

# Burning trash, choking air: How Mumbai civic agencies took their eyes off waste mountain

## No one fined for garbage burning in 17 years, no localised bio-methanation plants — these contributed to dirty air

No marshals to monitor garbage dumping, no segregation of waste in slum clusters and non-gated societies, no localised bio-methanation plants, and no penalty for burning garbage — inaction by the Brihanmumbai Municipal Corporation (BMC) on several fronts over the last couple of years has resulted in a [sharp dip in air quality in the city this year](#), much before the onset of winter.

The BMC's [Mumbai](#) Air Pollution Mitigation Plan (MAPMP) released in March this year has identified garbage and solid waste burning in the open as one of the top five sources of [air pollution](#). The other four are: dust arising from construction site and construction debris, road dust and its displacement, usage of unclean fuels in restaurants, dhabas, bakeries and roadside eateries, and a range of industries including those using ready mix concrete plants and casting yard plants.

An Express Series '[Death by Breath](#)' launched on October 19 reveals how rising pollution levels in Mumbai over the years has exposed its people, particularly young children, to health hazards with adverse long-term consequences. Over the following days and weeks, the newspaper will report on all aspects of the city's air pollution crisis and the possible solutions and interventions needed.

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One of the key aspects of solid waste management relates to segregation given the increasing quantum of garbage collected by the civic body every year. In 2022-23, BMC collected an average of 6,385 metric tonne a day (MTD) garbage from its 24 municipal wards, 15 per cent more than 2021-22.

While BMC's waste segregation is restricted to residential buildings and gated societies, more than one-fifth of the waste is collected from just three wards (L, G/North, K/East). Dharavi, the largest slum cluster in the country, falls in Ward G/ North. An official said, "In slum clusters, segregation of waste is not carried out due to lack of awareness. As a result, most people burn the waste."

Open burning of garbage and solid waste tends to make the air toxic which poses a serious health hazard. "The solid waste being burnt mainly comprises plastic, rubber, polyethylene and paper. Fine particles emitted from these become pollutants which get mixed in the air and make the atmosphere toxic.

The fumes may also lead to formation of carcinogen which causes [cancer](#); thus it can expose a huge base of people including those belonging to vulnerable categories to serious health threats," Dr. Jalil Parkar, Pulmonologist at Lilavati Hospital told [The Indian Express](#).

No marshals to monitor, no penalties

If the first step in waste management — segregation — is half-done, monitoring has hardly received any attention. In the past, Mumbai has had clean up ‘marshals’ — troops appointed through private agencies to monitor and fine the public for littering, garbage dumping and burning on public spaces. Marshals were first introduced in Mumbai in 2007, but the city doesn’t have any now since the contract with the private agency, which provided manpower, lapsed 18 months ago in March 2022.

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When contacted, an official from the civic body’s Solid Waste Management (SWM) said, “A proposal to deploy 30 marshals per municipal ward has been chalked out and the draft has been sent to the Municipal Commissioner. We are expecting the approval within a week following which agency will be appointed.”

So, no marshals, no monitoring, and hence no action. Consider this: As per BMC bye-laws cleared by the state in December 2006, the penalty for disposal of waste by burning was set at Rs 100. Over the last 17 years, while there has been no revision in the penalty amount, the civic body does not have records of any penalty imposed so far either.

An official from the Solid Waste Management department of the BMC said, “Till now, no penalty has been imposed on anybody for burning open garbage, therefore, there is no record for the same. After the MAPMP guidelines came out, we also checked with the ward offices regarding this... In Mumbai, horticultural waste i.e., shrubs and herbs, are also burnt openly. Technically they can’t even be labelled as solid waste.”

Seven years ago, the National Green Tribunal (NGT) had in 2016 ordered a nationwide ban on open burning of garbage with a penalty of up to Rs 25,000, labelling it as a major source of air pollution. In its MAPMP this March, the BMC had said the current penalty under the Mumbai cleanliness and sanitation bye-laws would be increased, however, it is yet to be done.

The MAPMP had also said inspection drives will be carried out to identify open spaces where garbage burning is a regular phenomenon and nuisance detectors would be deployed at the ward level to act against those seen dumping and burning solid waste, and littering on roads.

