

ENVIRONMENTAL POLLUTION AND SUSTAINABILITY

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ABSTRACT:

Presently, all over the world there is a sensitive situation or worry as to what will become of the earth, considering the inherent effect of the extremely increasing environmental pollution that has adversely distorted the whole environment, thereby the government, general public, co-operate bodies, professionals, politicians, etc. to take effective measures aimed at reducing environmental problems. This paper is discussed on environmental pollution and sustainability. It describes of what environment is made up of, its continues increasing problems and challenges facing by our environment from different prespective. The main purpose of this paper is to take proper implementation of environmental planned techniques and tools for addressing environmental threats in different parts of the world, by government, public and private sectors. The obtained results in the following paper is good enough to provide appropriate solutions to many environmental problems or menance in different parts of world.

Keywords:*Environmental Pollution, Sustainability.*

1.INTRODUCTION:

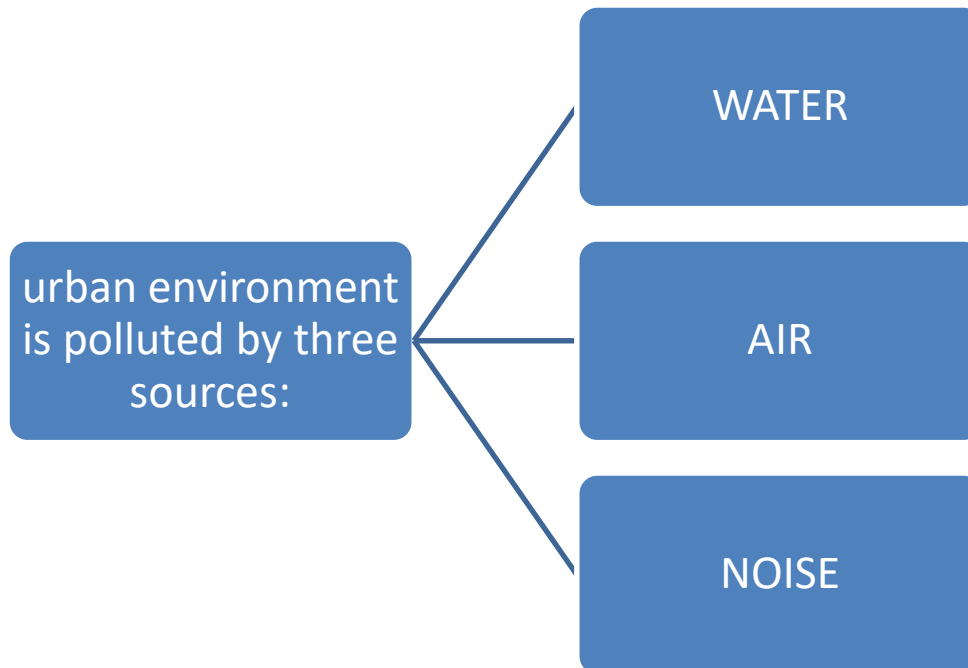
Environmental pollution is the major facing by every country. The concept of “environment” has evolved since it started to become a global issue in the early 1970s. At first ,it was a kind of global recognition that the earth’s environment are in fact fragile ,and that human beings have been contributing much to its decline .when countries started to joinefforts to strike a balance between improving the quality of human life and protecting the environment for the stake of future generations . The social and economic welfare of human beings is closely linked to their environment. Any change in the socio-economic fields will have an impact on the earth’s environment and vice versa, whether positively or negatively, immediately or eventually. Most of times there are negative results. The Earth Summit held in Rio in 1992 concluded that the economic, social and environmental concerns are inevitably interlinked to development. Hence, it pledged to eradicate environmental problems, reducepoverty and foster : Sustainable development through integrated efforts and global cooperation.

