

WASTE MANAGEMENT: A PROBLEM NOT TO OVERLOOK

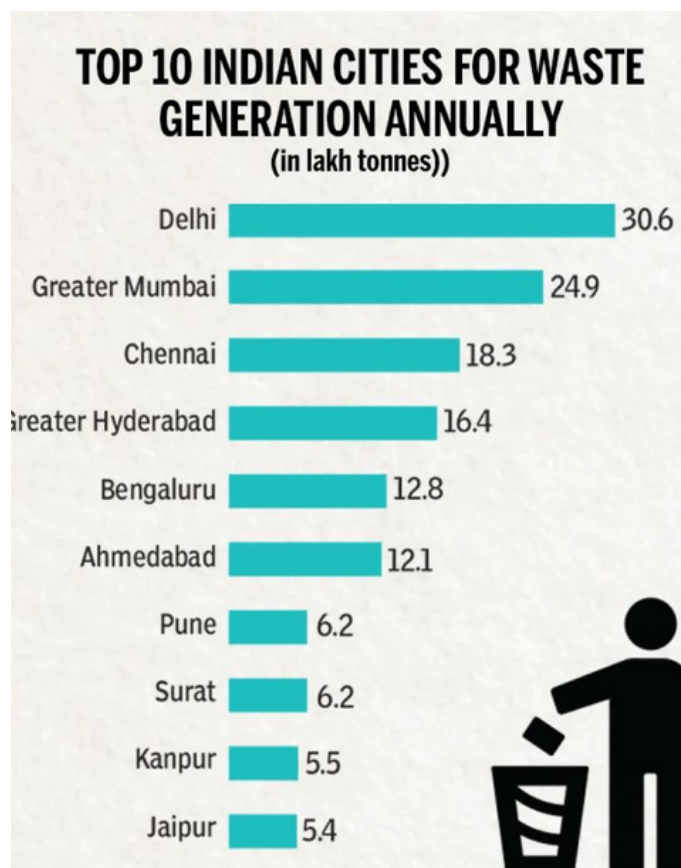
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The current pace of industrialization and economic growth has resulted in an enormous waste generation and continues to do so, especially in metropolitan cities. Hence waste management remains to be the most pressing issue in current times. Among waste management, the segregation of dry and wet waste is a serious problem. These not only generate revenue but also get rid of the bulk of the waste. The cost of separation and sorting, transportation, and recycling is very high. Our country produces millions of tons of waste each year, resulting in more landfills and incineration of waste that results in air and water pollution. The emission of methane gas from wet waste into the environment is also one of the problems that need to be addressed. It is one of the greenhouse gases which have more global warming ability than carbon dioxide. As the wet waste is not segregated from the dry waste, the methane emission from anaerobic oxidation often results in fire, producing more pollution.

This methane gas if harnessed properly can prove to be a useful energy resource, else it adds only to global warming. Segregating waste into dry and wet not only reduces burden on lands but also adds to the energy resources. The wet waste can be used for composting, adding to soil nutrition.

The mixed waste often leads to accumulated levels of heavy metal ions in the water bodies including surface water and groundwater between the dry and wet seasons



Other than heavy metal ions, the water bodies have often been found to be contaminated with microplastics which are again a serious health hazard. Wet solid waste management is a serious environmental problem in both developed and developing countries. The workers are exposed to many aflatoxins produced by fungi whose ingestion and inhalation can produce serious health effects.

In fact the wet water feedstock can be hydrothermally liquefied to produce biocrude. The manpower required to segregate dry and wet waste exceeds its use post-segregation in the form of energy resources.



Hence if the wastes are segregated beforehand, not only manpower would decrease exponentially, the utility of wet waste in generating energy and recycling dry waste would be more eco-friendly and energy efficient thereby reducing the carbon footprints. The wet resources include wastewater sludge, animal manure, food waste, and fats. In fact, some local communities have come up with the useful conversion of wet waste into economically feasible products like bio enzymes.

One of the major challenges in waste management comes through the disposal of Lithium-ion batteries. They are often tossed into the trash and end up in landfills where they decay and leak. When leaked they release chemicals into the soil and contaminate groundwater and surface water.

In fact, the disposal of batteries in electric vehicles is the biggest issue we are walking on as we progress towards development. Waste management can be effectively dealt with through optimum awareness and voluntary involvement of people in the overall conservation of the environment.

There is also a menace of discarded tires that poses a serious concern for the environment. Researchers have come up with many ideas to recycle tires but the cost of recycling again burns hole in the pocket. In Delhi, many waste energy (WTE) plants have been set up but they are only effective up to 13% of their capacity since the useful waste that could be fed into WTE machines is not segregated. Poor waste management leads to increased infections, breathing problems, decreased immunity, and diseases like asthma. The appropriate methods for waste collection to waste disposal should be adopted by spreading awareness about waste handling and increasing the infrastructure to handle the waste. This will prevent occupational hazards for the waste pickers.

DID YOU KNOW ?

•As of 2021, the world generated over 2.01 billion tons of municipal solid waste annually. Each year, on average, 1,500 pounds of waste per person goes into a landfill.