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ORIGINAL ARTICLE

SOLID WASTE MANAGEMENT – A CHANGE TO THE FACE OF THE WORLD
A research paper based on personal observations

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Abstract:

From the times immemorial- urbanization, industrialization, change in living conditions, a fundamental increase in consumer's habits in India have created a rapid and

steady rise in the production of solid wastes. Parallel to this increase, the population of urban centers is constantly growing. The result of these developments means that the amount of solid wastes produced in urban area has swelled considerably.

Effective and efficient way of collecting, transportation and treating these wastes has
become one of the most urgent problems confronting the local administrations. Moreover, increase in amount of solid wastes, high collection costs, budget difficulties, worker's strikes and location of suitable dumping places are some of the environmental problems often encountered.

KEY-WORDS:

Urbanization, Industrialization, Solid Wastes, Incineration ,composting.

INTRODUCTION

Solid wastes may be defined as garbage from homes, waste resulting from commercial and industrial activities, and waste substances created by agriculture, mining and water purification plants. Every kind of unusable, undesirable or discarded materials produced in the course of daily human activities and not soft enough to be regarded as liquid wastes falls into the category of solid wastes. Therefore, the term solid waste includes all substances in a solid or semisolid state whose owner wishes to or must dispose off them, giving due consideration to public welfare. Solid waste is a movable property of which the owner wishes to dispose off or proper management of which is necessary in the public interest.

CHARACTERISTICS OF SOLID WASTES

There is very little data available on the subject of generated quantities and characteristics of solid wastes. But it is important to indicate the data regarding the total and per capita amount of solid waste generated in India and its characteristics. The amount of solid waste produced in urban India is steadily and rapidly increasing. The amount of daily solid waste generated in our country varies from 0.3 to 0.5 kg per person. It is estimated that annual total urban solid waste production in India is approximately 12 million tones. Major sources of solid wastes in our country come from domestic wastes, shops, offices, restaurants, hospitals, educational institutions and small scale industries. Major constituents of Indian wastes are paper, vegetable and organic matter, dust, plastics, stones, glass, dust, etc.

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CATEGORIES OF SOLID WASTES

Solid wastes, generally and traditionally have certain categories, depending upon their quality and quantity and these can be classified as below:

Municipal wastes
Industrial wastes
Agricultural wastes
Construction and demolition wastes
Commercial wastes

With regard to the amount of waste and the level of toxicity, the principal source is industry, of course, for several types of industrial waste, such as production and processing residues, and packing materials. The total amount of waste generated is related to the level of industrial production of the country concerned.

Industrial wastes can be broken down into a number of categories, including raw materials, process wastes, packing wastes and products that have not been manufactured to the required standard. The wastes produced by steel unit will definitely differ from those produced in chemical or food processing industry. But the waste materials generated from paper and plastic industries are similar to the packing of paper and plastic materials to be found in household rubbish. On the other side, the metal processing factory will obviously generate metallic wastes, but in addition, it will produce large quantities of slag, processing chemicals and other residues. Hazardous wastes produced by chemical industries and other specialized industries will depend upon the particular product of the manufacturing process.

Under this category comes the wastes like food processing wastes, animal manure and urine, dead livestock and crop residues. The wastes generated by agriculture and related fields differ in quality and quantity. Most of the agricultural wastes are either recycled, burned or used as manures for field and garden crops. The availability of agricultural wastes in our country is approximately 600 million tonnes annually. These wastes include crop residue as well as wastes from agro – industrial operations such as rice milling, sugar mills, production of tea, tobacco, groundnut and coconut oil, etc.

Both solid and liquid wastes are the source of soil and wastes pollution when they are stored in open ponds or tanks. Uncovered wastes create nuisance, when they are dumped near the residential area. They also become the breeding ground for harmful organisms like flies, mosquitoes, worms, etc. wheat and rice straw are burned, after harvesting, to clean the fields. Clouds of smoke enter in the atmosphere and pollute the environment. No proper disposal method is available to handle the dead animals. Unskilled persons scrape the skin and bones, and the remaining parts of the dead body add foul smell in the surroundings.

