareness regarding various method of composting preferably Micro Composting in the locality.

(v) She must explain and sensitise people about Micro Composting and may provide handholding support and guide the people for undertaking Micro Composting Centre (MCC) facilities by the individual households / bulk waste generators.

(vi) She has to assist ULB in undertaking IEC activities in the locality.

(vii) The ULB will have dealing only with the WSHG & not with any individual Swachha Sathi.

(vi) The incentive will be given directly to the Bank Account of the WSHG and not to the Swachha Sathi (Member of the WSHG).The Groups are free to use one or more members for performing the assigned responsibilities.

3.4 Coverage & incentive to Swachha Sathi:

An incentive of Rupees 4000/- per month may be paid to the WSHG / ALF for every 600 households by the ULB on the basis of the work done by it.

3.5 Capacity Building of Swachha Sathi / WSHG / ALF:

ULB will organise orientation sessions/meetings for Swachha Sathi / WSHG / ALF to make them aware about different components of Solid Waste Management to improve their performance.

3.6 Assessment of performance:

The ULB authority must assess the performance of Swachha Sathis and may take needful action for better result either by replacing the existing Swachha Sathi / WSHG / ALF or through proper reorientation of the approach.

3.7 Sanitation Workers

Existing Sanitation workers shall be redeployed keeping in view of the revised strategy of decentralised MCC for smooth and effective collection of segregated waste. The ULB should make an **Action Plan** indicating the street, no of households, vehicle number, time of collection of waste, delivery of wet waste in the MCC/OCC, time and location for unloading of saleable and non- saleable dry waste , supervision mechanism etc. with an ultimate objective of **Zero discharge to the Land fill site**.

3.8 Engagement of Supervisors:

(i) The ALF / WSHG may identify one Supervisor to monitor, support & supervise the functioning and performance of Swachha Sathis engaged for every 2400 households (roughly four Swachha Sathis).

(ii) Incentive for Supervisors will be paid at the rate of up to Rs. 8000/- per month for every 2400 households to the ALF / WSHGs.

(iii) The Supervisors may also be from among the Women Self-help Group members / ALF functioning in those wards/clusters having graduation as minimum qualification (subject to availability).

(iv) For the aforesaid purpose, wards / cluster of wards as deemed suitable taking in to consideration various factors such as: density of population, geographical extension, etc. may be assigned.

3.9 OSD, Sanitation:

In case of Municipal Corporations and other large ULBs another tier of Officers designated as **OSD, Sanitation** may be identified from among the existing staff of ULBs and exclusive responsibility may be given with job chart and other logistics.

4. Identification of suitable land for establishment of Micro Composting Centre (MCC) and On-Site Composting Centre (OCC)

i. In consonance with provisions contained under rule 12(a) of the Rules the Collector shall facilitate identification and allocation of suitable land (including advance possession) at various locations in the ULB as per the table below. The instructions issued by Revenue & Disaster Management Department in Letter No. 17241 Dated 20.06.2019 may be followed.

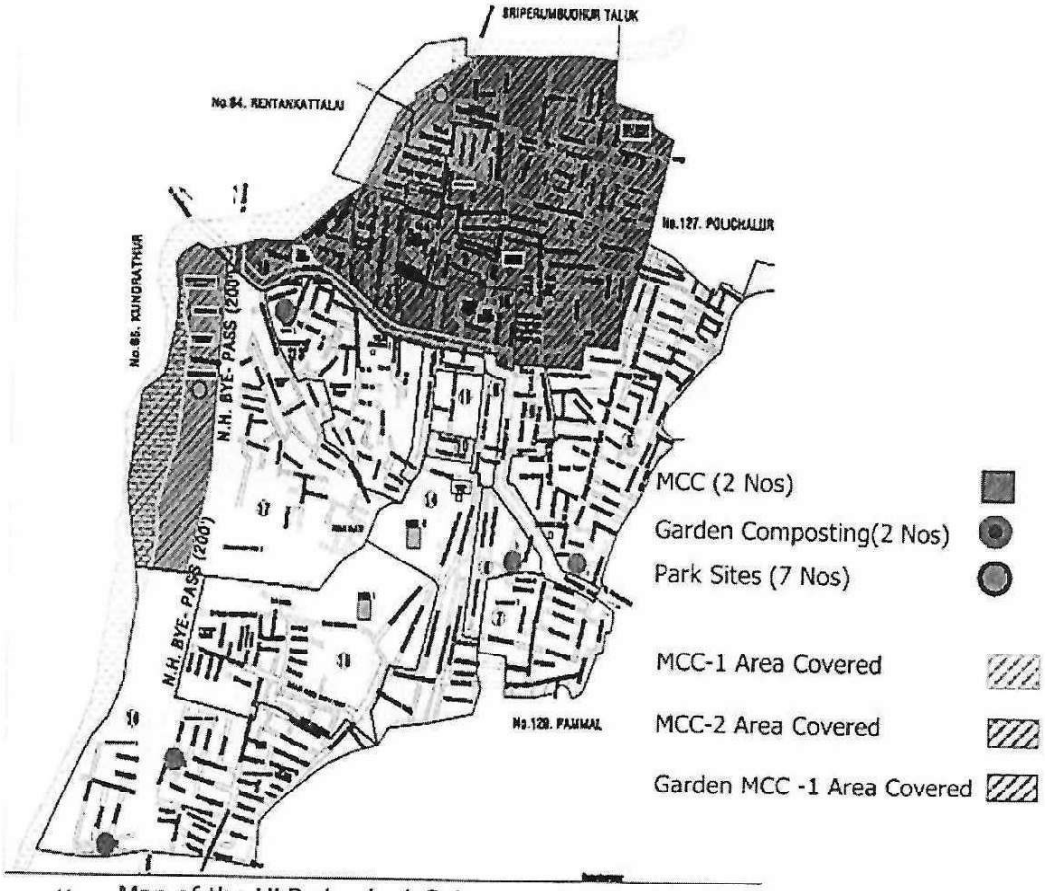
Processing Capacity of Bio-degradable waste in Tons Per Day	No. of Tubs	Size of Each Tub	Required Area for Processing Centre in Square Meter*
5	14	3.9mx 1.8m x 1.0m	600
4	14	3.0m x 2.0m x 1.0m	410
3	14	3.0m x 1.5m x 1.0m	360
2	14	2.4m x1.2m x 1.0m	260
1.5	14	2.0m x1.2m x 1.0m	200

* Facilities for provisioning of shredding machine with conveyor belt, sieving machine, weighing machine, office room, wash rooms (for men and women separately), etc. should be provided.

ii. Based on the extent of land available, capacity of Micro Composting Centre (MCC) may be determined and suitably located.

iii. For example, a land parcel of 410 square meter can be used for establishing MCC of 4 Tons per Day (TPD) capacity.

iv. Based on the capacity of MCC, the coverage area comprising ward(s) can be determined.



v. Map of the ULB clearly defining ward(s) attached to MCC shall be prepared in different colours and legends.

vi. For example, a 1.5 TPD MCC can get waste from 10,000 people that is about 2,220 households. Hence, the coverage area of 2,220 households shall be delineated.

Calculation:

Capacity of MCC = 1.5 TPD = 15,00,000 grams per day

Per capita waste generation (assumed) = 300 grams per day

Bio-degradable per capita waste generation (assumed 50%) = 150 gram per day

The MCC can cover (15,00,000 grams per day / 150 gram per day) = 10,000 population

10,000 population = 10,000/4.5 = 2,222 Households (Assumed population per Household = 4.5)

Hence, a 1.5 TPD MCC can cater to 10,000 population that is about 2,220 households.

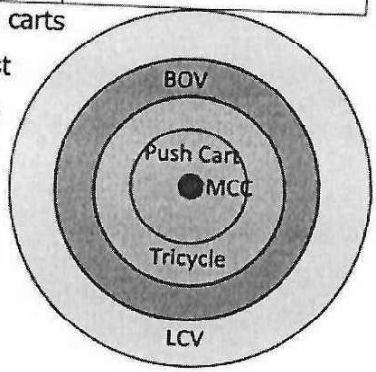
vii. It should be ensured that for each MCC/OCC at least three numbers of Sanitation Workers are tagged and accordingly, requirement should be assessed & job responsibility should be shared.

5. Assessment of Vehicles

i. After wards are being tagged with MCC (duly reflected in the ULB map) number of vehicles required for door-to-door collection (for 5 hours duration) and for transportation to MCC can be assessed as per the table below.

Vehicle Type	Number of Households to be covered	Staff Required
Push Cart	150 - 250	1 person per push cart
Tricycle	200 - 300	2 persons per Tricycle
Battery Operated Vehicles (BOV)	400 - 500	2 persons per BOV
Light Commercial Vehicles (LCV) having 500 to 700 kg capacity	1,000	3 persons per LCV

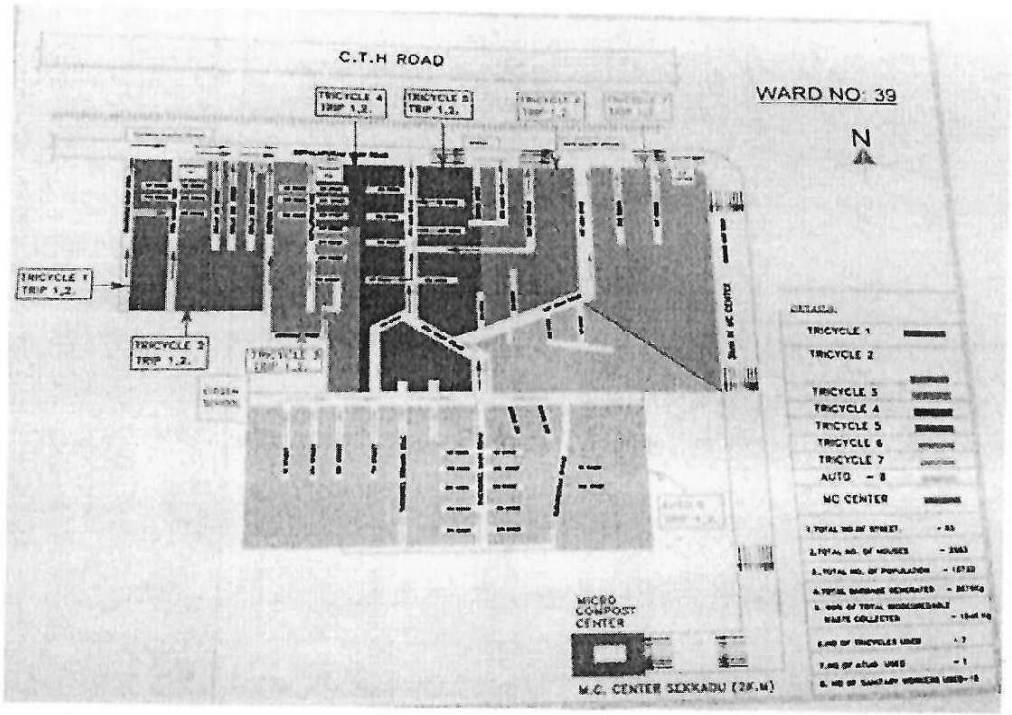
ii. For optimum utilization of resources, push carts shall be engaged for the households nearest to the MCC, tricycles to the households a little farther from MCC. Similarly, BOVs and LCVs should be assigned to households in that sequence which may be assumed in shape of four concentric circles.



iii. Proper assessment has to be made for procurement of small vehicles to cover all category of streets by following due procedure. The assessment should take the available vehicles and other transporting machineries into consideration.

6. Preparation of Route Maps

i. Assign vehicles to collect segregated waste from specific areas for each trip to MCC. Prepare vehicle-wise Route Maps and fix the target of solid waste to be collected by every vehicle.



ii. A register with title "Vehicle Deployment and Waste Collection Register" shall be maintained as per format mentioned below in every MCC. This register will help to ascertain amount of solid waste that should have been collected vis-à-vis the amount actually reached the MCC, thereby analysing the gap for the shortfall quantity. It will help in evaluating performance of each staff attached to the MCC concerned in collecting solid waste from household level on day-to-day basis.

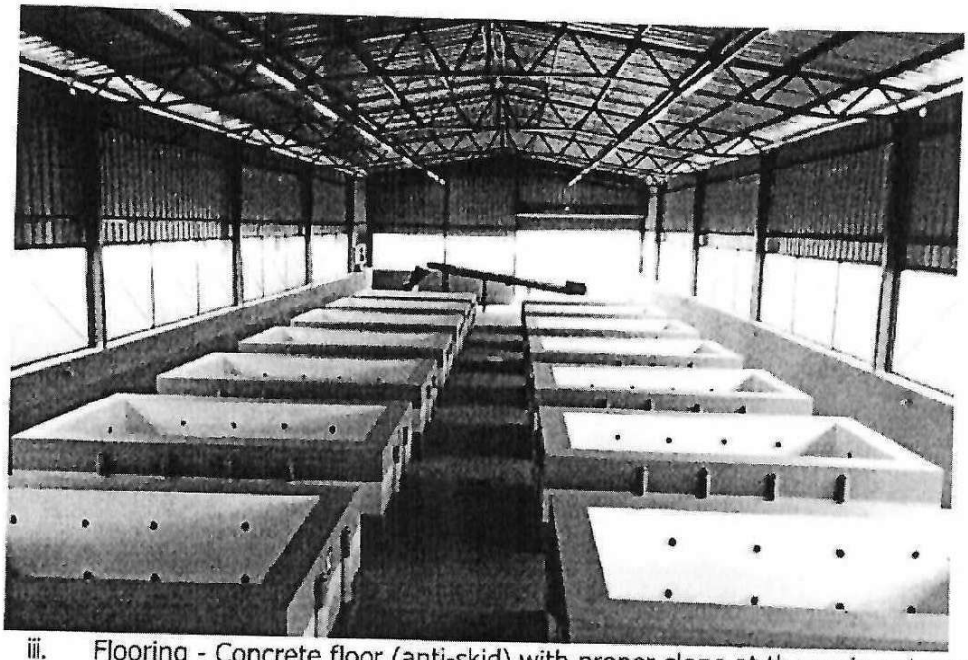
Trip No.	Location of MCC	Vehicle Registration No. & Type	Name of the Driver & Mobile No.	Streets / Area covered	No. of Households covered(Through Swachh-Sathi survey)	No. of Population covered(Household × 4.5) (Col.6×4.5)	Quantity of MSW generation (Population × per capita waste generation)(Col. 7 × 0.3kg)	Quantity of organic waste (50% of total quantity of waste generation) (Col. 8 × 0.50) in kg	Remarks
1	2	3	4	5	6	7	8	9	10
Trip 1									
Trip 2									

iii. The vehicle-wise Route maps to be displayed on the wall of MCC.

7. Layout of Micro Composting Centre

i. Roofing - Truss with corrugated sheets for roofing may be used

ii. Side Wall - For proper ventilation and protection, wire mesh with appropriate gaping may be used.



iii. Flooring - Concrete floor (anti-skid) with proper slope at the main entrance of the MCC may be constructed.

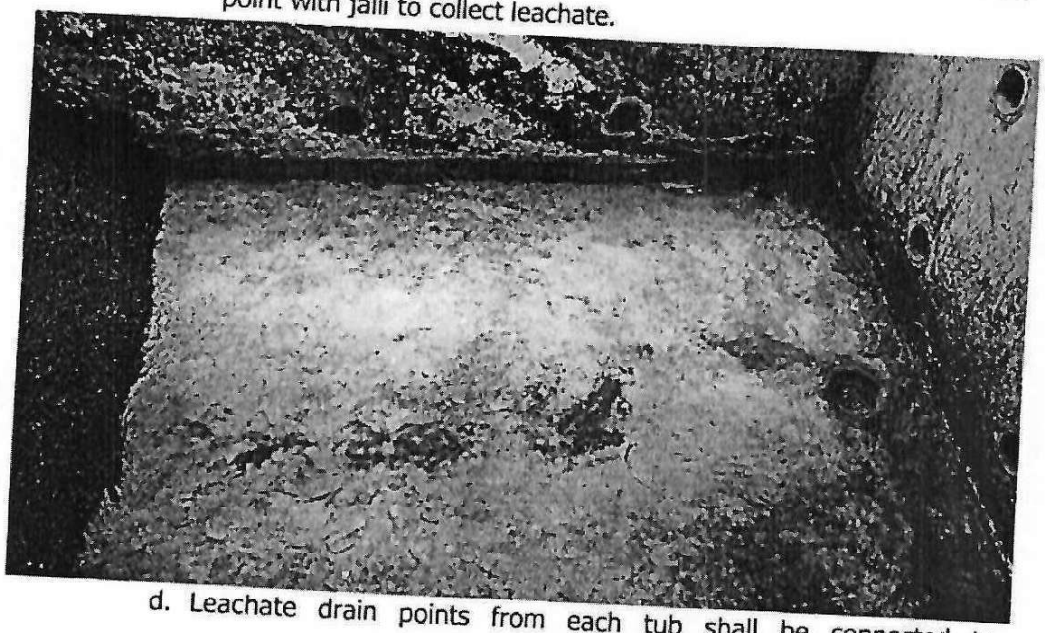
iv. Tubs:

a. The MCC will have 14 tubs in two trains of 7 tubs in each train.

b. Each Tub may have dimensions as indicated below

Processing Capacity of Bio-degradable waste in Tons Per Day	No. of Tubs	Size of Each Tub	Required Area for Processing Centre in Square Meter
5	14	3.9mx 1.8m x 1.0m	600
4	14	3.0m x 2.0m x 1.0m	410
3	14	3.0m x 1.5m x 1.0m	360
2	14	2.4m x1.2m x 1.0m	260
1.5	14	2.0m x1.2m x 1.0m	200

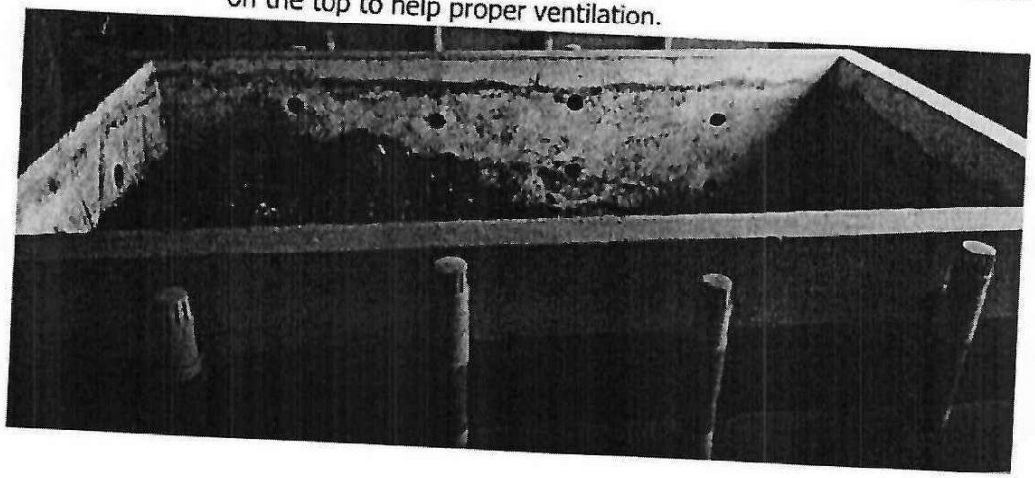
c. The floor of each tub shall be sloped to one side and have a drain point with jalli to collect leachate.



d. Leachate drain points from each tub shall be connected to underground pipes to form a leachate drainage network and connected to a chamber for safe collection.

e. The accumulated leachate will be rich in bacterial consortium and can be used as inoculum. The leachate can be sprinkled a little on the waste in tubs. But too much of liquid may block the pores that will create anaerobic condition in the tubs.

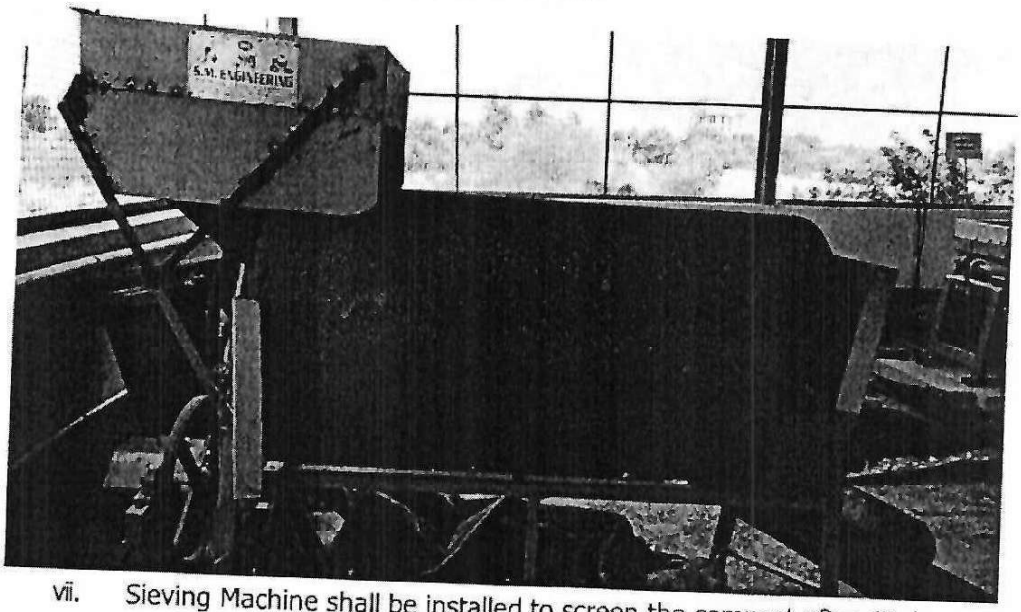
f. Each tub will have sufficient number of holes on the side walls. The holes will be connected through pipes and will have a cowl installed on the top to help proper ventilation.



g. There shall be adequate space for movement (approximately 1 meter) around each tub.

v. Digital Weighing machine shall be installed to record the received waste.

vi. Shredding Machine with conveyor belt shall be placed at the receiving bay to shred the waste to 20-40 mm size.



vii. Sieving Machine shall be installed to screen the compost after 40 days.

viii. Fly traps should be installed to control fly nuisance.

ix. Storage room /Godown to be provided for storing finished product.

x. Napkin Incinerator should be placed for disposal of sanitary napkins.

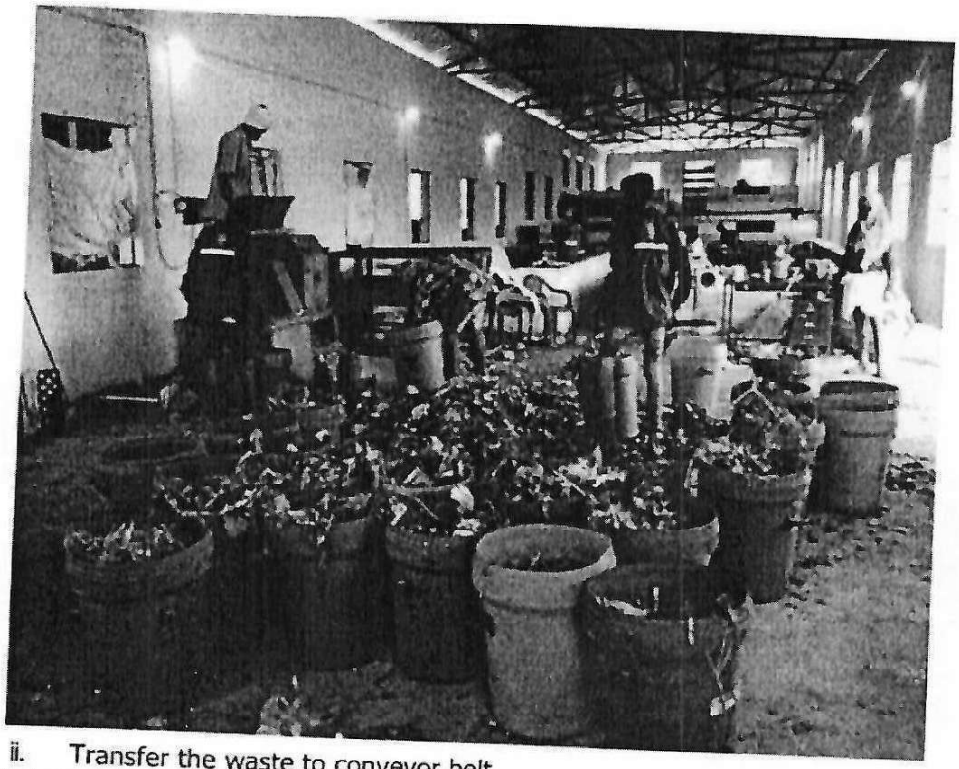
xi. Attached toilets should be provided separately for men and women.

xii. Adequate Water supply and Electrical arrangements to be provided.

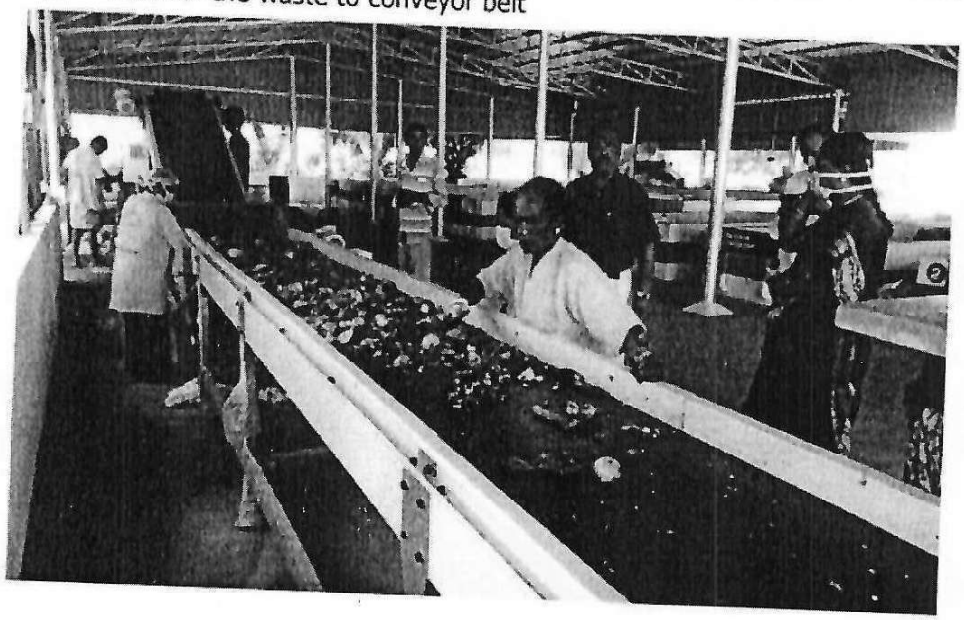
xiii. Biometric attendance system to be installed.

8. Preparation of Bio-degradable Waste

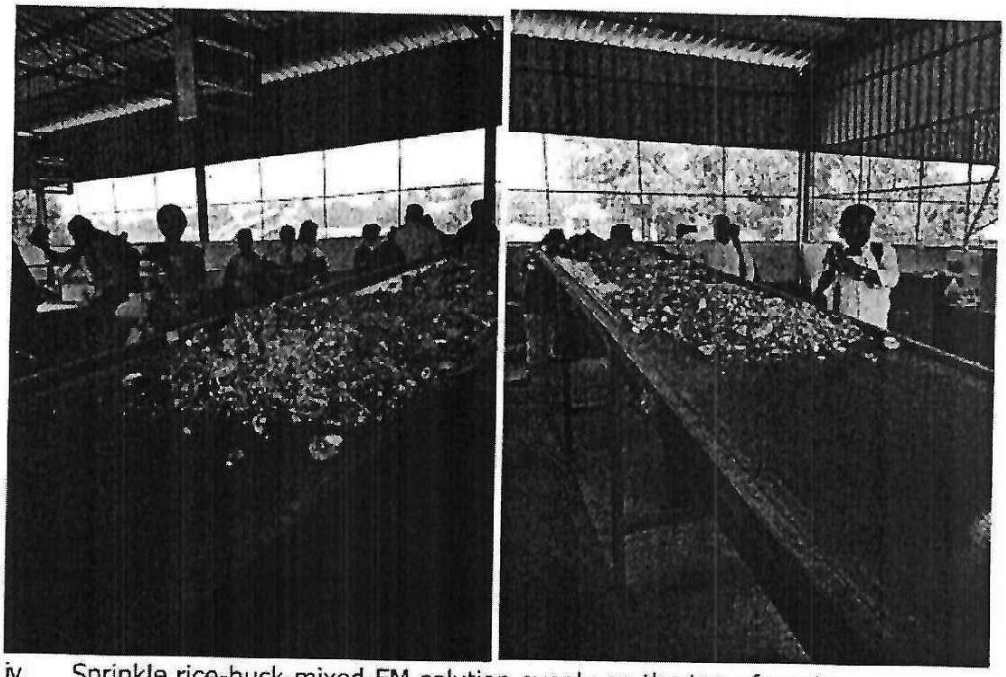
i. Unload the bio-degradable waste in waste receiving yard after noting down the weight.



ii. Transfer the waste to conveyor belt

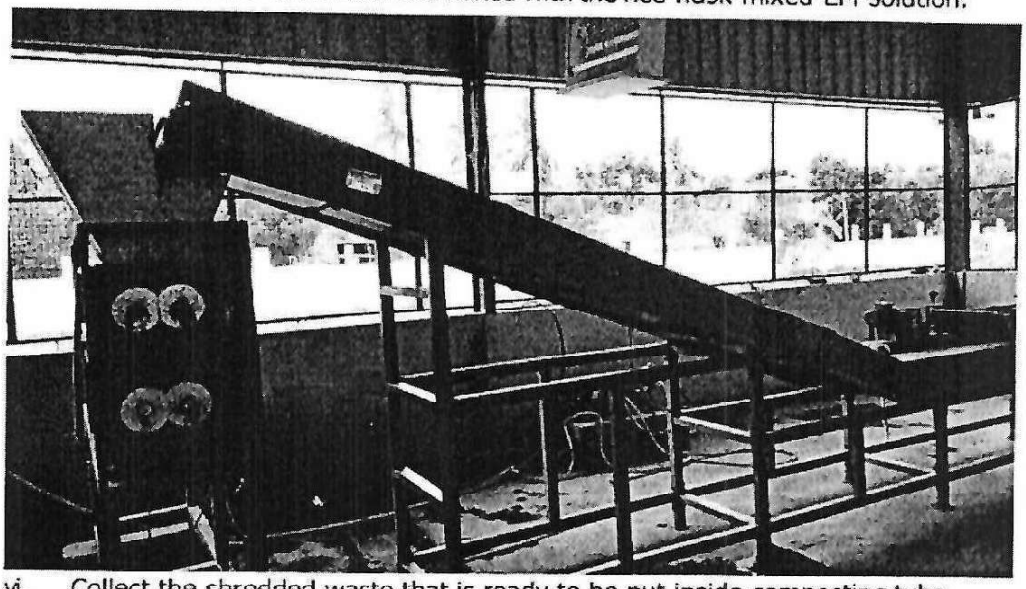


iii. Spread the waste manually across width of the conveyor belt and segregating the waste further to ensure all non-biodegradable wastes are removed



iv. Sprinkle rice-husk-mixed-EM-solution evenly on the top of waste.

v. While passing through the shredder, the biodegradable waste will get shredded to 20-40mm size and mixed with the rice-husk-mixed-EM-solution.



vi. Collect the shredded waste that is ready to be put inside composting tubs.

9. Preparation of Compost Tub to Receive Shredded Waste for First Time

i. Before putting waste in the compost tub for 1st time, bio-dozing has to be done by placing a layer of 2-inch-thick dry cow dung at the floor of each tub.

ii. The tub is now ready to receive the shredded biodegradable waste mixed with the rice-husk-mixed-EM-solution.

iii. Place the waste inside the tub and carry on the same process for next tub on next day.

10. Composting Process

i. On 1st day, put the shredded waste mixed with prepared media in 1st tub.

ii. On 2nd day, put the shredded waste mixed with prepared media in 2nd tub.

iii. This method is to be continued till 7th day, on which the shredded waste mixed with prepared media will be put in 7th tub.

iv. The sequence of putting waste in tubs is: 1st day - 1st tub, 2ndday - 2ndtub, 3rdday - 3rdtub, 4thday - 4thtub, 5thday - 5thtub, 6thday - 6thtub, 7thday - 7thtub.

v. Turn the waste up and down once in every five days for better aeration.

vi. With each passing day, the waste will degrade due to bacterial activity and there will be reduction in volume of waste. The colour of the waste will slowly turn brown and ultimately become black in final stage.

vii. On 8th day, the waste in 1st tub would have degraded with considerable reduction in its volume. Put the freshly shredded waste mixed with prepared media again in 1sttub, on the top of 7-days-old waste.

viii. On 9th day, the freshly shredded waste mixed with prepared media will be put again in 2nd tub, on the top of 7-days-old waste.

ix. This method is to be continued till 14thday, on which the shredded waste mixed with prepared media will be put in 7th tub.

x. The sequence of putting waste in tubs is: 8th day - 1st tub, 9thday - 2ndtub, 10thday - 3rdtub, 11thday - 4thtub, 12thday - 5thtub, 13thday - 6thtub, 14thday - 7thtub.

xi. On 15thday, the waste in 1st tub would have degraded with considerable reduction in its volume. Put the freshly shredded waste mixed with prepared media again in 1st tub, on the top of 14-days-old waste.

xii. On 16th day, the freshly shredded waste mixed with prepared media will be put again in 2nd tub, on the top of 14-days-old waste.

xiii. This method is to be continued till 21st day, on which the shredded waste mixed with prepared media will be put in 7th tub.

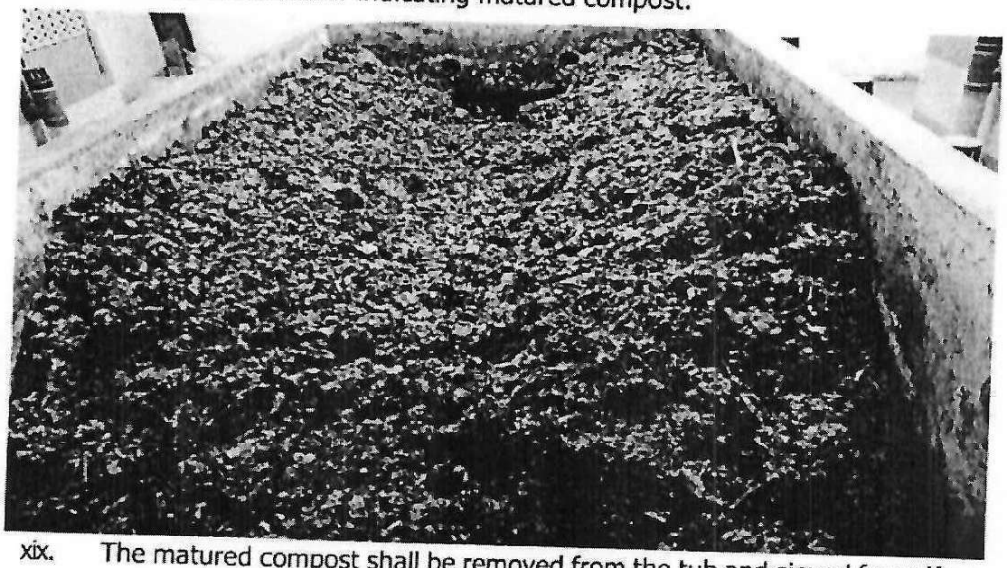
xiv. The sequence is: 15thday - 1st tub, 16thday - 2ndtub, 17thday - 3rdtub, 18thday - 4thtub, 19thday - 5thtub, 20thday - 6thtub, 21stday - 7thtub.

xv. After 21st day, the 2nd train of seven tubs will be put to use in the same manner.

xvi. The sequence of putting waste in tubs is: 22nd day - 8th tub, 23rd day - 9th tub, 24th day - 10th tub, 25th day - 11th tub, 26th day - 12th tub, 27th day - 13th tub, 28th day - 14th tub, 28th day - 14th tub, 29th day - 8th tub, 30th day - 9th tub, 31st day - 10th tub, 32ndday - 11thtub, 33rdday - 12thtub, 34thday - 13thtub, 35thday - 14thtub, 36thday - 8thtub, 37thday - 9thtub, 38thday - 10thtub, 39thday - 11thtub, 40thday - 12thtub, 41stday - 13thtub, 42ndday - 14thtub.

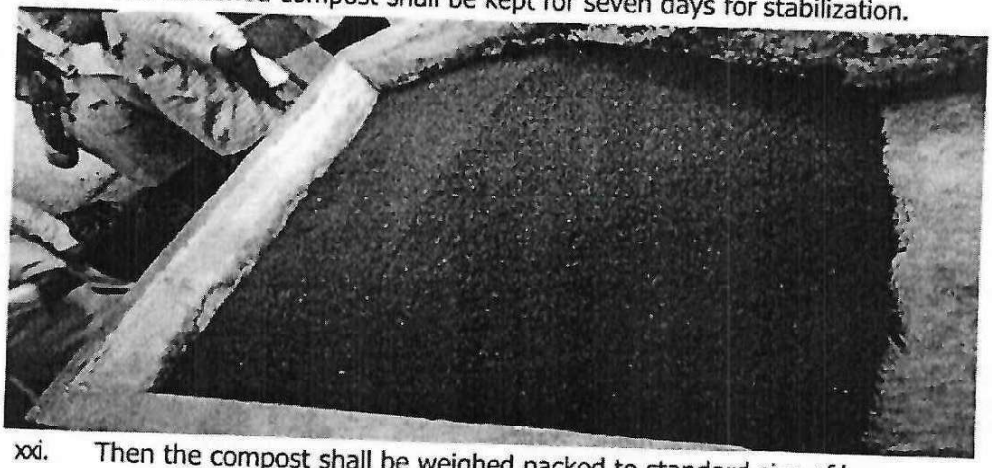
xvii. During these 21 days from 22nd day to 42nd day, the waste in all seven tubs in 1st train will be turned up and down for aeration but no fresh waste will be added.

xviii. After 40 days of adding waste in any tub, the waste in the tub would have turned black colour indicating matured compost.



xix. The matured compost shall be removed from the tub and sieved for uniform size. The rejects from the sieving shall be put again in the tub for further decomposition.

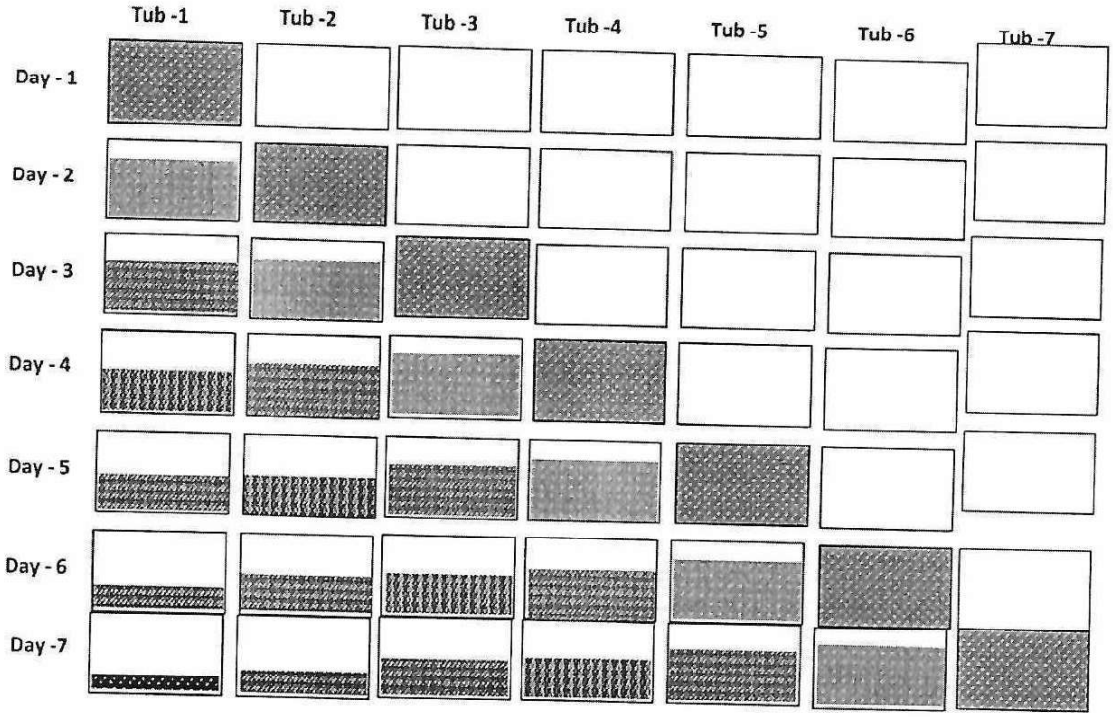
xx. The screened compost shall be kept for seven days for stabilization.



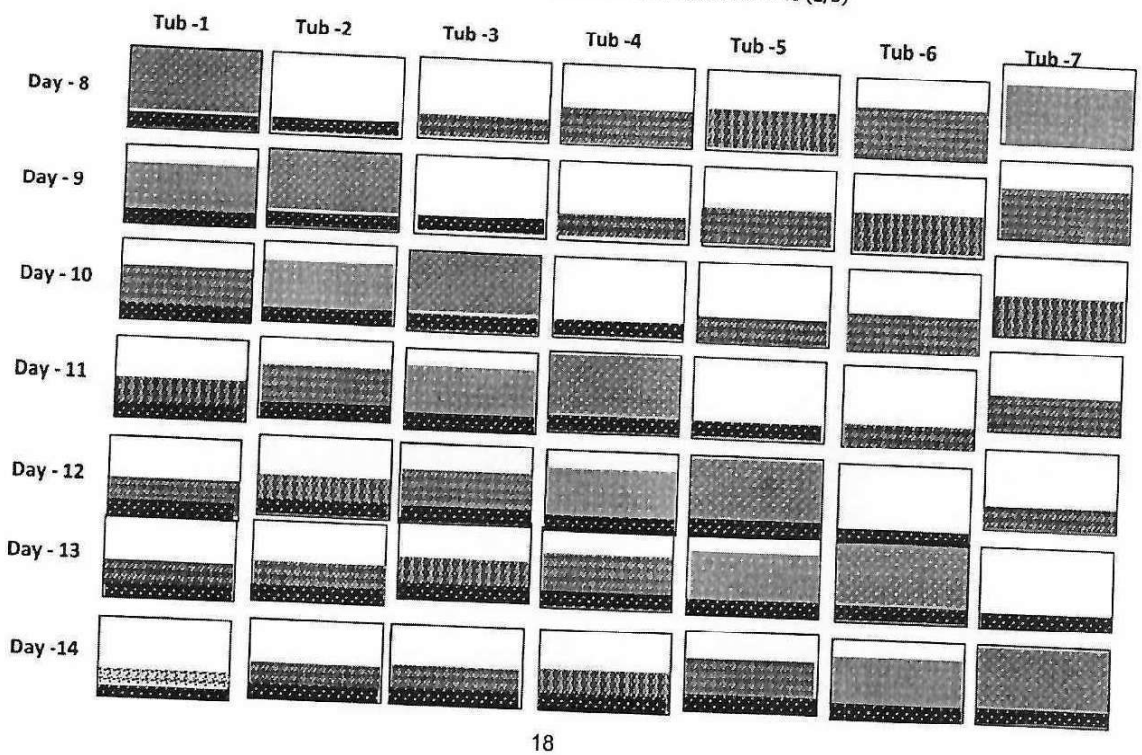
xxi. Then the compost shall be weighed packed to standard size of bags.

xxii. The stock register and sale register are to be maintained.

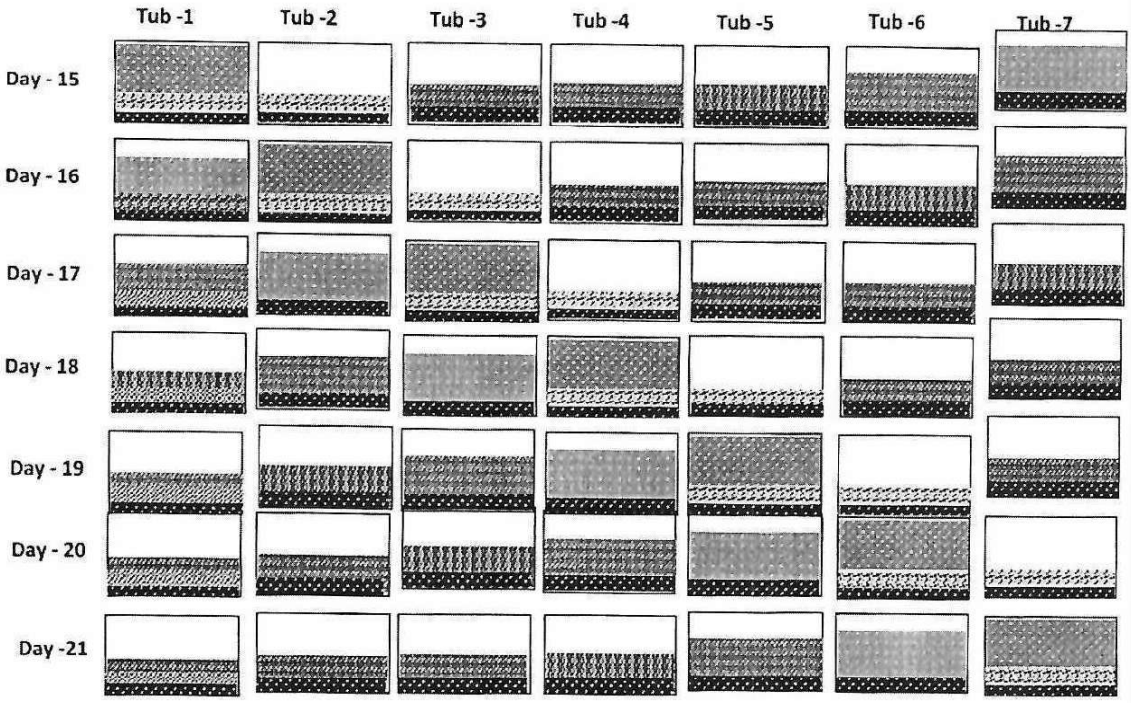
Micro Composting Process of Train-1 Comprising Seven Tubs (1/3)



Micro Composting Process of Train-1 Comprising Seven Tubs (2/3)



Micro Composting Process of Train-1 Comprising Seven Tubs (3/3)



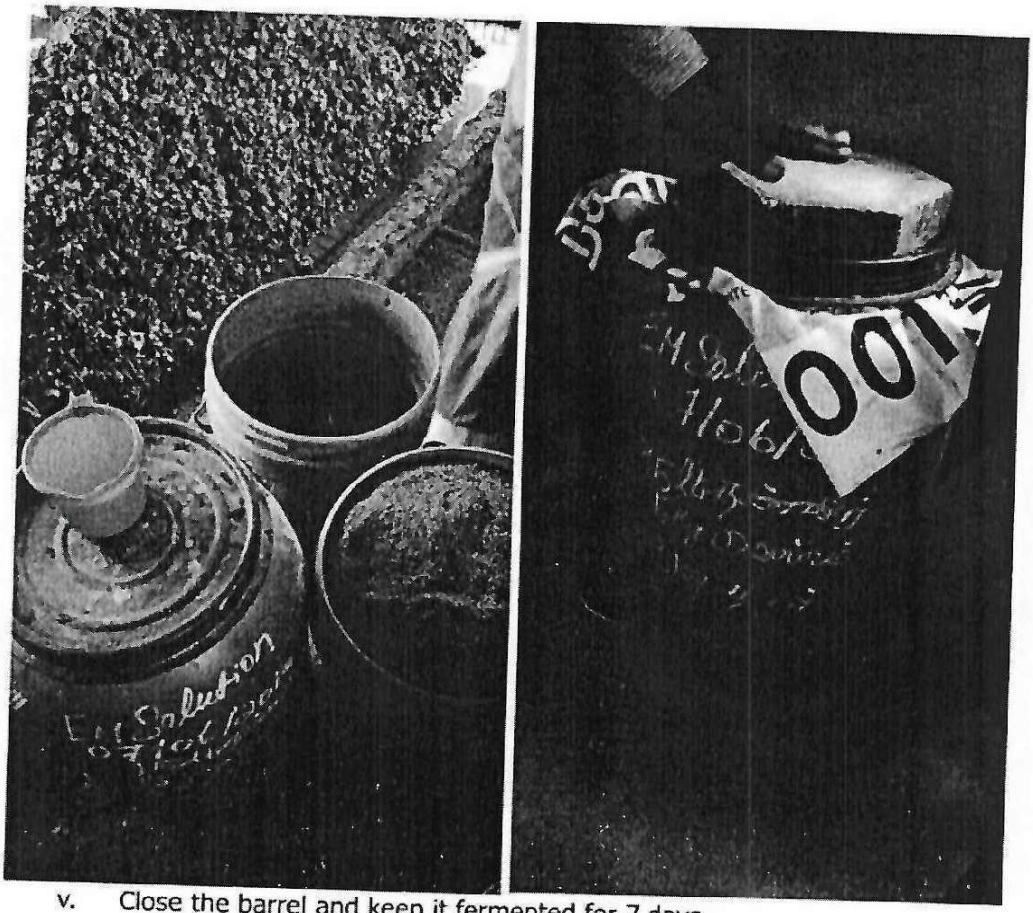
11. Preparation of Effective Microorganism (EM) and Media

i. EM stands for "Effective Micro-organisms". EM consists of a wide variety of effective, beneficial and non-pathogenic microorganisms produced through a natural process and not chemically synthesized or genetically engineered.

ii. Take a barrel of 100 litres capacity.

iii. Fill 90 litres of water.

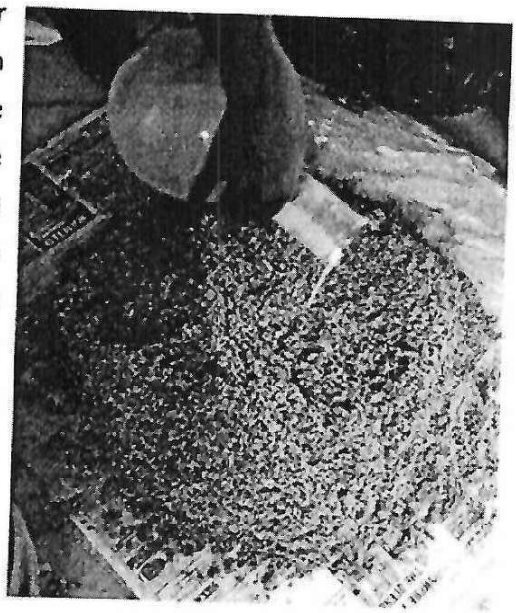
iv. Add 3 litres of curd and 5 Kgs of jaggery. Mix it to form a homogeneous solution.



v. Close the barrel and keep it fermented for 7 days.

vi. After 7 days, open the barrel and the EM Solution is ready to use.

vii. Take some EM solution in a jar and mix it with equal proportion of Rice bran and Rice husk. The quantity of EM solution should be such that the mixture can be turned into balls of the size of a coconut without breaking. If it crumbles, add a little more EM solution to the mixture. If it is too much of watery, add more Rice bran and Rice husk.



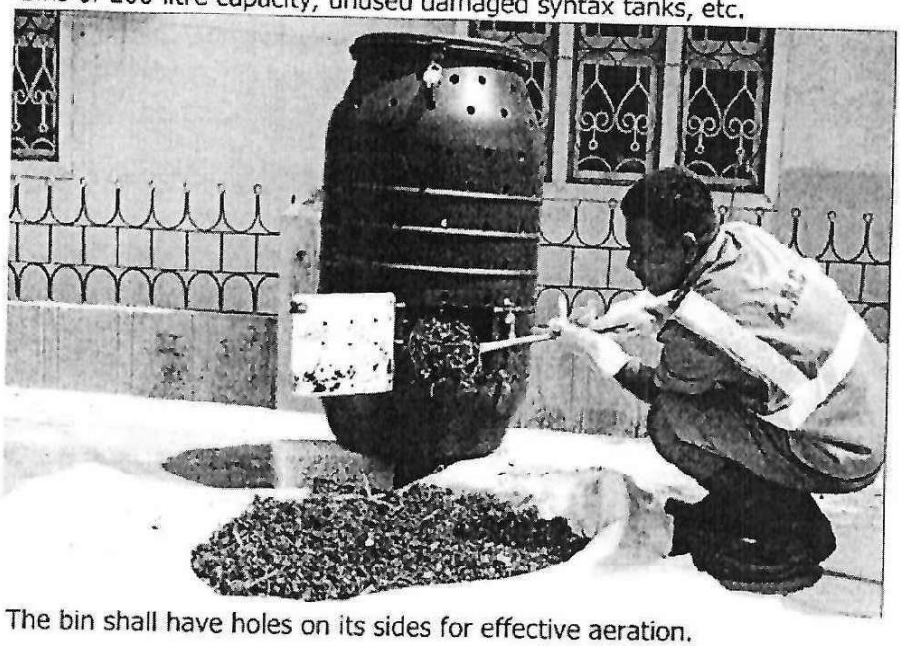
viii. Keep the mixture ready to add on fresh waste.

ix. The EM solution should be used within 3 days of preparation.

12. On-site Composting Centres (OCC)

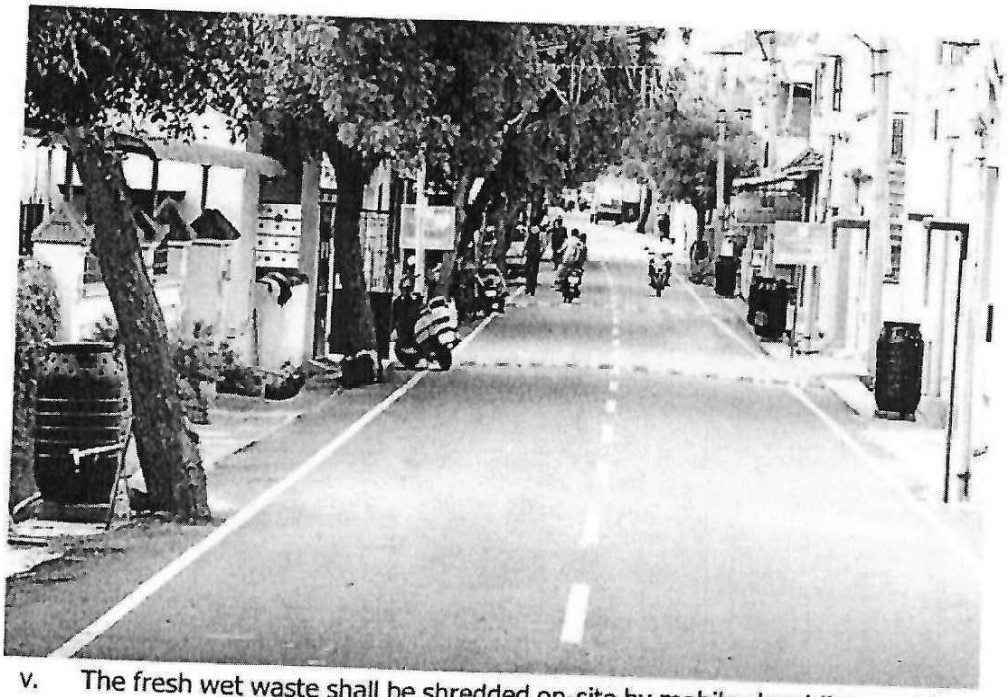
i. OCC may be established with seven tubs following the process adopted in MCC to obviate the difficulties in finding adequate space.

ii. For wards having further space crunch, composting can be taken up using bins of 200 litre capacity, unused damaged syntax tanks, etc.



iii. The bin shall have holes on its sides for effective aeration.

iv. There shall be post box size opening with door at the bottom for removal of compost.



v. The fresh wet waste shall be shredded on-site by mobile shredding machine and be fed from top after mixing it with EM Solution.

vi. After around 40 days the waste will be converted to compost that can be removed through the bottom gate and may be distributed among the households concerned or may be disposed of in any other manner as deemed proper by the ULB.

13. Sale of compost in local market

i. A suitable mechanism may be developed by the ULB in consultation with District Magistrate and other stakeholders of the District for timely and proper selling of the compost generated from MCC/OCC.

14. Disposal of dry waste

i. The Municipal Solid dry waste may be divided into two categories:
   a. Recyclable - that can be sold out and
   b. non-recyclable - that cannot be sold out

ii. The recyclable dry waste to be collected, segregated and sold to the empanelled agencies at the rates approved by the ULB. Sale proceeds

thereof shall be distributed amongst the sanitation workers which shall be over and above their salary / remuneration.

iii. The details of the transaction shall be recorded in a register for future reference with signature of the sanitation workers as a token of receipt of the received amount.

iv. The non-recyclable solid waste to be brought to the Material Recovery Facility adjacent to the MCC. The unutilized tubs (if any) of the MCC may be utilised for the purpose.

v. The non-recyclable solid waste shall be baled using a baling machine to reduce the volume and transported to cement factories having kilns for co-processing as intimated by this Department from time to time.

vi. A register shall be maintained depicting the details thereof for future reference.

15. Bulk Waste Generator (BWG)

i. As per SWM Rules, 2016 the BWGs shall segregate their waste and process the bio-degradable waste within their premises using any of the methods such as: vermi-composting, bio-digester, mechanical composting, etc.

ii. The non-bio-degradable waste shall be handed over to sanitation worker for which user fee shall be collected as per provisions made under the Bye-Laws.

iii. Periodical meetings with BWGs should be made to create awareness and take stock of efficiency in handling waste.

16. Information, Education and Communication (IEC)

i. Each and every household shall be effectively impressed upon to segregate the solid waste by themselves and handover the same to the waste collectors during door-to-door collection.

ii. Competitive attitude amongst the households shall be generated by adopting naming and shaming technique.

iii. In respect of households handing over segregated waste continuously shall be recognized by affixing sticker / sun-board on the outer wall of the house to that effect.

iv. Token mementos may be distributed to such households during periodical ward sabha

v. Households not adopting the practice of handing over segregated waste shall be requested to do so. In case of repeated failure, such waste may be placed on a sheet in front of the house and the sanitation worker shall impart on the spot training to the members of the household present as to how to segregate the waste.

17. Technical advice:

In case of technical difficulties / advice for furtherance in Solid Waste Management, the ULB may refer / consult the PMU of the SBM / SWM.

18. Funds

Housing & Urban Development Department will provide required funds on receipt of **Action Plan for capital investment** and the ULBs will take care of O&M from either their own funds or from the permissible grants received from Government.

19. Timeline:

Sl. No.	Deliverable	Activity	Month				
			1st	2nd	3rd	4th	5th
1	Basic Statistics	Sample survey for quantification of per capita waste generation (segregated: wet and dry)	■				
2		Map of ULB with ward boundary, roads, parks, etc.	■				
3		Identification of Bulk Waste Generators	■				
4	Availability of Land	Identification of Suitable Land for MCC/OCC	■				
5		Advance possession	■				
6	Cluster Demarcation	Households to be tagged to the MCC/OCC		■			
7		Demarcation of the area		■			
8	Vehicles	Assessment of vehicles required for door-to-door collection	■				
9		Arrangement of required number of Tricycle, LCV, BOV		■			
10	Human Resources	Identification of WSHG / ALF and selection of Swachh Sathi	■				
11		Identification of Sanitary Workers	■				
12		Selection of Supervisor	■				

Sl. No.	Deliverable	Activity	Month				
			1st	2nd	3rd	4th	5th
13	Route Map	Preparation of Route map tagging vehicle - sanitation worker - households - MCC/OCC					
14	Establishment of MCC	Civil Construction					
15		Procurement of machinery and installation					
16	Disposal of Recyclable Waste	Identification of Rag Pickers and agencies dealing with recyclable dry Waste					
17		Approval of rate for recyclable waste					
18	Establishment of MRF for Dry Waste	Civil Construction					
19		Procurement of machinery (Baling Unit) and installation					
20	Disposal of Non-recyclable Waste	Identification of Cement Factories					
21		Sending the baled non-recyclable waste for co-processing					
22	IEC	IEC Activities by Swachh Sathi					

20. Independent Evaluation

The H&UD Department may take steps to conduct independent evaluation in the manner as deemed proper at appropriate time.

21. Conclusion

The sense of **"My Waste, My Responsibility"** may be inculcated in every waste generator (Individual household / Bulk Waste Generator) to ensure "Swachh Odisha Susth Odisha".