1.1 ENVIRONMENT:

The word ‘environment’ may means different thing to different people. Scientifically , the Physical , environment is different from social or economic. In simple words, environment means that which surrounds the earth and it consist of the entire ecosystem. Scientifically, there are four spheres of the earth i.e. Lithosphere,Hydrosphere,Biosphere and Atmosphere. This includes the water body and life therein , landmass, forests,grassland,deserts,animal,humans and all interactions taken

place among those group. Everything external to the organism is included in environment. It also includes open field, mountains, forests, deserts, seas, rivers,lakes,wells, atmosphere,etc.

2. Pollution and General review :



The world development report 1992 has highlighted the effect of pollution on health. It also noted that the Tropical forest – the primary source of livelihood for about 140 million people are being lost at the rate of 0.9% annually. The above fact speaks that the many developing countries are facing environmental problems or environmental degradation.

2.2 TYPES OF POLLUTION WITHIN URBAN ENVIRONMENT:



- **WATER POLLUTION:**

Water pollution is the contamination of water bodies (e.g. lakes, rivers, oceans, aquifers and groundwater). This form of environmental degradation occurs when pollutants are directly or indirectly discharged into water bodies without adequate treatment to remove harmful compounds.

Example:

- i) Mining, which equals to mercury, cyanide and other chemical wastes thrown into water in search of gold.
- ii) Mining and fracking are one of the most shocking examples of water pollution, but we can also see the damages made by tanneries or paper mills, specially in developing countries.

❖ **Sources of water pollution:**

- 1) **Domestic effluents and sewage** : Humans for their domestic use such as drinking, cooking, bathing, cleaning, etc., use on an average 135 litres of water per day. About 70-80% of this is discharged in water bodies. This water is known as domestic effluents. Other waste materials such as paper, plastic, detergents, etc., is mixed in it; it becomes municipal waste or sewage.
- 2) **Industrial effluents**: Industrial activities generate a wide variety of waste products i.e. pulp and paper, chemicals, petrochemicals and refining, metals, textile, distillery, etc. The wastes, broadly categorised as heavy metals or synthetic organic compounds are discharged in water bodies directly or by leaching from waste dumps.
- 3) **Agricultural effluents**: Agricultural water pollution is caused by fertilisers, pesticides, insecticides, farm animal wastes and sediments. In recent years, use of chemical fertiliser has increased heavily. The green revolution in India is a reflection of the increased use of fertilisers. The chemicals that are used in fertilisers enter the groundwater by leaching and surface waters run-off.
- 4) **Radioactive wastes**: Radioactive elements, such as uranium and radium, possess highly unstable atomic nuclei. This results in radiation emission which is injurious. At the time of nuclear test, radioactive dust may encircle the globe at altitudes of 3000 meters or more, which eventually comes to earth in the form of rain. This may also cause bone cancer.
- 5) **Thermal pollution**: Most of the thermal and electric power plants also discharge considerable quantities (about 66%) of hot effluent into nearby streams or rivers. This has resulted in thermal pollution. It is undesirable for several reasons.

❖ **Causes of water pollution:**

- i) Dumping of solid waste and litter in water bodies causes harm to aquatic plants and animals.
- ii) Sea water is mainly caused by oil spilled from ships and tankers while travelling.
- iii) Acid rain is also a cause of water pollution
- iv) Due to global warming, there is an increase in water temperature and this rises the death rate of aquatic plants and animals.

- v) Water pollution is also caused by eutrophication i.e. increased level in nutrients in water bodies.

• **AIRPOLLUTION:**

Air pollution can be defined as the presence of toxic chemicals or compounds including those of biological origin) in the air, at levels that pose a health risk. In an even broader sense, air pollution means the presence of chemicals or compounds in the air which are usually not present and which lower the quality of the air or cause detrimental changes to the quality of life (such as the damaging of ozone layer or causing global warming).

