Unveiling the urgency: the looming crisis of plastic waste management

There has been a massive boom in India's industrialization pace, and it has contributed to one of the biggest challenges our country is currently facing- **plastic waste management.** Overflowing landfills, choked sewers, contaminated water bodies- all of these are posing a threat to the public health, environment and sanitation.

Plastic waste generation in India

As per the data by the Ministry of Environment, Forest and Climate Change, India currently generates 62 million tonnes of plastic waste (both recyclable and non-recyclable) with an average growth rate of 4% every year. 0.025 million tonnes of plastic waste are generated every single day and are expected to increase to 34 MT per year by 2031.

As per a report by Swachh Bharat Mission, 1.45 lakh tonnes of municipal solid waste are generated in urban India every day. Only 23% of this waste is processed or treated, and the rest 72% is dumped in landfills openly.

Seven types of plastic waste of different materials and grade

Plastic Waste	Types
PET or Polyester (Polyethylene Terephthalate)	Soft drink bottles, water bottles, textiles, food containers, polyester clothing
High-Density Polyethylene Plastic (HDPE)	Milk jugs, detergent bottles, shampoo bottles, plastic crates, pipes, toys
PVC (polyvinyl chloride)	Construction materials like sidings, pipes, flooring; medical tubing, wire and cable insulation, credit cards
Low-Density Polyethylene (LDPE)	Grocery bags, bread bags, cling wrap, garbage bags, squeeze bottles
Polypropylene Plastic Type (PP)	Yogurt containers, straws, bottle caps, takeout containers, furniture, medical packaging
Polystyrene plastic type (PS)	Disposable cups, plates, cutlery, meat trays, packaging peanuts
Other plastic types	Nylon, acrylic, polycarbonate, ABS, Teflon

Waste segregation is the biggest challenge

The process of waste segregation requires simplification. One of the best ways to do that is by improving the wet and dry waste management processes which in turn eliminates the initial process in the waste value chain.

In Indian cities, people often throw wet and dry waste together. This includes garbage sourced from city-level waste like homes, businesses, and industries. As a result, waste segregation poses a significant challenge due to a lack of awareness, inadequate infrastructure, improper disposal, weak policy implementation, limited public participation, informal waste value chain and resource constraints.

Garbage is disposed of in a rather unconstrained manner. For instance, the way plastic items like bags and containers are simply thrown away without considering the consequences.

These plastic items can get stuck in unwanted places, causing floods to occur like during the rainy season. Plastics are non-biodegradable and they also lead to temperature rise as they get buried in landfills, oceans, and other ecosystems.

Therefore, plastic waste is an issue due to its accumulation leading to other problems like clogged drains, consumed by wild animals, etc.

Addressing these issues requires a comprehensive approach. It requires focusing on public awareness, improved infrastructure, strict policy enforcement, and community engagement to enhance the efficiency of waste management practices in the country.

Exploring the waste management models of the three cleanest cities in India

According to a Cleanliness Survey or Swachh Survekshan Awards 2022, the cleanest cities with a population of more than 1 lakh people were Indore, Surat, and Navi Mumbai.

- **Indore** successfully manages its garbage waste and distribution process. Garbage segregation in this city is 100% as the city segregates garbage under six categories, instead of just two. These include:
  1. dry waste
  2. wet waste
  3. domestic hazardous waste
  4. Domestic Bio-medical waste
  5. E-Waste
  6. Plastic Waste

- **Surat** follows the 3 Rs motto, namely Reduce, Reuse, and Recycle. Garbage collection is done door-to-door while waste segregation is managed at home. The Surat Municipal

Corporation collects waste, transports and treats it daily. This amounts to around 1800 Metric tonnes of solid waste every day.

- **Navi Mumbai** is the third cleanest city in the country. The Navi Mumbai Municipal Corporation (NMMC) set up sewage treatment plants where the Koparkhairane and Airoli plants can recycle up to 20 million litres a day and supply purified water to industrial units.

  The civic body also started the zero-waste slum model which involved door-to-door waste collection in five slums. The wet waste is collected and disposed of at compost peats in the same area.

Currently, several cities across India are becoming more conscious towards **plastic waste management** due to an overall increased focus on hygiene post-pandemic. Nepra is India's leading waste management and sustainability Solutions Company, and we have introduced tech-driven solutions and state-of-the-art infrastructure to ensure sustainable waste management.