* * *

Tel -0674-2392104/2390147

e-mail : sanitationhud@gmail.com

Website: www.urbanodisha.gov.in

Government of Odisha

Housing & Urban Development Department

3rd floor, Kharavel Bhavan, Unit-V, Bhubaneswar, PIN:751001

OFFICE ORDER

File No. HUD-SANT-SCH-0041-2020 No. 16022 /HUD, Dated: 14/10/2020

Considering the ongoing construction and functioning of Micro Compost Centres and Material Recovery Facilities in all Urban Local Bodies of the State, a State Level Monitoring Cell for Operation & Maintenance of the Micro Compost Centres and Material Recovery Facilities called **"Wealth Centres" (converting waste to wealth)** is hereby constituted with the following members for providing guidance, close supervision and handhold support.

(i) Sri Sameer Kumar Panda, Sanitation/Environment Expert PMU, SBM (Urban)
[Ph No.9740644030, email :samirkpanda@gmail.com]

(ii) Ms. Deepti Deepali Mohapatra, Sanitation Expert, Paradeep Municipality.
[Ph. No.7809494136, email : deeptideepali.99@gmail.com]

The Cell may *inter alia* focus on the following aspects and perform in Mission Mode:

1. Strategy for generation of (W to W) (Waste to Wealth)
2. Develop SOP
3. Orientation of the Women / Transgender Members involved in O&M of MCC & MRF (Ethics to be followed)
4. Ensuring Production of Organic Manure (MO KHATA):
   A. Quantity
   B. Quality
5. Test checking of Quality of "MO KHATA" through Laboratories
6. Marketing

//2//

A. Private

B. Govt. / Line Department

C. Online selling

7. People's involvement/ movement

8. Advertisement (Commercial)

9.Third Party assessment

10.Economics study

11.Internship for students

12. Macro/ Micro study on dynamics to further strengthen the Model

The objective of the Cell *inter alia* is to promote and strengthen the **"Wealth Centres"** .

The cell shall function under the supervision of Addl MD,SBM(U).

Additional Secretary to Govt. &
Additional Mission Director, SBM(U)

Memo No. 16073 /HUD Date: 14/10/2020

Copy forwarded to the Staff Officer of the Principal Secretary to Govt., H & UD Department / P.S to the Director, Municipal Administration-cum-Mission Director, SBM (Urban) for information.

Additional Secretary to Govt. &
Additional Mission Director, SBM(U)

Memo No. 16024 /HUD Date: 14/10/2020

Copy forwarded to Sri Sameer Panda (email:samirkpanda@gmail.com) and Ms. Deepti Deepali Mohapatra (deeptideepali.99@gmail.com), Sanitation Expert, Paradeep Municipality / all Professionals of the PMU, SBM (Urban) for information and necessary action.

Additional Secretary to Govt. &
Additional Mission Director, SBM(U)

Memo No. 16026 /HUD Date: 14/10/2020

Copy forwarded to all Collectors / Commissioners of all Municipal Corporations/ Project Directors, District Urban Development Agencies / Executive Officers of Municipalities and NACs for information and necessary action.

14.10.2020
Additional Secretary to Govt. &
Additional Mission Director, SBM(U)

Memo No. 16026 /HUD Date: 14/10/2020

Copy forwarded to the Guard File. (sanitationhudedespatch@gmail.com)

14.10.2020
Additional Secretary to Govt. &
Additional Mission Director, SBM(U)

ANNEXURE-3

SPECIFICATION OF COMPOST QUALITY PRESCRIBED UNDER THE SOLID WASTE MANAGEMENT RULES, 2016
[SCHEDULE-II]

Parameters	Organic Compost (FCO 2009)	Phosphate Rich Organic Manure (FCO 2013)
(1)	(2)	(3)
Arsenic (mg/Kg)	10	10
Cadmium (mg/Kg)	5	5
Chromium (mg/Kg)	50	50
Copper (mg/Kg)	300	300
Lead (mg/Kg)	100	100
Mercury (mg/Kg)	0.15	0.15
Nickel (mg/Kg)	50	50
Zinc (mg/Kg)	1000	1000
C/N ratio	<20	Less than 20:1
pH	6.5-7.5	(1:5 solution) maximum
Moisture, percent by weight, maximum	15.0-25.0	25
Bulk density (g/cm^3)	<1.0	Less than 1.6
Total Organic Carbon, per cent by weight, minimum	12.0	7.9
Total Nitrogen (as N), per cent by weight, minimum	0.8	0.4
Total Phosphate (as P_2O_5) percent by weight, minimum	0.4	10.4
Total Potassium (as K_2O), percent by weight, minimum	0.4	-
Colour	Dark brown to black	-
Odour	Absence of foul Odor	-
Particle size	Minimum 90% material should pass through 4.0 mm IS sieve	Minimum 90% material should pass through 4.0 mm IS sieve
Conductivity (as dsm-1), not more than	4	8.2

Tel -0674-2392104/2390147
e-mail : sanitationhud@gmail.com
Website: www.urbanodisha.gov.in

Government of Odisha
Housing & Urban Development Department
3rd floor, Kharavel Bhavan, Unit-V, Bhubaneswar, PIN:751001

File No.: HUD-SANT-SCH-0026-2019 Letter No.: 19700 Date 18/12/2020

From

Kalyan Kumar Rath, OAS (SAG)
Additional Secretary to Government &
Additional State Mission Director, SBM (Urban)

To

The Commissioner, BMC/BeMC/CMC/ RMC/SMC
The Executive Offices of all Municipalities and NACs

Sub : Standard Operating Procedure [SoP] for operation & maintenance of the **"Wealth Centres"** [Micro Composting Centres (MCCs) & Material Recovery Facilities (MRFs)]

Madam/Sir,

I am directed to inform you that Odisha has made paradigm shift in the municipal solid waste management strategy by adopting decentralised and community driven model with MCC, MRF and source segregation as the pillars.

2. Please find enclosed herewith SoP duly approved by Govt. to handhold the ULBs for ensuring smooth operation and sustainable maintenance of the "Wealth Centres".

3. This SoP may be scrupulously adhered to in operation and maintenance of the MCCs & MRFs.

Yours faithfully,

18.12.2020
Additional Secretary to Government &
Additional State Mission Director, SBM (Urban)

//2//

Memo No. 19701 /HUD Date : 18/12/2020

Copy forwarded to P.S to the Hon'ble Minister, Housing & Urban Development / Staff Officer to Principal Secretary to Govt., Housing & Urban Development Department / P.S to Director, Municipal Administration & Mission Director, SBM [Urban] , Housing & Urban Development Department for information and necessary action.

18.12.2020
Additional Secretary to Government &
Additional State Mission Director, SBM (Urban)

Memo No. 19702 /HUD Date : 18/12/2020

Copy forwarded to Shri Naveen Kumar Agarwal, Director, SBM, (Urban), Ministry of Housing and Urban Affairs, Government of India, Nirman Bhawan, New Delhi-110011. (Email:naveen.75@nic.in) for kind information and necessary action.

18.12.2020
Additional Secretary to Government &
Additional State Mission Director, SBM (Urban)

Memo No. 19703 /HUD Date : 18/12/2020

Copy forwarded to all Collectors / all Project Directors, District Urban Development Agencies for information and necessary action.

18.12.2020
Additional Secretary to Government &
Additional State Mission Director, SBM (Urban)

Memo No. 19704 /HUD Date : 18/12/2020

Copy forwarded to Environment Expert, PMU,SBM (Urban) for information and necessary action.

Copy forwarded to Guard File (sanitationhudedespatch@gmail.com)

18.12.2020
Additional Secretary to Government &
Additional State Mission Director, SBM (Urban)

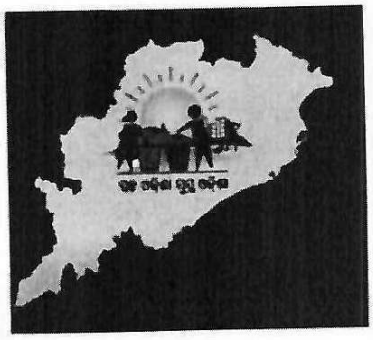
4X

STANDARD OPERATING PROCEDURE

FOR

OPERATION & MAINTENANCE OF THE

"WEALTH CENTRES "



[Micro Composting Centres (MCC)

&

Material Recovery Facilities (MRF)]

December, 2020

Housing & Urban Development Department

Government of Odisha

G. Mathi Vathanan, IAS
Principal Secretary
Housing & Urban
Development Department

PREFACE

Odisha has made paradigm shift in the municipal solid waste management strategy by adopting decentralised and community driven model with MCC, MRF and source segregation as the pillars.

Standard Operating Procedure for adopting decentralised solid waste management system in the State of Odisha was issued in this Department Letter No. 13408 Dated 30.07.2019.

The Hon'ble Chief Minister has laid foundation stones of Micro Composting Centres (MCC) and Material Recovery Facilities (MRF) on 31st August, 2019 to kick start the implementation of the new model.

Adopting this new decentralised community driven model passionately the ULBs have been able to make functional in a quick pace more than 150 MCCs and MRFs which were dedicated by the Hon'ble Chief Minister on the Day of Local Self Government i.e. on 31st August, 2020.

Aerobic composting in a controlled process involving microbial decomposition of the wet waste collected from the households/other establishments has turned into organic manure, branded as "Mo Khata".

Similarly, the recyclables and non-recyclables separated from the segregated dry waste and converted to wealth.

This is resulting in turning the garbage filled cities to garbage free, wealth generating clean cities throughout the State.

This paradigm shift, with active involvement of the women members of the Mission Shakti Groups, Transgender Groups & Ragpickers group is converting these MCCs and MRFs to "Wealth Centres", which are required to be further strengthened and streamlined for which this SOP is being issued. All the ULBs & their functionaries are to follow the SOP scrupulously.

I am hopeful that the new strategy under implementation, moving from contractor driven model to community driven model resulting in Women / Transgenders/ Ragpickers empowerment & strengthening the sanitation value chain will lead to a clean, sustainable & inclusive Urban Odisha.

Bhubaneswar,
Date: 18.12.2020

18/12/20
[G. Mathi Vathanan]

TABLE OF CONTENTS

List of Annexures

*****

1. Vision for the "Wealth Centres":

"Waste" has "Wealth" hidden in it, we can unfold & discover wealth, only if we adopt a scientific, systematic, and sincere approach for the purpose.

Households, Educational institutions, commercial establishments, offices etc. generate "Waste", which are normally viewed as unwanted or unusable materials that has been disposed of or discarded after use of primary articles.

The journey of "Waste" from the grassroot level, needs to be viewed as journey of a valuable "Resources" that has to be "Processed" for its conversion to "Wealth" and a variety of useful products.

Consequent upon adoption of decentralised solid waste management system for processing of municipal solid waste in the State, the Standard Operating Procedure [Hereinafter referred to as **"SOP-1"**] was issued in this Department Letter No. 13408 Dated 30.07.2019 [Copy attached as **Annexure-1]** as a result of which Micro Composting Centres (MCCs) and Material Recovery Facilities (MRFs) have been established which are co-located and are found to be generating wealth out of waste and also found to have larger scope for which these institutions have been aptly termed as "Wealth Centres".

It has been experienced that, "Processing" i.e. efficient handling of waste in these "Wealth Centres" is not only a mandate for the Urban Local Body to safeguard the ecology, which is being fulfilled, but also when the entire solid waste management value chain is driven by women members of the Mission Shakti Groups and further moving a step ahead, associating the Transgender Groups in this process also provides *inter alia* a new horizon for these members of the Society, which ploughs back resources, creates employability and provides a new dignified identity to them.

Endeavour may be taken to recognise organisations of waste pickers, informal waste collectors and promote them for participation in the solid waste management and thereby their integration to the system.

This vision needs to be translated into action throughout the State, augmenting its stature, utilising the infrastructures established for the decentralised solid waste management system, i.e. the Micro Composting Centres (MCC) and Material Recovery Facilities (MRF), the "Wealth Centres", institutionalising these, streamlining

management of the said establishment for smooth and productive utilisation of all resources, operational , maintenance and follow up for the purpose of which detailed procedure in shape of a Standard Operating Procedure is delineated below which should be treated as a continuation of the **SOP-1.**

The ULBs may make suitable modifications in the modalities prescribed herein (including number of persons to be engaged, amount of incentive to be paid) in order to fit in to local variance so as to ensure optimum level of performance while keeping abreast the objective and spirit of this Standard Operating Procedure.

2. State Level Monitoring Cell:

For effective supervision, monitoring, guidance, support, remedial measures, evaluation etc. and to bring up these "Wealth Centres" i.e. the MCCs and MRFs to an ideal performance level and to maintain the standard, improvise upon the experience gathered, a State Level Monitoring Cell has been constituted by this Department. [Copy of Order No. 16022 Dated 14.10.2020 attached as **Annexure-2**].

There should be frequent interaction with the Professionals positioned in the Cell and the stakeholders in the Urban Local Bodies, so as to have the "wealth Centres" at its optimum level of efficacy.

3. Basic indicative statistics:

Sample survey on different aspects pertaining to generation of municipal solid waste taken up by the ULBs in respect of the households during August to December, 2019 reveals average waste to be 300 grams per person per day of a household in Urban Odisha on an average & wet waste and dry waste in the ratio of 60 : 40. However, aforesaid ratio when taken up with waste generated by the commercial establishments, Bulk Waste Generators etc. may be revisited to be 50 : 50 which is also an indicative one.

3.1. Assumptions:

Without delving deep into the numericals of waste generation and assuming the rate of waste generation and ratio of wet and dry waste as above the following assumptions may be made for designing operational strategy for the "Wealth Centres".

TABLE: 1 GENERATION OF MUNICIPAL SOLID WASTE IN URBAN ODISHA

Sl. No.	Assumption in generation of municipal solid waste in Urban Odisha	Quantity (Gram)
1	Average waste generation by a person per day	300
2	Average wet waste generation by a person per day (50% of total municipal solid waste)	150
3	Average dry waste generation by a person per day (50% of total municipal solid waste)	150
4	Average wet waste generation by a family (of 4.5 persons) per day (150 x 4.5)	675
5	Average dry waste generation by a family (of 4.5 persons) per day (150 x 4.5)	675
6	Total waste (Wet and Dry) generation by a family (of 4.5 persons) per day (300 x 4.5)	1350

3.2. Quantum of waste management:

Urban Local Bodies with variation in demography is to manage waste in proportion thereto as indicated below.

TABLE: 2 PROCESSING CAPACITY CREATION ON THE BASIS OF POPULATION

Sl. No.	Type of ULB	**Population** Range	**Number of Households** [Population ÷ 4.5 average family member]	**Quantum of Waste** to be managed **per day** (indicative) (@ 1350 gm. per household per day)	Number of 5 MT MCCs and MRFs required
1	Municipal Corporation	> 3,00,000	>66,666	>89999100 g. (66,666 x 1350 g.) or >89999 Kg. or **> ~90 MT**	18+18
2	Municipality	25,000 to 3,00,000	5,555 to 66,666	7499250 g. (5,555 x 1350 g.) or 7499 Kg. or ~ **7 MT to** 89999100 g. (66,666 x 1350 g.) or 89999 Kg. or ~ **90 MT**	2+2 to 18+18
3	NAC	10,000 to	2,222 to	2999700 gm. (2,222 x 1350 g.) or	1+1 to

		25,000	5,555	2999 Kg. or ~ **3 MT** **to** 7499250 g. (5,555 x 1350 g.) or 7499 Kg. or ~ **7 MT**	2+2

4. Processing capacity of MCCs and MRFs:

MCCs and MRFs prescribed in the SOP-1 has been designed for processing of municipal solid waste ranging from one and half Ton Per Day (TPD) to five TPD to be adopted suitably by the ULBs taking into consideration various factors such as availability of land, quantum of waste generated etc.

4.1. Cluster approach:

The Table below indicates at a glance the quantum of waste that can be processed, requirement to be fulfilled by one Wealth Centre i.e. one cluster having one unit of MCC and one unit of MRF, as these two are co-located and therefore to be considered as a **"Cluster"**.

TABLE: 3 COVERAGE BY ONE WEALTH CENTRE [CLUSTER WITH ONE MCC & ONE MRF]

Sl. No.	**Capacity** of one MCC / MRF (TPD)	**Population** to be covered (Capacity of one MCC or MRF ÷ Processing of 150 g. wet or 150 g. dry waste per person)	**Households** to be covered (With 4.5 persons on an average in each HH)
1	Five	**33,333** (5000000 g. ÷ 150 g.)	**7,407** (33,333÷4.5)
2	Four	**26,666** (4000000 g. ÷ 150 g.)	**5,925** (26,666÷4.5)
3	Three	**20,000** (3000000 g. ÷ 150 g.)	**4,444** (20,000÷4.5)
4	Two	**13,333** (2000000 g. ÷ 150 g.)	**2,962** (13,333÷4.5)
5	One and half	**10,000** (1500000 g. ÷ 150 g.)	**2,222** (10,000÷4.5)

5. Deployment of Human resources:

A cluster of one MCC and one MRF **co-located** will cater to the need of the population and households as depicted in Table 3 above.

For achieving optimum output, suitable members duly nominated by the Local Mission Shakti Group / ALF / CLF or Transgender Groups as deemed suitable (If any suitable Group is not available in respect of any Ward, the same from the nearby Ward may be considered) at appropriate scale may be deployed for discharging the broad activities mentioned below. The ULB may prescribe detailed job chart for each performer in the hierarchy. Any member so nominated, if needed, for the reason of non-performance / poor performance or otherwise, may be substituted with another suitable eligible member. In case of non-availability of eligible suitable member from any of the Groups under the ULB, after due pursuance, screening, the eligibility criteria may be suitably modified.

5.1. Execution of MOU:

Memorandum of Understanding (MoU) should be framed assimilating all the salient features, including assignments, operational modalities, payment of incentives etc. and executed with the Group(s) concerned prior to commencement of the activities.

TABLE: 4 ASSIGNMENT OF HUMAN RESOURCES FOR THE WEALTH CENTRE

Sl. No.	Designation	Norm	Broad Assignments	5 TPD (7407 HH)	4 TPD (5925 HH)	3 TPD (4444 HH)	2 TPD (2962 HH)	1.5 TPD (2222 HH)
1	In Charge of Wealth Centre	One per Wealth Centre	Coordinate managerial activities of the MCC & MRF to ensure performance is at optimum level	1	1	1	1	1
2	Swachha Supervisor (part time)	One for 2400 HH	Supervision of performance of Swachha Sathis	3	2	2	1	1
3	Swachha Sathi (part time)	One for 600 HH	Induce behavioural change to ensure collection of segregated waste from Households	12	9	7	4	3

4	Swachha Karmi-1	Two per BoV	Collection of segregated waste from Households	30*	24*	18*	12*	10*
5	Swachha Karmi-2	Four per MCC	Performing activities in processing wet waste under the control & supervision of Wealth Centre In Charge	4	4	3	3	2
6	Swachha Karmi-3	Five per MRF	Performing activities in segregating dry waste (Recyclables/Non-recyclables) under the control & supervision of Wealth Centre In Charge	5	5	4	3	2
7	Watchman-cum-Gardner	One per Wealth Centre	Watch and ward of the Wealth Centre, taking up plantation and its upkeeping	1	1	1	1	1
TOTAL				56	46	36	25	20

* N.B: 500 Households (HH) are covered by one Battery operated Vehicle (BoV) [Vide Paragraph 5 (i) of SOP-1] The ULBs may make suitable modifications in the modalities prescribed herein (including number of persons to be engaged, amount of incentive to be paid) in order to fit in to local variance so as to ensure optimum level of performance while keeping abreast the objective and spirit of this Standard Operating Procedure.

5.2. Incentive for assignments and payment thereof:

Wages / incentive commensurate with prevailing wage rate, number of working hours, output delivered (performance based) keeping in view financial viability of the wealth centre may be fixed for the services to be rendered by the members nominated by the Mission Shakti (MS) Group / Transgender (TG) Group / Rag Pickers (RP).

Initially MoU may be signed with suitable Mission Sakthi/TG/RP SHG/Federation for providing members from their Groups to work in the MCC/MRF.

Incentive as above may be remitted on monthly basis to the Account(s) of the individual members engaged from Mission Shakti Group / Transgender Group / Rag Pickers Group. It should also be ensured that all the Members assigned with the matters ancillary and incidental to the Wealth Centre are paid their incentives/Honorarium/Wages in time by the Groups.

5.3. Gap funding:

In the initial stage, till the system has not stabilised or the earning has not reached the expected level or otherwise, the ULB may remit the amount of incentive as agreed upon, from its own fund, if required.

5.4. Transfer of the O&M responsibility to the Mission Shakti Group / Transgender Group:

Initially the ULB may run the centres engaging the members of Mission Shakti Group / Transgender Group as nominated by the Groups through an MOU, after which the O&M responsibility may be transferred to the identified Groups with appropriate capacity building & handholding through a service level contract agreement.

6. Tasks in hand:

(i) Collection of "segregated waste":

Collection of "segregated waste" from the households being the fulcrum of success of this model, due diligence be applied and all out efforts should be made to collect segregated waste from the households on daily basis. Swachha Sathis must continuously educate, motivate, and take up appropriate Information, Education Communication (IEC) and Behavioural Change Communication (BCC) activities to ensure the same.

It may be ensured that horticulture, parks, and garden wastes are collected separately in the service area of the MCC and processed in the Parks and Gardens. Necessary appropriate arrangements may be made to compost them.

(ii) Use of BoV- "Swachha Sabari":

In order to facilitate the collection with ease and dignity, Battery operated Vehicles (with separate chambers for the wet and dry waste) may be introduced [upon procurement through Government e market (GeM Portal)] and utilised gradually phasing out Push Carts, Tri-cycles etc.

The BoV utilised for door to door collection may be designated as **"Swachha Sabari"** as these are smokeless and environment friendly. All the vehicles used in collection of segregated waste from the household should reach a household within a specified time, with a soothing miking arrangement (Volume must be within the permissible limit) to inculcate confidence among the waste generator that the waste shall be collected every day in time.

(iii) Waste deposition:

Vehicle upon arrival at the MCC with collected segregated waste shall be weighed for the "Wet waste" and at the MRF for the "Dry waste" and the corresponding quantity will be entered in the Mobile App *"AMA SAHARA"* by the *Swachha Karmi* duly checked by the In Charge of Wealth Centre.

(iv) Processing of wet waste:

Wet waste shall be processed in the MCC following the process prescribed under the SOP-1 issued earlier.

(v) Processing of dry waste:

Dry waste shall be processed in the MRF following the process prescribed under the SOP-1 issued earlier.

(vi) Working Hours:

The working hours of the MCC and MRF may be decided suitably as per need taking into account the timing of door-to-door collection & time of arrival of the swachha sabari (BoV Trips) in the wealth centre.

(vii) Signage:

Basic data pertaining to each MCC and MRF of the ULB should be entered in SWACHHA SAHARA ODISHA Web App and Unique ID for the MCC/MRF may be

generated which should be displayed prominently in the Centre. Appropriate signage should be displayed for the MCC and MRF.

(viii) Plantation:

Plantation may be taken up inside the premises aside the inner wall with a suitable distance from the wall as well as in between the Plants. Flowering and decorative plants in planned manner may be raised to significantly enhance the aesthetic get up and to make these turn into parks so as to remove the general negative impression of unpalatable environment or perceived pollution or bad odour of these places of solid waste processing.

(ix) Wall painting:

Colourful wall paintings on sanitation, solid waste management etc. may be displayed suitably on the walls of the Wealth Centres to disseminate messages on environmental impact of scientific processing of solid waste and other related matters.

Copy of Office Order issued by Bhubaneswar Municipal Corporation for close monitoring and supervision of the MCCs and MRFs attached as **Annexure-3** which may be referred to as Template and adopted with due modifications.

7. Quality of "Compost" generated out of wet waste:

In order to ensure safe application of compost generated out of wet waste the specifications for its quality as indicated in **Schedule-II** of the Solid Waste Management Rules, 2016 [Copy attached as **Annexure-4]** shall be met.

7.1. Fertilizer Control Order:

The end product compost shall meet the standards prescribed under **Fertilizer Control Order** notified from time to time.

7.2. Features of Compost:

Compost is particularly useful as organic manure; it contains macronutrients (nitrogen, phosphorous, and potassium) as well as micronutrients (boron, iron, zinc, etc.). The use of compost reduces the dependency on chemical fertilisers for agricultural operations. When used as a soil amendment, compost reduces the need for water, fertilisers, and pesticides. Compost acts as a soil conditioner, therefore

supporting long-term fertility of the soil. The benefits of compost use include improved soil quality, enhanced water retention capacity of the soil, increased biological activity, micronutrient content, and improved pest resistance of crops. Also, consistent, high-quality compost is essential for building and sustaining the trust on the organic manure out of the Wet waste.

7.3. Concentration Limits:

Compost (Final product) exceeding the concentration limits stated under Schedule-II of the Solid Waste Management Rules, 2016 shall not be used for food crops. However, it may be utilized for purposes other than growing food crops. In other cases, it may be used for crops including food crops.

7.4. Assessment on Quantum of compost generation:

Under ideal operational practices at MCC, the yield of compost can be **around 20%** of segregated processed municipal solid waste which also indicates good efficiency of the processing.

7.5. Target for sale of compost:

Assuming 20% to 10% compost yield, ULB should develop different marketing strategies for the sale of compost to be generated in the type of MCC established by it. A 5 TPD MCC can generate 30 MT to 15 MT of compost in a month.

Table below indicates the quantum of compost generation from various types of MCCs at different rates of efficiency during a month:

TABLE: 5 QUANTITY OF COMPOST TO BE GENERATED FROM WET WASTE AT DIFFERENT LEVEL OF EFFICIENCY OF PROCESSING IN MCC [MT PER MONTH]

Capacity of MCC in TPD	Efficiency Rate (%)		
	10%	15%	20%
5	15	22.5	30
4	12	18	24
3	9	13.5	18
2	6	9	12
1.5	4.5	6.75	9

7.6. Testing of compost:

[A] "MO KHATA" may be tested in the following laboratory of the Department of Agriculture & Cooperation in the Ministry of Agriculture & Farmer's Welfare, Govt. of India.

TABLE: 6 Laboratory for testing of compost

Sl. No.	Address of the Laboratory
1	Director, Regional Centre of Organic Farming, Ghaziabad, **Address:** - Sector19, Hapur Road, Kamla Nehru Nagar, Ghaziabad,Uttar Pradesh PIN- 201002. **Contact No.:** 0120-2764906, 2764212, **Email id:** nbdc@nic.in
2	Regional Director, Regional Centre of Organic Farming, Jurisdiction Area: Bihar, Orissa, West Bengal, and Andman & Nicobar. **Address:** - GA-114, Niladri Vihar (Near KV- 4), PO- Sailashree Vihar, Bhubaneswar -751007 (Orissa). **Contact No.:** 0674-2721281, **Email id:** biofor04@nic.in

[B] The District Agriculture Officer/Assistant Agriculture Officer concerned may be consulted for collection and sending the samples of "MO KHATA" for testing in the aforesaid designated Laboratories.

[C] Testing of the compost may be conducted at least once in a month taking samples from different lots in the aforesaid designated Laboratory or the Laboratory to be communicated by this Department from time to time.

7.7. Packaging of the compost:

In the Micro Composting Centres (MCC), after aerobic composting "wet waste" begets a new life and shape after being converted to the final product of "Compost" branded throughout the State as "Mo Khata".

This compost is the precious organic manure which needs to be made available to the customers (farmers) with pride and prudence. Packaging is equally important as the quality of the product as presentation and face value are important aspects of modern world.

Packaging should disseminate vital information to the customer, display the brand and quality guarantee and should look more attractive than the other brands of organic manure or chemical fertilisers.

i. "Compost Maturity":

The compost must be matured before it is packed for utilization. The term **"compost maturity"** can be generally referred to the completion of the composting process.

ii. "Stink Bag Test":

Maturity of compost can be determined through a simple test known as **"Stink Bag Test"**. The compost is placed in a plastic bag and moistened to about 60% water content; the mouth of the bag is then closed (preferably sealed to prevent any airflow). The plastic bag containing the moist material is allowed to sit for 24–48 hours at room temperature (30°–35°C). If foul odours are released when the bag is opened at the end of 24–48 hours, it indicates that the material is not fully matured and needs to undergo further decomposition. Generally, anything that smells bad is not good for crop or plant amendment.

iii. Cured Compost:

The cured compost does not release odours because of carbon stabilisation during aerobic decomposition of biodegradable material in tubs. Microbial activity continues during the curing phase also, but at a slower rate compared to the main composting phases.

[A] Suitable Bags: Compost may be packed with suitable material;

[B] Different weight: Handy to carry, in different weight;

[C] Printing: Clear and attractive printing on the bags displaying basic information on the product and the manufacturer be made;

[D] Sealing: Bags to be sealed properly using a sealing machine.

7.8. Stock of "Mo Khata":

The In-Charge of the Wealth Centre shall enter in the Mobile App "AMA SAHARA" the relevant entries relating to production of the compost on day to day basis, verify the stock after issue at the end of the day.

7.9. Disposal of "Mo Khata":

[A] Complimentary supply to households:

In the first lot of generation of the compost, a complementary circulation of "Mo Khata" (a token quantity) to each and every household in the Service Area of the MCC concerned should be made, who have handed over waste to the ULB, to convey them the message that;

i. The "Waste" was not a "waste" it is "Wealth in disguise";

ii. Also, to develop a bond between the waste generator and the waste so as to promote handing over segregated waste all along;

iii. Promote use of compost in their kitchen garden, a small step to replace chemical fertilizer with organic one

[B] Fixation of Price of "Mo Khata":

(i) Modalities:

"Mo Khata" generated in the MCC shall be deemed to be the property of the ULB. The organic/city compost may be disposed of at the rate of Rs. 20/- (Rupees Twenty only) per kg. Resources generated from its sale shall be deposited in the Corpus Fund of the "Wealth Centre" and shall be utilised to meet the operation & maintenance cost of the "Wealth Centre". Money Receipts should be issued for receipt of the amount towards sale of "Mo Khata" and the amount so collected should be deposited in the separate Savings Bank Account to be opened in a Nationalized Bank in respect of each of the "Wealth Centres".

(ii) Market analysis:

The selling price of compost is governed by factors such as cost of alternative fertilisers, cost of organic compost in the market, demand of the compost, etc. Therefore, the market analysis should be carried out before fixing the selling price of city compost. Quality, texture, and even "look and feel" must be strategically designed;

(iii) Governing factors:

Compost prices may be set considering to provide:

a. A satisfactory margin over costs;

b. Consideration of strength of customer and willingness to pay;

c. Existing competition;

d. Cost incurred for bagging, transport, etc.;

e. Commission to Mission Shakti Groups for marketing;

f. Current prices (MRP) of IFFCO fertilisers (as in October 2020)

(Rupees per Kg.)

NPK-I (10:26:26)	NPK-II (12:32:16)	NP (20-20-0-13)	DAP (18-46-00)	Neem Coated Urea
(w.e.f. 11.10.19)	(w.e.f. 11.10.19)	(w.e.f. 11.10.19)	(w.e.f. 11.10.19)	(w.e.f. 12.01.19)
₹ 23.50	**₹ 23.70**	**₹ 19.50**	**₹ 24.00**	**₹ 5.90**

Source: http://www.iffco.in/index.php/aboutus/index/price-details

(iv) Promoting compost:

Leaflets may be printed and distributed for promotion of compost generated from the MCC. The leaflet can highlight the strengths of "Mo Khata", such as:

- Organic manure
- Environment friendly
- Tested in Laboratory approved by Govt. of India
- Replacement to chemical fertilizer

Packaging should be informative to the customer, display a reliable brand and quality guarantee, and look at least as compelling as that of competing soil amendments.

Currently, "Mo Khata" is being sold at a price of ₹ 20/- (Rupees Twenty only) per kilogram and has been in demand in the market and become popular. Uniform pricing should be maintained across the State, when required, this price may be revised appropriately. The State Level Monitoring Cell should be referred to for any issue in the matter.

[C] Use in Parks:

ULB should use "Mo Khata" in the plantation made in places under its administrative control such as Parks, plantations made in the road dividers and other places.

[D] Memento:

It is a good piece of memento to be presented with during different competitions, awareness campaign, felicitation, Orientation meetings etc. as it carries a significant message on Environmental Protection, care for the waste, promoting use of organic compost. Behavioural change in exponential form can take place through this activity. However, cost towards the amount of "Mo Khata" taken for use as Memento should be deposited with the "Wealth Centre".

The district administration and other Govt & private organisations may be impressed upon to use "Mo Khata" as a memento in their functions & events to promote the cause of environmental protection.

[E] Outlets for sale:

ULBs may through the Members of the Mission Shakti Groups/ Transgender Groups or on their own open outlets in suitable places and make available "Mo Khata" for purchase by people at the aforesaid price. An incentive may be paid to the Groups concerned for venturing into the marketing aspect, which will encourage them to take up the challenge and make available to the people, "Mo Khata" as per demand.

[F] On-line sale:

ULBs may also take up in a professional approach to enter into the market, to make available their proud product to people in the highest level of circulation. On-line marketing being one such tool, they may take up the needful action to popularise the product not only inside Odisha but join in a Pan India movement.

[G] Sale through GeM Portal:

Currently, compost is not sold in Government e Market (GeM) Portal. Therefore, ULBs may explore scope to sell compost via this transparent channel of marketing through GeM Portal.

[H] Supply to Line Departments:

Departmental Authorities of the Agriculture & Farmers' Empowerment Department, Forest & Environment Department may be supplied with the compost at the aforesaid price

[I] Request by households:

Request for door delivery of "Mo Khata" made by the households through the Swachha Sathis under her coverage area may be accepted and small quantities may be supplied through the Battery operated Vehicles for door delivery, in case of larger requests, special BoV may be deployed engaging the Members of the Mission Shakti Groups / Transgender groups assigned with operation of the "Wealth Centres".

[J] Bulk Buyer:

The Bulk Purchaser (Purchase of 100 Kg. or more in one go) may be issued with a Letter of Appreciation by the ULB for promoting the use of organic manure and thereby aiding in Environmental Protection and sustenance of the Wealth Centre side by side.

[K] Farmers:

Farmers may be the target Group for sale of compost and to promote use of compost so as to fulfil the obligation to phase out the use of chemical fertilizer.

[l] Other Modalities/Strategy:

Any other modalities / strategy found suitable for sale / disposal of "Mo Khata" may be taken up to make available "Mo Khata" to the persons/ institutions / Department requesting for the same.

8. Maintenance of Accounts and Records:

In Charge of the "Wealth Centre" shall maintain the Records and Accounts on day to day basis. Separate Account opened in the Nationalized Bank should be updated in each month and discrepancy if any be sorted out.

ULB should designate an official of the ULB for periodical verification (Monthly or in lesser suitable duration as deemed suitable) of the Accounts, Records etc. maintained in the "Wealth Centre". Remedial measures, required, if any, may be resorted to forthwith.

9. Maintenance of assets of "Wealth Centre":

[A] Stock taking:

ULB shall make due endeavour for stock taking of the equipment procured for use in the MCC and MRF and take immediate remedial action, in case any difficulties found / reported by the In Charge of the Wealth Centre or by any other stakeholder.

[B] Periodical Service:

Equipment should be taken up for periodical maintenance so as to keep these in optimum performing condition and minimising / dispensing with exigency for repair.

[C] Contact with Agency:

The person in Charge of the "Wealth Centre" should have in readiness all the contact numbers, e-mail address of the Agencies, their Service Engineers who have supplied the equipment so as to make contact with the Agency for curative measures instantaneously.

[D] Expenditure on repair and maintenance:

In case of repair etc. first of all, if it is within warranty period, the same may be covered under the Warranty Policy, in all other cases, repair may be taken up by the Authorised Service Personnel. Amount required for incurring expenditure may be met out of the Corpus Fund of the "Wealth Centre" after approval by the ULB.

10. Material Recovery Facilities:

[A] Item wise segregation:

Persons deployed in the Materials Recovery Facilities (MRF) shall help in segregating dry waste into recyclables and non-recyclables, stack these properly.

Efforts should be made to identify and integrate the Rag Pickers (informal waste collectors) in segregation of dry waste and ancillary process in the MRF as envisaged under clause (c) of rule 15 of the Solid Waste Management Rules, 2016.

If required, members of Mission Shakti Group / Transgender group may be assigned after due capacity building to work in and manage MRF.

[B] Selection of Agency:

The District Urban Development Agency through Bidding Process shall identify suitable Agency for sale of "Recyclables" in respect of all the ULBs under its Administrative Control as instructed in this Department Letter No. 4858 Dated 15.02.2020. Copy attached as **Annexure-5.**

Wherever the DUDA has not done this then the ULB may take up this process to avoid delay.

The following conditions *inter alia* may be stipulated in the Bid document such as (Illustrative but not exhaustive):

i. The "Recyclables" may be lifted from each ULB once a sizable amount accumulates in the ULBs concerned for which ULB may intimate the Agency timely;

ii. The Agency should lift the "Recyclables" within a period of seven days from the date of receipt of intimation from the ULB failing which penalty may be imposed;

iii. Payment by the Agency may be made on the date of lifting to the Bank Account of the ULB or latest within three days from the date of lifting;

iv. Contract may be executed for a period of one year but may be extended for the succeeding year with an escalated percentage on the quoted price;

v. Expected / indicative calculation of the Recyclables may be furnished;

vi. Component-wise rate may be quoted by the Agency, summation of which may be taken to be the final Quoted Price and taken into consideration for determining the Highest Bidder.

[C] Approved Rate:

Rate for the Recyclable duly approved by the District Urban Development Agency (if done by the DUDA) should be communicated to all the ULBs concerned and the State Level Monitoring Cell.

[D] "Extended Producer's Responsibility":

ULBs can also explore buyback schemes in coordination with different agencies responsible for 'Extended Producer's Responsibility' (such as Coca-Cola, PepsiCo for

plastic bottles) for getting better value for the segregated waste at MRFs instead of being sold to recycling agencies.

[E] Deposit of sale proceed in Corpus Fund:

Amount payable by the Agency to be deposited in the "Corpus Fund" of the concerned "Wealth Centre" on proportionate basis.

[F] Disposal of Non-Recyclables:

The non-Recyclables (having high calorific value) may be duly sorted and baled into suitable units which are to be sent to the Cement Factories (with Kilns) for co-processing. Efforts may be made to consign the non-recyclables to the nearest power/steel plants having boilers for using as secondary fuel along with Coal.

As sending of these non-recyclables by individual ULBs to Cement Plants will not be cost effective, therefore Nodal ULBs have been identified in this Department Letter No. 17265 Dated 27.09.2019 [Copy attached as **Annexure-6**] to send Non-Recyclables of all the ULBs of the District concerned to observe economy in transportation. Expenditure incurred by the Nodal ULB for transportation shall be proportionately borne by the ULBs concerned.

Proper Record and acknowledgement may be maintained for the quantum sent for Co-processing and details entered in the AMA SAHARA Mobile App.

11. Financial Management:

[A] Self-sustainable Model:

A Cluster with one MCC and MRF termed as "Wealth Centre" is expected to be operated as a separate Profit centre in a Self-Sustainable Model.

[B] "Corpus Funds":

A "Corpus Fund" may be created in respect of each "Wealth Centre" wherein the resources generated may be deposited and admissible expenditure may be incurred by the ULB.

For this purpose, a Savings Bank Account may be opened in any Nationalized Bank and operated by the authorised official of the ULB.

All income from the wealth centre including the User fee collection from the garbage generators (Domestic and other categories) and expenditures like

incentives/honorarium/wages/operational cost to run the infrastructure facilities etc., should be dealt under this account.

[C] Sources of Earning & requirement for incurring Expenditure:

Self-sustainable "Wealth Centre" shall aim at generating its own sources of revenue, prudential expenditure for maintenance for hassle free functioning of MCC and MRF with efficacy. The expenditure shall not be paid from the State Budget (unless it is specifically sanctioned by this Department).

[D] Preparation of Balance Sheet

ULB shall take stock of Income and Expenditure of Wealth Centres on quarterly basis and prepare quarterly statement, annual balance sheet in respect of each Financial Year and submit the Annual Balance Sheet to this Department by 30th April of each succeeding FY.

12. IEC and BCC:

[A] Publicity:

"Segregation" being at the fulcrum of the entire process, adequate publicity and behavioural change initiative be taken to induce the change and become rock solid in the mind of the Waste Generators. Swachha sathis may take up vigorously by orienting the households, distribution of Leaflets etc.

[B] Farmers:

The long-term benefits of soil conditioning properties of compost are not adequately appreciated by the farmers and other stakeholders. Therefore, the benefits in use of compost should be informed to farmers, who should be encouraged to partially substitute inorganic fertilisers with organic compost, as appropriate for their crop and specific soil.

[C] Orientation of Officials of Line Departments:

Workshops / Orientation meetings with officials of the Agriculture & Farmers' Empowerment Department, Forest & Environment Department may be conducted to apprise about the production of "Mo Khata" and salient features, nutrient values etc. for promoting use of the same by the Department, its Nurseries, beneficiaries associated.

[D] Payment of User Fee on SWM:

Waste Generators may be made aware of the rate of User Fee payable by them and the rebate available for payment of the User Fee in one go for a year. This should be made as widely as possible.

13. Performance indicators and Review:

The performance level of the MCC may be assessed by examining / evaluating on the basis of the following criteria:

a. Percentage of days the compost plant was not operational
b. Quantity of waste received
c. Compost production (kg)
d. Pre-processing reject in percentage
e. Post-processing rejects in percentage
f. Compost yield (with an acceptable limit)
g. Percentage of Reject (with an acceptable limit)
h. Capacity utilization of the compost plant
i. Quantity of compost sold
j. Revenue generated from selling of compost
k. Expenditure on the operations
l. Expenditure on maintenance
m. Shredder downtime (in days) in percentage
n. Sieving machine downtime (in days) in percentage
o. Flytrap downtime (in days) in percentage
p. Total stock of compost
q. Percentage of absenteeism of human resources
r. Monthly Testing of compost in approved Laboratory

The performance level of the MRF may be assessed by examining / evaluating on the basis of the following criteria:

a. Quantity of waste sent for co-processing

b. Quantity of rejects in percentage

c. Quantity of recyclables sold

d. Revenue generated from the selling of recyclable waste

e. Expenditure on the operations

f. Expenditure on maintenance

g. Baling machine downtime (in days) in percentage

h. Napkin incinerator downtime (in days) in percentage

i. Percentage of absenteeism of manpower

j. Monthly testing of compost from laboratory

k. Percentage of days the MRF was not operational

l. Quantity of waste received

m. Quantity of waste recycled

Periodic assessment of performance may be made to resort to curative measures and improve quality of service. The State Level Monitoring Cell may be intimated of the outcome of the review.

The Cell suo motu shall also assess with the help of the Mobile App AMA SAHARA and constant monitoring the smooth functioning of the Wealth Centres.

14. Training:

Appropriate Training should be conducted to educate Sanitation Inspectors, Workers, Supervisors, Swachha Sathis, all the members of the Group associated in managing the affairs of the MCC and MRF in different capacities on:

i. Set up rock solid trend in the mind of the Waste Generator at household level to handover duly segregated waste;

ii. Ensuring Door to door collection of segregated waste;

iii. Maintenance of a FIXED TIME for collection of waste;

iv. Blew whistle / play music on sanitation during collection to feel presence of the Waste Collector in the close proximity of the households;

v. Ensure "Wet Waste" is collected only in the "Green Bin" and "Dry Waste" in the "Blue Bin";

vi. Transporting the unmixed waste to the MCC and MRF;

vii. Processing the waste step by step as spelt out in SOP-1;

viii. How to operate and maintain the BoV including regular CHARGING OF THE BATTERY and immediately consulting the Service Engineer for defects/malfunctioning noticed if any;

ix. Use of Mobile App "AMA SAHARA";

x. Awareness amongst waste generators be created for **"MY WASTE MY RESPONSIBILITY"**;

xi. Awareness on **"WASTE HIERARCHY"** to be generated amongst all waste generators which stipulates priority order in which the solid waste should be managed by giving emphasis to:

i. Prevention

ii. Reduction

iii. Reuse

iv. Recycling

v. Recovery

vi. Disposal

15. Use of PPE:

It must be ensured that appropriate / suitable Personal Protective Equipment [PPE] are supplied by the ULB to the Members, Workers associated in the process of management of municipal solid waste and these are used properly.

16. Issue of Identity Card:

Identity Card may be issued to members of the Mission Shakti Group, Transgender Group, Rag Pickers who are involved in the entire value chain of decentralised solid waste management system.

17. Collection of USER FEE:

17.1. Collection of User Fee by Swachha Sathi:

User Fee as prescribed under the Solid Waste Management Bye-laws notified by the ULBs should be collected through the Mobile App "AMA SAHARA" utilising services of the Swachha Sathis and other modalities as would be deemed suitable by the ULBs.

17.2. Fixation of Target:

Target for collection of User Fee for the Service Area of the Wealth Centre may be fixed and consistent monitoring to be made to ensure that the same is achieved unfailingly.

17.3. Felicitation of best performers:

The Swachha Sathis and other personnel engaged for the purpose of collection of User Fee and collecting the targeted amount within the stipulated period should be recognised and felicitated. This recognition may be made on Monthly as well as Annual basis.

17.4. Awareness on Rebate:

The Bye-laws framed by the ULBs under the Solid Waste Management Rules, 2016 provides for rebate of two months of User Fee to a Payer, if payment for twelve months is intended to be made in one go, which means, amount payable in respect of a household for ten months if paid at a time will entail the person to be construed to have paid for twelve months.

Similarly, late fee may be levied for non-payment or delayed payment for the User Fee.

18. Installation of weigh bridge:

Weigh bridge in each cluster may be installed to weigh the waste collected on day to day basis and record the weighment in AMA SAHARA App. Following process may be followed:

i. BoV **without any load** may be weighed in the first instance for one time only and weight recorded along with vehicle Number;
ii. When it arrives at the MCC **with wet and dry waste** in two separate chambers, its weight may be taken and recorded;
iii. After **unloading the wet waste** in the MCC its weight may again be taken;
iv. Weight at (ii) – weight (i) = Total weight of waste collected;
v. Weight at (iii) – weight (i) = Weight of dry waste;
vi. Weight at (ii) – weight (v) = weight of wet waste

19. ISO Certification:

Third Party assessment may be made for ascertaining the qualitative maintenance of the infrastructures for which ISO Certification for each MCC and MRF be made, Funds from the Corpus Fund / sale proceeds available from sale of "Mo Khata" or Recyclables may be utilised for the purpose.

20. Incentive to Mission Shakti Groups / Transgender Groups / Rag Picker Groups:

Incentive as deemed suitable by the ULB may be paid (Over and above the incentive paid for providing services through assignment of women / transgender / rag picker members in different capacities) to the Mission Shakti Groups / Transgender Groups / Rag Picker Groups roped in the process of solid waste management in case of satisfactory, outstanding performance and support provided in taking the integrated solid waste management system of the ULB to a higher level.

21. Claim of Market Development Assistance:

The ULB should prefer claim for Market Development Assistance (subsidy) being provided by the Ministry of Chemicals and Fertilizers @ ₹ 1500/- [Rupees one thousand five hundred only] per MT of compost by applying in the prescribed manner.

The State Level Cell shall coordinate to facilitate availing of the aforesaid financial benefit by the ULBs and the recognition that the ULBs are manufacturing organic manure or compost in bulk.

22. Certification of "Mo Khata":

ULBs may take steps to certify the qualitative aspect of the compost generated at their level branded across the State as "Mo Khata" from the appropriate authority / Institution.

23. Conclusion:

The ULBs are expected to carry out the activities as outlined in the SOPs in a professional manner with consistent monitoring, periodic evaluation, training, Capacity Building of the stake holders and adopting innovative practices as things evolve for system improvement to achieve the vision of "Swachha Odisha Sustha Odisha".

*****

ANNEXURE-C/1

Tel -0674-2392104/2390147
e-mail : sanitationhud@gmail.com
Website: www.urbanodisha.gov.in

Government of Odisha
Housing & Urban Development Department
3rd floor, Kharavel Bhavan, Unit-V, Bhubaneswar, PIN: 751001

******

File No.: HUD-SANT-SCH-0026-2019 Letter No.: 21681 Date: 20.12.2022

From

G. Mathi Vathanan, IAS
Principal Secretary to Government

To

All the Commissioners of Municipal Corporations
All the Executive Officers of Municipalities and NACs

Sub: SOP 2.0 on Wealth Centres – Issue of revised SOP

Madam / Sir,

In July, 2019 we have made paradigm shift in the municipal solid waste management strategy by adopting decentralised and community driven model with Wealth Center as our hub of activities for such processing. In December, 2020 another SOP was issued to streamline the process flow.

Taking into consideration the learnings from the experiences gained so far and accordingly making the relevant course correction and assimilating all salient aspects covered under the previous SOPs issued in this Department Letter No. 19700 Dated 18.12.2020 and Letter No. 13408 Dated 30.07.2019 a revised SOP has been prepared and enclosed herewith for reference and strict observance.

It is requested to implement the directives in letter and spirit so as to make the "Wealth Centre" a vibrant infrastructure of solid waste management, which is also an ingredient uder the 5T Governance framework. An Executive Summary is enclosed herewith for easy reference of the actionable points incorporated in the SOP sent herewith.

Yours faithfully,

20/12/22

Principal Secretary to Government

840

//2//

Memo No. 21682 /HUD. Date : 20.12.2022

Copy along with copy of the enclosure forwarded to the Engineeer-in-Chief, OWSSB for information and necessary action.

20/12/2022

Additional Secretary to Government &
Additional Mission Director, SBM (Urban)

Memo No. 21683 /HUD. Date : 20.12.2022

Copy along with copy of the enclosure forwarded to all the Collectors / Project Director, District Urban Development Agencies for information and necessary action.

20/12/2022

Additional Secretary to Government &
Additional Mission Director, SBM (Urban)

Memo No. 21684 /HUD. Date : 20.12.2022

Copy along with copy of the enclosure forwarded to the Professionals, TSU, FSSM and SWM / Professionals in PMU, SBM (Urban) for information and necessary action.

20/12/2022

Additional Secretary to Government &
Additional Mission Director, SBM (Urban)

EXECUTIVE SUMMARY

The actionable points which need immediate attention and implementation for enhancing efficacy of the Wealth Centres are enlisted below for better appreciation:

1. Creating additional MCC and MRF wherever required;

2. Procurement of additional equipment like shredding unit as standby mode for uninterrupted functioning of the Wealth Centres;

3. Installation of weighbridge in all the Wealth Centres;

4. Installation of conveyor system in the MRFs for facilitating the process of segregation;

5. Hiring additional BoV for better coverage and collection of the waste;

6. Rectification of the MCC for allowing free flow of air, adequate slope of the floor of the Tubs for free draining out of Leachate through the pot in the Tubs;

7. Construction of Drying Yard for drying of Mo Khata;

8. Providing Lounge and Locker facility toilet complex etc. for the Swachh Karmis in the Wealth Centre common for the MCC and MRF;

9. Release of Monthly incentive by 7th of each month to the Community Partners through one time Standing Instruction already issued to Banks;

10. Four sets of Uniform to be supplied to the Sawchh Karmis, along with gloves and head scarf ;

11. Ensuring timely release of the segregated dry waste to the approved Agency thereby enabling adequate space in the MRF for sorting;

12. Awareness amongst the Swachh Karmis on extra remuneration of Rs. 40/- per day for segregating the waste received on the day itself without leaving any left over;

13. Ensuring Data entry in Ama Sahara Mobile App regularly;

14. Ensuring Testing of Mo Khata once in a month in the approved Laboratory to ensure quality of the Mo Khata;

15. Ensuring adequate water supply and drinking water facility in the Wealth Centre; and

16. Funds available under the Rural-Urban Convergence, SBM (Urban) and tied Grant under CFC can be utilised for the purposes.

*****

STANDARD OPERATING PROCEDURE FOR WEALTH CENTRE 2.0

Housing & Urban Development Department
Government of Odisha

Table of Contents

Preface

The Housing & Urban Development (H & UD) Department, Government of Odisha assigns high priority to management of municipal solid waste in consonance with the provisions contained under the Solid Waste Management Rules, 2016. With the vision of "Swachha Odisha, Sustha Odisha" and based on the principles of circular economy, the State aims to recover "wealth" from "waste". The State has adopted the decentralized model for solid waste management for all the ULBs except Berhampur Municipal Corporation having a centralised unit.

The decentralised model brings in less land requirement, transparency and cost efficiency compared to a conventional centralized model. Besides, it shifts the management of infrastructure from a contractor centric mode to a community driven model bringing ownership and livelihoods for the women members of the Mission Shakti Groups, Transgenders and Waste Pickers.

Consequent upon adoption of decentralised solid waste management system for processing of municipal solid waste in the State, Micro Composting Centres (MCCs) and Material Recovery Facilities (MRFs) have been established which are usually co-located and are generating wealth out of waste and also found to have larger scope for which these institutions have been aptly termed as "Wealth Centres".

The purpose of this SOP is to prescribe an updated process flow to manage solid waste by associating Community Partners, viz. women members of the Mission Shakti Groups, Transgenders and Waste Pickers in the Operation and Maintenance (O&M) of the "Wealth Centres" in the State of Odisha considering the learnings after implementing the decentralised model adopting Standard operating Procedure issued by this Department in Letter No. 13408 Dated 30.07.2019 and Letter No. 19700 Dated 18.12.2020. This revised version of SOP is meant to supersede the aforesaid SOPs.

1. Vision for the "Wealth Centres"

"Waste" has "Wealth" hidden in it, we can unfold & discover wealth, only if we adopt a scientific, systematic, and sincere approach for the purpose.

Households, Educational institutions, commercial establishments, offices, etc. generate "Waste", which are normally viewed as unwanted or unusable materials that are disposed of or discarded after their primary use.

It has been experienced that, "Processing" i.e. efficient handling of waste is not only a mandate for the Urban Local Body to safeguard the ecology, which is being fulfilled, but also when the entire solid waste management value chain is driven by women members of the Mission Shakti Groups and further moving a step ahead, associating the Transgender Groups in this process also provides *inter alia* a new horizon for these members of the Society, which ploughs back resources, creates employability and provides a new dignified identity to them.

It has also been envisaged to identify the Waste Pickers, informal waste collectors and integrate them in the solid waste management and thereby formalise their occupation through the system.

This vision has been translated into action throughout the State, augmenting its stature, utilising the infrastructures established for the decentralised solid waste management system, i.e. the Micro Composting Centres (MCC) and Material Recovery Facilities (MRF), the "Wealth Centres", institutionalising these, streamlining management of the said establishment for smooth and productive utilisation of all resources.

After careful observation, the Housing & Urban Development Department aims to further streamline the solid waste management value chain through this SOP, which is required to be diligently followed by each and every ULB.

2. Generation of Municipal Solid Waste in Urban Odisha

Sample survey on different aspects pertaining to generation of municipal solid waste taken up by the ULBs in respect of the households during August to December, 2019 reveals average waste to be 300 grams per person per day of a household in Urban Odisha on an average & wet waste and dry waste in the ratio of 60: 40. However, aforesaid ratio when taken up with waste generated by the commercial establishments, Bulk Waste Generators etc. may be revisited to be 50 : 50 which is also an indicative one.

Assumptions: Without delving deep into the numerical of waste generation and assuming the rate of waste generation and ratio of wet and dry waste as above the following assumptions may be made for designing operational strategy for the "Wealth Centres".

Table 1: Generation of Municipal Solid Waste in Urban Odisha

Sl. No.	Assumption in generation of municipal solid waste in Urban Odisha	Quantity (Gram)
1	Average waste generation by a person per day	300
2	Average wet waste generation by a person per day (50% of total municipal solid waste)	150
3	Average dry waste generation by a person per day (50% of total municipal solid waste)	150
4	Average wet waste generation by a family (of 4.5 persons) per day (150 x 4.5)	675

5	Average dry waste generation by a family (of 4.5 persons) per day (150 x 4.5)	675
6	Total waste (Wet and Dry) generation by a family (of 4.5 persons) per day (300 x 4.5)	1350

2.1. Quantum of waste management

Urban Local Bodies with variation in demography is to manage waste in proportion thereto as indicated below.

Table 2: Quantum of Waste to be Managed by ULB

Sl. No.	Type Of ULB	Population Range	Household Range [Population/4.5 (average number of member)]	Quantum of Waste to be managed per day (indicative) (@ 1350 gm. per household per day)	Number of 5 Ton MCCs and MRFs required
1	Municipal Corporation	> 3,00,000	>66,666	>89999100 g. (66,666 x 1350 g.) or >89999.100 Kg. or >89.999 Ton or 90 Ton	18+18
2	Municipality	25,000 to 3,00,000	5,555 to 66,666	7499250 g. (5,555 x 1350 g.) or 7499.250 Kg. or 7.499 Ton or 7 Ton to 89999100 g. (66,666 x 1350 g.) Or 89999.100 Kg. or 89.999 Ton or 90 Ton	2+2 To 18+18
3	NAC	10,000 to 25,000	2,222 to 5,555	2999700 gm. (2,222 x 1350 g.) or 2999.700 Kg. or 2.9 Ton to 7499250 g. (5,555 x 1350 g.) or 7499.250 Kg. or 7.499 Ton 7 Ton	1+1 to 2+2

3. Capacity of MCCs and MRFs

MCCs and MRFs have been designed for processing of municipal solid waste ranging from one and half Ton per day (TPD) to five Tons per day (TPD) to be adopted suitably by the ULBs taking into consideration various factors such as availability of land, quantum of waste generated etc.

3.1. "Cluster" approach in managing waste

The Table below indicates at a glance the quantum of waste that can be processed, requirement to be fulfilled by one Wealth Centre i.e. one cluster having one unit of MCC and one unit of MRF, as these two are co-located and therefore to be considered as a "Cluster".

Table 3: Coverage by One Wealth Centre (Cluster with one MCC & one MRF)

Sr. No.	Capacity of one MCC (TPD)	Population to be covered (Capacity of one MCC ÷ Processing of 150 g. wet waste per person)	Households to be covered (With 4.5 persons on an average in each HH)
1.	5	33,333 (5000000 g. ÷ 150 g.)	7,407 (33,333÷4.5)
2.	4	26,666 (4000000 g. ÷ 150 g.)	5,925 (26,666÷4.5)
3.	3	20,000 (3000000 g. ÷ 150 g.)	4,444 (20,000÷4.5)
4.	2	13,333 (2000000 g. ÷ 150 g.)	2,962 (13,333÷4.5)
5.	1.5	10,000 (1500000 g. ÷ 150 g.)	2,222 (10,000÷4.5)

4. Stakeholders across SWM value chain

The solid waste management system in the state of Odisha has various stakeholders involved across its value chain. Each of the stakeholder has different role in different stages of SWM value chain as it is represented below.

Table 4: Responsibilities of stakeholders across the SWM value chain

Stakeholders	Source Segregation	Collection & Transportation	Processing	Disposal	Citizen awareness
Sr. Sanitation Expert					
Sanitary Inspector/ Health Inspector					
Swachha Sathis*					
Swachha Supervisors					
Swachha Karmis* with Collection Vehicles					
Wealth Centre- Nodal Officer					
Wealth Centre In-charge/Manager					
Swachha Karmi* at Wealth centre					

* are from Mission Shakti Groups/ Transgender Groups/ Waste Picker Groups

4.1. Engagement of Swachha Sathi

Swachha Sathi would be the Community Link & act as a change agent to bring about collective behavioural changes in the household level in the ward areas towards door-to-door collection of segregated waste and to ensure decentralised composting of wet waste & collection of dry waste.

4.1.1. Who can be engaged as a Swachha Sathi?

a. One of the Dynamic Mission Shakti SHGs (MSG) of that locality will nominate suitable members as Swachha Sathi for different areas in the assigned wards having educational qualification not below +2 level (preferably). However, the educational qualification

may be relaxed in case of non- availability of suitable candidate.

b. Mission Shakti SHGs member having experience in community mobilisation and keen interest to work towards Solid Waste Management may be given preference by the Mission Shakti SHGs.

c. Persons having criminal track records, political affiliation should not be used as Swachha Sathi.

d. ULB may also explore the possibility of engaging the services of Area Level Federation (ALF) wherever they are active & dynamic for performing this.

