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6. IMPACT OF ENVIRONMENTAL POLLUTIONS AND WASTE MANAGEMENT

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ABSTRACT

This paper will discuss the problem of environmental pollution and waste management. Everything that surrounds us is directly or indirectly connected to the environment. Not only the man, but also other living beings as well as the nature (volcanic eruptions, earthquakes) have effects on environmental pollution. Environmental pollution is present from the very beginning of life, but today it is a serious problem that threatens the survival of mankind. During the preparation of scientific research, we noticed a problem: "What is the influence of the waste management on the environment?" Today, every person living on planet Earth is worried about environmental pollution because the consequences faced every day, through the air we breathe, the food and water we consume, through pollution and radiation we are exposed to. Also, the consequences of environmental problems are manifested through the lack of natural resources, extinction of plant and animal species, as well as the problems in the global ecosystems and biochemical processes. Based on the research problem we can hypothesize: Yes, waste management has a great impact on the environment.

INTRODUCTION

The man, along with all other living beings from the beginning of its existence is closely linked with the entire inanimate and living nature that surrounds it. This interaction is the basis of the whole modern right of environmental protection. Through his own development, the man developed his interest in the way and manner that would harmonize with the nature that surrounds it, to ensure the conditions necessary for their survival. With each new discovery (ranging from tools for tillage and wheel all the way to modern computer technology) man makes bigger part of the eternal desire to reconcile nature and its needs. Contemporary urban, industrial, economic and technological development has provided great benefits to man, but the industrial air and water pollution, uncontrolled deforestation and their conversion into agricultural land, destruction of the ozone layer and global warming of the planet followed by

climatic changes, the accumulation of various wastes, including radioactive as well as the eradication of certain plant and animal species, are just some of the negative consequences of human activities, which, however, seriously endangering his own survival. At present time, the protection of the environment is of great importance in the prevention and elimination of these contradictions. The right to protect the environment today should be seen as a unique supranational (international), national and local unit. Therefore, in order for the normative framework to succeed, actions must be taken at the universal, national, regional and local levels.

Today we can say that we live in a world of waste; because of population growth and production increasing amounts of waste that makes landfill are becoming more numerous and increasingly degrade the environment. Every day a huge amount of waste, equally as in the villages and in agricultural areas is produced. Every year, about 10 million tons of oil products reaches rivers and oceans and has more than 500 billion tons of industrial waste. Industrial facilities and transport throw into the atmosphere about a billion tons of aerosols and ash. At the landfill waste is collected for years. In the wild landfill reaches up to 70% of total waste. The biochemical processes of decomposition of waste adversely affect the environment. As for municipal waste that contaminates the soil and plants, air, groundwater and surface water on them in huge quantities reproduce rats, mice and insects, which contributes to the spread of infection. This new situation poses a threat to human health, for both present and future generations. This imposes the problem of protecting the environment through waste management.

ENVIRONMENTAL POLLUTION

The result of deteriorating environmental situation in various countries and regions where environmental pollution is the most intense climate is warming; ozone layer is depleting, desertification. According to the definition adopted by the Un Organization, "pollution is exogenous chemical substances encountered on a suitable place, at the appropriate time and in inadequate quantities." According to

the analysis (taken in early 20th century), it is concluded that the most polluted spheres are atmosphere and hydrosphere. Even the state of cosmic space around our planet raises serious concerns. In order to define the concept of the environment, we must consider the basic ecological unit that has its own laws, which is characterized by complex factors of animate and inanimate nature. This unit is called an ecosystem. The man as a conscious being has a great influence on the environment. According to the methodology of the World Health Organization, there are 26 risk factors to health, some dating from the environment that are considered to cause many diseases in the population of children aged 0 to 19 years.

WASTE MANAGEMENT

In the middle Ages, food waste was dumped on the streets, so the rodents and insects transmitted many infectious diseases and dangerous epidemics. Today, because of inadequate treatment of waste could be a higher number of infectious diseases. The general interest of society in our country, governed by the Law on Waste Management is the management of waste. The objective of this law is to provide and ensure the conditions for waste management in a way that does not endanger human health and the environment.

LAW RELATING TO WASTE MANAGEMENT IS BASED ON THE FOLLOWING PRINCIPLES

1. The principle of optimal choice of options for the environment
2. The principle of proximity and regional approach to waste management
3. The principle of hierarchical waste management
4. The principle of accountability
5. The 'Polluter Pays' Principle.

DISPOSAL HAS ITS DISADVANTAGES

1. If you make a wrong selection of underground landfill, it can contaminate groundwater.
2. When waste is buried and located in the middle of the country, there is no oxygen and its decomposition. Biogas is formed, which consists of various hydrocarbons, mostly methane. Biogas is spread horizontally and can reach the basements of buildings and in contact with open flames it can ignite and explode.
3. When waste is decomposed, its volume decreases, and this causes sagging area, so that in these places we cannot make buildings and other facilities.

