



Ministry of Housing
and Urban Affairs
Government of India



Swachh Bharat Mission - Urban **STAR RATINGS** for **GARBAGE FREE CITIES**



Toolkit

❖ Garbage Free Protocol

- ❖ Vision and Definition
- ❖ Key Components and Features
- ❖ Assessment Mechanism
- ❖ Protocol for self-declaration and third party verification
- ❖ Citizen/Stakeholder engagement in achieving Star Rating

How is it different from Swachh Survekshan?



HOW?

Many cities can have the same **high star rating** simultaneously while in Swachh Survekshan **only one city can be adjudged the “Cleanest city”**

**Sustainable
+
Institutionalised**

**What is a
Garbage Free City**



GARBAGE FREE CITY



1

No garbage or litter is found in any **public, commercial or residential locations**



2

100% waste generated is **scientifically managed** including plastic and C&D waste



3

No garbage or litter is found in any **storm drains and water bodies** in the city



4

All legacy waste has been **remediated**



5

Steady reduction in the waste generated by the city



6

Visible beautification of the city

SEVEN STAR RATING devised to ensure holistic evaluation across entire SWM Chain



- 1 Door to Door Collection** 
- 2 Segregation at Source** 
- 3 Sweeping of public, commercial & residential areas (no visible eyesores)** 
- 4 Waste Storage Bins, Litter Bins and Material Recovery Facility** 
- 5 User Fees, Penalties, Spot Fines for littering and enforcement of plastic ban** 
- 6 Bulk Waste Generators Compliance** 
- 7 Scientific Waste Processing, Scientific Landfilling and C&D Waste Management** 
- 8 Citizen Grievance Redressal and feedback system** 
- 9 Eradication of crude dumping of garbage and dump remediation** 
- 10 Cleaning of storm drains and surface of water bodies** 
- 11 Visible beautification in the city** 
- 12 Waste reduction** 

SMART Rating



SINGLE METRIC

One rating comprising all components of SWM

MEASURABLE

E.g. what % of door to door collection is taking place in the city? What % of waste is processed?

ACHIEVABLE

All parameters are based on citizen's expectations of the ULB therefore achievable

RIGOROUS
VERIFICATION

Similar to ODF Certification, declaration by city is assessed by Third Party Agency

TARGETED
TOWARDS OUTCOMES

Does not score on inputs, processes but solely on outcomes. E.g. dumpsite remediated, waste processed, etc.

Additional features of Star Rating



PROGRESSIVE

Increasing levels of **stringency** to spring-board city's journey towards 'swachhata'

ASPIRATIONAL

7 star includes over-the-top **aspirational criteria** such as beautification & reduction in waste generated by the city

SUSTAINABLE

Six levels of ratings for cities to **continuously work towards higher rating. Re-verification** of rating after one year

TRUST COMPONENT

The **assessment & verification** for 1, 2 and 4 Star are to be carried out **by cities and states** therefore based on trust

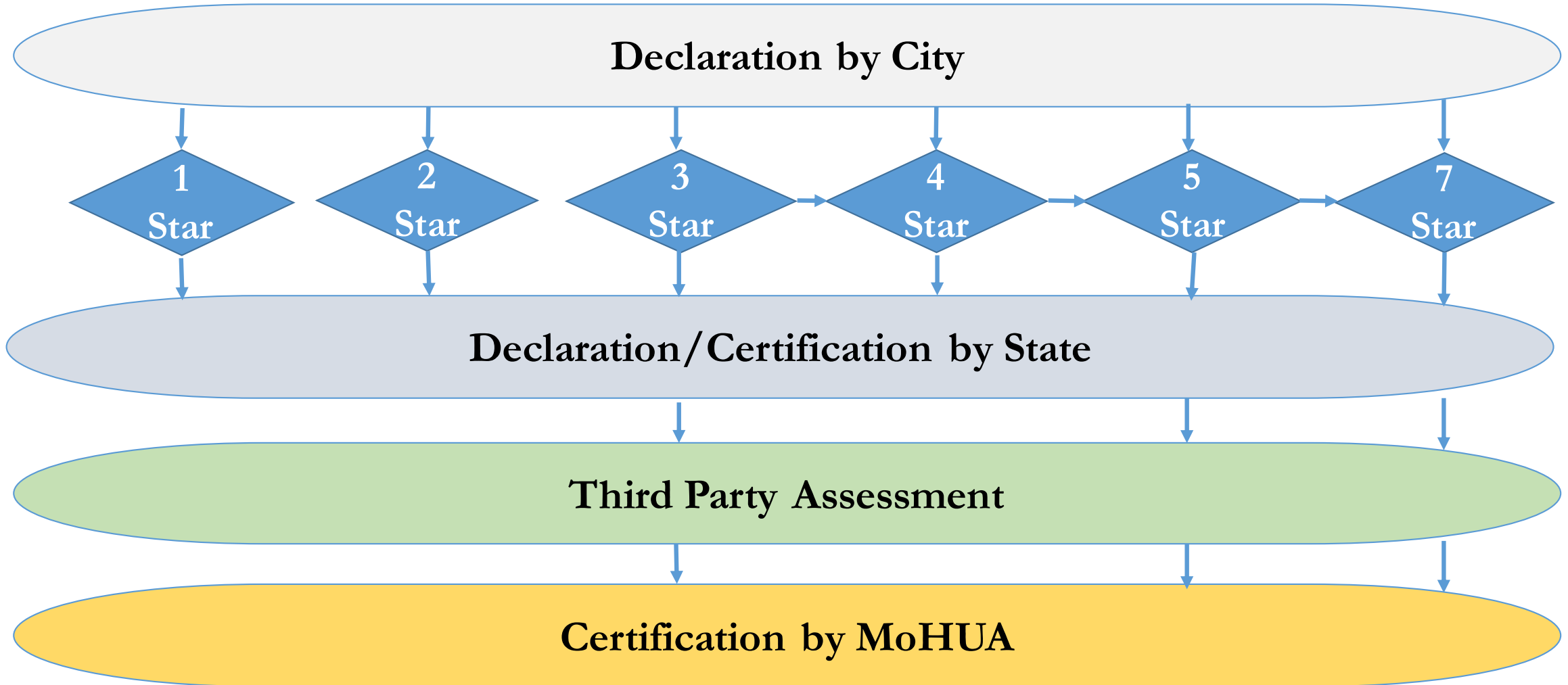
PARTICIPATORY

Citizens from different categories are to be **involved** through citizen declarations

INTER-LINKED

City has to be **certified as Open Defecation Free** in order to **apply for 3 Star and above rating**

Star Rating Process Flow



Assessment mechanism for Star Rating



Self-assessment

1. Cities fulfilling the necessary conditions for Star Rating will have to carry out self-assessment (**verification with MoHUA MIS**) as per the methodology of the protocol.

Self-assessment tool will be available on SBM Portal.

Declaration of Star Rating

1. The ULB may follow prescribed steps to self declare the star rating of the city
2. For 3, 5 and 7 star ratings, request to be communicated to MoHUA through the State Govt. request for third party verification.
3. State Govt. at their discretion may take up similar third party verification for the remaining 1, 2 & 4 Star ratings.

Citizen involvement through system of citizen declarations for declaring any star rating

Third Party Certification

(only for 3, 5 & 7 Stars)

1. MoHUA will take up independent verification and validation through a third party agency and will only recognize the MoHUA-TPA certified/ re-certified cities
2. Third party certification will be valid for one (1) year and city will have to be re-assessed and re-certified every 12 months.

City has to be certified **ODF (1, 2, 3 and 4 Star), **ODF+** (5 Star) and **ODF++** (7 Star)**

Protocol for Self Declaration by city for GF Star Rating



- All 'necessary conditions' for relevant Star Rating have been met by all wards* of the city
- For Star Rating '7', all the **additional conditions** have been met by all wards
- City should be certified **ODF (1, 2, 3 and 4 Star), ODF+ (5 Star) and ODF++ (7 Star)**



- Self-declaration from citizen categories (as per population) that the city fulfils all conditions for the specific star rating
- **All BWGs in the ward should provide self-declaration** that they are managing their waste as per SWM Rules 2016 and Municipal Byelaws (3 star & above)



- Declarations to be obtained from all ward members of the city/town, without exception#
- Submit these to city municipal administration as per due process
- **Lowest rating obtained by any ward will become that of the city**



- State Government may write formally to MoHUA communicating self-declared star rating of city and request TP certification (3, 5 & 7 Star)
- For remaining ratings (1-Star, 2-Star and 4-Star), State Govt. may itself, through a third party, carry out certification and communicate to MoHUA



City Council may then pass a preliminary resolution declaring the city to be GF as per relevant star rating



A suitable public announcement (in highest circulating local newspaper) mentioning feedback/suggestion mechanism may be made for the same. (Govt. notification may be made on the state/city website additionally)



- Public objections/feedback may be invited, within 15 days
- If no objections are received at the end of this time, a final resolution is adopted by the City Council and the same is communicated to respective State Govt.



* Circles if the city is divided into circles instead of wards

In exceptional circumstances when a ward-member/councillor/Corporator is not willing to give declaration for his/her ward even after two formal requests from the city commissioner with a feasible time gap, then a 5 member committee may be appointed to sign declaration for that ward. The committee will consists of: Municipal Commissioner, Chairman, corresponding ward-member, 2 prominent citizens of the city appointed by Chairman.

Citizen Declarations



Number of citizen declarations required for declaration **will be classified based on population:**

- >5 Lakh population: 6 citizen categories (5 citizen representatives from each)
- 1-5 Lakh population: 4 citizen categories (3 citizen representatives from each)
- < 1 Lakh population: 3 citizen categories (2 citizen representatives from each)

MANDATORY*

- School children (age more than 14 years)
- Central/ State Government Offices/ Banks
- Self Help Group/ Civil Society Organisations/ Non-Governmental Organisations
- Resident Welfare Associations/ Gated Societies/ Housing Complexes (In case these are not present, declarations from 10 residents to be taken)

ADDITIONAL

- Business Organisations (Market Associations, Hotel Associations, Business Associations, Transport Associations, Railways/Bus/Transport Hub Managers, Trade Associations, Professional associations)
- Hospitals (min. 10 beds)
- Private sector organisations (min. 50 employees)
- Prominent personalities including SBM ambassadors, **government officers (excluding municipal officers) / public sector officers (head of department/head of organisation) equivalent to the rank of Under Secretary (US) GoI, bank officers (branch head, head of department)**

*In case any category is not present then equivalent no. of declarations from citizens in additional categories may be taken with declaration from Municipal Commissioner mentioning unavailability of citizens of a particular category.



Methods of engaging with key citizen categories



Resident Welfare Associations

- Door to door campaigns in residential areas to create awareness about source segregation and showcase on-site composting techniques & its benefits
- Door to door or other campaigns on the need for and ways of keeping a litter free environment
- Awards for cleanest RWAs to generate a healthy spirit of competitiveness
- Encourage to adopt nearby areas and take ownership to ensure these become 'garbage-free'

School Children & Staff

- Invite students and staff to experience the complete waste management chain, from collection to disposal, and sensitize them about their role in making this chain more effective
- Make students the youth ambassadors of the message of 'Garbage-Free Cities'

Self-Help Groups

- Awareness and sensitization sessions/workshops on importance of segregation and its long-term impact on public health through diversion of waste from landfills
- Involvement of SHGs in the waste management value chain, as formalized contributors

NGOs

- Partner with NGOs to conduct community mobilization drives on various SWM interventions
- Identify avenues for NGOs to contribute to door-to-door campaigns, sensitisation drives, cleanliness drives, etc. envisioned by the ULB

Hotel Association

- Award for most "Swachh" hotel, that segregates waste and has minimal waste output, along with user fee discount

Prominent Persons

- Make them "Swachh Champions" for their neighborhoods, promote the message of segregation and decentralized processing.