4.1.2. Role and Responsibilities of Swachha Sathi

a. Swachha Sathi should sensitise all households in the locality to do the source segregation at household level itself.

b. If people are not doing source segregation at home, she must demonstrate the source segregation before the family members in the premises of the house while collecting the garbage.

c. Swachha Sathi must sensitise local markets/Schools / institutions / Parks regarding Source segregation and demonstrate the same for better understanding.

d. She must generate awareness regarding various method of composting preferably Micro Composting in the locality.

e. She must explain and sensitise people about Micro Composting and may provide handholding support and guide the people for undertaking Micro Composting Centre (MCC) facilities by the individual household/bulk waste generators.

f. She has to assist ULB in undertaking IEC activities in the locality.

g. They will collect "User Fee" under the SWM Bye-laws in respect of all the households, institutions etc. at the prescribed norm.

h. They should promote sale of "Mo Khata" at the household level, institutional level etc. for which they may be paid incentive by the ULBs @ 10% or as deemed suitable over and above the said norm.

i. They should be vigilant of any Garbage Vulnerable Point, intimate the ULB officials and facilitate in taking steps for its removal.

j. The ULB, shall interact with the WSHG for any improvement of the services to be rendered by the members nominated by the WSHG for being associated as Swachha Sathis in case of non-performance etc.

k. The monthly incentive payable to the Swachha Sathis will be remitted directly to the Bank Account of the Swachha Sathi by the ULB.

4.1.3. Coverage & incentive to Swachha Sathi

An incentive of Rupees **4000/-** per month may be paid to the Mission Shakti SHG / ALF for every 600 households by the ULB on the basis of the work done by it.

4.1.4. Capacity Building of Swachha Sathi / MSG / ALF

ULB will organise orientation sessions/meetings for Swachha Sathi / MSG / ALF to make them aware about different components of Solid Waste Management toimprove their performance.

4.1.5. Assessment of performance

The ULB authority must assess the performance of Swachha Sathis and may take needful action for better result either by replacing the existing Swachha Sathi / MSG / ALF or through proper reorientation of the approach.

5. Collection of segregated waste

5.1. Collection of Wet and Dry Waste

Collection of "segregated waste" from the households being the fulcrum of success of this model, due diligence need to be applied and all out efforts should be made to collect segregated waste, i.e., wet and dry waste collected separately from the households on daily basis. Swachha Sathis must continuously educate, motivate and take up appropriate Information, Education Communication (IEC) and Behavioural Change Communication (BCC) activities to ensure the same.

It may be ensured that horticulture, parks and garden wastes are collected separately in the service area of the MCC and processed in the Parks and Gardens. Necessary appropriate arrangements may be made to compost them.

5.2. Collection of domestic hazardous waste and E-waste

Domestic hazardous waste and e-waste are collected on a fixed day i.e., Saturday of every week and deposited at MRF in Wealth Centre for channelizing to the agencies identified by the ULB. No other dry waste would be collected on Saturday.

6. Route Rationalization and Transportation of waste

Route rationalization is an exercise which helps in optimizing the waste collection process and to ensure 100% collection coverage. This exercise includes identification of waste generators, identification of routes (lanes) for door-to-door collection of waste.

Route Mapping/ Rationalization help in the following -

- Identifying areas to be covered under Door to Door (D2D) waste collection
- Investigate the extent of source segregation of waste
- Identifying existing gaps in planning and engagement of vehicles in D2D waste collection
- Identifying various underlying issues in solid waste collection such as waste burning spots, littering spots, etc.
- Ensuring regularity of D2D services
- Strengthening monitoring of D2D waste collection services
- Efficiently managing the D2D waste collection services

6.1. Route mapping

Route mapping can be done manually using local area maps/ sketches. The routes of vehicle are mainly dependent on the following factors:

- Route for waste collection
- Type, capacity and number of the vehicle
- Number of points of intersect/gates/waste collection points

The process of route rationalization includes mapping of existing vehicle routes, households, road/streets, and other landmarks, planning of trips for each route and identification of points of waste collection or gates.

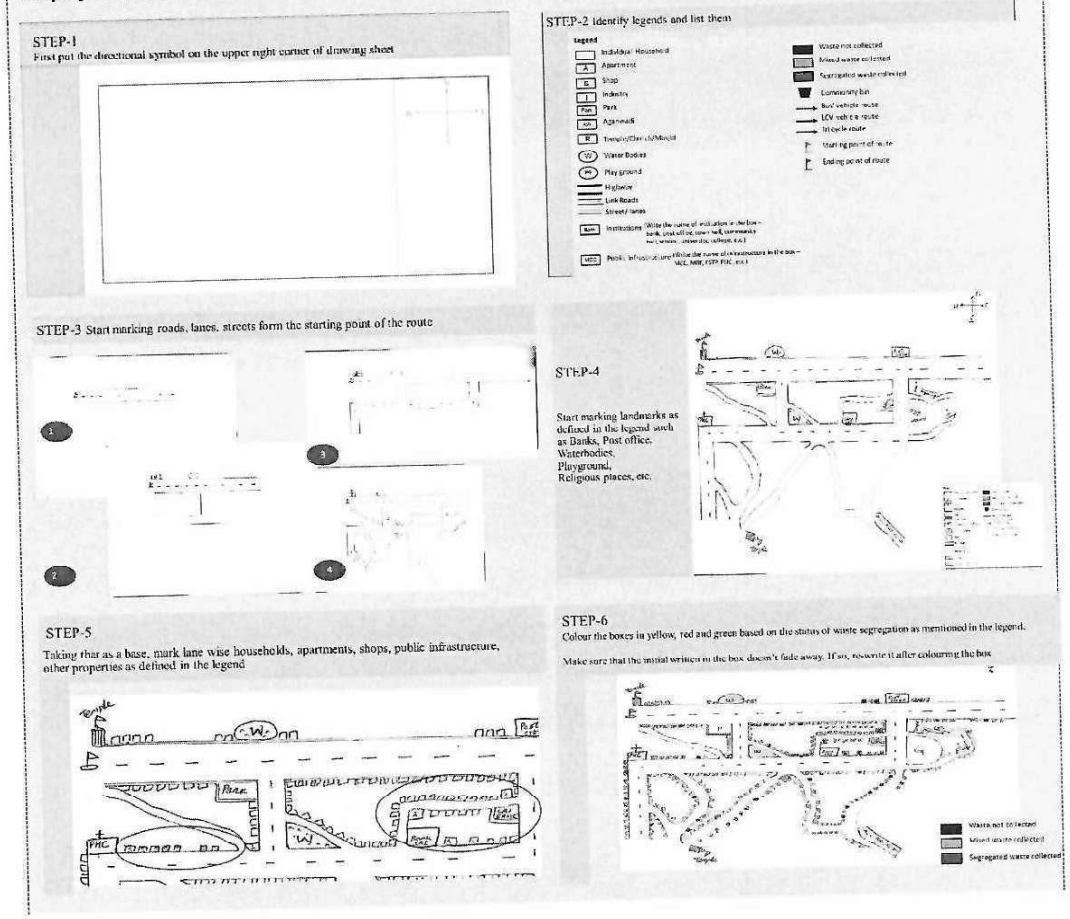
6.2. Pre-requisites for route rationalization

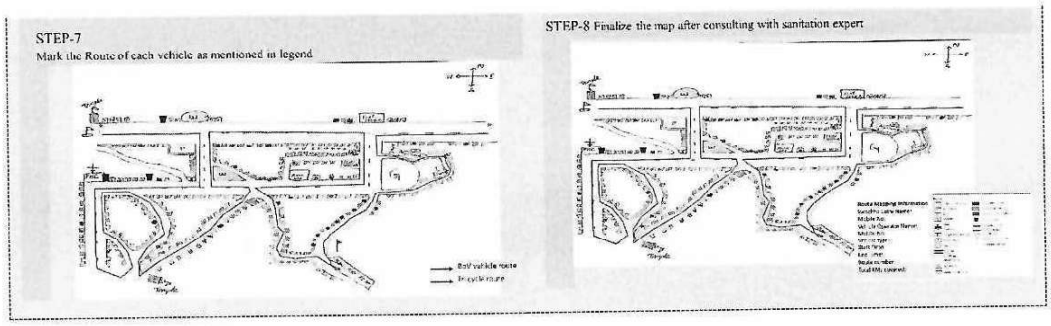
The following are the prerequisites for the route rationalization process:

a. Waste quantification must be carried out to manage and optimize the route rationalization process
b. Knowledge of the existing waste collection routes and ward boundaries
c. Waste carrying capacity of the vehicles
d. Location and distance of the wealth centres from respective areas

Information Box

Steps for route rationalization





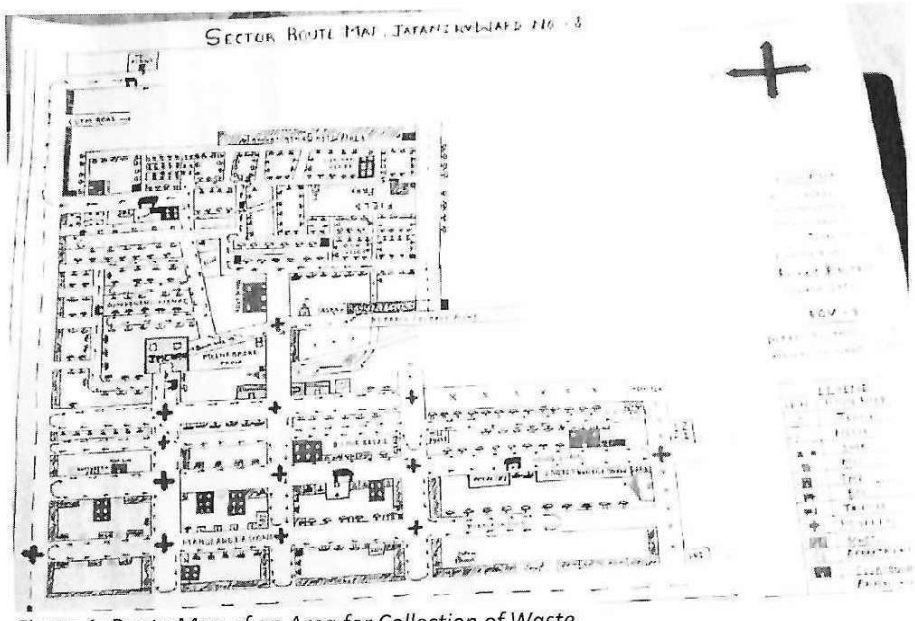


Figure 1: Route Map of an Area for Collection of Waste

Route Maps are prepared by Swachha Sathis and fixed in the vehicles along with target of solid waste to be collected by each vehicle. A register with title "Vehicle Deployment and Waste Collection Register" shall be maintained at every wealth centre as per format given in the table below:

Table 5: Format for Vehicle Deployment and Waste Collection Register

1	Trip No.	Trip 1	Trip 2
2	Location of MCC		
3	Vehicle Registration No. & Type		
4	Name of the Driver & Mobile No.		
5	Streets / Area covered		

1	Trip No.	Trip 1	Trip 2
6	No. of Households covered (Through Swachha Sathi)		
7	Population covered		
8	Quantity of MSW generated		
9	Quantity of organic waste to be collected		
10	Remarks		

6.3. Use of BoV- "Swachha Sabari":

In order to facilitate the collection with ease and dignity, Battery operated Vehicles (with separate chambers for the wet and dry waste) has been introduced through Government e-market (GeM Portal) gradually phasing out Push Carts, Tri-cycles etc.

The BoV utilised for door to door collection are designated as **"Swachha Sabari"** as these are smokeless and environment friendly. All the vehicles used in collection of segregated waste from the household should reach a household within a specified time, with a soothing miking arrangement (Volume must be within the permissible limit) to inculcate confidence among the waste generator that the waste shall be collected everyday on time.

7. Weighing and receiving waste at Wealth Centre

Weighing and Receiving of Waste comprises of the following steps:

- The source segregated waste from the households and bulk consumers is transported to the designated wealth centres.
- The waste-loaded vehicle (BoV/LCV) is weighed at the weigh bridge at the wealth centre
- The wet waste chamber is unloaded at the at MCC and the vehicle is weighed to ascertain the weight of wet waste*
- The dry waste is unloaded at the receiving yard of the MRF.
- Then the empty vehicle is weighed.
- The weight of the dry waste* is ascertained by simple calculation
- The process is repeated for each trips and captured in a register.

Figure 2: Swachh Karmi is unloading waste

The cumulative data for wet and dry waste for all trips for the day is calculated by adding the weight of wet and dry waste for each trip in the day and entered in Ama Sahara App.

*Weight of loaded vehicle – Weight of vehicle after unloading wet waste = Weight of Wet Waste received

**Weight of vehicle after unloading wet waste (vehicle with dry waste) – Weight of empty vehicle = weight of dry waste received

8. Micro Composting Centre

8.1. Conceptual Design

Micro Composting Centres is designed for "composting" biodegradable waste (wet waste) which means a controlled process involving microbial decomposition to generate organic compost through aerobic composting.

8.2. Type of waste processed at MCC

All biodegradable waste as mentioned in the picture below from households and commercial units are processed at MCC.

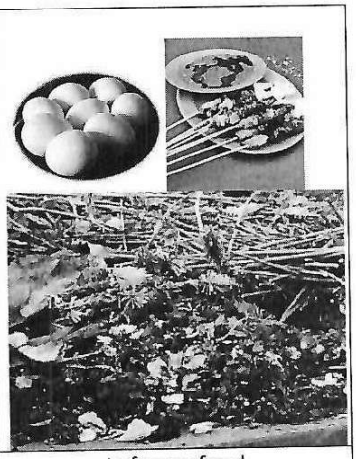
		
Kitchen waste Discarded food grains Vegetable/fruit peels	Plant waste Flowers Leaves Grass	Leftover food Leftover cooked Food Egg shells Expired packaged food (without packaging)

Figure 3: Biodegradable waste that can be processed at MCC

8.3. Area required for MCC

As per the provisions contained under rule 12(a) of the SWM Rules, 2016 the Collector of the District shall facilitate identification and allocation of suitable land (including advance possession) at various locations in the ULB.

Table 6: Criteria for space requirement for MCC

Processing capacity of biodegradable waste in TPD	No. of Tubs	Size of each Tub	Required area for processing centre in Sq.m.*
5	14	3.9mx 1.8m x 1.0m	600
4	14	3.0m x 2.0m x 1.0m	410

3	14	3.0m x 1.5m x 1.0m	360
2	14	2.4m x1.2m x 1.0m	260
1.5	14	2.0m x1.2m x 1.0m	200

*Facilities for provisioning of shredding machine with conveyor belt, sieving machine, weighing machine, office room, washrooms (for men and women separately), Lounge, Locker facilities, assured source of water supply along with adequate drinking water supply system etc. should be provided.

Source: (Standard Operating Procedure for Decentralised Solid Waste Management in Odisha, 2019 issued by this Department)

Suitable location and capacity of Micro Composting Center (MCC) may be determined based on the extent of land available. For example, a land parcel of 410 square meter can be used for establishing MCC of 4 Tons per Day (TPD) capacity. Based on the capacity of MCC, the coverage area comprising ward(s) can be determined. For example, a 1.5 TPD MCC can get waste from 10,000 people that is about 2,220 households. Therefore, the coverage area of 2,220 households shall be delineated. (Refer calculation given below)

Additional MCCs, if required, may be taken up immediately for construction and operationalisation. All equipment required should be procured and installed. It should be ensured that, the ULB has the infrastructure in position to process all the municipal solid waste generated in it.

Calculation:

Capacity of MCC = 1.5 TPD = 15,00,000 grams per day

Per capita waste generation (assumed) = 300 grams per day

Bio-degradable per capita waste generation (assumed 50%) = 150 gram per day

The MCC can cover (15,00,000 grams per day / 150 gram per day) = 10,000 population

10,000 population = 10,000/4.5 = 2,222 Households (Assumed population per Household = 4.5)

Hence, a 1.5 TPD MCC can cater to 10,000 population that is about 2,220 households.

8.4. Layout Design of MCC

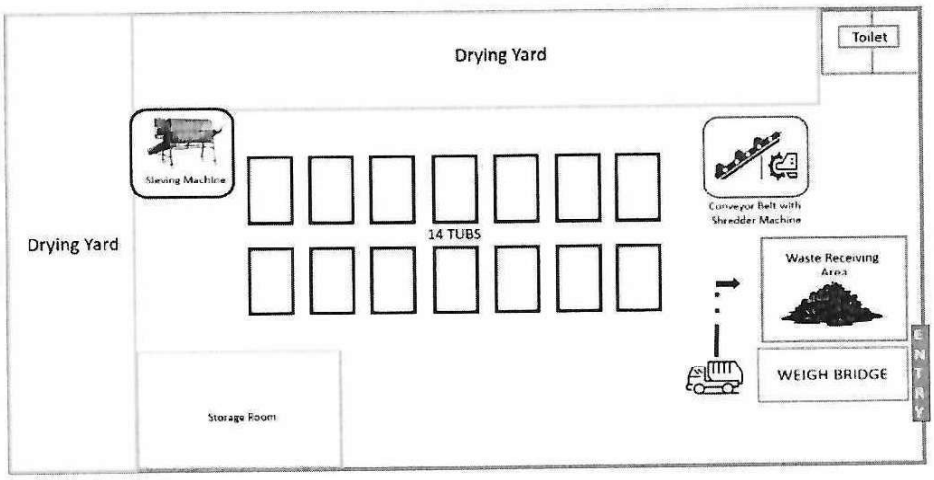


Figure 4: Model Layout design of MCC

Figure 5: Truss with sheets installed

- Roofing - Truss with corrugated sheets for roofing

Figure 6: Side walls with mesh and wall paintings

- Side Wall - For proper ventilation and protection, wire mesh with appropriate gaping

Figure 7: Entrance with concrete flooring and slope

- Flooring - Concrete floor (anti-skid) with proper slope at the main entrance of the MCC

Figure 8: All tubs at MCC

- Tubs:

a. The MCC will have 14 tubs in two trains of 7 tubs in each train*.

b. Each Tub may have dimensions as indicated in the Table-7 below:

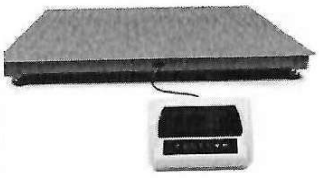
a. The floor of each tub shall be sloped to one side and have a drain point with jalli to collect leachate.
b. Leachate drain points from each tub shall be connected to underground pipes to form a leachate drainage network and connected to a chamber for safe collection.
c. The accumulated leachate will be rich in bacterial consortium and can be used as inoculum. The leachate can be sprinkled a little on the waste in tubs. But too much of liquid may block the pores that will create anaerobic condition in the tubs.
d. Each tub will have sufficient number of holes on the side walls. The holes will be connected through pipes and will have a cowl installed on the top to help proper ventilation.
e. There shall be adequate space for movement (approximately 1meter) around each tub.

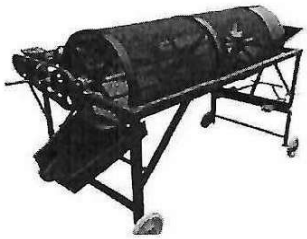
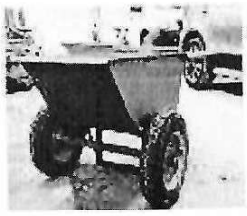
Table 7: Tub dimensions as per the processing capacity of MCC

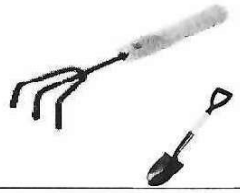
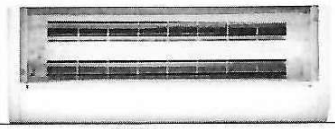
Processing Capacity of Bio-degradable waste in Tons Per Day	No. of Tubs	Size of Each Tub	Required Area for Processing Centre in Square Meter
5	14	3.9mx 1.8m x 1.0m	600
4	14	3.0m x 2.0m x 1.0m	410
3	14	3.0m x 1.5m x 1.0m	360
2	14	2.4m x1.2m x 1.0m	260
1.5	14	2.0m x1.2m x 1.0m	200
Source: (HUDD, Standard Operating Procedure for Decentralised Solid Waste Management in Odisha, 2019)			

8.5. Infrastructure and Machineries in MCC:

Table 8: Infrastructure and machineries at MCC

	Equipment and Infrastructure		Specification	Quantity	Operational area required
1	Digital Weigh Bridge		Digital weigh bridge capacity up to 10 ton	1	12ft X 15ft
2	Belt Conveyor		Speed control from 5 ft/min to 30 ft/min, and 5Hp Motor-output – 500 kg/hr	1	10ft x 40ft

3	Shredder Machine		5Hp Motor, Capacity of Baling 50- 80 kg	1 for 3-5 TPD MRF	6ft X 6ft
4	Weighing scale		25-100 kg weighing capacity	1	3ft X 3ft
5	Sieving Machine/ Screening Machine		Sanitary Napkin-15-20 pieces per hour; Diaper- 1 to 2 per hour 900-degree min operation temperature	2 for 5 TPD MRF	5ft X 5ft
6	Fire Extinguisher		As recommended by Fire local authority		
7	Fabricated Trolley/ push carts			2-3	

8	Ancillary sorting tool: Fork tool, Shovel		As required		
9	Air tight drum (3 nos)				
10	Water Jet Machine				
11	Fly Trap				
12	Turbo Fan				

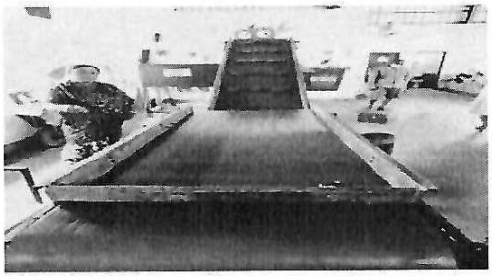


Figure 10:Figure 10: Shredding machine with conveyor belt

- Shredding Machine with conveyor belt shall be placed at the receiving bay to shred the waste to 20-40 mm size.

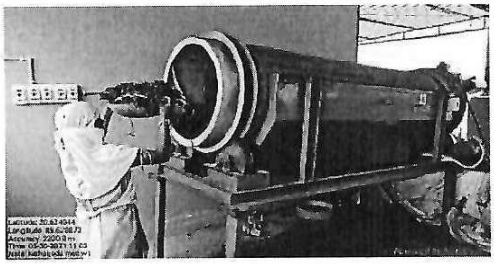


Figure 11: Sieving machine

- Sieving Machine shall be installed to screen the compost after 40 days.

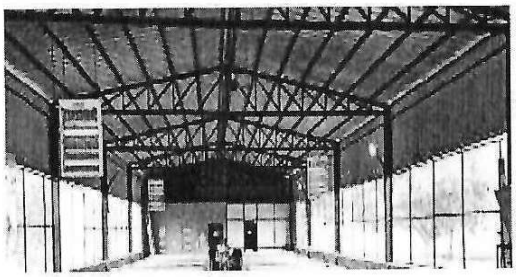


Figure 12: Fly traps installed at MCC

- Fly traps should be installed to control fly nuisance

Figure 13: Mo Khata- Compost packed and stored

- Storage room /Godown to be provided for storing finished product.

8.6. Processing of Biodegradable Waste (Wet waste) at MCC

The wet waste is processed at the Micro Composting Centre (MCC) to convert into organic compost by following a step by step process –

a. Separating non-biodegradable waste from wet waste
b. Preparation of Effective Micro Organism Solution (EM Solution)
c. Preparation of tubs before loading waste
d. Shredding of waste using a shredder
e. Sequential loading of shredded wet waste in tubs and adding EM Solution
f. Turning of waste and allowing aeration for decomposition of waste to convert into compost
g. Removing compost from the tubs and drying
h. Sieving the compost and packaging
i. Quality check of compost

Figure 14: Process flow of wet waste composting; source: Urban Management Centre

8.6.1. Separating non- biodegradable waste from wet waste

Before putting the wet waste in the tub, it has to be thoroughly checked and all the non-biodegradable wastes are removed from it.

Figure 15: Unloading waste at MCC

Figure 16: Loading waste on conveyor after removing non-biodegradable waste

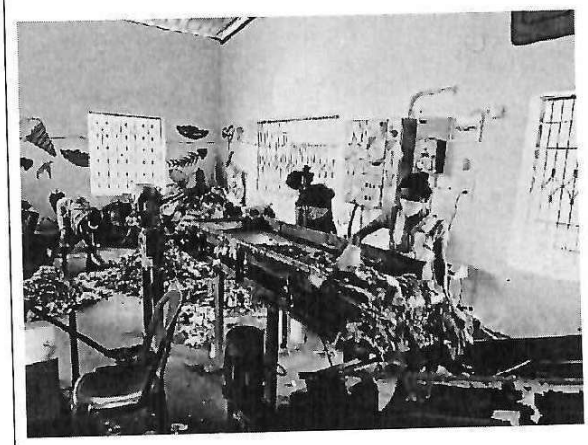


Figure 17: Thoroughly checking waste on conveyor

Figure 18: Collecting shredded waste to load in tubs

After this, the waste is ready to be put inside the composting tubs.

Before placing the wet waste in the composting tubs, some prior preparations are required such as (a) preparation of Effective Microorganism (EM) solutions and (b) preparation of tubs as shown here in detail below:

8.6.2. Preparation and use of Effective Microorganism (EM) Solution

EM stands for "Effective Micro-organisms". EM consists of a wide variety of effective, beneficial and non-pathogenic microorganisms produced through a natural process and not chemically synthesized or genetically engineered. It is prepared as follows:

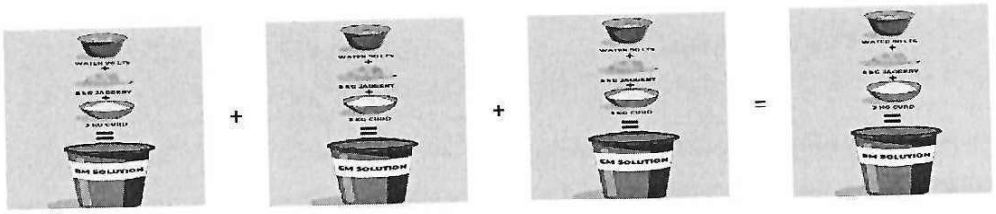


Figure 19: Process of preparing EM solution

a. Take a barrel of 100 liters capacity.
b. Add 3 liters of curd and 5 Kgs of jaggery. Mix it to form a homogeneous solution.
c. Close the barrel and keep it fermented for 7 days.
d. After 7 days, open the barrel and the EM Solution is ready to use.
e. Take some EM solution in a jar and mix it with equal proportion of Rice bran and Rice husk.
f. It should be used within three days of its preparation.

The quantity of EM solution should be such that the mixture can be turned into balls of the size of a coconut without breaking as shown in the figure-20. If it crumbles, add a little more EM solution to the mixture. If it is too much of watery, add more Rice bran and Rice husk.

Figure 20: Preparation of EM Solution

Figure 21: Preparation of EM solution balls

f. Keep the mixture ready to add on fresh waste.
f. The EM solution should be used within 3 days of preparation.

Table 9: EM Solution as per MCC's utilization capacity

EM Solution as per waste quantity received at MCC						
			Divide into 3 Barrels and Balls			
			Use of EM Solution			
	Waste received at MCC Tons Per Day (TPD)	EM solution (Litre)	Day-1 (Litre)	Day-2 (Litre)	Day-3 (Litre)	Make ball (Numbers)
In Tons	5	98	32.67	32.67	32.67	
	4	78	26.00	26.00	26.00	
	3	57	19.00	19.00	19.00	
	2	39	13.00	13.00	13.00	
	1.5	29	9.67	9.67	9.67	

- **Prepare "EM solution" in every 3 days interval keep it for 7 days for fermentation and used it for next 3 days after preparation**

EM solution is prepared in a sequence in every three days to keep the cycle continue and there is always ready-to-use EM Solution in stock at the MCC. The sequential preparation and use of EM Solution is shown in the following figure-21.

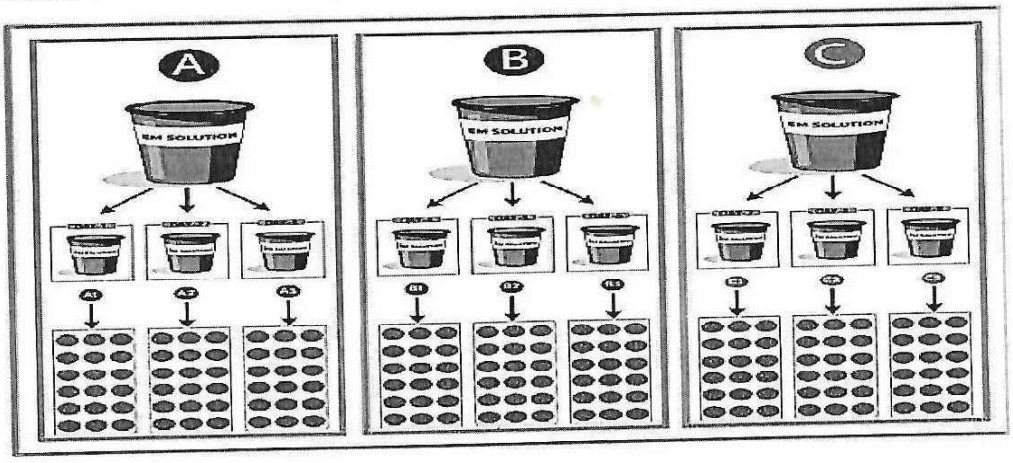


Figure 22: Preparation and use of EM Solution

8.6.3. Preparation of compost tubs to receive shredded waste for the first time

a. Put a 2-inch-thick dry cow dung at the floor of each tub, before putting waste in the compost tub for 1st time. This process is called bio-dozing.
b. Then put the shredded biodegradable waste mixed with the rice-husk-mixed-effective microorganism-solution if not mixed during the shredding process
c. Place the waste inside the tub and carry on the same process for next tub on next day.

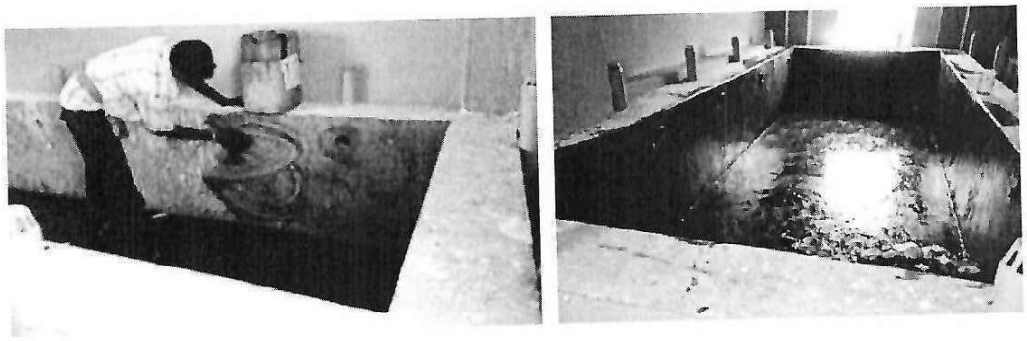


Figure 23: Bio dozing of the tubs before loading waste

8.6.4. Loading of waste in tubs

Once the pre-required activities are done, the processing of wet waste is initiated.

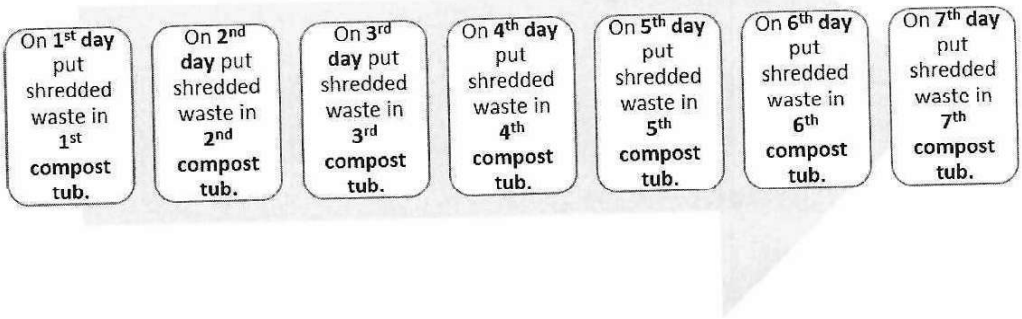


Figure 24: Sequence of putting waste in Tubs

a. On 1st day, put the shredded waste mixed with prepared media in 1st tub.
b. On 2nd day, put the shredded waste mixed with prepared media in 2nd tub.
c. This method is to be continued till 7th day, on which the shredded waste mixed with prepared media will be put in 7th tub.
d. The sequence of putting waste in tubs is: 1st day - 1st tub, 2^{nd} day - 2^{nd} tub, 3^{rd} day - 3^{rd} tub, 4^{th} day - 4^{th} tub, 5^{th} day - 5^{th} tub, 6thday - 6^{th} tub, 7thday - 7^{th} tub. For better understanding, the Figure-25 can be referred.

The same process has to be repeated every week, starting from day-1 to day-21 for putting waste in one train of tubs.

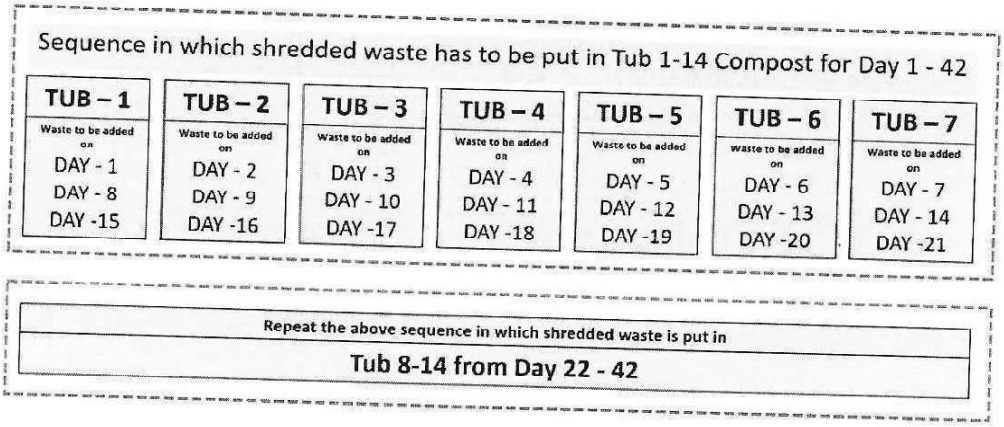


Figure 25: Sequence of putting waste in 7 tubs from Day 1 to Day 42

e. Turn the waste up and down once in every two days for better aeration.
f. With each passing day, the waste will degrade due to bacterial activity and there will be reduction in volume of waste. The colour of the waste will slowly turn brown and ultimately become black in final stage.
g. After 42 days of adding waste in any tub, the waste in the tub would have turned black colour indicating matured compost.
h. The matured compost shall be removed from the tub and sieved for uniform size.
i. The rejects from the sieving shall be put again in the tub for further decomposition.
j. The screened compost shall be kept for seven days for stabilization.

8.6.5. Turning of waste and aeration

After sequential loading of wet waste in the tubs, turning of waste in every two days are key to aeration, which is important for decomposition of wet waste and quality of compost prepared. A detailed chart of loading of wet waste in the tubs and turning of waste in every 2nd day of loading waste for better aeration is provided below in the Table- 10, where green colour stands for loading of waste and yellow colour is for turning of waste.

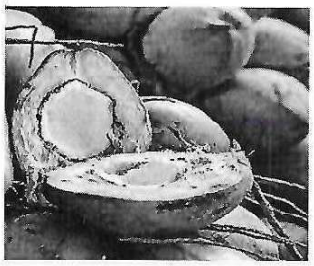
It is important to ensure that 3/4 of the tub is filled with shredded wet waste, and 1/4 of the space remains vacant for better aeration. By turning the compost properly, the waste gets aerated and is mixed properly inside the tub, which will help foster aerobic conditions to break down the particles and fasten the composting process. Besides, good aeration within the tubs reduces foul odour in MCC.

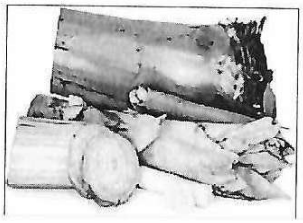
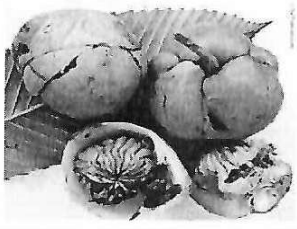
Table 10: Loading and turning of waste in the tubs at MCC

Table-1							
Day	Tub-1	Tub-2	Tub-3	Tub-4	Tub-5	Tub-6	Tub-7
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
41							
42							

8.7. Bio-degradable waste that cannot be processed in the tubs at MCC

There are some biodegradable wastes which take long time for decomposition because of their composition, therefore, cannot be composted in the tubs of MCC. Some of these wastes are listed below for reference –

Sl. No	Not Easily Decomposable Waste	Images
1	**Green Coconut**	
2	**Coconut cell**	

3	Meat bones	
4	Banana stem and leaf	
5	Garden waste like stem	
6	Corn Waste	
7	Drum stick	
8	Elephant apple	

9	**Rice straw**	
10	**Sugarcane substances**	
11	**Mango seeds**	

8.8. Management of Leachate

Leachate is the juicy fluid that drains from wet waste. Leachate contains high value nutrients for decomposing. On the other hand, excess leachate slows down the decomposition process due to excess liquid content. Therefore, it is important to control the excess liquid by adding rice husk, sawdust, etc., which absorbs its liquid substance.

Besides, it is also important to allow the excess leachate drain through the strainer at the end of the tubs. Excess leachate pass through the leachate channel constructed between the tubs and connected to the leachate pit where it accumulates. For smooth draining of excess leachate, the tubs need to be constructed in such a way that the floor of each tub should be sloped to the side of leachate channel and have a large strainer fixed to the drain. The accumulated leachate will be rich in bacteria and can be used to moist the waste and accelerate decomposition. A small amount of leachate can be sprinkled on waste in tubs. However, care should be taken while doing so as more leachate creates an anaerobic condition in the tubs.

Leachate hole in the tub needs to be cleaned at least once in a week, so also the pipe connecting the hole to the Leachate Pit so that free flow of the Leachate from the Tub to the Pit takes place enhancing efficiency of the decomposting process.

Each tub needs to have sufficient number of holes on the side walls, which needs to be cleaned periodically to allow ventilation.

8.8.1. How to reduce foul odour, flies and maggots at MCC

In general, MCC cannot be absolutely free from odours as waste if not fully decomposed would create foul odour. However, it is possible to control the odour if reason for the same is known. Primarily, foul odour is caused by the process of decomposition or breaking down of organic material. Reaction of bacteria on organic matter produces Hydrogen Sulphide (H2S), the main cause of foul odour.

In order to reduce the foul odour in MCC, the following actions are required -

Actions	Effect
Every 2 days, turn the waste in the composting tub	Internal odour will reduce
Add rice husk, sawdust to the waste in the tubs, if excess leachate is found	Reduces flies, maggots, and foul odour
Clean the leachate drainage line regularly (At least once in a week)	
Cover the leachate collection chamber properly with a lid which can be removed while cleaning	
Do not put fish or meat waste in the compost tub	Stops formation of maggots and flies
Install fans over the compost tubs and turbo fans on the roof to blow out air	Vents out air and odour
Install fly traps over each composting tub	Controls flies
Plant scented plants in the MCC premises	Reduces foul smells and creates a pleasant working environment
Do not leave post-processing waste lying around in the MCC for more than a day	Reduces foul odour and maggots
Clean the MCC premises, waste storage place, and waste carriers (cart, trolley, or tray) daily after waste is loaded in the tubs	Reduces foul smell
Do not leave used water in the open and properly clean the drains	Controls flies
Ensure free flow of air to the MCC as the basic principle of decomposition is "Aerobic". The current structure of sheet dropping down at the end point of roof should be modified to allow free flow of air into the MCC. So also wall from plinth should be of minimum height to allow flow of air.	Facilitates decomposition and thereby odour controlled

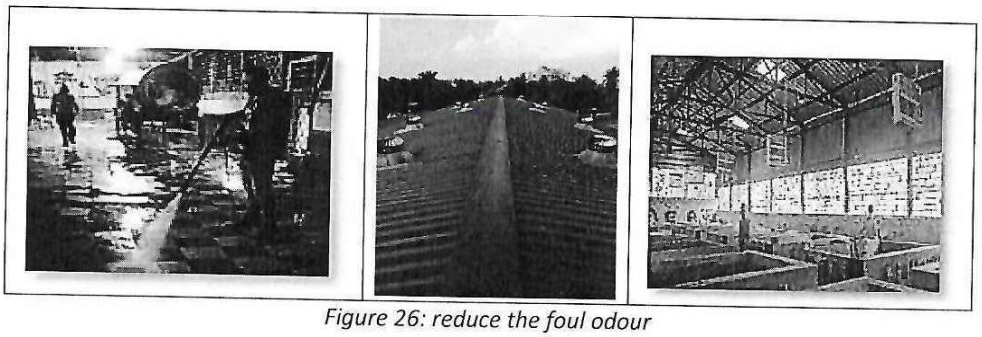


Figure 26: reduce the foul odour

8.9. Drying yard and Layout

Every MCC must have at least two drying yards for spreading the compost after removing from the tub on the 42nd day for drying and stabilising.

Layout: The drying yard with concrete floor should be ideally of 50" X 10" (however, the ULB may decide depending on availability of space in the Wealth Centre) each with all the four sides open. The compost may still have moisture content when removed from the tubs. This makes it difficult for oxygen to penetrate the piles and can lead to unpleasant odours. So, drying yard must have saucer drain to allow the fluid drain out and these drains may be connected to the leachate chamber.

Roofing: Trusses with polycarbonate sheets for roofing may be used.

Leachate drain points must be connected to the drainage network for safe collection of leachate

8.10. Compost Maturity

Figure 27: Compost put for drying for stabilization

The term "compost maturity" can be generally referred to the completion of the composting process. Maturity of compost can be determined through a simple test known as "Stink Bag Test". The compost is placed in a plastic bag and moistened to about 60% water content; the mouth of the bag is then closed (preferably sealed to prevent any airflow). The plastic bag containing the moist material is allowed to sit for 24–48 hours at room temperature (30°–35°C). If foul odour released when the bag is opened at the end of 24–48 hours, it indicates that the material is not fully matured and needs to undergo further decomposition. Generally, anything that smells bad is not good for crop or plant amendment.

The cured compost does not release odour because of carbon stabilization during aerobic decomposition of biodegradable material in tubs. Microbial activity continues during the curing phase also, but at a slower rate compared to the main composting phases.

8.11. Efficiency of wet waste processing –

Under ideal operational practices at MCC, the yield of compost can be around 20% of segregated processed municipal wet waste which also indicates good efficiency of the processing. The table-given below provides the monthly quantity of compost to be generated from wet waste at different level of efficiency rate of processing in MCC.

Table 11: Quantity of compost to be generated at different level of efficiency of processing in MCC (Tons per month)

	Capacity of MCC in Metric Tons Per Day	Capacity of MCC in Tons Per Month	Efficiency Rate		
			10%	15%	20%
In Tons	5	150	15	22.5	30
	4	120	12	18	24
	3	90	9	13.5	18
	2	60	6	9	12
	1.5	45	4.5	6.75	9

8.12. Quality of "Compost" generated out of wet waste

In order to ensure safe application of compost generated out of wet waste the specifications for its quality as indicated in Schedule-II of the Solid Waste Management Rules, 2016 [Copy attached as Annexure-4] shall be met.

8.12.1. Fertilizer Control Order:

The end product compost shall meet the standards prescribed under "**Fertilizer Control Order**" notified from time to time.

8.12.2. Features of Compost:

Compost is particularly useful as organic manure; it contains macronutrients (nitrogen, phosphorous, and potassium) as well as micronutrients (boron, iron, zinc, etc.). The use of compost reduces the dependency on chemical fertilisers for agricultural operations. When used as a soil amendment, compost reduces the need for water, fertilisers, and pesticides. Compost acts as a soil conditioner, therefore supporting long-term fertility of the soil. The benefits of compost use include improved soil quality, enhanced water retention capacity of the soil, increased biological activity, micronutrient content, and improved pest resistance of crops. Also, consistent, high quality compost is essential for building and sustaining the trust on the organic manure out of the Wet waste.

8.12.3. Concentration Limits:

Compost (Final product) exceeding the concentration limits stated under Schedule-II shall not be used for food crops. However, it may be utilized for purposes other than growing food crops. In other cases, it may be used for crops including food crops.

8.12.4. Testing of compost:

Department of Fertilizers, Govt. of India has identified laboratories throughout India for testing of compost. Testing of the compost may be conducted in the designated Laboratory / Testing Centres at least once in a month.

Table 5: List of Government approved laboratories for compost quality testing in Odisha

Sl. No.	Address of the Laboratories
1	Analytical Chemist, State Fertiliser Quality Control Lab., Plot No. 646, Sahid Nagar,

	Bhubaneshwar-751007 (Odisha)
2	Analytical Chemist, Fertiliser Quality Control Lab., Farm Road, P.O. Modipara, Sambalpur-768002 (Odisha)

The Department of Agriculture, Cooperation & Farmers Welfare, Govt. of India in consultation with State Governments has furnished (Letter No. F. No.11 026/08/2016-M&E, Dated 19th December 2019) the list of Soil Testing Laboratories identified by State Governments and the list of laboratories under the administrative control of the State Governments for use of testing of City Compost samples. The list of such laboratories in the state of Odisha is provided in below.

Table 13: List of Soil Testing Laboratories for Testing of Compost

Sl. No.	District	Address of Laboratory
1.	Angul	Soil Testing Laboratory, Near Krishi Bhawan, Angul – 759122
2.	Balangir	Soil Testing Laboratory, Agriculture Office Campus, Cold Storage Road, Balangir
3.	Balasore	Soil Testing Laboratory, At-Balia, Via Kuruda, Pin-758001
4.	Bargarh	Soil Testing Laboratory, Ekamra Chowk, At/Po- Sarsara, Barharh, Pin-768040
5.	Bhadrak	Soil Testing Laboratory, Bye pass, Haldidiha, Bhadrak
6.	Boudh	Soil Testing Laboratory, DAO Office Campus, Boudh, Pin- 762014
7.	Cuttack	Soil Testing Laboratory, Jagatpur, Cuttack
8.	Deogarh	Soil Testing Laboratory, Near College Road, Deogarh
9.	Dhenkanal	Soil Testing Laboratory, Dhenkanal
10.	Gajapati	Soil Testing Laboratory, Po-Parlakhemundi, Dist-Gajapati
11.	Ganjam	Soil Testing Laboratory, Ankuli, Berhampur
12.	Jagatsinghpur	Soil Testing Laboratory, Jagatsinghpur, At-Nimakana, Po- Manijanga Block - Tirtol -754160
13.	Jajpur	Soil Testing Laboratory, At-Mansapola, O/o DDA, Jajpur
14.	Jharsuguda	Soil Testing Laboratory, O/o DDA Near SP Office, OMP line Jharsuguda
15.	Kalahandi	Soil Testing Laboratory, Near Arkabahali Farm, Bhawanipatna
16.	Mayurbhanj	Soil Testing Laboratory, Takhatpur, Baripada
17.	Kandhamal	Soil Testing Laboratory Agriculture Colony, Mandikunda Square, Phulbani
18.	Kendrapada	Soil Testing Laboratory, Kendrapada

19.	Keonjhar	Soil Testing Laboratory, DOA office campus, Madhapur, Keonjhar
20.	Koraput	Soil Testing Laboratory, Semiliguda, Dist.-Koraput Pin- 764036
21.	Khurda	State Quality Control Laboratory Building, Saheed Nagar, Bhubaneswar
22.	Malkangiri	Soil Testing Laboratory, Malkangiri
23.	Nuapada	Soil Testing Laboratory, Nuapada, Pin-766105
24.	Nabarangpur	Soil Testing Laboratory, DDA Office Campus, Miriganguda, Nabarangpur
25.	Nayagarh	Soil Testing Laboratory, Campus of Office of DDA Old Hostel Road, Nayagarh
26.	Puri	Soil Testing Laboratory, DAO Office campus, Chakratirtha Road, Puri
27.	Rayagada	Soil Testing Laboratory, Rayagada
28.	Sambalpur	Soil Testing Laboratory, Modipara, Sambalpur
29.	Sonepur	Soil Testing Laboratory, O/o DAO Campus, Near Royal Field, Sonepur
30.	Sundargarh	Soil Testing Laboratory. Rani Bagicha, Sundargarh

8.13. Packaging and marketing of compost ("Mo Khata")

In the Micro Composting Centres (MCC), after aerobic composting "wet waste" begets a new life and shape after being converted to the final product of "Compost" branded throughout the State as "Mo Khata". This compost is the precious organic manure which needs to be made available to the customers (farmers) with pride and prudence. In the age of presentation and face value packaging is equally important as the quality of the product. Packaging should disseminate vital information to the customer, display the brand and quality guarantee and should look more attractive than the other brands of organic manure or chemical fertilizers.

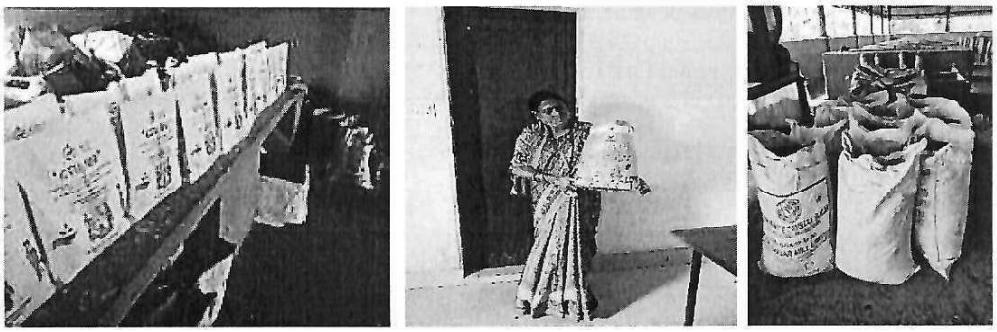


Figure 28: Compost packaging in various sizes

The quality, texture, and even "look and feel" must be strategically designed. A branding of the "Mo Khata" should be consciously decided to popularize the product. The compost should be packed in bags of **various sizes** and it should be made up of **suitable materials**. The packaging should

be such that it is **handy to carry** and has a clear and attractive printing to attract customers. The **basic information** regarding the product should be displayed on the bag appropriately. The bags should be **sealed** properly using sealing machine to maintain the quality of product. Overall, the packaging should be informative to the customer, display a reliable brand and quality guarantee, and look at least as compelling as that of competing soil amendments.

8.13.1. Promoting compost

For marketing purposes all the Line Departments concerned having programme of plantation should be kept in touch for obtaining indent well ahead of the commencement of plantation season from them for timely supply of compost which may be delivered at the designated place by own arrangement by the ULBs.

Nearby Blocks and other offices may be contacted for reaching out to various stakeholders under their administrative set up. Agriculture / Horticulture authorities may be consulted for reaching out to the farmers.

IEC activities may be carried out to popularise "Mo Khata" amongst people.

The In-Charge of the Wealth Centre shall enter the relevant entries on production and sale of the compost on daily basis in the Mobile App "AMA SAHARA" and verify the stock of the day.

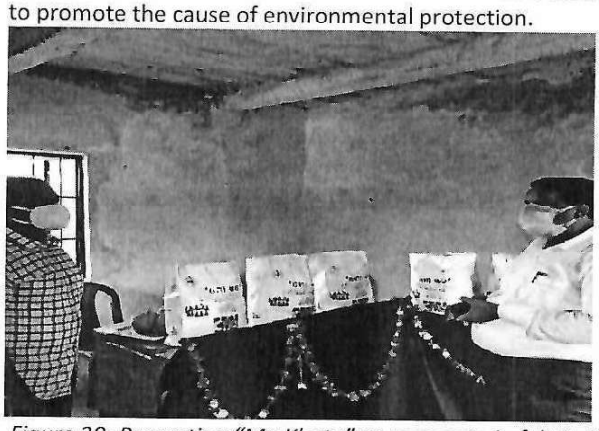
8.13.2. Managing inventory of "Mo Khata"

The inventory of "Mo Khata", the compost generated from the processing of wet waste at MCC, is maintained in a register as well as recorded in the Ama Sahara App. While recording the stock of Mo Khata, only ready-to-sale stock is to be entered, not the compost kept in the drying yard for stabilising.

8.13.3. Expenditure out of resources generated from sale of "Mo Khata"

The "Mo Khata" generated in the MCC shall be the deemed property of the ULB. The resources generated from the sale of "Mo Khata" @ Rs. 20/- [Rupees twenty only] per kilogram as approved by Government shall be deposited in the Corpus Fund of the Wealth Centre and shall be utilized to meet operation and maintenance cost of the "Wealth Centre", payment of monthly incentive to the Community Partners, cost of transportation of "Mo Khata" for delivery to the Line Departments and matters ancillary and incidental with maintenance of records on all such expenditures. Money Receipts should be issued for receipt of the amount towards sale of "Mo Khata" and the data should be entered in "Ama Sahara App".

Use/ sale of "Mo Khata"	
Complimentary supply to households	To realize the importance of source segregation, to deliver the message that the "Waste is Wealth", and to replace a chemical fertilizer with "Mo Khata", "Mo Khata" should be supplied to the households in the service area as per request. Incentive of 10% may be paid to the Swachha sathi or Supervisor or any Community Partner for promoting sale on own endeavour.
Use in parks	ULB should use "Mo Khata" in the plantation made in places under its administrative control such as parks, plantations made in the road dividers and other places. But it has to pay the required amount for lifting "Mo Khata"
Memento	It can be presented as mementos in different competitions, awareness campaign, felicitation, Orientation meetings etc. as it carries a significant message on Environmental Protection, care for the waste, and in promoting the use of organic compost. Behavioral change in exponential form can take

Use/ sale of "Mo Khata"	
	place through this activity. However, cost towards the amount of "Mo Khata" taken for use as Memento should be deposited with the "Wealth Centre". The district administration and other Govt & private organizations may be impressed upon to use "Mo Khata" as a memento in their functions & events to promote the cause of environmental protection.  *Figure 29: Presenting "Mo Khata" as memento in felicitation programmes*
Outlets for sale	ULBs may through the members of the Mission Shakti Groups/ Transgender Groups or on their own open outlets in suitable places and make available "Mo Khata" for purchase by people at the aforesaid price. An incentive of 10% or more as deemed suitable by the ULB may be paid to the Groups concerned for venturing into the marketing aspect, which will encourage them to take up the challenge and make available to the people, "Mo Khata" as per demand.  *Figure 30: Outlets for sale of "Mo Khata"*
Online sale	ULBs may also take up in a professional approach to enter the market, to make available their proud product to people in the highest level of circulation. On-line marketing being one such tool, they may take up the needful action to popularize the product not only inside Odisha but join in a Pan India movement.
Sale through GeM portal	Currently, compost is not sold in Government e Market (GeM) Portal. Therefore, ULBs may explore scope to sell compost via this transparent channel of marketing through GeM Portal.
Supply to line Departments	Departmental Authorities of the Agriculture & Farmers' Empowerment Department, Forest Environment & Climate Change Department etc. may be supplied with the compost at the aforesaid price on receipt of the indent. Proactive steps be taken for supply to the Line Departments in time.

Use/ sale of "Mo Khata"	
Request by households	Request for door delivery of "Mo Khata" made by the households through the Swachha Sathis under her coverage area may be accepted and small quantities may be supplied through the Battery-operated Vehicles for door delivery, in case of larger requests, special BoV may be deployed engaging the Members of the Mission Shakti Groups / Transgender groups assigned with operation of the "Wealth Centres". Incentive as indicated above may be paid to the Community Partners (Individual members / Group as the case may be).
Bulk buyer	The Bulk Purchaser (Purchase of 100 Kg. or more in one go) may be issued with a Letter of Appreciation by the ULB for promoting the use of organic manure and thereby aiding in Environmental Protection and sustenance of the Wealth Centre side by side.
Farmers	Farmers may be the target Group for sale of compost and to promote use of compost so as to fulfil the obligation to phase out the use of chemical fertilizer.
Other modalities/ strategy	Any other modalities / strategy found suitable for sale / disposal of "Mo Khata" may be taken up to make available "Mo Khata" to the persons/ institutions / Department requesting for the same.

8.14. Performance Indicators for MCC

The performance level of the MCC is to be assessed by examining / evaluating on the basis of the following criteria:

a. Percentage of days the compost plant was not operational
b. Quantity of waste received
c. Compost production (kg)
d. Pre-processing reject in percentage
e. Post-processing rejects in percentage
f. Compost yield (with an acceptable limit)
g. Percentage of Reject (with an acceptable limit)
h. Capacity utilization of the compost plant
i. Quantity of compost sold
j. Revenue generated from selling of compost
k. Expenditure on the operations
l. Expenditure on maintenance
m. Shredder downtime (in days) in percentage
n. Sieving machine downtime (in days) in percentage
o. Flytrap downtime (in days) in percentage
p. Total stock of compost
q. Percentage of absenteeism of human resources
r. Monthly Testing of compost in approved Laboratory

9. Material Recovery Facilities (MRF)

9.1. Conceptual design

As per the SWM Rules 2016, a MRF is defined as a facility where non-compostable solid waste can be temporarily stored by the local body or any other entity or any person or agency authorised by

any of them to facilitate segregation, sorting and recovery of recyclables from various components of waste by authorised informal sector of waste pickers, informal recyclers or any other work force engaged by the local body or entity mentioned in rule 3 for the purpose before the waste is delivered or taken up for its processing or disposal.

The Material Recovery Facility (MRF) is an essential part of a "zero waste" management programme that reduces dependence of landfill as it recovers recyclables from the discarded materials and adds value to those for marketing to end-user manufacturers. The main function of the MRF is to maximize the quantity of recyclables recovered from collected waste that will generate the highest possible revenue in the market.

9.2. Evaluation of the market and economics of operation

It is important to devise a recycling strategy whereby the waste management value chain is functional and no residual waste stream is left behind and. The primary objective of MRF is to sort, store and pre-process dry waste like baling before sale to buyers/recyclers. Since waste streams vary in composition and volume from one place to another, the MRF should be designed specifically to meet the waste management goals of the city and its adjoining rural areas in the long term. Odisha aims at a seamless convergence of rural and urban waste management. Therefore, the cities should do a careful assessment the quantity of non-bio degradable waste generated in the city as well as in the rural areas tagged to it and accordingly plan the MRF. The previous SOP focussed on processing urban waste from ULBs. In addition to that, the current SOP also takes into account that MRFs also process plastic waste emanating from rural areas as part of urban rural convergence.

On the other hand, it is important to map the recyclers' market and tie up with them to maximise the uptake of the recyclable materials at a competitive price. The ULBs need to short list and empanel the recycler/ buyer of recyclables with item-wise rate by adhering to the prescribed process.

9.3. Infrastructure Planning for MRF

The land and human resources requirement for establishment of MRF depend upon the quantity of dry waste to be processed. According to advisory on MRF published by CPHEEO in 2020, an MRF of capacity of 5 TPD would require an area of 1500-2500 sqm.

Based on the learning from the existing MRFs in Odisha, it is calculated that the average area required per tonne is about 160 sqm per tonne (i.e. 0.06 tonnes processed per sqm). Also, the per capita dry waste generation in the State is estimated to be 150 g per day.

ULBs can use these conversion rates to optimize the available space and estimate the population that can be served by building MRF in a given area. The detail calculation is provided in Table-2 below.

Additional MRFs should be constructed to meet the demand and have adequate facility to process the dry waste with ease.

Table 6 Sample Calculation of area for processing waste

Space available: 1000 sqm
Waste processed per sqm: 0.006 tonnes or 62.5 kg
Total waste processed: 1000* 0.006 = 6.25 tonnes
Population served per tonne: 1,50,000
Total population covered: 6.25*150000 = 937500
Average size of households: 4.5 people
Total household covered: 937500/4.5 = 208333

Also, based on empirical evidence, two human resources are required per tonne to process dry waste at the MRF. A one tonne processing capacity MRF can process the waste of 1.5 lakh

population, which covers 33 thousand households. The above estimate can be used in estimating the additional area and human resources required for expansion of an existing MRF.

