

Waste management for environmental health

Sujata P. Pawar

Asst. Professor

P.V.G. college of Education and research, Nashik

Email- sujatavijayj@gmail.com

Mob- 9881134643

Abstract

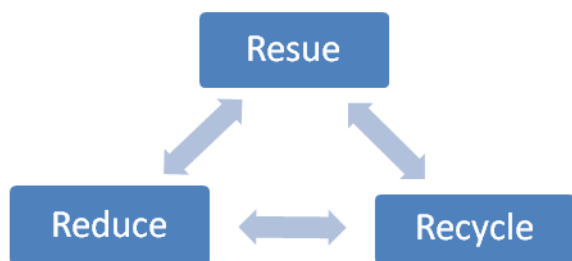
Man is apart and parcel of environment. Due to his interaction with nature on large scale, the balance of nature have been upset environmental pollution, occurred in most parts of the world. It has posed a great problem to existence of man, plant & animal life on the earth planet. With the progress of Civilization the waste generated became of more Complex of nature. We create waste throughout the day in the form of kitchen waste to hazardous waste. To avoid environmental pollution it is necessary to create awareness among people. Proper techniques of waste management and environment Education will helps to save Nature and to save earth. Man's ability to manipulate the environment has resulted in several serious problems .The most serious of these problem is environmental pollution. The atmosphere, the Hydrosphere and to some extent the which all the members of biosphere obtain look around and the area in which we live. We see that our surroundings were originally natural landscape such as a forest, river, a mountain, a desert or a combination of these elements. Most of us live in landscape that have been modified by human beings in villages, towns or cities. Our environment and our lives depend on it. our dependence on nature it so great that we cannot continue to live without protecting the environment. Since the beginning humankind has been generating waste. With the progress of Civilization, the waste generated became of more complex nature. We create waste throughout the day in the form of solid liquid and gaseous waste which causes environmental pollution.

Concept of environmental pollution and waste management

Environmental pollution

Waste Management Mantra

Environmental pollution is the direct or indirect changes in the environment which are harmful and undesirable to organisms and man. Any change in air, water, soil that threatens the health' survival capacity or activities of humans or other living organism is called pollution. Waste management Garbage generated in household industries recycle and reuse to minimize creation of waste at source and reduce the amount of waste thrown into community dustbin.



Classification of waste

- Solid waste-
Household & Industrial Waste e.g. packing cases, glass bottles etc.
- Liquid waste
Sewage from the houses & effluent from industries
- Gaseous waste
Harmful gases like sulphur dioxide & nitrogen oxides

Waste is divided in to four main groups according to it's Resource

• Household waste	• Commercial Waste	• Hospital Waste	• Industrial waste
<ul style="list-style-type: none"> • Food waste • Septic waste • Garden& park waste • Packing material • Furniture, electronic gadgets etc. 	<ul style="list-style-type: none"> • Metal scrap from cars and other vehicles • Waste from office, hotels, restaurants, shops etc. • Building demolition rubbish etc. 	<ul style="list-style-type: none"> • Disposable needles • Dicarded medicines • Chemical wastes • Body fluid human excreta etc. 	<ul style="list-style-type: none"> • Organic wastes from fisheries • Aquatic farms, agriculture & food industries • Mining wastage • Wastage from workshops, water houses etc

Proper methods of waste disposal

This is common term for how the waste handled whether some of it's recycled, treated in some way or another, or placed in a landfill.

1. source sorting

The purpose of source sorting is to keep waste components separate from each other at the source or where waste arises, so that one or more of them can be utilized or recycled. Usually cardboard and paper are sorted but food waste, glass metals, combustible and compostable matter can also be sorted.

2. Central sorting

Central sorting takes place by sorting out valuable components from mixed waste. In some industrialized countries, mechanized sorting plants exist, but these have been tried out to a small degree. In developing countries at least as far as mixed domestic waste is concerned. Manual sorting is however, quite common, and large amount of valuable material are sorted out for reuse.

