



# Status of Municipal Solid Waste management

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*The lack of understanding over a diversity of factors that affect the different stages of waste management and linkages necessary to enable the entire handling system functioning. Hazards causes due to improper management of municipal solid waste. Solid waste creates problems to public health by disposed of unscientifically in open dumps and landfills. In the world solid waste management is a huge problem in urban areas.*

Keywords: Solid waste management, Hazards, waste-generation, landfills.

## **Introduction:**

Wastes are unwanted and useless substances resulting from different human activities. These include substances or material which is discarded as useless or which are not needed or cannot be used. The waste can be solid waste, liquid waste and gaseous waste. [1]

Some of the examples of wastes are- garden trimming, vegetable and fruit residues, ashes, rubbish, garbage, waters, industrial emissions of gases, discarded materials of offices(including electronic goods), demolished building material, discarded bottles, cans, paper, etc. [2][3]

Waste generally means 'something unwanted'. Its precise definition and scope however, differs from one country to another [4]. Waste is something for which we have no further use and which we wish to get rid. Solid wastes arises from unusable residue in raw materials, leftovers, rejects and scrap from process operations, used or scrap packaging materials and even saleable products themselves when they are finally discarded [5]

## **Waste Classification Guidelines**

Biodegradable waste: food and kitchen waste, green waste, paper (most can be recycled although some difficult to compost plant material may be excluded)  
Recyclable materials: paper, cardboards, glass, bottles, jars, tin-cans, inert waste: construction and demolition waste, dirt, rocks, debris

Electrical and electronic waste (WEEE)- electrical appliances, light bulbs, washing machines, TVs, computers, screens, mobile phones, alarm clocks, watches, etc.

Composite wastes: waste clothing, Tetra Packs, waste plastics such as toys

Hazardous waste: including most paints, chemicals, tires, batteries, light bulbs, electrical appliances, fluorescent lamps, aerosol spray lamps, and fertilizers.

Toxic waste including pesticides, herbicides, and fungicides.

Biomedical waste, pharmaceutical waste, etc.

### **The rules relevant to SWM in India are as follows:**

Hazardous Waste (Management, Handling the Trans boundary movement) Rules (1989), amended January 2003, August 2010): It is to control, manage and handling of hazardous waste.

Biomedical waste (Management and Handling) Rules (1998): it is related to control, manage, and handling of waste generated from hospital, super specialty centers, and nursing homes.

Municipal Solid Waste (Management and Handling) These rules are applicable for MSW and be implemented by ULBs for scientific management.

The Batteries (Management and Handling) Rules (2001): It is applicable to stake holders associated with the manufacturing, handling, and utilization and reuse of batteries or components thereof.

Plastic Waste (Management and Handling) Rules, 2009: It deals with scientific disposal of plastic waste and extended producer responsibility clause has also been incorporate in it.

E-waste Management and Handling Rules 2011: It is applicable to stake holders associated with the manufacturing, handling, utilizing processing, and recycling electrical and electronic-related waste items.

Most researchers emphasize that ULBs fails to implement these laws adequately. However, needs and aspirations of stake holders demands for appropriate MSWM and accordingly the GOI is continuously encourages ULBs to implement these rules at ground level and recently draft notification for MSW (Management and Handling rules 2015) is also under formulation (Ministry of Environment, Forest and Climate Change, 2015).

### **The functional elements of Municipal Solid Waste are as follows:**

- 1) Waste generation: Waste generation encompasses activities in which materials are identified as no longer being of value and are either thrown away or gathered together for disposal.
- 2) Waste handling and separation, storage and processing at the source: Waste handling and separation involves the activities associated with management of waste until they are placed in storage container for collection. [9]
- 3) Collection: The functional element of collection includes not only the gathering of solid waste and recyclable materials, but also the transport of these materials, after collection, to the location where the collection vehicle is emptied. This location may be a material processing facility, a transfer station or a landfill disposal site.
- 4) Separation and processing and transformation of solid wastes: The types of means and facilities that are now used for the recovery of waste materials that have been separated at the source include curbside collection, drop of f and buy back centers. The separation and processing of wastes that have been separated at the source and the separation of

commingled wastes usually occur at a materials recovery facility, transfer stations, combustion facilities and disposal sites.

5) Transfer and Transport: This element involves two steps:

- 1- The transfer of wastes from the smaller collection vehicle to the larger transport equipment.
- 2- The subsequent transport of wastes by land filling or land spreading is the ultimate fate of all solid wastes, whether they are residential wastes collected and transported directly to a landfill site, residual materials from materials recovery facilities (MRFs), residue from the combustion of solid waste, compost or other substances from various solid waste processing facilities. [10]

### **Analysis & Discussion:**

The recently concluded cleanliness survey, 2017 (Swacch Survekshan) was one of the biggest exercise that was undertaken by the government to promote cleanliness and sanitation in the cities. The survey which covered 500 cities, was topped by the Indore, a city from central India. Along with this, the 2016 rules have also proved to be the landmark statutory framework dealing with waste management. [8]

75% of the people are not aware about the dry and wet solid waste concept. No source segregation is been done as 95% of the people do not keep their kitchen waste separate and dispose it along other SW produce by them. Rest 5% replied that they feed the cattle and dispose the kitchen waste on open ground. 80% of the people respond positively over the question that they will readily perform the source segregation if proper awareness and knowledge is spread to them. And they will readily accept the practice of source segregation for MSWM.

### **Conclusion:**

With the aim of SWATCH BHARAT ABHIYAAN, it is necessary that a complete solution for MSW disposal should bring into existence. In the present time collection and transportation of MSW is majorly done in various municipalities of India. No source segregation is been done by the people, this leads to create large trenching grounds filled with huge heaps of MSW. It not only occupies the land area but also create problem for the public health, underground water sources, and environment. So to avoid such situation a completely different approach should be taken.