The Table -3 below provides a detailed estimate of area and human resources required per tonne of waste received at MRF per day. This includes basic infrastructure for sorting shed, storage space for sorted recyclables and other basic infrastructure such as record room and water and sanitation facility, etc. (CPHEEO & MoHUA, 2020)

Table 15: Estimate of area and human resources for MRF

S.no	Capacity of MRF (TPD)	Area Required (sqft) @160 per tonne	HR required @1.6 per tonne	Population	Household covered
1	1	160	2	150000	33333
2	2	320	3	300000	66667
3	3	480	5	450000	100000
4	4	640	6	600000	133333
5	5	800	8	750000	166667
6	6	960	10	900000	200000
	7	1120	11	1050000	233333
8	8	1280	13	1200000	266667
9	9	1440	14	1350000	300000
10	10	1600	16	1500000	333333

The above table considers a single shift. The second shift, if needed, can be decided with 40% of the human resources as primary sorting would be completed in the first shift itself. These numbers are indicative and may vary based on local scenario.

9.4. Type of Municipal Solid Wastes managed in MRF

9.4.1. Non-Biodegradable wastes/ Dry wastes

As mentioned earlier, MRF manages the "dry waste" means waste other than bio-degradable waste and inert street sweepings such as and includes recyclable and non-recyclable waste, combustible waste and sanitary napkin and diapers, etc.

Under the dry waste/ non-biodegradable waste, several other waste types find their way into the municipal solid waste stream, which require special handling and disposal because of their quantity, concentration, physical and chemical characteristics, or biological properties (CPHEEO & MoUD, Municipal Solid Waste Management Manual - Part 2, 2016) which are also managed at MRF:

Sanitary Waste

Wastes comprising of used diapers, sanitary towels or napkins, tampons, condoms and any other similar waste (CPHEEO & MoUD, Municipal Solid Waste Management Manual - Part 2, 2016). The waste generators are required to handover sanitary waste safely wrapped in pouches to the waste collector of the local body. Upon collection of sanitary waste, it should be preferably disposed of in biomedical or MSW incinerators at the MRF, as applicable to the local context or as directed by the SPCB as per the standards mentioned in the SWM rules, 2016.

Domestic hazardous waste

As per the SWM Rules, 2016 the "domestic hazardous waste" means discarded paint drums, pesticide cans, CFL bulbs, tube lights, expired medicines, broken mercury thermometers, used batteries, used needles and syringes and contaminated gauge, etc., generated at the household level. It is local bodies responsibility to safely handle and dispose of the domestic hazardous waste under the directions from SPCB through the MRF.

Plastic Waste

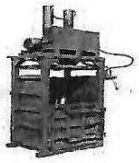
The "plastic waste" means any plastic product such as carry bags, pouches or multi-layered packages which have been discarded after use or after their intended life is over. (CPHEEO & MoUD, Municipal Solid Waste Management Manual - Part 2, 2016). Plastic waste is managed at MRF - segregation, collection, storage, transportation, processing and disposal through authorized Plastic Waste Processors (PWPs) - as mentioned in the rule 6(1) of the Plastic Waste Management (Amendment) Rules, 2018.

E-Waste

Means electrical and electronic equipment, whole or in part or rejects from their manufacturing and repair process, which are intended to be discarded as waste The waste generators will hand over the E-waste to the waste collector of ULB. The e-waste management rules specify that the collected e-waste at the MRF should channelize the e-waste to recyclers and play the role of Extended Producer Responsibility (EPR).

9.5. Equipment and Infrastructure at MRF

The basic equipment/machineries and furniture used in a semi-automated MRF are provided in the Table -16 below.

	Equipment and Infrastructure		Specification	Quantity	Operational area required
1	Digital Weigh Bridge		Digital weigh bridge capacity up to 10 ton	1	12ft X 15ft
2	Horizontal Belt Conveyor		Speed control from 5 ft/min to 30 ft/min, and 5Hp Motor-output – 500 kg/hr	1	10ft x 40ft
3	Baling machine		5Hp Motor, Capacity of Baling 50- 80 kg	1 for 3-5 TPD MRF	6ft X 6ft

4	Weighing scale		25-100 kg weighing capacity	1	3ft X 3ft
5	Incinerator		Sanitary Napkin-15-20 pieces per hour; Diaper- 1 to 2 per hour 900-degree min operation temperature	2 for 5 TPD MRF	5ft X 5ft
6	Fire Extinguisher		As recommended by Fire local authority		
7	Fabricated Trolley/ push carts			2-3	
8	Collection Bins: for sorted recyclable wastes and for inert waste		Large bins size 3ft x 2.5ft		

9	Ancillary sorting tool: Fork tool		As required		
10	Furniture Cane/ Plastic Stools		Height 30 inch		
11	Aluminium Ladder		6-8ft height		

Table 76: Equipment and Infrastructure at MRF

9.6. Facility Design and Layout of MRF

The facility design plan of MRF should accommodate all the equipment discussed above and their operation along with all the activities which promote efficient and effective operation of the MRF. The facility design and layout is furnished below in Figure -23.

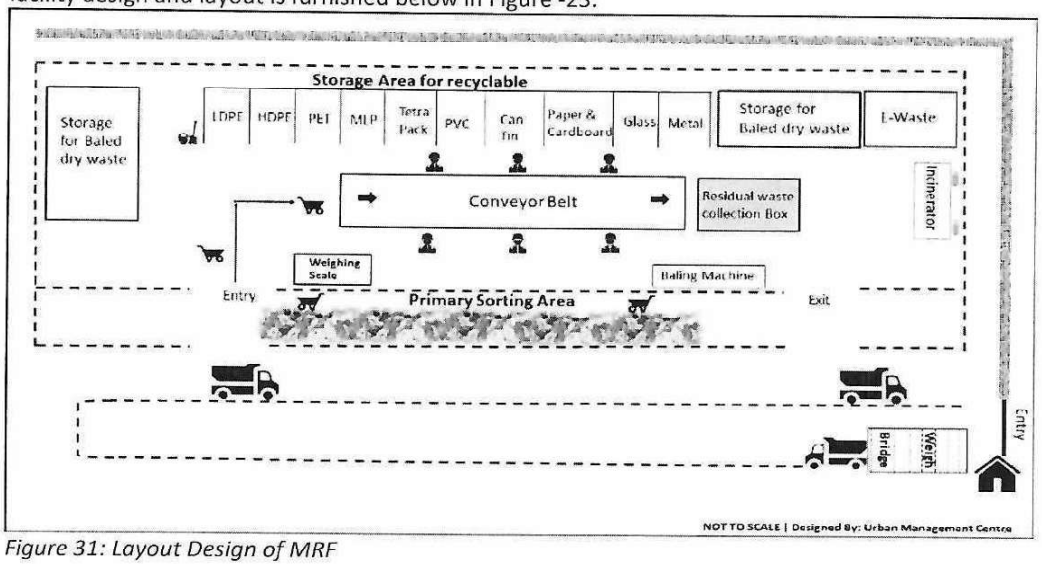


Figure 31: Layout Design of MRF

9.7. Operation process of MRF

The operation process flow of an MRF in Odisha has broadly six steps:

1. Preliminary segregation of sortable dry waste for loading on conveyor
2. Detailed sorting of dry waste into various categories on conveyor
3. Baling and bundling of Dry Waste
4. Storage of dry waste
5. Sale of dry waste to empanelled sellers/recyclers
6. Consignment of non-recyclable fraction of dry waste to cement companies for co-processing

Table 17 below provides a broad list of materials, their type and recyclability is provided as a reference for the ULBs.

The MRF should have weighbridge and conveyor system to bring in efficacy to the system, Funds placed for the purpose may be utilised immediately for placing these in place.

Table 17: Classification of Materials as per type and recyclability

Material Classes	Material Types	Recyclability
Recyclable Paper	Cardboard	Recyclable
	Newspaper	Recyclable
	Cartons	Recyclable
	Mixed Paper	Recyclable
Recyclable Glass	Glass Containers	Recyclable
Recyclable Metal	Aluminium Cans	Recyclable
	Aluminium Foil and Trays	Potentially Recyclable
	Tin Food Cans	Recyclable
	Empty Aerosol Cans	Potentially Recyclable
Recyclable Plastic	PET (#1) Bottles and Jars	Recyclable
	PET (#1) Small Rigid Plastics	Potentially Recyclable
	Clear HDPE Bottles and Jars	Recyclable
	Coloured HDPE (#2) Bottles and Jars	Recyclable
	HDPE (#2) Other Containers	Potentially Recyclable
	LDPE (#4)	Potentially Recyclable
	PP(#5) Bottles and Jars	Potentially Recyclable
	PP (#5) small Other Rigid Plastics	Potentially Recyclable
	PS (#6) Rigid Plastics	Potentially Recyclable
Foam Plastic	EPS Food Packaging	Potentially Recyclable
	EPS Foam Blocks and Shapes	Potentially Recyclable
Film Plastic	Clean Plastic Bags and Film	Potentially Recyclable
	Disposal Bags	Potentially Recyclable
	Other Plastic Film	Potentially Recyclable
Other materials	Household Hazardous Waste	hazardous - needs safe disposal
	Electronics and Small Appliances	Recoverable
	Diapers and sanitary napkins	Contaminates – needs safe disposal by incineration
	Textiles/ Shoes	Non-recyclable – needs safe disposal
	Furniture	Recoverable

	Mixed Residue	Contaminates – needs safe disposal

9.7.1. Preliminary segregation of sortable dry waste

- The dry waste received at MRF is thoroughly checked for residual wet/mixed waste at the primary sorting area.
- The wet waste is removed and transported to MCC

Figure 32: Detailed sorting on conveyor belt

9.7.2. Detailed sorting of dry waste on a conveyor belt

The detailed sorting of dry waste will be as per the following steps:

- The dry waste is taken to a horizontal conveyor belt using a trolley or push cart.
- The dry waste is placed on the horizontal conveyor belt to sort the dry waste into the different categories based on details provided in Table 18 below –

Table 18: Categories of dry waste for sorting at MRF

Sr. No.	Category of dry waste	Type	Examples of Waste
1	Plastic	Polyethylene Terephthalate (PET)	Jars, Bottles, Ropes, Carpet, Tote Bags, Combs
		High-Density Polyethylene (HDPE)	Containers, Grocery Bags, Shampoo Bottles, Toys, Trash Bags
		Polyvinyl Chloride (PVC)	Plumbing Pipes, Tiles, Shoes, Ducts, Sewage Pipes
		Low-Density Polyethylene (LDPE)	Cling Wrap, Frozen Food Wrapping, Condiments
		Polypropylene (PP)	Tupperware, Kitchenware, Plastic Diapers, Disposable plates and cups, bottle caps
		Polystyrene (PS)	Disposable coffee cups, Plastic Cutlery, Peanut packaging
		OTHERS/Multi-Layer Plastics (MLPs)	CD's. DVD's, Eyeglasses, bottles, Tetra packs, Food Packaging (Potato Chips Packets)
2	Paper	Corrugated Cardboard	Packaging boxes, Egg Cartons, Shoe boxes, cereal boxes
		Mixed Paper	Mail, Catalogues, Phonebook's magazines
		Newspapers (ONP)	Newspapers
		High Grade Inked Paper	Envelopes, Copy Paper, Letter Heads
3	Metals	Aluminium	Aerated Beverage Cans, Aluminium Foils
		Steel	Food Cans, Stainless steel mugs, Toys, Lids

		Tin	Cans, Household containers
		Iron	Cooking Instruments
4	Wood	Wood	Broken Furniture, Blocks, Boxes
5	Glass	Container Glass	Bottles, Jars, Glassware, Bulbs
6	Leather, Rags and Rubber	L and R	Garments, Shoes, Bands, Wires
7	Thermocol	Polystyrene Foam	Styrofoam, Small or Large Packaging

The use of conveyor belt enhances the sorting efficiency by three times compared to conventional method of sorting. Besides, it also improves the posture and convenience of Swachh Karmis making the process easier and comfortable.

9.7.3. Baling and bundling

The baling and bundling of dry waste comprises of the following steps -

- High volume of plastic waste/PET bottles, MLPs, cardboard etc. is baled into rectangular bales and bound and stack in the storage area.
- Other materials are similarly packed in bags or bundled and stored in the storage area
- Lightweight materials can be stacked on top of each other to optimize space.

Figure 33: Baling of sorted waste

Sanitary Waste and domestic hazardous wastes like used diapers, sanitary towels or napkins, tampons, condoms, incontinence sheets, masks and any other similar waste is separated from the dry waste and incinerated in the napkin incinerator in MRF till the waste is reduced to ash.

The ash residue after incinerator is collected and stored in a specific container for onward safe disposal.

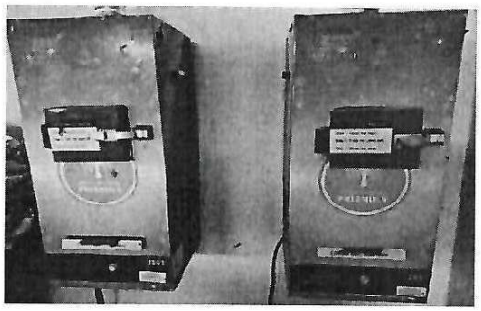


Figure 34: Incinerator at MRF

9.7.4. Cleaning and upkeep of MRF

The daily operation of MRF will be closed with sweeping of the floor of the primary sorting area and cleaning with water by using a jet spray if it has residue of wet waste or mixed waste.

All MRFs should keep the primary sorting area clean to receive fresh waste next day. No MRF should have mixed waste dumped at the primary sorting area.

Figure 5: Cleaning of floor after primary sorting

9.8. Marketing and sale of recovered materials and safe disposal of non-recyclables

9.8.1. Downstream Processing and Compliance

After segregation of dry waste in multiple categories, the waste is sold to either scrap dealers or recyclers. The dry waste can be categorised into three waste streams based on downstream processing.

The Table-19 below gives details of type of downstream processor and statutory required for different types of dry waste

Table 19: Downstream process and compliances for different types of waste

S.no	Type of Waste	Type of Processor	Compliance Requirement
1	Paper	Reseller/Paper Mills	Relevant Compliances
2	Recyclable Plastic Waste (PET, PVC, HDPE, LDPE)	Reseller/Plastic Waste Recycler	CTE and CTO required for for resellers if operations are more than 5 TPD Authorization under Plastic Waste Management Rules 2016 required for Plastic Waste Recyclers
3	Metal	Reseller/Foundries	Relevant compliances
4	Non-Recyclable Waste	Cement Companies	Authorization from OSPCB
5	E-Waste	Recyclers/Dismantlers	OSPCB Authorization
6	Domestic Hazardous Waste	Hazardous Waste Recyclers/TSDF	OSPCB Authorization

9.8.2. Empanelment of buyers/recycler

The MRF can either sell the waste directly to Recyclers/Processor authorized by ULB (under the Plastic Waste Management Rules 2016), if they have sufficient quantities or an intermediary reseller, who will then aggregate waste from other sources and sell the waste to a recycler.

The e-waste and domestic hazardous waste has to be sold to an authorized recycler under e-waste management rules. The ULBs can empanel the reseller/recycler through a tendering process. The MRF can also store the e-waste/domestic hazardous in case the empanelled recyclers requires a minimum quantity for picking up the material.

9.8.3. Procedure of selling to recyclers

The ULBs should follow the following steps for empanelment of vendors.

a. Set up a benchmark for selection of vendors
b. Draft an RFP for the empanelment of vendor

c. Invite applications for interested parties for sale of waste to RFP
d. Onboard agencies for sale based on the benchmarks and cost
e. Maintain sale register to capture sale details
f. Enter sale details in Ama Sahara App.

The RFP should contain the following points:

- Details of statutory requirement as per the SWM Rules, 2016 and
- Details of downstream partners
- Indemnification of the ULBs
- Rate Contract and frequency of collection

In addition to this, officials of the ULBs should visit the facilities of reseller to ensure that no malpractices like child labour and use of potentially hazardous techniques for processing of waste is followed by the resellers/recyclers, which is violating the existing norms.

9.8.4. Safe Disposal of non-recyclables

The non-recyclable materials may be stored, baled and sent to cement factories for co-processing. H&UD Department through Letter No. 11387 Dated 01.07.2019 has partnered with 4 cement factories in Odisha for safe disposal of non-recyclable materials. H&UD Department has designated nodal ULBs located in the proximity of these cement factories, which can aggregate waste from other ULBs and sent the cumulative waste to cement factories.

The Table-20 below gives an indication for cement plants who can co-process non-recyclable dry waste at the facility –

Table 20: List of Empanelled Cement Factories in Odisha

	Name of Empanelled Cement Factory	Nodal ULB
1	**ACC Ltd.** Bargarh H&UD Dept. Letter No. 11387 Dated 01.07.2019Cement Works Cement Nagar, Bardol, Bargarh	Bargarh
2	**OCL India Ltd.** Rajgangapur, Sundargarh	Rajgangapur
3	**Shiva Cement Ltd.** Unit – II, Telighana, Kutra, Sundargarh	Rajgangpur
4	**Toshali Cement (P) Ltd.** Ampavalli, Koraput	Koraput

10. Managing sales proceed

The proceeds from the sale of materials will be deposited in the Corpus Fund of the Wealth Centre. The revenue so generated may be utilised in the manner as indicated in the preceding paragraphs.

11. Monitoring of Wealth Centre

11.1. State Level Monitoring Cell

For effective supervision, monitoring, guidance, support, remedial measures, evaluation etc. and to bring up these "Wealth Centres" i.e., the MCCs and MRFs to an ideal performance level and to maintain the standard, improvise upon the experience gathered, a State Level Monitoring Cell has been constituted by this Department. (HUDD, 2019)

11.2. AMA SAHARA App

The mobile app "AMA SAHARA" is a citizen engagement and performance management app created for Department of Housing and Urban Development, Government of Odisha.

The app facilitates

- citizens to post requests for garbage pickups and raise complaints if they are not happy with solid waste management services.
- facilitates government officials, sanitation workers and facility managers input data on the daily basis helping government to monitor the performance of the processes and solid waste management in the State of Odisha.

The app can be used at every node of the solid waste management value chain starting from the waste deposition at the wealth centre.

- The amount of dry waste and wet waste received at the wealth centre is weighed and the corresponding quantity is entered in the "AMA SAHARA" app by the Swachha Karmi duly checked by the In-charge of the wealth centre.
- The daily production of the compost and its sale is also recorded in the app.
- The quantity of recyclables sorted out from the dry waste, quantity of non-recyclables and income generated from the sale of recyclables is also entered in the app.
- Apart from this the app is also used for user fee collection from households for solid waste management service.

The app helps in periodic assessment of performance and improve quality of service. The state level monitoring cell "Suo Motu" uses the app for constant monitoring and smooth functioning of the wealth centres.

11.3. Wealth Centre In-Charge/ Manager

The ULB will engage Wealth Centre In-Charge/ Managers from Mission Shakti/Transgender/Waste Picker group, who will supervise the entire operation and maintenance of the wealth centre.

11.3.1. Roles and Responsibilities of Wealth Centre In-Charge/ Manager

The Wealth Centre In-Charge/ Manager's role and responsibilities would include the following –

1. Operation and Maintenance

a. The operation and maintenance of wealth centre is done as per SOP issued by this Department.

b. Dry and wet waste is collected, segregated and processed properly.

c. Weighing of dry and wet waste is done separately every day and record in a register and update in Ama Sahar Mobile App

d. In case of breakdown of Equipments, waste collection vehicles, s/he will Coordinate with the supplier/AMC for quick repair and inform immediately to ULB.

e. In case of infrastructural damage like building, compost tubs, plumbing fittings and fixtures, S/he will coordinate with Nodal officer and repair.

f. Ensure the availability of consumables such as water, jaggery and curd for preparation of EM Solution.

g. Facilitate marketing of compost (Mo Khata) and recyclables to the different bulk buyers/department/recyclers.

h. All the Equipment and waste collection vehicles are ready for next day.

2. Manage Human Resources.

i. Record attendance of all the Swachha Karmis in the morning.

- i. Ensure that all the S
- i. wachh karmis are working for 8 hours a daily.
- i. Ensure that all the Swachha karmis are well-trained and delivering as per acceptable standards.
- i. Assess and allow leave to Swachha karmis in a way that work is not affected.
- i. Ensure that all the Swachha karmis are provided with two pair uniforms, foot wear, PPE and ID-Card

3. *Ensure Safety Measures are in place and functional*

- o. Ensure that the Swachha karmis are using PPE while working at the wealth centre.
- o. All the safety Equipments like fire extinguisher is properly placed and accessible in the wealth centre.
- o. The first aid kit is available and used in the wealth centre.
- o. Lounge is cleaned daily and used by women Swachha karmis.

4. *Monitor Record Keeping and Reporting*

The Wealth Centre In-Charge/ Manager will maintain the following registers -

- s. Vehicle Deployment and Waste Collection Register
- s. Dry and Wet waste collection register
- s. Mo Khata sales register
- s. Recyclable sales register
- s. Attendance Register for Swachh Karmis

5. *Maintenance of Accounts and Records:*

In Charge of the "Wealth Centre" shall maintain the Records and Accounts on day to day basis. Separate Account opened in the Nationalized Bank should be updated in each month and discrepancy if any be sorted out.

ULB should designate an official of the ULB for periodical verification (Monthly or in lesser suitable duration as deemed suitable) of the Accounts, Records etc. maintained in the "Wealth Centre". Remedial measures, required, if any, may be resorted to forthwith.

6. *Reporting on Ama Sahara App*

Wealth Centre In-Charge/ Manager is responsible for maintaining records of different types of data as per the frequency mentioned in Table-21.

Table 21: Frequency of Reporting in Ama Sahara App

Sl. No	Type of data to be reported through Ama Sahar App	Frequency of data filling in the App
1	Wet Waste Received	Daily
2	Mo Khata Ready-to-sale	Daily
3	Mo Khata Sold	On the date of sale
4	Dry Waste Received	Daily
5	Segregated Waste	Daily
6	Recyclable Sold	On the date of sale
7	Non-recyclable Disposed	On the date of disposal
8	Sanitary waste Disposed	Daily
9	Domestic Hazardous waste disposed	On the date of disposal
10	E-waste disposed	On the date of disposal
11	Disbursal of incentive	Monthly
12	Attendance	Daily

12. Engaging Self Help Groups for Operations at Wealth Centre

Government of Odisha is pioneering the Community Partnership Model for effective solid waste management in the cities. The state has mandated for partnering with formation of women self-help groups formed under Mission Shakti called as Mission Shakti Groups (MSGs) or groups of sanitation workers, waste pickers and transgender in the cities for operation and maintenance of MCC and MRFs. The MSG/ Waste Pickers groups/ Transgender groups provide Swachh Karmis.

12.1. Selection of SHGs

Selection of MSG/ waste picker/ transgender groups involves of the following steps:

- The ULBs will invite Expression of Interest (EOI) from the Mission Shakti SHGs and SHGs of waste pickers and transgenders for the operation and maintenance of MCC/MRF.
- The SHG will engage their members or others from their community as workers, who are called Swachh Karmis.
- The number of Swachh Karmis are to be decided by ULB based on the MCC/MRF's actual utilisation capacity at the rate of 1 Swachh Karmi per TPD utilisation capacity of MCC and 2-3 Swachh Karmis per TPD utilisation capacity of MRF.

12.2. MOU with SHG

Memorandum of Understanding (MoU) should be signed between the ULB and the Mission Shakti Group/transgender groups/ waste pickers specifying period of engagement, assignments, operational modalities, payment of incentives, etc., which must be executed prior to their engagements.

12.2.1. Incentives to Swachh Karmis

12.2.2. Criteria for incentives:

The criteria of incentives shall be paid as per the H & UD Department's instruction vide Letter No. 16040/HUD, Dated 26/09/2022, which is mentioned below -

a. A consolidated sum of Rs. 9780/- [Rupees nine thousand seven hundred eighty only] per person per month is to be paid to Swachh Karmis.

b. **An additional performance-based incentive will be paid @ Rs. 40/- [Rupees forty only] per day per person is to be paid.**
Note: The additional performance-based incentive will be paid after analysis has been done in relation to the quantitative and qualitative aspects of the work performed on quarterly basis subject to meeting the qualifying performance criteria.

A detailed analysis of the incentive structure for Swachh Karmis, as well as their incentive indicators, are provided in Annexure-A.

12.2.3. Modalities for Payment:

- ULBs to issue a one-time Standing Instruction to the Banks concerned for remittance of the fixed monthly incentive to the Aadhaar linked Savings Bank Account of the Swachh Karmi concerned associated with solid waste processing in Wealth Centres on 5th of each month, unless a contrary advice to "Stop payment" is issued by the ULB before that date, whenever situation warrants.
- Performance Incentive as stipulated in preceding paragraphs may be remitted to the Aadhaar linked Savings Bank Account of the Swachh Karmi concerned on quarterly basis.
- A standard format is developed and attached for issuing to the Bank Authority as STANDING INSTRUCTIONS is annexed herewith at ANNEXURE-B (along with Format "SCHEDULE OF MONTHLY INCENTIVE" as Annexure-B-1)
- If it is found that, amount payable is to be withheld for lack of delivery of services or absent or for any other valid reason(s) on administrative grounds; an instruction to that effect may

be issued to the Bank concerned before 5th and subsequently upon rectification / compliance, the amount payable may be released.

- Any amount that needs to be deducted or recovered from the payable or already paid may be effected in subsequent months also. Hence for want of verification of absentee statement or on account of services delivered no undue delay should happen in monthly payment to Swachh Karmis.
- The concerned E.O. and Accountant will be held personally liable for any delay in releasing payment to the Community Partners.
- It is the responsibility of the E.O to ensure necessary coordination with the relevant Banks so as to achieve the objective of timely payment to Community Partners.

12.2.4. Gap funding

In the initial stage, till the system has not stabilised or the earning has not reached the expected level or otherwise, the ULB may remit the amount of incentive as agreed upon, from its own fund, if required.

12.2.5. Capacity Building of SHG members

To build, strengthen or upgrade the skills and capacities of the human resources engaged in the MRF for its effective and efficient operation and maintenance, the department has laid out a comprehensive capacity building plan. As a part of the plan, the department has designed and rolled out the training modules, self-learning training guidebooks and information ready reckoners for different stakeholders. The ULBs shall be responsible for ensuring that the training programmes are organised with support from the resource organisations and agencies authorised by the H & UD Department.

12.2.6. Entitlements of SHG members

The ULBs will ensure that in addition to the monthly incentives, the Swachha Karmi engaged from SHGs avail their basic entitlements listed in the Table -22 below.

Table 22: Entitlements of Swachh Karmis

Sl No	Entitlements	
1	Monthly Incentive	7th of subsequent month
2.	Weekly one-day paid leave	The Wealth Centre In-Charge/ Manager must ensure that the daily waste management activities are not affected due multiple Swachh Karmis absence on a particular day. Hence, all leaves are to be granted after careful assessment.
3.	Group Personal Accidental Insurance	The H & UD Department has covered all the Swachh Karmis of MCC and MRF under the Group Personal Accident Insurance of Rs. 2 lakh per person w.e.f. 01/08/2022, which is subjected to renewal every year.
4.	Health check-up	Quarterly by Urban PHC
5.	Personal Protective Equipment (discussed with details under the "Safety Measures" in this document)	To be provided by ULB for use by the Swachh Karmis all the time while handling waste
6.	Lounge with individual locker facility and First Aid box	Common Lounge to be provided at each wealth centre for use by Swachh Karmis for dining and storing belongings

7.	Four sets of uniform, gloves head scarf etc.	

13. Maintenance of equipment at Wealth Centre

Maintenance of wealth centres includes repair and replacement of infrastructure, machineries, equipment, fixtures (plumbing, sanitary and electrical) and any other repairs wherever. Maintenance can be categorised into two types:

a. **Preventive maintenance** is to check or inspect regularly to lessen the likelihood of sudden break down. This includes checking or inspecting of equipment, machinery, electrical fixtures such as switchboard, electric motor, pump, etc. and sanitary fixtures such as taps and drainpipes.

b. **Responsive maintenance** takes care of remedial action to resolve any breakdown. ULB shall engage appropriate agencies/ITIs for annual maintenance of infrastructure, machinery, and vehicles through a contract.

Table 23: List of required maintenance tasks for the Wealth Centre

List of required annual maintenance in Wealth Centre		
Task (in-charge)	**Category**	**Frequency**
Equipment/Machineries		
Washing and cleaning of waste collection vehicles (BoV) by Swachha Karmis/ Driver	Preventive	At least twice a week
Inspect all machineries (Weigh Bridge/ Weighing Scale, Baling Machine, Incinerator, Conveyor belts and sieving machine) and hire agency for repair/ replacement through annual maintenance contract (AMC). Periodic inspection by agency under AMC	Preventive	Once a month
Coordinate with agency under AMC when there is damaged or dis-function of machineries and equipment	Responsive	As and when required
Electrical Fixtures		
Inspect all bulbs, tube lights, fans, hand dryers, switches, plugs, miniature circuit breaker (MCB) switch and any other electrical fittings in the wealth centre and repair/ replace as needed	Preventive	Once a month
Repair and replace electrical fixtures when these are damaged or not functioning	Responsive	As and when required
Plumbing Fixtures		
Inspect all the toilet seats, urinals, wash basins, flush knobs, taps, faucets, showers, pipes, and any other plumbing fixtures within the wealth centre including leachate channel to identify any leakage/ damage/ malfunction that may need repair/ replace	Preventive	Once a month
Other elements		
Inspect sanitary pad vending machines and restock as needed. Inspect sanitary pad incinerators and clear out the ash as needed as per the instructions of the manufacturer.	Preventive	Once a month
General Infrastructure		
Report any visible damage in the internal/external walls/ceiling of wealth centre building, large cracks and breakages, damage in leachate tank/soak pits/septic tanks and damage in the drains	Responsive	As and when required
Inspect all the doors, windows, ventilators, latches, hooks, and any other elements within the wealth centre for any damage/ breakage that may need repair/replace	Preventive	Once a month

Maintain a barrier free access to the wealth centre by not allowing any other activities at or close to the entrance of the wealth centre	Preventive/ Responsive	As and when required
Inspect to identify any damage in painted walls and signage, and inform the ULB in case of requirement of renovation/replacement	Preventive	As and when required

The Wealth Centre In-Charge/ Manager will maintain a maintenance register to capture details of breakdown and maintenance activities at the Wealth Centres

14. ISO Certification

Third Party assessment may be made for ascertaining the qualitative maintenance of the infrastructures for which ISO Certification for each MCC and MRF be made, Funds from the Corpus Fund / sale proceeds available from sale of "Mo Khata" or Recyclables may be utilised for the purpose.

15. Information Education and Communication (IEC)

15.1. Display boards

All wealth centres shall have standardised display of information (prototype is provided in Annexure-C). The following display boards are mandatory for every MRF:

a. Board 1: DOs and DON'Ts at Wealth Centre
b. Board -2: Daily Update on Waste
c. Board -3: Process flow of MRF

15.2. Awareness campaign

The 'Source Segregation' being the most important parameter across the solid waste management value chain, it is necessary to communicate the message at household level through IEC and BCC campaign. For this there is a need to develop inter-personal communication to generate awareness on source segregation and its importance in managing the solid waste.

The Swachha Sathis plays a very important role to sensitize all the households assigned to them.

- Sensitize public and educational institutions through practical demonstration on waste segregation at source.
- Take up vigorous actions to orient the waste generators in practicing source segregation in day-to-day life.
- Aware waste generators on the rate of user fees to be paid by them and the rebate available for payment of the User Fee in one go for a year by the Swachha Sathis.
- Identify houses who provides segregated waste and tag them as Swachh Gruh
- Identify houses who does not provides segregated waste and tag them as Aswachh Gruh

The ULBs shall also take appropriate awareness campaigns based on the following key messages as provided on Table- 24 below:

Table-24: Key messages for IEC campaign

	Key Messages
1	Behaviour change of waste generators for keeping dustbins and handing over segregated waste to collection vehicles of ULB
2	My waste my responsibility – Green bin for wet waste and blue bin for dry waste
3	Refuse, reduce, reuse, recycle, recovery of waste – everyone's responsibility
4	Pay a nominal user fee through Ama Sahara App by waste generator for collection of waste from door step by ULB

5	Use ULB's door-to- door waste collection facility and be a part of the state's mission of waste management

Apart from educating the waste generators, IEC and BCC for Swachha Karmis is also require for various activities at the wealth centre.

- Dissemination of educational messages for awareness generation of various stakeholders engaged should be done.
- Displaying the educational messages about their responsibilities at their respective work areas.
- For example, the responsibilities of a Swaccha Karmi at MCC for processing the wet waste can be displayed by painting it on the outer walls of composting tubs, etc.
- Colorful wall paintings related to sanitation and solid waste management may be displayed suitably on the walls of the Wealth Centres to disseminate messages on environmental impact of scientific processing of solid waste and other related matters.

The responsibility of generating awareness for the staff at the wealth centre is of ULB. Following activities can be taken up:

- The farmers and other stakeholders of surrounding area should also be educated upon the long-term benefits of soil conditioning properties of compost.
- The benefits in use of compost should be informed to farmers, who should be encouraged to partially substitute inorganic fertilizers with organic compost, as appropriate for their crop and specific soil.

The officials in the line departments such as the Agriculture & Farmers' Empowerment Department, Forest & Environment Department may be oriented for the use of "Mo Khata" and salient features, nutrient values etc. for promoting use of the same by the Department, its Nurseries, beneficiaries associated.

16. Safety Measures at Wealth Centre

The collection, segregation, transportation, and processing activities at Wealth Centre (WC) involves exposure to contaminants and hazardous waste. To ensure healthy and safe environment at WC, the human resource engaged in activities of wealth centre are required to adopt certain safety practices at work.

16.1. Personal Protective Equipment

The provision of Personal Protective Equipment (PPE) should be guaranteed for all sanitation workers associated in the process to ensure safety at wealth centres. While the ULB shall ensure provision of PPE, the Wealth Centre In-Charge/ Manager shall ensure its usage by all Sachh Karmis all the time while they are handling waste. The Table-25 below shows the types of hazards and PPE to be used as a precaution.

Table 25: Type of hazards and appropriate PPEs to be used at Wealth Centre

Sr. No.	Hazards	Precaution	PPE
1.	Cuts and injuries due to presence of broken glass, sharps, needles which may lead to septic wounds and tetanus or bacterial infections by contaminated	Use of safety gloves	

2.	Exposure to fumes/ gases causing irritation of nose, throat, and lungs.	Use of particulate mask	
3.	Bacterial infection due to contaminated waste and Cuts and injuries due to presence of broken glass, sharps, needles which may lead to septic wounds and tetanus	Use of Safety shoes	
4.	Exposure of head to waste, flies and sharp objects, which may lead to infection or injury	Cap	

16.2. Fire Safety

The wet waste sometimes due to methane emissions, can get fire, when there is very high temperature during summer. Also, the dry waste received at the wealth centre generally consists materials such as: wood, paper, cloth, rubber, and some plastics. The presence of these materials involves the risk of fire hazards at wealth centres. As a precaution, fire safety measures should be taken at Wealth Centres as prescribed by local fire authorities to tackle fire emergencies. The wealth centers must be equipped with a suitable fire extinguisher to be used in emergency. The human resources engaged at the Wealth Centre should be trained for such situations.

The emergency contact number for fire emergency **'101'** should also be known by the workers at the WC.

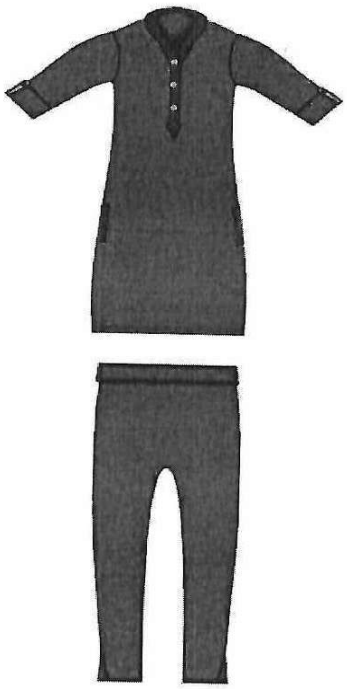
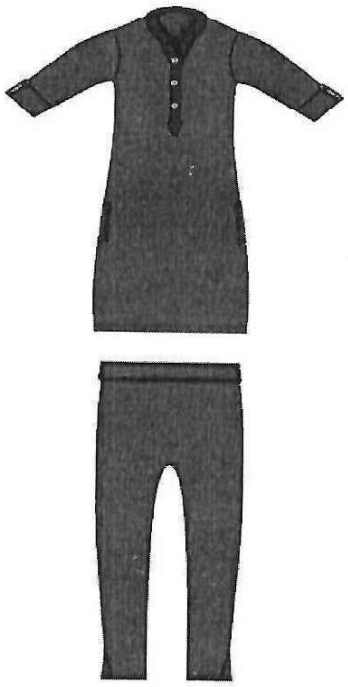
17. Uniform for Swachha karmis

The H & UD Department has prescribed standardised uniform for the SHG members engaged as Swachh Karmis as mentioned in Table-26 below –

Table-26: Specification for Uniforms

Specification for Uniforms

IX

Top • Short kurta • 3/4th sleeve with red piping (Roll up with bottom up) • Mandarin neck design with buttons • Two side kurta pocket (with red strip) attached to side slit • Poly Cotton Material Size – M Kurta length – 32 inch	
Pant • Straight cut • Bottom side slit • Size – M • Pant Length – 35 inch • Waist round – 32 inch • Hip round – 38 inch	

18. Performance Indicators for MRF

The performance level of the MRF may be assessed by examining / evaluating on the basis of the following criteria:

a. Quantity of waste sent for co-processing

b. Quantity of rejects in percentage

c. Quantity of recyclables sold

d. Revenue generated from the selling of recyclable waste

e. Expenditure on the operations

f. Expenditure on maintenance

g. Baling machine downtime (in days) in percentage

h. Napkin incinerator downtime (in days) in percentage

i. Percentage of absenteeism of manpower

j. Monthly testing of compost from laboratory

k. Percentage of days the MRF was not operational

l. Quantity of waste received

m. Quantity of waste recycled

Periodic assessment of performance may be made to resort to curative measures and improve quality of service. The State Level Monitoring Cell may be intimated of the outcome of the review.

The Cell suo-motu shall also assess with the help of the Mobile App AMA SAHARA and constant monitoring the smooth functioning of the Wealth Centres.

The provisions should be scrupulously followed for implementation for enhancing efficacy of the Wealth Centre and strengthening the Sanitation Value Chain.

*****

132

Annexure-A

INCENTIVE INDICATORS FOR SWACHH KARMIS

Sl. No.	Partnering Swachh Karmis	Work components	Quantum of monthly Incentive (in Rupees)	Base Indicators	Quantum of Performance Incentive	Indicators for Performance based Incentive	Means of Verification	Remarks
1	2	3	4	5	6	7	8	9
1	Swachh Karmis associated with MRF	1. Weighing of incoming waste on weigh bridge 2. Unloading of incoming waste 3. Sorting of waste 4. Bundling and storage of waste 5. Weighing of waste after segregation 6. Baling of non-recyclable wastes 7. Use of Personal Protective	Rs 9780/- [Rupees nine thousand seven hundred eighty only]	1. Must work for 8 (eight) hours per day. 2. Quantity of dry waste segregated per day 3. 100% use of Uniform & Prescribed PPE during work hours 4. Maintain cleanliness of the MRF 5. Record should be properly maintained	Rs 40 [Rupees forty only] per day	1. 100 % segregation of dry waste received on a particular day 2. 100% attendance in the month (excluding the paid holidays) 5. Performance report of work by Nodal Officer of the Wealth Centre concerned	1. Attendance Register 2. Daily stock Register 3. Random Quality Check by Nodal Officer or persons authorised.	It is being a collective effort, quantifying individual performance is difficult. Therefore, collective quantitative & qualitative performance need to be assessed.

		Equipment 8. Record Keeping 9. Regular cleaning of waste sorting area		and updated 6. Any one day in a week shall be paid holiday. The MSG concerned shall allow Swachh Karmis to avail the paid holiday in a staggered manner to ensure that the MRF continue to function seamlessly without disruption throughout the year.				

ANNEXURE – B

FORMAT FOR STANDING INSTRUCTIONS TO BE ISSUED TO BANKS

Office of the .....Corporation / Council

(Name of the ULB)

From

Commissioner/ Additional Commissioner/ Joint Commissioner/ Deputy Commissioner/ DDO/ Executive Officer

----------(Name of the ULB)

To

The Bank Manager,

----------(Name of the Bank)

---------- (Name of the Branch)

---------- (Address)

Sub: Issue of Standing Instruction for release of Honorarium of Swachh Karmis associated in processing of Solid waste in the Wealth Centres

Madam/ Sir,

I am to intimate that monthly incentives of Swachh Karmis associated with Operation and Management of MCCs and MRFs established within the jurisdiction of this Urban Local Body are being paid through your Bank.

I authorise you to debit a sum of Rs. _____(Amount in Rupees in words) on **5th of each month** from the Bank Account No. ..... of this ULB maintained in your Bank as per the list attached herewith as ANNEXURE-B-1, unless "STOP PAYMENT" instruction in writing by the undersigned or the authorised officer is issued in this regard.

Yours faithfully,

Commissioner/ Additional Commissioner/ Joint Commissioner/ Deputy Commissioner/ DDO/ Executive Officer

---------- (Name of the ULB)

ANNEXURE – B-1

"SCHEDULE OF MONTHLY INCENTIVE"

Sl. No.	Name of the Swachh Karmi	Name and Code of the Wealth Centre	Amount of monthly Honorarium	Name of the Bank of the Beneficiary	Bank Account Number of the Beneficiary	IFS Code of the Bank
1	2	3	4	5	6	7

N:B: Changes in the aforesaid List required, if any, will be communicated from time to time.

Commissioner/ Additional Commissioner/ Joint Commissioner/ Deputy Commissioner/ DDO/ Executive Officer

---------- (Name of the ULB)

~~IXS~~

Annexure C

Display boards at MRF

Board -1: DOs and DON'Ts at Wealth Centre

136

Board -2: Daily Update on Waste

ସମ୍ପଦ କେନ୍ଦ୍ର (Wealth Centre)

ସାମଗ୍ରୀ ପୁନର୍ଲାଭ କେନ୍ଦ୍ର, ପୋଖରୀପୁଟ

Material Recovery Facility (M.R.F), Pokhariput

ତାରିଖ **Date**		
ଏମ.ଆର.ଏଫକୁ ଆସିଥିବା ଗାଡି ଗୁଡିକର ମୋଟ ଟ୍ରିପ ସଂଖ୍ୟା **Total no of collection vehicles trip to MRF today:**		
ମୋଟ ସଂଗୃହିତ ଶୁଖିଲା ଅଳିଆର ପରିମାଣ **Total dry waste received today**	କି.ଗ୍ରା **kg**	
ମୋଟ ଅଲଗା କରାଯାଇଥିବା ଶୁଖିଲା ଅଳିଆର ପରିମାଣ **Total dry waste sorted today:**	କି.ଗ୍ରା **kg**	
ମୋଟ ପୁନଃବ୍ୟବହାରଯୋଗ୍ୟ ଅଳିଆ ବିକ୍ରି ପରିମାଣ **Total recyclables sold today:**	କି.ଗ୍ରା **kg**	ଟଙ୍କା **INR**

MRF

137

ସମ୍ପଦ କେନ୍ଦ୍ର, (Wealth Centre)
ଅଣୁ ଜୈବଖତ ପ୍ରକ୍ରିୟାକରଣ କେନ୍ଦ୍ର, ପୋଖରୀପୁଟ
Micro Composting Centre (M.C.C), Pokhariput

ତାରିଖ
Date

ଆଜି ଏମ.ସି.ସିକୁ ଆସିଥିବା ଗାଡିଗୁଡିକର ମୋଟ ଟ୍ରିପ ସଂଖ୍ୟା
Total no of collection vehicles trip to M.C.C today:

ମୋଟ ସଂଗୃହିତ ଓଦା ଅଳିଆର ପରିମାଣ	କି.ଗ୍ରା	
Total wet waste received today	**kg**	
ଆଜି ଉତ୍ପାଦିତ ହୋଇଥିବା "ମୋ ଖତ" ର ପରିମାଣ	କି.ଗ୍ରା	
Total compost generated today :	**kg**	
ଆଜି ବିକ୍ରି ହୋଇଥିବା "ମୋ ଖତ" ର ପରିମାଣ	କି.ଗ୍ରା	ଟଙ୍କା
Total compost sold today:	**kg**	**INR**

138

Board -3: Process flow of MRF

Sanitation is more important than Independence

M K Gandhi

Housing & Urban Development Department
Government of Odisha

ANNEXURE-D/1. Annexure-II

Phone: 0674 - 2431253
Fax : 0674 – 2432895
E_mail : info@bmc.gov.in
Web : bmc.gov.in

Bhubaneswar Municipal Corporation

No. 28595 / Date. 16/10/19 /
XXXXX-II SBAC 834/19

To

The Director of Estate and Ex-Officio,
Additional Secretary to Govt.,
GA & PG Department,
Odisha, Bhubaneswar.

Sub: - Allotment of Govt. land in favour o f Bhubaneswar Municipal Corporation (BMC) establishment of Micro Composting Centers (MCCs) in different wards of BMC area.

Sir,

In inviting a kind reference to the subject cited above, I am to say that Rule 12(a) of Solid Waste Management rule 2016, provides that identification & allocation of suitable land as per Clause(f) of rule 11 for setting of solid waste processing & disposal facilities to local authorities to be completed within one year from the date of notification of the rule.

Recently Hon'ble National Green Tribunal Vide order Dtd. 26.03.2019 passed in O.A No.- 606 Dtd. 2018 has issued direction for implementation of various provision of the aforesaid rule in a time bound manner.

Accordingly suitable patches of Govt. land record in favour of GA Dept. has been identified by the BMC to construct Micro Composting Centers (MCCs) in different Wards of BMC area for effective management of solid waste generated in Bhubaneswar city.

In view of the above it is requested to alienate the following land in favour of H & UD Dept. to comply the provisions of the Solid Waste Management rule 2016 and also the direction of the Hon'ble National Green Tribunal.

Land Schedule for Establishment of Micro Composting Centre (MCC)

Sl.No	Ward No.	Land Details					
		Mouza/Village	Khata No.	Plot No.	Kissam	Required Area in Ac.	Recorded Tenant (RT)
1	22	Bharatpur	14	47	Gochar	Ac. 0.359 out of Ac.	GA Dept. Govt. Of

Bhubaneswar Municipal Corporation

Phone: 0674 - 2431253
Fax : 0674 – 2432895
E_mail : info@bmc.gov.in
Web : bmc.gov.in

						20.224	Odisha
2	23	Ghatikia	2339	8186	Patita	Ac 0.510	GA Dept. Govt. Of Odisha
3	25	Jayadev bihar	1427	878	Ghara bari	Ac. 0.240 out of Ac 0.366	GA Dept Govt. Of Odisha.
4	39	Nayapalli	3293	934/4397	Ghara bari	Ac. 0.050	GA Dept. Govt. Of Odisha
				934/4398	Ghara bari	Ac. 0.040	
				934/4392	Ghara bari	Ac. 0.050	
5	48	Gopabandhu Nagar	24	249	Ghara bari	Ac. 0.256 out of Ac. 15.937	GA Dept. Govt. Of Odisha
6	52	Ganganagar	112	741/967	Ghara bari - 2	Ac. 0.160	GA Dept. Govt. Of Odisha
				741/968	Ghara bari - 2	Ac. 0.036	
				741/969	Ghara bari - 2	Ac. 0.036	
7	50	Baramunda	855	930	Patita	Ac. 0.101 out of Ac. 11.622	GA Dept Govt. Of Odisha.
				932	Patita	Ac. 0.358 out of Ac. 5.500	
8	65	Bhagbanpur	683	83	Gochar	Ac. 0.321 out of Ac. 6.343	GA Dept. Govt. Of Odisha
9	62	Bhimpur	740	456	Patita	Ac. 0.321 out of Ac. 29.645	GA Dept. Govt.Of Odisha
10	1	Patia	491	320(pt.)	Pathara Bania	Ac. 0.504 out of Ac. 1.5	GA Dept. Govt.Of Odisha
11	11	Gadakan	4689	6880(p)	Patita	Ac. 0.275 out of Ac. 1.033	GA Dept Govt.Of Odisha.
12	18	Pandara	1352	3859(p)	Patita	Ac. 0.264 out of Ac. 1.033	GA Dept. Govt.Of Odisha
13	4	Naharkanta	748	443(p)	Nadi	Ac. 0.229 out of Ac. 3.900	GA Dept. Govt.Of Odisha
14	36	Madhusudan	584	740	Srada dofosali -2	Ac. 0.072	GA.Dept.

Bhubaneswar Municipal Corporation

Phone 0674 - 2431253
Fax 0674 – 2432895
E mail info@bmc.gov.in
Web bmc.gov.in

		Nagar		741	Srada dofosali -2	Ac. 0.084	Govt.Of Odisha
				742	Srada dofosali -2	Ac. 0.090	
				743	Srada dofosali -2	0.132	
				739	Srada dofosali -2	0.085	
				747	Srada dofosali -2	0.122	
				746	Srada dofosali -2	0.190	
				745	Srada dofosali -2	0.093	
				744	Srada dofosali -2	0.065	
				Total - Ac. 0.933			
15	34	SatyaNagar	421	143	Gharabari-2	Ac. 0.149 out of Ac. 1.015	GA.Dept. Govt.Of Odisha
16	40	Bapuji Nagar	357	882	Gharabari-1	Ac. 0.255 out of Ac. 0.669 Ac	GA.Dept Govt.Of Odisha.
17	41	Ashok Nagar	335	1060	Gharabari-2	Ac. 0.151 Out of Ac. 1.008	GA.Dept. Govt.Of Odisha
18	32	Laxmisagar-2	716	667	GB-2	Ac. 0.147 Out Of Ac. 0.170	GA.Dept. Govt.Of Odisha
19	56	Boxi jagabandhu Nagar	348	494	GB-2	Ac. 0.298 Out of Ac. 01.549	GA.Dept Govt.Of Odisha.
20	44	Badagada	1616	4484	Gharabari-2	Ac. 0.298 out of Ac. 2.187	GA.Dept Govt.Of Odisha.
				4486	Gharabari-2	Ac. 0.298 out of Ac. 3.284	
21	43	Meharpali	647	10	Smasana	Ac. 0.301 Out of Ac 4.517	GA.Dept Govt.Of Odisha.
22	67	Kapilaprasad	1214	1305	Gochara	Ac. 0.302 Out of Ac. 01.378	GA.Dept Govt.Of Odisha.

Bhubaneswar Municipal Corporation

Phone 0674 - 2431253
Fax 0674 - 2432895
E mail info@bmc.gov.in
Web bmc.gov.in

23	59	Sundarpada	831	2454	Addi	Ac 0.149 Out of Ac 0.749	GA.Dept Govt.Of Odisha.
24	61	Kapilaprasad	1214	994	Gochhara	Ac. 0.084 Out of Ac. 0.610	GA.Dept Govt.Of Odisha.
				995	Gochhara	Ac. 0.093 out of Ac. 0.207	

Yours faithfully,

Enclosure: The Trace Map & copy of Bhulekh of the land identified for MCCs.

Commissioner
Bhubaneswar Municipal Corporation

Memo No. 28596 / Dtd. 16/10/19 /

Copy submitted to Director of Municipal Administration H & UD Department for kind information and necessary action.