Methods of engaging with key citizen categories



Private sector organisations

- Encourage to adopt nearby areas and take ownership to ensure these are 'garbage-free' zones
- User fee discounts for doing on-site composting and having dry waste recycled

All Swachhagrahis

- To be given ownership of areas to monitor garbage free status of that area, such as littering, garbage vulnerable points, etc.
- Competition aspect may be introduced among Swachhagrahis

Senior Central/State Govt./Bank Officials

- Discussions and workshop on the importance of segregating and managing own waste till the extent possible
- Request to appoint Swachhata monitoring officials to be in-charge departmental waste segregation

Hospital authorities

- Award for most "Swachh" hospital premises, that segregate waste and manage wet waste on-site
- Discussion meetings on segregation of waste and on-site composting/processing of wet waste from hospital canteens

Transport authorities

- Awards for most "Swachh" bus station / taxi stand / truck depot, etc.
- Placement of compartmentalized/twin bins at all transport hubs for safe and segregated waste disposal by commuters

Market Association

- Communicate waste collection schedule to market association/vendors to ensure segregated collection of waste and handover of dry waste to authorised recyclers
- Training and orientation sessions for shopkeepers/associations on importance of segregation and decentralised waste management
- Joint IEC activities for awareness creation of customers



Protocol for Third Party Certification for GF Star Rating



a) City self-declares itself as GF '3', '5' or '7' Star (as applicable) and communicates the same to MoHUA through the State SBM Mission Directorate

b) Upon request by MoHUA, a third party (appointed by MoHUA) will mobilize assessors to conduct the verification.

c) For the verification, the third party agency will assess both Service Level Status as well as conduct Independent Observation

f) GF Star Rating certificate will need to be recertified annually (every 12 months) upon receiving request by the city. The third party will repeat step (c) for recertification.

e) MoHUA will subsequently issue the relevant Star Rating to the city for the same based upon the recommendation of the Third Party

d) Based upon the assessment, TPA will make recommendations to MoHUA for cities to be rated as per GF Star Rating, protocol

Protocol for Third Party Certification for GF Star Rating



SERVICE LEVEL STATUS

- **Preliminary data will be collected in advance** by a process of self-assessment from cities (**verification with MoHUA MIS**) as per the defined protocol. The **city will fill the city profile provided by MoHUA.**
- **Third party assessors will visit cities to review documentation and collect the data** systematically ensuring that the process is independent and unbiased.

INDEPENDENT OBSERVATIONS

- Collection of data will be based on **physical observation of the households/premises*** by the **third party assessors**
- **Third party will also interact with respective citizens** to validate the service level status claimed by the city. The structured questionnaire to facilitate citizen validation will be created by the third party in consultation with MoHUA
- **Assessors will use IT enabled devices to record their observations and findings** along with photographs
- **Third party will systematically collect photos as evidence for field observations** ensuring that the location, date and time are tagged

*public & commercial areas (including market areas, railway stations, bus stations, other transport hubs, schools, colleges, hospitals, offices, religious areas, industrial areas, institutional areas, ULB managed parking areas, ULB managed parks & gardens), residential areas, water bodies, storm drainage system, roads and streets, and other relevant areas

Third Party Certification: Independent Observation Locations

- **Cities will be assessed ward-wise.** The number/percentage of locations/checkpoints, of the total claimed locations, to be visited in each ward for purpose of physical observation is provided below.

Location Type	No. of locations/ checkpoints per ward
Residential Areas	5
Roads and Streets	Roads and Streets of the identified sampled areas
Market Areas*	5
Parks & Gardens**	Minimum 3 or actual no. of parks and gardens
Bulk Waste Generators	Minimum 10 or 5% of BWGs (in case less than 10, all BWGs as per service level status documentation shall be assessed)
Transport Hubs	Railway/Metro Stations, Bus Stations, Airports, Taxi stands, and other Transport Hubs. (At least one of each category of transport hub shall be checked)
Industrial Areas	Industrial and Institutional areas (if applicable)
Water Bodies & Storm Water Drains	Water-bodies with public access and Storm Water Drains of the identified sampled areas
MSW Processing Plants	All functional plants
Scientific Landfill	Existing SLF
Dumpsite	All identified dumpsite(s)
Tourist areas***	All tourist areas (with high footfalls), if applicable

*Shops, offices, agriculture mandis, meat markets, as applicable

**Greenspaces that are not part of roads & have play-fields for public use, roundabouts and greenspaces under bridges are excluded

***Include religious sites, historic sites, etc.

Third Party Certification: Citizen Validations

As part of the physical observation, assessor should also interact with respective citizens to validate the service level status claimed by the ULB.

S. No.	Category [#]	No. of Citizen Validations per ward* [^]
1	Households (including slums)	Minimum 50 or .5% of no. of HHLs as per SLS documentation, whichever is higher
2	Shops/ Street Vendors	Minimum 10 or 1% of no. of shops/Street vendors, whichever is higher
3	Schools/ Colleges/Education Institutions	Minimum 10 or 10% of the total number of schools/colleges/education institutions, whichever is higher
4	Hotels/Guest Houses/Dharmshalas	Minimum 10 or 5% of the total number of Hotels/Guest houses/Dharmshalas, whichever is higher
5	Restaurants/Dhabas/ Eateries	Minimum 10 or 5% of the total number of Restaurants/Dhabas, whichever is higher
6	Bulk Waste Generators	Minimum 10 or 5% of the total number of Bulk Waste Generators, whichever is higher
7	Offices (Private & Government)	Minimum 10 or 1% of the total number of Offices (Private and Government), whichever is higher
8	Tourist areas	Minimum 5 or 10% of the total number of Tourist areas, whichever is higher
9	Parks & Gardens	5 citizens in all the parks & gardens covered under independent observation
10	Transport Hubs	5 citizens in each category of transport hub covered under independent observation

*For categories 1 to 8, in case less than the minimum number defined above, all shall be covered. These validations should be exclusive among citizen categories, for example: one citizen can only validate for one category.

#For categories 2 to 8, owners/responsible persons of respective category shall be surveyed to validate service level delivery status

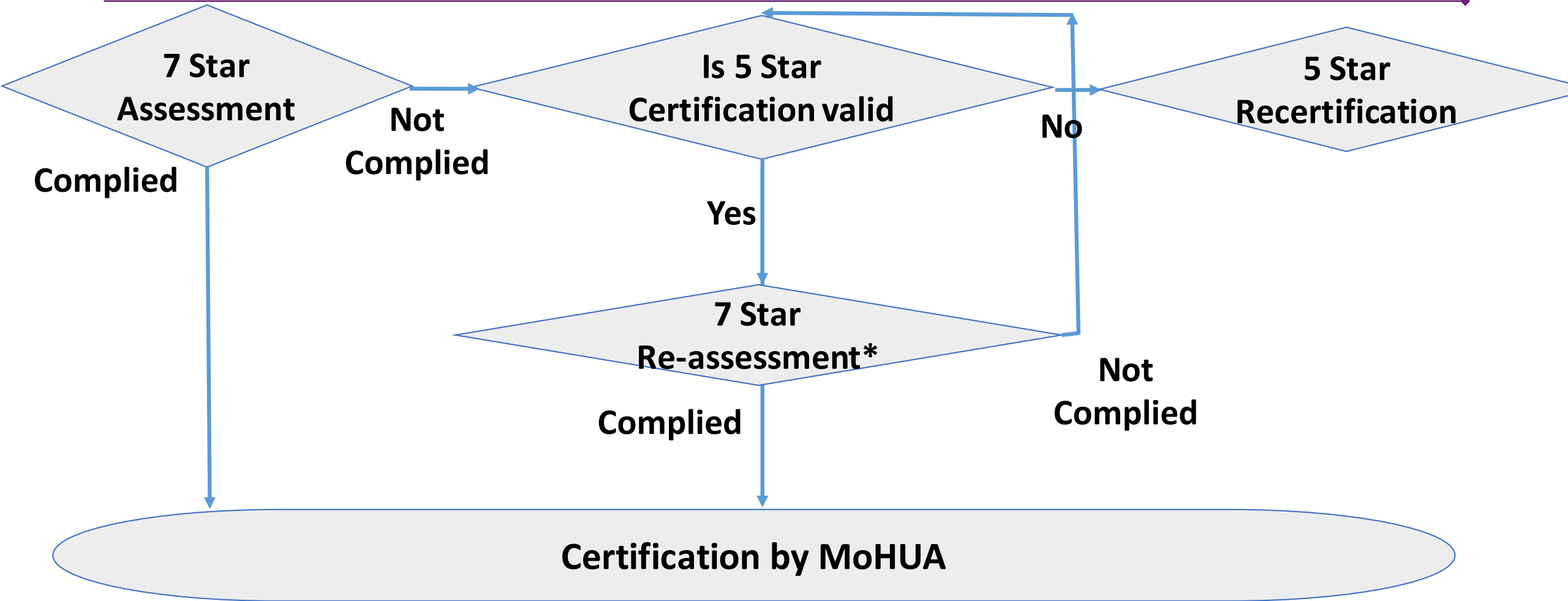
[^]Success criteria of 90% will be used to validate claims made by the city. For example, 9 of 10 validations shall agree with city claims.

Additional conditions for applying for certain star ratings



- **PROGRESSIVE:** Any city can declare itself for any star rating however for declaration/certification for 4 star & above, city must have valid Third Party certification for lower rating (i.e. 3 star in case of 4 star declaration/certification; 4 star in case of 5 star declaration/certification; 5 star in case of 7 star declaration/certification)
- **TPA FAILURE:** In case city fails third party assessment for 3, 5 or 7 star certification, it **DOES NOT** automatically achieve certification for lower star rating. It can undergo reassessment after a **cooling-off period of 1 month**. City either needs to have a valid lower declaration/certification or need to recertify itself for lower rating before undergoing for reassessment
- **CONTINUOUS:** City can declare and apply for certification for higher star rating at any point after achieving a specific star rating. No time gap is required.

Third Party Assessment - Example



* After a cooling off period of one month

Declaration Formats



Format for declaration to be submitted by City / town

I, Mayor / Municipal Commissioner / Chief Officer/ Chairperson of..... (name of ULB/ Municipal corporation / municipality / town panchayat/ cantonment board) do hereby declare that:

- All Councillors/ Corporators/ Ward Members in the city / town have submitted their self-declarations regarding garbage free status (as per relevant star rating)
- Preliminary resolution has been passed declaring the city / town as Garbage Free....1/2/3/4/5/6/7 (strike off as applicable).... Star;
- Above resolution has been publicly announced (in print media), inviting public feedback / objection within 15 days of announcement.
- Since no objections have been received within the stipulated time period / since objections and feedback received from the public have been rectified, a final resolution has been adopted by this ULB to declare the city as Garbage Free1/2/3/4/5/6/7 (strike off as applicable)... Star
- This final resolution is being communicated to the Government of(State/Union Territory).... for further communication to MoHUA for record and further third-party verification (applicable for Star Rating '3', '5' and '7') (Resolution Number

Accordingly, (name of city/ town) is hereby self-declared Garbage Free
....1/2/3/4/5/6/7 (strike off as applicable)...Star

.....
(Signature, and Name of Mayor / Chairperson/ Chief Officer/ Municipal Commissioner)

Date:

Seal

Declaration Formats



Format for declaration to be submitted by Ward Councillor

I, Ward councilor/ Corporator of (ward details), under (name of ULB/ Municipal corporation / municipality / town panchayat / cantonment board) do hereby declare that the ward is in compliance with all necessary conditions of Garbage Free Star Rating ... 1/2/3/4/5/7 (strike off as applicable)....

..... (Signature, and Name of Ward Councillor/ Corporator)

Address:

Phone Number:

Date:

Seal:

Declaration Formats



Format for self-declaration to be submitted by Bulk Waste Generators (wherever applicable)

I,(name), authorized representative on behalf of (name and address of bulk waste generator) in (name of ULB/ Municipal corporation / municipality / town panchayat/ cantonment board) do hereby declare that we are managing all our generated waste in compliance with SWM Rules 2016

.....
(Signature and Name of authorized representative of bulk waste generator)

Address:

Phone Number:

Date:

Seal:

Declaration Formats



Format for self-declaration to be submitted by citizen representatives

I,(name), authorized representative on behalf of (name of citizen category) in (name of ULB/ Municipal corporation / municipality/ town panchayat/ cantonment board) do hereby declare that the city is in compliance with all necessary conditions of Garbage Free Star Rating1/2/3/4/5/7 (strike off as applicable)...

