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Integrated solid waste management: Need of the hour

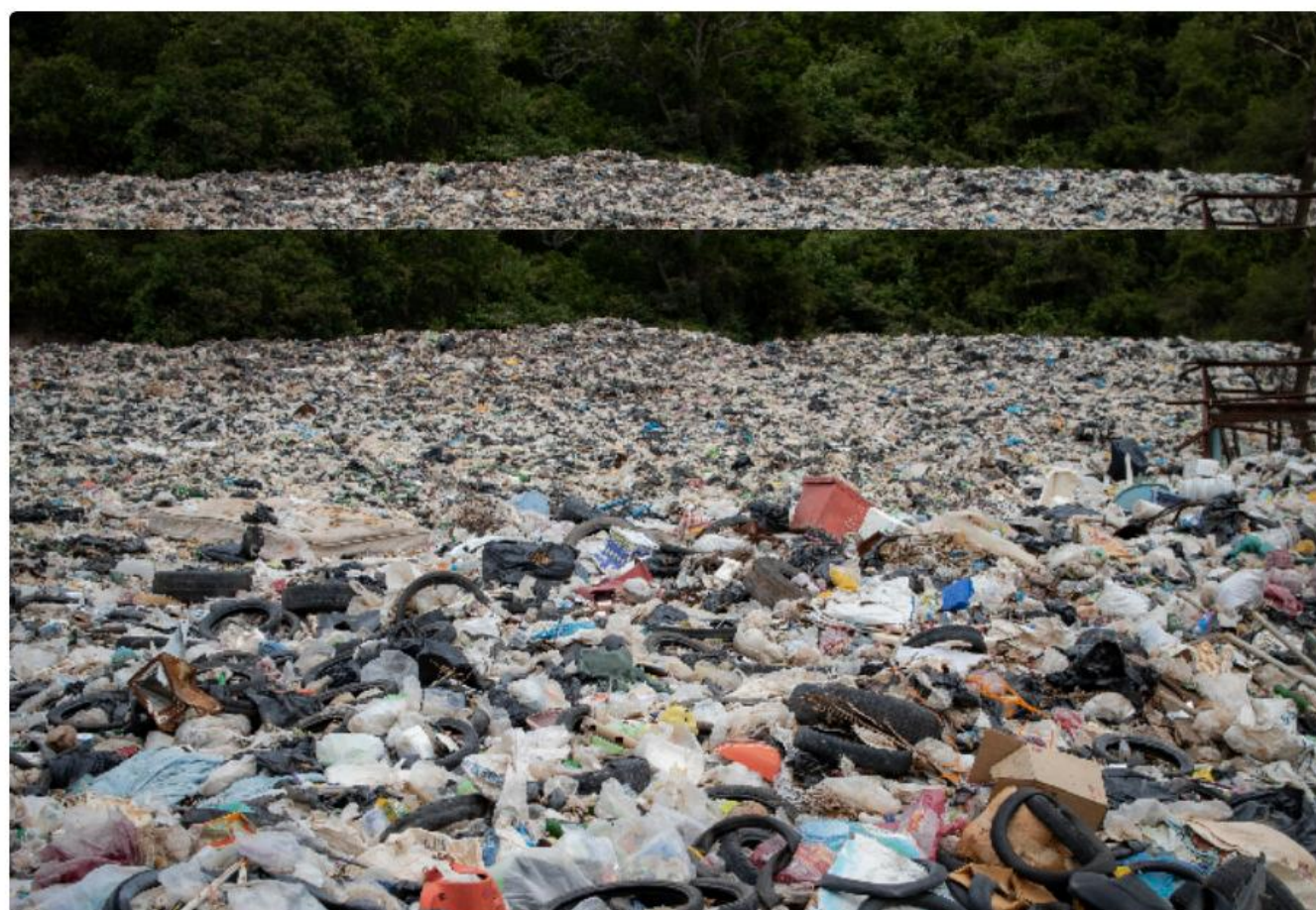
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3 min read • Feb 21, 2022

The rapid growth in population, economy, and urbanisation has led to an exponential rise in solid waste in India. Our cities are rapidly turning in garbage dumps. Our current methods of waste treatment are neither sustainable nor sufficient to tackle the massive amount of waste in the country every day. What can be done to overcome the issue?



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We have been talking about waste management for a very long time, and now, it is time to take it seriously. So far, debris has been categorised in various forms like municipal solid waste, industrial waste, medical waste, etc. Various techniques have been adopted to deal with each type of waste. However, the success of these methods has been moderate, and it is now high time to adopt an integrated solid waste management strategy.

strategy.

Integrated Solid Waste Management (ISWM) strategy calls for the segregation, sorting, treatment and disposal of waste in a sustainable manner irrespective of the source generating it. ISWM is no rocket science. It is a combination of common sense, willpower and policies. Technology is also playing an important role in solid [waste management](#).

Challenges with waste

Waste generated in Indian cities, especially household waste, contains large amounts of organic material. This organic material not only makes the waste wet and heavy, which is difficult to handle and transport, but it also makes it low in the calorific value.

Reduce, reuse and recycle

This age-old mantra of waste management holds true in every case of waste management. ISWM calls for intervention at the generation stage of waste. Prevention is always better than cure. Government should work with the manufacturers of products and materials to make products that last longer, can be recycled and generate as little waste as possible at the end of their lifecycle. Customers should also be inclined to buy things made by companies committed to reducing waste or using sustainable materials for production.

Reusing products after their intended lifecycle is another significant way to reduce solid waste. The role of the general public is most important in this. For example, plastic bottles, jars etc., can be reused as flowerpots at homes. Other things like newspapers, packaging material, plastic bags, clothes can also be reused in different ways to prolong their utility and delay their entry into the waste stream. Little willpower and innovative thinking can do wonders in this waste reduction.

Recycling can help save products and materials worth billions of rupees from going to the dumping ground. It not only saves money but also reduces the burden on natural resources. For example, recycling paper saves thousands of trees every year. [Recycling plastic](#) can help reduce the production of new plastic, one of the most unsustainable materials for the earth. Other products like batteries, electronic products, glass, fabric etc., can help reduce the environmental footprint to a huge extent.

Segregation at source

Segregating waste at the source is another major step in ISWM. Whether it's households, medical institutions or industries, if waste is segregated at sources, half the work in sustainable waste management is already done. Waste at source, like a household, is small. It can be easily segregated into dry and wet waste. However, when unseparated waste reaches the waste management facility, its volume becomes humongous. At this point, segregation of waste becomes an enormous task involving a huge amount of cost. Most of the time, due to a lack of workforce and finances, waste management facilities cannot segregate waste. This starts the chain of unsustainable waste management.

The role of urban local bodies (ULBs) is vital in this aspect. The government agencies should have strict rules for the segregation of waste at the source. For example, in Indore & Noida, sanitation staff have been given strict instructions not to collect mixed waste from households. Similar rules should be applied for medical facilities, education institutions, offices and industries. Strict penalties should be enforced on violators. ULBs should also have provisions for regular monitoring to ensure that the segregation of waste at the source is done correctly.

Due to the sheer volume of waste collected in cities, the dumping sites often become extremely large and almost impossible to manage. Waste management facilities are already facing challenges like shortage of finance and skilled staffing, large size of facilities makes the situation even worse. Waste disposal sites in Okhla and Ghazipur are prime examples of this situation. Therefore, there is a need for a centralised waste management system with smaller waste disposal sites that can be easily managed. Also, there is a need to provide proper training to sanitation staff engaged in these practices so that they are well equipped to handle each type of waste properly, whether municipal, medical, industrial, or hazardous.