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SOLID WASTE MANAGEMENT

Huma Shakeel Shaikh and Kumudini R. Dhore

Dept of Home Science
Smt Radha Devi Goenka College, Akola

Corresponding Author's E-mail ID: shaikhhuma607@gmail.com

Abstract:

Solid waste management (SWM) is one of the major environmental problems of Indian cities. Improper management of solid waste (SW) causes hazards to inhabitants. Various studies reveal that about 90% of SW is disposed of unscientifically in open dumps and landfills, creating problems to public health and the environment. In the present study, an attempt has been made to provide a comprehensive review of the characteristics, generation, collection and transportation, disposal and treatment technologies of SW practiced in India. The study pertaining to SWM for Indian cities has been carried out to evaluate the current status and identify the major problems. Various adopted treatment technologies for SW are critically reviewed, along with their advantages and limitations. The study is concluded with a few fruitful suggestions, which may be beneficial to encourage the improvement of the present system.

Keywords: *solid waste, waste disposal*

Introduction:

Waste management has become a complex area, legally, technically and commercially. Very few organisations can still rely on the waste collection services provided through local authorities as a complete answer to their waste management obligations. Thus many firms need to identify and contract one or more reputable, licensed, specialist companies for the disposal of their waste, or discharging their legal obligations.

Waste management is the "generation, prevention, characterization, monitoring, treatment, handling, reuse and residual disposition of solid wastes". There are various types of solid waste including municipal (residential, institutional, commercial), agricultural, and special (health care, household hazardous wastes, sewage sludge). The term usually relates to materials produced by human activity, and the process is generally undertaken to reduce their effect on health, the environment or aesthetics.

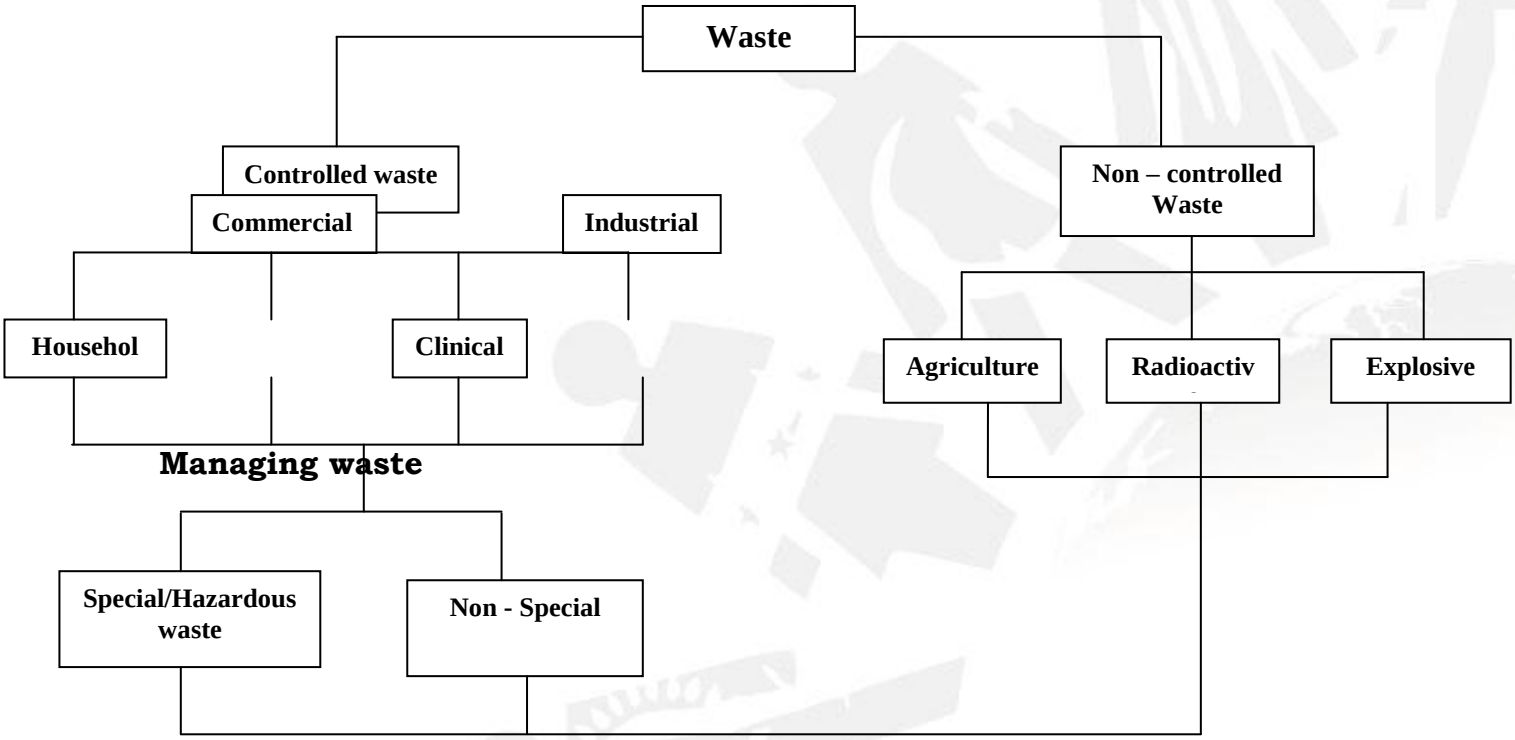
There is a wide array of issues relating to waste management and those areas include:

- Generation of waste
- Waste minimization
- Waste removal
- Waste transportation
- Waste treatment
- Recycling and reuse
- Storage, collection, transport, and transfer
- Treatment
- Landfill disposal
- Environmental considerations
- Financial and marketing aspects
- Policy and regulations
- Education and training
- Planning and implementation.
- Waste management practices are not uniform among: countries (developed and developing nations); regions (urban and rural area), and sectors (residential and industrial).

What Are Wastes?

Waste is a wide ranging term encompassing most unwanted materials, defined by the Environmental Protection Act 1990. Waste includes any scrap material, effluent or unwanted surplus substance or article that requires disposal because it is broken, worn out, contaminated or otherwise spoiled. Wastes are ---

'those substances or objects which fall out of the commercial cycle or chain of utility' for example glass bottles that are returned or reused in their Original form are not waste, whilst glass bottles banked by the public and dispatched for remoulding are waste 'until they have been recovered'.



Special/Hazardous Waste:

Special Waste is defined by the Control of Pollution (Special Wastes) Regulations 1980 as any controlled waste that contains any of the substances listed in Schedule 1 to the regulations, or is dangerous to life, or has a combustion flashpoint of 21°C or less, or is a medical product as defined by the Medicines Act 1968 Special/Hazardous Wastes are controlled waste that, because of their properties, requires special treatment and control. There is no easy definition of special/hazardous waste as account needs to be taken of the properties of each substance which may or may not be a function of its concentration. The Hazardous Waste Directive contains a list of substances considered to be hazardous. In the European Waste Catalogue, hazardous wastes are marked with an asterisk. In England and Wales the term 'Special Waste' has been replaced by 'Hazardous Waste'. In Scotland 'Special Waste' and 'Hazardous Waste' now mean the same thing and are termed Special Waste.

Treatment:

Involves the chemical or biological processing of certain types of waste for the purpose of rendering them harmless, reducing volumes before landfilling, or recycling certain wastes.

Top 10 Tips for Managing your Waste:

1. Understand the legal implications of the waste produced in your organization by identifying the specific legislation that affects you.
2. Look at your general environmental issues – what role does waste play in these?
3. Quantify and identify your waste. Where does it arise and how much does it cost? Undertake a walk around audit and look at your bills. Using the waste
hierarchy, identify what currently happens to the waste as it arises.
4. Identify a waste management champion or team to drive things forward.
5. Produce an action plan for reducing your wastes
6. Get commitment from senior management for the action plan.
7. Identify the possible disposal options where you cannot reduce or recycle.
8. Select your waste carriers carefully and make sure your Duty of Care responsibilities are met.
9. Monitor and review your achievements.
10. Communicate your successes to your staff, senior managers and outside your organization to interested stakeholders.

Conclusion:

Waste management is crucial to reducing your organization's impact upon the environment. It is also a fundamental requirement in achieving efficient cost savings and a better financial return for your business.

It is concluded that the lack of resources such as financing, infrastructure, suitable planning and data, and leadership, are the main barriers in SWM. The increase of service demands combined with the lack of resources for municipalities are putting a huge strain on the existing SWM systems

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