.....
(Signature and Name of authorized representative of citizen category)

Address:

Phone Number:

Date:

Seal:

- ❖ Door-to-Door Collection
- ❖ Segregation at Source
- ❖ Sweeping of residential, public & commercial areas
- ❖ Litter Bins, Waste Storage and Material Recovery Facility



Component 1: Door to Door Collection

CONDITION

At least 'x' percent of households/ premises in the city are covered by door-to-door collection and transportation of solid waste (through ULB/ULB-authorized garbage collectors)

Note: Waste collector needs to inform each household/ premise to provide their waste

1 Star	2 Star	3 Star	4 Star	5 Star	7 Star
At least 60 %	Atleast 80 %	100 %			

MEANS OF VERIFICATION

- Ward wise staff deployment plan/Copy of Log Book or any other ward-wise record for waste collection from commercial areas and residential areas from the previous two quarters prior to date of self-declaration of star rating.
- Copy of contract and payment/activity report if this service has been outsourced. Contract should be signed atleast six months prior to date of self-declaration of star rating

Door to Door Collection

Suggested Interventions



- Ensure **adequate manpower** (integrating informal waste pickers, outsourcing, etc.) and equipment provisions
- Installation of **GPS/RFID system** on waste collection trucks/vehicles to ensure route and household coverage **Felicitation of best performing** waste collection trucks/vehicle drivers
- **ICT-enabled monitoring** of D2D collection activities (biometric staff attendance system, route mapping, Household RFID tags, mobile applications, camera-based surveillance, etc.)
- If work is outsourced to an external agency, **insert a clause in the contract for performance-based payments**
- **Establish weighing mechanism** at transfer station/processing/disposal site to record vehicle weight with & without garbage
- **Staff at transfer station/ processing/ disposal site must check that waste collected only contains Municipal Solid Waste (MSW)** - no waste from other waste streams, Biomedical waste, Inert waste, Industrial Waste etc.
- **Establish separate collection systems for separate waste streams** [household, commercial, street sweeping, silt removed C&D waste, garden/ horticulture waste, gohar (animal dung), bulk waste generators (if not managed onsite), etc.] to the extent possible
- Provide **personal protective equipment** to all SWM staff and mandate outsourced agency to also provide
- Ensure **regular cleaning of SWM equipment** (collection & transportation vehicles, container bins, etc.)
- City should also work towards collecting electronic waste separately and setting appropriate management mechanism

As per SWM Rules, 2016, collect horticulture, parks and garden waste separately and process in the parks and gardens, as far as possible;

Door to Door Collection

Suggested Interventions



- **Integration of Informal Waste Pickers**
 - Carry out field level assessment and identify waste pickers/ self-help groups across the city
 - Conduct enrolment drives to integrate informal waste pickers in the SWM system
 - Make a cooperative/organization of identified informal workers to be integrated to ensure accountability (Incase D2D Collection/ Transportation outsourced to third party, encourage them to formally integrate rag pickers in their payroll)
 - Record ward-wise list of waste pickers with ID numbers issued to them
 - Conduct trainings for these stakeholders to ensure proper integration into city's SWM system
- **Assessment of waste collection trucks/ vehicle drivers**
 - ULB/ Outsourced Agency should record monthly performance of each vehicle in the form of a Driver's Report card
 - GPS/RFID log, manual entry log and activity report from the last month for each vehicle (any penalties are levied by the ULB based on underperformance being tracked by GPS) should be recorded by ULB/ Outsourced Agency
 - Route map and driver details should be provided to the households and also available in public domain by ULB (Incase of Outsourced Agency, these details should be provided to ULB to share in public domain)

As per SWM Rules, 2016

- **Establish a system to recognise organisations of waste pickers or informal waste collectors and promote & establish a system for integration of these authorised waste-pickers & waste collectors to facilitate their participation in SWM including door to door collection of waste;**
- **Facilitate formation of Self Help Groups, provide identity cards and thereafter encourage integration in SWM**

Performance Penalties

The Monitoring System based on self-reporting by the Concessionaire is proposed (refer table no. 1 to 112 in annexure-I). It may be noted all these self-assessment reports shall tally with GPS report (auto analyzed by the computer system) for this monitoring system to properly work.

Penalty for non-conformance shall be imposed by Authority based on one or both of the following:

- (a) Complaint by 2 or more actual users, and validated by field report or GPS system;
- (b) Spot inspection and reporting by Authority officials/ appointed Project Monitoring Consultant.
- (c) The penalties imposed on the basis of above MIS reports shall over-ride the self-reporting by the concessionaire, notwithstanding the fact that the self-assessment may have been accepted by the authority. In addition, the Concessionaire shall be given an opportunity of being heard. Certain Tolerance for default(s) are prescribed in the table 1. If the performance of the concessionaire falls below the tolerance level, the penalties are applicable on all defaults (and not just that are in excess of the tolerance limits).

Table 1: Performance Penalties as per the MIS

Default	Penalty/ Deduction	Tolerance	Rectification
1. Deficient Service			
(a) Non-servicing of area covered under door-to-door	Rs. ■■■ per day for each area not serviced	No penalty if 90% of households covered under door to door get serviced during the day	Within 24 hours
(b) Non-deployment of vehicle / auto tippers	Rs. ■■■ for each route for auto tipper not deployed	No penalty if 90% routes get serviced during the day	Within 24 hours
(c) Late deployment of vehicle/ Auto tippers	Rs. ■■■ per ■ hour of delay, subject to maximum of Rs ■■■	No penalty if 90% of routes are operated within time (upto 1 hour delay) during the day	Within 24 hours
(d) Non-deployment of rickshaws	Rs ■■■ per day for each route not serviced	No penalties if 90% of rickshaws (as per action plan) do get deployed	Within 24 hours



Reference: Collection & Transportation of MSW, Street Sweeping Waste, Drain Silt, Green Waste and C&D Waste in South, Central, West and Najafgarh Zones on PPP Basis, South Delhi Municipal Corporation
Available on SBM Portal → Knowledge Repositories → Sample RFPs

Door to Door Collection - Best Practices

Pune- Integration of Informal Waste Pickers in D2D collection



Population: ~31 Lakh (Census 2011)

Waste generation: 1550 MTPD

- **PMC collaborated with a co-operative society SWaCH** to carry out waste collection, segregation and composting activities
- Integrated rag pickers in D2D collection system to ensure better quality of waste and healthier environment of retrieving recyclables
- PMC provided them with I-Cards
- PMC has notified charging of user fees for providing D2D collection services in their by-laws (differential user charges)
- **Member performing these services gets to keep the user fees**



Benefits

- Savings of about INR 60 Cr. on manpower, transportation & processing
- Formal integration of rag pickers with average earning of INR 12-15,000 per month
- SWaCH along with PMC covers 60% household/ other establishments
- In 2016, SWaCH managed to formally integrate 40% additional rag-pickers and handled a total of 2.57 Lakh Tonnes of waste



Component 2: Segregation at source

CONDITION

At least 'x' percent of households/ premises in the city have segregation at source (wet, dry & domestic hazardous) maintained till processing

Note: Waste collector must check that waste is segregated properly by household/premises before collection. Domestic hazardous waste to be disposed in a separate bag and placed in separate area of vehicle

1 Star	2 Star	3 Star	4 Star	5 Star	7 Star
At least 25 %	Atleast 50 %	Atleast 80%		100 %	

MEANS OF VERIFICATION

- Number of vehicles with partition/separate containers for carrying dry and wet waste OR number of vehicles deployed separately for dry and wet waste collection OR separate days are fixed for collection of dry and wet waste (1-2 days in a week is earmarked for dry waste collection; wet waste is collected everyday)
- Waste carrying capacity of these vehicles and number of trips
- Total quantity of wet/dry waste generated daily as per population criteria or real actual available with the ULB
- Log books of transfer stations/ processing plant (centralized or decentralized) indicating daily tonnage of dry & wet wastes received and processed separately

Segregation at Source

Suggested Interventions



- 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 (as per SWM Rules 2016)
- **Awareness drives** regarding waste segregation in households/ premises
- **Distribution of two bins should NOT be a pre-condition for initiating source segregation** in the city
- All waste pickers should be trained to collect dry and wet waste separately
- All waste collection & transportation vehicles to be compartmentalized/ separate vehicles to be deployed to ensure collection and transportation of segregated waste/ **separate days** are fixed for collection of dry and wet waste
- **Data** regarding amount of segregated waste collected and transported to be **recorded daily**
- Ensure that **segregation is maintained across the SWM chain**, i.e. collection, transportation and processing (waste should not be mixed at any stage)
- In case D2D Collection is outsourced to an agency, ULB should penalize agency for collection of unsegregated waste
- Introduce **incentive schemes for onsite composting by households/ premises**
- **City may ask households to further segregate dry waste (paper, plastic, etc.) at the household level before handing to ULB/collection agency.**

Segregation at Source - Best Practices

Port-Blair Municipal Corporation - Incentive Scheme




PORT BLAIR MUNICIPAL COUNCIL

Prize- Scheme

Collect Segregated Plastics -> Waste Bags...Bottles...etc and Get Money, Prize & Employment

Scheme is available for whole of the year 2018. Any person can become partner with Municipal Council in its efforts of keeping the City clean and green. The salient features of the Prize Scheme are as under:

Collect Segregated Plastics -> Waste Bags...Bottles...etc **Deposit**
09.00 am to 12.00 Noon on every first Monday of the Month
at the following locations



- Compost Yard
Gandhi Park
- Community Hall
Dairy Farm
- Sanitary Site
Dollygunj
- Community Hall
Paththar Gudda
(Old Panchayat Char)
- Near Vegetable Market
Bathu Basthi
- Dry Resource Park
Brookshabad

Segregation at Source - Best Practices

Port-Blair Municipal Corporation – Incentive Scheme



Prize Scheme

- 1** Cash amount @ ₹2/- per kg will be paid at the time of deposit
- 2** The 20 persons who deposit maximum quantity will be given cash prizes at following scale which will be credited in their Bank Account, within next 10 days
 - ✓ ₹10,000/- each to first five persons
 - ✓ ₹5,000/- each to next five persons
 - ✓ ₹3,000/- each to next five persons
 - ✓ ₹2,000/- each to next five persons
- 3** Five persons, who win highest total money, during the year 2018 will be given preference in job on Muster Roll basis in the Sanitary Section of PBMC, subject to following conditions :-
 - ✓ Must be an Islander Card Holder and aged between 18 years to 60 years; and
 - ✓ Must be one of the winners in atleast 06 months, during the year 2018



Note: Employees of PBMC, including DRM/Muster Roll workers, are NOT eligible to participate in this scheme. However their family members are allowed to participate in the scheme.

“ Kind co-operation from all the Citizens is solicited to maintain the City clean and green.”



Indrapal Singh
Chairperson, PBMC

Appeal for Suggestions:

Plastic/Pet bottles have become serious environment hazard in the City. Despite best efforts by the Municipal Council, it has been seen that empty bottles are lying on road side and sea side at many places. This serious issue can be dealt by public participation and therefore suggestions are invited from the General Public about various possible options. Based on the suggestions, different alternatives will be considered by the Municipal Council to arrive on some workable policy decisions. Suggestions can be sent in either of the following way:-

✉ swmpbmc@gmail.com

✉ Letter by post to:-
Secretary, PBMC, Municipal
Head Quarter, Mohanpura,
Port Blair-744101

✉ Suggestion Box provided in the
Office of Secretary, PBMC,
Municipal Headquarter,
Mohanpura, Port Blair-744101

Segregation at Source - Best Practices

Sanquelim Municipal Council



Sankhali Municipal Council
Presents

Eco-Police Competition

स्वच्छ भारत अभियान
Swachh Sankhali
Nitol Sankhali

A Competition Of Collecting Segregated Household Dry Waste

Clean Sankhali
Green Sankhali

Competition Duration
1st December 2017
to
January 31st 2018

FREE ENTRY

The competition:

- ∞ The competition will involve collection of segregated dry waste (excluding glass and metal waste) on a weekly basis from schools.
- ∞ The waste collected will be weighed and the student bringing in the highest amount of waste will be given an award at the end of two months.
- ∞ The competition will be conducted by Sankhali Municipal Council with the help of the schools in Sankhali.
- ∞ The competition will be conducted over a span of two months. (Starting Date -01.12.2017 and Ending Date - 31.01.2018)

Instructions:

- ∞ Students should submit their waste to school representatives in the school premises and they will note down the weight of that garbage in the excel sheet provided by the organizers.
- ∞ Municipal council representatives will collect the total waste from the school on weekly basis on specified day, which will be communicated later.
- ∞ In case of two or more students having same weight at the end of the competition the highest plastic waste will be considered as overall highest.
- ∞ The school should weigh & record details of plastic and paper waste separately.
- ∞ The student with the highest total weight will be considered as the best Eco-police of the town.