INDUSTRIAL WASTE MANAGEMENT

A huge number of wastes are created by technological and technical activities, but several types are re-used: metal, plastic, paper, glass. A number of issues from environmental protection consider the re-use of materials: to reduce the need for primary raw materials,

reduce the pollution of water and soil. Industrial waste is divided into:

- Scrap, Waste wood, Waste plastics and other materials, Industrial waste

WASTE MANAGEMENT STRATEGY

"The collection, transport, storage and treatment of waste carry a number of risks to safety and health of employees in the waste industry". The system activities and activities which include the prevention of waste by reducing packaging materials, waste reduction, developing a habit of sorting waste in the population represents waste management. The following activities:

- The introduction of formal legal mechanisms, such as the acquisition of knowledge in the field of waste management.
- Acquisition and improvement of education and training of persons who manage waste
- Establishment of a national body responsible for the development of educational programs and training in the field of waste management

ENVIRONMENTAL POLLUTION

Pollution is explained as any substance introduced into the environment that adversely affects the usefulness of resources. Pollution can be in the form of solid, liquid or gaseous substance. Pollution causes damage to human, plant and animal life. The nature and concentration of pollutant determine the severity of effect of pollution. Pollution is defined as the excess discharge of any substance into the environment which affects adversely quality of environment and causing damage to humans, plants and animals. Types of Pollutants

THE POLLUTANTS THAT POLLUTE THE ENVIRONMENT IS DIVIDED INTO FOLLOWING TYPES

1. Air pollution
2. Water pollution
3. Soil Pollution
4. Marine pollution
5. Noise pollution
6. Thermal pollution
7. Nuclear hazards

AIR POLLUTION

It is defined as the undesirable contamination of gas, smoke, dust, fume, mist, odor, or chemical particulates in the atmosphere which are injurious to human beings, plants and animals.

CAUSES OF AIR POLLUTION

1. Industrialization
2. Urbanization
3. Vehicles emission
4. Deforestation
5. Population, Types of air pollutants
Air pollutants can broadly be classified into two types

1. Primary pollutants
2. Secondary pollutants

Primary pollutants that are emitted directly from either natural events or from human

activities are called primary pollutants. The natural events are dust storms; volcano etc. and human activities can be emission from vehicles, industrial wastes. About 90% of global air pollution is constituted by five primary pollutants. These are

1. Carbon oxides (CO and CO₂)
2. Nitrogen oxides
3. Sulphur oxides
4. Hydrocarbons
5. Particulate matter

WATER POLLUTION

Any physical, biological or chemical change in water quality that adversely affects living organisms or makes water unsuitable for certain use is referred as Water pollution. When the quality or composition of water changes by means it becomes unsuitable for any purpose and is said to be polluted. Water pollution Sources Water pollutants are categorized as point source pollution and non-point source pollution.

1. Point source pollution (Example: Industrial discharge, factory smoke stack, municipal sewage etc.)
2. Non-Point source of pollution (Example: run off from farm lands, construction sites, parking lots, agriculture logging, and animal waste.)

3. Causes of Water Pollution

•Biochemical Oxygen Demand (BOD),Nutrients, Suspended solids/ Sediments, Bacteria, Viruses and protozoa.

The concern associated with microorganism’s infectious disease. Microorganisms are naturally found in water and elsewhere in the environment and can cause infection. However, the microbes causing the greatest concern are usually associated with human activities. Nonpoint sources include run-off from livestock operations and storm water runoff especially that associated with combined sewer overflow. Poorly performing municipal sewage treatment plant are point sources of pathogenic microorganisms.

WATER POLLUTION

SOURCE OF WATER POLLUTION	Comment
Water and sewage company works	Organic wastes and sometimes industrial wastes. Aluminum residues from water treatment
Petroleum industry	Oil spills from ships, oil supertanker disasters and offshore drilling operations.

Acid rain	Formed by combination of SO ₂ and NO ₂ with water in the atmosphere.
Radioactive materials	Present in wastes and (i) uranium and thorium mining and refining (ii) nuclear power plants and (ii) industrial, medical and scientific use

ON CONSUMING POLLUTED WATER FOLLOWING EFFECTS ARE OBSERVED HUMAN BEINGS.

Amoebic dysentery, Skin cancers, Cholera, Typhoid fever, Hepatitis, Malaria, Damage of nervous system, Genetic mutations/ birth defects,

ON PLANTS AND ANIMALS

Lower crop yields, Harmful to aquatic life and wild life, Excess growth of algae can kill aquatic life, Reduce Photosynthesis, Disrupts food chain and food web. A control measures for preventing water pollution

- Setting up effluent treatment plans to treat waste.
- Recycling of water must be encouraged.
- Industrial wastes must be treated before discharge.
- Educate Public for preventing water pollution and the consequences of water pollution
- Strict enforcement of water pollution control act.
- Continuous monitoring of water pollution at different places.
- Developing economical method of water treatment
- River, streams, lakes and other water reservoirs must be well protected from being polluted.

CONCLUSION

The role of every individual in preventing pollution is of paramount importance because if every individual contributes substantially the effect will be visible not only at the community, city, state or national level but also at the global level as environment has no boundaries. It is the responsibility of the human race which has occupied the commanding positions on this earth to protect the earth and provide conducive environment for itself an innumerable other species which evolved on this earth. A small effort made by each individual at his own place will have pronounced effect at the global level. It is appropriately said “Think globally act locally.”Each individual should change his or her lifestyle in such a way as to reduce environmental pollution.

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