

ht for mumbai

FILTH CITY

CONCLUDING PART



WHILE THE VOLUME OF SOLID WASTE GENERATED IN THE CITY INCREASES EVERY YEAR, WASTE PROCESSING MECHANISMS HAVE NOT KEPT PACE. IN A FOUR-PART SERIES, HT EXAMINES ISSUES SUCH AS OVERFLOWING LANDFILLS, THE CITY'S GARBAGE FOOTPRINT, NEW PROBLEMS CAUSED BY E-WASTE – AND DISCUSSES SOME ALTERNATIVES

Micro measures, macro results

WHAT NEXT To manage city's waste successfully, BMC must encourage people to take steps at the level of hsg societies, ALMs: experts

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MUMBAI: The civic body's latest circular lists an ambitious plan to collect 100% of the city's waste on a door-to-door basis and segregate it. Housing societies have been asked to spruce up their waste management plans, or face a fine of up to Rs50,000.

While this sounds promising, the Brihanmumbai Municipal Corporation's (BMC) enthusiastic circular, which has its origins in the Municipal Solid Waste Rules, 2000, activist said it has failed in two crucial ways: It does not introduce any incentives in the new property tax regime for housing societies to carry out smarter waste management, and it fails to identify land in each ward where garbage can be micro-managed.

Citizen activists from Advanced Locality Managements (ALM) said given that the BMC manages to segregate only 15 per cent of its daily garbage, the penalty levied is both pre-mature and uncalled for. "The circular shows positive intent, but Rs50,000 is too high. Citizens and housing societies may approach corporators to intervene when slapped with fines, which might complicate matters again," said GR Vora, member, F-north ward citizens' federation. "The BMC should instead utilise the services of ALMs and co-ordinate better to manage waste at local levels. If ragpickers are organised better, the BMC will benefit economically and socially."

Incentivisation, according to some activists, may prove to be a catalyst. "In Pune, the municipal body provides tax exemptions to housing societies and this has worked. The BMC should try it in Mumbai, at least for a while," said Jyoti Mhapsekar, president, Stree Mukti Sanghтана.

BMC officials said that while it has set segregation targets for 2014, concerned officers at the ward level will draw up plans to micro-manage the garbage generated in that ward as part of the decentralised waste management. Ward-level officers say they have other priorities such as water supply and sanitation, and garbage segregation and management will eventually be addressed.

"We are waiting for reports from all ward-level officers, who have been asked to identify plots of land where decentralised waste management can happen," said Prakash Patil, deputy municipal commissioner (solid waste management). "Some ALM's are already doing this and we look forward to partner with many others, but rigorous implementation of garbage segregation in housing societies is the first thing we have to ensure for better waste management."

Some activists such as environmentalist Rishi Agarwal believe the solutions are merely meant to gloss over the persistent discrepancies. "The discussion now needs to change from BMC's failures to how citizens can make it enforce its responsibilities. These solutions are not new," said Agarwal.



case studies

'Our waste does not travel into the city'

At the Tata Power employee colony in Chembur, wet waste generated — from fallen leaves to vegetable peels — is put into a shredder every day. Once broken into bits, it is transferred to an organic waste converter and comes out as manure, which used in the complex's gardens and flower pots.

Tired of waiting for the civic body to give them licences to throw waste directly at the nearby Deonar dumping ground, the residents' association decided to process waste on its own premises.

"Our colony houses 540 families. We opted for this system as BMC's collection was erratic and caused a garbage pile up in the area. We had tried processing waste in compost pits earlier, but they attracted a lot of vectors,

rodents and dogs," said Pradeep Manjrekar, a resident. "So we hired these machines. The money was sourced from the colony's civil upkeep fund and partially from the company's sustainability fund."

The waste is segregated at each household and collected by hired workers who take it to the machine shed.

Around 90kg of organic wet waste and 200kg of leaf litter is generated every day from the colony; the conversion process creates around 150kg of manure. The waste is put into the shredder in batches of 5-7kg, and it takes about 15 minutes to convert it into manure. Around one unit of energy is



■ The Tata Power employee colony in Chembur converts 200kg of wet waste into manure every day. This is used in their gardens and flower pots. PRAFUL GANGURDE

consumed to crush 50kgs of waste and leaf litter.

The small processing unit serves the dual purpose of waste management and manure production, a fact residents are thrilled with. Jyoti Mistry,

who lives there, said, "Ever since this manure has been made available, I have taken interest in gardening and I come to collect the manure regularly. Most importantly, our waste does not travel outside into the city."



■ Julius Rego gave up his business to teach and set up an organic farm.