TYPES OF WASTE TO BE CONSIDERED FOR THE COMPETITION ARE AS FOLLOW:

PLASTIC WASTE

- Plastic Bags
- Thermocol
- Plastic/PET bottles
- Plastic containers
- Broken plastic toys
- Bubble wrap
- Take-away containers
- Plastic Food packets, Pickle packs
- Milk Sachets & tetra packs
- Multilayered plastics like chips packets

PAPER WASTE

- Boxes
- Carboard
- Pamphlets
- Paper plates
- Paper wrappers
- Chocolate wrappers
- Envelopes & Covers
- Cotton & cotton clothes
- Tickets, Bills, Statements
- Paper, Book, Magazine

Rewards for students:

- ∞ The student with the highest total among all participants at the end of the Two months will be declared the winner of Sankhali and will be awarded with a **Laptop**.
- ∞ One student with the highest total from each school at the end of Two months will be declared the winner of their respective school and he/she will be awarded with a **Gear Bicycle**.
- ∞ One student with highest total from each class at the end of Two months will be winner of that class and he/she will be awarded with a **school bag**.
- ∞ Every week, from each class, the student bringing in the highest amount of waste will be rewarded with an **Eco-Police badge**.
- ∞ **Every participant will get a certificate of participation and a gift from the Municipal council as follows:**
 - From standard 1 to 4: **Tiffin box**
 - From standard 5 to 10: **Geometry Box**

Rewards for School & teachers:

- ∞ In each respective school, the class from which the highest amount of total waste is collected at the end of Two months, the class teacher of that class will be awarded with a **mobile phone**.
- ∞ The school from which the highest amount of total waste is collected at the end of Two months, will be awarded with a **trophy and a winning certificate**.
- ∞ **To be eligible for winning the best school title, following activities need to be performed by the schools-**
 1. The schools need to conduct a drawing & an essay competition once in the duration of the competition with the theme of Swachh Bharat Abhiyan.
 2. The schools need to take their students on a visit to the garbage treatment plant of Sankhali/Saligao.
 3. A cleanliness drive needs to be conducted by schools with their students (Class-V to Class-X only) along with their parents at the location given by municipal council on any of the Sundays during the duration of the competition.

Chance to win a Refrigerator:

Also grab a chance to win a refrigerator by sending the pictures/videos of offenders throwing garbage in the open areas on WhatsApp number 7057344488. All the numbers from which pictures/ videos are received will be considered for the lucky draw which will be announced at the end of the competition.

Registration:

1. Every student from standard 1* to 10* must mandatorily register for the competition.
2. Students will get a unique Identity number after the registration, which will be as School acronym/Class/Section/Roll No. for example for Student with roll no. 20 in Section A of Class 5* in Ganesh Vidyalaya will get a no. of GV/05/A/020

Rules:

1. Participant must be a student of the school in Sankhali
2. Every student must collect at least 10 kg of waste at the end of Two months to be eligible for the certificate.
3. There will be no participation fee for the competition.
4. All participants must register themselves with their class teacher.
5. Waste submitted must be clean & dry i.e.
- 5.1. Food packets, pickle packs and take-away food containers have to be thoroughly rinsed and dried before submission
- 5.2. Food covers that are too oily will not be collected.
- 5.3. Papers that are oily and soiled tissue papers will be discarded.
6. Student should bring plastic and paper garbage separately.
7. Waste must be properly submitted in waste disposal bags which will be provided by the Municipal council.
8. No other type of waste beside mentioned in guidelines will be accepted.
9. Waste will be collected only in the respective school campus.
10. The total weight calculated by the school will be cross checked by municipal representative while collecting it on weekly basis.

Supported By



Initiated By
Chairperson Mr. Dharmesh Saglani,
Contact No.: 09822183775

Segregation at Source - Best Practices

Tirunelveli – Multi-stakeholder approach for achieving 100% source segregation



Tirunelveli Municipal Corporation: Achieving 100% source segregation

Population: ~4.74 Lakhs

City started with an **aggressive information, education and communication campaign** in April 2016 about MSW Rules and achieved the ambitious target by 21st December 2016.

- **Letter to all households** urging to participate in 'Litter Free Tirunelveli movement' and got undertaking from all HHs to participate
- **Extensive multi-media campaign** through radio, local TV channels, etc.
- **Participatory planning meetings with various stakeholders** including doctors, SHGs, religious representatives, waste recyclers, media representatives, RWAs, sanitary workers, school administration, etc.
- All **key personalities** of city beginning with Municipal Commissioner **started waste segregation**. Spread message through sharing pictures of the same
- **Targeted school children** to spread message
- TMC decided to make **Wednesday as dry waste collection day** therefore making it necessary to segregate waste - announcements of the same were made through several media channels like radio, on autos, through letters, etc.
- **Direct supervision of waste collection by Municipal Commissioner and municipal staff**



Component 3: Sweeping of residential, public & commercial areas



CONDITION

‘X’ percent of commercial, public and residential areas have sweeping (one time or twice, including night sweeping)

1 Star	2 Star	3 Star	4 Star	5 Star	7 Star
100% public & commercial areas have daily sweeping		100% public, commercial & residential areas have daily sweeping		100% Public & commercial areas have twice daily sweeping, including night sweeping and residential areas have daily sweeping	

MEANS OF VERIFICATION

- Ward wise list of commercial areas, public areas and residential areas
- Evidence of sweeping commercial, public and residential areas as per frequency stated in the specific rating condition, in the form of activity log/ roster report/ attendance of sanitation staff
- If work is outsourced to an external agency, the contract document which has a clause for sweeping commercial areas, public areas and residential areas and its stated frequency should be provided
- Survey indicating total garbage heaps/ dumps which have not been attended in the daily collection schedule. Before and after photographs of such points.
- Evidence of mechanism in place for continuous identification and monitoring of visible eyesores/garbage vulnerable spots

Sweeping of residential, public & commercial areas

Suggested Interventions



- Conduct **training of staff** (including staff of outsourced agencies) employed in cleaning residential, public and commercial areas to ensure regular sweeping and cleaning
- Before collecting sweeping waste, it should be **sieved** to ensure no C&D waste is collected (incase C&D waste is identified, it should be reported and separately collected). Incase **C&D waste is being mixed with sweeping waste**, the concerned worker/ agency must be **penalized**
- **Dust from sweeping activities should not be mixed** with other waste collected from sweeping
- **Set up covered secondary storage facility** for temporary storage of street sweepings and silt removed from surface drains 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 ULB.
- Introduce **ICT-enabled monitoring** of sweeping activities (through CCTV cameras) and GVPs
- Install **biometric staff attendance system** and link the same with staff payroll
- **Insert a clause in contract for performance-based payments**, if work is outsourced
- **Penalty must be imposed on street vendors/hawkers for littering** in public & commercial areas
- ULB should **use mechanical sweepers/ suckers** for sweeping **wider roads** to the extent possible
- **Separate system** should be instituted for **collection of animal carcass**
- ULB should carry out efforts for managing stray animals
- ULB may **implement land use zones** in the city to ensure commercial activities are only taking place in commercial areas, therefore enabling efficient monitoring of cleanliness

Elimination of Garbage Vulnerable Points (GVPs)

- Carry out field level assessment to **identify GVPs in the city** (utilize Swachhata App and other city level grievance redressal systems)
- **Involve citizens to conduct cleanliness and beautification drives** at these points
- Conduct **regular monitoring** of these areas to ensure sustained results

As per SWM Rules, 2016, collect waste separately 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;

Sweeping of residential, public & commercial areas - Best Practices



Surat- Anudaan Scheme for sweeping of residential areas

Population: ~50 Lakh

Waste generation: 1799 TPD (280 grams per capita per day)

- **City-wide scheme for RWAs and Gated Societies providing them with 25% subsidy on charges for contracting sweeping of residential premises**
- **SMC provides training to the contracted workers and also holds an annual competition for RWAs/gated societies under this scheme**
- **SMC conducts an inspection of RWAs/Societies under this scheme every 15 days**
- **President of RWA/Housing Society is responsible for running of scheme in collaboration with SMC.**
- **844 societies are taking part in this scheme**

Benefits:

- **Reduced requirement of 6,000 sanitation workers and associated expenditure**
- **Societies have also collaborated with an organisation for dry waste recycling**

Sweeping of residential, public & commercial areas - Best Practices

Visakhapatnam- Technology enabled eradication of GVP



Population: ~17.28 Lakh

Waste generation: 1000 MTPD

- Identification of Garbage Vulnerable points and areas through physical surveys
- Corporation has created a special application, called as the Black spot app for citizens to update any GVP in their vicinity.
- After updating details, the local ward officer is required to survey the spot for at least 2 days and ascertain the reason for incessant dumping of waste
- Adapting a localized approach basis the reason for existence of the spot, and converting it into a green one within 24 hours
- Monitoring of GVPs for 6 months through the Black Spot application to ensure sustainability
- The city has carried out behaviour change campaigns to deter people from littering and disposing of waste indiscriminately

Benefits:

- Successful elimination of 221 Garbage Vulnerable points in the city at reasonable costs



Component 4.1: Litter Bins



CONDITION

Twin-bin/ segregated litter bins are available in 'x' per cent of commercial & public areas at every 50-100 meters, as per requirement, (waste is only deposited in such bins - no littering or spill over of waste)

1 Star	2 Star	3 Star	4 Star	5 Star	7 Star
At least 25 %	Atleast 50 %	Atleast 80%		100 %	

MEANS OF VERIFICATION

- Number of litter bins required for the quantity of waste generated from the location (conduct an in-house/third party survey to assess number of litter bins required as per floating population, amount of footfall, etc.)
- Copy of installation log of litter bins or Copy of the document/ map showing litter bin numbers & location
- List of identification number of all litter bins
- Image of litter bins clearly displaying the labels/ stickers regarding segregation
- **Twin-bins/segregated bins of commercial establishments will be considered if mandated to be used by public.**

Litter bins ranging in capacity 60-100 litre twin bins placed along roadside to cater to the needs of the public for throwing garbage along roadside including commercial, public, non-commercial and residential areas.

Litter Bins

Suggested Interventions



- Carry out **field level assessment to assess gap** in terms of coverage of all premises with bins
- **Ensure all existing bins in commercial areas are replaced** with and **all new bins that are compartmentalized with proper labeling** (ULBs may procure compartmentalized bins from GeM portal)
- ULBs should keep **records of installation log of litter bin, or mapping of bin locations/numbers**
- **Schedule for emptying of litter bins should be developed and monitored to ensure no spillage/littering around bins**
- **Periodic cleaning and painting of litter bins should be carried out**
- **Awareness activities** in commercial areas to ensure all shops/commercial establishments have compartmentalized bins and have adopted segregation practice

Component 4.2: Waste Storage



CONDITION

Waste storage bins are placed in strategic locations across the city, as per requirement. **5 and 7 star city should be free of waste storage bins (bin-less).**

Remark: **Mobile mechanized/underground bins are excluded.** City is exempt from this condition if the city is bin-less, i.e. it does not have waste storage bins (no secondary storage). Waste is directly transferred from generators' premises to transportation vehicles to processing center (verification will be done)

MEANS OF VERIFICATION

- Copy of the list of public, commercial and non-commercial areas that are covered by door to door collection and directly transfer the collected waste to the processing/ disposal
- Number of waste storage bins required for the quantity of waste generated from the location (conduct an in-house/third-party survey to assess number of such waste storage points)
- Copy of installation log or Copy of the document/ map showing waste storage bins and location
- List of identification number of all waste storage container bins
- Image of waste storage bins clearly displaying the labels/ stickers regarding segregation
- Frequency of cleaning of waste storage bins to ensure no littering and/or spill over of waste.

