



Advocacy - Governance - Renewal

Integrated Solid Waste Management Policy for Greater Mumbai 2016-2021

Introduction:

In order to constructively resolve the complex issue of managing solid waste for a burgeoning metropolis like Greater Mumbai, NAGAR would like to present its views for an Integrated Solid Waste Management Policy.

The following statistics are important to note:

- As per MCGM's Environment Status Report 2013 – 2014,
- Solid waste generated in Greater Mumbai is 10,060 metric tonnes per day which directly goes to the landfill. Consequently, solid waste generated by the city annually results in $10060 \times 365 = 36,71,900$ tonnes.
- The population of Greater Mumbai, as per the 2011 census, is 1.20 crores. The floating population is approximately 30 lakhs or even more!

Given these facts, it is quite clear that the current policies of the MCGM for waste management are hugely inadequate. They have led to the dumping grounds reaching crisis levels and garbage dumps littering the city putting Greater Mumbai at an enormous risk of a health disaster!

Urgent Change in Focus & Methodology:

It is therefore vital that MCGM changes its current method of collecting waste and disposing it long distance to dumping grounds. Instead MCGM must put in place systems whereby segregated waste is collected simultaneously in two vehicles – one for wet waste and one for dry waste – both travelling and collecting together. Disposal of this segregated waste must be decentralised at the Municipal Ward level. Awareness campaigns must be conducted by MCGM with the help of NGOs to educate citizens about the why and the how of segregating waste.

MCGM must formulate its plans in a way that encourages private entities (including Start-ups) to become part of Mumbai's Solid Waste Management team. The MCGM must get out of the role of Collector, Disposer and Processor of Solid Waste in the long run and remain mainly a Facilitator and Regulator. Only inert waste must remain the responsibility of the MCGM. This can be done in a phased manner over 5 years – 2016-2021.

To achieve the above a holistic plan must be put in place by MCGM by dividing each Municipal Ward into grids for practical collection of waste by MCGM/Private entities. Each Ward must have allocated site/s for segregation and composting/processing of wet waste. Dry waste should be disposed off via Recyclers from these allocated Ward sites. There should be absolutely no solid waste on the streets of the city.

A special mechanism for enforcement of segregation and its handling and processing must be worked out by the MCGM. Laws and Rules may need to be amended for the plan to work efficiently and also to encourage Private Entities, including Start-Ups, to become partners in Waste Management.

Time Line:

1. **April 2016 to March 2021** - Reduction of waste being sent to landfills in a phased manner over 5 years. Thus almost zero waste to be sent to dumping grounds by 2021. Finally only inert waste should be sent to dumping grounds.
2. **31, May 2016** - Deadline for formulation of the official policy
3. **31, May 2016** - Policy of "**reduce-reuse-recover-recycle-think!**" to be given wide publicity by MCGM with the help of NGOs and Citizen Groups so that it becomes a way of life of Mumbaikars.
4. **30, June 2016 onwards** - Segregation of waste a MUST at household, Institutional and commercial establishments
5. **31, December 2016** for complete implementation of segregation at household, Institutional and commercial establishments

What MCGM needs to do:

- Eliminate waste collection bins from streets; provide and maintain small dust-bins at prominent places on streets marked as dry and wet.
- Dedicate helplines to receive complaints against waste being dumped on streets; enable citizens with a system called "*Swachhta mitra*" similar to "*police mitra*". "*Swachhta mitra*" will have direct access to the desk of Chief Engineer (SWM) and can send photos of persons who throw waste on streets / spit / defecate, etc.
- Set up a special mechanism for enforcement of segregation and its handling and processing
- Create awareness and encourage citizens to use helplines to alert MCGM on dumping of waste; It would be helpful if this system is implemented in a decentralized manner, i.e. SWM department at ward level
- Penalize fake complaints by individuals / organizations

- Create tracking system on MCGM website / MCGM App / through SMS to know status / location of dry and / or wet waste whichever collected from households / bulk generators (if any)
- Show no apathy towards complaints; Similar to Traffic Department's Website, names of the bulk generators throwing waste on streets / mixing waste / not processing waste scientifically must be posted on MCGM's website as blacklisted, they must be debarred or their license cancelled
- Stringent penal provisions for littering on roads must be in place. No exceptions must be made, be it a electoral representative / political party worker/affiliate or a government official!
- Not to disclose and keep confidential the name of the person/s sending in complaints to the MCGM
- Highlight genuine complaints on the website ward-wise with the ward officer's remarks / action taken
- Include citizens in the process and always keep them informed