But nothing has moved on the ground. As BMC turned its gaze away, pollution levels jumped in the city. In October this year so far, Mumbai has recorded a 45 per cent increase in PM 2.5 components compared with October last, according to the Central Pollution Control Board (CPCB). In January and February this year, CPCB data shows a jump of 22 per and 25 per cent in PM 2.5 components, respectively. Of course, the primary sources of PM 2.5 are garbage burning, vehicular emission and combustion, unlike PM 10, which are major fine particles displaced from construction activities.

Abhishek Chakraborty, Professor at IIT Bombay, said activities like open burning of waste are one of the many primary sources for PM 2.5. “The burning spots act like chimneys through which smoke gets dispersed out in the open atmosphere. Items like plastic aren’t very combustion friendly and the emission released interacts with the moisture, makes the air hazardous and very toxic to breathe,” Chakraborty told The Indian Express.

Agrees Gufran Beig, senior scientist and project director of System of Air Quality and Weather Forecast and Research (SAFAR). “Activities like these are very hyperlocal... They take place in areas like Deonar and Govandi, which house the city’s largest landfill. Hence the AQI in these

locations are doing pretty bad even when the city's overall AQI is hovering around the moderate category," he said.

Mumbai has two operational dumping grounds — Deonar, the largest, has been operational since 1935, and Kanjurmarg, in operation since 2011. Dumping of solid waste in Gorai and Mulund landfill was stopped in 2009 and 2018, respectively.

## **What will stop garbage burning**

According to the BMC's latest Environment Status Report, organic food comprises 72.6 per cent of the total waste; sand, stone and fine particles 17 per cent; organic dry waste like wood and cloth 3.5 per cent, and items like plastic, recyclable metals and papers 6.5 per cent.

Rishi Aggarwal, Director, Mumbai Sustainability Center, said since the lump sum waste comprises food items, it poses risk of catching fire. "Food waste gets decomposed easily and during this process methane gas and heat is generated due to which fire catches easily at the landfills. This could be avoided if the BMC sets up bio-methanation plants or CNG units in its dump yards. This would help not only process waste but also generate usable energy," he said.

Experts said lack of responsible waste management is a key reason why people burn garbage. If the civic body focuses on a decentralised waste treatment plan, the problem could be solved.

"Most people who burn waste in the open are from lower income groups and do it due to lack of awareness. Many do this voluntarily since the BMC vans don't pick up their waste and these people don't know any other way to dispose of the waste except burning," Aggarwal said.

"If the BMC can set up a bio waste treatment facility in each municipal zone, then the bulk of waste being transferred to the dumping ground would reduce automatically," he said.

Rajkumar Sharma, who is part of the court appointed six-member steering committee working towards chalking out a solution to landfill waste burning said, "In Mumbai, many residents are compelled to burn solid waste on their own. BMC charges a hefty amount for trimming trees on private compounds. Therefore, during the autumn season, many burn leaves that fall from their trees inside their own compound as they find it expensive to ask the BMC to get the job done."

Experts said open garbage burning activities in neighbouring districts of Navi Mumbai, Uran, Kalyan, Bhiwandi and Thane, also contribute to air pollution in Mumbai. Bhagwan Kesbhat from Waatavaran foundation said a holistic policy to counter waste management is the need of the hour. Unless authorities start implementing penalties on violators, the issue cannot be solved. "Air has no boundary, therefore, all stakeholders including those from neighbouring municipal corporations and private entities need to come together. We are still in a stage from where the situation could be tackled easily, but if we continue to ignore it, then the problem will get worse and may end up costing human lives," he said.

Sanjay Thakur, a 57-year old resident of Khopta in Uran, said those who burn garbage in the open are rag pickers and people from Low Income Groups. "Most waste burnt happens to be plastic and thermocol items; they burn it during the day because there's no adequate facility to dispose of these. Due to this many residents have respiratory illness. My own children have been coughing non stop for the past few weeks," he said.

When contacted, Sudhakar Shinde, Additional Municipal Commissioner told The Indian Express, “The process of drafting new guidelines to curb pollution is underway. We are also working towards introducing heavy penalties. The draft is being formulated in coordination with municipal and planning authorities of neighbouring districts. Once we release our plan, it is likely to be replicated by everyone.”