Waste storage bins ranging in capacity 1.1 – 4.5 cubic meters or so placed at strategic locations along roads/in public/commercial/residential areas to receive waste collected from houses/commercial

Waste Storage

Suggested Interventions



- Carry out **field level assessment to assess gap** in terms of coverage of waste storage
- **Ensure that waste storage provides facility for disposal of waste in a segregated manner**
- ULBs should keep **records of installation log of waste storage or mapping of waste storage locations/numbers**
- **Schedule for emptying of waste storage should be developed and monitored to ensure no spillage/littering around waste storage**
- **Periodic cleaning and painting of waste storage should be carried out**
- **Waste storage should be covered and designed to facilitate mechanical lifting to avoid multiple handling and environmental harm**

Litter Bins and Waste Storage - Best Practices

Dharamshala – India's first city-wide sensor based underground waste bin network



Population: 56,543

- Issue of garbage spilling, animals digging into piled up garbage, foul smell, leachate, etc.
- 70 hi-tech underground bins installed across each ward of the city and provided with 3 stickered bins for wet, dry & inert material
- Bins take lesser space and are designed with low-level throw-ins to ensure user accessibility for children and persons with disabilities
- Fully automated system to reduce physical contact with waste thereby improving work condition for sanitary workers
- In-built sensor which sends alert to operator when bin is full

Component 4.3: Material Recovery Facility



CONDITION

Availability of material recovery facility (for garbage collection, sorting, storage, recycle, processing and sale) in adequate numbers

1 Star	2 Star	3 Star	4 Star	5 Star	7 Star
Plan drawn up, space identified for facility	Facility fully functional				

MEANS OF VERIFICATION

- Copy of plan and site selection for establishing Material Recovery Facility
- Details of quantity of garbage received, stored, recycled, processed, sold (applicable for star rating 3 & above)
- Copy of mapping/location list along with photographic evidence of MRF sites (applicable for star rating 3 & above)
- Details of manpower engage (applicable for star rating 3 and above)
- Documentation of revenue generated from sale of recyclables, if applicable (applicable for star rating 3 and above)
- **MRF may be a mobile one or can be set-up on a cluster basis.**

Material Recovery Facility

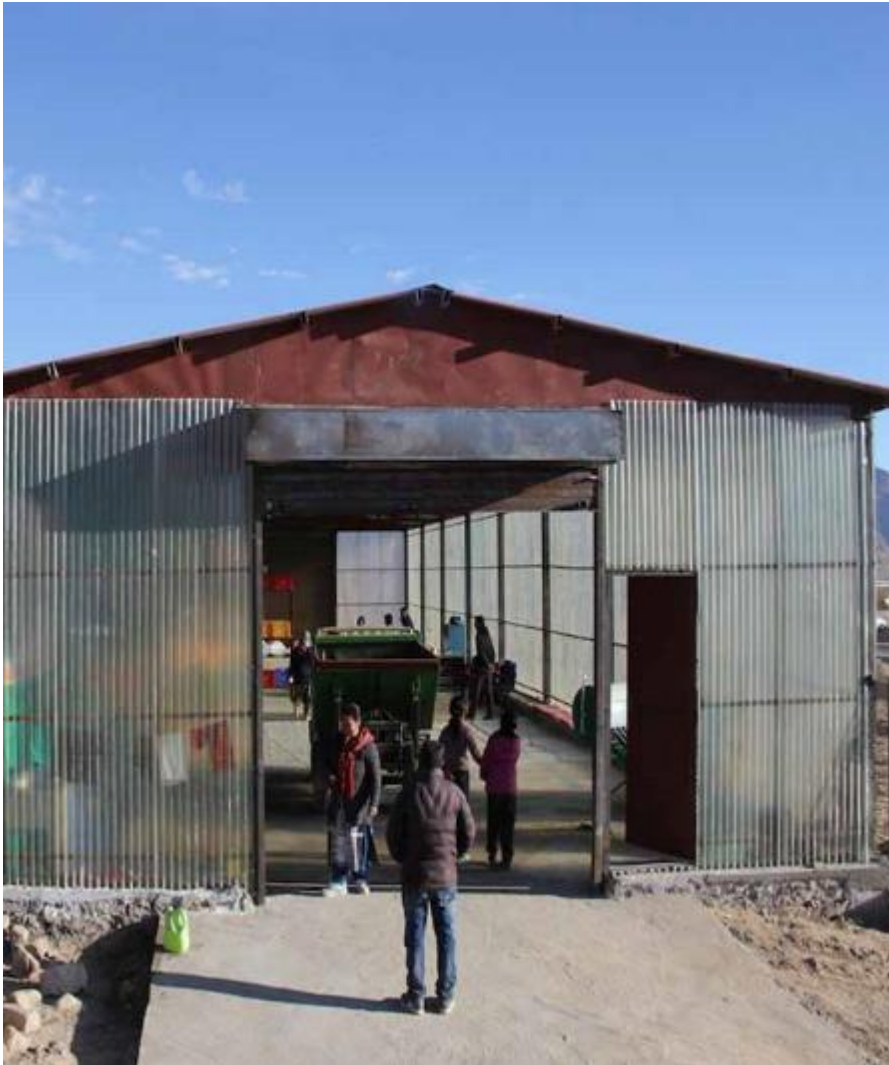
Suggested Interventions



- As per SWM Rules 2016, it is responsibility of ULB to setup MRF or secondary storage facilities with sufficient space for segregation, sorting and recovery of recyclable materials to enable informal or authorized waste pickers and waste collectors to separate recyclables from the waste such as paper, plastic, metal, glass, textile etc.
- Develop plan to setup MRFs (minimum 1) as per waste generation in the city and access to waste generators to facilitate recycling/ processing of dry waste through decentralized system to reduce amount of waste to landfill
- Carry out an **assessment of amount of dry waste generated** in the city and resultant amount that is **currently processed/ recycled/ diverted**
- Setup meeting with **community based organisations/ NGOs/ private players/ etc. working in the area of recycling of dry waste to identify collaboration areas** (e.g. establish tie-ups to send sorted material to recyclers/ processors/ manufacturers where they are recycled/ used to create new products)
- **Set-up MRF with facilities for deposit of large quantities of dry waste and equipment for plastic recycling such as: Jhatak, Shredder, Bailing Machine, Extruder etc.**
- **MRF may feature a small education room and a dedicated visitor's walkway and viewing platform**, where visitors can observe the day-to-day operation of the facility (especially to educate school children regarding waste management)

Material Recovery Facility

Best Practice – MRF in Leh



Population: 31,000

Waste generation: 4 Tons

Tourist population: ~2.7 Lakhs p.a.

- Established **dry waste segregation centre** on an area of 230 sq. mt., wherein dry waste collected from 400 households and commercial establishments is further **segregated into 15 categories**
- Categories include cardboard, paper, polythene (plain), printed polythene, metal coated polythene, plastic bottles, mineral water bottles, glass bottles, bone china, tin, thermocol, synthetic, batteries, cotton cloth and plastic.
- Employees as well as citizen volunteers are engaged at the segregation centre and go through a strenuous training program on segregation and sorting of waste
- Collected **1660 kg of dry waste**, out of which **170 kg has been sold to scrap dealers**, approx. **800 kgs has been sold at subsidized rate to NGO**, and remaining has been **utilized in construction activities** by the District Administration
- Plans to scale up to other parts of Leh district to ensure enforcement of waste segregation as well as 33 principle.

- ❖ Bulk Waste Generators Compliance
- ❖ User Charges, Penalties, Spot Fines and Plastic Ban
- ❖ Scientific Waste Processing
- ❖ Scientific Landfill
- ❖ C&D Waste Management
- ❖ Dumpsite Remediation

Component 5: Bulk Waste Generators Compliance



Bulk waste generators in all premises are: (i) doing onsite processing of wet waste generated, including kitchen and garden waste or organic waste from BWGs is collected and processed by private parties authorized by ULB. (ii) Handing over segregated dry wastes to authorised waste pickers or waste collectors. Bulk waste generators with onsite processing facilities may be given a discount on user charges.

CONDITION

1 Star	2 Star	3 Star	4 Star	5 Star	7 Star
Yet to start	All BWGs as defined by SWM Rules 2016, including RWAs identified and issued official notice for compliance	All commercial BWGs as defined by SWM Rules 2016		All BWGs as defined by SWM Rules 2016, including RWAs	All BWGs as defined by SWM Rules 2016, including RWAs as well as non-domestic establishments generating more than 50 kgs of waste per day

Component 5: Bulk Waste Generators Compliance



- List of all BWGs as defined by SWM Rules 2016, including RWAs identified in the city
- Copy of official notice issues to all BWGs regarding compliance with SWM Rules 2016
- Total quantity of wet/dry waste generated daily by each BWG
- Evidence (in the form of log books, photographs, contract documents, etc.) of non-domestic BWGs complying with conditions stated in the rating framework
- For 7 Star:
 - List of non-domestic establishments generating more than 50 kilograms of waste per day
 - Copy of official notice issued to all non-domestic establishments generating more than 50 kgs of waste per day.
 - Total quantity of wet/dry waste generated daily by all non-domestic establishments generating more than 50 kgs of waste per day
 - Evidence of non-domestic establishments generating more than 50 kgs of waste per day complying with conditions stated in the rating framework.

Bulk Waste Generators Compliance

Suggested Interventions



- As per **SWM Rules 2016**, “**bulk waste generator**” means and includes buildings occupied by the Central government departments or undertakings, State government departments or undertakings, local bodies, public sector undertakings or private companies, hospitals, nursing homes, schools, colleges, universities, other educational institutions, hostels, hotels, commercial establishments, markets, places of worship, stadia and sports complexes having an **average waste generation rate exceeding 100 kg per day**;
- **Stakeholder consultation with RWAs/ Bulk Generators** to create awareness regarding waste segregation
- Launch **incentive scheme/ competition** to encourage RWAs/Bulk Generators to implement waste segregation
- **Felicitate efforts** of RWAs/Bulk Generators who have adopted the practice

Bulk Waste Generators Compliance - Best Practices

Bengaluru Municipal Corporation – Managing Bulk Waste



Population: ~84 Lakh

Waste Generation: 4000 MTPD

Percent of waste generated by BWGs: 35-40%

- BBMP issued a **public notice regarding the delivery and disposal of MSW from bulk generators** within BBMP area, with effect from Oct 1st 2012
- As per notification, Bulk Generator is “any hotel/restaurants, choultry, mall, shopping complex, marriage halls, convention hall, temple, residential apartments (10 units and above), institutions, public offices, railway stations, bus stands or any other residential, commercial or a public entity which generates 100 Kg and more wet waste per day and any other such entity that is specifically identified and notified by the Commissioner as bulk generator”
- BBMP also **issued notification (Dt. 15.09.2012) which illustrated collection schedule** for Bulk Generators as per types of waste
- The **notification focused on managing the waste at its own site (in-situ) and to make own arrangements for the bulk generators.** The notification stressed on **adopting technologies like biogas units, composting and vermi composting units.**
- BBMP has **made it mandatory for the bulk generators to give their waste (wet, dry and C&D Waste) only to the empaneled vendors by BBMP** and develop a contract between the bulk generators and the empaneled agency.

