

# AWARNESS AND EDUCATION FOR THE SOLID- WASTEPROGRAM IN INDIA

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## ABSTRACT

*With the progress of civilization, the waste generated became of a more complex nature. At the end of the 19th century the industrial revolution saw the rise of the world of consumers. Not only did the air get more and more polluted but the earth itself became more polluted with the generation of no biodegradable solid waste. The increase in population and urbanization was also largely responsible for the increase in solid waste. Each household generates garbage or waste day in and day out. Items that we no longer need or do not have any further use for fall in the category of waste, and we tend to throw them away. There are different types of solid waste depending on their source. In today's polluted world, learning the correct methods of handling the waste generated has become essential. Segregation is an important method of handling municipal solid waste. Segregation at source can be understood clearly by representation. One of the important methods of managing and treating wastes is composting.*

## INTRODUCTION

**Waste management** is the collection, transport, processing or disposal, managing and monitoring of waste materials. The term usually relates to materials produced by human activity, and is generally undertaken to reduce their effect on health, the environment or aesthetics. Waste management is a distinct practice from resource recovery which focuses on delaying the rate of consumption of natural resources. The management of wastes treats all materials as a single class, whether solid, liquid, gaseous or radioactive substances, and tried to reduce the harmful environmental impacts of each through different methods.

Waste management practices differ for developed and developing nations, for urban and rural areas, and for residential and industrial producers. Management for non-hazardous waste residential and institutional waste in metropolitan areas is usually the responsibility of local government authorities, while management for non-hazardous commercial and industrial waste is usually the responsibility of the generator.

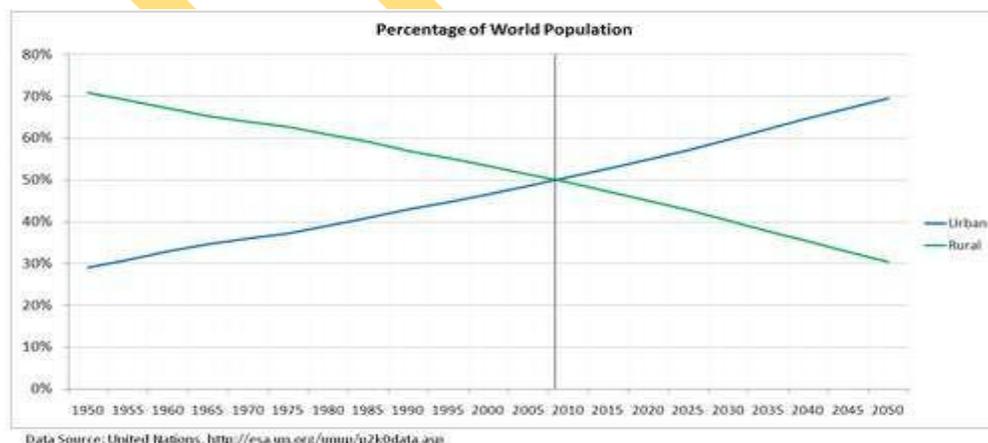
**Current Population** of India in 2010 is around 1,150,000,000 (1.15 billion) people. Currently, India is second largest country in the world after China in terms of population. By 2030, the population of India will be largest in the world estimated to be around 1.53 billion. There has been rapid increase in Indian population in the last 60 years. Population of India at the time of Independence was only 350 million. So Indian Population has increased more than three times.

**Between 2000 and 2025 the waste composition of Indian garbage will undergo the following changes:**

1. Organic Waste will go up from 40 percent to 60 percent
2. Plastic will rise from 4% to 6%
3. Metal will escalate from 1% to 4%
4. Glass will increase from 2% to 3%
5. Paper will climb from 5% to 15%
6. Others (ash, sand, grit) will decrease from 47% to 12%

According to TERI (Tata Energy Research Institute), dumpsites in Indian cities have occupied in the last 50 years as much space as 20, 000 hectares, which is slightly less than twice the area of Chandigarh. Eighty per cent of the cities have less than the recommended manpower of 28 sanitary workers per 10, 000 populations. (100)

**Consumption**, linked to per capita income, has a strong relationship with waste generation. As per capita income rises, more savings are spent on goods and services, especially when the transition is from a low income to a middle-income level. India will probably see a rise in waste generation from less than 40, 000 metric tonnes per year to over 125, 000 metric tones by the year 2030.



*Percentage of World Population: Urban vs. Rural.*

## **Solid waste management**

“Management of urban solid waste is one of the most neglected areas of urban development in India. Landfill sites and garbage dumps are overflowing in most cities attracting rodents and flies which then spread disease”

Among various related events to highlight the MSW issue in the intervening period, there was a seminar on “Urban Waste Management – Options For Future”, which expressed concern over the “environmental challenges posed by the rising waste generation due to expanding population and economic growth” and the need “to have the effective-waste management solutions for a cleaner sustainable environment”.

Subsequently Municipal Solid Waste Management and Handling Rules, 2000 were notified by MoEF, Govt. of India laying down a time schedule for implementing waste management projects by all Urban Local Bodies (ULBs) based on compliance criteria. Efforts and recommendations for Integrated Waste Management Technologies such as Waste to Energy projects also found support. The issue has been discussed in many seminars, workshops, and there has been mushroom growth of experts at individual and organizational level and NGOs who took up MSW management projects voluntarily or with the help of financial support from funding agencies.

## **Solid waste and income**

A positive correlation tends to exist between a community’s income and the amount of solid wastes generated. Wealthier individuals consume more than lower-income ones, which results in a higher waste generation rate for the former. The processes of accelerated population growth and urbanization translate into a greater volume of wastes generated. Globalization can promote economic growth, a desirable outcome. However, this economic growth –in addition to population increase and urbanization–seriously strains municipal resources to deal with a booming amount of wastes.

Higher incomes and economic growth also tend to have an impact on the composition of wastes. Wealthier individuals consume more packaged products, which results in a higher percentage of inorganic materials –metals, plastics, glass, textiles, and so on– in the waste stream. Higher volumes of wastes and a changing composition have a profound impact on waste management practices. It also points out the policy changes that developing countries need to make.

## **Solutions**

There are several missing links and many loose ends both in terms of management, technology and professional skill. The solutions need thorough understanding ,for example, deployment of competent persons qualified in solid waste management (real hard taskmasters and not people who turn up with a handkerchief to cover their nose to keep the stink away), application of efficient combination of waste handling equipments in cost effective manner and streamlining of the handling of waste at various stages throughout its journey from source of generation to ultimate safe disposal site, without intermediate dumping and accumulation of waste for days together. A flawless continuous flow sheet of MSW has to be developed. Matching financial support, discipline and attitudinal change in all concerned will obviously be the key for effective and successful MSW management in India

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