



At a Glance

WASTE IN INDIA

Urban India's solid waste is a mix of **organic waste, sanitary waste, household injurious and hazardous waste, construction and demolition (C&D) debris and e-waste**. A huge network of **waste pickers, kabariwallahs and recyclers** handle a sizeable portion of the waste.

THE CRISIS

- Despite 16 years of solid waste management rules, most Indian cities have failed to dispose their waste properly.
- There is **no accurate data** on the amount of waste generated in urban India, or clear methodology to procure it.
- There is **no system for separate collection of debris or management of sanitary waste**, covered under the Solid Waste Management Rules, 2016.
- **Improper waste handling and disposal** can lead to water- and mosquito-borne **diseases**, respiratory difficulties, cardiovascular risk, allergies, altered immunity, and cancer.
- **Open waste burning emits** carbon monoxide, particulate matter, nitrous oxides and **carcinogenic hydrocarbons, dioxins and furans**.

A WASTE OF SPACE

According to the erstwhile Planning Commission, the projected waste generation of 165 million MT by 2031 will require landfill space of 66,000 ha – the size of 66,000 full size football pitches – piled 10m high, every day.

MOUNTAINS OF GARBAGE

- Urban population in India: 377 million (31% of total)
- Urban population by 2031: 600 million
- Annual municipal solid waste (MSW): 62 million MT
- Annual MSW by 2031: 165 million MT
- Daily MSW in Delhi (2015): 8,700 MT
- Daily MSW in Mumbai (2015): 11,000 MT
- Daily MSW in Kolkata (2015): 4,000 MT
- Daily MSW in Chennai (2015): 5,000 MT
- Daily MSW in Bangalore (2015): 3,700 MT
- Highest waste/ day: 17,000 MT (Maharashtra)
- Lowest waste/ day: 40 MT (Sikkim)
- 100% waste collection: Andaman & Nicobar, Punjab, Tamil Nadu
- Lowest waste collection: 20.4% (Himachal Pradesh)
- Lowest waste treatment: 1.6% (Odisha)
- Solid waste recycled by informal sector: 66%
- Informal waste pickers (Delhi): 40,000–45,000
- Average per capita waste per day: 450 gm (approx.)
- Waste collected (% of total generated): Less than 60%
- Waste processed/ treated (% of collected): 15%
- Average compostable matter (Class I cities): 38%
- Average monthly menstrual waste in cities: 9,000 MT
- Annual plastic waste in India: 5.6 million MT
- Annual e-waste in India: 1.5 million MT
- Percentage of construction and demolition debris in MSW: 10%
- % urban India with waste processing facilities: 7.8%
- Urban microbial compost plants: 279
- Urban vermin-compost units: 138
- Urban bio-methanation plants: 172
- Urban RDF processing plants: 29

THE LAWS

- **The 12th Schedule of the Constitution (74th Constitutional Amendment Act) and State laws** stipulate management of solid waste as a primary function of municipal bodies.
- Despite the **Municipal Solid Waste (Management and Handling) Rules, 2000**, only 7.8% of 7,935 urban centres had waste processing facilities by 2012.
- The **Solid Waste Management Rules, 2016**, apply to municipal areas as well as rural areas, urban agglomerations, census towns, notified industrial townships, and airports.
- The **National Environment Policy (NEP), 2006**, proposes an action plan for solid waste management as well as measures to include local bodies and informal waste pickers.
- The **Hazardous Wastes (Management, Handling & Trans-boundary Movement) Rules, 2008** define the management, treatment and disposal of all such waste.
- **The Swachh Survekshan, which is the world's largest cleanliness survey, covered 4237 cities in 2019 and the cities were evaluated on the basis of the Star Rating protocol based on 12 parameters for waste handling..**
- The Union Ministry of Environment, Forests and Climate Change has recently notified the **Construction and Demolition Waste Management Rules, 2016**.

GOING FORWARD

- Solid waste management policies must be based on the principle of **waste reduction**.
- **Waste management must be decentralised, and include the informal sector.**
- **Technologies, such as incineration, that impact livelihoods should not be promoted** or adopted.
- **Extended Producer Responsibility (EPR) must be prioritised** and monitored. Producers must innovate products with minimal impact on the environment.
- **The public must be educated through large-scale campaigns** on the benefits of segregation at source.
- Municipalities must **collect each type of waste separately** and treat them accordingly.
- **Smart cities** must be built around the concepts of inclusion, sustainability and zero waste.
- **Research and development** in the solid waste sector needs to be undertaken in India. Unlike developed countries, our solutions may not come from high-tech waste facilities.



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