Bulk Waste Generators Compliance - Best Practices

Pimpri Chinchwad Municipal Corporation – Managing Bulk Waste



Population: 18 Lakhs

Waste Generation: 850 MTPD

Scheme: Adarsh Paryavaran Santulit Society (Ideal Environmental friendly Society)

Categories:

1. Society with 12 to 100 Flats/Bungalows/Row-houses
2. More than 100 Flats/Bungalows/Row-houses

Conditions: Shall have paid 100% water charges and 90% of the property tax payers shall have paid the property tax

Evaluation/Selection committee: 2 Municipality officials, 1 Non for profit representative and 1 Journalist

Evaluation/Selection Methodology: 100 marks divided in following components:

1. 100% garbage segregation and processing (30 Marks)
2. Water conservation and recycling (20 Marks)
3. Solar energy and LED usage (15 Marks)
4. Tree plantation and Landscaping (20 Marks)
5. New environmental initiatives (15 Marks)

Reward & Recognition:

- A. 86 – 100 Marks: 5 Star Rating and 25% Tax Benefit
- B. 76 – 85 Marks: 4 Star Rating and 15% Tax Benefit
- C. 66 – 75 Marks: 3 Star Rating and 10% Tax Benefit
- D. 51 – 65 Marks: 2 Star Rating and 5% Tax Benefit

Component 6.1: User charges



CONDITION	Conditions	1 Star	2 Star	3 Star	4 Star	5 Star	7 Star
	i. Affordable & differential user charges for waste collection and transportation being collected	Byelaws have been framed including user charges for waste collection and transportation	Collected at least from commercial, institutional and industrial establishments	Collected from all households/ premises including residential, commercial, institutional and industrial establishments			
ii. Viable & sustainable user charges for waste collection and transportation being collected						Collected from all households/ premises including residential, commercial, institutional and industrial establishments	

- MEANS OF VERIFICATION**
- Copy of draft byelaws including user charges for waste collection and transportation (star rating 1)
 - Total number of households and commercial establishments and the user charges per each household/ establishment for solid waste management (star rating 2-7)
 - Evidence of user charges being collected in the form of log book, online record, etc. (star rating 2-7)
 - Evidence of user charges covering operating costs of SWM

User Charges - Definitions



- **Affordable:** Based on the income levels of the citizens of the ULB
- **Differential:** Different user charges for separate citizen categories of waste generators (commercial/non-commercial) for example: slums, single floor houses as per surface area, multi-storey houses/ apartments, houses disposing waste in a segregated manner, street vendors, schools/ colleges, restaurant/ hotels, etc. based on the waste generation, discount for onsite waste processing etc.
- **Viable & Sustainable:** User charges are sufficient to cover SWM operational costs (collection, transportation, processing & disposal) after deducting recovery revenue generated from waste processing. Capital costs, land costs and public sweeping costs shall be excluded from operational costs calculations.
- If ULB is collecting charges through property tax/any other tax/cess, then those should be specified and shall be used only for SWM operations to be considered as user charges. These charges and corresponding expenditure shall be maintained under separate accounting heads.

User Charges

Suggested Interventions



- States are requested to notify user charges and bye-laws as per Model Rules/ Bye-Laws
- As per SWM Rules 2016, it is the responsibility of the ULB to “prescribe from time to time user fee as deemed appropriate and collect the fee from the waste generators on its own or through authorized agency”
- Households/ Premises should be charged less if they process their own wet waste
- User fee should be kept separate from Property Tax collection to enable fairness, ensure proper service provisioning and encourage private sector participation



Representative User Charges



Andaman & Nicobar Islands		Lucknow Municipal Corporation	
Type of establishment	Monthly fee (INR)	Type of establishment	Monthly fee (INR)
Households disposing waste in a segregated manner	50	Residential Units	10 – 50
Households intends collection & segregation of waste done by the sanitary worker	1000	Single floor houses constructed on 50 sq. m.	10
Grocery, department & other shops	150	Houses in area between 50 – 100 sq. m.	30
Hotels & Restaurants	500	Houses (upto 1 st Floor) on area > 101 sq. m.	40
Vegetable & meat shops	300	Apartments and housing complexes/ Houses from 2 nd Floor onwards on area > 101 sq. m.	50
Private/ Government establishment	300		
Schools & Colleges	150		
Other commercials	50 - 100		
Street vendors	20 per day		
Charges for BWGs per cubic metre	300 per day		

Representative User Charges



Chhattisgarh		
Type of establishment	Municipal Council (INR/Month)	Nagar Panchayat (INR/Month)
Residential Dwelling Unit		
a) Up to 500 sq. ft.	20	20
b) Over 500 sq. ft. up to 1000 sq. ft.	30	30
c) Over 1000 sq. ft.	50	50
Commercial establishments		
a) Vendors	30	20
b) Up to 500 sq. ft.	80	50
c) Area between 101-300 sq. ft.	150	100
d) Area between 301-500 sq. ft.	200	150
e) Area between 501-1000 sq. ft.	250	200
f) Area over 1000 sq. ft.	500	400
g) Shopping mall/Complex	.75/sq. ft.	.50/sq. ft.
Restaurants		
a) Establishment not having Customer Chairs	200	150
b) Customer chairs below 25	250	200
c) Customer chairs between 26-50	350	300
d) Customer chairs above 50	500	450

Representative User Charges



East Delhi Municipal Corporation	
Type of establishment	Monthly fee (INR)
Residential Dwelling Unit	
a) Up to 50 sq. m.	50
b) Over 50 sq. m. up to 200 sq. m.	100
c) Over 200 sq. m.	200
Street Vendor	100
Commercial establishments, shops, eating places (Dhaba/sweet shops/coffee house, etc.)	500
Guest Houses/ Dharamshalas	2,000
Hostel	2,000
Restaurants up to sitting of 50 persons	2,000
Restaurants with sitting of >50 persons	3,000
Hotel (unstarred)	2,000
Hotel (up to 3 star)	3,000
Hotel (over 3 star)	5,000
Commercial offices, govt. offices, bank, insurance offices, coaching classes, educational institutes	2, 000
Clubs, Cinema Halls, Pubs, Multiplexes and other such places	4,000

Component 6.2: Penalties

CONDITION

Deterrent penalty / spot fines for non- segregation, littering and non-compliance of SWM Rules 2016

1 Star	2 Star	3 Star	4 Star	5 Star	7 Star
Notified		Implemented in 100% premises including littering in storm water drains and water bodies			

MEANS OF VERIFICATION

- Copy of notification of spot fine/penalty for littering, non-segregation, open burning of waste
- List of litter spots – this will be cross checked through independent observation
- Copy of fines collected post release of spot fine/ penalty notification for non-segregation, littering (star rating 3-7)
- Copy of *chalaan*/ receipt books for collecting spot fines/ penalties for non-segregation, littering and (star rating 3-7)
- Minimum number of spot fine collections in the city must be no less than the sum of litter spots (star rating 3-7)

Representative Penalties under SWM



Andaman & Nicobar Islands	
Subject of Contravention/ Violation	Fine for every single attempt of violation (in INR)
Dumping and littering in any public place & other assets of council such as drain footpath, road, etc. meant for public utility	500
Disposing wastes outside the storage containers	500
Allowing rubbish, filth, etc. to accumulate on premises for more than 24 hours	1000
Unlawful and improper disposal of carcasses rubbish and filth	1000
Failure to keep one's premises clean	500
For delivering waste that is not segregated and stored in separate bins as specified	
• Individual	500
• BWG	1000

Penalties- Best Practices

Bundu Nagar Panchayat



कार्यालय नगर पंचायत, बुण्डू (राँची)

आम - सूचना

नगर पंचायत बुण्डू की ओर से शहर को स्वच्छ एवं साफ बनाने के संकल्प के साथ सभी को नव वर्ष 2018 की हार्दिक शुभकामनाएँ ।

लोगों से अपील है कि अपने - अपने घरों एवं दुकानों में डस्टबिन रखें एवं संग्रहित कूड़ा नगर पंचायत बुण्डू के रिक्शा / वाहन में डें । घरों में निर्मित शौचालय का प्रयोग करें । समय से होल्डिंग कर, जल कर, ट्रेड लाइसेंस, भवन नक्शा, बोरिंग शुल्क एवं सफाई शुल्क का भुगतान समय पर करें

नगर पंचायत बुण्डू अंतर्गत सभी नागरिकों को सूचित किया जाता है कि स्वच्छ भारत मिशन अंतर्गत खुले में शौच, पेशाब, कचड़ा, आम शरत्ता, सरकारी जमीन में अतिक्रमण, करना दंडनीय अपराध है ऐसा करते हुए पकड़े जाने पर निम्नरूपेण दंड का प्रावधान है -

क्रम	वर्ग	जुर्माने की राशि (प्रत्येक बार)
1	आवासीय भवन द्वारा खुले में कचड़ा फेंकने पर	50/-
2	दुकान द्वारा कचड़ा खुले में कचड़ा फेंकने पर	250/-
3	होटल मालिक द्वारा खुले में कचड़ा फेंकने पर	500/-
4	औद्योगिक प्रतिष्ठान द्वारा खुले में कचड़ा फेंकने पर	1500/-
5	हलवाई, चाट, फास्ट फूड, आइसक्रीम, गन्ने का रस, सब्जी, फ्रूट आदि ठेला व्यवसायी पर खुले में कचड़ा फेंकने पर	50/-
6	सार्वजनिक स्थान पर पेशाब करने पर	25/-
7	खुले में शौच करने पर	500/-
8	निजी ट्रेक्टर द्वारा बजरी, कचड़ा, गोबर, मलबा इत्यादि परिवहन करते हुए सड़कों पर सामाग्री बिखरने एवं गंदगी	250/-
9	अपने मकान का गंदा पानी का निचतरी जाम राख्य पर करने पर	1500/-
10	खाली, सरकारी जमीन, आम शरत्ता व मकान के सामने गाय बकरी कुत्ता, भेड़, बंद, गधा, घोड़ा, सूअर आदि पालतू जानवरों से गंदगी फैलाने पर	100/-
11.	शादी / विवाह स्थलों के बहार कचड़ा फैलाने पर	1000/-

नोट - प्रत्येक बार्ड पर्वटिबनों को आदेश दिया जाता है कि शरत के आने के आसपास आवश्यक कार्रवाई करें ।

30-12-17
 नगरपालिका प्रशासिका, नगर पंचायत, बुण्डू

Component 6.3: Plastic Ban



Ban on the use, sale and storage of non-biodegradable plastic bags less than 50 microns (Carry bags more than 50 microns only shall be permitted), in compliance with Plastic Waste Management Rules 2016

1 Star	2 Star	3 Star	4 Star	5 Star	7 Star
Implementation of ban		Notification and enforcement of ban as well as enforcement of user fee by ULB on use, sale and storage of plastic bags more than 50 microns		Complete ban on all plastic bags (with or without handles), less than 200 ml of PET/PETE water bottles/water sachets, Thermocol (Polystyrene) and Plastic based single-use disposable cutlery and articles, Plastic Food packaging material and straws, Plastic and Thermocol decorative material. Packaging as part of product/food manufacturing is excluded.	

- MEANS OF VERIFICATION**
- Copy of fines collected post release of spot fine/ penalty notification for plastic ban (star rating 3-7)
 - Copy of *chalaan*/ receipt books for collecting spot fines/ penalties for plastic ban (star rating 3-7)
 - Copy of notification of ban on the use, sale and storage of plastic bags less than 50 microns in the city (star rating 3 & 4)
 - Copy of notification on complete ban on the use, sale and storage of plastic bags, water bottles/water sachets, Thermocol (Polystyrene) and Plastic based single-use disposable cutlery, articles decorative material, Plastic Food packaging material and straws (star rating 5 & 7)

Plastic Ban - Best Practices

Maharashtra Plastic Ban



India's first buyback depository scheme

Penalties:

- First Instance: INR 5000/-
- Second Instance: INR 10000/-
- Third Instance: INR 25000/- + 3 Months Jail

Banned



Less than 200 ml of PET/PETE water bottles/sachets



All types of plastic bags, non-woven bags (polypropylene) with or without handles



Thermocol (Polystyrene) and Plastic based single-use disposable cutlery and articles



Plastic Food packaging material and straws



Compostable Plastic Bags



Plastic and Thermocol decorative material

Plastic Ban - Best Practices

Maharashtra Plastic Ban



Allowed



More than 200 ml of PET/PETE bottles



Plastic covering for export purposes produce in Special Economic Zone and Export Industries



Tetra-pack/Card-box based boxes



Plastic packaging of more than 50 micron thickness used for milk packaging with buyback value and manufacturer's name



Grocery and food sealed packaging of more than 50 microns and weigh of more than 2 grams with buyback value and manufacturer's name



Compostable Plastic Bags used for agriculture, gardening and solid waste disposal



Plastic/Thermocol covering of more than 50 micron thickness and 20% recyclable plastic with buyback value and manufacturer's name

Plastic Ban - Best Practices

Maharashtra Plastic Ban



Allowed



Recyclable multi-layer packaging – chips, chocolate, shampoo, toothpaste packets/sachets



Plastic articles for domestic use



Thermocol material for fish and meat storage



Recyclable plastic stationary used in academics and offices



Packaging for Medicines, Medical equipment and produce



Other plastic produce

Plastic Ban - Best Practices

Panhala Hill Station Municipal Council



Population: 4,000

Flow:

- Single Entry/Exit point
- Cloth bag distribution and collection of deposit amount of Rs. 50
- Collection of waste by tourists
- Return of waste and bag by tourists at exit point, return of security deposit to tourists

Key Features:

- Waste collection by tourists
- Single waste collection point
- Lower waste management costs for ULB
- Sponsorship by local hotels through advertisement on cloth bags



पन्हाळा गिरिस्थान नगरपरिषद, पन्हाळा
चला करु कापडी पिशव्यांचा वापर,
पन्हाळयाला करु प्लॅस्टीक मुक्त शहर.