❖ **Sources of air pollution:**

- 1) Fuel burning operation for heat and power generation in large steam electric generating plant, in-residence, in hotels, clubs, hospital and in different processing of laundries, drycleaners, garage and service station.
- 2) The refuse burning operation in different municipalities industries and residential apartment.
- 3) Burning of fuels for modes of transportation which includes trucks, buses, motor vehicles, rail using petrol, diesel and gasoline's.
- 4) Industrial and commercial process emission during different manufacturing process namely metallurgical plants, chemical plants, refineries mineral production, etc.

❖ **Causes of air pollution:**

- i) Increase in population and traffic.
- ii) Development of industries.
- iii) Thermal and nuclear generation.
- iv) Development of agriculture, etc.

❖ **Forms of air pollutions:**

- i) Smoke
- ii) Dust
- iii) Gases
- iv) Power generation
- v) Sulphur compound
- vi) Nitrogen compound
- vii) Chlorine compound, etc.

❖ **Effects of air pollution:**

- I) Effects on human health:
 - Sulphur dioxide- causes suffocation, irritation of eyes and throat.
 - Hydrogen sulphide- danger of respiratory paralysis.
 - Oxidants- causes lung diseases, etc.
- II) Effects on vegetation:
 - Plants may be dried up
 - The quality of crops may decline.
 - The quality of fruits may become inferior or decrease.
 - The forests may be destroyed gradually.
- III) Effects on material:
 - Causes discoloration of paint, cement colour.
 - Causes corrosion of materials, etc.

● **NOISE POLLUTION:**

Sound a normal feature of our life, is the means of communication and entertainment in most animals, including human beings. It is also very effective alarm system. A low sound is pleasant whereas a loud sound is unpleasant and is commonly referred as 'noise'. Noise can be defined as an unpleasant and unwanted sound.

Noise is a physical form of pollution and is not directly harmful to the natural resources i.e. air, water, soil. It affects more directly on the receiver i.e. human beings, etc. Noise pollution is the result of modern industrialized urban life and congestion due to over population. The importance of noise pollution as an environmental problem is being recognised as the ill effects of noise on human health and environment are becoming evident with each passing day.

❖ **Adverse effect of noise :**

- i) Causes loss of sleep.
- ii) Increases blood pressure.
- iii) Causes digestion problem.
- iv) It affects attitude and psychological reaction.
- v) Causes hypertension.
- vi) Causes heart failure.
- vii) It creates uncomfortable living conditions.
- viii) It usually interferes with speech communication.

❖ **Causes of noise:**

- i) Domestic noise

- ii) Public noise
- iii) Traffic noise
- iv) Construction noise
- v) Industrial noise.
- vi) Poor urban planning.
- vii) Construction activities.
- viii) Social events.

3.Other specific forms of pollution:

- **Human wastes-** Human waste , also known as fecal matter, is a waste type usually used to refer to byproducts of digestion, such as feces and urine. There are many different ways in which human waste can be collected , treated and disposed or reused, depending on the sanitation system that is in place., e.g. starting with the type of toilet that is being used.
Children excreta can be disposed of in diapers in municipal solid waste but on a worldwide scale it is also often dumped into the environment, leading to public health risks.
- **Overcrowding :** Overpopulation is an undesirable condition where the number of existing human population exceeds the carrying capacity of earth. Overpopulation is caused by number of factors. Reduced mortality rate, better medical facilities, depletion of precious resources are few of the causes which results in overcrowding.
- **Lack of civic amenities:** Even though the percentage of urban population is different in many countries, some countries are still unable to proper civic amenities for its population. This is particularly seen in housing, transport, water supply, sanitation, etc.
- **Poverty problems:** poverty means deprivation of basic necessities such as food, house, clean drining water, shelter, toilet, etc. Poverty is mostly seen in developing countries eg. India, Bangladesh, Africa, Latin America, etc. Poor people stay in underprivileged living environment. Without adequate food and nutrition, many poor people suffer from malnutrition. Without proper sanitation and toilets, they are forced to defecate on open fields. Poverty is the main problem seen in developing countries which results in environmental pollution.
- **Land degradation :** Land degradation is mainly creating problem in many countries of the world. Land degradation includes deforestation, decertification and degradation, that are badly affecting the environment. Land degradation increases the loss of productive soil and reduces capacity.