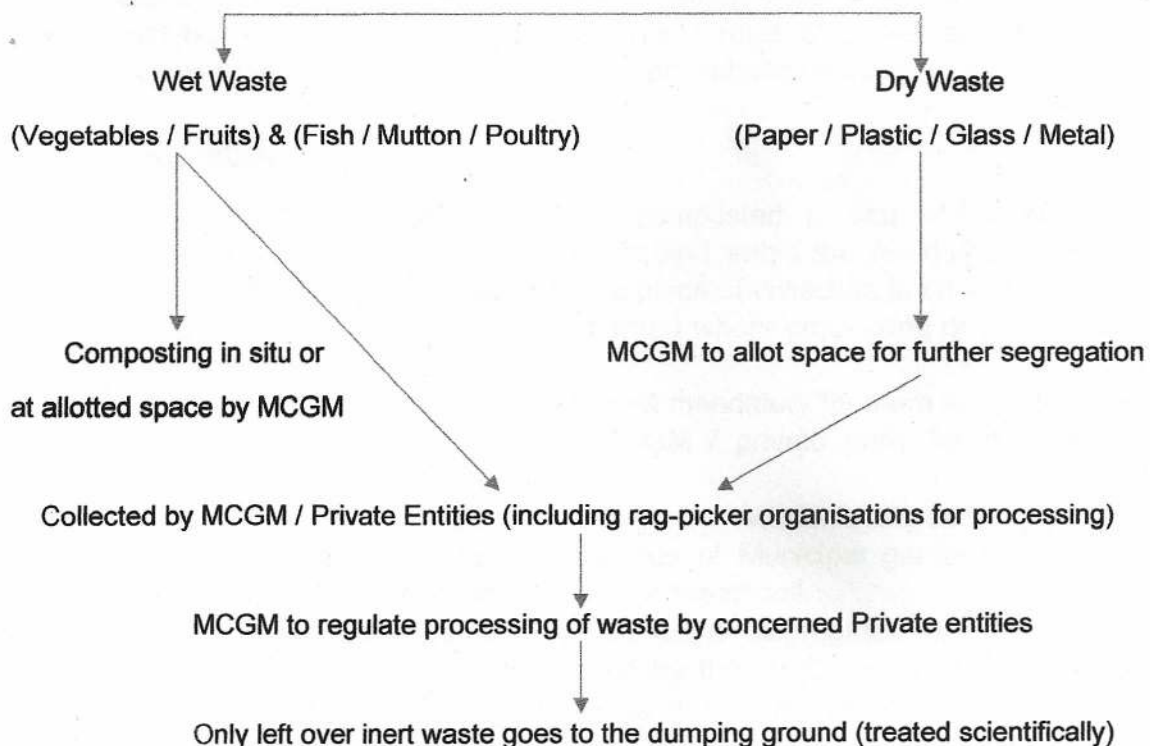
Organogram:

Based on responsibility and profit- sharing; creating a win-win situation

Management of Solid Waste

Bio-degradable & Non-biodegradable (plastic, metal, bio-medical, debris, hazardous, inert)

(To be segregated at source by citizens & bulk waste generators)



Segregation

- Segregation of dry waste (non-biodegradable) from wet waste (biodegradable) must be done at source, whether at a bulk generator level or domestic level.
- Further segregation of dry waste can be done by organised private entities in the allotted site provided by the MCGM within each Ward preferably within the radius of 5 kilometres from the place of collection
- If waste is not segregated at source, the waste should not be collected till segregation is done and non-compliance must be penalized.
- Penalize both the bulk generator as well as domestic waste generators. But penalty for bulk generator must be more than that of domestic waste generators. Penalty could be in terms of fines or non-collection of the waste.