Commissioner
Bhubaneswar Municipal Corporation

भारत का राजपत्र
The Gazette of India

पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय

अधिसूचना

नई दिल्ली, 8 अप्रैल, 2016

का.आ. 1357(अ).—ठोस अपशिष्ट प्रबंधन नियम, 2015 का प्ररुप भारत सरकार के पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय की अधिसूचना सं. सा.का.नि.451 (अ) तारीख 3 जून, 2015 को भारत के राजपत्र भाग , खंड-3, उप खंड ( ) में उसी तारीख को प्रकाशित किए गए थे, जिसमें [redacted] से नगरीय ठोस अपशिष्ट (प्रबंधन और हथालन) नियम 2000 को अधिक्रांत करते हुए उक्त अधिसूचना के द्वारा ठोस अपशिष्ट प्रबंधन नियम, 2015 के प्रकाशन की तारीख से साठ दिनों की अवधि की समाप्ति से पूर्व आक्षेप और सुझाव आमंत्रित किए थे।

उक्त राजपत्र की प्रतियां जनता को तारीख 3 जून, 2015 को उपलब्ध कराई गई थीं;

निर्धारित अवधि के भीतर उक्त प्रारूप नियमों पर प्राप्त आपत्तियों तथा टिप्पणियों पर केन्द्र सरकार द्वारा सम्यक रूप से विचार किया गया था;

पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) की धारा 3, 6 और 25 द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए और नगरीय ठोस अपशिष्ट (प्रबंधन और हथालन) नियम, 2000, उन बातों के सिवाय अधिक्रांत करते हुए जिन्हें ऐसे अधिक्रमणों से पहले किया गया है या किए जाने का लोप किया गया है, केन्द्रीय सरकार ठोस अपशिष्टों का प्रबंधन करने के लिए निम्नलिखित नियम बनाती है अर्थात् :

1. संक्षिप्त नाम और प्रारंभ.–

(1) इन नियमों का संक्षिप्त नाम ठोस अपशिष्ट प्रबंधन नियम, 2016 है।

(2) ये राजपत्र में इनके प्रकाशन की तारीख से प्रवृत्त होंगे।

2. लागू होना- ये नियम प्रत्येक शहरी स्थानीय निकाय, शहरी क्षेत्रों के विस्तार, भारत के महारजिस्ट्रार और जनगणना आयुक्त द्वारा यथा घोषित जनगणना नगरों, अधिसूचित क्षेत्रों, अधिसूचित औद्योगिक नगरी, भारतीय रेल के अधीन क्षेत्रों, विमानपत्तनों, वायुयान बेस, बंदरगाह और हारबर, रक्षा स्थापनाओं, विशेष आर्थिक जोन, राज्य और केन्द्रीय सरकारों के संगठनों, समय-समय पर क्रमश: राज्य सरकार द्वारा यथा अधिसूचित तीर्थ, धार्मिक तथा ऐतिहासिक महत्व के स्थानों और जिसमें औद्योगिक अपशिष्ट, परिसंकटमय अपशिष्ट, परिसंकटमय रसायन, जैव चिकित्सा अपशिट, ई-अपशिष्ट, सीस-अम्ल बैटरियां और रेडियो सक्रिय अपशिष्ट पर्यावरण (संरक्षण) अधिनियम, 1986 के अधीन अलग से बनाए गए नियमों के अधीन आते हैं, के सिवाय प्रत्येक घरेलू, सांस्थानिक, वाणिज्यिक और किसी भी अन्य गैर-आवासीय ठोस अपशिष्ट जनित्रों पर लागू होंगे:-

3. परिभाषाएं- (1) इन नियमों में, जब तक कि संदर्भ से अन्यथा अपेक्षित न हो,- (1) **"वातजीवी कम्पोस्टीकरण"** से ऑक्सीजन की विद्यमानता में जैविक पदार्थ का सूक्ष्म जैवकीय विघटन अंतर्वलित कोई नियंत्रित प्रक्रिया अभिप्रेत है;

2. **"अवायुजीवी उपचारण"** से ऑक्सीजन के अभाव में जैविक पदार्थ का सूक्ष्म जैवकीय विघटन अंतर्वलित कोई नियंत्रित प्रक्रिया अभिप्रेत है;

3. **"प्राधिकार"** से यथास्थिति, राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण नियंत्रण समिति द्वारा किसी प्रसुविधा के प्रचालक या शहरी स्थानीय प्राधिकरण या ठोस अपशिष्ट के प्रसंस्करण और निपटान के उत्तरदायी किसी अन्य अभिकरण को दी गई अनुज्ञा अभिप्रेत है;

4. **"जैविक रूप से अपघटित अपशिष्ट"** से कोई ऐसी कार्बनिक सामग्री अभिप्रेत है जिसे सूक्ष्म जीव द्वारा सरलतर टिकाऊ सम्मिश्रण में निम्नीकृत किया जा सकता है;

5. **"जैविक मिथेनीकरण"** से ऐसी प्रक्रिया अभिप्रेत है जिसमें मिथेन से भरपूर जैव गैस का उत्पादन करने के लिए सूक्ष्मजीवी क्रिया द्वारा कार्बनिक पदार्थ का इंजाइमी अपघटन को अपरिहार्य बनाता है;

6. **"ब्रांडस्वामी"** से कोई व्यक्ति या कंपनी अभिप्रेत है जो किसी रजिस्ट्रीकृत ब्रांड लेवल के अधीन कोई वाणिज्यिक विक्रय करता है;

7. **"मध्यवर्ती परिक्षेत्र"** से ऐसा विकास रहित परिक्षेत्र अभिप्रेत है जिसमें 5 टीपीडी से अधिक की संस्थापित क्षमता वाली ठोस अपशिष्ट प्रसंस्करण तथा निपटान सुविधा के चारों ओर अनुरक्षित किया जाएगा। इसे ठोस अपशिष्ट के प्रसंस्करण तथा निपटान संबंधी सुविधा के लिए आवंटित कुल क्षेत्र के भीतर अनुरक्षित किया जाएगा;

8. **'भारी मात्रा में अपशिष्ट उत्पादक"** से अभिप्रेत है और इसके अंतर्गत औसतन 100 कि.ग्रा. प्रतिदिन की दर से अधिक अपशिष्ट उत्पादित करते हैं तथा इनसे केन्द्रीय सरकार के विभागों अथवा उपक्रमों, राज्य सरकार के विभागों या उपक्रमों, स्थानीय निकायों, सार्वजनिक या प्राइवेट सेक्टर की कंपनियों, अस्पतालों, नर्सिंग होम, स्कूलों, कॉलेजों, विश्वविद्यालयों, अन्य शैक्षिक संस्थाओं, छात्रावासों, होटलों, वाणिज्यिक स्थापनाओं, बाजारों, पूजा स्थलों, स्टेडियमों और खेल परिसरों द्वारा अधिकृत भवन भी है;

9. **"उप-विधि"** से स्थानीय निकाय, जनगणना शहर और अधिसूचित क्षेत्र टाउनशिप द्वारा, अपने अधिकारिता वाले क्षेत्र में इन नियमों को प्रभावी ढंग से कार्यान्वित करने को सुविधाजनक बनाने के लिए, अधिसूचित नियामक ढांचा अभिप्रेत है;

10. **"जनगणना नगर"** से भारत के महारजिस्ट्रार और जनगणना आयुक्त द्वारा यथा परिभाषित शहरी क्षेत्र अभिप्रेत है;

11. **"ज्वलनशील अपशिष्ट"** से प्लास्टिक, काष्ठ लुगदी आदि जैसी क्लोरोनीकृत सामग्री को छोड़कर गैर-जैवअवक्रमणीय, गैर-पुनर्चक्रणीय, गैर-पुन:उपभोज्य, गैर-परिसंकटमय ठोस अपशिष्ट अभिप्रेत है जिनका 1500 किलो कैलोरी प्रति कि.ग्रा. से न्यूनतम कैलोरिफिक मान हो;

12. **"कम्पोस्टीकरण"** से जैविक पदार्थ का सूक्ष्मजीवी अपघटन अंतर्वलित की एक ऐसी नियंत्रित प्रक्रिया अभिप्रेत है;

13. **"ठेकेदार"** से ऐसा व्यक्ति या फर्म अभिप्रेत है जो कोई सेवा करने के लिए या सेवा प्रदाता प्राधिकारी के लिए कार्य करने के लिए सामग्री या श्रम प्रदान करने की संविदा करता है या करती है;

14. **"सह प्रसंस्करण"** से प्राकृतिक खनिज संसाधनों और औद्योगिक प्रक्रियाओं में जीवाश्म ईंधनों को प्रतिस्थापित करने या उन्हें अनुपूरित, दोनों को करने के लिए कच्ची सामग्री के रूप में या ऊर्जा के स्रोत के रूप में 1500 किलो कैलोरी से अधिक कैलोरिफिक मूल्य वाले गैर-जैव अवक्रमणीय और गैर-पुनर्चक्रणीय ठोस अपशिष्ट का उपयोग अभिप्रेत है;

15. **"विकेंद्रित प्रसंस्करण"** से जैव अवक्रमणीय अपशिष्ट के प्रसंस्करण को अधिकतम करने के लिए बिखरी हुई सुविधाओं की स्थापना और उत्पादन के स्रोत से निकटतम पुनर्चक्रण योग्य सामग्रियों की प्रतिप्राप्ति करना अभिप्रेत है ताकि प्रसंस्करण या निपटान के लिए अपशिष्ट का न्यूनतम परिवहन करना पड़े;

16. **"निपटान"** से भूजल, सतही जल, परिवेशी वायु के संदूषण तथा पशुओं या पक्षियों के आकर्षण को रोकने के लिए अनुसूची 1 में यथा विनिर्दिष्ट भूमि पर प्रसंस्करण के उपरांत अवशिष्ट ठोस अपशिष्ट और निष्क्रिय गली का कूड़ा, करकट और सतही नाले की गाद का अंतिम तथा सुरक्षित निपटान अभिप्रेत है;

17. **"घरेलू परिसंकटमय अपशिष्ट"** से घरेलू स्तर पर उत्पन्न संक्रामक अपशिष्टों जैसे फेंके हुए पेंट के ड्रम, कीटनाशी के डिब्बे, सीएफएल बल्ब, ट्यूब लाइटें, अवधि समाप्त औषधियां, टूटे हुई पारा वाले थर्मामीटर, प्रयुक्त बैटरियां, प्रयुक्त सूइयां, तथा सिरिंज और संदूषित पट्टियां आदि अभिप्रेत हैं;

18. **"द्वार-द्वार संग्रहण"** से घरों, दुकानों, वाणिज्यिक प्रतिष्ठानों, कार्यालयों, संस्थागत या किसी अन्य गैर आवासीय परिसरों से द्वार तक जाकर ठोस अपशिष्ट का संग्रहण करना और जिसके अंतर्गत किसी आवासीय सोसायटी, बहुमंजिले भवन या अपार्टमेंट, बड़े आवासीय, वाणिज्यिक या संस्थागत कॉम्प्लैक्स या परिसरों में भूतल पर प्रवेश द्वार या किसी अभिहित स्थल से ठोस अपशिष्ट का संग्रहण करना भी अभिप्रेत है;

19. **"शुष्क अपशिष्ट"** से जैव-निम्नीकरण अपशिष्ट और निष्क्रिय गली का कूड़ा-करकट से भिन्न अपशिष्ट अभिप्रेत है और जिसके अंतर्गत पुनर्चक्रणीय अपशिष्ट, गैर पुनर्चक्रणीय अपशिष्ट, दाह्य अपशिष्ट और स्वास्थ्यकर नैपकिन और डायपर आदि अपशिष्ट भी है;

20. **"क्षेपण स्थल"** से जिसका स्वास्थ्यकर भूमिभरण के लिए सिद्धांतों को पालन किए बिना ठोस अपशिष्ट के निपटान के लिए शहरी स्थानीय निकाय द्वारा उपयोग की गई कोई भूमि अभिप्रेत है;

21. **"विस्तारित उत्पादक दायित्व"** से पैकेजिंग उत्पादों के जीवन काल के अंत तक पर्यावरण की दृष्टि से अनुकूल प्रबंधन के लिए, पैकेजिंग उत्पादों जैसे प्लास्टिक, टिन, कांच और कॉरूगेटेड बक्सों इत्यादि के किसी उत्पादक के उत्तरदायित्व अभिप्रेत है;

22. **"सुविधा"** से ऐसा कोई स्थापन अभिप्रेत है जिसमें ठोस अपशिष्ट प्रबंध प्रक्रियाएं अर्थात् पृथक्करण पुन:प्राप्ति, भंडारण, संग्रहण, पुनर्चक्रण, प्रसंस्करण, उपचार या सुरक्षित निपटान किया जाता है;

23. **"जुर्माना"** से इन नियमों तथा/अथवा उप-विधियों के निदेशों के अनुपालन के लिए उपविधियों के अधीन अपशिष्ट जनित्रों या अपशिष्ट प्रसंस्करण के प्रचालकों और निपटान सुविधाओं पर लगाए गए जुर्माना अभिप्रेत है;

24. **"प्ररूप"** से इन नियमों से उपाबद्ध प्ररूप अभिप्रेत है;

25. **"प्रहस्तन"** के अंतर्गत ठोस अपशिष्टों की छंटाई, पृथक्करण, सामग्री की पुन:प्राप्ति, संग्रहण, गौण भंडारण, काटना, गट्ठा बनाना, दलन, लदाई, उतराई, परिवहन, प्रसंस्करण तथा निपटान से संबंधित सभी क्रियाकलाप भी हैं;

26. **"निष्क्रिय"** से ऐसा अपशिष्ट अभिप्रेत है जो जैव अपघटनीय, पुन:चक्रणीय या दाह्य नहीं है, गली की सफाई तथा सतही नालियों से निकाली गई धूल तथा गाद भी हैं;

27. **"भस्मीकरण"** से उच्च तापमान पर अपशिष्ट सामग्रियों को तापीय रूप से निम्नीकृत करने के लिए ठोस अपशिष्ट का जलाना या दहन अंतर्वलित इंजीनियरीकृत प्रक्रिया अभिप्रेत है;

28. **"अनौपचारिक अपशिष्ट संग्राहक"** के अंतर्गत व्यष्टि, संगम ऐसे या अपशिष्ट व्यापारी सम्मिलित है जो पुनर्चक्रणीय सामग्रियों की छंटाई, विक्रय और खरीद से अंतर्वलित है;

29. **"निक्षालितक"** से ऐसा द्रव अभिप्रेत है जो ठोस अपशिष्ट के माध्यम से या अन्य माध्यम से रिसता है जिसमें उसमें घुली हुई या निलंबित सामग्री का सत्व है;

30. **"स्थानीय निकाय"** से अभिप्रेत इन नियमों के प्रयोजन के लिए और जिसके अंतर्गत म्युनिसपल कॉरपोरेशन, नगर निगम, म्युनिसपल कौंसिल, नगरपालिका, नगरपालिका परिषद, म्युनिसपल बोर्ड, नगर पंचायत, और टाउन पंचायत, जनगणना नगर, अधिसूचित क्षेत्र और भारत के विभिन्न राज्यों और संघ राज्य क्षेत्रों में औद्योगिक नगरी चाहे उसका कोई भी नाम से पुकारा जाए, भी है;

31. **"सामग्री पुनर्प्राप्ति सुविधा (एमआरएफ)"** से ऐसी सुविधा अभिप्रेत है जहां गैर कंपोस्टीय ठोस अपशिष्ट को स्थानीय निकाय या नियम 2 में वर्णित कोई अन्य अस्तित्व या इसमें से किसी के द्वारा प्राधिकृत कोई व्यक्ति या अभिकरण जो अपशिष्ट को प्रसंस्करण या निपटान के लिए उसे परिदान या देने के पूर्व इस प्रयोजन के लिए स्थानीय निकाय या नियम 2 में वर्णित अस्तित्व द्वारा नियोजित अपशिष्ट चुनने वाले, अनौपचारिक पुनर्चक्रणकर्ता या कोई अन्य नियोजित कार्यबल को प्राधिकृत अनौपचारिक सेक्टर द्वारा अपशिष्ट के विभिन्न संघटकों से पृथक्करण, छंटाई या पुनर्चक्रण योग्य की पुनर्प्राप्ति की प्रसुविधा है;

32. **"अजैविक निम्नीकरण योग्य अपशिष्ट"** से कोई ऐसा अपशिष्ट अभिप्रेत है जिसका सूक्ष्म जीव द्वारा सरलतर स्थायी यौगिक में निम्नीकरण नहीं किया जा सकता है;

33. **"सुविधा का प्रचालक"** से ऐसा व्यक्ति या अस्तित्व अभिप्रेत है जो ऐसे ठोस अपशिष्ट के प्रहस्तन के लिए सुविधा का स्वामी है या प्रचालित करता है जिसके अंतर्गत स्थानीय निकाय और स्थानीय निकाय द्वारा नियुक्त कोई अन्य अस्तित्व या अभिकरण भी है;

34. **"प्राथमिक संग्रहण"** से पृथक्कृत ठोस अपशिष्ट को उसके उत्पादन के स्रोत जिसके अंतर्गत घर, दुकानें, कार्यालय और कोई अन्य गैर आवासीय परिसर भी हैं से या किसी संग्रहण बिंदु या शहरी स्थानीय निकाय द्वारा विर्निदिष्ट किसी अन्य अवस्थान से संगृहीत करना, उठाना या हटाना अभिप्रेत है;

35. **"प्रसंस्करण"** से कोई वैज्ञानिक प्रक्रिया जिसके द्वारा ठोस अपशिष्ट को पुन: उपयोग, पुन: चक्रित या नए उत्पादों में परिवर्तित करने के प्रयोजन के लिए हथालित करना अभिप्रेत है;

36. **"पुनर्चक्रण"** से पृथक्कृत ठोस अपशिष्ट को अजैव निम्नीकृत नए पदार्थ या उत्पाद या नए उत्पादों का उत्पादन करने के लिए कच्ची सामग्री के रूप में परिवर्तित करने की प्रक्रिया अभिप्रेत है, जिसमें मूल उत्पादों को समरूप किया जा सकेगा या नहीं किया जा सकेगा;

37. **"पुनर्विकास"** से जहां विद्यमान भवन और अन्य अवसंरचनाएं जीर्णशीर्ण हो गई हैं वहां उसी स्थल पर पुरानी आवासीय या वाणिज्यिक भवनों का पुनर्निर्माण अभिप्रेत है;

38. **"कचरा व्युत्पन्न ईंधन (आरडीएफ)"** से ठोस अपशिष्ट, जैसे प्लास्टिक, काष्ठ, लुगदी या कार्बनिक अपशिष्ट, क्लोरीनीकृत पदार्थों से भिन्न ठोस अपशिष्ट को सुखाकर कतरन, निर्जलीकरण और संहनन द्वारा गुटिका या रोएं के कप में उत्पादित बाह्य अपशिष्ट प्रभाजी से व्युत्पन ईंधन अभिप्रेत है;

39. **"अवशिष्ट ठोस अपशिष्ट"** से और उसके अंतर्गत ऐसी ठोस अपशिष्ट प्रसंस्करण सुविधाओं, जो पुनर्चक्रण या अतिरिक्त प्रसंस्करण के लिए उपयुक्त नहीं है, से प्राप्त अपशिष्ट और अस्वीकृत भी अभिप्रेत है;

40. **"स्वास्थ्यकर भूमिभरण"** से अवशिष्ट ठोस अपशिष्ट के अंतिम और सुरक्षित निपटान और भूजल, सतही जल या क्षणभंगुर वायु धूल, हवा से उड़ा हुआ कूड़ाकरकट, दुर्गंध, अग्नि परिसंकट, पशुओं का खतरा, पक्षियों का खतरा, नाशकजीव, कृंतकनाशी, ग्रीनहाउस गैस उत्सर्जन, सतत जैव प्रदूषणकारी तत्व प्रावण्य अस्थिरता तथा अपरदन के प्रदूषण के प्रति संरक्षात्मक उपायों सहित प्रकल्पित सुविधा में भूमि पर निष्क्रिय अपशिष्ट अभिप्रेत है;

41. **"स्वास्थ्यकर अपशिष्ट"** से प्रयोग किए गए डायपर, स्वास्थ्यकार तौलिए या नैपकिन, टैम्पोन, कन्डोम, इनकंटीनेंस शीट और कोई अन्य समरूप अपशिष्ट से मिलकर बना अपशिष्ट अभिप्रेत है;

42. **"अनुसूची"** से इन नियमों से उपाबद्ध अनुसूची अभिप्रेत है;

43. **"गौण भंडारण"** से प्रसंस्करण या निपटान सुविधा को अपशिष्ट के आगे परिवहन के लिए गौण भंडारण डिपो या एमआरएफ या आधानों पर संग्रहण के पश्चात ठोस अपशिष्ट का अस्थायी संदूषक अभिप्रेत है;

44. **"पृथककरण"** से ठोस अपशिष्ट के विभिन्न संघटकों अर्थात जैविक निम्नीकरण अपशिष्ट जिसके अंतर्गत कृषि और दुग्धपालन अपशिष्ट अजैविक निम्नीकरण अपशिष्ट जिसके अंतर्गत पुन:चक्रणयोग्य अपशिष्ट, गैर पुन:चक्रणयोग्य दाह्य योग्य अपशिष्ट, स्वास्थ्यकर अपशिष्ट और गैर चक्रण योग्य कूड़ाकरकट अपशिष्ट, घरेलू परिसंकटमय अपशिष्ट तथा संनिर्माण और विध्वंस अपशिष्ट भी है, की छंटाई और पृथक भंडारण अभिप्रेत है;

45. **"सेवा प्रदाता"** से जल, मलवहन, विद्युत, टेलीफोन, सड़क, जल निकास आदि अभिप्रेत हैं;

46. **"ठोस अपशिष्ट"** से ठोस या अर्द्धठोस घरेलू अपशिष्ट अभिप्रेत है और इसके अंतर्गत स्थानीय प्राधिकरण और नियम 2 में वर्णित अन्य अस्तित्व के अधीन क्षेत्र में उत्पन्न स्वास्थ्यकर अपशिष्ट, वाणिज्यिक अपशिष्ट, सांस्थानिक अपशिष्ट, खानपान और बाजार अपशिष्ट तथा अन्य गैर–आवासीय अपशिष्ट, गली की सफाई, सतह नालियों से हटाई गई या एकत्रित गाद, उद्यान कृषि अपशिष्ट, कृषि और डेयरी अपशिष्ट, औद्योगिक अपशिष्ट को छोड़कर उपचारित जैव चिकित्सक अपशिष्ट और ई-अपशिष्ट, बैटरी अपशिष्ट, रेडियो सक्रिय अपशिष्ट भी अभिप्रेत है;

47. **"छंटाई करना"** से मिश्रित अपशिष्ट से पुन:चक्रणयोग्य विभिन्न संघटकों और प्रवर्गों जैसे कागज, प्लास्टिक, गत्ता, धातु, कांच आदि को समुचित पुन:चक्रण सुविधा में पृथक करना अभिप्रेत है;

48. **"स्थिरीकरण"** से जैव निम्नीकरण अपशिष्ट को जैवीय अपद्यटन को स्थायी अवस्था में परिवर्तित करना अभिप्रेत है जहां वह निक्षालन या अरूचिकर सुगंध उत्पन्न नहीं करता है और कृषि भूमि, भू-कटाव नियंत्रण तथा भूमि उपचार के लिए उपयुक्त है;

49. **"मार्गविक्रेता"** से किसी गली, लेन, पार्श्व पथ, पैदल पथ, खडंजा, सार्वजनिक उद्यान या किसी अन्य सावर्जनिक स्थान या प्राइवेट क्षेत्र, अस्थायी रूप से निर्मित संरचना या स्थान से स्थान घूमकर साधारण जनता को दैनिक उपयोग के वस्तु, माल, सौदा, खाद्य मद या वाणिज्यिक वस्तु के विक्रय करने या उन्हें एक स्थान से दूसरे स्थान तक स्थानांतरित करने में लगे व्यक्ति अभिप्रेत हैं जिसके अंतर्गत फेरीवाला, पैकार, आबादकर तथा ऐसी सभी अन्य समानार्थी पद जो स्थानीय या विनिर्दिष्ट क्षेत्र में हो सकते हैं, भी है और "मार्ग विक्रय" शब्दों को उनके व्याकरणिक रूप भेदों और सजातीय पदों का अर्थ तदनुकूल किया जाएगा;

50. **"बख्शीश फीस"** से स्थानीय प्राधिकरण या राज्य सरकार द्वारा प्राधिकृत कोई राज्य अभिकरण द्वारा कोई फीस या समर्थन मूल्य अभिप्रेत है जो ठोस अपशिष्ट प्रसंस्करण सुविधा के ग्राही या प्रचालक या भूमिभरण पर ठोस अपशिष्ट के निपटान के लिए अवधारित संदात्त है;

51. **"अंतरण स्थल"** से संग्रह क्षेत्रों से ठोस अपशिष्ट प्राप्त करने को सृजित सुविधा और अपशिष्ट प्रसंस्करण और, या निपटान सुविधा को आच्छादित यानों या आधानों में बड़ी मात्रा में परिवहन अभिप्रेत है;

52. **"परिवहन"** से ठोस अपशिष्ट चाहे वह या तो उपचारित आंशिक उपचारित या अनुपचारित को एक स्थान से दूसरे स्थान पर किसी पर्यावरणीय रूप से युक्ति युक्त रीति में विशिष्ट रूप से अभिहित और आच्छादित परिवहन प्रणाली जैसे दुर्गध, कूड़ा कचरा और घृणित दशा को रोकने के लिए प्रवहन अभिप्रेत है;

53. **"उपचार"** से किसी अपशिष्ट के भौतिक, रसायनिक या जैविक लक्षणों या संघटन में रूपांतरण की अभिहित पद्धति, तकनीक या प्रक्रिया अभिप्रेत है जिससे उसके आयतन और क्षितिकारक क्षमता को कम करता है;

54. **"उपयोक्ता फीस"** से ठोस अपशिष्ट संग्रहण, परिवहन प्रसंस्करण और निपटान सेवाओं को उपलब्ध कराने की कुल या आंशिक लागत को प्राप्त करने में अपशिष्ट जनित पर स्थानीय निकाय और नियम 2 में वर्णित किसी अस्तित्व द्वारा अधिरोपित फीस अभिप्रेत है;

55. **"कृमि कम्पोस्ट बनाना"** से केचुओं का प्रयोग करते हुए कम्पोस्ट में सपरिवर्तित करने की जैव निम्नीकरण प्रक्रिया अभिप्रेत है;

56. **"अपशिष्ट जनित्र"** से और इसके अंतर्गत सम्मिलित से, रेल तथा रक्षा स्थापनाओं सहित प्रत्येक व्यक्ति या व्यक्तियों का समूह या प्रत्येक आवासीय परिसर तथा गैर आवासीय स्थापनाएं भी है, जो ठोस अपशिष्ट उत्पन्न करते हैं, अभिप्रेत है;

57. **"अपशिष्ट की क्रमबद्धता"** से ऐसा प्राथमिकता क्रम अभिप्रेत है जिसके अनुसार ठोस अपशिष्ट का प्रबंधन निवारण, कटौती, पुनःउपयोग, पुनर्चक्रण, पुनः प्राप्ति और निपटान पर बल देकर किया जाना चाहिए जिसमें निवारण को सर्वाधिक प्राथमिकता और भू-भरण में निपटान को न्यूनतम वरीयता का विकल्प होगा;

58. **"अपशिष्ट चुनने वाला"** से ऐसा व्यक्ति या व्यक्तियों का समूह अभिप्रेत है जो अपशिष्ट उत्पादन के स्रोत से पुनः उपयोजनीय तथा पुनर्चक्रण योग्य ठोस अपशिष्ट के संग्रहण और साथ ही पुनर्चक्रकों को उनकी आजीविका अर्जित करने के लिए सीधे या उनके मध्यवर्तियों के माध्यम से विक्रय के लिए गलियों, डिब्बों, प्रसंस्करण तथा अपशिष्ट निपटान सुविधाओं से अपशिष्ट को उठाने में औपचारिक रूप से लगे हुए है;

(2) इसमें प्रयुक्त जिन शब्दों और पदों का अर्थ परिभाषित नहीं किया गया है, परंतु जो पर्यावरण (सरंक्षण) अधिनयम 1986, जल (प्रदूषण निवारण और नियंत्रण) अधिनियम, 1974 जल (प्रदूषण निवारण और नियंत्रण) उपकर अधिनियम 1977 तथा वायु (प्रदूषण निवारण और नियंत्रण) अधिनयम, 1981 में परिभाषित है, के अर्थ होंगे जो संबंधित अधिनियमों में हैं।

4. **अपशिष्ट उत्पन्नकर्ताओं के कर्तव्य.** प्रत्येक अपशिष्ट उत्पन्नकर्ता,-

(क) उनके द्वारा उत्पन्न किए गए अपशिष्ट को पृथक्कृत और तीन पृथक शाखाओं अर्थात जैव निम्नीकरणयोग्य, गैर निम्नजीकरणयोग्य और घरेलू परिसंकटमय अपशिष्ट के तीन अलग-अलग डिब्बों में भंडारित करेगा और समय-समय पर स्थानीय प्राधिकरणों द्वारा निदेश या अधिसूचना के अनुसार पृथक किए गए अपशिष्टों को प्राधिकृत अपशिष्ट चुनने वालों या अपशिष्ट संग्रहकर्ताओं को सौंपेगा;

(ख) प्रयोग किए गए स्वास्थ्यकर अपशिष्ट जैसे डायपरों और स्वास्थ्यकर पैडों आदि इन उत्पादों के निर्माताओं या ब्रांड स्वामियों द्वारा उपलब्ध कराई गई थैली में या स्थानीय प्राधिकारियों द्वारा यथा निर्देशित उपयुक्त लपेटन सामग्री में शुष्क अपशिष्ट या अजैविक निम्नीकरण अपशिष्ट के लिए बनाए गए डिब्बे में उसे डालेगा;

(ग) संनिर्माण और विध्वंस अपशिष्ट को पृथक रूप से अपने ही परिसर में भंडारित करेगा, जब कभी वह उत्पन्न होता हो, और उसे संनिर्माण और विध्वंस अपशिष्ट नियम, 2016 के अनुसार निपटान करेगा; और

(घ) अपने परिसर से उत्पन्न कृषि उद्यान अपशिष्ट और उद्यान अपशिष्ट को अपने ही परिसर में पृथक रूप से भंडारित करेगा और समय समय पर स्थानीय निकाय द्वारा निदेशानुसार इसका निपटान करेगा;

(2) कोई अपशिष्ट जनित्र उसके द्वारा उत्पन्न अपशिष्ट को गली, खुले सार्वजनिक स्थानों, नाली या जलाशयों में न फेंकेगा, न जलाएगा और न गाड़ेगा;

(3) सभी अपशिष्ट उत्पन्नकर्ता ऐसी उपयोक्ता फीस का संदाय करेंगे जो ठोस अपशिष्ट प्रबंधन के लिए स्थानीय निकायों की उपविधियों में विनिर्दिष्ट किया जाए;

(4) कोई व्यक्ति अग्रिम रूप से कम से कम तीन कार्य दिवस पूर्व स्थानीय निकाय को सूचित किए बिना किसी गैर अनुज्ञप्ति वाले स्थान पर एक सौ व्यक्तियों से अधिक का ऐसा कोई आयोजन या समारोह आयोजित नहीं करेगा । ऐसा व्यक्ति या ऐसे आयोजन का आयोजक स्रोत पर अपशिष्ट के पृथककरण की व्यवस्था करेगा और पृथक्कृत अपशिष्ट को स्थानीय निकाय द्वारा अभिहित अपशिष्ट चुनने वाले को या अपशिष्ट संग्रहण अभिकरण को सौंपेगा;

(5) प्रत्येक मार्ग विक्रेता अपने कार्यकलाप के दौरान उत्पन्न अपशिष्ट जैसेकि खाद्य अपशिष्ट प्रयोज्य (डिस्पोजेबल) प्लेटों, कपों, डिब्बों, रैपरों, नारियल के छिलको, शेष बचे भोजन, सब्जियों, फलों आदि के लिए उपयुक्त पात्र रखेगा और ऐसे अपशिष्ट को स्थानीय प्राधिकरण द्वारा यथा अधिसूचित अपशिष्ट भंडारण डिपो या पात्र या वाहन में डालेगा;

(6) इन नियमों के अधिसूचित होने की तारीख से एक वर्ष से अंदर सभी आवास कल्याण और बाजार संघ स्थानीय प्राधिकरण की भागीदारी में इन नियमों में यथा विहित जनित्रों द्वारा अपशिष्ट को स्रोत पर पृथक करने, पृथक किए गए अपशिष्ट को अलग-अलग पात्रों में संग्रहण करने में सहायता और पुनर्चक्रणीय सामग्री को प्राधिकृत अपशिष्ट उठाने वालों अथवा प्राधिकृत पुनर्चक्रकों को सौंपना सुनिश्चित करेंगे। जैव-अवक्रमणीय अपशिष्ट का जहां तक संभव होगा परिसर के अंदर संसाधित, उपचारित और कंपोस्ट करके अथवा बायोमिथानेशन के जरिए निपटान किया जाएगा। शेष अपशिष्ट स्थानीय प्राधिकरण द्वारा यथा निर्देशित अपशिष्ट संग्रहकर्ताओं या अभिकरण को दिया जाएगा;

(7) इन नियमों के अधिसूचित होने की तारीख से एक वर्ष के अंदर 5,000 वर्ग मीटर से अधिक क्षेत्रफल वाले सभी गेट लगे समुदाय और संस्थान स्थानीय प्राधिकरण की भागीदारी में इन नियमों में यथा विहित जनित्रों द्वारा अपशिष्ट को स्रोत पर ही पृथक करना, पृथक किए गए अपशिष्ट को अलग-अलग पात्रों में संग्रहण करने में सहायता करना तथा पुनर्चक्रकों को सौंपना सुनिश्चित करेंगे। जैव अवक्रमणीय अपशिष्ट का जहां तक संभव होगा परिसर के अंदर संसाधित, उपचारित और कंपोस्ट करके अथवा बायोमिथानेशन के जरिए निपटान किया जाएगा। शेष अपशिष्ट स्थानीय प्राधिकरण द्वारा यथा निर्देशित अपशिष्ट संग्रहकर्ताओं या अभिकरण को सौंप दिया जाएगा;

(8) इन नियमों के अधिसूचित होने की तारीख से एक वर्ष के अंदर सभी होटल और रेस्टोरेंट स्थानीय प्राधिकरण की भागीदारी में इन नियमों में यथा विहित जनित्रों द्वारा अपशिष्ट को स्रोत पर पृथक करना, पृथक किए गए अपशिष्ट को अलग-अलग पात्रों में संग्रह करने में सहायता करना तथा पुनर्चक्रणीय सामग्री को प्राधिकृत अपशिष्ट उठाने वालों अथवा प्राधिकृत

पुनर्चक्रकों को सौंपना सुनिश्चित करेंगे। जैव-अवक्रमणीय अपशिष्ट का जहां तक संभव होगा परिसर के अंदर संसाधित उपचारित और कंपोस्ट करके अथवा बायोमिथानेशन के जरिए निपटान किया जाएगा। शेष अपशिष्ट स्थानीय प्राधिकरणद्वारा यथा निर्देशित अपशिष्ट संग्रहकर्ताओं या अभिकरण को दिया जाएगा।

5. पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय के कर्तव्य.- (1) पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय देश में इन नियमों के अनुपालन की मॉनीटरी के लिए उत्तरदायी होगा। यह सचिव, पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय की अध्यक्षता के अधीन केन्द्रीय मॉनीटरी समिति का गठन करेगा, जिसमें निम्नलिखित अधिकारी शामिल होंगे जो संयुक्त सचिव या सलाहकार की पंक्ति से निम्न के नहीं होंगे अर्थात् :

(1) शहरी विकास मंत्रालय

(2) ग्रामीण विकास मंत्रालय

(3) रसायन एवं उर्वरक मंत्रालय

(4) कृषि मंत्रालय

(5) केंद्रीय प्रदूषण नियंत्रण बोर्ड

(6) तीन राज्य प्रदूषण नियंत्रण बोर्ड/प्रदूषण नियंत्रण समिति, चक्राणुक्रम द्वारा

(7) तीन राज्य सरकारों के शहरी विकास विभाग, चक्राणुक्रम द्वारा

(8) दो राज्य सरकारों के ग्रामीण विकास विभाग, चक्राणुक्रम द्वारा

(9) तीन शहरी स्थानीय निकाय, चक्राणुक्रम द्वारा

(10) दो जनगणना (सेंसस) शहर, चक्राणुक्रम द्वारा

(11) एफआईसीसीआई, सीआईआई

(12) दो विषय विशेषज्ञ

2. इस केन्द्रीय मानीटरी समिति की बैठक इन नियमों के अनुपालन का मॉनीटर करने और पुनर्विलोकन करने के लिए एक वर्ष में कम से कम एक बार होगी। पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय दो विशेषज्ञों को, यदि आवश्यक हो, सहयोजित कर सकेगा। समिति का प्रत्येक तीन वर्ष में नवीकरण किया जाएगा।

6. शहरी विकास मंत्रालय के कर्त्तव्य.- (1) शहरी विकास मंत्रालय राज्य सरकारों तथा संघ राज्य क्षेत्र के प्रशासनों के साथ निम्नलिखित के लिए समन्वय करेगा, -

(क) ठोस अपशिष्ट प्रबंधन व्यवहारों को सुधारने के लिए राज्यों तथा स्थानीय निकायों द्वारा किए गए उपायों तथा मंत्रालय और बाह्य अभिकरणों द्वारा वित्त पोषित ठोस अपशिष्ट प्रबंधन परियोजनाओं के निष्पादन का वर्ष में कम से कम एक बार आवधिक पुनर्विलोकन करेगा तथा सुधारात्मक उपाय करने पर सलाह देगा;

(ख) इन नियमों की अधिसूचना की तारीख से छह मास के भीतर पणधारियों के साथ परामर्श से ठोस अपशिष्ट प्रबंधन पर राष्ट्रीय नीति तथा रणनीति तैयार करना, जिसके अंतर्गत अपशिष्ट से ऊर्जा की नीति भी है;

(ग) राष्ट्रीय ठोस अपशिष्ट प्रबंधन नीति और राष्ट्रीय शहरी स्वच्छता नीति पर आधारित ठोस प्रबंध के संबंध में राज्य नीति और रणनीति को तैयार करने में राज्यों तथा संघ राज्य क्षेत्रों का मार्गदर्शन करना और उन्हें सुकर बनाना;

(घ) ठोस अपशिष्ट प्रबंध सेक्टर में अनुसंधान और विकास को प्रोत्साहन देना तथा राज्यों और स्थानीय निकायों के लिए सूचना का प्रसार करना;

(ड.) स्थानीय निकायों और अन्य पणधारियों को प्रशिक्षण देना और उनका क्षमता निर्माण करना; और

(च) समय सीमाओं और मानकों को सुकर बनाने के लिए ठोस अपशिष्ट प्रबंधन पर राज्यों, संघ राज्य क्षेत्रों और स्थानीय निकायों को तकनीकी मार्गदर्शी सिद्धांत तथा परियोजना वित्त प्रदान करना;

7. उर्वरक विभाग, रसायन और उर्वरक मंत्रालय के कर्त्तव्य.- (1) उर्वरक विभाग समुचित क्रियाविधि के माध्यम से, -

(क) नगर कम्पोस्ट के बाजार विकास में सहायता उपलब्ध कराएगा; और

(ख) कंपनियों को विपणन के लिए इस सीमा तक उपलब्ध कराना कि उर्वरक कंपनियों द्वारा 3 से 4 थैले: 6 से 7 थैले के अनुपात में रासायनिक उर्वरकों के साथ कम्पोस्ट के सह विपणन का संवर्धन सुनिश्चित हो।

8. कृषि मंत्रालय, भारत सरकार के कर्तव्य :- कृषि मंत्रालय समुचित तंत्र के माध्यम से.-

(क) कंपोस्ट के विनिर्माण एवं बिक्री के लिए उर्वरक नियंत्रण आदेश को लचीलापन प्रदान करेगा;

(ख) कृषि भूमि पर कंपोस्ट के उपयोग को बढ़ावा देगा;

(ग) स्थानीय प्राधिकारियों या उनकी प्राधिकृत एजेंसियों द्वारा उत्पादित कंपोस्ट की गुणता जांच के लिए प्रयोगशालाएं स्थापित करेगा;

(घ) कंपोस्ट की गुणता बनाए रखने और कृषि भूमि पर कंपोस्ट का उपयोग करते समय कंपोस्ट की तुलना में रासायनिक उर्वरकों के उपयोग के अनुपात के लिए समुचित मार्गदर्शक सिद्धांत जारी करेगा।

9. विद्युत मंत्रालय के कर्तव्य.- विद्युत मंत्रालय समुचित तंत्र के माध्यम से :- (क) ठोस अपशिष्ट पर आधारित अपशिष्ट से ऊर्जा पैदा करने वाले संयंत्रों से उत्पादित विद्युत के लिए टैरिफ या प्रभार निर्धारित करेगा;

(ख) ऐसे अपशिष्ट से उत्पन्न विद्युत की खरीद को वितरण कंपनियों द्वारा ऊर्जा संयंत्रों के लिए अनिवार्य बनाएगा।

10. नवीन और नवीकरणीय ऊर्जा स्रोत मंत्रालय के कर्तव्य.- नवीन और नवीकरणीय ऊर्जा स्रोत मंत्रालय समुचित तंत्र के माध्यम से :-

(क) अपशिष्ट से ऊर्जा पैदा करने वाले संयंत्रों के लिए अवसंरचना सृजन को सुविधाजनक बनाएगा; और

(ख) ऐसे अपशिष्ट से ऊर्जा पैदा करने वाले संयंत्रों के लिए समुचित सब्सिडी या प्रोत्साहन प्रदान करेगा।

11. राज्यों और संघ राज्य क्षेत्रों में शहरी विकास के प्रभारी सचिव के कर्तव्य.-

(1) राज्य या संघ राज्य क्षेत्र में सचिव, राज्य शहरी विकास विभाग म्युनिसिपल प्रशासन के आयुक्त या निदेशक या स्थानीय निकायों के निदेशक के माध्यम से निम्नलिखित सुनिश्चित करेगा :

(क) इन नियमों से सुसंगत अपशिष्ट प्रबंधन के क्षेत्र में अपशिष्ट चुनने वालों के प्रतिनिधियों, स्वयं सहायता समूह और समान समूहों सहित पणधारियों के परामर्श से राज्य या संघ राज्य क्षेत्र के लिए राज्य नीति और ठोस अपशिष्ट प्रबंधन रणनीति तैयार करना जो इन नियमों की अधिसूचना की तारीख से एक वर्ष की अवधि के भीतर शहरी विकास मंत्रालय को राष्ट्रीय ठोस अपशिष्ट प्रबंधन नीति और राष्ट्रीय शहरी स्वच्छता नीति से समरूप होगी;

(ख) ठोस अपशिष्ट प्रबंधन के संबंध में राज्य नीति और रणनीति तैयार करते समय भूमिभरण में जाने वाले अपशिष्ट का न्यूनीकरण को सुनिश्चित करने तथा राज्य नीति और ठोस अपशिष्ट प्रबंध रणनीति में मानव स्वास्थ्य और पर्यावरण पर ठोस अपशिष्ट के प्रभाव को न्यूनीकृत करने के लिए ठोस अपशिष्ट के विभिन्न संघटकों के अपशिष्ट में कमी, पुन:उपयोग, पुनर्चक्रण, वसूली और अनुकूलतम उपयोग पर बल देगा;

(ग) राज्य नीतियों और रणनीतियों में कूड़ा चुनने वालों एवं अपशिष्ट संग्रहकर्ताओं और पुनर्चक्रण उद्योग के अनौपचारिक सेक्टर द्वारा अपशिष्ट को कम करने में निभाई गई महत्वपूर्ण भूमिका को स्वीकार किया जाना और अपशिष्ट प्रबंधन प्रणाली में अपशिष्ट चुनने वालों या अनौपचारिक अपशिष्ट संग्रहकर्ताओं के एकीकरण के बारे में विस्तृत मार्गदर्शक सिद्धांत उपलब्ध कराना;

(घ) सभी स्थानीय प्राधिकरणों द्वारा इन नियमों के उपबंधों के क्रियान्वयन को सुनिश्चित करना;

(ड.) राज्य के शहरी योजना विभाग को यह सुनिश्चित करने के लिए निदेश देना कि उन शहरों को छोड़कर जो साझा अपशिष्ट प्रसंस्करण सुविधा या शहरों के एक समूह के लिए क्षेत्रीय स्वच्छता भूमिभरण के सदस्य है, राज्य या संघ राज्य क्षेत्र में प्रत्येक शहर की मास्टर प्लान में ठोस अपशिष्ट प्रसंस्करण और निपटान सुविधाएं स्थापित करने के लिए प्रावधान है;

(च) ठोस अपशिष्ट के लिए प्रसंस्करण और निपटान सुविधाएं स्थापित करने के लिए एक वर्ष के अंदर स्थानीय निकायों के वास्ते उपयुक्त भूमि की पहचान और आवंटन सुनिश्चित करना और उन्हें महानगर एवं जिला योजना समितियों या नगर एवं ग्राम योजना विभाग के माध्यम से राज्य/शहरों की मास्टर योजना (भूमि उपयोग की योजना) में शामिल करना;

(छ) राज्य और स्थानीय निकायों के शहरी योजना विभाग को यह सुनिश्चित करने के लिए निदेश देना कि 200 से अधिक आवास वाले या 5,000 वर्ग मीटर से अधिक क्षेत्रफल के प्लॉट वाली ग्रुप हाउसिंग या वाणिज्यिक, सांस्थानिक या अन्य गैर-आवासीय परिसर के लिए विकास योजना में ठोस अपशिष्ट के पृथक्करण, भंडारण, विकेंद्रित प्रसंस्करण के लिए एक अलग स्थल चिन्हित किया जाता है;

(ज) विशेष आर्थिक जोन, औद्योगिक संपदा, औद्योगिक पार्क के विकासकों को निदेश देना कि प्लॉट के कुल क्षेत्रफल का कम से कम 5 प्रतिशत प्लॉट या शैड वसूली या पुनर्चक्रण सुविधा के लिए आरक्षित करें;

(झ) लागत भागीदारी आधार पर क्षेत्रीय सुविधा से 50 कि. मी. (या अधिक) की दूरी के अन्तर्गत आने वाले शहरों और नगरों के समूह के साझा क्षेत्रीय स्वास्थ्यकर भूमिभरण की स्थापना को सुकर बनाना और ऐसे स्वास्थ्यकर भूमिकरणों के वृत्तिक प्रबंधन को सुनिश्चित करना;

(ञ) ठोस अपशिष्ट के प्रबंधन में शहरी स्थानीय निकायों के क्षमता निर्माण तथा स्रोत पर अपशिष्ट के पृथक्करण एवं परिवहन या प्रसंसकरण की व्यवस्था करना;

(ट) राज्य प्रदूषण नियंत्रण बोर्ड के साथ परामर्श करके 5 टन प्रतिदिन से अधिक के ठोस अपशिष्ट प्रसंस्करण और निपटान सुविधाओं के लिए बफर जोन अधिसूचित करना; और

(ठ) अपशिष्ट चुनने वालों और अपशिष्ट के व्यापारियों के पंजीकरण के संबंध में एक योजना शुरू करना।

12. जिला मजिस्ट्रेट या जिला कलक्टर या उपायुक्त के कर्त्तव्य.- यथा स्थिति, जिला मजिस्ट्रेट या जिला कलक्टर या उपायुक्त,

(क) इन नियमों की अधिसूचना की तारीख से एक वर्ष के भीतर राज्य शहरी विकास विभाग के प्रभारी सचिव के निकट समन्वय से अपने जिले में स्थानीय निकायों को ठोस अपशिष्ट प्रसंस्करण तथा निपटान सुविधाओं की स्थापना करने के लिए नियम 11 के खंड (च) के अनुसार उपयुक्त भूमि की पहचान तथा आबंटन को सुकर बनाएगा;

(ख) अपशिष्ट के पृथक्करण, प्रसंस्करण, उपचार और निपटान पर एक तिमाही में कम से कम तीन मास में एक बार स्थानीय निकायों के अनुपालन का पुनर्विलोकन करेगा और निदेशक या नगरपालिका प्रशासन के आयुक्त या स्थानीय निकायों के निदेशक और राज्य शहरी विकास के प्रभारी सचिव के साथ परामर्श करके उपचारात्मक उपाय करेगा।

13. राज्य और संघ राज्य क्षेत्र में ग्राम पंचायत या ग्रामीण विकास विभाग के प्रभारी सचिव के कर्तव्य.- (1) उन क्षेत्रों के लिए जो इन नियमों के अधीन आते हैं और उनके अधिकार क्षेत्र में हैं, राज्य और संघ राज्य क्षेत्र में ग्राम पंचायत या शहरी विकास विभाग के प्रभारी सचिव के कर्तव्य वहीं होंगे जो राज्य या संघ राज्य क्षेत्र में शहरी विकास के प्रभारी सचिव के हैं।

14. केन्द्रीय प्रदूषण नियंत्रण बोर्ड के कर्त्तव्य.- केन्द्रीय प्रदूषण नियंत्रण बोर्ड –

(क) इन नियमों के कार्यान्वयन के लिए राज्य प्रदूषण नियंत्रण बोर्डों और प्रदूषण नियंत्रण समितियों के साथ समन्वय करेगा और स्थानीय निकायों द्वारा विहित मानकों का पालन करेगा;

(ख) सभी ठोस अपशिष्ट प्रसंस्करण और निपटान सुविधाओं की बाबत भूजल, परिवेशी वायु, ध्वनि प्रदूषण, निक्षालन के लिए मानक निश्चित करेगा;

(ग) ठोस अपशिष्ट प्रसंस्करण सुविधाओं या उपचार प्रौद्योगिकियों के लिए विहित पर्यावरणीय मानकों और सन्नियमों का पुनर्विलोकन करना और जब कभी भी अपेक्षित हो, उनको अद्यतन करना;

(घ) ठोस अपशिष्ट प्रसंस्करण सुविधाओं या उपचार प्रौद्योगिकियों के लिए विहित पर्यावरणीय मानकों के कार्यान्वयन को वर्ष में कम से कम एक बार राज्य प्रदूषण नियंत्रण बोर्डों/प्रदूषण नियंत्रण समितियों के माध्यम से पुनर्विलोकन और उनके द्वारा मॉनीटर किए गए आंकड़ों का संकलन करना;

(ड.) ठोस अपशिष्ट के प्रसंस्करण, पुनर्चक्रण और उपचार के लिए किसी नई प्रौद्योगिकी के प्रयोग पर राज्य प्रदूषण नियंत्रण बोर्डों या प्रदूषण नियंत्रण समितियों के प्रस्तावों का पुनर्विलोकन करना और छः माह के अंदर उनके लिए निष्पादन मानक, उत्सर्जन मानदंड विहित करना;

(च) स्थानीय निकायों द्वारा इन नियमों के कार्यान्वयन को राज्य प्रदूषण नियंत्रण बोर्डों या प्रदूषण नियंत्रण समितियों के माध्यम से मॉनीटर करना;

(छ) राज्य प्रदूषण नियंत्रण बोर्डों और समितियों से प्राप्त रिपोर्टों के आधार पर इन नियमों के कार्यान्वयन पर वार्षिक रिपोर्ट तैयार करना और उसे पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय को प्रस्तुत करना तथा यह रिपोर्ट लोक अधिकार क्षेत्र में भी रखी जाएंगी;

(ज) प्रतिदिन 5 टन से अधिक ठोस अपशिष्ट का प्रबंधन करने वाली सुविधाओं के विभिन्न आकारों के लिए अपशिष्ट प्रसंस्करण और निपटान सुविधाओं की बाहरी सीमाओं से किसी आवासीय, वाणिज्यिक या किसी अन्य संनिर्माण संबंधी क्रियाकलाप को प्रतिबंधित करने वाले बफर जोन को बनाए रखने के लिए मार्गदर्शक सिद्धांतों को प्रकाशित करना;

(झ) इन नियमों के प्रावधानों का अनुपालन करने के लिए ठोस अपशिष्ट के शहरी स्थानीय निकायों के समर्थ बनाने के लिए प्रसंस्करण और निपटान के पर्यावरणीय पहलुओं पर समय-समय पर मार्गदर्शक सिद्धांत प्रकाशित करना; और

(ञ) अपशिष्ट के अंतरराज्यीय संचलन पर राज्यों या संघ राज्य क्षेत्रों को मार्गदर्शन प्रदान करना ।

15. **स्थानीय निकायों, और जनगणना नगरों की ग्राम पंचायतों तथा शहरी समूहों के कर्तव्य और उत्तरदायित्व.-** (1) स्थानीय निकाय और पंचायतें :-

(क) राज्य नीति और रणनीति की अधिसूचना की तारीख से छह मास के भीतर ठोस अपशिष्ट प्रबंधन पर राज्य नीति और रणनीति के अनुसार ठोस अपशिष्ट प्रबंध योजना तैयार करना और उसकी एक प्रति राज्य सरकार या संघ राज्य प्रशासन द्वारा राज्य सरकार या संघ राज्य प्रशासन द्वारा प्राधिकृत अभिकरण से उसे अनुमोदित कराना;

(ख) मलिन बस्तियों तथा अनौपचारिक बसावटों, वाणिज्यिक, संस्थागत और अन्य गैर आवासीय परिसरों सहित सभी घरों से पृथक्कृत ठोस अपशिष्ट का द्वार-द्वार के संग्रहण की व्यवस्था करना। बहु मंजिलों भवनों, बड़े वाणिजियक परिसरों, मॉलों, आवासीय परिसरों इत्यादि से अपशिष्ट का संग्रहण प्रवेश द्वार या किसी अन्य अभिहित स्थान किया जा सकता है;

(ग) कूड़ा चुनने वालों/अनौपचारिक अपशिष्ट संग्रहकर्ताओं के संगठनों को मान्यता प्रदान करने की प्रणाली स्थापित करना और द्वार-द्वार जाकर अपशिष्ट संग्रह करने सहित ठोस अपशिष्ट के प्रबंधन में इनकी भागीदारी को सुकर बनाने के लिए इन प्राधिकृत चुनने वालों और अपशिष्ट संग्रहणकर्ताओं के एकीकरण के लिए एक प्रणाली स्थापित करना;

(घ) स्वयं सहायता समूह बनाने को सुकर बनाना, पहचान पत्र उपलब्ध कराना और तदुपरांत घर-घर जाकर अपशिष्ट संग्रह करने सहित ठोस अपशिष्ट प्रबंधन में एकीकरण को प्रोत्साहन देना;

(ड.) इन नियमों की अधिसूचना की तारीख से एक वर्ष के भीतर इन नियमों के उपबंधों को समाविष्ट करते हुए उपविधियां बनाना और समय पर कार्यान्वयन सुनिश्चित करना;

(च) उपयोक्ता फीस, जो समुचित समझी जाए, समय-समय पर विहित करना और स्वयं या प्राधिकृत अभिकरण के माध्यम से ठोस अपशिष्ट उत्पन्नकर्ताओं से फीस का संग्रह करना;

(छ) अपशिष्ट उत्पन्नकर्ताओं को निदेश देना कि कूड़ा करकट न फैलाएं अथवा कागज, पानी की बोतलें, पेय पदार्थों के केनों, टेट्रा पैक्स, फलों के छिलके, रैपर आदि या सड़क खुले सार्वजनिक स्थान, नालों अपशिष्ट निकायों पर न जलाए या कुंड में न फैंके या उनका निपटान न करें तथा इन नियमों के अधीन विहित किए गए अनुसार स्रोत अपशिष्ट को अलग-अलग करें और पृथक किए गए अपशिष्ट को स्थानीय निकाय द्वारा प्राधिकृत अपशिष्ट चुनने वालों या प्राधिकृत अपशिष्ट संग्रहकर्ता को सौंप दें;

(ज) पुनर्चक्रणीय सामग्रियों छंटाई करने के लिए पर्याप्त स्थान के साथ सामग्री वसूली सुविधाएं या गौण भंडारण सुविधाएं स्थापित करना ताकि अनौपचारिक या प्राधिकृत अपशिष्ट चुनने वाले और अपशिष्ट संग्रह करने वाले अपशिष्ट में से पुनर्चक्रणीय सामग्रियों को अलग कर सकें या उत्पादन के स्रोत से या सामग्री वसूली सुविधाओं से कागज, प्लास्टिक, धातु, शीशा, कपड़ा आदि जैसे पृथक किए गए पुनर्चक्रणीय अपशिष्ट को संग्रह करने के लिए अपशिष्ट चुनने वालों और पुनर्चक्रकों को सुलभ मार्ग उपलब्ध कराना; जैव निम्नीकरण अपशिष्ट के भंडारण के लिए डिब्बे हरे रंग से मुद्रित होंगे, जो पुनर्चक्रण के अपशिष्ट के भंडारण के लिए सफेद रंग से मुद्रित होंगे और अन्य अपशिष्ट के भंडारण के लिए काले रंग से मुद्रित होंगे;

(झ) घरेलू परिसंकटमय अपशिष्ट के लिए अपशिष्ट निक्षेपण केंद्रों की स्थापना करना और अपशिष्ट उत्पन्नकर्ताओं को निदेश देना कि घरेलू परिसंकटमय अपशिष्टों निक्षेपण परिसंकटमय अपशिष्ट निपटान सुविधा में उसके सुरक्षित निपटान के लिए इस केंद्र में करें। ऐसी सुविधा की स्थापना किसी शहर या नगर में इस ढंग से की जाएगी कि एक केंद्र की स्थापना बीस किलोमीटर क्षेत्रफल या उसके भाग के लिए हो जाए और इन केंद्रों में घरेलू परिसंकटमय अपशिष्ट प्राप्त करने के समय अधिसूचित होगा;

(ञ) परिसंकटमय अपशिष्ट निपटान सुविधा तक घरेलू परिसंकटमय अपशिष्ट का सुरक्षित भंडारण और परिवहन सुनिश्चित करना या जो राज्य प्रदूषण नियंत्रण बोर्ड/प्रदूषण नियंत्रण समिति द्वारा निर्देश किया जाए;

(ट) गली के सफाई कर्मचारियों को निदेश देना कि गली की सफाई से संग्रहीत पेड़ के पत्तों को न जलाएं तथा उन्हें अलग से भंडारण करे और स्थानीय निकाय द्वारा प्राधिकृत अपशिष्ट संग्रहकर्ता या अभिकरण को सौंपे;

(ठ) अपशिष्ट चुनने वालों और अपशिष्ट संग्रहकर्ताओं को ठोस अपशिष्ट प्रबंधन का प्रशिक्षण देना;

(ड) दिन-प्रतिदिन आधार पर बाजारों से सब्जियों, फलों, फूलों, मांस, कुक्कुट पालन और मछली बाजार से अपशिष्ट संग्रह करना और स्वास्थ्यकर स्थिति सुनिश्चित करने के लिए बाजारों में उचित स्थानों पर या बाजारों के आस-पास विकेन्द्रीकृत कंपोस्ट प्लांट या जैव मिथेनीकरण प्लांट की स्थापना को प्रोत्साहन देना;

(ढ) जनसंख्या के घनत्व, वाणिज्यिक क्रियाकलाप और स्थानीय स्थिति पर निर्भर करते हुए दैनिक या वैकल्पिक दिवसों या सप्ताह में दो बार सड़कों, मार्गों, गलियों और उप-गलियों की सफाई के अपशिष्ट को पृथक रूप से संग्रह करना;

(ण) सड़क की सफाई के कूड़े और सतही नालियों से निकाली गई गाद को जिन मामलों में इन अपशिष्टों का सीधा संग्रह करने के लिए परिवहन वाहन सुविधाजनक व्यवहार्य नहीं है, अस्थाई रूप से भंडारण करने के लिए आच्छादित गौण भंडारण सुविधा स्थापित करना। इस प्रकार संग्रह किए गए अपशिष्ट का संग्रह और निपटान स्थानीय निकाय द्वारा यथा निर्धारित नियमित अंतराल पर किया जाएगा;

(त) बागवानी, उद्यानों और बगीचों के अपशिष्ट को पृथक रूप से संग्रह करना और जहां तक संभव हो उसका प्रसंस्करण पार्कों और बगीचों में करना;

(थ) पृथक किए गए जैव निम्नीकरणीय अपशिष्ट का परिवहन प्रसंस्करण सुविधाओं जैसे कंपोस्ट प्लांट, जैव मिथेनिकरण संयंत्र या ऐसी कोई सुविधा तक करना। ऐसे अपशिष्ट के स्थल पर प्रसंस्करण को अधिमान्यता दी जानी चाहिए;

(यच) कचरा फैलाने वाले या इन नियमों के उपबंधों का अनुपालन करने में असफल रहने वाले व्यक्तियों के लिए स्थल ही जुर्माना लगाने के लिए उपविधि बनाना और मापदंड विहित करना तथा बनाई गई उपविधियों के अनुसार स्थल पर ही जुर्माना लगाने की शक्तियां उचित अधिकारियों या स्थानीय निकायों को प्रत्यायोजित करना; और

(यछ) सूचना, शिक्षण और संचार अभियान के माध्यम से लोक जागरुकता का सृजन करना और निम्नलिखित के संबंध में अपशिष्ट उत्पन्न करने वालों को जानकारी देना;

i. कचरा न फैलाना;

ii. कम अपशिष्ट उत्पन्न करना;

iii. संभव सीमा तक अपशिष्ट का पुन:उपयोग;

iv. अपशिष्ट का जैव निम्नीकरणीय, गैर-जैव निम्नीकरणीय (पुनर्चक्रण योग्य तथा दहनयोग्य), स्वास्थ्यकर अपशिष्ट और घरेलू परिसंकटमय अपशिष्ट के रूप में स्रोत पर पृथक्करण;

v. घरेलू कंपोस्टिंग, वर्मिन कंपोस्टिंग, बायोगैस उत्पादन या समुदाय स्तरीय कंपोस्टिंग/बायोगैस उत्पादन का व्यवहार करना;

vi. उपयोग हुए प्रसाधन अपशिष्ट को ब्रांड स्वामियों द्वारा उपलब्ध कराए गए पाउचों या स्थानीय निकाय द्वारा विहित उपयुक्त लपेटने वाली सामग्री में लपेटना और इसे गैर जैव निम्नीकरणीय अपशिष्ट के लिए रखे गए डिब्बों में डालना;

vii. स्त्रोत पर पृथक्कृत अपशिष्टों का अलग-अलग डिब्बों में भंडारण करना;

viii. अपशिष्ट चुनने वालों, अपशिष्ट संग्राहकों, पुन:चक्रणकर्ताओं या अपशिष्ट संग्रहण अभिकरणों को पृथक्कृत अपशिष्ट सौंपना; और

ix. अपशिष्ट एकत्र करने वालों या स्थानीय निकायों या स्थानीय निकाय द्वारा प्राधिकृत किसी अन्य व्यक्ति को ठोस अपशिष्ट प्रबंधन के लिए मासिक उपयोक्ता फीस या प्रभार का संदाय करना।

(यज) स्वास्थ्यकर स्थल की स्थापना और प्रचालन के लिए नियम 23 में यथाविनिर्दिष्ट समय सीमा के समाप्त होने के तुरंत पश्चात् मिश्रित अपशिष्ट से भरण स्थल को भरना या एकत्र करना बंद किया जाए;

(यझ) अपशिष्ट प्रसंस्करण सुविधाओं से केवल अप्रयोजनीय, गैर-पुनर्चक्रणयोग्य, गैर-जैवनिम्नीकरणीय, गैर-दहनशील और गैर-सक्रिय अपशिष्ट और पूर्व प्रसंस्करण अपशिष्टों तथा अवशिष्टों को ही स्वास्थ्यकर भरण स्थल पर जाने देने की अनुमति दी जाए और स्वास्थ्यकर भरण स्थलों द्वारा अनुसूची 1 में दी गई विशिष्टयों का अनुपालन किया जाएगा। तथापि, अवशिष्टों का यथासंभव पुनर्चक्रण या पुनप्रयोग किए जाने के प्रयास किए जाने चाहिए ताकि भरण स्थल तक शून्य अपशिष्ट जाने के अपेक्षित लक्ष्य की प्राप्ति हो सके;

(यञ) सभी पुराने खुले मलबा स्थलों तथा विद्यमान प्रचालनरत मलबा स्थलों के जैव-खनन तथा जैव-उपचार की संभाव्यता के लिए जांच और विश्लेषण करना और जहां कहीं व्यवहार्य हो स्थलों के जैव-खनन या जैव-उपचार हेतु आवश्यक कार्रवाई करना;

(यट) मलबा स्थल के जैव-खनन और जैव-उपचार की संभाव्यता न होने की स्थिति में पर्यावरण को होने वाली क्षति को रोकने के लिए इसे भरण स्थल कैपिंग मानकों के अनुसार वैज्ञानिक रूप से आच्छादित जाएगा।

16. राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण नियंत्रण समिति के कर्तव्य.- (1) राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण नियंत्रण समिति द्वारा -

(क) अपनी-अपनी अधिकारिता में स्थानीय निकायों के माध्यम से राज्य में इन नियमों का प्रवर्तन किया जाएगा तथा संबंधित नगरपालिका प्रशासन निदेशालय या राज्य शहरी विकास विभाग के प्रभारी सचिव के निकट समन्वय से वर्ष में कम से कम दो बार इन नियमों के क्रियान्वयन की समीक्षा की जाएगी;

(ख) अपशिष्ट प्रसंस्करण और निस्तारण स्थलों के लिए अनुसूची । और अनुसूची ।। के अधीन यथा विनिर्दिष्ट पर्यावरणीय मानकों को मॉनीटर करना तथा शर्त का पालन करना;

(ग) स्थानीय निकाय या स्थानीय निकाय द्वारा प्राधिकृत किसी अन्य अभिकरण से प्ररूप 1 में आवेदन की प्राप्ति के पश्चात् प्रस्ताव का परीक्षण करना और ऐसी जांच करना जो उचित समझा जाए;

(घ) प्राधिकार के प्रस्ताव की जांच करते समय, संबंधित अधिनियमितियों के अधीन सहमति की अपेक्षा और अन्य अभिकरणों जैसे राज्य शहरी विकास विभाग, नगर और ग्राम योजना विभाग, जिला योजना समिति या महानगरीय क्षेत्र योजना समिति, जैसा लागू हो, विमानपत्तन या एयरबेस प्राधिकरण, भू-जल बोर्ड, रेलवे, विद्युत वितरण कंपनियां, राजमार्ग विभाग और अन्य संबंधित अभिकरणों के विचारों को ध्यान में रखा जाएगा और उन्हें अपने विचार, यदि कोई हों, देने के लिए चार सप्ताह का समय दिया जाएगा;

(ड.) स्थानीय निकाय या किसी सुविधा प्रचालक या स्थानीय प्राधिकरण द्वारा प्राधिकृत किसी अन्य अभिकरण को प्ररूप 2 में साठ दिन की अवधि के भीतर प्राधिकार जारी करना जिसमें यथाआवश्यक अन्य शर्तों सहित अनुसूची 1 और 2 में यथाविनिर्दिष्ट अनुपालन मापदंड और पर्यावरण मानक अधिकथित हों;

(च) ऐसे प्राधिकार की विधिमान्यता सहमतियों की विधिमान्यता के साथ समकालिक होगी;

(छ) यदि स्थानीय प्राधिकरण या सुविधा प्रचालक सुविधा का प्रचालन विहित शर्तों के अनुसार करने में असफल रहता है तो राज्य प्रदूषण नियंत्रण बोर्ड द्वारा खंड (क) के अधीन जारी उक्त प्राधिकार को निलंबित या रद्द किया जा सकेगा;

परंतु यथास्थिति, स्थानीय निकाय या प्रचालक को सूचना दिए बिना ऐसा कोई प्राधिकार निलंबित या रद्द नहीं किया जाएगा; और

(ज) नवीकरण के लिए आवेदन की प्राप्ति पर, प्रत्येक आवेदन को गुणागुण के आधार पर परीक्षा करने के पश्चात् और इस शर्त के अधीन रहते हुए कि सुविधा के प्रचालन में नियमों के सभी उपबंधों, प्राधिकार, सहमति या पर्यावरण अनापत्ति में विनिर्दिष्ट मानकों या शर्तों को पूर्ण कर दिया है, अगले पांच वर्षों के लिए प्राधिकार का नवीकरण करेगा;

(2) राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण नियंत्रण समिति आवेदक को सुने जाने का युक्तियुक्त अवसर देने के पश्चात् और लिखित में कारणों को लेखबद्ध करने के पश्चात् प्राधिकार अनुदत्त करने या नवीकरण करने से इंकार कर सकेगा।

(3) नई प्रोद्यौगिकियों के मामले में, जहां यथास्थिति, केन्द्रीय प्रदूषण नियंत्रण बोर्ड, राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण नियंत्रण समिति द्वारा कोई मानक विहित नहीं किया गया है, मानक विनिर्दिष्ट करने के लिए केन्द्रीय प्रदूषण नियंत्रण बोर्ड से निवेदन करेगा ।