पर्यटकांना विनम्र आवाहन :-
सर्व पर्यटकांनी कापडी पिशव्यांचा
वापर करुन शिवरायांची पावन
भूमी पन्हाळयास कचरा मुक्त
करण्यास हातभार लावावा

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स्वच्छ पन्हाळा,
सुंदर पन्हाळा,
हिरल पन्हाळा,
प्लॅस्टीक मुक्त पन्हाळा.

स्वच्छ पन्हाळा,
सुंदर पन्हाळा,
हिरल पन्हाळा,
प्लॅस्टीक मुक्त पन्हाळा.

We Support Plastic Free Panhala
by Use of Cloth Bags

* कचऱ्याबिषयी प्रभागातील तक्रारीसाठी सर्वांनी स्वच्छता ॲपचा वापर करावा
* टोल फ्री क्र. १८००२३४८१३ किंवा २३५०२७ वर संपर्क करावा

स्वच्छ सर्वेक्षण
महाराष्ट्र 2018

Key messages for citizen awareness



Carry cloth/jute/canvas bags for impulse purchases



Think twice before buying anything that will generate garbage



Carry reusable containers for storing / packing food items/ beverages



Always throw waste in a litter bin or carry a trash bag to save your litter in the case of no bins



Don't accept single-use plastic/ thermocol cutlery while ordering food



Avoid using plastic straws

Component 7.1: Scientific Waste Processing



CONDITION

At least 'X' per cent of waste generated is processed

1 Star	2 Star	3 Star	4 Star	5 Star	7 Star
At least 25 per cent	At least 50 per cent	At least 75 per cent	100 per cent		

MEANS OF VERIFICATION

- Total wet and dry waste generated daily using per capita criteria
- Processing of all waste streams
- SWM DPR or action plan indicating quantity of segregated collection of waste
- Survey report indicating total ragpickers included in MSW and dry waste collection centres in city
- Total number of functional decentralised waste processing units in the city – waste processing capacity and waste processed per day (including RWAs and BWGs) over the past year
- Evidence of functional centralised waste processing facility in the city – waste processing capacity and waste processed per day, over the past year
- Evidence of contract with external vendors that process dry waste

Scientific Waste Processing

Relevant Policies



1. Compost Policy: Market Development Assistance Policy under SBM(U)

- Market Development Assistance (MDA) of Rs. 1500 per metric tonne of city compost to be paid to fertilizer marketing companies.
- Fertilizer Marketing Companies obligated to purchase all city compost manufactured by respective cities to which they have been tagged.
- Amendment on 28th September 2016: ULBs / Compost Manufacturers can also market compost directly to farmers (in bulk) and claim MDA of Rs. 1500 per tonne. DAC&FW Notification in this regard released for 43 plants and Notification for 47 plants is underway.

2. Waste to Energy

- **Tariff Policy under Central Electricity Act, 2003 as amended:** The policy as notified on 28.01.2016 mentions at 6.4 (1) (ii) that Distribution Licensee (s) shall compulsory procure 100% power produced from all waste-to-energy plant in the State, in the ratio of their procurement of power from all sources including their own, at the tariff determined by the appropriate Commission under Section-62 of the Act (Ministry of Power Resolution, New Delhi, 28 January, 2016 regarding TARIFF POLICY).

Scientific Waste Processing

Suggested Interventions



- Carry out an assessment of amount of wet waste generated in the city and resultant amount that is currently processed
- Develop plan to ensure 100% processing of wet waste through decentralized (on-site composting) or centralized processing facility. GIZ tool can be used to plan waste processing.
- Carry out an assessment of amount of dry waste generated in the city and resultant amount that is currently processed/ recycled/ diverted
- Develop plan to ensure 100% recycling/ processing of dry waste through decentralized (dry waste collection and recycling centres/ initiatives) or centralized processing facility (WTE, RDF)
- Use of RDF as alternative fuel in nearby cement plants
- If SWM facility is contracted to third party, include clause on performance based payment/ damages

12.2 Damages

A key objective of the facility is to reduce the environmental impact of Municipal Solid Waste. The Performance Standards for which the Lead ULB has zero tolerance and violation of which could lead to termination are as described in the table below

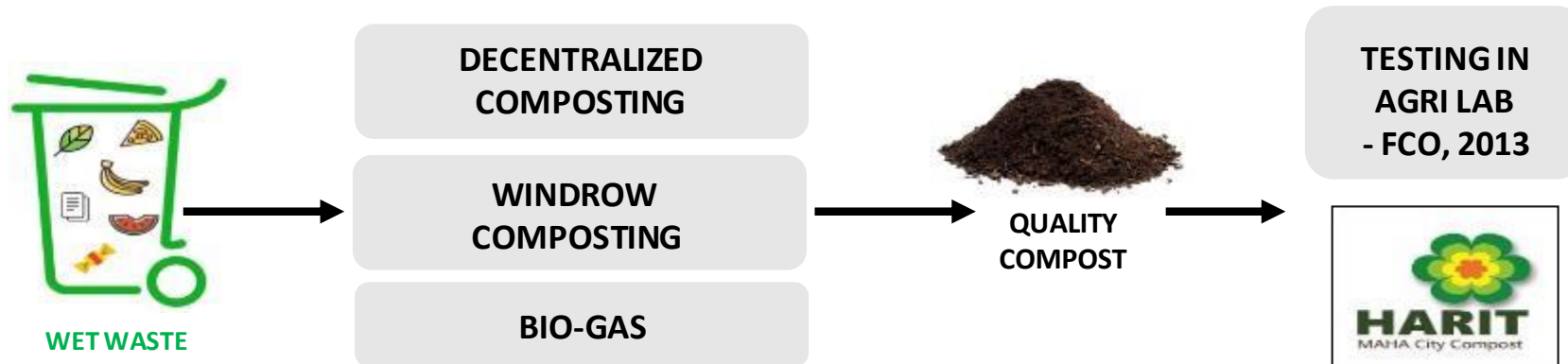
Performance Standards	Acceptable Level	Cure Period	Penalty	Tracking mechanism	Event of Default
Processing Plant					
1) Suspension of MSW processing	Incidence in ≤ 16 shifts per year and ≤ 6 continuous shifts		Operation Performance Security at the rate of 0.2% each day's default	Daily Report	Event of Default in case >20 shifts per year or >8 continuous shifts
2) Total quantity of unprocessed MSW stored at the Processing Plant	≤ 20 days of MSW quantity (calculated from the 15 days trailing average)	7 days	Operation Performance Security at the rate of 0.2% each day's default	Daily Report	Event of Default in case not cured in the cure period
3) Noncompliance to compost quality standards, if applicable	No variation	180 days	Operation Performance Security at the rate of 0.1% each day's default	Checks conducted by Independent Engineer and other agencies	Event of Default in case not cured in the cure period
Scientific Landfill					
4) Instances when MSW is found to be landfilled without processing	Nil	N/A	Operation Performance Security at the rate of 5% each day's default	Random checks	Event of Default for third instance in the concession period

Scientific Waste Processing - Best Practices

HARIT: New Civic Way of Life. Initiative by Government of Maharashtra



- **Market development assistance for scaling up production and consumption of the compost**
- Scheme initiated in May 2017- Out of 256 ULBs in Maharashtra 44 are HARIT certified till date
- **Objectives:**
 - To provide support for marketing of compost produced by ULBs.
 - To ensure consistent quality of compost as per FCO, 2013 and SWM Rules 2016.

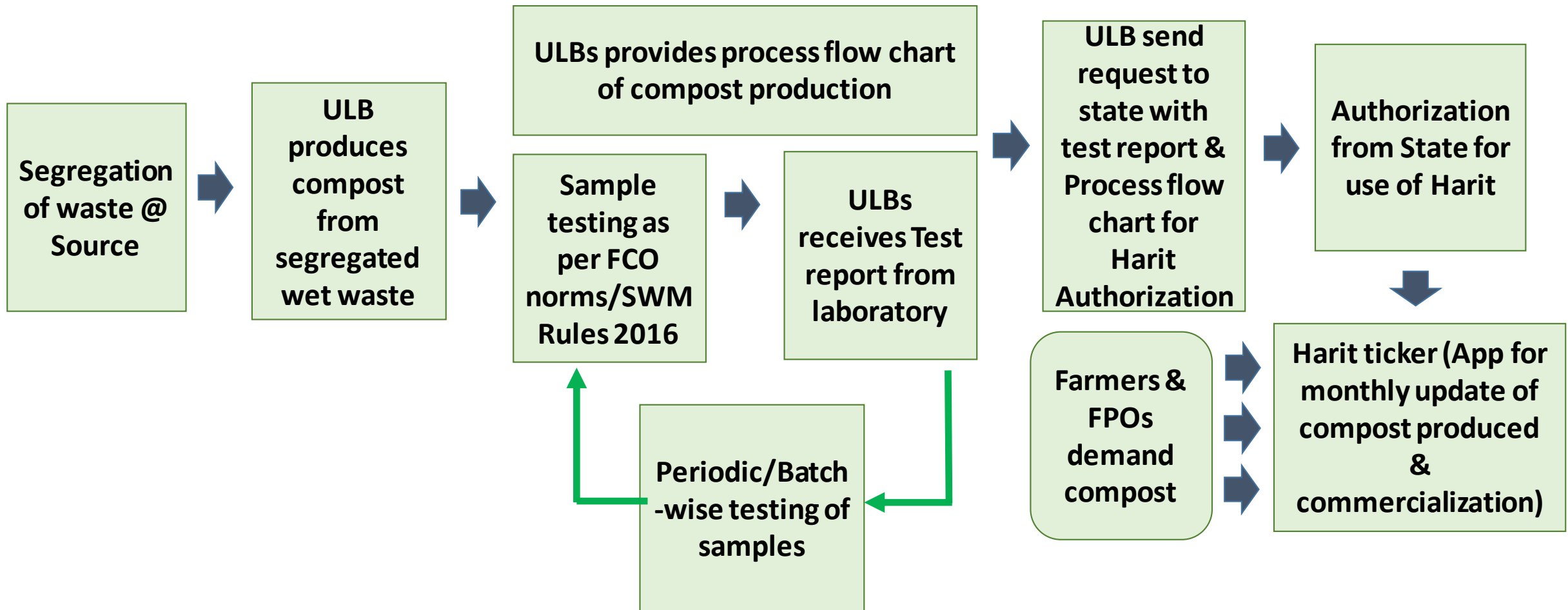


Benefits of the scheme

- ✓ Compost made from segregated waste
- ✓ Assured Quality of City Compost
- ✓ Government certified-Enhanced Brand Value
- ✓ Assured Market for City Compost
- ✓ 95-100% segregation in all HARIT certified cities

Scientific Waste Processing - Best Practices

HARIT: New Civic Way of Life. Initiative by Government of Maharashtra



Scientific Waste Processing - Best Practices

Alwarkurichi Town Panchayat



Population: 11,543

Households: 4226

Commercial units: 147

Education Institutions: 11

Tailoring Shops: 5

Mutton and Chicken Stalls: 4

Community/Marriage Halls: 2

17 push-carts and 2 mini autos

100% Door to Door Collection

Waste Generation: 2.57 MTPD

Biodegradable Waste: 1.54 MTPD

Compost generation per month: 9.5 MT

Compost sale price per month: Rs. 5/Kg



Scientific Waste Processing - Best Practices

Vengurla Municipal Council



Population: 12,392

Floating Population: 8,000

Households: 5333

100% Door to Door Collection

Four-way Segregation:

- Wet Waste
- Dry Waste (paper, cardboard, tetra packs, rubber, cloth, wood etc.)
- Plastic Waste (packaging material, PET bottles, milk packets etc.)
- Metal & Glass (Glass bottles, aluminum, iron and tin etc.)

