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FACULTY OF ENGINEERING AND
TECHNOLOGY

Lecture- 24

Environmental Pollution-Part 4



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Solid waste

Solid waste is the unwanted or useless solid materials generated from combined residential, industrial and commercial activities in a given area.

It may be categorized according to:

- its origin (municipal, and industrial);
- according to its contents (organic material, glass, metal, plastic paper etc.); or
- according to hazard potential (toxic, non-toxic, flammable, radioactive, infectious, etc.).



Causes of solid waste

The major activities that causes or responsible for generation of solid waste are:

Over-population has increased the demand of materials and thus resulted in enhanced waste products

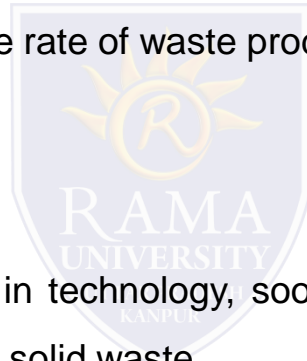
Urbanization- With advancement in social standard, trend for using single use packaging material has been hiked that has exacerbated the rate of waste production.

Construction and demolition activities

Agricultural activities

Technology- With continuous progress in technology, sooner electronic devices get obsolete and become a waste material contributing to solid waste.

Scrapes from vehicles



Effects of solid waste

Solid waste can pollute air, water and soil, and can detrimental affect environmental, and human health.

The effects of solid waste on health and environment are as follows:

- Leachates from dumping areas can percolates into the soil and contaminate underground water.
- Open dumping of waste can cause aesthetic damage to the environment.
- Burning of solid waste or decomposition of organic solid waste may result in production of toxic fumes and intolerable odor that can cause air pollution.
- Disease causing vectors such as rodents, pathogens and insects prefer open dumping sites to live and can spread number of diseases in humans like plague, cholera, jaundice, etc.
- Dumping of medical waste are potential source of infectious diseases.
- Solid waste disposal on road can choke sewage drains causing water-logging condition and helps in breeding of mosquitoes that can cause malaria.

Control of solid waste or solid waste management

An integrated waste management approach is required that includes:

1. Source reduction- It involve reduce consumption of materials, that ultimately reduce generation of waste.
2. Recycling – It include reuse of waste or discarded materials for some other purpose that have some economical value.
3. Disposal- Safe disposal of waste material is important which can decrease risk to living organisms caused due to exposure with openly dumped discarded materials. It methods for safe disposal include sanitary landfills, incineration, composting, etc.



Role of individual in prevention of pollution

An individual can prevent pollution in following ways:

- By minimizing wastage of resources such as electricity, fuel, etc. Individuals should prefer walking or use cycles instead of using motor vehicles, especially when distances to be travelled are small.
- Use of public transport or car pooling can reduce air pollution and depletion of non-renewable resources.
- Regular pollution check of personal vehicles must be carried out at authorized centers.
- Adopt 3R's for greener environment i.e., reduce, reuse and recycling of materials or resources.
- Should encourage use of renewable energy resources such as solar heaters, solar panels etc.
- Every individual must support or participate in environment conservation activities such as planting trees and cleaning water bodies, drains and roads.
- Stop littering waste on roads and must carefully dispose off hazardous wastes like batteries.
- Promote and strictly follow family planning to prevent exponential growth of population.
- Avoid noise producing activities such as using loud speakers late at night or at high volume.
- Spread awareness and inspire others to prevent pollution.
- Avoid purchasing and using products that are not essentially required.