3. Segregation

Certain items are not biodegradable but can be reused and recycled. In fact larger portion can be recycled, a part of it can be converted to compost and only a smaller portion of it is real waste that has no use & has to be discarded. Household waste should be separated daily into different bands for the different categories of the waste such as a wet and dry waste, which should be disposed separately

4. Production of refuse derived fuel (RDF)

The highly compressible components that can be found in waste i.e. cardboard paper, textiles and wood are dried, grounded and briquetted for the production of refuse derived fuel. A briquette is a rectangular block of compressed material such as charcoal, sawdust or cold dust

5. Composting

Organic matter constituted 35 to 40% of the Municipal solid waste generated in India. This waste can be recycled by the method of composting, one of the oldest forms of disposal. It is the natural process of decomposition of organic waste that yields manure or compost which is very rich in nutrients. Organic fertilizers increase the ability to hold water and make the soil easier to cultivate. It helps the soil retain more of the plant nutrients.

6. Landfills

Landfills are generally located in urban areas where a large amount of waste is generated has to be dumped in a common place. Unlike an open dump it is a pit that it is dug in the ground. The garbage is dumped in a pit and covered. This preventing the breeding of flies and rats. At the end of each day a layer of soil scattered on top of it and some mechanism usually earth moving equipment is used to compress the garbage which now forms a cell.

7. Sanitary landfills

sanitary landfill is more hygienic and built in a methodical manner. These are lined with material that are impermeable like plastics and clay, and are also built over impermeable soil.

8. Incineration Plants

The process of burning waste in large furnaces is known as incineration. In these plants the recyclable material is segregated and the rest of a material is burnt. At the end of this process all that is left behind is ash. Disposing of this Ash is a problem. The ash that is buried at the landfills causes severe contamination. Therefore burning garbage is not a proper process.

9. Management of Hazardous waste

Processing procedures for hazardous waste will vary according to the type of refuse, degree of toxicity etc. There should be strict requirement regarding storage, collection, transport, transfer of disposal of waste. Hazardous waste should normally not be treated together with other types of waste, but certain types maybe burnt together with other waste

10. Recycling and Reuse

Recycling involves collection of used and discarded materials. Processing these materials and making them into a new products. It reduces the amount of waste that is thrown into the community dustbins, there by making the environment clean air fresher to breath.

Need of environmental education for waste management

Environmental education is a way of implementing the goals of environmental protection. Environmental education is not separate branch of science of study; it should be carried out the principle of lifelong integral education.

- 1) Environmental education help in program helps to create awareness among people about waste management.
- 2) Environmental Education helps in programming learning experiences from simple to complex.
- 3) Environmental education helps in sharpening the development of observation skills among the students.
- 4) Environmental education is that it make child education problem based for understanding environment and hazards of its pollution.
- 5) Environmental education helps in diagnosis the different causes of environmental pollution and to suggested remedial measures.
- 6) It helps in to inculcate value of cleanliness and pure environment among students.

Teaching -learning strategies

Various teaching -learning strategies are necessary at school level and university level. They are as follows-

1) Exhibition

Exhibition can be arranged to show the project work of students or to highlight the environmental problems in order to get suitable remedies.

2) Small group projects

In this strategy, students have to take up certain projects. Each student is given a work and he is responsible for doing project.

3) Class discussion

In class discussion students are allowed to refer sources or read extensively to have

through idea about the problem and to discuss it in the classroom concretely.

4)field trips

Field trips are very much educative and they great curiosity among students and also bring out their creativity. Fields trip play an important role in formation of right attitude and behavior.

5) simulation and games

Simulation and games can used to focus attention on both attitude and content.

6) Debates

By arranging debate the teacher can make the students aware of environment. It provides necessary feasible solutions.

7) guest lecture

Guest lectures by eminent personalities will help the students in many ways and help students to participate in Environmental activities.

8) Outdoor studies

Students can study a village a river or lake, some specific problems of an area which include pollution aspects , inter relationship of living beings.

Conclusion

Waste management helps in reducing Environmental pollution. India generates around 70 lakhs tones of hazardous wastes every year. most of which causes environmental pollution. Recycling involves the collection of used and discarded material, processing these materials and making them into new products. It reduces the amount of waste that is thrown into community dustbin and there by making the environmental cleaner and the air fresher to breath.

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