Collection:

- New start-ups must be encouraged and collection can be done under public-private partnership. Infrastructure can be provided by private parties and collection done initially by MCGM. Where infrastructure and collection services are provided by private entities MCGM must facilitate and monitor the entire process.
- Only those registered companies with a good track record of quality infrastructure and efficient services enlisted by the MPCB / CPCB must be authorized to provide infrastructure and collection services.
- Public Notification must be published to seek suggestions and objections from the citizens on the Conditions / Terms of Reference laid down for providing infrastructure and collection services or either. After which, the agreement must be finalised. Official Agreement with names of private entities and all necessary documents must be available on website for citizens' information.

Processing a 'MUST':

- Wet waste (biodegradable) can be composted in situ where space is available. If not, then MCGM must allot land within the Ward and preferably within a radius of 5 kilometres from the place of collection in order to set up a composting unit. Citizens must be charged where processing of wet waste is done by MCGM / private entity.
- For bulk generators, MCGM must make it mandatory for them to compost wet waste in situ or pay user fee to MCGM / private party for collection & processing of wet waste.
- The composted waste must be sold to the MCGM's Garden department where it can be utilised for maintenance of Municipal gardens or sold to nurseries or entrepreneurs who provide fertilised soil.
- Dry waste (Non-biodegradable) can be further segregated for recycling and reuse. Recycling plants can be set up by the MCGM or by private parties enlisted by MPCB / CPCB. The durability of such processed material must be

clearly mentioned with the date of manufacturing, expiry and recycling on the product itself.

At the Landfill:

- No waste other than inert waste must be dumped at the landfill.
- MCGM must scientifically treat inert waste as per the guidelines provided by the MPCB & CPCB

How it must be done:

To be implemented in decentralized manner by MCGM (in Calendar year)					
Year Activity	2016 – 2017	2017 – 2018	2018 – 2019	2019 – 2020	2020 – 2021
Awareness	100	100	100	100	100
Segregation at source	100	100	100	100	100
Collection	100	100	100	100	100
Transportation	100	100	100	100	100
Acquire & allot land for composting	100	100	100	100	100
Acquire & allot land for further segregation	60	80	100	100	100
Processing	60	80	100	100	100
Reduce waste by (at source)	60	80	100	100	100
Reuse waste	60	40	20	10	5
Inert waste residue	50	40	30	20	5
Reduction of waste at landfills	60	80	100	100	100

*Figures in percentage

Explanation to the Table above:

1. Policy of “**reduce-reuse-recover-recycle-think!**” to be given wide publicity by MCGM with the help of NGOs and Citizen Groups so that it becomes a way of life of Mumbaikars.
2. Segregation at source should be done completely, i.e. 100%
3. Collection should be done completely, i.e. 100%
4. Transportation should be done completely, i.e. 100%
5. Acquire & allot land for composting should be done completely, i.e. 100%
6. Acquire & allot land for further segregation should gradually increase, so that by 2019 it is complete, i.e. 100%
7. Processing will also take time to do it in scientific manner. It should gradually increase, so that by 2019 it is complete, i.e. 100%
8. Reduce waste (at source) by 100% till 2019, i.e. waste must gradually march towards zero waste and achieve it in 2019.

9. Reuse waste: it is necessary to reduce waste rather than keep reusing it! Recycling for reuse comes with an expiry period. So it should gradually decrease. Hence, reuse of waste should be negligible by 2021 but for practical reasons it is targeted at 5%.
10. Inert waste residue that will be dumped at the landfill must go on decreasing. It should be negligible by 2021 but for practical reasons it is targeted at 5%.
11. Reduction of waste at landfills is calculated similar to "Reduce waste by 100% till 2019"

Infrastructure to be put in place by MCGM:

1. Land site – for further segregation of dry waste, weighing, storage, processing & treatment plant for inert waste & landfill and for Composting of Wet Waste
2. Collection vehicles (separate for wet & dry waste). To be phased out as and when Private Entities get involved.
3. Compactors
4. Road cleaning vehicles
5. Weighing machines
6. Processing units & equipment

Human Resource Required by MCGM initially:

1. Collection vehicle workers
2. Road sweepers
3. Segregation workers
4. Law enforcement personnel

Energy / Power:

1. Clean fuel for all vehicles used
2. Processing plants – biogas / recycling. **No incinerators**
3. Treatment of Inert Waste

April, 5 2016