Waste Generation: 7 MTPD

- **Biodegradable Waste:** Vermi-composting and Bio-methanation
- **Dry Waste:** Briquettes
- **Plastic Waste:** Crushed to be used for road construction
- **Glass and Metal:** Sale to Recyclers

Zero Landfill



Component 7.2: Scientific Landfill



CONDITION	1 Star	2 Star	3 Star	4 Star	5 Star	7 Star
	Land for dumping identified either in own city or other city; may not be scientific landfill		Remaining unprocessed waste is transported to Scientific Landfill either within the city or to another city			Only Process rejects are transported to Scientific Landfill either within the city or to another city

MEANS OF VERIFICATION	<p>Star Rating 1 & 2:</p> <ul style="list-style-type: none"> Evidence of identification of land for dumping, in city or other city <p>Star Rating 3 & 4:</p> <ul style="list-style-type: none"> Details of DPR of Scientific Landfill Details of Environment impact assessment conducted for the scientific landfill Log-book of process rejects going to land-fill <p>Incase city is zero landfill</p> <ul style="list-style-type: none"> Evidence showcasing 100% processing of all municipal solid waste
-----------------------	--

Component 7.3: C&D Waste Management



CONDITION

Condition	1 Star	2 Star	3 Star	4 Star	5 Star	7 Star
A. Facilitation of collection of C&D waste from premises of non-bulk generators through mobile collection unit or designated collection points within reasonable distance for generator to bring and deposit			75% of municipal limits covered	100% of municipal limits covered		
B. Facilitation of storage, segregation and/or processing / recycling of C&D waste - 'X' percent of C&D waste generated is stored, segregated and/or processed/recycled within municipal limits in a designated area and/or in C&D recycling plant. Segregation should be in the following five categories: Concrete, soil, steel, wood & plastics, bricks & mortar						
<ul style="list-style-type: none"> • Bulk Generators (generate ≥ 20 Tons/day or 300 tons/month per project) • Non-bulk Generators 			100% 25%		100% 50%	100% 75%
C1. Provisions made for use of raw C&D waste in 'X' percent of municipal/government/municipality approved construction activities in non-structural applications: lower layers of road pavements, inner colony roads, filling of plinth and basement etc.			20%		30%	40%
C2. Provisions made for use of material made out of C&D Waste in 'X' percent of municipal and/or government construction activity (if available) in kerb stones, structural concrete as manufactured aggregate, paving blocks, bricks etc.			5%		10%	>10%

Notification of charges for C&T, P&D of C&D Waste

Component 7.3: C&D Waste Management



- Quantity of C&D waste generated in the city per month
- Copy of C&D waste management plan
- Evidence of separate collection vehicles for C&D Waste
- Copy of notification of charges for collection, transportation, processing & disposal of C&D Waste
- Evidence of quantity of C&D waste stored, **segregated and/or processed/recycled** within municipal limit AND/OR copy of contract of **ULB's** C&D recycling plant with evidence of quantity of C&D waste processed/recycled at designated recycling plant (**ULB/Bulk waste generator**)
- Evidence of quantity of C&D waste being collected from premises of non-bulk generators OR list/mapping along with photographic evidence of collection points within reasonable distance (for star rating 3-7)
- Evidence of use of raw C&D waste in municipal/government/municipality approved construction activities, as per rating condition (for star rating 3-7).
- **Dumping of raw C&D waste in uninhabited or sparsely populated areas without any construction activity will not be considered as use of C&D waste.**
- Evidence of use of material made out of C&D waste in municipal and/or government construction activity (if available), as per rating condition (for star rating 3-7)

C&D Waste Management

Key Policy Interventions



- 35% central assistance under SBM(U)
- In March 2015, **BIS has issued proposed revisions in IS: 383, which will allow use of coarse and fine aggregate derived from processing of recycled concrete as part replacement of natural sand** (18). The amounts permitted, for both coarse and fine aggregate, are;
 - 100 percent in lean concrete (up to M15 grade),
 - 25 percent in plain concrete, and
 - 20 percent in RCC (up to M20 grade).
- CPWD issued guidelines on Reuse & Recycling of Construction & Demolition Waste through a book titled CPWD Guidelines for Sustainable Habitat.
http://cpwd.gov.in/Publication/Guideleines_Sustainable_Habitat.pdf
- CPCB has launched a “Guidelines on Environmental Management of C&D Wastes”
http://cpcb.nic.in/upload/Latest/Latest_171_Final_C&D_March_2017.pdf

C&D Waste Management - Best Practices

East Delhi – C&D Waste Disposal through PPP



East Delhi Municipal Corporation – C&D Waste Disposal through PPP

- Facility setup in 2009 by EDMC in collaboration with private party
- Plant in first phase had a capacity of 500 MTD which was later expanded to cover C&D waste from across Delhi
- Plant produces fine sand, dust and other building construction materials like pavement blocks and curbs stones
- Processing fee for C&D waste is ~INR 205 per ton
- All vehicles used for the facility have been equipped with GPs
- Capex incurred from the project is proposed to be covered over a period of 10 years by deriving value from the processed C&D waste



Component 8: Dumpsite Remediation



Remediation of all identified dumpsites in the city

1 Star	2 Star	3 Star	4 Star	5 Star	7 Star
Yet to start	Plan has been approved including financial closure	Plan has been approved and work commenced	50% work as per remediation project plan has been completed	75% work as per remediation project plan has been completed	100% work as per remediation project plan has been completed

- List of dumps identified in the city
- Copy of approved plan for remediation of all identified dumpsites in the city has been approved
- Evidence of work commenced (copy of contract, detailed project report, etc.) (applicable to star rating 3)
- Evidence of 'X' per cent work completion (copy of completion/ closure report, etc.) (applicable to star rating 4-7)
- In case of **no existing dumpsites within city limits and not dumping waste in shared dumpsites/dumpsites outside city limits**, this criteria will not be applicable and considered as 100% work has been completed.

Dumpsite Remediation

Suggested Interventions



- Carry out an assessment of amount of waste disposed in an unplanned manner and develop a plan for remediation and scientific capping of existing dumpsite

Dumpsite Remediation - Best Practices

Saswad Municipal Council



Volume of dumped waste: 28000 cubic meter
Weight (Approximate): 19600 MT
Land occupied: 2.71 Acre
Sanctioned cost: 66.10 Lakh(236 Rs./ cubic meter)
Actual tender Cost: 54.99 Lakh (196.42 Rs./ cubic meter)
Per Day processing: 300 TPD
30% land reclaimed

Process:

- Digging of Dumped Waste
- Feeding Material & Sorting
- Metal Partial Sorting & Screening
- Ballistic Separation
- Final Treatment of Separated Partials
 - Recycling Material
 - RDF




Reference Advisories



Ministry of Housing and Urban Affairs
Government of India


Swachh Bharat Mission - Urban

Advisory on On-Site and Decentralized Composting of Municipal Organic Waste



Central Public Health and Environmental Engineering Organisation (CPHEEO)
MINISTRY OF HOUSING AND URBAN AFFAIRS
June 2018


Ministry of Housing and Urban Affairs
Government of India



Waste To Wealth

A READY RECKONER FOR SELECTION OF TECHNOLOGIES FOR MANAGEMENT OF MUNICIPAL WASTE

Ministry of Housing and Urban Affairs
Government of India



BULK SOLID WASTE GENERATORS

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

November, 2017

- ❖ Citizen Grievance Redressal
- ❖ Drains & Water Bodies
- ❖ Waste Reduction
- ❖ Visible Beautification

Component 9: Citizen Grievance Redressal



CONDITION

Swachhata App/ equivalent app-based grievance redressal platform (**phone-call based platform will not be considered**) are in place and atleast 'X' per cent of households should have downloaded the App/ equivalent grievance redressal platform AND 'Y' percentage of complaints related to Solid Waste Management received on Swachhata App/ equivalent grievance redressal platform are resolved within SLA

	1 Star	2 Star	3 Star	4 Star	5 Star	7 Star
Swachhata App/ equivalent grievance redressal platform is in place; 5% downloads		5% downloads	10% downloads	25% downloads	25% downloads	50% downloads
10 percent		50 per cent	75 per cent	75 per cent	90 per cent	Above 95 percent

MEANS OF VERIFICATION

- Evidence of number of downloads of App/ equivalent grievance redressal platform equivalent to atleast 'X' per cent of households.
- Log of complaints received on Swachhata App/ equivalent grievance redressal platform in the past
Evidence of redressal of complaints related to SWM within SLA
- Independent verification through visit to sample number of households in each ward of the city

Component 10: Drains and Water Bodies



No visible solid waste in storm water drains and water bodies in 100 percent of premises under ULB jurisdiction

CONDITION

1 Star	2 Star	3 Star	4 Star	5 Star	7 Star
100 per cent of water bodies (including but not limited to ponds, lakes, tanks, rivers, etc.) under ULB jurisdiction	100 per cent of water bodies (including but not limited to ponds, lakes, tanks, rivers, etc.) under ULB jurisdiction	100 per cent of water bodies and storm water drains under ULB jurisdiction			

MEANS OF VERIFICATION

- List/Map of all water bodies and storm water drains
- Parameter will be verified only through independent observation and citizen validation
- Placement of screens/filters where drains are connecting drains/water-bodies and/or at strategic locations to keep out solid waste from entering water-bodies/drains.
- Cleaning schedule of screens/filters

Component 11: Waste Reduction (Only for 7 Star)



CONDITION

Application of 3R Principles in MSWM: Quantifiable reduction in waste generated by the city on a per capita basis, in the past year (previous year from the date of self-declaration)

MEANS OF VERIFICATION

- Log of waste generated on per capita basis for the previous year, prior to date of self-declaration
- Evidence of application of 3R principles in SWM interventions across the city
- *At least 5% of waste generators (excluding BWGs, RWAs) shall have on-site wet waste processing facility (composting/bio-methanation).*

Waste Reduction

Suggested Interventions



1. Reduce

- Reduce/Ban use of plastics and disposables in the city
- Motivate shopkeepers/vendors to tie-up with eco-friendly bag vendors and introduce an incentive for adoption of this approach
- Introduce Extended Producer Responsibility in accordance with SWM Rules 2016

2. Reuse

- Achieve 100% source segregation
- Establish Material Recovery Facilities across the city
- Establish a deposit refund system

3. Recycle

- Carry out awareness campaigns regarding 3R
- Establish recycle marts in collaboration with organisations/individuals working in the recycling space

Component 12: City Beautification (Only for 7 Star)



CONDITION

- Well-maintained, pot-holes free and encroachment-free roads and pavements with proper signage and no debris
- Proper Landscaping of Green areas
- Well-lit public places
- Visible beautification of city, including repairs and maintenance of public places under ULB jurisdiction to achieve a clean and aesthetically pleasing city (At least 1 project in each ward). Indicative list:
 - High quality and adequate street furniture
 - Paintings in public areas
 - Landscaping/ creation of parks beneath flyovers
 - Creation of green spaces around the city
 - Incorporation of local art, culture and heritage elements



MEANS OF VERIFICATION

- Parameter will be verified only through independent observation and citizen validation
- No flex banners/unauthorized posters in public areas





एक कदम स्वच्छता की ओर

Thank You



Ministry of Housing
and Urban Affairs
Government of India