4.SUSTAINABILITY

The word 'sustainability' originates from an ancient principle in forestry that is simply not to gain more timber from the forestry for centuries. Sustainability has often been defined as how biological systems endure and remain diverse and productive. But, the 21st century definition of sustainability goes far beyond these narrow parameters. Today, it refers to the need to develop the sustainable models necessary for both the human race and planet earth to survive.

In 1987 the 'Brundland commission' set up by the United Nations (UN) published their report as 'our common future' and defined "sustainable development" for the first time as "development that meets the need of the present without compromising the ability of the future generation to meet their needs". The word sustainable also comes from Latin word "sustainer" which means "to bear". In simple words sustainability is called as long-term compatibility.

It is also believed that sustainability is dependent on four main pillars:

- i) Economic activities and output i.e. monetary system.
- ii) Ecological configuration
- iii) Good governance and politics
- iv) Institutional capacity and performance of education

5.PREVENTIVE STRATEGIES FOR ENVIRONMENTAL POLLUTION:

❖ Water Pollution:

- i) The household water should be treated properly so that they become environmentally safe.
- ii) Promote clean water act.
- iii) Avoid overwatering.
- iv) Recycle hazardous materials.
- v) Do not dispose toxic liquids in the sink.
- vi) Recycle junk accordingly
- vii) Do not throw litter in water bodies.
- viii) Do not use coloured bathing bars.

❖ Air pollution:

- i) Use public transportation.
- ii) Turn off lights when not in use.
- iii) Buy green electricity.
- iv) Make use of solar energy.
- v) Use natural gas instead of charcoal.
- vi) Reuse paper bags.
- vii) Quit smoking.
- viii) Use cold water instead of hot.

❖ **Noise pollution:**

- i) Don't blast music on your computer or music system.
- ii) Keep the volume of your television under reasonable limits.
- iii) Don't blow your car's horn 'just like that , make sure you have a valid reason.
- iv) Use proper lubrication and better maintenance.
- v) Install noisy machines in sound proof chambers.
- vi) Go green
- vii) Minimum use of loudspeakers and amplifiers especially near silence zones.
- viii) Framing a separate noise pollution act.

6.ENVIRONMENTAL PLANNING:

Environmental planning is a decision making process that considers the environmental, social, political, economic, and governance factors that can affect development. Its goal is to manage the relationship between natural systems and human systems in the present and future.

7.RESEARCH AND DEVELOPMENT:

Adequate research and development of sustainable and environment development should not be limited to pure science but also include social values, economic and commercial consideration and public perception. Continuous and adequate research and development will result in the "6Rs":

- i) Replace unsustainable activities with sustainable,efficient process with more efficient ones.
- ii) Re-use or recycle products to conserve resources.
- iii) Renewable resources used whenever practicable.
- iv) Re-structure government and non-governmental organizations to incorporate commitment to philosophy of sustainable development.
- v) Reduce consumption of dangerous resources and waste production.
- vi) Restore valuable resources i.e. land, water, air, ecosystem, etc.

8. CONCLUSION:

The main importance of bringing improvement in living standard, especially in developing countries in the area of water pollution, air pollution, noise pollution, disposal of waste , etc; and this reason these countries are engaged in substaintial programs to improve the quality of life of the people.

However, since environment is a complex, variable and extensive system, protecting the environment is a hard and enduring task. It is impossible that all the existing pollution problems in the environment can completely be resolved in next decade. A wonderful and quality environment must be achieved by continuous planning, governmental policies, efforts

of the enterprises and public participation.

It is responsibility of everyone i.e. NGO's, professionals, stake holders, individuals, government bodies, etc ; to protect our environment. Let us fulfill our responsibilities in environmental protection, creating quality ecological environment and sharing wonderful green living together.

“WHEN WE HEAL THE EARTH,WE HEAL OURSELVES”.

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