(4) यथास्थिति, राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण नियंत्रण समिति जब कभी उचित समझा जाए किन्तु वर्ष में कम से कम एक बार, यथाअभिहित या अधिकथित मानकों तथा यथाअनुमोदित उपचार प्रोद्यौगिकी तथा प्राधिकार में निर्दिष्ट शर्तों और इन नियमों के अधीन अनुसूची-1 और अनुसूची-2 में विनिर्दिष्ट मानकों का अनुपालन मॉनीटर करेगा ।

(5) राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण नियंत्रण समिति परिसंकटमय अपशिष्ट भंडारण सुविधाओं में अपशिष्ट उत्पादकों द्वारा एकत्रित घरेलू परिसंकटमय अपशिष्ट के सुरक्षित प्रहस्तन और निस्तारण के लिए स्थानीय निकायों को निदेश देगा ।

(6) राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण नियंत्रण समिति द्वारा अपशिष्ट के अंतर राज्य प्रचालन को विनियमित किया जाएगा।

17. निपटानयोग्य उत्पादों तथा स्वास्थ्यकर नैपकिनों और डायपरों के विनिर्माताओं या ब्रांड स्वामियों के कर्तव्य.- (1) निपटान योग्य उत्पादों जैसे टिन, कांच, प्लास्टिक पैकेजिंग इत्यादि के सभी निर्माता या ऐसे उत्पादों को बाजार में लाने वाले ब्रांड स्वामी अपशिष्ट प्रबंधन प्रणाली की स्थापना के लिए स्थानीय निकायों को आवश्यक वित्तीय सहायता उपलब्ध कराएंगे।

(2) गैर जैव-निम्नीकरणीय पैकेजिंग सामग्री में अपने उत्पादों की बिक्री या विपणन करने वाले ऐसे सभी ब्रांड स्वामी उनके उत्पाद के कारण उत्पन्न हुए पैकेजिंग अपशिष्ट को वापस ग्रहण करने के लिए प्रणाली की व्यवस्था करेंगे।

(3) स्वास्थ्यकर नैपकिनों तथा डायपरों के विनिर्माताओं या ब्रांड स्वामियों या विपणन कंपनियों द्वारा अपने उत्पादों में सभी पुनर्चक्रणयोग्य सामग्रियों के प्रयोग की संभाव्यता का पता लगाएंगे या अपने स्वास्थ्यकर उत्पादों के पैकेट के साथ प्रत्येक नैपकिन या डायपर के निस्तारण के लिए एक पाउच या रैपर उपलब्ध कराएंगे।

(4) ऐसे सभी विनिर्माताओं, ब्रांड स्वामियों या विपणन कंपनियों द्वारा अपने उत्पादों को लपेटने और उनका निस्तारण करने के संबंध में लोगों को जानकारी दी जाएगी।

18. कचरा व्युत्पन ईंधन से सौ कि.मी. के अंदर अवस्थित औद्योगिक इकाईयों और ठोस अपशिष्ट आधारित ऊर्जा संयंत्रों के कर्तव्य.- ईंधन का प्रयोग करने वाली और ठोस अपशिष्ट आधारित कचरा व्युत्पन ईंधन संयंत्र से सौ कि.मी. के भीतर अवस्थित सभी औद्योगिक इकाइयां इस प्रकार उत्पन्न कचरा व्युत्पन ईंधन द्वारा अपनी ईंधन अपेक्षा के कम से कम 5 प्रतिशत का प्रतिस्थापन करने के लिए इन नियमों की अधिसूचना की तारीख से छह मास के भीतर व्यवस्था करेंगे।

19. ठोस अपशिष्ट प्रसंस्करण और शोधन सुविधा की स्थापना के लिए मानदंड.- (1) भूमि समनुदेशन कार्य आबंटन विभाग ठोस अपशिष्ट प्रसंस्करण और शोधन सुविधाओं की स्थापना के लिए उपयुक्त भूमि उपलब्ध कराने और राज्य सरकार या संघ राज्य क्षेत्र प्रशासन से ऐसे स्थलों को अधिसूचित करने के लिए उत्तरदायी होंगे।

(2) सुविधा का प्रचालक समय-समय पर इस संबंध में केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा जारी तकनीकी मार्गदर्शी सिद्धांतों और शहरी विकास मंत्रालय द्वारा तैयार किए गए ठोस अपशिष्ट प्रबंधन संबंधी मैनुअल के अनुसार सुविधा का डिजाइन करेगा और इसकी स्थापना करेगा।

(3) सुविधा के प्रचालक द्वारा राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण नियंत्रण समिति से आवश्यक अनुमोदन प्राप्त किया जाएगा।

(4) राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण नियंत्रण समिति द्वारा ठोस अपशिष्ट प्रसंस्करण और शोधन सुविधाओं के प्रचालन के पर्यावरण मानकों की मॉनीटरी की जाएगी।

(5) सुविधा के प्रचालक का उत्तरदायित्व समय-समय पर केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा जारी मार्गदर्शी सिद्धांतों और समय-समय पर शहरी विकास मंत्रालय द्वारा प्रकाशित नगरीय ठोस अपशिष्ट प्रबंधन संबंधी मैनुअल के अनुसार ठोस अपशिष्ट प्रसंस्करण और शोधन सुविधाओं के पर्यावरण के दृष्टि से अनुकूल प्रचालन की होगी।

(6) ठोस अपशिष्ट प्रसंस्करण और शोधन सुविधा के प्रचालक द्वारा राज्य प्रदूषण नियंत्रण बोर्ड/प्रदूषण नियंत्रण समिति और स्थानीय प्राधिकरण को प्रत्येक वर्ष 30 अप्रैल तक प्ररूप 3 में वार्षिक रिपोर्ट प्रस्तुत करेगा।

20. पर्वतीय क्षेत्रों में ठोस अपशिष्ट प्रबंधन के मानदंड और की जाने वाली कार्रवाईयां.- पर्वतीय क्षेत्रों में स्थानीय प्राधिकरणों के कर्तव्य और दायित्व निम्नलिखित अतिरिक्त खंडों के सहित नियम 15 में उल्लिखित के समान होंगे :

(क) पर्वत पर भरण स्थल के संनिर्माण से बचना होगा। प्रसंस्करण सुविधा से अवशिष्ट अपशिष्ट और निष्क्रिय अपशिष्ट का संग्रहण करने के लिए एक उपयुक्त निकटतम अवस्थान पर एक अंतरण स्थान स्थापित किया जाएगा। स्वास्थ्यकर भरण की स्थापना करने के लिए 25 किलोमीटर के भीतर पहाड़ी के नीचे समतल भूमि क्षेत्र में योग्य भूमि का पहचान की जाएगी। अंतरण स्थान से अवशिष्ट अपशिष्ट का निपटान इस स्वास्थ्यकर भरण स्थल पर किया जाएगा।

(ख) ऐसी भूमि उपलब्ध न होने पर की दशा में निष्क्रिय और अवशिष्ट अपशिष्ट के लिए क्षेत्रीय स्वास्थ्यकर भरण स्थल स्थापित करने के प्रयास किए जाएंगे।

(ग) स्थानीय निकाय उपविधि बनाएगा और नागरिकों को गलियों में अपशिष्ट फैंकने से प्रतिषिद्ध करने तथा पर्यटकों को गलियों में या पहाड़ियों से नीचे न फैंकने किसी अपशिष्ट जैसे कागज, पानी की बोतल, शराब की बोतल, सॉफ्ट ड्रिंक के केन, टेट्रा पैक, अन्य कोई प्लास्टिक या कागज अपशिष्ट के स्थान पर सभी पर्यटक स्थलों पर स्थानीय निकाय द्वारा रखे गए कूड़ेदान में फेंकने के निर्देश देना।

(ध) स्थानीय निकाय द्वारा, पर्वतीय क्षेत्रों का भ्रमण करने वाले सभी पर्यटकों को उपविधियों के अधीन ठोस अपशिष्ट प्रबंधन के उपबंधों को नगर में प्रवेश बिंदु के साथ-साथ होटलों तथा अतिथि गृहों इत्यादि के माध्यम से, जहां वे ठहरते हैं और पर्यटन स्थलों पर उपयुक्त विज्ञापन बोर्ड लगाकर, व्यवस्था करेगा।

(ड.) स्थानीय निकाय ठोस अपशिष्ट प्रबंधन सेवाएं संवहनीय बनाने को प्रवेश द्वार पर पर्यटक से ठोस प्रबंधन प्रभार उदगृहीत कर सकेगा ।

(च) भूमि समनुदेशन का प्रभारी विभाग विकेन्द्रीकृत अपशिष्ट प्रसंस्करण सुविधाओं की स्थापना के लिए पर्वतों पर उपयुक्त स्थल की पहचान और आबंटन करेगा। स्थानीय निकाय द्वारा ऐसी सुविधाएं स्थापित की जाएंगी। पर्वतीय स्थान का अनुकूलतम उपयोग करने के लिए सीढ़ी उद्यान प्रणाली को अपनाया जा सकेगा।

21. अपशिष्ट से उर्जा प्रसंस्करण के लिए मानदंड - (1) 1500 कि./कैल./कि.ग्रा. या अधिक के कैलोरिफिक मान रखने वाले गैर पुनःचक्रण अपशिष्टों को भरण स्थलों में निस्तारित नहीं किया जाएगा और उनका उपयोग या तो केवल व्युत्पन्न ईंधन

अवशेष के माध्यम से या अवशेष व्युत्पन्न ईंधन तैयार करने के लिए फीड स्टॉक के रूप में देकर या ऊर्जा का उत्पादन करने के लिए ही किया जाएगा।

(2) उच्च कैलोरिफिक अपशिष्टों का उपयोग सीमेंट या ताप विद्युत संयंत्रों में सह-प्रसंस्करण के लिए किया जाएगा।

(3) स्थानीय निकाय या सुविधा का प्रचालक या उनके द्वारा नामनिर्दिष्ट अभिकरण जो पांच टन प्रतिदिन से अधिक प्रसंस्करण क्षमता वाली सुविधा के अपशिष्ट के ऊर्जा संयंत्र की स्थापना करना चाहते हों, वे यथास्थिति, राज्य प्रदूषण नियंत्रक बोर्ड या प्रदूषण नियंत्रण समिति को प्राधिकार के लिए प्ररुप-1 में आवेदन प्रस्तुत करेंगे।

(4) अपशिष्ट से ऊर्जा सुविधा की स्थापना करने के लिए ऐसे आवेदनों की प्राप्ति पर राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण नियंत्रण समिति उसका परीक्षण करेगा और साठ दिनों के अंदर अनुमति प्रदान करेगा।

22. क्रियान्वयन की समय-सीमा - इन नियमों के क्रियान्वयन के लिए आवश्यक अवसंरचना यथास्थिति, स्थानीय निकायों और अन्य संबंधित प्राधिकरणों द्वारा प्रत्यक्ष तथा स्वयं या नियोजित अभिकरणों द्वारा निम्नलिखित विनिर्दिष्ट समय-सीमा में सृजित की जाएंगी :

क्रम सं.	क्रियाकलाप	नियमों की अधिसूचना की तारीख से समय-सीमा
(1)	ठोस अपशिष्ट प्रसंस्करण सुविधा को स्थापित करने के लिए उपयुक्त स्थलों की पहचान करना	1 वर्ष
(2)	0.5 करोड़ जनसंख्या से कम के स्थानीय निकायों के योग्य उपयुक्त समूह के लिए साझा क्षेत्रीय स्वास्थ्यकर भरण सुविधा को स्थापित करने के लिए और 0.5 करोड़ या अधिक की जनसंख्या वाले सभी स्थानीय प्राधिकरणों द्वारा साझा क्षेत्रीय स्वास्थ्यकर भरण स्थल सुविधाओं या एकल भरण सुविधाओं की स्थापना करने के लिए उपयुक्त स्थलों की पहचान।	1 वर्ष
(3)	ठोस अपशिष्ट प्रसंस्करण सुविधा और स्वास्थ्यकर भरण स्थल सुविधाओं के लिए उपयुक्त स्थलों का उपापन।	2 वर्ष
(4)	जैव निम्नीकरणीय, पुनःचक्रण योग्य, दहन योग्य, स्वास्थ्यकर अपशिष्ट, घरेलू परिसंकटमय तथा निष्क्रिय ठोस अपशिष्टों का स्रोत पर पृथक्करण के लिए चलन के लिए अपशिष्ट उत्पन्नकर्ताओं को बाध्य करना ।	2 वर्ष
(5)	पृथक्कृत अपशिष्ट घर-घर से एकत्र करके और प्रसंस्करण या निपटान सुविधाओं का परिवहन आच्छादित वाहनों में सुनिश्चित करना।	2 वर्ष
(6)	संनिर्माण तथा विध्वंस अपशिष्टों का अलग-अलग भंडारण, संग्रहण और परिवहन सुनिश्चित करना।	2 वर्ष
(7)	100000 से अधिक जनसंख्या वाले सभी स्थानीय निकायों द्वारा ठोस अपशिष्ट प्रसंस्करण सुविधाओं की स्थापना करना।	2 वर्ष
(8)	100000 से कम जनसंख्या वाले स्थानीय निकायों और नगरों द्वारा ठोस अपशिष्ट प्रसंस्करण सुविधाओं की स्थापना करना।	3 वर्ष
(9)	इन नियमों के अधीन यथा अनुज्ञात प्रसंस्करण सुविधाओं से केवल ऐसे अवशिष्ट अपशिष्टों के साथ-साथ अशोधित निष्क्रिय अपशिष्ट के निपटान के	3 वर्ष

	लिए 0.5 करोड़ या उससे अधिक की जनसंख्या वाले सभी स्थानीय निकायों द्वारा या के लिए सम्मिलित या एकल भरण की स्थापना।	
(10)	इन नियमों के अधीन अनुज्ञात अपशिष्ट के निपटान के लिए 0.5 करोड़ से कम के अधीन सभी स्थानीय निकायों और जनसंख्या नगरों द्वारा सम्मिलित या क्षेत्रीय भरण स्थलों की स्थापना।	3 वर्ष
(11)	पुराने या परित्यक्त कूड़ा स्थलों का जैविक उपचार करना या उन्हें ढकना।	5 वर्ष

23. राज्य स्तरीय सलाहकार निकाय.- (1) संबंधित राज्य सरकार या संघ राज्य क्षेत्र प्रशासन के स्थानीय निकायों का प्रत्येक विभाग प्रभारी इन नियमों की अधिसूचना की तारीख से छह मास के भीतर एक राज्य स्तरीय सलाहकार समिति का गठन करेगा जिसमें निम्नलिखित सदस्य शामिल होंगे:-

क्रम संख्या	पदनाम	सदस्य
(1)	(2)	(3)
1.	राज्य के शहरी विकास विभाग/स्थानीय स्वशासन विभाग के सचिव	अध्यक्ष, पदेन
2	राज्य सरकार के पंचायत या ग्रामीण विकास विभाग का संयुक्त सचिव से अन्यून पंक्ति का एक प्रतिनिधि	सदस्य, पदेन
3.	राज्य सरकार के राजस्व विभाग का एक प्रतिनिधि	सदस्य, पदेन
4.	पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय, भारत सरकार का एक प्रतिनिधि	सदस्य, पदेन
5.	शहरी विकास मंत्रालय, भारत सरकार का एक प्रतिनिधि	सदस्य, पदेन
6.	ग्रामीण विकास मंत्रालय, भारत सरकार का एक प्रतिनिधि	सदस्य, पदेन
7.	केंद्रीय प्रदूषण नियंत्रण बोर्ड का एक प्रतिनिधि	सदस्य, पदेन
8.	राज्य प्रदूषण नियंत्रण बोर्ड .या प्रदूषण नियंत्रण समिति का एक प्रतिनिधि	सदस्य, पदेन
9.	भारतीय प्रौद्योगिकी संस्थान या राष्ट्रीय प्रौद्योगिकी संस्थान का एक प्रतिनिधि	सदस्य, पदेन
10.	राज्य का मुख्य नगर नियोजक	सदस्य
11.	स्थानीय निकायों के चक्रानुक्रम द्वारा तीन प्रतिनिधि,	सदस्य
12.	जनगणना नगरों/शहरी समुदायों के दो प्रतिनिधि	सदस्य
13.	अपशिष्ट चुनने वालों/अनौपचारिक पुनर्चक्रणकर्ता या ठोस अपशिष्ट प्रबंधन के लिए काम करने वाले विख्यात गैर सरकारी संगठन या सिविल सोसायटी का एक प्रतिनिधि	सदस्य

14.	राज्य या केन्द्रीय स्तर पर उद्योगों का प्रतिनिधित्व करने वाले निकाय का एक प्रतिनिधि	सदस्य
15.	अपशिष्ट पुनर्चक्रण उद्योग का एक प्रतिनिधि	सदस्य
16.	दो विषय विशेषज्ञ	सदस्य
17.	राज्य सरकार के राजस्व विभाग, कृषि विभाग और श्रम विभाग का सहयोजित एक प्रतिनिधि	सदस्य

(2) इन नियमों के क्रियान्वयन से संबंधित सभी विषयों, ठोस अपशिष्ट प्रबंध संबंधी राज्य की नीति तथा कार्यनीति की समीक्षा करने और इन नियमों के त्वरित और समुचित क्रियान्वयन के लिए आवश्यक उपाय करने के लिए राज्य सरकार को सलाह देने के लिए राज्य स्तरीय सलाहकार निकाय प्रत्येक छह माह में कम से कम एक बैठक करेगी।

(3) समीक्षा रिपोर्ट की प्रतियां आवश्यक कार्रवाई हेतु राज्य प्रदूषण नियंत्रण बोर्ड/प्रदूषण नियंत्रण समिति को अग्रेषित की जाएंगी।

24. वार्षिक रिपोर्ट.- (1) सुविधा के प्रचालक द्वारा प्रत्येक वर्ष 30 अप्रैल को या इससे पूर्व प्ररुप III में स्थानीय निकाय को वार्षिक रिपोर्ट प्रस्तुत की जाएगी।

(2) स्थानीय नगरीय निकाय प्ररुप IV में अपनी वार्षिक रिपोर्ट राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण समिति और संबंधित राज्य या संघ राज्य क्षेत्र के शहरी विकास विभाग के प्रभारी सचिव या मेट्रोपालिटिन नगर की दशा में नगर पालिका प्रशासन के निदेशक या नगरपालिका प्रशासन के आयुक्त या राज्य के अन्य सभी स्थानीय निकायों के मामले में राज्य के स्थानीय निकायों प्रभारी अधिकारी को प्रत्येक वर्ष के 30 जून या उससे पहले अग्रेषित करेगी ।

(3) यथास्थिति, प्रत्येक राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण नियंत्रण समिति, इन नियमों के क्रियान्वयन और अनुपालन न करने वाले स्थानीय निकायों पर की गई कार्रवाई की समेकित वार्षिक रिपोर्ट प्ररुप में तैयार करेगी और प्रत्येक वर्ष के 31 जुलाई तक केंद्रीय प्रदूषण नियंत्रण बोर्ड और शहरी विकास मंत्रालय को प्रस्तुत करेगी ।

(4) केंद्रीय प्रदूषण नियंत्रण बोर्ड, देश में स्थानीय निकायों द्वारा इन नियमों के क्रियान्वयन की स्थिति पर एक समेकित समीक्षा रिपोर्ट तैयार की जाएगी और शहरी विकास मंत्रालय और पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय को अपनी सिफारिशों के साथ प्रत्येक वर्ष 31 अगस्त से पहले अग्रेषित की जाएगी।

(5) पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय द्वारा केन्द्रीय निगरानी समिति की बैठक के दौरान वार्षिक रिपोर्ट का पुनर्विलोकन किया जाएगा।

25. दुर्घटना की रिपोर्ट देना - किसी ठोस अपशिष्ट प्रसंस्करण या सुविधा केंद्र या भराव भूमि स्थल पर कोई दुर्घटना होने की दशा में, तब सुविधा का प्रभारी अधिकारी प्ररुप VI में घटना की रिपोर्ट स्थानीय निकाय को भेजेगा। स्थानीय निकाय द्वारा समीक्षा की जाएगी और सुविधा के प्रभारी अधिकारी को अनुदेश, यदि कोई हो, जारी किया जाएगा।

अनुसूची I

[नियम 15 (ब),(यज्ञ),16(1)(ख)(ड.),16(4) देखें]

स्वास्थ्यकर भरण स्थलों के लिए विनिर्देश

क. स्थल चयन के लिए मानदंड. -

(i) भूमि निर्धारण के कार्य आबंटन में विभाग द्वारा ठोस अपशिष्ट प्रसंस्करण और शोधन सुविधाओं की स्थापना करने के लिए उपयुक्त स्थल उपलब्ध कराया जाएगा और ऐसे स्थलों को अधिसूचित किया जाएगा।

(ii) भूमि भरण स्थल योजनाबद्ध, तथा निर्माण योजना के साथ-साथ चरणबद्ध रीति से बंदी योजना के उचित प्रलेखन के साथ अभिकल्पित और विकसित किए जाएंगे। किसी विद्यमान भूमि भरण स्थल से लगी हुई कोई नई भूमि भरण सुविधा तैयार किए जाने की दशा में विद्यमान भूमि भरण स्थल की बंदी योजना, ऐसे नए भूमि भरण स्थल के प्रस्ताव का भाग होगी।

(iii) भरण स्थलों का चयन आसपास की अपशिष्ट प्रसंस्करण सुविधाओं का प्रयोग करने के लिए किया जाएगा। अन्यथा अपशिष्ट प्रसंस्करण सुविधा की योजना भरण स्थल के अभिन्न भाग के रूप में बनाई जाएगी।

(iv) भूमि भरण स्थल शहरी विकास मंत्रालय, भारत सरकार और केन्द्रीय प्रदूषण नियंत्रण बोर्ड के मार्गदर्शी सिद्धांतों के अनुसार स्थापित किए जाएंगे।

(v) विद्यमान भूमि भरण स्थल, जो पांच वर्षों से अधिक से उपयोग में हैं, इस अनुसूची में दिए गए विनिर्देशों के अनुसरण में उन्नत किए जाएंगे।

(vi) भूमि भरण स्थल कम से कम 20-25 वर्षों तक चलने के लिए पर्याप्त रूप से बड़े होंगे तथा जल जमाव और दुरूपयोग को रोकने के लिए चरणबद्ध रीति से "भूमि भरण सेल" विकसित किए जाएंगे।

(vii) भूमि भरण स्थल नदी से 100 मीटर, तालाब से 200 मीटर, राजमार्गों, आवास स्थलों, सार्वजनिक उद्यानों और जल आपूर्ति कुंओं से 200 मीटर तथा विमानपत्तनों या हवाई अड्डे से 20 किमी की दूरी पर होंगे । तथापि, विशेष मामले में, भूमि भरण स्थल को नागर विमानन प्राधिकरण/वायु सेना, जैसा भी मामला हो, से अनापत्ति प्रमाण पत्र प्राप्त कर लेने के बाद विमानपत्तन/हवाईअड्डे से 10 और 20 किमी की दूरी के अंदर स्थापित किया जा सकता है। तटीय विनियम जोन, नमभूमि, महत्वपूर्ण आवासीय क्षेत्रों, संवेदनशील पारि-भंगुर क्षेत्रों और गत 100 वर्षों से यथा दर्ज बाढ़ के मैदानों के अंदर भूमि भरण स्थल के लिए अनुमति नहीं दी जाएगी।

(viii) भरण स्थल और ठोस अपशिष्ट के शोधन तथा निस्तारण के लिए स्थलों को नगर आयोजना विभाग की भूमि उपयोग योजनाओं में शामिल किया जाएगा।

(ix) पांच टन प्रतिदिन से अधिक की संस्थापित क्षमता वाली ठोस अपशिष्ट प्रसंस्करण तथा निस्तारण सुविधा के आसपास गैर विकास का बफर जोन बनाए रखा जाएगा। इसका अनुरक्षण ठोस अपशिष्ट प्रसंस्करण तथा निस्तारण सुविधा के कुल क्षेत्र के अंदर किया जाएगा। बफर जोन का निर्धारण स्थानीय प्राधिकरण द्वारा संबंधित राज्य प्रदूषण नियंत्रण बोर्ड के परामर्श से मामला दर मामला आधार पर किया जाएगा।

(x) जैव-चिकित्सीय अपशिष्ट का निपटान समय-समय पर यथा संशोधित जैव-चिकित्सीय अपशिष्ट प्रबंधन नियम, 2016 के अनुसार किया जाएगा। परिसंकटमय अपशिष्टों का प्रबंधन समय-समय पर यथासंशोधित परिसंकटमय और अन्य अपशिष्ट (प्रबंधन और सीमा-पारीय संचलन) नियम, 2016 के अनुसार किया जाएगा। ई-अपशिष्टों का प्रबंधन समय-समय पर यथासंशोधित ई-अपशिष्ट (प्रबंधन) नियम, 2016 के अनुसार किया जाएगा।

(xi) अपशिष्ट प्रसंस्करण का कार्य न हो पाने और आपातकाल या प्राकृतिक आपदाओं के दौरान अपशिष्ट को रखने के लिए प्रत्येक भरण स्थल पर ठोस अपशिष्ट के लिए अस्थाई भंडारण सुविधा स्थापित की जाएगी।

ख. स्वास्थ्यकर भरण स्थलों पर सुविधाओं के विकास के लिए मानदंड .-

(i) भूमि भरण स्थल पर चार-दीवारी या बाड़ होगी और अंदर आने वाले वाहनों की निगरानी करने, अनधिकृत व्यक्तियों तथा आवारा पशुओं के प्रवेश को रोकने के लिए उचित उपयुक्त दरवाजा लगाया जाएगा।

(ii) वाहनों और अन्य मशीनरी का मुक्त संचलन सुनिश्चित करने के लिए पहुंच और/आंतरिक सड़कें ठोस या पक्की बनाई जाएगी ताकि वाहनीय संचलन के कारण धूल कणों को उड़ने से रोका जा सके।

(iii) भूमि भरण स्थल पर भूमि भरण के लिए लाए जाने वाले अपशिष्ट की मॉनीटरी करने के लिए अपशिष्ट निरीक्षण सुविधा, अभिलेख रखने के लिए कार्यालय सुविधा तथा प्रदूषण मॉनीटरी उपस्कर सहित उपस्कर और मशीनरी रखने के लिए आश्रय स्थल होंगे। सुविधा का प्रचालक अपशिष्ट प्राप्ति, प्रसंस्करण और निपटान का लेखा-जोखा रखेगा।

(iv) भूमि भरण स्थल पर लाए जाने वाले अपशिष्ट की मात्रा को मापने के लिए धर्मकांटा, अग्नि सुरक्षा उपस्कर और अन्य सुविधाएं, जो भी अपेक्षित हों, जैसे प्रावधान किए जाएंगे ।

(v) पेयजल और स्वास्थ्य सुविधाओं (अधिमानत: कर्मकारों के लिए धोने/नहाने की सुविधाओं) जैसी उपयोगिताओं और सहज भूमि भरण प्रचालनों, जब रात्रि के समय किए जाते हैं, के लिए प्रकाश व्यवस्था का प्रावधान होगा।

(vi) भूमि भरण स्थलों पर कार्मिकों के स्वास्थ्य की जांच सहित सुरक्षा प्रावधान किए जाएंगे।

(vii) परिवहन वाहनों की पार्किंग और सफाई या धुलाई के लिए प्रावधान किए जाएंगे। इस प्रकार उत्पन्न मल जल का शोधन विनिर्दिष्ट मानकों को पूरा करने के लिए किया जाएगा।

ग. भूमि भरण प्रचालनों और भूमि भरण पूर्ण होने पर उनको बंद करने के विनिर्देशों के लिए मानदण्ड.-

(i) अपशिष्ट का उच्च घनत्व प्राप्त करने के लिए भूमि भरण किए जाने वाले अपशिष्ट को भारी कम्पेक्टरों का प्रयोग करते हुए पतली परतों में संहत किया जाएगा । अधिक वर्षा वाले क्षेत्रों, जहां भारी कम्पेक्टरों का प्रयोग नहीं किया जा सकता, में वैकल्पिक उपाय अपनाए जाएंगे ।

(ii) अपशिष्टों को तत्काल या प्रत्येक कार्य दिवस के अंत में कम से कम 10 सेमी मिट्टी, अक्रिय मलबे या निर्माण सामग्री से उस समय तक ढक दिया जाएगा जब तक कि कम्पोस्टिंग या पुनर्चक्रण या ऊर्जा पुनर्प्राप्ति के लिए अपशिष्ट प्रसंस्करण सुविधाएं स्थापित न कर दी जाएं।

(iii) मानसून ऋतु के आरंभ होने से पूर्व भूमि भरण स्थल पर मानसून के दौरान पानी के रिसाव को रोकने के लिए उचित संहनन और श्रेणीकरण के साथ 40-65 सेमी मोटी मिट्टी का मध्यवर्ती आवरण बिछा दिया जाएगा। भूमि भरण स्थल के प्रभावी क्षेत्र से पानी के बहाव को विपथित करने के लिए उचित निकास नालियों का निर्माण किया जाएगा।

(iv) भूमि भरण स्थल के पूरा हो जाने के पश्चात उसके रिसाव और अपरदन को न्यूनतम करने के लिए अंतिम आवरण डिजाइन किया जाएगा। अंतिम आवरण निम्नलिखित विनिर्देशों के अनुसार होगा, अर्थात् -

(क) अंतिम आवरण में $1x10^{-7}$ सेमी/सेकंड से कम के पारगम्यता गुणांक सहित 60 सेमी की चिकनी मिट्टी या शोधित मिट्टी से युक्त अवरोधक मिट्टी की परत होगी।

(ख) अवरोधक मिट्टी की परत के ऊपर 15 सेमी की एक निकास परत होगी।

(ग) निकास परत के ऊपर प्रकृतिजन्य पादपों की वृद्धि में सहायता करने और अपरदन को कम करने के लिए 45 सेमी की एक वनस्पतिक परत होगी।

घ. **प्रदूषण निवारण के मानदंड.-** भूमि भरण प्रचालनों से प्रदूषण समस्याओं को रोकने के क्रम में निम्नलिखित प्रावधान किए जाएंगे, अर्थात्-

(i) तूफान जल नाले को इस तरीके से डिजाइन और निर्मित किया जाए कि सतही जल बहाव, भूमि भरण स्थल से विपथित हो जाए और ठोस अपशिष्ट स्थानों से निक्षालक, सतही जल बहाव में मिश्रित न हो। निक्षालक उत्पत्ति को कम करने और सतही जल के प्रदूषण को रोकने तथा बाढ़ और दलदली स्थितियों से बचने के लिए भी तूफान जल प्रवाह नालियों के विपथन का प्रावधान किया जाएगा।

(ii) अपशिष्ट निपटान क्षेत्र के आधार और दीवारों पर गैर-पारगम्य लाइनिंग प्रणाली का निर्माण। ऐसी अपशिष्ट प्रसंस्करण सुविधाओं के अवशिष्ट अथवा मिश्रित अपशिष्ट या खतरनाक सामग्रियों (जैसे कि ऐरोसोल, ब्लीच, पालिश, बैटरी, अपशिष्ट तेल, पेंट उत्पाद और कीटनाशक) के संदूषण वाले अपशिष्ट को भरने के लिए प्रयुक्त होने वाले भरण स्थलों के लिए न्यूनतम लाइनर विनिर्देश, एक ऐसा मिश्र अवरोधक होगा जो 1.5 मिमी मोटी उच्च घनत्व वाली पॉलीईथाइलीन (एचडीपीई) जियो-मेम्ब्रेन या जियो-सिंथेटिक लाइनर या उसके समतुल्य होगा तथा मिट्टी (चिकनी अथवा शोधित मिट्टी) के 90 सेमी के ऊपर होगी तथा इसका पारगम्यता गुणांक $1x10^{-7}$ सेमी/सेकंड से अधिक नहीं होगा। जल सारणी का अधिकतम स्तर, भूमि भरण स्थलों के निचले भाग पर उपलब्ध कराई गई चिकनी अथवा शोधित मिट्टी के अवरोधक परत के आधार से कम से कम दो मीटर नीचे होगा।

(iii) निक्षालकों के संग्रहण और शोधन सहित इनके प्रबंधन के लिए प्रावधान किए जाएंगे । शोधित निक्षालक, अनुसूची- में निर्दिष्ट मानकों को पूरा करने के पश्चात् पुनर्चक्रित या [redacted] मलनिर्यास लाइन में विमुक्त कर दिया जाएगा। किसी भी हाल में निक्षालक को खुले वातावरण में विमुक्त नहीं किया जाएगा।

(iv) भूमि भरण क्षेत्र से बहने वाले जल को किसी नाले, धारा, नदी, झील या तालाब में प्रवेश करने से रोकने की व्यवस्था की जाएगी। जल बहाव के निक्षालक या ठोस अपशिष्ट के साथ मिश्रित होने के मामले में, समस्त मिश्रित जल को संबंधित प्राधिकरण द्वारा शोधित किया जाएगा।

ड. **जल गुणवत्ता मॉनीटरी के लिए मानदंड.-**

(i) किसी भूमि भरण स्थल को स्थापित करने से पूर्व, क्षेत्र में भूमि जल गुणवत्ता के मूलाधार आंकड़े एकत्रित किए जाएंगे और उन्हें भविष्य में संदर्भ के लिए रिकार्ड में रखा जाएगा। भूमि भरण स्थल की परिधि के 50 मीटर के अंदर भूमि जल गुणवत्ता को वर्ष में विभिन्न ऋतुओं अर्थात ग्रीष्म, मानसून और मानसून-पश्च अवधि के दौरान आवधिक रूप से मॉनीटर किया जाएगा ताकि यह सुनिश्चित हो सके कि भू- जल, स्वीकार्य सीमा से अधिक संदूषित न हो।

(ii) किसी भी प्रयोजन (पेय जल और सिंचाई सहित) के लिए भूमि भरण स्थलों में और उनके आस-पास भूमि जल के उपयोग पर उसकी गुणवत्ता को सुनिश्चित करने के बाद विचार किया जाएगा। मॉनीटरी प्रयोजन के लिए पेयजल गुणवत्ता हेतु निम्नलिखित विनिर्देश लागू होंगे, अर्थात् :-

क्र.सं.	पैरामीटर	आईएस 10500:2012, संस्करण 2.2 (2003-09) वांछनीय सीमा (मिग्रा/ली., पीएच को छोड़कर
(1)	(2)	(3)
(1)	आर्सेनिक	0.01
(2)	कैडमियम	0.01
(3)	क्रोमियम (Cr^{6+} के रूप में)	0.05
(4)	तांबा	0.05
(5)	साइनाइड	0.05
(6)	सीसा	0.05
(7)	पारा	0.001
(8)	निकल	-
(9)	नाइट्रेट, एनओ$_3$ के रूप में	45.0
(10)	पीएच (pH)	6.5-8.5
(11)	लोहा	0.3
(12)	कुल कठोरता (सीएसीओ$_3$ के रूप में)	300.0
(13)	क्लोराइड	250
(14)	विलीन ठोस	500
(15)	फेनोलिक यौगिक (सी$_6$एच$_5$ओएच के रूप में)	0.001
(16)	जस्ता	5.0
(17)	सल्फेट (एसओ$_4$ के रूप में)	200

च. परिवेशी वायु गुणवत्ता की मानीटरी के लिए मानदंड. -

(i) भूमि भरण स्थल पर दुर्गंध को कम करने, गैसों को अपस्थलीय फैलने से रोकने, पुनर्वासित भूमि भरण स्थल सतह पर उगाई गई वनस्पति को बचाने के लिए गैस संग्रहण प्रणाली सहित भूमि भरण गैस नियंत्रण प्रणाली संस्थापित की जाएगी। भूमि भरण गैस पुनर्प्राप्ति को बढ़ाने के लिए गैस संग्रहण कुओं के साथ आच्छादन प्रणालियों में जियो मेम्ब्रेन के प्रयोग पर विचार किया जाएगा।

(ii) भूमि भरण स्थल पर निकलने वाली मीथेन गैस का सान्द्रण, निम्न विस्फोटक सीमा (एलईएल) के 25 प्रतिशत से अधिक नहीं होगा।

(iii) किसी भूमि भरण स्थल पर संग्रहण सुविधा से प्राप्त भूमि भरण गैस का उपयोग व्यवहार्यता के अनुसार या तो सीधे तापीय अनुप्रयोगों या विद्युत उत्पादन में किया जाएगा। अन्यथा, भूमि भरण गैस को जला (प्रदीप्त) दिया जाएगा और सीधे वायुमंडल में या अवैध रूप से निकासी के लिए नहीं छोड़ा जाएगा। यदि इसका उपयोग या प्रदीप्त संभव न हो तो निष्क्रिय निकास की अनुमति दी जाएगी।

(iv) भूमि भरण स्थल पर और इसके आसपास परिवेशी वायु गुणवत्ता के नियमित रूप से मॉनीटरी की जाएगी। परिवेशी वायु गुणवत्ता औद्योगिक क्षेत्र के लिए केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा विहित मानकों के अनुसार होगी।

छ. भूमि भरण स्थल पर पौधरोपण के लिए मानदंड.- तैयार स्थल के ऊपर निम्नलिखित विनिर्देशों के अनुसार वनस्पतिक आवरण बनाया जाएगा, अर्थात् :

(क) स्थानीय रूप से अंगीकृत अखाद्य बारहमासी पौधों, जो सूखे तथा अत्यधिक तापमान के प्रतिरोधी हैं, को उगाया जाएगा;

(ख) पौधे ऐसे प्रजाति के होंगे कि उनकी जड़ें 30 सेमी से अधिक गहरी न हों। यह शर्त, भूमि भरण स्थल के स्थिर होने तक लागू रहेगी;

(ग) चयनित पौधों में न्यूनतम पोषक वृद्धि के साथ न्यून-पोषक मिट्टी में पनपने की क्षमता होगी;

(घ) मिट्टी के अपरदन को कम करने के लिए पर्याप्त घनत्व में पौधरोपण किया जाएगा;

(ड.) राज्य प्रदूषण नियंत्रण बोर्डों या प्रदूषण नियंत्रण समितियों के परामर्श से भूमि भरण स्थल की सीमा के चारों ओर हरित क्षेत्र विकसित किए जाएंगे।

ज. भूमि भरण स्थल पर पश्चात्वर्ती देखरेख के लिए मानदंड. – (1) भूमि भरण स्थल की बंदी-पश्च देखरेख कम से कम पंद्रह वर्षों के लिए की जाएगी और दीर्घकालिक मॉनीटरी या देखरेख योजना निम्नलिखित से युक्त होगी, अर्थात् :-

(क) सबसे ऊपरी परत की अखंडता और प्रभाविता को बनाए रखना, मरम्मत करते रहना तथा सबसे ऊपरी परत को अपरदन या अन्य प्रकार के नुकसान के जारी रहने और बहने को रोकना;

(ख) अपेक्षानुसार निक्षालक संग्रहण प्रणाली की मॉनीटरी करना;

(ग) भरण स्थल में और इसके आसपास भू-जल की मॉनीटरी करना;

(घ) मानकों के अनुरूप भूमि भरण गैस संग्रहण प्रणाली का अनुरक्षण और प्रचालन करना।

(2) पंद्रह वर्ष की बंदी-पश्च मॉनीटरी के बाद बंद पड़े भूमि भरण स्थलों के उपयोग पर मानव बस्ती या अन्यथा प्रयोग किए जाने के बारे में यह सुनिश्चित करने के बाद ही विचार किया जाएगा कि गैसीय उत्सर्जन और निक्षालक गुणवत्ता विश्लेषण, विनिर्दिष्ट मानकों के अनुपालन में हैं और मृदा स्थिरता सुनिश्चित की गई है।

झ. पहाड़ी क्षेत्रों के लिए विशेष प्रावधानों हेतु मानदंड - पहाड़ों पर बसे नगरों और शहरों में स्थानीय प्राधिकरण द्वारा संबंधित राज्य बोर्ड या प्रदूषण नियंत्रण समिति के अनुमोदन से ठोस अपशिष्ट के अंतिम निपटान के लिए विकसित की गई स्थान-विशिष्ट पद्धतियां अपनाई जाएंगी। नगरपालिका प्राधिकरण जैवअवक्रमणीय जैविक अपशिष्ट को उपयोगी बनाने के लिए प्रसंस्करण सुविधाएं स्थापित करेगा। गैर-जैवअवक्रमणीय पुनर्चक्रण योग्य सामग्रियों का भण्डारण किया जाएगा और

इन्हें पुनर्चक्रण के लिए आवधिक रूप से भेजा जाएगा। अक्रिय और गैर-जैवअवक्रमणीय अपशिष्ट का उपयोग, सड़कें बनाने या पहाड़ों पर उपयुक्त क्षेत्रों की भराई करने के लिए किया जाएगा। पहाडी क्षेत्रों में पर्याप्त भूमि प्राप्त करने में आ रही कठिनाईयों के कारण सड़क पर बिछाने या भराई के लिए उपयुक्त न पाए गए अपशिष्ट का निपटान मैदानी क्षेत्रों में क्षेत्रीय भरण स्थलों में किया जाएगा।

ञ. **पुराने मलबा स्थलों को बंद और बहाल करना -** ठोस अपशिष्ट के मलबा स्थल जिन्होंने अपनी क्षमता पूरी कर ली है या नए और उपयुक्त रूप से डिजाइन किए गए भरण स्थलों की स्थापना के बाद जिनमें अतिरिक्त अपशिष्ट नहीं डाले जाते हैं, उन्हें बंद कर दिया जाना चाहिए और निम्नलिखित विकल्पों की जांच करने के बाद बहाली की जानी चाहिए :

(i) जैव खनन और अपशिष्ट प्रसंस्करण द्वारा अपशिष्ट को कम करना जिसके बाद नए भरण स्थलों या नीचे (ii) के अनुसार आच्छादन में अवशिष्टों को रखा जाएगा।

(ii) ग्रीन हाऊस गैसों के संग्रहण और चमकाने/उपयोग में समर्थ बनाने के लिए ठोस अपशिष्ट आवरण या जियो मेम्ब्रेन से संवर्धित ठोस अपशिष्ट आवरण से आच्छादित किया जाना।

(iii) ऊपर (ii) के अनुसार अतिरिक्त उपायों (जलोढ़ और अन्य खुरदरी दानेदार मिट्टियों में) जैसे संदूषित भू-जल को निकालने और शोधित करने के लिए कट-ऑफ वॉल और निष्कर्षण कुओं में आच्छादन।

(iv) स्वीकार्य स्तर तक पर्यावरणीय प्रभाव को कम करने के लिए उपयुक्त कोई अन्य पद्धति।

अनुसूची II

[नियम 16(1), (ख), (ड.),16(4) देखें]

ठोस अपशिष्ट के प्रसंस्करण और शोधन के मानक

क. **खाद के मानक.-** अपशिष्ट प्रसंस्करण सुविधाओं में जैव अवक्रमणीय अपशिष्ट के प्रसंस्करण हेतु प्रौद्योगिकियों में से एक के रूप में कंपोस्टिंग शामिल होगा। कंपोस्ट संयंत्र से होने वाले प्रदूषण को रोकने के उद्देश्य से निम्नलिखित का पालन किया जाएगा अर्थात् :

(क) स्थल पर पहुंचने वाले जैविक अपशिष्ट का आगे के प्रसंस्करण से पूर्व समुचित रखरखाव किया जाएगा। जहां तक संभव हो, अपशिष्ट भण्डारण क्षेत्र ढका हुआ होना चाहिए। यदि ऐसा भण्डारण खुले में किया गया हो तो निक्षालक शोधन और निपटान सुविधा तक पहुंचने वाले पंक्तिबद्ध नालों में निक्षालक और सतही जल बहाव को एकत्रित करने की सुविधा के साथ अपारगम्य आधार उपलब्ध कराया जाना चाहिए;

(ख) गंध, मक्खियों, कृंतकों, पक्षी के खतरे और आग के जोखिम की बाधा को कम करने के लिए आवश्यक सावधानियां बरती जाएंगी;

(ग) संयंत्र के ब्रेकडाउन या रखरखाव के मामले में, अपशिष्ट अंतर्ग्राही को बंद कर दिया जाएगा और अपशिष्ट को अस्थाई प्रसंस्करण स्थल या अस्थायी भूमि भरण स्थलों की दिशा में विपथित करने की व्यवस्था की जाएगी, जिनका संयंत्र के ठीक-ठाक हो जाने पर पुन:प्रसंस्करण किया जाएगा;

(घ) प्रसंस्करण सुविधा से प्रक्रिया पूर्व और प्रक्रिया-पश्च अवशिष्टों को नियमित आधार पर हटा दिया जाएगा और स्थल पर इकट्ठा नहीं होने दिया जाएगा। पुनर्चक्रण योग्य सामग्री, उपयुक्त विक्रेताओं के माध्यम से भेजी जाएगी। गैर-पुनर्चक्रण योग्य उच्च तापजनक अंशों को पृथक किया जाएगा और सीमेंट संयंत्रों में या विद्युत संयंत्रों को आरडीएफ उत्पादन, सह-प्रसंस्करण के लिए भेजा जाएगा। भूमि भरण स्थलों में केवल सभी प्रक्रियाओं के अवशिष्ट भेजे जाएंगे।

(ङ.) अपारगम्य आधार के साथ विंड्रो क्षेत्र उपलब्ध कराया जाएगा। ऐसा आधार बजरी या ठोस चिकनी मिट्टी, 50 सेमी मोटी, जिसका पारगम्यता गुणांक 10^{-7} सेमी/सेकंड से कम हो, का बनाया जाएगा। आधार में 1 से 2 प्रतिशत ढाल होगी और निक्षालक या सतही बहाव का संग्रहण करने के लिए इसकी चारों तरफ नालियों का घेरा होगा।

(च) परिवेशी वायु गुणवत्ता की नियमित रूप से मॉनीटरी की जाएगी। प्रसंस्करण संयंत्र की बाहरी दीवार पर या नीचे की हवा की दिशा में गंध की समस्या की भी नियमित रूप से जांच की जाएगी।

(छ) नमी बनाए रखने के लिए खाद संयंत्र में निक्षालक को पुन:परिचालित किया जाएगा।

(ज) अंतिम उत्पाद खाद, समय-समय पर अधिसूचित उर्वरक नियंत्रण आदेश के अंतर्गत विनिर्दिष्ट मानकों के अनुसार होगा।

(झ) खाद का सुरक्षित अनुप्रयोग सुनिश्चित करने हेतु खाद गुणवत्ता के लिए निम्नलिखित विनिर्देशों को पूरा किया जाएगा, अर्थात् :-

पैरामीटर	**जैविक खाद (एफसीओ 2009)**	**फॉस्फेट संपन्न जैविक खाद (एफसीओ 2013)**
(1)	**(2)**	**(3)**
आर्सेनिक (मिग्रा/किग्रा)	10.00	10.00
कैडमियम (मिग्रा/किग्रा)	5.00	5.00
क्रोमियम (मिग्रा/किग्रा)	50.00	50.00
तांबा (मिग्रा/किग्रा)	300.00	300.00
सीसा (मिग्रा/किग्रा)	100.00	100.00
पारा (मिग्रा/किग्रा)	0.15	0.15
निकल (मिग्रा/किग्रा)	50.00	50.00
जस्ता (मिग्रा/किग्रा)	1000.00	1000.00
सी/एन अनुपात	<20	20:1 से कम
पीएच (pH)	6.5-7.5	(1:5 घोल) अधिकतम 6.7
नमी, भार का प्रतिशत, अधिकतम	15.0-25.0	25.0
थोक घनत्व (ग्राम/सेमी^{3})	<1.0	1.6 से कम
कुल जैविक कार्बन, भार द्वारा प्रतिशत, न्यूनतम	12.0	7.9
कुल नाइट्रोजन (एन के रूप में), भार द्वारा प्रतिशत, न्यूनतम	0.8	0.4

कुल फॉस्फेट (पी2ओ5 के रूप में) भार द्वारा प्रतिशत, न्यूनतम	0.4	10.4
कुल पोटेशियम ($के_2ओ$ के रूप में), भार द्वारा प्रतिशत, न्यूनतम	0.4	-
रंग	गहरे भूरे से काले तक	-
गंध	बदबू की अनुपस्थिति	-
कण आकार	कम से कम 90% सामग्री, 4.0 मिमी आईएस छलनी से होकर गुजरनी चाहिए	कम से कम 90% सामग्री, 4.0 मिमी आईएस छलनी से होकर गुजरनी चाहिए
प्रवाहकत्व (डीएसएम-1 के रूप में), से कम	4.0	8.2

*उपरोक्त कथित संकेन्द्रण सीमाओं से अधिक वाली खाद (अंतिम उत्पाद) का उपयोग खाद्य फसलों के लिए नहीं किया जाएगा। तथापि, इसका उपयोग खाद्य फसलों को उगाने से भिन्न प्रयोजनों के लिए किया जा सकता है।

ख. शोधित निक्षालकों के लिए मानक. - शोधित निक्षालकों के निपटान में निम्नलिखित मानकों का पालन किया जाएगा, अर्थात्:-

क्र.सं.	मापदंड	मानक (निपटान का तरीका)		
		अंतर्देशीय सतही जल	सार्वजनिक सीवर	भूमि निपटान
(1)	(2)	(3)	(4)	(5)
1.	निलंबित ठोस, मिग्रा/ली, अधिकतम	100	600	200
2.	विलीन ठोस (अजैविक), मिग्रा/ली, अधिकतम	2100	2100	2100
3.	पीएच (ph) मान	5.5 से 9.0	5.5 से 9.0	5.5 से 9.0
4.	अमोनिकल नाइट्रोजन (एन के रूप में) मिग्रा/ली., अधिकतम	50	50	--
5.	कुल केल्डाल नाइट्रोजन (एन के रूप में) मिग्रा/ली, अधिकतम	100	--	--

6.	जैव रासायनिक ऑक्सीजन मांग (27⁰ से. पर 3 दिन) अधिकतम (मिग्रा/ली)	30	350	100
7.	रासायनिक ऑक्सीजन मांग, मिग्रा/ली, अधिकतम	250	--	--
8.	आर्सेनिक (एएस के रूप में), मिग्रा/ ली, अधिकतम	0.2	0.2	0.2
9.	पारा (एचजी के रूप में), मिग्रा/ली, अधिकतम	0.01	0.01	--
10.	सीसा (पीबी के रूप में), मिग्रा/ली, अधिकतम	0.1	1.0	--
11.	कैडमियम (सीडी के रूप में), मिग्रा/ली, अधिकतम	2.0	1.0	--
12.	कुल क्रोमियम (सीआर के रूप में), मिग्रा/ली, अधिकतम	2.0	2.0	--
13.	तांबा (सीयू के रूप में), मिग्रा/ली, अधिकतम	3.0	3.0	--
14.	जस्ता ((जेडएन के रूप में), मिग्रा/ली, अधिकतम	5.0	15	--
15.	निकल (एनआई के रूप में), मिग्रा/ली, अधिकतम	3.0	3.0	--
16.	साइनाइड (सीएन के रूप में), मिग्रा/ली, अधिकतम	0.2	2.0	0.2
17.	क्लोराइड (सीएल के रूप में), मिग्रा/ली, अधिकतम	1000	1000	600
18.	फ्लोराइड (एफ के रूप में), मिग्रा/ली, अधिकतम	2.0	1.5	--
19.	फेनोलिक यौगिक ($सी_6एच_5$ ओएच के रूप में), मिग्रा/ली, अधिकतम	1.0	5.0	--

नोट : आंतरिक सतही जल-निकायों में शोधित निक्षालकों को बहाते समय, बहाए जाने वाले निक्षालकों की मात्रा और प्राप्त करने वाले जल निकाय में उपलब्ध मिश्रित जल की मात्रा पर उचित रूप से ध्यान दिया जाएगा ।

ग. **भस्मीकरण के मानक :** ठोस अपशिष्ट शोधन/निपटान सुविधा में भस्मकों/ताप प्रौद्योगिकियों से होने वाले उत्सर्जन में निम्नलिखित मानकों का अनुपालन किया जाएगा, अर्थात् :

मानदण्ड	उत्सर्जन मानक	
(1)	(2)	(3)
विविक्त-कण	50 मिग्रा/एनएम^3	मानक का अर्थ आधे घंटे के औसत मान से है
एचसीएल	50 मिग्रा/एनएम^3	मानक का अर्थ आधे घंटे के औसत मान से है
एसओ2	200 मिग्रा/एनएम^3	मानक का अर्थ आधे घंटे के औसत मान से है
सीओ	100 मिग्रा/एनएम^3	मानक का अर्थ आधे घंटे के औसत मान से है
	50 मिग्रा/एनएम^3	मानक का अर्थ दैनिक औसत मान से है
कुल जैविक कार्बन	20 मिग्रा/एनएम^3	मानक का अर्थ आधे घंटे के औसत मान से है
एचएफ	4 मिग्रा/एनएम^3	मानक का अर्थ आधे घंटे के औसत मान से है
एनओएक्स (एनओ2 के रूप में व्यक्त एनओ और एनओ2)	400 मिग्रा/एनएम^3	मानक का अर्थ आधे घंटे के औसत मान से है
कुल डाइऑक्सिन और फ्यूरन	0.1 एनजी टीईक्यू/एनएम^3	मानक का अर्थ 6-8 घंटे के नमूने से है। कृपया कुल विषाक्त समतुल्यता प्राप्त करने के लिए विषाक्त समतुल्यता मानों हेतु 17 संबंधित समप्रकारी वस्तु के दिशानिर्देशों का संदर्भ लें।
सीडी+टीएच+उनके यौगिक	0.05 एमजी/एनएम^3	मानक का अर्थ 30 मिनट और 8 घंटे के बीच कहीं भी नमूना लिए गए समय से है।
एचजी और इसके यौगिक	0.05 एमजी/एनएम^3	मानक का अर्थ 30 मिनट और 8 घंटे के बीच कहीं भी नमूना लिए गए समय से है।
एसबी+एएस+पीबी+सीआर+ सीओ+सीयू+एमएन+एनआई+वी+ उनके यौगिक	0.5 एमजी/एनएम^3	मानक का अर्थ 30 मिनट और 8 घंटे के बीच कहीं भी नमूना लिए गए समय से है।
नोट : सभी मानों में शुष्क आधार पर 11% ऑक्सीजन तक शुद्धि की गई है।		

टिप्पणी :

(क) उपरोक्त उत्सर्जन सीमाओं को प्राप्त करने के लिए भस्मीकरण यंत्र के साथ उपयुक्त प्रकार के डिजाइन किए गए प्रदूषण नियंत्रण उपकरण संस्थापित या पुन:संयोजित किए जाएंगे।

(ख) भस्मीकृत किए जाने वाले अपशिष्ट को किसी क्लोरीनयुक्त कीटाणुनाशक के साथ रासायनिक तरीके से शोधित नहीं किया जाएगा।

(ग) क्लोरीनयुक्त प्लास्टिक के भस्मीकरण को दो वर्षों के अंदर क्रमबद्ध रूप से समाप्त किया जाएगा।

(घ) यदि भस्मीकरण राख में विषाक्त धातुओं की सांद्रता समय-समय पर यथासंशोधित परिसंकटमय अपशिष्ट (प्रबंधन, हथालन और सीमा-पारीय संचलन) नियम, 2008 में यथाविनिर्दिष्ट सीमाओं से अधिक हो तो ऐसे राख को परिसंकटमय अपशिष्ट शोधन, भंडारण और निपटान सुविधा को भेजा जाएगा।

(ड.) भस्मीकरण-यंत्र में ईंधन के रूप में केवल एलडीओ, एलएसएचएस, डीजल, बायोमास, कोयला, एलएनजी, सीएनजी, आरडीएफ और बायोगैस जैसे निम्न सल्फर ईंधन का ही प्रयोग किया जाएगा।

(च) अधोवायु गैस में सीओ2 संकेन्द्रण 7% से अधिक नहीं होगा।

(छ) ट्विन चैम्बर भस्मीकरण-यंत्रों में सभी सुविधाएं इस प्रकार से डिजाइन की जाएंगी कि द्वितीय ज्वलन चैम्बर में 950° से. के न्यूनतम तापमान को प्राप्त करने के लिए और 2 (दो) सेकंड से अधिक के द्वितीय ज्वलन चैम्बर में गैस रह सके।

(ज) भस्मीकरण संयंत्र (दहन चैम्बर) ऐसे तापमान, अवधारण समय और विक्षोभ के साथ परिचालित किए जाएंगे ताकि लावा और तलहटी राखों में कुल जैविक कार्बन (टीओसी) तत्व को 3% से कम किया जा सके या प्रज्वलन पर उनकी क्षति सूखे वजन के 5% से कम हो।

(झ) स्थलों से निकलने वाली गंध का प्रबंधन केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा समय-समय पर जारी मार्गदर्शी सिद्धांतों के साथ किया जाएगा।

प्ररूप -

[नियम 15 (म), 16(1)(ग), 21(3) देखें]

ठोस अपशिष्ट के प्रसंस्करण/पुनर्चक्रण/शोधन और निपटान के लिए
ठोस अपशिष्ट प्रबंधन नियमों के अंतर्गत प्राधिकार प्राप्त करने के लिए आवेदन

सेवा में,

..... के

सदस्य सचिव

राज्य प्रदूषण नियंत्रण बोर्ड/प्रदूषण नियंत्रण समिति

महोदय,

मैं/हम ठोस अपशिष्ट के प्रसंस्करण, पुनर्चक्रण, शोधन और निपटान के लिए ठोस अपशिष्ट नियम, 2016 के अंतर्गत प्राधिकार के लिए एतददारा आवेदन करता हूँ/करते हैं।

1.	उनके/सुविधा के प्रचालक द्वारा नियुक्त स्थानीय निकाय/अभिकरण का नाम	
2.	पत्राचार का पता दूरभाष सं. फैक्स सं.	

	ई-मेल	
3.	नोडल अधिकारी और पदनाम (प्रसंस्करण/शोधन या निपटान सुविधा के प्रचालन के लिए उत्तरदायी स्थानीय निकाय या अभिकरण द्वारा प्राधिकृत अधिकारी)	
4.	सुविधा की स्थापना करने और प्रचालन के लिए अपेक्षित प्राधिकार (कृपया निशान लगाएं)	i. अपशिष्ट प्रसंस्करण ii. पुनर्चक्रण iii. शोधन iv. भूमि भरण स्थल पर निपटान
5.	इन दस्तावेजों की प्रतियां संलग्न करें	i. स्थल स्वीकृति (स्थानीय प्राधिकरण) ii. पर्यावरणीय स्वीकृति का प्रमाण iii. स्थापना के लिए अनुमति iv. नगरपालिका प्राधिकरण और प्रचालन अभिकरण के बीच करार v. परियोजना में निवेश और अपेक्षित आय
6.	**ठोस अपशिष्ट का प्रसंस्करण/पुनर्चक्रण/शोधन** i. प्रतिदिन प्रसंस्करित अपशिष्ट की कुल मात्रा क) पुनर्चक्रित किए जाने वाले अपशिष्ट की मात्रा ख) शोधित किए जाने वाले अपशिष्ट की मात्रा ग) भूमिभरण स्थल में निपटाए जाने वाले अपशिष्ट की मात्रा ii. प्रसंस्करित अपशिष्ट के लिए उपयोगिता कार्यक्रम (उत्पाद उपयोग) iii. निपटान के लिए कार्य-पद्धति (ब्यौरा संलग्न करें) क) निक्षालक की मात्रा ख) निक्षालक के लिए शोधन प्रौद्योगिकी iv. पर्यावरणीय प्रदूषण के निवारण और नियंत्रण के लिए किए जाने वाले उपाय v. संयंत्र में कार्यरत कर्मकारों की सुरक्षा के लिए किए जाने वाले उपाय vi. ठोस अपशिष्ट प्रसंस्करण/पुनर्चक्रण/शोधन/	

	निपटान सुविधा संबंधी ब्यौरा (संलग्न किया जाए)	
7.	**ठोस अपशिष्ट का निपटान** अभिज्ञात स्थलों की संख्या प्रतिदिन निपटाए जाने वाले अपशिष्ट की मात्रा स्थल चयन के लिए अपनाई गई कार्य-पद्धति या मानदण्ड का ब्यौरा (संलग्न करें) प्रचालन के अंतर्गत विद्यमान स्थल का ब्यौरा भूमि भरण की कार्य-पद्धति और प्रचालनात्क ब्यौरा पर्यावरणीय प्रदूषण को रोकने के लिए किए गए उपाय	
8.	कोई अन्य सूचना	

हस्ताक्षर :.....