'30% OF THE FOOD IN MY KITCHEN IS FROM MY GARDEN'

After working as a medical representative and running a business for two decades, Airoli resident Julius Rego decided to pursue a life-long passion — gardening and teaching schoolchildren about the environment.

Rego undertook two projects: reuse as much household plastic as possible and make kitchen waste productive.

His home-made manure, created from kitchen scraps and dry leaf litter, is enough to support ornamental plants and herbs. In the past two years, the 53-year-old has turned his front yard into an organic garden, and has taught composting, organic gardening and vegetable farming at various schools and colleges around the city for a year now.

"I enjoy working with soil and mud. I have grown more than 200 plants and about 30% of the food in my kitchen comes from my garden," said Rego.

Rego's four-member family generates about half a kilo of wet waste every day and all of it goes into the gardens. The manure is produced inside his home, but doesn't attract flies or mosquitoes. In a cardboard container, four layers of wet waste are overlapped with dry leaves to absorb the moisture and stem the odour. The process is slow — about three to four weeks long — but it involves no expenditure.

Using the no-till, no dig method, Rego roots all his plants, herbs, and vegetables in reusable plastic such as containers, bottles, cooking oil canisters, broken plastic pipes and even old cloth bags. His household wastes next to nothing, and the only things they buy regularly are soil and seeds. "While growing up in Belgaum, we had space to grow fruits and vegetables. But in a city, one must optimise the use of available space."



■ The Maheshwari Nagar Federation has been running a composting programme in its locality for six years. KALPAK PATHAK/HT

'Area is now a mini biodiversity hotspot'

It's 12.15pm at a housing society at Maheshwari Nagar, Andheri (East). A group of workers plough through a heap of vegetable skins and food waste, picking out plastic wrappers and paper. Soon, wet waste from 500-odd apartments in the area will be brought, and layered into five separate compost pits.

Sabrina Kannampilly, a resident from one of the buildings holds up a fistful of soil from a pit. "Smell this, it is completely odourless and ready to be used as manure," she says.

With sustained efforts by residents, the Maheshwari Nagar Federation has been running a composting programme

in its locality for six years now. Funded by their MLA Suresh Shetty and former corporator Clive Dias, around 160 kilograms of wet waste is put into the pits every day.

"We first started basic compost pits, then moved to the pits we now use. The wet waste from most of the Kondvita area comes here to be turned into manure and used in the adjacent municipal garden - Vrindavan," said Kannampilly.

Vrindavan garden has about 150 trees, home to 25 species of birds, residents say. "This place has become a mini biodiversity hotspot," said Uday

Vijayan, secretary of the federation. The federation has employed two workers from the Stree Mukti Sanghтана, a co-operative of waste pickers to maintain the pits. "The output from the waste is only 10%, but sufficient for use in the garden," said Malati Rai, another resident.

There group does have some detractors though. "We still have people who don't segregate waste and hence the pits contain a lot of plastic and paper, which has to be manually pulled out. But by and large, we are happy that the waste management functions smoothly," added Vijayan.

'It is amazing to see a barren patch turn green'

A compulsory component on environment studies did not garner much enthusiasm from the first-year students at Kamla Raheja Vidyaniidhi Institute for Architecture and Environmental Studies in the beginning.

But in the past few weeks, their work has borne fruit. They now will harvest the vegetables they grew in manure they created from waste.

The assignment on urban waste management and urban farming was designed by assistant professor Shweta Wagh. "We started in August last year by composting vegetable skins sourced from the canteen and dry leaves from around the campus and a nearby park," said Wagh.

Around 80 students from the first year are involved in the assignment presently. Bamboo, plastic bottles, plastic glasses and wet waste are used in

the bins to help grow the vegetables. Bamboo used for modeling assignments in the past were used to make trellis stands for the creepers. Plastic bottles are used for drip irrigation; plastic cups are used to hold small quantities of wet waste and dry leaves.

"We planted methi, shepu, spinach and brinjal. It is amazing to see how a barren patch of soil and dry leaves has turned green slowly. We are enjoying the assignment," said Deepti Patil, 18, a student.

After the initial success of composting and urban farming, the faculty is now planning to scale this up by integrating waste segregation on a large scale and create a zero waste campus. "Presently, waste segregation is inconsistent. We plan to install bins near the canteen where lots of wet waste can be sourced for composting," added Wagh.



■ The students of Kamla Raheja Vidyaniidhi Institute for Architecture and Environmental Studies planted herbs and vegetables after creating manure from campus waste.

HT GRAPHIC: SWATI