Institutional wastes include those material produced in hospitals, schools, nursing homes, prisons and airports, which produce, in addition to paper, special or hazardous wastes from some part of their operations. In general, these wastes are similar to domestic and commercial types but contain slightly large amounts of paper and cloth. Hospitals and nursing home wastes carry high toxic materials like contaminated clothes, swabs and body part which may pose special disposal problems. Part of commercial wastes come from business rather than industries, for example, stores, shops and offices. Airport wastes may contain left over food from international flights this food could infect plants and animals. These wastes should be safeguarded from the regular municipal waste streams.

HANDLING AND DISPOSAL

It is not an easy matter to dispose off the solid waste properly with its various characteristics and composition. Solving the problem of wastes has become one of the main tasks confronting environmental protection. At the same time, dealing with waste products has acquired paramount importance with regard to the saving in terms of raw materials and energy. Keeping safe handling and disposal so that the environmental pollution can be minimized:

Reduction in quantities and avoidance of waste products,
Increased utilization of wastes
Environmentally sound disposal of waste products.

In general, there are four methods for their safe disposal :

In the industrialized nations, waste materials are re-used in recycling processes. That means the material is recovered to make more of the original products, for example, new bottles are made from old glass and new paper is made from old one. But in the developing countries like India, waste materials are reused in a completely different way. Without going through the process of recovering the original raw materials, these wastes are re-used in completely new forms and functions. The old glass, steel tyres, tin cans, etc., are used to make different useful materials like shoes from tyres, water bags from leather, lamps from tin canes, etc. Thousands of waste collectors roam in the residential areas of the town and cities with hand or bicycle, carts, etc., buying cans, bottles and other items or they comb the rubbish dumps on the outskirts of the cities or re-usable articles. The waste collectors, in turn, supply these wastes to specialized artisans who convert these raw materials into utility objects. Some of the products that result from the processing of tin cans, chappal and car tyres are particularly impressive. This form of recycling clearly has both economical and ecological impact. With their ingenuity and industriousness, the artisans and their suppliers, the waste collectors are helping to incorporate valuable materials in new production processes while at the same time easing the burden of waste disposal services.

Incineration is a waste disposal process by means of which solid, liquid and gaseous wastes are converted through controlled combustion to a residue which contains no combustible matters and which are released in the atmosphere. Incineration is not a safe and complete disposal method to solve the waste problems. While installing any incineration plant we should take into consideration that toxic gaseous and ash will be produced in huge amount during combustion. Their amount and effects should be taken into account so that they will not affect the environment adversely. In addition to gases which are produced, a significant amount of particulate matter is entertained in gas stream, and a significant amount of effluent in liquid form is produced.

Solid wastes that do not end up on or in the land may end up in the air. Incineration is relatively a common method of solid waste disposal in areas with concentrated population. In these areas, scarce land and transportation costs make incineration an economic alternative. Combustion of organic and inorganic matter produces toxic substances, like carbon dioxide, particulate matter and ash.

Composting means taking organic refuse like kitchen wastes, leaves and grasses from gardens, and handling them in such a way that naturally occurring bacteria and other micro organisms will break them down and produce a safe, clean and soil like material called compost. It can occur in the presence of air (aerobic) or in a closed container or underground (anaerobic). Composting replicates the system used in nature to get rid of biodegradable garbage, i.e., insects, earth worms, fungi, bacteria and other living organisms break down dead plant and animal matter and turn it back into the soil.

Composting method of solid waste disposal is used much more extensively in rural India than in the urban areas because the costly chemical fertilizers have made market for compost attractive.

The controlled land filling of municipal wastes is the most important tool for the disposal of waste material. Dumping of solid wastes is the only possible way to dispose off the waste reasonably safe. But dumping has its specific problems as well :

All sites reserved for dumping of solid wastes are not safe from environmental angle.These sites cannot be developed for the construction of airports, human settlement or any industrial activity. Sometimes, the hazardous and toxic wastes are also dumped in the landfill and there is always a danger of explosion.

When the wastes are dumped in the low lying area there is a risk of leaching of contaminated water in the soil and underground water. This can cause the pollution of surface and underground water in the surroundings.

REFERENCE:

1. Sustainability Science
Bert J. M. de Vries, Universiteit Utrecht, The Netherlands

2. Understanding Environmental Pollution
Marquita K. Hill, University of Maine, Orono

3. Personal observations of happenings in the society.

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