

# Processing and Disposal of Municipal Solid Waste Management

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**Abstract** - Concept of this research is focused on Environment, which is related to Waste management and processing of waste collected, dumped in the dumping site in Municipalities/Villages of India. We are working to provide a solution for garbage free city/villages. Our main goal is to do Research work for solving the issue of Solid waste which is a vast problem in world wide. We required to do lots of research work and data analysis for management and processing of Solid waste management generated in large volume continuously. This research work is focused on management and Processing of waste generated. We will have to achieve our goals more efficiently and dedicatedly.

**Key Words:** Solid waste, Disposal, Scientific processing, Landfill, Material recovery facility, RDF.

## 1. INTRODUCTION

India is generated 1,27,486 tons per day of solid waste during 2011-12. It is estimated that 89,334 TPD (70%) of this MSW was collected and only 15,881 TPD (12.45%) was processed or treated (CPCB Status Report, 2011-12). This statement is the urgency of the necessity and potential for proper Municipal Solid Waste disposal. Various options for waste treatment and disposal include aerobic and anaerobic digestion, vermicomposting, incineration, gasification and landfilling. One of the latest conflicts encountered in MSW disposal is that between energy and material recovery.

### 1.1 Solid Waste Scenario

It is a Unique project in this field because in India Processing and management of Solid Waste is not in a regular practice in a proper scientific manner. We are lacking in processing and segregation of the waste collected in dumping yards of towns/villages etc. We are hereby try to initiate this processing and segregation thing in a scientific manner. We need to solve this issue/problem with a technical and permanent solution for Rural as well as Urban areas of the Country.

### 1.2 Scientific Processing

Our main focused area is Scientific processing of Municipal Solid Waste with the help of Scientific methods like segregation, Scientific processing like Composting, MRF(Material Recovery Facility) RDF and Landfill development. We will plan to process the waste in a Eco-friendly manner which will not harmful to our environment and surroundings. These are some main sources where most of the MSW generated.



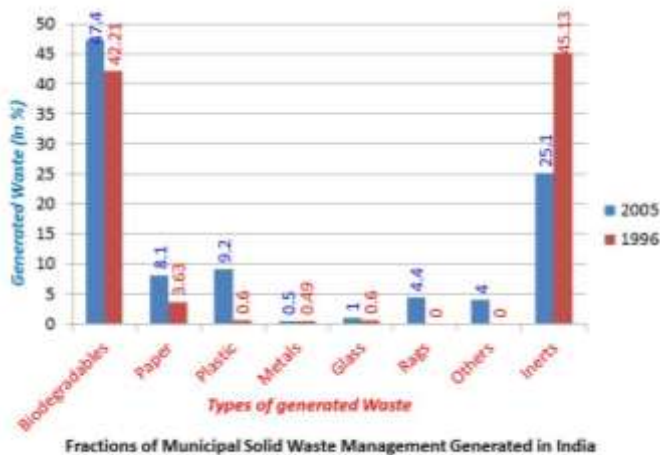
Municipal Solid Waste Generation Sources

## 2. CLASSIFICATION OF WASTE

Classification of waste may be different types of waste such as Domestic waste, Factory waste, Waste from oil factory, E-waste, Construction waste, Agricultural waste, Food processing waste, Bio-medical waste, Nuclear waste, Slaughter house waste etc. We can classify waste as follows:

- **Solid waste**- vegetable waste, kitchen waste, household waste, agriculture waste etc.
  - **E-waste**- discarded electronic devices such as computer, TV, music systems and other electronic things etc.
  - **Liquid waste**- water used for different industries, tanneries, distilleries, thermal power plants and in houses
  - **Plastic waste**- plastic bags, bottles, bucket, polythenes etc.
  - **Metal waste**- unused metal sheet, metal scraps etc.
  - **Nuclear waste**- unused materials from nuclear power plants and other hazardous waste
- Further we can group all these types of waste into wet waste (Biodegradable) and dry waste (Non Biodegradable).

**Table -1:** Comparative statement between waste generated in year 1996 and 2005.



\*Source- Study conducted by CPCB and NEERI

**Fig -1:** Comparison chart

As compare to the other countries, Municipal solid waste is different with regard to the composition and hazardous nature, in India. Many categories of MSW are found such as food waste, rubbish, commercial waste, institutional waste, street sweeping waste, industrial waste, construction and demolition waste, and sanitation waste. MSW contains compostable organic matter (fruit and vegetable peels, food waste), recyclables (paper, plastic, glass, metals, etc.), toxic substances (paints, pesticides, used batteries, medicines), and soiled waste (blood stained cotton, sanitary napkins, disposable syringes). MSW composition at generation sources and collection points, determined on a wet weight basis, consists mainly of a large organic fraction (40–60%), ash and fine earth (30–40%), paper (3–6%) and plastic, glass and metals (each less than 1%).



**Chart -1:** Steps for Processing the Waste

The main content of the solid waste is organic waste that can be converted into compost, the Wealth through the waste. Compost is an important process and product of the waste and it can be useful for us in many ways like for agriculture and for revenue generation and in many more.

### 3. CONCLUSION

As mentioned earlier that processing and disposal of Solid waste is requirement of present time, this is the main issue faced by the country because negative impacts of the these issues are coming out. This module can be used a prototype in all upcoming establishment of scientific processing and disposal of solid waste generated with improvisations accordingly to the requirement.

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### BIOGRAPHY



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