पदनाम .....

तारीख :

स्थान :

प्ररुप-

[नियम 16(1)(ड.) देखें]

प्राधिकार जारी करने के लिए प्रपत्र

फाइल सं. : _____

दिनांक : _____

प्राधिकार सं. : _____

सेवा में,

_____

_____

_____

संदर्भ : आपका आवेदन सं. _____ दिनांक _____

_____ राज्य प्रदूषण नियंत्रण बोर्ड/प्रदूषण नियंत्रण समिति द्वारा प्रस्ताव का परीक्षण करने के पश्चात _____ को जिनका प्रशासनिक कार्यालय _____ में है, पर अपशिष्ट प्रसंस्करण/पुनर्चक्रण/शोधन/ निपटान सुविधा स्थापित और प्रचालित करने के लिए प्राधिकृत किया जाता है।

यह प्राधिकार ठोस अपशिष्ट के प्रसंस्करण, पुनर्चक्रण, शोधन और निपटान के लिए सुविधा के प्रचालन हेतु प्रदान किया जाता है।

यह प्राधिकार नीचे उल्लिखित निबंधन एवं शर्तों और इन नियमों में अन्यथा यथानिर्दिष्ट ऐसी शर्तों और इन नियमों के अंतर्गत अनुसूचियों और में विनिर्धारित मानकों के अध्यधीन है।

_____ राज्य प्रदूषण नियंत्रण बोर्ड/संघ राज्य क्षेत्र प्रदूषण नियंत्रण समिति द्वारा किसी भी समय, प्राधिकार के अंतर्गत लागू किसी शर्त को रद्द किया जा सकता है और इसकी लिखित सूचना दी जाएगी।

ठोस अपशिष्ट प्रबंधन नियम, 2016 के उपबंध का उल्लंघन होने पर पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) के दंडात्मक उपबंध लागू होंगे।

दिनांक :

स्थान :

(सदस्य सचिव)
राज्य प्रदूषण नियंत्रण बोर्ड/संघ राज्य क्षेत्र
प्रदूषण नियंत्रण समिति
(हस्ताक्षर और पदनाम)

प्ररुप-

[नियम 19(6), 24(1) देखें]

सुविधा के प्रचालक द्वारा स्थानीय निकाय को प्रस्तुत किए जाने के लिए वार्षिक रिपोर्ट का प्रपत्र

1.	शहर/नगर का नाम	
2.	जनसंख्या	
3.	क्षेत्रफल वर्ग किलो मीटर में	
4.	स्थानीय निकाय का नाम और पता दूरभाष सं. फैक्स ई-मेल :	
5.	सुविधा के प्रचालक का नाम और पता	
6.	सुविधा के प्रभारी अधिकारी का नाम दूरभाष सं. फैक्स ई-मेल :	

7.	शहर/नगर में परिवारों की संख्या शहर में गैर आवासीय परिसरों की संख्या शहर/नगर में चुनाव/प्रशासनिक वार्डों की संख्या	
8.	ठोस अपशिष्ट की मात्रा	
	प्रति दिन स्थानीय निकाय के क्षेत्र में उत्पन्न ठोस अपशिष्ट की अनुमानित मात्रा मीट्रिक टन में	/टीपीडी
	प्रतिदिन संग्रहित ठोस अपशिष्ट की मात्रा	/टीपीडी
	प्रतिदिन संग्रहित प्रति व्यक्ति अपशिष्ट	/ग्रा./दिन
	प्रसंसकृत ठोस अपशिष्ट की मात्रा	/टीपीडी
	भरण स्थल पर निपटान किए गए ठोस अपशिष्ट की मात्रा	/टीपीडी
9.	ठोस अपशिष्ट प्रबंधन सेवा की स्थिति	
	स्रोत पर अपशिष्ट का पृथक्करण और भंडारण	हां/नहीं
	क्या घरेलू/वाणिज्यिक/संस्थागत बिनों में स्रोत पर ठोस अपशिष्ट का भंडारण किया जाता है, यदि हां	%
	घरेलू बिनों में स्रोत पर अपशिष्ट के भंडारण की घरेलू रीति की प्रतिशतता	%
	वाणिज्यिक/संस्थागत बिनों में स्रोत पर अपशिष्ट का गैर आवासीय परिसरों में भंडारण करने की प्रतिशतता	%
	गलियों में घरों के ठोस अपशिष्ट का निपटान करने या फेंकने की प्रतिशतता	%
	गलियों में गैर आवासीय परिसरों के ठोस अपशिष्ट का निपटान करने या फेंकने की प्रतिशतता	%
	क्या ठोस अपशिष्ट को स्रोत पर पृथककृत स्वरूप में भंडारित किया जाता है	हां/नहीं
	यदि हां, तो स्रोत पर अपशिष्ट का पृथककरण करने वाले परिसरों की प्रतिशतता	%
	ठोस अपशिष्ट का घर-घर जाकर संग्रहण	
	क्या शहर/नगर में ठोस अपशिष्ट का घर-घर जाकर संग्रहण किया जाता है	हां/नहीं
	यदि हां, तो अपशिष्ट के घर-घर जाकर संग्रहण किए जाने में शामिल वार्डों की संख्या	
	शामिल किए गए घरों की संख्या	
	शामिल किए गए वाणिज्यिक संस्थापनाओं, होटलों, रेस्तराओं, शैक्षिक संस्थाओं/कार्यालय इत्यादि सहित गैर आवासीय परिसरों की संख्या	
	निम्न के माध्यम से घर-घर जाकर संग्रहण किए जाने में शामिल आवासीय और गैर आवासीय परिसरों की प्रतिशतता : मोटरकृत वाहन कंटेनरकृत तिपहिया साइकिल/हैंड कार्ट अन्य साधन	

		%
		%
		%
	यदि नहीं, तो संग्रहण में अपनाई गई प्राथमिक पद्धति	
	गलियों में झाड़ू लगाया जाना	
	शहर में सड़कों, गलियों, लेनों, बाइलेनों की लम्बाई जिनकी सफाई किए जाने की आवश्यकता है	कि.मी.
	गली में झाड़ू लगाए जाने की बारंबारता और लाभान्वित जनसंख्या की प्रतिशतता	

बारंबारता	रोजाना	एकांतर दिवस पर	सप्ताह में दो बार	कभी-कभी
लाभान्वित जनसंख्या की प्रतिशतता				

	प्रयुक्त साधन	
	हाथ से झाड़ू लगाया जाना	%
	यांत्रिक रूप से झाड़ू लगाया जाना	%
	क्या सफाई कर्मचारियों द्वारा लंबी हैंडल वाले झाड़ू का प्रयोग किया जाता है	हां/नही
	क्या प्रत्येक सफाई कर्मचारी को अपशिष्ट का संग्रहण करने के लिए हैंडकार्ट/तिपहिया साइकिल दी जाती है	हां/नही
	क्या हैंडकार्ट/तिपहिया साइकिल में कंटेनर लगा है	हां/नही
	क्या संग्रहण का साधन प्रयोग किए गए संग्रहण/अपशिष्ट भंडारण के कंटेनरों समकालिक है	हां/नही
	द्वितीयक अपशिष्ट भंडारण सुविधाएं	
	शहर/नगर में अपशिष्ट भंडारण डिपो की संख्या और प्रकार	संख्या क्षमता घन मीटर में
	खुले अपशिष्ट भंडारण स्थल	
	चिनाई किए गए बिन	

	सीमेंट कंक्रीट सिलिंडर के बिन ढलाव/ढ़के हुए कक्ष/स्थान ढ़के हुए धातु/प्लास्टिक के कंटेनर 1.1 घन मीटर तक के बिन 2 से 5 घन मीटर के बिन 5 घन मीटर से बड़े कंटेनर बिन रहित शहर		
	बिन/जनसंख्या अनुपात		
	अपशिष्ट भंडारण डिपो का वार्डवार विवरण (संलग्न करें) : वार्ड सं. : क्षेत्रफल : जनसंख्या : रखे हुए बिनों की संख्या रखे गए बिनों का कुल आयतन		
	अपशिष्ट भंडारण सुविधाओं की कुल भंडारण क्षमता घन मीटर में		
	अपशिष्ट भंडारण डिपो में प्रतिदिन वास्तविक रूप से भंडारित कुल अपशिष्ट		
	डिपो से अपशिष्ट के संग्रहण की बारंबारता बताएं साफ किए गए बिनों की संख्या	बारंबारता	बिनों की संख्या
		प्रतिदिन	
		एकांतर दिवस	
		सप्ताह में दो बार	
		सप्ताह में एक बार	
		कभी-कभी	
	क्या भंडारण डिपो में पृथक्कृत अपशिष्ट को हरे, नीले और काले बिनों में भंडार करके रखने की सुविधा है	हां/नहीं (यदि हां तो विवरण दें) हरे बिनों की संख्या : नीले बिनों की संख्या : काले बिनों की संख्या :	
	भंडारण डिपो से ठोस अपशिष्ट उठाने का कार्य हाथ से किया जाता है		

	या यांत्रिक तरीके से? प्रतिशत बताएं ठोस अपशिष्ट को हाथ से उठाए जाने की प्रतिशतता यात्रिक तरीके से उठाने की प्रतिशतता	 % %
	यदि यांत्रिक है तो प्रयुक्त पद्धति का स्पष्ट उल्लेख करें	फ्रंट-एंड लोडर/टॉप लोडर
	क्या ठोस अपशिष्ट को घर-घर से उठाया जाता है और पृथककृत स्वरूप में सीधे शोधन संयंत्र तक भेजा जाता है	हां/नहीं (यदि हां तो स्पष्ट उल्लेख करें)
	प्रतिदिन अपशिष्ट का परिवहन प्रयोग किए गए वाहनों का प्रकार और संख्या (कृपया टिक करें या जोड़ें)	अपशिष्ट का परिवहन करने में लगाए गए फेरों की संख्या
	पशु गाड़ी ट्रैक्टर नॉन टीपिंग ट्रक टीपिंग ट्रक डम्पर प्लेसर अवशिष्ट संग्राहक कम्पैक्टर अन्य जेसीबी - लोडर	
	अपशिष्ट के परिवहन की बारंबारता	बारंबारता परिवहन किए गए अपशिष्ट का प्रतिशत प्रतिदिन एकांतर दिवस पर सप्ताह में दो बार सप्ताह में एक बार कभी-कभी
	प्रत्येक दिन परिवहन किए गए अपशिष्ट की मात्रा	/टीपीडी
	प्रतिदिन परिवहन किए गए कुल अपशिष्ट की प्रतिशतता	%
	प्रयोग की गई अपशिष्ट शोधन प्रौद्योगिकियां	
	क्या ठोस अपशिष्ट का प्रसंस्करण किया जाता है	हां/नहीं

	यदि हां, तो प्रतिदिन प्रसंस्करण किए गए अपशिष्ट की मात्रा	/टीपीडी
	अपशिष्ट प्रसंस्करण के लिए स्थानीय निकाय के पास उपलब्ध भूमि (हेक्टेयर में)	
	अपशिष्ट प्रसंस्करण के लिए वर्तमान में प्रयुक्त भूमि	
	प्रचालनरत ठोस अपशिष्ट प्रसंस्करण सुविधाएं	
	निर्माणाधीन ठोस अपशिष्ट प्रसंस्करण सुविधाएं	
	शहर/नगर की सीमा से प्रसंस्करण सुविधाओं की दूरी	
	अपनाई गई प्रौद्योगिकियों का विवरण	
	कंपोस्टिंग	प्रसंस्करण की गई कच्ची सामग्री की मात्रा उत्पन्न किए गए अंतिम उत्पाद की मात्रा बेची गई मात्रा भरण स्थल में डाले गए शेष अपशिष्ट की मात्रा
	वर्मी कंपोस्टिंग	प्रसंस्करण की गई कच्ची सामग्री की मात्रा उत्पन्न किए गए अंतिम उत्पाद की मात्रा बेची गई मात्रा भरण स्थल में डाले गए शेष अपशिष्ट की मात्रा
	बायो-मिथेनेशन	प्रसंस्करण की गई कच्ची सामग्री की मात्रा उत्पन्न किए गए अंतिम उत्पाद की मात्रा बेची गई मात्रा भरण स्थल में डाले गए शेष अपशिष्ट की मात्रा
	अवशिष्ट जनित ईंधन	प्रसंस्करण की गई कच्ची सामग्री की मात्रा उत्पन्न किए गए अंतिम उत्पाद की मात्रा बेची गई मात्रा भरण स्थल में डाले गए शेष अपशिष्ट की मात्रा
	अपशिष्ट से ऊर्जा प्रौद्योगिकी जैसे कि भष्मीकरण, गैसीकरण, पाइरोलेसिस या कोई अन्य प्रौद्योगिकी (विवरण दें)	प्रसंस्करण की गई कच्ची सामग्री की मात्रा उत्पन्न किए गए अंतिम उत्पाद की मात्रा बेची गई मात्रा भरण स्थल में डाले गए शेष अपशिष्ट की मात्रा
	सह-प्रसंस्करण	प्रसंस्करण की गई कच्ची सामग्री
	सीमेंट संयंत्र को आपूर्तित दहनशील अपशिष्ट	

	ठोस अपशिष्ट आधारित विद्युत संयंत्रों को आपूर्तित दहनशील अपशिष्ट	
	अन्य	मात्रा
	ठोस अपशिष्ट निपटान सुविधाएं	
	स्थानीय निकाय के पास उपलब्ध मलबा स्थलों की संख्या	
	स्थानीय निकाय के पास उपलब्ध स्वास्थ्यकर भरण स्थलों की संख्या	
	अपशिष्ट के निपटान हेतु उपलब्ध ऐसे प्रत्येक स्थल का क्षेत्रफल	
	अपशिष्ट के निपटान के लिए वर्तमान में प्रयुक्त भूमि का क्षेत्रफल	
	शहर/नगर से मलबा स्थल/भरण सुविधा की दूरी	कि.मी.
	निकटतम वसावट से दूरी	कि.मी.
	जल निकाय से दूरी	कि.मी.
	राज्य/राष्ट्रीय राजमार्ग से दूरी	कि.मी.
	विमानपत्तन से दूरी	कि.मी.
	महत्वपूर्ण धार्मिक स्थलों या ऐतिहासिक स्मारक से दूरी	कि.मी.
	क्या यह बाढ़ संभावित क्षेत्र में पड़ता है	हां/नहीं
	क्या यह भूकंप संभावित क्षेत्र में पड़ता है	हां/नहीं
	प्रत्येक दिन भरण में डाले गए अपशिष्ट की मात्रा	टीपीडी
	क्या भरण स्थल को घेरा गया है	हां/नहीं
	क्या स्थल पर रोशनी की सुविधा उपलब्ध है	हां/नहीं
	क्या धर्मकांटा सुविधा उपलब्ध है	हां/नहीं
	भरण स्थल पर प्रयुक्त वाहन और उपकरण (स्पष्ट करें)	उपलब्ध बुलडोजर, कम्पैक्टर इत्यादि
	भरण स्थल पर नियोजित जनशक्ति	हां/नहीं (यदि हां तो विवरण संलग्न करें)
	क्या ढ़कने का काम दैनिक आधार पर किया जाता है	हां/नहीं
	यदि नहीं, तो भरण स्थल पर जमा अपशिष्ट को ढ़कने की बारंबारता	
	ढ़कने के लिए प्रयुक्त सामग्री	
	क्या ढ़कने की पर्याप्त सामग्री उपलब्ध है	हां/नहीं
	क्या गैस निकलने की व्यवस्था की गई है	हां/नहीं (यदि हां, तो तकनीकी डाटा शीट संलग्न करें)
	निक्षालन संग्रहण का प्रावधान	हां/नहीं (यदि हां, तो तकनीकी डाटा शीट संलग्न करें)
10.	क्या शहर में ठोस अपशिष्ट प्रबंधन पद्धतियों में सुधार लाने के लिए	हां/नहीं

	कार्ययोजना बनाई गई है	(यदि हां, तो तकनीकी डाटा शीट संलग्न करें)
11.	निम्न के लिए कौन से पृथक प्रावधान किए गए हैं : डेयरी से संबंधित कार्यकलाप : बूचड़खाने के अपशिष्ट : निर्माण एवं विध्वंस अपशिष्ट (निर्माण मलबा) :	प्रस्तावों, उठाए गए कदमों के संबंध में विवरण संलग्न करें हां/नहीं हां/नहीं हां/नहीं
12.	पश्च संवृत्ति योजना का विवरण	योजना संलग्न करें
13.	कितनी मलिन बस्तियों का निर्धारण किया गया है और क्या इनमें ठोस अपशिष्ट प्रबंधन सुविधाएं उपलब्ध कराई गई हैं :	हां/नहीं (यदि हां, तो विवरण संलग्न करें)
14.	गली में झाड़ू लगाने, अपशिष्ट के द्वितीयक भंडारण, परिवहन, प्रसंस्करण और निपटान सहित संग्रहण के लिए ठेकेदार/रियायतग्राही की नियोजित जनशक्ति का विवरण दें	
15.	इन नियमों के प्रावधानों का अनुपालन करने में स्थानीय निकाय द्वारा महसूस की जा रही कठिनाइयों का संक्षेप में उल्लेख करें	
16.	ठोस अपशिष्ट से संबंधित समस्या से निपटने के लिए किसी अभिनव विचार का संक्षेप में उल्लेख करें जिसे अन्य स्थानीय निकायों द्वारा अपनाया जा सके	

प्रचालक के हस्ताक्षर

तारीख :

स्थान :

प्ररुप-IV

[नियम 15 (यक), 24(2) देखें]

स्थानीय निकाय द्वारा प्रस्तुत किए जाने के लिए ठोस अपशिष्ट प्रबंधन संबंधी

वार्षिक रिपोर्ट का प्रारूप

कैलेंडर वर्ष	रिपोर्ट प्रस्तुत करने की तारीख

1.	शहर/नगर का नाम	
2.	जनसंख्या	
3.	क्षेत्रफल वर्ग किलो मीटर में	
4.	स्थानीय निकाय का नाम और पता दूरभाष सं. फैक्स ई-मेल :	
5.	ठोस अपशिष्ट प्रबंधन (वेस्टेम) से संबंधित प्रभारी अधिकारी का नाम दूरभाष सं. फैक्स ई-मेल :	
6.	शहर/नगर में परिवारों की संख्या शहर में गैर आवासीय परिसरों की संख्या शहर/नगर में चुनाव/प्रशासनिक वार्डों की संख्या	
7.	ठोस अपशिष्ट की मात्रा	
	प्रति दिन स्थानीय निकाय के क्षेत्र में उत्पन्न ठोस अपशिष्ट की अनुमानित मात्रा मीट्रिक टन में	/टीपीडी
	प्रतिदिन संग्रहित ठोस अपशिष्ट की मात्रा	/टीपीडी
	प्रतिदिन संग्रहित प्रति व्यक्ति अपशिष्ट	/ग्रा./दिन
	प्रसंसकृत ठोस अपशिष्ट की मात्रा	/टीपीडी
	मलबा स्थल/भरण स्थल पर निपटान किए गए ठोस अपशिष्ट की मात्रा	/टीपीडी
8.	ठोस अपशिष्ट प्रबंधन सेवा की स्थिति	
	स्रोत पर अपशिष्ट का पृथक्करण और भंडारण	
	क्या घरेलू/वाणिज्यिक/संस्थागत बिनों में स्रोत पर ठोस अपशिष्ट का भंडारण किया जाता है, यदि हां	हां/नहीं

	घरेलू बिनों में स्रोत पर अपशिष्ट के भंडारण की घरेलू रीति की प्रतिशतता	%
	वाणिज्यिक/संस्थागत बिनों में स्रोत पर अपशिष्ट का गैर आवासीय परिसरों में भंडारण करने की प्रतिशतता	%
	गलियों में घरों के ठोस अपशिष्ट का निपटान करने या फेंकने की प्रतिशतता	%
	गलियों में गैर आवासीय परिसरों के ठोस अपशिष्ट का निपटान करने या फेंकने की प्रतिशतता	%
	ठोस अपशिष्ट का घर-घर जाकर संग्रहण	
	क्या शहर/नगर में ठोस अपशिष्ट का घर-घर जाकर संग्रहण किया जाता है	हां/नहीं
	यदि हां, तो अपशिष्ट के घर-घर जाकर संग्रहण किए जाने में शामिल वार्डों की संख्या	
	शामिल किए गए घरों की संख्या	
	शामिल किए गए वाणिज्यिक संस्थापनाओं, होटलों, रेस्तराओं, शैक्षिक संस्थाओं/कार्यालय इत्यादि सहित गैर आवासीय परिसरों की संख्या	
	निम्न के माध्यम से घर-घर जाकर संग्रहण किए जाने में शामिल आवासीय और गैर आवासीय परिसरों की प्रतिशतता : मोटरकृत वाहन कंटेनरकृत तिपहिया साइकिल/हैंड कार्ट अन्य साधन	 % % %
	यदि नहीं, तो संग्रहण में अपनाई गई प्राथमिक पद्धति	
	गलियों में झाड़ू लगाया जाना	
	शहर में सड़कों, गलियों, लेनों, बाइलेनों की लम्बाई जिनकी सफाई किए जाने की आवश्यकता है	कि.मी.
	गली में झाड़ू लगाए जाने की बारंबारता और लाभान्वित जनसंख्या की प्रतिशतता	

बारंबारता	रोजाना	एकांतर दिवस पर	सप्ताह में दो बार	कभी-कभी
लाभान्वित जनसंख्या की प्रतिशतता				

	प्रयुक्त साधन हाथ से झाड़ू लगाया जाना यांत्रिक रूप से झाड़ू लगाया जाना	 % %

	क्या सफाई कर्मचारियों द्वारा लंबी हैंडल वाले झाड़ू का प्रयोग किया जाता है	हां/नही
	क्या प्रत्येक सफाई कर्मचारी को अपशिष्ट का संग्रहण करने के लिए हैंडकार्ट/तिपहिया साइकिल दी जाती है	हां/नही
	क्या हैंडकार्ट/तिपहिया साइकिल में कंटेनर लगा है	हां/नही
	क्या संग्रहण का साधन प्रयोग किए गए संग्रहण/अपशिष्ट भंडारण के कंटेनरों समकालिक है	हां/नही
	द्वितीयक अपशिष्ट भंडारण सुविधाएं	
	शहर/नगर में अपशिष्ट भंडारण डिपो की संख्या और प्रकार खुले अपशिष्ट भंडारण स्थल चिनाई किए गए बिन सीमेंट कंक्रीट सिलिंडर के बिन ढलाव/ढ़के हुए कक्ष/स्थान ढ़के हुए धातु/प्लास्टिक के कंटेनर 1.1 घन मीटर तक के बिन 2 से 5 घन मीटर के बिन 5 घन मीटर से बड़े कंटेनर बिन रहित शहर	संख्या क्षमता घन मीटर में
	बिन/जनसंख्या अनुपात	
	अपशिष्ट भंडारण डिपो का वार्डवार विवरण (संलग्न करें) : वार्ड सं. : क्षेत्रफल : जनसंख्या : रखे हुए बिनों की संख्या रखे गए बिनों का कुल आयतन	
	अपशिष्ट भंडारण सुविधाओं की कुल भंडारण क्षमता घन मीटर में	
	अपशिष्ट भंडारण डिपो में प्रतिदिन वास्तविक रूप से भंडारित कुल अपशिष्ट	

	डिपो से अपशिष्ट के संग्रहण की बारंबारता बताएं साफ किए गए बिनों की संख्या	बारंबारता	बिनों की संख्या
		प्रतिदिन	
		एकांतर दिवस	
		सप्ताह में दो बार	
		सप्ताह में एक बार	
		कभी-कभी	
	क्या भंडारण डिपो में पृथककृत अपशिष्ट को हरे, नीले और काले बिनों में भंडार करके रखने की सुविधा है	हां/नहीं (यदि हां तो विवरण दें) हरे बिनों की संख्या : नीले बिनों की संख्या : काले बिनों की संख्या :	
	भंडारण डिपो से ठोस अपशिष्ट उठाने का कार्य हाथ से किया जाता है या यांत्रिक तरीके से? प्रतिशत बताएं ठोस अपशिष्ट को हाथ से उठाए जाने की प्रतिशतता यात्रिक तरीके से उठाने की प्रतिशतता	% %	
	यदि यांत्रिक है तो प्रयुक्त पद्धति का स्पष्ट उल्लेख करें	फ्रंट-एंड लोडर/टॉप लोडर	
	क्या ठोस अपशिष्ट को घर-घर से उठाया जाता है और पृथककृत स्वरूप में सीधे शोधन संयंत्र तक भेजा जाता है	हां/नहीं (यदि हां तो स्पष्ट उल्लेख करें)	
	प्रतिदिन अपशिष्ट का परिवहन प्रयोग किए गए वाहनों का प्रकार और संख्या	अपशिष्ट का परिवहन करने में लगाए गए फेरों की संख्या	

	पशु गाड़ी ट्रैक्टर नॉन टीपिंग ट्रक टीपिंग ट्रक डम्पर प्लेसर अवशिष्ट संग्राहक कम्पैक्टर अन्य जेसीबी - लोडर	
	अपशिष्ट के परिवहन की बारंबारता	बारंबारता परिवहन किए गए अपशिष्ट का प्रतिशत प्रतिदिन एकांतर दिवस पर सप्ताह में दो बार सप्ताह में एक बार कभी-कभी
	प्रत्येक दिन परिवहन किए गए अपशिष्ट की मात्रा	/टीपीडी
	प्रतिदिन परिवहन किए गए कुल अपशिष्ट की प्रतिशतता	%
	प्रयोग की गई अपशिष्ट शोधन प्रौद्योगिकियां	
	क्या ठोस अपशिष्ट का प्रसंस्करण किया गया है	हां/नहीं
	यदि हां, तो प्रतिदिन प्रसंस्करण किए गए अपशिष्ट की मात्रा	/टीपीडी
	क्या शोधन का कार्य स्थानीय निकाय या किसी अभिकरण के माध्यम से किया जाता है	
	अपशिष्ट प्रसंस्करण के लिए स्थानीय निकाय के पास उपलब्ध भूमि (हेक्टेयर में)	
	अपशिष्ट प्रसंस्करण के लिए वर्तमान में प्रयुक्त भूमि	
	प्रचालनरत ठोस अपशिष्ट प्रसंस्करण सुविधाएं	
	निर्माणाधीन ठोस अपशिष्ट प्रसंस्करण सुविधाएं	
	शहर/नगर की सीमा से प्रसंस्करण सुविधाओं की दूरी	

	अपनाई गई प्रौद्योगिकियों का विवरण	
	कंपोस्टिंग	प्रसंस्करण की गई कच्ची सामग्री की मात्रा उत्पन्न किए गए अंतिम उत्पाद की मात्रा बेची गई मात्रा भरण स्थल में डाले गए शेष अपशिष्ट की मात्रा
	वर्मी कंपोस्टिंग	प्रसंस्करण की गई कच्ची सामग्री की मात्रा उत्पन्न किए गए अंतिम उत्पाद की मात्रा बेची गई मात्रा भरण स्थल में डाले गए शेष अपशिष्ट की मात्रा
	बायो-मिथेनेशन	प्रसंस्करण की गई कच्ची सामग्री की मात्रा उत्पन्न किए गए अंतिम उत्पाद की मात्रा बेची गई मात्रा भरण स्थल में डाले गए शेष अपशिष्ट की मात्रा
	अवशिष्ट जनित ईंधन	प्रसंस्करण की गई कच्ची सामग्री की मात्रा उत्पन्न किए गए अंतिम उत्पाद की मात्रा बेची गई मात्रा भरण स्थल में डाले गए शेष अपशिष्ट की मात्रा
	सह-प्रसंस्करण	प्रसंस्करण की गई कच्ची सामग्री
	सीमेंट संयंत्र को आपूर्तित दहनशील अपशिष्ट	
	ठोस अपशिष्ट आधारित विद्युत संयंत्रों को आपूर्तित दहनशील अपशिष्ट	
	अन्य	मात्रा
	ठोस अपशिष्ट निपटान सुविधाएं	
	स्थानीय निकाय के पास उपलब्ध मलबा स्थलों की संख्या	
	स्थानीय निकाय के पास उपलब्ध स्वास्थ्यकर भरण स्थलों की संख्या	

	अपशिष्ट के निपटान हेतु उपलब्ध ऐसे प्रत्येक स्थल का क्षेत्रफल	
	अपशिष्ट के निपटान के लिए वर्तमान में प्रयुक्त भूमि का क्षेत्रफल	
	शहर/नगर से मलबा स्थल/भरण सुविधा की दूरी	कि.मी.
	निकटतम वसावट से दूरी	कि.मी.
	जल निकाय से दूरी	कि.मी.
	राज्य/राष्ट्रीय राजमार्ग से दूरी	कि.मी.
	विमानपत्तन से दूरी	कि.मी.
	महत्वपूर्ण धार्मिक स्थलों या ऐतिहासिक स्मारक से दूरी	कि.मी.
	क्या यह बाढ़ संभावित क्षेत्र में पड़ता है	हां/नहीं
	क्या यह भूकंप संभावित क्षेत्र में पड़ता है	हां/नहीं
	प्रत्येक दिन भरण में डाले गए अपशिष्ट की मात्रा	टीपीडी
	क्या भरण स्थल को घेरा गया है	हां/नहीं
	क्या स्थल पर रोशनी की सुविधा उपलब्ध है	हां/नहीं
	क्या धर्मकांटा सुविधा उपलब्ध है	हां/नहीं
	भरण स्थल पर प्रयुक्त वाहन और उपकरण (स्पष्ट करें)	उपलब्ध बुलडोजर, कम्पैक्टर इत्यादि
	भरण स्थल पर नियोजित जनशक्ति	हां/नहीं (यदि हां तो विवरण संलग्न करें)
	क्या ढकने का काम दैनिक आधार पर किया जाता है	हां/नहीं
	यदि नहीं, तो भरण स्थल पर जमा अपशिष्ट को ढकने की बारंबारता	
	ढकने के लिए प्रयुक्त सामग्री	
	क्या ढकने की पर्याप्त सामग्री उपलब्ध है	हां/नहीं
	क्या गैस निकलने की व्यवस्था की गई है	हां/नहीं (यदि हां, तो तकनीकी डाटा शीट संलग्न करें)
	निक्षालन संग्रहण का प्रावधान	हां/नहीं (यदि हां, तो तकनीकी डाटा शीट संलग्न करें)
9.	क्या शहर में ठोस अपशिष्ट प्रबंधन पद्धतियों में सुधार लाने के लिए कार्ययोजना बनाई गई है	हां/नहीं (यदि हां, तो तकनीकी डाटा शीट संलग्न करें)
10.	निम्न के लिए कौन से पृथक प्रावधान किए गए हैं : डेयरी से संबंधित कार्यकलाप : बूचड़खाने के अपशिष्ट : निर्माण एवं विध्वंस अपशिष्ट (निर्माण मलबा) :	प्रस्तावों, उठाए गए कदमों के संबंध में विवरण संलग्न करें हां/नहीं

		हां/नहीं हां/नहीं
11.	पश्च संवृत्ति योजना का विवरण	योजना संलग्न करें
12.	कितनी मलिन बस्तियों का निर्धारण किया गया है और क्या इनमें ठोस अपशिष्ट प्रबंधन सुविधाएं उपलब्ध कराई गई हैं :	हां/नहीं (यदि हां, तो विवरण संलग्न करें)
13.	कृपया विवरण दें : गली में झाड़ू लगाने, अपशिष्ट के द्वितीयक भंडारण, परिवहन, प्रसंस्करण और निपटान सहित संग्रहण के लिए स्थानीय निकाय की स्वयं की जनशक्ति	
14.	कृपया विवरण दें : गली में झाड़ू लगाने, अपशिष्ट के द्वितीयक भंडारण, परिवहन, प्रसंस्करण और निपटान सहित संग्रहण के लिए ठेकेदार/रियायतग्राही की नियोजित जनशक्ति	
15.	इन नियमों के प्रावधानों का अनुपालन करने में स्थानीय निकाय द्वारा महसूस की जा रही कठिनाइयों का संक्षेप में उल्लेख करें	
16.	ठोस अपशिष्ट से संबंधित समस्या से निपटने के लिए किसी अभिनव विचार का संक्षेप में उल्लेख करें जिसे अन्य स्थानीय निकायों द्वारा अपनाया जा सके	

मुख्य कार्यकारी अधिकारी/

नगरपालिका आयुक्त/कार्यकारी अधिकारी/

मुख्य अधिकारी के हस्ताक्षर

तारीख :

स्थान :

प्ररुप-V

[नियम 24(3) देखें]

राज्य प्रदूषण नियंत्रण बोर्ड या प्रदूषण नियंत्रण समितियों द्वारा केन्द्रीय प्रदूषण नियंत्रण बोर्ड को प्रस्तुत की जाने वाली वार्षिक रिपोर्ट का प्रपत्र

भाग क

सेवा में,

अध्यक्ष,

केन्द्रीय प्रदूषण नियंत्रण बोर्ड,
परिवेश भवन, पूर्वी अर्जुन नगर,

दिल्ली-110032

1.	राज्य/संघ राज्य क्षेत्र का नाम	:	
2.	राज्य प्रदूषण नियंत्रण बोर्ड का नाम और पता	:	
3.	इन नियमों के अंतर्गत राज्य/संघ राज्य क्षेत्र में ठोस अपशिष्टों के प्रबंधन के लिए उत्तरदायी स्थानीय निकायों की संख्या	:	
4.	प्राप्त हुए प्राधिकार आवेदनों की संख्या	:	
5.	ठोस अपशिष्ट प्रबंधन के संबंध में स्थानीय निकाय द्वारा की गई प्रगति के संबंध में सारांश विवरण	:	कृपया अनुबंध- के रूप में संलग्न करें
6.	अपशिष्ट संग्रहण, पृथक्करण, परिवहन और निपटान के संबंध में स्थानीय निकायों द्वारा की गई प्रगति के संबंध में सारांश विवरण	:	कृपया अनुबंध- के रूप में संलग्न करें
7.	अनुसूची II के कार्यान्वयन के संबंध में स्थानीय निकायों द्वारा की गई प्रगति के संबंध में सारांश विवरण	:	कृपया अनुबंध- के रूप में संलग्न करें

तारीख : स्थान :	अध्यक्ष या सदस्य सचिव राज्य प्रदूषण नियंत्रण बोर्ड/ प्रदूषण नियंत्रण समिति

भाग ख

नगर/शहर

नगरों/शहरों की कुल संख्या

शहरी स्थानीय निकायों की कुल संख्या

श्रेणी-I तथा श्रेणी-II नगरों/शहरों की संख्या

प्राधिकार की स्थिति (नाम/संख्या)

प्राप्त हुए आवेदनों की संख्या

प्रदान किए गए प्राधिकारों की संख्या

जांच के अधीन प्राधिकार

ठोस अपशिष्ट उत्पादन की स्थिति

राज्य में ठोस अपशिष्ट उत्पादन (टीपीडी)

संग्रहित

शोधित

खत्ते में डाले गए

ठोस अपशिष्ट नियम की अनुसूची I का अनुपालन (नगरों की संख्या/नाम/क्षमता)

शहरों/नगरों में अच्छी रीतियां

घर-घर से संग्रहण

पृथक्करण

भंडारण

आवृत्त परिवहन

ठोस अपशिष्ट का प्रसंस्करण (नगरों की संख्या/नाम/क्षमता)

ठोस अपशिष्ट प्रसंस्करण सुविधाओं की स्थापना :

क्रम सं.	कम्पोस्टिंग	वर्मी-कम्पोस्टिंग	बायो गैस	आरडीएफ/गुटिकाकरण

प्रचालनरत प्रसंस्करण सुविधा

क्रम सं.	कम्पोस्टिंग	वर्मी -कम्पोस्टिंग	बायो गैस	आरडीएफ/गुटिकाकरण

संस्थापनाधीन/योजनाकृत प्रसंस्करण सुविधा

क्रम सं.	कम्पोस्टिंग	वर्मी-कम्पोस्टिंग	बायो गैस	आरडीएफ/गुटिकाकरण

अपशिष्ट से ऊर्जा संयंत्र : (नगरों की संख्या/नाम/क्षमता)

क्रम सं.	संयंत्र का स्थान	प्रचालन की स्थिति	विद्युत उत्पादन (मेगा वाट)	अभ्युक्ति

ठोस अपशिष्ट का निपटान (नगरों की संख्या/नाम/क्षमता)

अभिनिर्धारित भरण स्थल

निर्मित भरण स्थल

निर्माणाधीन भरण स्थल

प्रचालनरत भरण स्थल

निश्शेषित भरण स्थल

आच्छादित भरण स्थल

ठोस अपशिष्ट मलबा स्थल (नगरों की संख्या/नाम/क्षमता)

विद्यमान मलबा स्थलों की कुल संख्या

पुनर्निर्मित/आच्छादित भरण स्थल

स्वास्थ्यकर भरण स्थल में परिवर्तित मलबा स्थल

अपशिष्ट प्रसंस्करण/भरण स्थलों पर निगरानी

क्रम सं.	सुविधाओं का नाम	परिवेशी वायु	भू जल	निक्षालन की गुणवत्ता	कंपोस्ट की गुणवत्ता	वीओसी
1.						
2.						
3.						

नगरपालिकाओं द्वारा तैयार की गई कार्य योजनाओं की स्थिति

नगरपालिकाओं की कुल संख्या:

प्रस्तुत की गई कार्य योजना की संख्या:

प्ररुप-VI

[नियम 25 देखें]

दुर्घटना का प्रतिवेदन

1.	दुर्घटना की तारीख और समय	:	
2.	दुर्घटना के लिए कारकों का अनुक्रम	:	
3.	दुर्घटना में शामिल अपशिष्ट	:	
4.	मानव स्वास्थ्य और पर्यावरण पर दुर्घटनाओं के प्रभावों का मूल्यांकन	:	
5.	किए गए आपातकालीन उपाय	:	
6.	दुर्घटनाओं के प्रभावों को कम करने के लिए उठाए गए कदम	:	
7.	ऐसी किसी दुर्घटना की पुनरावृत्ति को रोकने के लिए उठाए गए कदम	:	
तारीख		हस्ताक्षर	
स्थान		पदनाम	

[फा. सं.18-3/2004-एचएसएमडी]

विश्वनाथ सिन्हा, संयुक्त सचिव

नगरपालिकाओं की कुल संख्या:

प्रस्तुत की गई कार्य योजना की संख्या:

प्ररुप-VI

[नियम 25 देखें]

दुर्घटना का प्रतिवेदन

1.	दुर्घटना की तारीख और समय	:	
2.	दुर्घटना के लिए कारकों का अनुक्रम	:	
3.	दुर्घटना में शामिल अपशिष्ट	:	
4.	मानव स्वास्थ्य और पर्यावरण पर दुर्घटनाओं के प्रभावों का मूल्यांकन	:	
5.	किए गए आपातकालीन उपाय	:	
6.	दुर्घटनाओं के प्रभावों को कम करने के लिए उठाए गए कदम	:	
7.	ऐसी किसी दुर्घटना की पुनरावृत्ति को रोकने के लिए उठाए गए कदम	:	
तारीख		हस्ताक्षर	
स्थान		पदनाम	

[फा. सं.18-3/2004-एचएसएमडी]

विश्वनाथ सिन्हा, संयुक्त सचिव

MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

NOTIFICATION

New Delhi, the 8th April, 2016

S.O. 1357(E).—Whereas the draft of the Solid Waste Management Rules, 2015 were published under the notification of the Government of India in the Ministry of Environment, Forest and Climate Change number G.S.R. 451 (E), dated the 3rd June, 2015 in the Gazette of India, part II, Section3, sub- section (i) of the same date inviting objections or suggestions from the persons likely to be affected thereby, before the expiry of the period of sixty days from the publication of the said notification on the Solid Waste Management Rules, 2015 in supersession of the Municipal Solid Waste (Management and Handling) Rules, 2000;

And whereas, copies of the said Gazette were made available to the public on the 3rd June, 2015;

And whereas, the objections or comments received within the stipulated period were duly considered by the Central Government;

Now, therefore, in exercise of the powers conferred by sections 3, 6 and 25 of the Environment (Protection) Act, 1986 (29 of 1986) and in supersession of the Municipal Solid Waste (Management and Handling) Rules, 2000, except as respect things done or omitted to be done before such supersession, the Central Government hereby makes the following rules for management of Solid Waste, namely:-

1. **Short title and commencement.-**

(1) These rules may be called the Solid Waste Management Rules, 2016.

(2) They shall come into force on the date of their publication in the Official Gazette.

2. **Application.-** These rules shall apply to every urban local body, outgrowths in urban agglomerations, census towns as declared by the Registrar General and Census Commissioner of India, notified areas, notified industrial townships, areas under the control of Indian Railways, airports, airbases, Ports and harbours, defence establishments, special economic zones, State and Central government organisations, places of pilgrims, religious and historical importance as may be notified by respective State government from time to time and to every domestic, institutional, commercial and any other non residential solid waste generator situated in the areas except industrial waste, hazardous waste, hazardous chemicals, bio medical wastes, e-waste, lead acid batteries and radio-active waste, that are covered under separate rules framed under the Environment (Protection) Act, 1986.

3. **Definitions** –(1) In these rules, unless the context otherwise requires,- (1) **"aerobic composting"** means a controlled process involving microbial decomposition of organic matter in the presence of oxygen;

2. **"anaerobic digestion"** means a controlled process involving microbial decomposition of organic matter in absence of oxygen;

3. **"authorisation"** means the permission given by the State Pollution Control Board or Pollution Control Committee, as the case may be, to the operator of a facility or urban local suthority, or any other agency responsible for processing and disposal of solid waste;

4. **"biodegradable waste** " means any organic material that can be degraded by micro-organisms into simpler stable compounds;

5. **"bio-methanation"** means a process which entails enzymatic decomposition of the organic matter by microbial action to produce methane rich biogas;

6. **"brand owner"** means a person or company who sells any commodity under a registered brand label.

7. "**buffer zone**" means zone of no development to be maintained around solid waste processing and disposal facility, exceeding 5 TPD of installed capacity. This will be maintained within total and area allotted for the solid waste processing and disposal facility.

8. **"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 having an average waste generation rate exceeding 100kg per day;

9. **"bye-laws"** means regulatory framework notified by local body, census town and notified area townships for facilitating the implementation of these rules effectively in their jurisdiction.

10. **"census town"** means an urban area as defined by the Registrar General and Census Commissioner of India;

11. **"combustible waste"** means non-biodegradable, non-recyclable, non-reusable, non hazardous solid waste having minimum calorific value exceeding 1500 kcal/kg and excluding chlorinated materials like plastic, wood pulp, etc;

12. "**composting**" means a controlled process involving microbial decomposition of organic matter;

13. "**contractor**" means a person or firm that undertakes a contract to provide materials or labour to perform a service or do a job for service providing authority;

14. **"co-processing"** means use of non-biodegradable and non recyclable solid waste having calorific value exceeding 1500k/cal as raw material or as a source of energy or both to replace or supplement the natural mineral resources and fossil fuels in industrial processes;

15. **"decentralised processing"** means establishment of dispersed facilities for maximizing the processing of bio-degradable waste and recovery of recyclables closest to the source of generation so as to minimize transportation of waste for processing or disposal;

16. "**disposal**" means the final and safe disposal of post processed residual solid waste and inert street sweepings and silt from surface drains on land as specified in Schedule I to prevent contamination of ground water, surface water, ambient air and attraction of animals or birds;

17. **"domestic hazardous waste"** means discarded paint drums, pesticide cans, CFL bulbs, tube lights, expired medicines, broken mercury thermometers, used batteries, used needles and syringes and contaminated gauge, etc., generated at the household level;

18. **"door to door collection"** means collection of solid waste from the door step of households, shops, commercial establishments , offices , institutional or any other non residential premises and includes collection of such waste from entry gate or a designated location on the ground floor in a housing society , multi storied building or apartments , large residential, commercial or institutional complex or premises;.

19. **"dry waste"** means waste other than bio-degradable waste and inert street sweepings and includes recyclable and non recyclable waste, combustible waste and sanitary napkin and diapers, etc;

20. **"dump sites"** means a land utilised by local body for disposal of solid waste without following the principles of sanitary land filling;

21. **"extended producer responsibility" (EPR)** means responsibility of any producer of packaging products such as plastic, tin, glass and corrugated boxes, etc., for environmentally sound management, till end-of-life of the packaging products;

22. **"facility"** means any establishment wherein the solid waste management processes namely segregation, recovery, storage, collection, recycling, processing, treatment or safe disposal are carried out;

23. **"fine" means** penalty imposed on waste generators or operators of waste processing and disposal facilities under the bye-laws for non-compliance of the directions contained in these rules and/or bye- laws

24. **"Form"** means a F8orm appended to these rules;

25. **"handling"** includes all activities relating to sorting, segregation, material recovery, collection, secondary storage, shredding, baling, crushing, loading, unloading, transportation, processing and disposal of solid wastes;

26. **"inerts"** means wastes which are not bio-degradable, recyclable or combustible street sweeping or dust and silt removed from the surface drains;

27. **"incineration"** means an engineered process involving burning or combustion of solid waste to thermally degrade waste materials at high temperatures;

28. **"informal waste collector"** includes individuals, associations or waste traders who are involved in sorting, sale and purchase of recyclable materials;

29. "**leachate"** means the liquid that seeps through solid waste or other medium and has extracts of dissolved or suspended material from it;

30. **" local body"** for the purpose of these rules means and includes the municipal corporation, nagar nigam, municipal council, nagarpalika, nagar Palikaparishad, municipal board, nagar panchayat and town panchayat, census towns, notified areas and notified industrial townships with whatever name they are called in different States and union territories in India;

31. "**materials recovery facility" (MRF)** means a facility where non-compostable solid waste can be temporarily stored by the local body or any other entity mentioned in rule 2 or any person or agency authorised by any of them to facilitate segregation, sorting and recovery of recyclables from various components of waste by authorised informal sector of waste pickers, informal recyclers or any other work force engaged by the local body or entity mentioned in rule 2for the purpose before the waste is delivered or taken up for its processing or disposal;

32. **"non-biodegradable waste"** means any waste that cannot be degraded by micro organisms into simpler stable compounds;

33. **"operator of a facility"** means a person or entity, who owns or operates a facility for handling solid waste which includes the local body and any other entity or agency appointed by the local body;

34. **primary collection"** means collecting, lifting and removal of segregated solid waste from source of its generation including households, shops, offices and any other non-residential premises or from any collection points or any other location specified by the local body;

35. "**processing"** means any scientific process by which segregated solid waste is handled for the purpose of reuse, recycling or transformation into new products**;**

36. **"recycling"** means the process of transforming segregated non-biodegradable solid waste into new material or product or as raw material for producing new products which may or may not be similar to the original products;

37. **"redevelopment"** means rebuilding of old residential or commercial buildings at the same site, where the existing buildings and other infrastructures have become dilapidated;

38. **"refused derived fuel"**(RDF) means fuel derived from combustible waste fraction of solid waste like plastic, wood, pulp or organic waste, other than chlorinated materials, in the form of pellets or fluff produced by drying, shredding, dehydrating and compacting of solid waste ;

39. **"residual solid waste"** means and includes the waste and rejects from the solid waste processing facilities which are not suitable for recycling or further processing;

40. **"sanitary land filling "** means the final and safe disposal of residual solid waste and inert wastes on land in a facility designed with protective measures against pollution of ground water, surface water and fugitive air dust, wind-blown litter, bad odour, fire hazard, animal menace, bird menace, pests or rodents, greenhouse gas emissions, persistent organic pollutants slope instability and erosion;

41. **"sanitary waste"** means wastes comprising of used diapers, sanitary towels or napkins, tampons, condoms, incontinence sheets and any other similar waste;

42. **"Schedule"** means the Schedule appended to these rules;

43. **"secondary storage"** means the temporary containment of solid waste after collection at secondary waste storage depots or MRFs or bins for onward transportation of the waste to the processing or disposal facility;

44. **"segregation"** means sorting and separate storage of various components of solid waste namely biodegradable wastes including agriculture and dairy waste, non biodegradable wastes including recyclable waste, non-recyclable combustible waste, sanitary waste and non recyclable inert waste, domestic hazardous wastes, and construction and demolition wastes;

45. **"service provider"** means an authority providing public utility services like water, sewerage, electricity, telephone, roads, drainage, etc;

46. **"solid waste"** means and includes solid or semi-solid domestic waste, sanitary waste, commercial waste, institutional waste, catering and market waste and other non residential wastes, street sweepings, silt removed or collected from the surface drains, horticulture waste, agriculture and dairy waste, treated bio-medical waste excluding industrial waste, bio-medical waste and e-waste, battery waste, radio-active waste generated in the area under the local authorities and other entities mentioned in rule 2;

47. **"sorting"** means separating various components and categories of recyclables such as paper, plastic, card-boards, metal, glass, etc., from mixed waste as may be appropriate to facilitate recycling;

48. **"stabilising"** means the biological decomposition of biodegradable wastes to a stable state where it generates no leachate or offensive odours and is fit for application to farm land ,soil erosion control and soil remediation;

49. **"street vendor"** means any person engaged in vending of articles, goods, wares, food items or merchandise of everyday use or offering services to the general public, in a street, lane, side walk, footpath, pavement, public park or any other public place or private area, from a temporary built up structure or by moving from place to place and includes hawker, peddler, squatter and all other synonymous terms which may be local or region specific; and the words "street vending" with their grammatical variations and cognate expressions, shall be construed accordingly;

50. **"tipping fee"** means a fee or support price determined by the local authorities or any state agency authorised by the State government to be paid to the concessionaire or operator of waste processing facility or for disposal of residual solid waste at the landfill;

51. **"transfer station"** means a facility created to receive solid waste from collection areas and transport in bulk in covered vehicles or containers to waste processing and, or, disposal facilities;

52. **"transportation"** means conveyance of solid waste, either treated, partly treated or untreated from a location to another location in an environmentally sound manner through specially designed and covered transport system so as to prevent the foul odour, littering and unsightly conditions;

53. **"treatment"** means the method, technique or process designed to modify physical, chemical or biological characteristics or composition of any waste so as to reduce its volume and potential to cause harm;

54. **"user fee"** means a fee imposed by the local body and any entity mentioned in rule 2 on the waste generator to cover full or part cost of providing solid waste collection, transportation, processing and disposal services.

55. **"vermi composting"** means the process of conversion of bio-degradable waste into compost using earth worms;

56. **"waste generator"** means and includes every person or group of persons, every residential premises and non residential establishments including Indian Railways, defense establishments, which generate solid waste;

57. **"waste hierarchy"** means the priority order in which the solid waste is to should be managed by giving

emphasis to prevention, reduction, reuse, recycling, recovery and disposal, with prevention being the most preferred option and the disposal at the landfill being the least;

58. **"waste picker"** means a person or groups of persons informally engaged in collection and recovery of reusable and recyclable solid waste from the source of waste generation the streets, bins, material recovery facilities, processing and waste disposal facilities for sale to recyclers directly or through intermediaries to earn their livelihood.

(2) Words and expressions used herein but not defined, but defined in the Environment (Protection) Act, 1986, the Water (Prevention and Control of Pollution) Act, 1974, Water (Prevention and Control of Pollution) Cess Act, 1977 and the Air (prevention and Control of Pollution) Act, 1981 shall have the same meaning as assigned to them in the respective Acts.

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

(a) segregate and store the waste generated by them in three separate streams namely bio-degradable, non bio-degradable and domestic hazardous wastes in suitable bins and handover segregated wastes to authorised waste pickers or waste collectors as per the direction or notification by the local authorities from time to time;

(b) 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 and shall place the same in the bin meant for dry waste or non- bio-degradable waste;

(c) store separately construction and demolition waste, as and when generated, in his own premises and shall dispose off as per the Construction and Demolition Waste Management Rules, 2016; and

(d) store horticulture waste and garden waste generated from his premises separately in his own premises and dispose of as per the directions of the local body from time to time.

(2) No waste generator shall throw, burn or burry the solid waste generated by him, on streets, open public spaces outside his premises or in the drain or water bodies.

(3) All waste generators shall pay such user fee for solid waste management, as specified in the bye-laws of the local bodies.

(4) No person shall organise an event or gathering of more than one hundred persons at any unlicensed place without intimating the local body, at least three working days in advance and such person or the organiser of such event shall ensure segregation of waste at source and handing over of segregated waste to waste collector or agency as specified by the local body.

(5) Every street vendor shall keep suitable containers for storage of waste generated during the course of his activity such as food waste, disposable plates, cups, cans, wrappers, coconut shells, leftover food, vegetables, fruits, etc., and shall deposit such waste at waste storage depot or container or vehicle as notified by the local body.

(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 authorizsd 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.

5. Duties of Ministry of Environment, Forest and Climate Change.- (1) The Ministry of Environment, Forest and Climate Change shall be responsible for over all monitoring the implementation of these rules in the country. It shall constitute a Central Monitoring Committee under the Chairmanship of Secretary, Ministry of Environment, Forest and Climate Change comprising officer not below the rank of Joint Secretary or Advisor from the following namely,-

1) Ministry of Urban Development

2) Ministry of Rural Development

3) Ministry of Chemicals and Fertilizers

4) Ministry of Agriculture

5) Central Pollution Control Board

6) Three State Pollution Control Boards or Pollution Control Committees by rotation

7) Urban Development Departments of three State Governments by rotation

8) Rural Development Departments from two State Governments by rotation

9) Three Urban Local bodies by rotation

10) Two census towns by rotation

11) FICCI, CII

12) Two subject experts

2. This Central Monitoring Committee shall meet at least once in a year to monitor and review the implementation of these rules. The Ministry of Environment, Forest and Climate Change may co-opt other experts, if needed. The Committee shall be renewed every three years.

6. Duties of Ministry of Urban Development.- (1) The Ministry of Urban Development shall coordinate with State Governments and Union territory Administrations to,-

(a) take periodic review of the measures taken by the states and local bodies for improving solid waste management practices and execution of solid waste management projects funded by the Ministry and external agencies at least once in a year and give advice on taking corrective measures;

(b) formulate national policy and strategy on solid waste management including policy on waste to energy in consultation with stakeholders within six months from the date of notification of these rules;

(c) facilitate States and Union Territories in formulation of state policy and strategy on solid management based on national solid waste management policy and national urban sanitation policy;

(d) promote research and development in solid waste management sector and disseminate information to States and local bodies;

(e) undertake training and capacity building of local bodies and other stakeholders;and

(f) provide technical guidelines and project finance to states, Union territories and local bodies on solid waste management to facilitate meeting timelines and standards.

7. Duties of Department of Fertilisers, Ministry of Chemicals and Fertilisers.- (1) The Department of Fertilisers through appropriate mechanisms shall,-

(a) provide market development assistance on city compost; and

(b) ensure promotion of co-marketing of compost with chemical fertilisers in the ratio of 3 to 4 bags: 6 to 7 bags by the fertiliser companies to the extent compost is made availablefor marketing to the companies.

8. Duties of Ministry of Agriculture, Government of India.- The Ministry of Agriculture through appropriate mechanisms shall,-

(a) provide flexibility in Fertiliser Control Order for manufacturing and sale of compost;

(b) propagate utlisation of compost on farm land;

(c) set up laboratories to test quality of compost produced by local authorities or their authorised agencies; and

(d) issue suitable guidelines for maintaining the quality of compost and ratio of use of compost visa-a-vis chemical fertilizers while applying compost to farmland.

9. Duties of the Ministry of Power.-The Ministry of Power through appropriate mechanisms shall,-

(a) decide tariff or charges for the power generated from the waste to energy plants based on solid waste.

(b) compulsory purchase power generated from such waste to energy plants by distribution company.

10. Duties of Ministry of New and Renewable Energy Sources- The Ministry of New and Renewable Energy Sources through appropriate mechanisms shall,-

(a) facilitate infrastructure creation for waste to energy plants; and

(b) provide appropriate subsidy or incentives for such waste to energy plants.

11. Duties of the Secretary–in-charge, Urban Development in the States and Union territories.- (1) The Secretary, Urban Development Department in the State or Union territory through the Commissioner or Director of Municipal Administration or Director of local bodies shall,-

(a) prepare a state policy and solid waste management strategy for the state or the union territory in consultation with stakeholders including representative of waste pickers, self help group and similar groups working in the field of waste management consistent with these rules, national policy on solid waste management and national urban sanitation policy of the ministry of urban development, in a period not later than one year from the date of notification of these rules;

(b) while preparing State policy and strategy on solid waste management, lay emphasis on waste reduction, reuse, recycling, recovery and optimum utilisation of various components of solid waste to ensure minimisation of waste going to the landfill and minimise impact of solid waste on human health and environment;

(c) state policies and strategies should acknowledge the primary role played by the informal sector of waste pickers, waste collectors and recycling industry in reducing waste and provide broad guidelines regarding integration of waste picker or informal waste collectors in the waste management system.

(d) ensure implementation of provisions of these rules by all local authorities;

(e) direct the town planning department of the State to ensure that master plan of every city in the State or Union territory provisions for setting up of solid waste processing and disposal facilities except for the cities who are members of common waste processing facility or regional sanitary landfill for a group of cities; and

(f) ensure identification and allocation of suitable land to the local bodies within one year for setting up of processing and disposal facilities for solid wastes and incorporate them in the master plans (land use plan) of the State or as the case may be, cities through metropolitan and district planning committees or town and country planning department;

(h) direct the town planning department of the State and local bodies to ensure that a separate space for segregation, storage, decentralised processing of solid waste is demarcated in the development plan for group housing or commercial, institutional or any other non-residential complex exceeding 200 dwelling or having a plot area exceeding 5,000 square meters;

(i) direct the developers of Special Economic Zone, Industrial Estate, Industrial Park to earmark at least five percent of the total area of the plot or minimum five plots or sheds for recovery and recycling facility.

(j) facilitate establishment of common regional sanitary land fill for a group of cities and towns falling within a distance of 50 km (or more) from the regional facility on a cost sharing basis and ensure professional management of such sanitary landfills;

(k) arrange for capacity building of local bodies in managing solid waste, segregation and transportation or processing of such waste at source;

(l) notify buffer zone for the solid waste processing and disposal facilities of more than five tons per day in consultation with the State Pollution Control Board; and

(m) start a scheme on registration of waste pickers and waste dealers.

12. Duties of District Magistrate or District Collector or Deputy Commissioner.- The District Magistrate or District Collector or as the case may be , the Deputy Commissioner shall, -

(a) facilitate identification and allocation of suitable land as per clause (f) of rules 11 for setting up solid waste processing and disposal facilities to local authorities in his district in close coordination with the Secretary-in-charge of State Urban Development Department within one year from the date of notification of these rules;

(b) review the performance of local bodies, at least once in a quarter on waste segregation, processing, treatment and disposal and take corrective measures in consultation with the Commissioner or Director of Municipal Administration or Director of local bodies and secretary-in-charge of the State Urban Development.

13. Duties of the Secretary–in-charge of Village Panchayats or Rural Development Department in the State and Union territory.- (1) The Secretary–in-charge of Village Panchayats or Rural Development Department in the State and Union territory shall have the same duties as the Secretary–in-charge, Urban Development in the States and Union territories, for the areas which are covered under these rules and are under their jurisdictions.

14. Duties of Central Pollution Control Board.-The Central Pollution Control Board shall, -

(a) co-ordinate with the State Pollution Control Boards and the Pollution Control Committees for implementation of these rules and adherence to the prescribed standards by local authorities;

(b) formulate the standards for ground water, ambient air, noise pollution, leachate in respect of all solid waste processing and disposal facilities;

(c) review environmental standards and norms prescribed for solid waste processing facilities or treatment technologies and update them as and when required;

(d) review through State Pollution Control Boards or Pollution Control Committees, at least once in a year, the implementation of prescribed environmental standards for solid waste processing facilities or treatment technologies and compile the data monitored by them;

(e) review the proposals of State Pollution Control Boards or Pollution Control Committees on use of any new technologies for processing, recycling and treatment of solid waste and prescribe performance standards, emission norms for the same within 6 months;

(f) monitor through State Pollution Control Boards or Pollution Control Committees the implementation of these rules by local bodies;

(g) prepare an annual report on implementation of these rules on the basis of reports received from State Pollution Control Boards and Committees and submit to the Ministry of Environment, Forest and Climate Change and the report shall also be put in public domain;

(h) publish guidelines for maintaining buffer zone restricting any residential, commercial or any other construction activity from the outer boundary of the waste processing and disposal facilities for different sizes of facilities handling more than five tons per day of solid waste;

(i) publish guidelines, from time to time, on environmental aspects of processing and disposal of solid waste to enable local bodies to comply with the provisions of these rules; and

(j) provide guidance to States or Union territories on inter-state movement of waste.

15. Duties and responsibilities of local authorities and village Panchayats of census towns and urban agglomerations.- The local authorities and Panchayats shall,-

(a) prepare a solid waste management plan as per state policy and strategy on solid waste management within six months from the date of notification of state policy and strategy and submit a copy to respective departments of State Government or Union territory Administration or agency authorised by the State Government or Union territory Administration;

(b) arrange for door to door collection of segregated solid waste from all households including slums and informal settlements, commercial, institutional and other non residential premises. From multi-storage buildings, large commercial complexes, malls, housing complexes, etc., this may be collected from the entry gate or any other designated location;

(c) establish a system to recognise organisations of waste pickers or informal waste collectors and promote and establish a system for integration of these authorised waste-pickers and waste collectors to facilitate their participation in solid waste management including door to door collection of waste;

(d) facilitate formation of Self Help Groups, provide identity cards and thereafter encourage integration in solid waste management including door to door collection of waste;

(e) frame bye-laws incorporating the provisions of these rules within one year from the date of notification of these rules and ensure timely implementation;

(f) prescribe from time to time user fee as deemed appropriate and collect the fee from the waste generators on its own or through authorised agency;

(g) direct waste generators not to litter i.e throw or dispose of any waste such as paper, water bottles, liquor bottles, soft drink canes, tetra packs, fruit peel, wrappers, etc., or burn or burry waste on streets, open public spaces, drains, waste bodies and to segregate the waste at source as prescribed under these rules and hand over the segregated waste to authorised the waste pickers or waste collectors authorised by the local body;

(h) setup material recovery facilities or secondary storage facilities with sufficient space for sorting of recyclable materials to enable informal or authorised waste pickers and waste collectors to separate recyclables from the waste and provide easy access to waste pickers and recyclers for collection of segregated recyclable waste such as paper, plastic, metal, glass, textile from the source of generation or from material recovery facilities; Bins for storage of bio-degradable wastes shall be painted green, those for storage of recyclable wastes shall be printed white and those for storage of other wastes shall be printed black;

(i) establish waste deposition centres for domestic hazardous waste and give direction for waste generators to deposit domestic hazardous wastes at this centre for its safe disposal. Such facility shall be established in a city or town in a manner that one centre is set up for the area of twenty square kilometers or part thereof and notify the timings of receiving domestic hazardous waste at such centres;

(j) ensure safe storage and transportation of the domestic hazardous waste to the hazardous waste disposal facility or as may be directed by the State Pollution Control Board or the Pollution Control Committee;

(k) direct street sweepers not to burn tree leaves collected from street sweeping and store them separately and handover to the waste collectors or agency authorised by local body;

(l) provide training on solid waste management to waste-pickers and waste collectors;

(m) collect waste from vegetable, fruit, flower, meat, poultry and fish market on day to day basis and promote setting up of decentralised compost plant or bio-methanation plant at suitable locations in the markets or in the vicinity of markets ensuring hygienic conditions;

(n) collect separately waste from sweeping of streets, lanes and by-lanes daily, or on alternate days or twice a week depending on the density of population, commercial activity and local situation;

(o) set up covered secondary storage facility for temporary storage of street sweepings and silt removed from surface drains in cases where direct collection of such waste into transport vehicles is not convenient. Waste so collected shall be collected and disposed of at regular intervals as decided by the local body;

(p) collect horticulture, parks and garden waste separately and process in the parks and gardens, as far as possible;

(q) transport segregated bio-degradable waste to the processing facilities like compost plant, bio-methanation plant or any such facility. Preference shall be given for on site processing of such waste;

(r) transport non-bio-degradable waste to the respective processing facility or material recovery facilities or secondary storage facility;

(s) transport construction and demolition waste as per the provisions of the Construction and Demolition Waste management Rules, 2016;

(t) involve communities in waste management and promotion of home composting, bio-gas generation, decentralised processing of waste at community level subject to control of odour and maintenance of hygienic conditions around the facility;

(u) phase out the use of chemical fertilizer in two years and use compost in all parks, gardens maintained by the local body and wherever possible in other places under its jurisdiction. Incentives may be provided to recycling initiatives by informal waste recycling sector.

(v) facilitate construction, operation and maintenance of solid waste processing facilities and associated infrastructure on their own or with private sector participation or through any agency for optimum utilisation of various components of solid waste adopting suitable technology including the following technologies and adhering to the guidelines issued by the Ministry of Urban Development from time to time and standards prescribed by the Central Pollution Control Board. Preference shall be given to decentralised processing to minimize transportation cost and environmental impacts such as-

a) bio-methanation, microbial composting, vermi-composting, anaerobic digestion or any other appropriate processing for bio-stabilisation of biodegradable wastes;

b) waste to energy processes including refused derived fuel for combustible fraction of waste or supply as feedstock to solid waste based power plants or cement kilns;

(w) undertake on their own or through any other agency construction, operation and maintenance of sanitary landfill and associated infrastructure as per Schedule 1 for disposal of residual wastes in a manner prescribed under these rules;

(x) make adequate provision of funds for capital investments as well as operation and maintenance of solid waste management services in the annual budget ensuring that funds for discretionary functions of the local body have been allocated only after meeting the requirement of necessary funds for solid waste management and other obligatory functions of the local body as per these rules;

(y) make an application in Form-I for grant of authorisation for setting up waste processing, treatment or disposal facility, if the volume of waste is exceeding five metric tones per day including sanitary landfills from the State Pollution Control Board or the Pollution Control Committee, as the case may be;

(z) submit application for renewal of authorisation at least sixty days before the expiry of the validity of authorisation;

(za) prepare and submit annual report in Form IV on or before the 30th April of the succeeding year to the Commissioner or Director, Municipal Administration or designated Officer;

(zb) the annual report shall then be sent to the Secretary -in-Charge of the State Urban Development Department or village panchayat or rural development department and to the respective State Pollution Control Board or Pollution Control Committee by the 31st May of every year;

(zc) educate workers including contract workers and supervisors for door to door collection of segregated waste and transporting the unmixed waste during primary and secondary transportation to processing or disposal facility;

(zd) ensure that the operator of a facility provides personal protection equipment including uniform, fluorescent jacket, hand gloves, raincoats, appropriate foot wear and masks to all workers handling solid waste and the same are used by the workforce;

(ze) ensure that provisions for setting up of centers for collection, segregation and storage of segregated wastes, are incorporated in building plan while granting approval of building plan of a group housing society or market complex; and

(zf) frame bye-laws and prescribe criteria for levying of spot fine for persons who litters or fails to comply with the provisions of these rules and delegate powers to officers or local bodies to levy spot fines as per the bye laws framed; and

(zg) create public awareness through information, education and communication campaign and educate the waste generators on the following; namely:-

(i) not to litter;

(ii) minimise generation of waste;

(iii) reuse the waste to the extent possible;

(iv) practice segregation of waste into bio–degradable, non-biodegradable (recyclable and combustible), sanitary waste and domestic hazardous wastes at source;

(v) practice home composting, vermi-composting, bio-gas generation or community level composting;

(vi) wrap securely used sanitary waste as and when generated in the pouches provided by the brand owners or a suitable wrapping as prescribed by the local body and place the same in the bin meant for non-biodegradable waste;

(vii) storage of segregated waste at source in different bins;

(viii) handover segregated waste to waste pickers, waste collectors, recyclers or waste collection agencies; and

(ix) pay monthly user fee or charges to waste collectors or local bodies or any other person authorised by the local body for sustainability of solid waste management.

(zh) stop land filling or dumping of mixed waste soon after the timeline as specified in rule 23 for setting up and operationalisation of sanitary landfill is over;

(zi) allow only the non-usable, non-recyclable, non-biodegradable, non-combustible and non-reactive inert waste and pre-processing rejects and residues from waste processing facilities to go to sanitary landfill and the sanitary landfill sites shall meet the specifications as given in Schedule–I, however, every effort shall be made to recycle or reuse the rejects to achieve the desired objective of zero waste going to landfill;

(zj) investigate and analyse all old open dumpsites and existing operational dumpsites for their potential of bio-mining and bio-remediation and wheresoever feasible, take necessary actions to bio-mine or bio-remediate the sites;

(zk) in absence of the potential of bio-mining and bio-remediation of dumpsite, it shall be scientifically capped as per landfill capping norms to prevent further damage to the environment.

16. Duties of State Pollution Control Board or Pollution Control Committee.- (1) The State Pollution Control Board or Pollution Control Committee shall,-

(a) enforce these rules in their State through local bodies in their respective jurisdiction and review implementation of these rules at least twice a year in close coordination with concerned Directorate of Municipal Administration or Secretary-in-charge of State Urban Development Department;

(b) monitor environmental standards and adherence to conditions as specified under the Schedule I and Schedule II for waste processing and disposal sites;

(c) examine the proposal for authorisation and make such inquiries as deemed fit, after the receipt of the application for the same in Form I from the local body or any other agency authorised by the local body;

(d) while examining the proposal for authorisation, the requirement of consents under respective enactments and views of other agencies like the State Urban Development Department, the Town and Country Planning Department, District Planning Committee or Metropolitan Area Planning Committee, as may be applicable, Airport or Airbase Authority, the Ground Water Board, Railways, power distribution companies, highway department and other relevant agencies shall be taken into consideration and they shall be given four weeks time to give their views, if any;

(e) issue authorisation within a period of sixty days in Form II to the local body or an operator of a facility or any other agency authorised by local body stipulating compliance criteria and environmental standards as specified in Schedules I and II including other conditions, as may be necessary;

(f) synchronise the validity of said authorisation with the validity of the consents;

(g) suspend or cancel the authorization issued under clause (a) any time, if the local body or operator of the facility fails to operate the facility as per the conditions stipulated:

provided that no such authorization shall be suspended or cancelled without giving notice to the local body or operator, as the case may be; and

(h) on receipt of application for renewal, renew the authorisation for next five years, after examining every application on merit and subject to the condition that the operator of the facility has fulfilled all the provisions of the rules, standards or conditions specified in the authorisation, consents or environment clearance.

(2) The State Pollution Control Board or Pollution Control Committee shall, after giving reasonable opportunity of being heard to the applicant and for reasons thereof to be recorded in writing, refuse to grant or renew an authorisation.

(3) In case of new technologies, where no standards have been prescribed by the Central Pollution Control Board, State Pollution Control Board or Pollution Control Committee, as the case may be, shall approach Central Pollution Control Board for getting standards specified.

(4) The State Pollution Control Board or the Pollution Control Committee, as the case may be, shall monitor the compliance of the standards as prescribed or laid down and treatment technology as approved and the conditions stipulated in the authorisation and the standards specified in Schedules I and II under these rules as and when deemed appropriate but not less than once in a year.

(5) The State Pollution Control Board or the Pollution Control Committee may give directions to local bodies for safe handling and disposal of domestic hazardous waste deposited by the waste generators at hazardous waste deposition facilities.

(6) The State Pollution Control Board or the Pollution Control Committee shall regulate Inter-State movement of waste.

17. Duty of manufacturers or brand owners of disposable products and sanitary napkins and diapers.- (1) All manufacturers of disposable products such as tin, glass, plastics packaging, etc., or brand owners who introduce such products in the market shall provide necessary financial assistance to local authorities for establishment of waste management system.

(2) All such brand owners who sell or market their products in such packaging material which are non-biodegradable shall put in place a system to collect back the packaging waste generated due to their production.

(3) Manufacturers or brand owners or marketing companies of sanitary napkins and diapers shall explore the possibility of using all recyclable materials in their products or they shall provide a pouch or wrapper for disposal of each napkin or diapers along with the packet of their sanitary products.

(4) All such manufacturers, brand owners or marketing companies shall educate the masses for wrapping and disposal of their products.

18. Duties of the industrial units located within one hundred km from the refused derived fuel and waste to energy plants based on solid waste- All industrial units using fuel and located within one hundred km from a solid waste based refused derived fuel plant shall make arrangements within six months from the date of notification of these rules to replace at least five percent of their fuel requirement by refused derived fuel so produced.

19. Criteria for Duties regarding setting-up solid waste processing and treatment facility.- (1) The department in- charge of the allocation of land assignment shall be responsible for providing suitable land for setting up of the solid waste processing and treatment facilities and notify such sites by the State Government or Union territory Administration.

(2) The operator of the facility shall design and set up the facility as per the technical guidelines issued by the Central Pollution Control Board in this regard from time to time and the manual on solid waste management prepared by the Ministry of Urban Development.

(3) The operator of the facility shall obtain necessary approvals from the State Pollution Control Board or Pollution Control Committee.

(4) The State Pollution Control Board or Pollution Control Committee shall monitor the environment standards of the operation of the solid waste processing and treatment facilities.

(5) The operator of the facility shall be responsible for the safe and environmentally sound operations of the solid waste processing and or treatment facilities as per the guidelines issued by the Central Pollution Control Board from time to time and the Manual on Municipal Solid Waste Management published by the Ministry of Urban Development and updated from time to time.

(6) The operator of the solid waste processing and treatment facility shall submit annual report in Form III each year by 30th April to the State Pollution Control Board or Pollution Committee and concerned local body.

20. Criteria and actions to be taken for solid waste management in hilly areas.- In the hilly areas, the duties and responsibilities of the local authorities shall be the same as mentioned in rule 15 with additional clauses as under:

(a) Construction of landfill on the hill shall be avoided. A transfer station at a suitable enclosed location shall be setup to collect residual waste from the processing facility and inert waste. A suitable land shall be identified in the plain areas down the hill within 25 kilometers for setting up sanitary landfill. The residual waste from the transfer station shall be disposed of at this sanitary landfill.

(b) In case of non-availability of such land, efforts shall be made to set up regional sanitary landfill for the inert and residual waste.

(c) Local body shall frame Bye-laws and prohibit citizen from littering wastes on the streets and give strict direction to the tourists not to dispose any waste such as paper, water bottles, liquor bottles, soft drink canes, tetra packs, any other plastic or paper waste on the streets or down the hills and instead direct to deposit such waste in the litter bins that shall be placed by the local body at all tourist destinations.

(d) Local body shall arrange to convey the provisions of solid waste management under the bye-laws to all tourists visiting the hilly areas at the entry point in the town as well as through the hotels, guest houses or like where they stay and by putting suitable hoardings at tourist destinations.

(e) Local body may levy solid waste management charge from the tourist at the entry point to make the solid waste management services sustainable.

(f) The department in- charge of the allocation of land assignment shall identify and allot suitable space on the hills for setting up decentralised waste processing facilities. Local body shall set up such facilities. Step garden system may be adopted for optimum utilisation of hill space.

21. Criteria for waste to energy process.- (1) Non recyclable waste having calorific value of 1500 K/cal/kg or more shall not be disposed of on landfills and shall only be utilised for generating energy either or through refuse derived fuel or by giving away as feed stock for preparing refuse derived fuel.

(2) High calorific wastes shall be used for co-processing in cement or thermal power plants.

(3) The local body or an operator of facility or an agency designated by them proposing to set up waste to energy plant of more than five tones per day processing capacity shall submit an application in Form-I to the State Pollution Control Board or Pollution Control Committee, as the case may be, for authorisation.

(4) The State Pollution Control Board or Pollution Control Committee, on receiving such application for setting up waste to energy facility, shall examine the same and grant permission within sixty days.

22. Time frame for implementation.- Necessary infrastructure for implementation of these rules shall be created by the local bodies and other concerned authorities, as the case may be, on their own, by directly or engaging agencies within the time frame specified below:

Sl. No.	Activity	Time limit from the date of notification of rules
(1)	(2)	(3)
1.	identification of suitable sites for setting up solid waste processing facilities	1 year

2.	identification of suitable sites for setting up common regional sanitary landfill facilities for suitable clusters of local authorities under 0.5 million population and for setting up common regional sanitary landfill facilities or stand alone sanitary landfill facilities by all local authorities having a population of 0.5 million or more .	1 year
3.	procurement of suitable sites for setting up solid waste processing facility and sanitary landfill facilities	2 years
4.	enforcing waste generators to practice segregation of bio degradable, recyclable, combustible, sanitary waste domestic hazardous and inert solid wastes at source ,	2 years
5.	Ensure door to door collection of segregated waste and its transportation in covered vehicles to processing or disposal facilities.	2 years
6.	ensure separate storage, collection and transportation of construction and demolition wastes	2 years
7.	setting up solid waste processing facilities by all local bodies having 100000 or more population	2 years
8.	Setting up solid waste processing facilities by local bodies and census towns below 100000 population.	3 years
9	setting up common or stand alone sanitary landfills by or for all local bodies having 0.5 million or more population for the disposal of only such residual wastes from the processing facilities as well as untreatable inert wastes as permitted under the Rules	3 years
10.	setting up common or regional sanitary landfills by all local bodies and census towns under 0.5 million population for the disposal of permitted waste under the rules	3years
11.	bio-remediation or capping of old and abandoned dump sites	5years

23. State Level Advisory Body. – (1) Every Department in-charge of local bodies of the concerned State Government or Union territory administration shall constitute a State Level Advisory Body within six months from the date of notification of these rules comprising the following members, namely:-

Sl. No	Designation	Member
(1)	(2)	(3)
1.	Secretary, Department of Urban Development orLocal self government department of the State	Chairperson, ex-officio
2.	One representative of Panchayats or Rural development Department not below the rank of Joint Secretary to State Government	Member, ex-officio
3.	one representative of Revenue Department of State Government	Member,ex-officio
4.	One representative from Ministry of Environment, Forest and Climate Change Government of India	Member, ex-officio

5.	One representative from Ministry of Urban Development, Government of India	Member, ex-officio
6.	One representative from Ministry of Rural Development, Government of India	Member, ex-officio
7.	One representative from the Central Pollution Control Board	Member, ex-officio
8.	One representative from the State Pollution Control Board or Pollution Control Committee	Member, ex-officio
9.	One representative from Indian Institute of Technology or National Institute of Technology	Member,Ex-officio
10.	Chief town planner of the state	Member
11.	Three representatives from the local bodies by rotation	Member
12.	Two representatives from census towns or urban agglomerations by rotation.	Member
13.	One representative from reputed Non-Governmental Organisation or Civil Society working for the waste pickers or informal recycler or solid waste management	Member
14.	One representative from a body representing Industries at the State or Central level	Member
15.	one representative from waste recycling industry	member
16.	Two subject experts	Member
17.	Co-opt one representative each from agriculture department, and labour department of State Government.	Member

(2) The State Level Advisory Body shall meet at least one in every six months to review the matters related to implementation of these rules, state policy and strategy on solid waste management and give advice to state government for taking measures that are necessary for expeditious and appropriate implementation of these rules.

(3) The copies of the review report shall be forwarded to the State Pollution Control Board or Pollution Control Committee for necessary action.

24. Annual report.- (1) The operator of facility shall submit the annual report to the local body in Form-III on or before the 30th day of April every year.

(2) The local body shall submit its annual report in Form-IV to State P Control Board or P Committee and the Secretary-in-Charge of the Department of Urban Development of the concerned State or Union Territory in case of metropolitan city and to the Director of Municipal Administration or Commissioner of Municipal Administration or Officer in -Charge of Urban local bodies in the state in case of all other local bodies of state on or before the 30th day of June every year

(3) Each State Pollution Control Board or Pollution Control Committee as the case may be, shall prepare and submit the consolidated annual report to the Central Pollution Control Board and Ministry of Urban Development on the implementation of these rules and action taken against non complying local body by the 31st day of July of each year in Form-V.

(4) The Central Pollution Control Board shall prepare a consolidated annual review report on the status of implementation of these rules by local bodies in the country and forward the same to the Ministry of Urban Development

and Ministry of Environment, Forest and Climate Change, along with its recommendations before the 31st day of August each year.

(5) The annual report shall be reviewed by the Ministry of Environment, Forest and Climate Change during the meeting of Central Monitoring Committee.

25. Accident reporting- In case of an accident at any solid waste processing or treatment or disposal facility or landfill site, the Officer- in- charge of the facility shall report to the local body in Form-VI and the local body shall review and issue instructions if any, to the in- charge of the facility.

SCHEDULE I

[see rule 15 (w),(zi), 16 (1) (b) (e), 16 (4)]

Specifications for Sanitary Landfills

(A) **Criteria for site selection.-**

(i) The department in the business allocation of land assignment shall provide suitable site for setting up of the solid waste processing and treatment facilities and notify such sites.

(ii) The sanitary landfill site shall be planned, designed and developed with proper documentation of construction plan as well as a closure planin a phased manner. In case a new landfill facility is being established adjoining an existing landfill site, the closure plan of existing landfill should form a part of the proposal of such new landfill.

(iii) The landfill sites shall be selected to make use of nearby wastes processing facilities. Otherwise, wastes processing facility shall be planned as an integral part of the landfill site.

(iv) Landfill sites shall be set up as per the guidelines of the Ministry of Urban Development, Government of India and Central Pollution Control Board.

(v) The existing landfill sites which are in use for more than five years shall be improved in accordance with the specifications given in this Schedule.

(vi) The landfill site shall be large enough to last for at least 20-25 years and shall develop 'landfill cells' in a phased manner to avoid water logging and misuse.

(vii) The landfill site shall be 100 meter away from river, 200 meter from a pond, 200 meter from Highways, Habitations, Public Parks and water supply wells and 20 km away from Airports or Airbase. However in a special case, landfill site may be set up within a distance of 10 and 20 km away from the Airport/Airbase after obtaining no objection certificate from the civil aviation authority/ Air force as the case may be. The Landfill site shall not be permitted within the flood plains as recorded for the last 100 years, zone of coastal regulation, wetland, Critical habitat areas, sensitive eco-fragile areas..

(viii) The sites for landfill and processing and disposal of solid waste shall be incorporated in the Town Planning Department's land-use plans.

(ix) A buffer zone of no development shall be maintained around solid waste processing and disposal facility, exceeding five Tonnes per day of installed capacity. This will be maintained within the total area of the solid waste processing and disposal facility. The buffer zone shall be prescribed on case to case basis by the local body in consultation with concerned State Pollution Control Board.

(x) The biomedical waste shall be disposed of in accordance with the Bio-medical Waste Management Rules, 2016, as amended from time to time . The hazardous waste shall be managed in accordance with the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, as amended from time to time. The E-waste shall be managed in accordance with the e-Waste (Management) Rules, 2016 as amended from time to time.

(xi) Temporary storage facility for solid waste shall be established in each landfill site to accommodate the waste in case of non- operation of waste processing and during emergency or natural calamities.

(B) **Criteria for development of facilities at the sanitary landfills.-**

(i) Landfill site shall be fenced or hedged and provided with proper gate to monitor incoming vehicles, to prevent entry of unauthorised persons and stray animals

(ii) The approach and / internal roads shall be concreted or paved so as to avoid generation of dust particles due to vehicular movement and shall be so designed to ensure free movement of vehicles and other machinery.

(iii) The landfill site shall have waste inspection facility to monitor waste brought in for landfilling h, office facility for record keeping and shelter for keeping equipment and machinery including pollution monitoring equipment. The operator of the facility shall maintain record of waste received, processed and disposed.

(iv) Provisions like weigh bridge to measure quantity of waste brought at landfill site, fire protection equipment and other facilities as may be required shall be provided.

(v) Utilities such as drinking water and sanitary facilities (preferably washing/bathing facilities for workers) and lighting arrangements for easy landfill operations during night hours shall be provided.

(vi) Safety provisions including health inspections of workers at landfill sites shall be carried out made.

(vii) Provisions for parking, cleaning, washing of transport vehicles carrying solid waste shall be provided. The wastewater so generated shall be treated to meet the prescribed standards.

(C) Criteria for specifications for land filling operations and closure on completion of land filling.-

(i) Waste for land filling shall be compacted in thin layers using heavy compactors to achieve high density of the waste. In high rainfall areas where heavy compactors cannot be used, alternative measures shall be adopted.

(ii) Till the time waste processing facilities for composting or recycling or energy recovery are set up, the waste shall be sent to the sanitary landfill. The landfill cell shall be covered at the end of each working day with minimum 10 cm of soil, inert debris or construction material..

(iii) Prior to the commencement of monsoon season, an intermediate cover of 40-65 cm thickness of soil shall be placed on the landfill with proper compaction and grading to prevent infiltration during monsoon. Proper drainage shall be constructed to divert run-off away from the active cell of the landfill.

(iv) After completion of landfill, a final cover shall be designed to minimise infiltration and erosion. The final cover shall meet the following specifications, namely :-

a) The final cover shall have a barrier soil layer comprising of 60 cm of clay or amended soil with permeability coefficient less than 1×10^{-7} cm/sec.

b) On top of the barrier soil layer, there shall be a drainage layer of 15 cm.

c) On top of the drainage layer, there shall be a vegetative layer of 45 cm to support natural plant growth and to minimise erosion.

(D) Criteria for pollution prevention.-In order to prevent pollution from landfill operations, the following provisions shall be made, namely:-

(i) The storm water drain shall be designed and constructed in such a way that the surface runoff water is diverted from the landfilling site and leachates from solid waste locations do not get mixed with the surface runoff water. Provisions for diversion of storm water discharge drains shall be made to minimise leachate generation and prevent pollution of surface water and also for avoiding flooding and creation of marshy conditions.

(ii) Non-permeable lining system at the base and walls of waste disposal area. For landfill receiving residues of waste processing facilities or mixed waste or waste having contamination of hazardous materials (such as aerosols, bleaches, polishes, batteries, waste oils, paint products and pesticides) shall have liner of composite barrier of 1.5 mm thick high density polyethylene (HDPE) geo-membrane or geo-synthetic liners, or equivalent, overlying 90 cm of soil (clay or amended soil) having permeability coefficient not greater than 1 x 10-7 cm/sec. The highest level of water table shall be at least two meter below the base of clay or amended soil barrier layer provided at the bottom of landfills.

(iii) Provisions for management of leachates including its collection and treatment shall be made. The treated leachate shall be recycled or utilized as permitted, otherwise shall be released into the sewerage line, after meeting the standards specified in Schedule- II.. In no case, leachate shall be released into open environment.

(iv) Arrangement shall be made to prevent leachate runoff from landfill area entering any drain, stream, river, lake or pond. In case of mixing of runoff water with leachate or solid waste, the entire mixed water shall be treated by the concern authority.

(E) Criteria for water quality monitoring.-

(i) Before establishing any landfill site, baseline data of ground water quality in the area shall be collected and kept in record for future reference. The ground water quality within 50 meter of the periphery of landfill site shall be periodically monitored covering different seasons in a year that is, summer, monsoon and post-monsoon period to ensure that the ground water is not contaminated.

(ii) Usage of groundwater in and around landfill sites for any purpose (including drinking and irrigation) shall be considered only after ensuring its quality. The following specifications for drinking water quality shall apply for monitoring purpose, namely :-

S. No.	Parameters	IS 10500:2012, Edition 2.2(2003-09) Desirable limit (mg/l except for pH)
(1)	(2)	(3)
	Arsenic	0.01
	Cadmium	0.01
	Chromium(as Cr^{6+})	0.05
	Copper	0.05
	Cyanide	0.05
	Lead	0.05
	Mercury	0.001
	Nickel	-
	Nitrate as NO_3	45.0
	pH	6.5-8.5
	Iron	0.3
	Total hardness (as $CaCO_3$)	300.0
	Chlorides	250
	Dissolved solids	500
	Phenolic compounds (as C_6H_5OH)	0.001
	Zinc	5.0
	Sulphate (as SO_4)	200

(F) Criteria for ambient air quality monitoring.-

(i) Landfill gas control system including gas collection system shall be installed at landfill site to minimize odour, prevent off-site migration of gases, to protect vegetation planted on the rehabilitated landfill surface. For enhancing landfill gas recovery, use of geomembranes in cover systems along with gas collection wells should be considered.

(ii) The concentration of methane gas generated at landfill site shall not exceed 25 per cent of the lower explosive limit (LEL).

(iii) The landfill gas from the collection facility at a landfill site shall be utilized for either direct thermal applications or power generation, as per viability. Otherwise, landfill gas shall be burnt (flared) and shall not be allowed to escape directly to the atmosphere or for illegal tapping. Passive venting shall be allowed in case if its utilisation or flaring is not possible.

(iv) Ambient air quality at the landfill site and at the vicinity shall be regularly monitored. Ambient air quality shall

meet the standards prescribed by the Central Pollution Control Board for Industrial area.

G. Criteria for plantation at landfill Site.- A vegetative cover shall be provided over the completed site in accordance with the following specifications, namely:-

(a) Locally adopted non-edible perennial plants that are resistant to drought and extreme temperatures shall be planted;

(b) The selection of plants should be of such variety that their roots do not penetrate more than 30 cms. This condition shall apply till the landfill is stabilized;

(c) Selected plants shall have ability to thrive on low-nutrient soil with minimum nutrient addition;

(d) Plantation to be made in sufficient density to minimise soil erosion.

(e) Green belts shall be developed all around the boundary of the landfill in consultation with State Pollution Control Boards or Pollution Control Committees .

H. Criteria for post-care of landfill site.- (1) The post-closure care of landfill site shall be conducted for at least fifteen years and long term monitoring or care plan shall consist of the following, namely :-'

(a) Maintaining the integrity and effectiveness of final cover, making repairs and preventing run-on and run-off from eroding or otherwise damaging the final cover;

(b) Monitoring leachate collection system in accordance with the requirement;

(c) Monitoring of ground water in and around landfill;

(d) Maintaining and operating the landfill gas collection system to meet the standards.

(2) Use of closed landfill sites after fifteen years of post-closure monitoring can be considered for human settlement or otherwise only after ensuring that gaseous emission and leachate quality analysis complies with the specified standards and the soil stability is ensured.

I. Criteria for special provisions for hilly areas.-Cities and towns located on hills shall have location-specific methods evolved for final disposal of solid waste by the local body with the approval of the concerned State Pollution Control Board or the Pollution Control Committee. The local body shall set up processing facilities for utilisation of biodegradable organic waste. The non-biodegradable recyclable materials shall be stored and sent for recycling periodically. The inert and non-biodegradable waste shall be used for building roads or filling-up of appropriate areas on hills. In case of constraints in finding adequate land in hilly areas, waste not suitable for road-laying or filling up shall be disposed of in regional landfills in plain areas.

J. Closure and Rehabilitation of Old Dumps- Solid waste dumps which have reached their full capacity or those which will not receive additional waste after setting up of new and properly designed landfills should be closed and rehabilitated by examining the following options:

(i) Reduction of waste by bio mining and waste processing followed by placement of residues in new landfills or capping as in (ii) below.

(i). Capping with solid waste cover or solid waste cover enhanced with geomembrane to enable collection and flaring / utilisation of greenhouse gases.

(iii) Capping as in (ii) above with additional measures (in alluvial and other coarse grained soils) such as cut-off walls and extraction wells for pumping and treating contaminated ground water.

(iv) Any other method suitable for reducing environmental impact to acceptable level.

SCHEDULE II

[see rule 16 (1), (b), (e), 16 (4))

Standards of processing and treatment of solid waste

A. Standards for composting.- The waste processing facilities shall include composting as one of the technologies for processing of bio degradable waste. In order to prevent pollution from compost plant, the following shall be complied with namely :-

(a) The incoming organic waste at site shall be stored properly prior to further processing. To the extent possible, the waste storage area should be covered. If, such storage is done in an open area, it shall be provided with impermeable base with facility for collection of leachate and surface water run-off into lined drains leading to a leachate treatment and disposal facility;

(b) Necessary precaution shall be taken to minimise nuisance of odour, flies, rodents, bird menace and fire hazard;

(c) In case of breakdown or maintenance of plant, waste intake shall be stopped and arrangements be worked out for diversion of waste to the temporary processing site or temporary landfill sites which will be again reprocessed when plant is in order;

(d) Pre-process and post-process rejects shall be removed from the processing facility on regular basis and shall not be allowed to pile at the site. Recyclables shall be routed through appropriate vendors. The non-recyclable high calorific fractions to be segregated and sent to waste to energy or for RDF production, co-processing in cement plants or to thermal power plants. Only rejects from all processes shall be sent for sanitary landfill site(s).

(e) The windrow area shall be provided with impermeable base. Such a base shall be made of concrete or compacted clay of 50 cm thick having permeability coefficient less than 10^{-7} cm/sec. The base shall be provided with 1 to 2 per cent slope and circled by lined drains for collection of leachate or surface run-off;

(f) Ambient air quality monitoring shall be regularly carried out. Odurnuisance at down-wind direction on the boundary of processing plant shall also be checked regularly.

(g) Leachate shall be re-circulated in compost plant for moisture maintenance.

(h) The end product compost shall meet the standards prescribed under Fertilizer Control Order notified from time to time.

(i) In order to ensure safe application of compost, the following specifications for compost quality shall be met, namely:-

Parameters	**Organic Compost (FCO 2009)**	**Phosphate Rich Organic Manure (FCO 2013)**
(1)	**(2)**	**(3)**
Arsenic (mg/Kg)	10.00	10.00
Cadmium (mg/Kg)	5.00	5.00
Chromium (mg/Kg)	50.00	50.00
Copper (mg/Kg)	300.00	300.00
Lead (mg/Kg)	100.00	100.00
Mercury (mg/Kg)	0.15	0.15
Nickel (mg/Kg)	50.00	50.00
Zinc (mg/Kg)	1000.00	1000.00
C/N ratio	<20	Less than 20:1
pH	6.5-7.5	(1:5 solution) maximum 6.7
Moisture, percent by weight, maximum	15.0-25.0	25.0
Bulk density (g/cm^3)	<1.0	Less than 1.6
Total Organic Carbon, per cent by weight, minimum	12.0	7.9

Total Nitrogen (as N), per cent by weight, minimum	0.8	0.4
Total Phosphate (as P_2O_5) percent by weight, minimum	0.4	10.4
Total Potassium (as K_20), percent by weight, minimum	0.4	-
Colour	Dark brown to black	-
Odour	Absence of foul Odor	-
Particle size	Minimum 90% material should pass through 4.0 mm IS sieve	Minimum 90% material should pass through 4.0 mm IS sieve
Conductivity (as dsm-1), not more than	4.0	8.2

* Compost (final product) exceeding the above stated concentration limits shall not be used for food crops. However, it may be utilized for purposes other than growing food crops.

B. Standards for treated leachates.-The disposal of treated leachates shall meet the following standards, namely:-

S. No	Parameter	Standards (Mode of Disposal)		
		Inland surface water	Public sewers	Land disposal
(1)	(2)	(3)	(4)	(5)
1.	Suspended solids, mg/l, max	100	600	200
2.	Dissolved solids (inorganic) mg/l, max.	2100	2100	2100
3	pH value	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0
4	Ammonical nitrogen (as N), mg/l, max.	50	50	-
5	Total Kjeldahl nitrogen (as N), mg/l, max.	100	-	-
6	Biochemical oxygen demand (3 days at 27^0 C) max.(mg/l)	30	350	100
7	Chemical oxygen demand, mg/l, max.	250	-	-
8	Arsenic (as As), mg/l, max	0.2	0.2	0.2
9	Mercury (as Hg), mg/l, max	0.01	0.01	-
10	Lead (as Pb), mg/l, max	0.1	1.0	-
11	Cadmium (as Cd), mg/l, max	2.0	1.0	-

12	Total Chromium (as Cr), mg/l, max.	2.0	2.0	-
13	Copper (as Cu), mg/l, max.	3.0	3.0	-
14	Zinc (as Zn), mg/l, max.	5.0	15	-
15	Nickel (as Ni), mg/l, max	3.0	3.0	-
16	Cyanide (as CN), mg/l, max.	0.2	2.0	0.2
17	Chloride (as Cl), mg/l, max.	1000	1000	600
18	Fluoride (as F), mg/l, max	2.0	1.5	-
19	Phenolic compounds (as C_6H_5OH) mg/l, max.	1.0	5.0	-

Note : While discharging treated leachates into inland surface waters, quantity of leachates being discharged and the quantity of dilution water available in the receiving water body shall be given due consideration.

C. Standards for incineration: The Emission from incinerators /thermal technologies in Solid Waste treatment/disposal facility shall meet the following standards, namely:-

Parameter	**Emission standard**	
(1)	**(2)**	**(3)**
Particulates	50 mg/Nm^3	Standard refers to half hourly average value
HCl	50 mg/Nm^3	Standard refers to half hourly average value
SO2	200 mg/Nm^3	Standard refers to half hourly average value
CO	100 mg/Nm^3	Standard refers to half hourly average value
	50 mg/Nm^3	Standard refers to daily average value
Total Organic Carbon	20 mg/Nm^3	Standard refers to half hourly average value
HF	4 mg/Nm^3	Standard refers to half hourly average value
NOx (NO and NO2 expressed as NO2)	400 mg/Nm^3	Standard refers to half hourly average value
Total dioxins and furans	0.1 ng TEQ/Nm^3	Standard refers to 6-8 hours sampling. Please refer guidelines for 17 concerned congeners for toxic equivalence values to arrive at total toxic equivalence.
Cd + Th + their compounds	0.05 mg/Nm^3	Standard refers to sampling time anywhere between 30 minutes and 8 hours.
Hg and its compounds	0.05 mg/Nm^3	Standard refers to sampling time anywhere between 30 minutes and 8 hours.

Sb + As + Pb + Cr + Co + Cu + Mn + Ni + V + their compounds	0.5 mg/Nm^3	Standard refers to sampling time anywhere between 30 minutes and 8 hours.
Note.- *All values corrected to 11% oxygen on a dry basis.*		

Note:

(a) Suitably designed pollution control devices shall be installed or retrofitted with the incinerator to achieve the above emission limits..

(b) Waste to be incinerated shall not be chemically treated with any chlorinated disinfectants.

(c) Incineration of chlorinated plastics shall be phased out within two years.

(d) if the concentation of toxic metals in incineration ash exceeds the limits specified in the Hazardous Waste (Management, Handling and Trans boundary Movement) Rules, 2008, as amended from time to time, the ash shall be sent to the hazardous waste treatment, storage and disposal fcaility.

(e) Only low sulphur fuel like LDO, LSHS, Diesel, bio-mass, coal, LNG, CNG, RDF and bio-gas shall be used as fuel in the incinerator.

(f) The CO2 concentration in tail gas shall not bc more than 7%.

(g) All the facilities in twin chamber incinerators shall be designed to achieve a minimum temperature of 950^0C in secondary combustion chamber and with a gas residence time in secondary combustion chamber not less than 2 (two) seconds.

(h) Incineration plants shall be operated (combustion chambers) with such temperature, retention time and turbulence, as to achieve total Organic Carbon (TOC) content in the slag and bottom ash less than 3%, or the loss on ignition is less than 5% of the dry weight.

(i) Odour from sites shall be managed as per guidelines of CPCB issued from time to time

FORM – I

[see rule 15 (y) 16 (1) (c), 21(3)]

Application for obtaining authorisation under solid waste management rules

for processing/recycling/treatment and disposal of solid waste

To,

The Member Secretary,

State Pollution Control Board or Pollution Control Committee,

of…....

Sir,

I/We hereby apply for authorisation under the Solid Waste Management Rules, 2016 for processing, recycling, treatment and disposal of solid waste.

1.	Name of the local body/agency appointed by them/ operator of facility	
2.	Correspondence address Telephone No. Fax No. ,e-mail:	

3.	Nodal Officer & designation(Officer authorised by the local body or agency responsible for operation of processing/ treatment or disposal facility)	
4.	Authorisation required for setting up and operation of the facility (Please tick mark)	waste processing recycling treatment disposal at landfill
5.	Attach copies of the Documents Site clearance (local body) Proof of Environmental Clearance Consent for establishment Agreement between municipal authority and operating agency Investment on the project and expected return	
6.	**Processing/recycling/treatment of solid waste** (i) Total Quantity of waste to be processed per day Quantity of waste to be recycled Quantity of waste to be treated Quantity of waste to be disposed into landfill (ii)Utilisation programme for waste processed (Product utilisation) (iii)Methodology for disposal (attach details) Quantity of leachate Treatment technology for leachate (iv)Measures to be taken for prevention and control of environmental pollution (v)Measures to be taken for safety of workers working in the plant (vi)Details on solid waste processing/recycling/ treatment/disposal facility (to be attached)	
7.	**Disposal of solid waste** Number of sites identified Quantity of waste to be disposed per day Details of methodology or criteria followed for site selection (attach) Details of existing site under operation Methodology and operational details of landfilling Measures taken to check environmental pollution	
8	Any other information.	

Date: Signature:

Place: Designation

Form- II

[see rule 16 (1) (e)]

Format for issue of authorisation

File No.: _____

Dated:_____

Authorisation No_____

To

Ref: Your application number _____dt. _____

The _____State Pollution Control Board/Pollution Control Committee after examining the proposal hereby authorises_____ having administrative office at _____to set up and operate waste processing/recycling/ treatment/disposal facility at_____

The authorisation is hereby granted to operate the facility for processing, recycling, treatment and disposal of solid waste.

The authorisation is subject to the terms and conditions stated below and such conditions as may be otherwise specified in these rules and the standards laid down in Schedules I and II under these rules.

The _____State Pollution Control Board/Pollution Control Committees of the UT may, at any time, revoke any of the conditions applicable under the authorisation and shall communicate the same in writing.

Any violation of the provision of the Solid Waste Management Rules, 2016will attract the penal provision of the Environment (Protection) Act, 1986 (29 of 1986).

(Member Secretary)

State Pollution Control Board/Pollution Control Committee of the UT

(Signature and designation)

Date:

Place:

Form – III

[see rule 19 (6), 24 (1)]

Format of annual report to be submitted by the operator of facility to the local body

1	Name of the City/Town and State	
2	Population	
3	Area in sq. kilometers	
4	Name & Address of the local body Telephone No. Fax No. E-mail:	
5	Name and address of operator of the facility	
6	Name of officer in-charge of the facility Phone No: Fax No: E-mail:	

7	Number of households in the city/town , Number of non-residential premises in the city Number of election/ administrative wards in the city/town	
8	Quantity of Solid waste	
	Estimated Quantity of solid waste generated in the local body area per day in metric tones	/tpd
	Quantity of solid waste collected per day	/tpd
	Per capita waste collected per day	/gm/day
	Quantity of solid waste processed	/tpd
	Quantity of solid waste disposed at landfill	/tpd
9	Status of Solid Waste Management (SWM) service	
	Segregation and storage of waste at source Whether solid waste is stored at source in domestic/commercial/ institutional bins If yes, Percentage of households practice storage of waste at source in domestic bins Percentage of non-residential premises practice storage of waste at source in commercial /institutional bins Percentage of households dispose of throw solid waste on the streets Percentage of non-residential premises dispose of throw solid waste on the streets Whether solid waste is stored at source in a segregated form If yes, Percentage of premises segregating the waste at source	 Yes/No % % % % Yes/No %
	Door to Door Collection of solid waste	
	Whether door to door collection (D2D) of solid waste is being done in the city/town	Yes/No
	if yes	
	Number of wards covered in D2D collection of waste	
	No. of households covered	
	No. of non-residential premises including commercial establishments ,hotels, restaurants educational institutions/ offices etc covered	

	Percentage of residential and non-residential premises covered in door to door collection through : Motorized vehicle Containerized tricycle/handcart Other device	% % %				
	If not, method of primary collection adopted					
	Sweeping of streets					
	Length of roads, streets, lanes, bye-lanes in the city that need to be cleaned	km				
	Frequency of street sweepings and percentage of population covered	frequency	Daily	Alternate days	Twice a week	Occasionally
		% of population covered				
	Tools used Manual sweeping Mechanical sweeping Whether long handle broom used by sanitation workers Whether each sanitation worker is given handcart/tricycle for collection of waste Whether handcart / tricycle is containerized Whether the collection tool synchronizes with collection/ waste storage containers utilized	% % Yes/No Yes/No Yes/No Yes/No				
.	Secondary Waste Storage facilities					
	No. and type of waste storage depots in the city/town Open waste storage sites Masonry bins Cement concrete cylinder bins Dhalao/covered rooms/space Covered metal/plastic containers Upto 1.1 m^3 bins 2 to 5 m^3 bins Above 5m^3 containers Bin-less city	No. Capacity in m^3				
	Bin/ population ratio					

	Ward wise details of waste storage depots (attach) : Ward No: Area: Population: No. of bins placed Total volume of bins placed		
	Total storage capacity of waste storage facilities in cubic meters		
	Total waste actually stored at the waste storage depots daily		
	Give frequency of collection of waste from the depots Number of bins cleared	Frequency	No. of bins
		Daily	
		Alternate day	
		Twice a week	
		Once a week	
		Occasionally	
	Whether storage depots have facility for storage of segregated waste in green, blue and black bins	Yes/ No (if yes, add details) No. of green bins: No. of blue bins: No. of black bins:	
	Whether lifting of solid waste from storage depots is manual or mechanical. Give percentage	(%) of Manual Lifting of SOLID WASTE	%
		(%) of Mechanical lifting	%
	If mechanical – specify the method used	front-end loaders/ Top loaders	
	Whether solid waste is lifted from door to door and transported to treatment plant directly in a segregated form	Yes/ No (if yes, specify)	

	Waste Transportation per day Type and Number of vehicles used (pl tick or add)	No. Trips made waste transported
	Animal cart Tractors Non tipping Truck Tipping Truck Dumper Placers Refuse collectors Compactors Others JCB/loader	
	Frequency of transportation of waste	Frequency (%) of waste transported Daily Alternate day Twice a week Once a week Occasionally
	Quantity of waste transported each day	/tpd
	Percentage of total waste transported daily	%
	Waste Treatment Technologies used	
	Whether solid waste is processed	Yes/No
	If yes, Quantity of waste processed daily	/tpd
	Land(s) available with the local body for waste processing (in Hectares)	
	Land currently utilized for waste processing	
	Solid waste processing facilities in operation	
	Solid waste processing facilities under construction	
	Distance of processing facilities from city/town boundary	
	Details of technologies adopted	

	Composting ,	Qty. raw material processed Qty. final product produced Qty. sold Qty. of residual waste landfilled
	vermi composting	Qty. raw material processed Qty. final product produced Qty. sold Quantity of residual waste landfilled
	Bio-methanation	Qty. raw material processed Qty. final product produced Qty. sold Quantity of residual waste landfilled
	Refuse Derived Fuel	Qty. raw material processed Qty. final product produced Qty. sold Quantity of residual waste landfilled
	Waste to Energy technology such as incineration, gasification, pyrolysis or any other technology (give detail)	Qty. raw material processed Qty. final product produced Qty. sold Quantity of residual waste landfilled
	Co-processing	Qty. raw material processed
	Combustible waste supplied to cement plant	
	Combustible waste supplied to solid waste based power plants	
	Others	Qty.
	Solid waste disposal facilities	
	No. of dumpsites sites available with the local body	
	No. of sanitary landfill sites available with the local body	
	Area of each such sites available for waste disposal	
	Area of land currently used for waste disposal	
	Distance of dumpsite/landfill facility from city/town	kms
	Distance from the nearest habitation	kms
	Distance from water body	kms

	Distance from state/national highway	kms
	Distance from Airport	kms
	Distance from important religious places or historical monument	kms
	Whether it falls in flood prone area	Yes/No
	Whether it falls in earthquake fault line area	Yes/No
	Quantity of waste landfilled each day	tpd
	Whether landfill site is fenced	Yes / No
	Whether Lighting facility is available on site	Yes / No
	Whether Weigh bridge facility available	Yes / No
	Vehicles and equipments used at landfill (specify)	Bulldozer, Compacters etc. available
	Manpower deployed at landfill site	Yes/No (if yes, attach details)
	Whether covering is done on daily basis	Yes/No
	If not, Frequency of covering the waste deposited at the landfill	
	Cover material used	
	Whether adequate covering material is available	Yes/No
	Provisions for gas venting provided	Yes/No, (if yes, attach technical data sheet)
	Provision for leachate collection	Yes/No, (if yes, attach technical data sheet)
10	Whether an Action Plan has been prepared for improving solid waste management practices in the city	Yes/No (if Yes attach Action Plan details)
11	What separate provisions are made for : Dairy related activities : Slaughter houses waste : C&D waste (construction debris) :	Attach details on Proposals, Steps taken, Yes/No Yes/No Yes/No
12	Details of Post Closure Plan	Attach Plan
13	How many slums are identified and whether these are provided with Solid Waste Management facilities :	Yes/ No (if Yes, attach details)
14	Give details of manpower deployed for collection including street sweeping, secondary storage, transportation, processing and disposal of waste	

15	Mention briefly, the difficulties being experienced by the local body in complying with provisions of these rules	
16	Mention briefly, if any innovative idea is implemented to tackle a problem related to solid waste, which could be replicated by other local bodies.	

Signature of Operator

Dated :

Place:

Form – IV

[see rules 15(za), 24(2)]

Format for annual report on solid waste management to be submitted by the local body

CALENDAR YEAR:	**DATE OF SUBMISSION OF REPORT:**

1	Name of the City/Town and State	
2	Population	
3	Area in sq. kilometers	
4	Name & Address of local body Telephone No. Fax No. E-mail:	
5	Name of officer in-charge dealing with solid waste management (SOLID WASTEM)Phone No: Fax No: E-mail:	
6	Number of households in the city/town Number of non-residential premises in the city Number of election/ administrative wards in the city/town	
7	Quantity of Solid waste (solid waste)	
	Estimated Quantity of solid waste generated in the local body area per day in metric tones	/tpd
	Quantity of solid waste collected per day	/tpd

	Per capita waste collected per day	/gm/day
	Quantity of solid waste processed	/tpd
	Quantity of solid waste disposed at dumpsite/ landfill	/tpd
8	Status of Solid Waste Management service	
	Segregation and storage of waste at source Whether SOLID WASTE is stored at source in domestic/commercial/ institutional bins, If yes, Percentage of households practice storage of waste at source in domestic bins Percentage of non-residential premises practice storage of waste at source in commercial /institutional bins Percentage of households dispose or throw solid waste on the streets Percentage of non-residential premises dispose of throw solid waste on the streets Whether solid waste is stored at source in a segregated form, If yes, Percentage of premises segregating the waste at source	Yes/No % % % % Yes/No %
	Door to Door Collection of solid waste	
	Whether door to door collection (D2D) of solid waste is being done in the city/town	Yes/No
	if yes	
	Number of wards covered in D2D collection of waste	
	No. of households covered	
	No. of non-residential premises including commercial establishments ,hotels, restaurants educational institutions/ offices etc covered	
	Percentage of residential and non-residential premises covered in door to door collection through : Motorized vehicle Containerized tricycle/handcart Other device	 % % %
	If not, method of primary collection adopted	
	Sweeping of streets	
	Length of roads, streets, lanes, bye-lanes in the city that need to be cleaned	km

	Frequency of street sweepings and percentage of population covered	frequency	Daily	Alternate days	Twice a week	Occasionally
		% of population covered				
	Tools used Manual sweeping Mechanical sweeping Whether long handle broom used by sanitation workers Whether each sanitation worker is given handcart/tricycle for collection of waste Whether handcart / tricycle is containerized Whether the collection tool synchronizes with collection/ waste storage containers utilized		%			
			%			
			Yes/No			
			Yes/No			
			Yes/No			
			Yes/No			
.	Secondary Waste Storage facilities					
	No. and type of waste storage depots in the city/town Open waste storage sites Masonry bins Cement concrete cylinder bins Dhalao/covered rooms/space Covered metal/plastic containers Upto 1.1 m3 bins 2 to 5 m3 bins Above 5m3 containers Bin-less city	No. Capacity in m^3				
	Bin/ population ratio					
	Ward wise details of waste storage depots (attach) : Ward No: Area: Population: No. of bins placed Total volume of bins placed					
	Total storage capacity of waste storage facilities in cubic meters					
	Total waste actually stored at the waste storage depots daily					

	Give frequency of collection of waste from the depots Number of bins cleared	Frequency	No. of bins
		Daily	
		Alternate day	
		Twice a week	
		Once a week	
		Occasionally	
	Whether storage depots have facility for storage of segregated waste in green, blue and black bins	Yes/ No (if yes, add details) No. of green bins: No. of blue bins: No. of black bins:	
	Whether lifting of solid waste from storage depots is manual or mechanical. Give percentage (%) of Manual Lifting of solid waste (%) of Mechanical lifting	% %	
	If mechanical – specify the method used	front-end loaders/ Top loaders	
	Whether solid waste is lifted from door to door and transported to treatment plant directly in a segregated form	Yes/ No (if yes, specify)	
	Waste transportation per day Type and Number of vehicles used	No. Trips made waste transported	
	Animal cart Tractors Non tipping Truck Tipping Truck Dumper Placers Refuse collectors Compactors Others JCB/loader		

	Frequency of transportation of waste	Frequency (%) of waste transported Daily Alternate day Twice a week Once a week Occasionally
	Quantity of waste transported each day	/tpd
	Percentage of total waste transported daily	%
	Waste Treatment Technologies used	
	Whether solid waste is processed	Yes/No
	If yes, Quantity of waste processed daily	/tpd
	Whether treatment is done by local body or through an agency	
	Land(s) available with the local body for waste processing (in Hectares)	
	Land currently utilized for waste processing	
	Solid waste processing facilities in operation	
	Solid waste processing facilities under construction	
	Distance of processing facilities from city/town boundary	
	Details of technologies adopted	
	Composting ,	Qty. raw material processed Qty. final product produced Qty. sold Quantity of residual waste landfilled
	Vermi composting	Qty. raw material processed Qty. final product produced Qty. sold Quantity of residual waste landfilled
	Bio-methanation	Qty. raw material processed Qty. final product produced Qty. sold Quantity of residual waste landfilled

	Refuse Derived Fuel	Qty. raw material processed Qty. final product produced Qty. sold Quantity of residual waste landfilled
	Waste to Energy technology such as incineration, gasification, pyrolysis or any other technology (give detail)	Qty. raw material processed Qty. final product produced Qty. sold Quantity of residual waste landfilled
	Co-processing	Qty. raw material processed
	Combustible waste supplied to cement plant	
	Combustible waste supplied to solid waste based power plants	
	Others	Qty.
	Solid waste disposal facilities	
	No. of dumpsites sites available with the local body	
	No. of sanitary landfill sites available with the local body	
	Area of each such sites available for waste disposal	
	Area of land currently used for waste disposal	
	Distance of dumpsite/landfill facility from city/town	kms
	Distance from the nearest habitation	kms
	Distance from water body	kms
	Distance from state/national highway	kms
	Distance from Airport	kms
	Distance from important religious places or historical monument	kms
	Whether it falls in flood prone area	Yes/No
	Whether it falls in earthquake fault line area	Yes/No
	Quantity of waste landfilled each day	tpd
	Whether landfill site is fenced	Yes / No
	Whether Lighting facility is available on site	Yes / No

	Whether Weigh bridge facility available	Yes / No
	Vehicles and equipments used at landfill (specify)	Bulldozer, Compacters etc. available
	Manpower deployed at landfill site	Yes/No (if yes, attach details)
	Whether covering is done on daily basis	Yes/No
	If not, Frequency of covering the waste deposited at the landfill	
	Cover material used	
	Whether adequate covering material is available	Yes/No
	Provisions for gas venting provided	Yes/No (if yes, attach technical data sheet)
	Provision for leachate collection	Yes/No (if yes, attach technical data sheet)
9	Whether an Action Plan has been prepared for improving solid waste management practices in the city	Yes/No (if Yes attach Action Plan details)
10	What separate provisions are made for : Dairy related activities : Slaughter houses waste : C&D waste (construction debris) :	Attach details on Proposals,Steps taken, Yes/No Yes/No Yes/No
11	Details of Post Closure Plan	Attach Plan
12	How many slums are identified and whether these are provided with Solid Waste Management facilities :	Yes/ No (if Yes, attach details)
13	Give details of: Local body's own manpower deployed for collection including street sweeping, secondary storage, transportation, processing and disposal of waste	
14	Give details of: Contractor/ concessionaire's manpower deployed for collection including street sweeping, secondary storage, transportation, processing and disposal of waste	
15	Mention briefly, the difficulties being experienced by the local body in complying with provisions of these rules	

16	Mention briefly, if any innovative idea is implemented to tackle a problem related to solid waste, which could be replicated by other local bodies	

Signature of CEO/Municipal Commissioner/

Executive Officer/Chief Officer

Date:

Place:

Form – V

[see rule 24(3)]

Format of annual report to be submitted by the state pollution control board or pollution control committee committees to the central pollution control board

PART A

To,

The Chairman

Central Pollution Control Board

Parivesh Bhawan, East Arjun Nagar

DELHI- 110 0032

1.	Name of the State/Union territory	:	
2.	Name & address of the State Pollution Control	:	
3.	Number of local bodies responsible for management of solid waste in the State/Union territory under these rules	:	
4.	No. of authorisation application Received	:	
5.	A Summary Statement on progress made by local body in respect of solid waste management	:	Please attach as Annexure-I
6.	A Summary Statement on progress made by local bodies in respect of waste collection, segregation, transportation and disposal	:	Please attach as Annexure-II
7.	A summary statement on progress made by local bodies in respect of implementation of Schedule II	:	Please attach as Annexure-III

Date: …… Place: ……..	Chairman or the Member Secretary State Pollution Control Board/ Pollution Control Committee

PART B

Towns/cities

Total number of towns/cities

Total number of ULBs

Number of class I & class II cities/towns

Authorisation status (names/number)

Number of applications received

Number of authorisations granted

Authorisations under scrutiny

SOLID WASTE Generation status

Solid waste generation in the state (TPD)

collected

treated

landfilled

Compliance to Schedule I of SW Rules (Number/names of towns/capacity)

Good practices in cities/towns

House-to-house collection

Segregation

Storage

Covered transportation

Processing of SW (Number/names of towns/capacity)

Solid Waste processing facilities setup:

Sl. No.	Composting	Vermi-composting	Biogas	RDF/Pelletization

Processing facility operational:

Sl. No.	Composting	Vermi-composting	Biogas	RDF/Pelletization

Processing facility under installation/planned:

Sl. No.	Composting	Vermi-composting	Biogas	RDF/Pelletisation

Waste-to-Energy Plants: (Number/names of towns/capacity)

Sl. No.	Plant Location	Status of operation	Power generation (MW)	Remarks

Disposal of solid waste (number/names of towns/capacity):

Landfill sites identified

Landfill constructed

Landfill under construction

Landfill in operation

Landfill exhausted

Landfilled capped

Solid Waste Dumpsites (number/names of towns/capacity):

Total number of existing dumpsites

Dumpsites reclaimed/capped

Dumpsites converted to sanitary landfill

Monitoring at Waste processing/Landfills sites

Sl. No.	Name of facilities	Ambient air	Groundwater	Leachate quality	Compost quality	VOCs
1.						
2.						
3.						

Status of Action Plan prepared by Municipalities

Total number of municipalities:

Number of Action Plan submitted:

Form – VI

[see rule 25]

Accident Reporting

1.	Date and time of accident	:	
2.	Sequence of events leading to accident	:	
3.	The waste involved in accident	:	

4.	Assessment of the effects of the accidents on human health and the environment	:	
5.	Emergency measures taken	:	
6.	Steps taken to alleviate the effects of accidents	:	
7.	Steps taken to prevent the recurrence of such an accident	:	
Date:		Signature:.....	
Place:		Designation:	

[F. No. 18-3/2004-HSMD]

BISHWANATH SINHA, Jt. Secy.

Uploaded by Dte. of Printing at Government of India Press, Ring Road, Mayapuri, New Delhi-110064
and Published by the Controller of Publications, Delhi-110054.

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
EASTERN ZONE BENCH, KOLKATA
O. A. NO. 207/2025/EZ

In the matter of:
Jana Kalyan Samiti

... Applicant.

Versus

Bhubaneswar Municipal Corporation & Others.

....Respondents

Counter affidavit on behalf of the respondent no. 1, Bhubaneswar unicipal Corporation.

RAJIB RAY
Advocate
Bar Association Room No. 13,
High Court, Calcutta
Mob-9830132729/7980422764
Chamber: 28, Fakir Chand Mitra Street,
Kolkata- 700009.
Email: rajib.ray.official23@gmail.com