

**POLLUTION AND ENVIRONMENT : A BRIEF ACCOUNT OF
DEGRADATION OF FEW ENVIRONMENTAL
FACTORS AND IT'S EFFECTS**

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Abstract :

The word environment in present era is so popular that there is no need to explain the term environment. It comprises air, land and water. The natural environment of living things in a fragile membrane around the earth. i.e. The biosphere means a sphere of living organisms. The environment of life is abundantly rich in the quality of animals. Plants, bacteria, fungi and other living things.

The surrounding of men is full of natural and man-made environment. All the life form are related with a large number things including physical, chemical, biological and social factors. All the things which are available in the environment of man and can be utilized by man for his survival, are called as "Natural Resources. Thus, water, air, minerals, soils, forests, coals, wild life etc. are some of the examples of natural resources.

These natural resources are contaminated by some man made pollutants. Due to it the balance of environment affected & ultimately the life of human come in danger. The present paper discuss over pollutants, pollution and environment regarding states of matter & human beings.

Key words : Pollution, Water, Soil, Air, Noise, Nuclear Hazard, Environment.

Introduction :

The quality of environment decides the quality of life. A good quality environment is treated as healthy environment and all livings in such environment flourishes, grows luxuriously.

In nature, the natural cycle runs naturally on self regulatory mechanism naturally without any interferences and environmental balance is maintained. When human activities interrupt the cycle then environment threats and environmental problems arises. Therefore man himself is a root cause of his suicide in the form of environmental degradation. In natural course, nature have a capacity to fulfil the needs and not to our greed.

Pollution :

Environmental degradation means the lowering of quality of environmental resources. When quality of resources goes down below the required level, it is called pollution.

A term pollution is derived from Latin term 'pollutus' means to make dirty. It basically describes the environment quality.

Pollution is mostly man made but it can be natural also.

Types of pollution –

Air pollution

Water pollution

Soil pollution

Noise pollution

Solid waste pollution

Air pollution - It is also called as atmospheric pollution.

The occurrence of foreign particles, other gaseous pollutants in the air which adversely effect on human beings, vegetation and animals along with buildings is as air pollution.

The primary components of pure air with various gases in percentage are as follows,

Nitrogen (N ₂)	78.09%
Oxygen (O ₂)	20.95%
Argon (Ar)	0.93%
Carbon dioxide (CO ₂)	0.03%
Ozone (O ₃)	0.0001%

Effects of air pollution :

Foul air leads various diseases and health hazards. Biotic health depends on the quality of air in environment. Air pollution effect on man. Plants, animals and climate.

Water pollution

Water is one of the most important environmental resource, essential for the survival of life. It is found in various phases and storages such as

- 1) Liquid phase – Ocean, Seas, Lakes and Rivers.
- 2) Solid phase - Glaciers, Icecaps, Icesheets.

Water, a nature's gift, available naturally at free of cost. It is available on earth by following sources

in percentage.

Oceans and seas	Arrested in Ice caps/snow field	Under ground	Spring	Soil	Rivers
97.25	2.05	0.68	0.01	0.005	0.0001

“The term water pollution refers to deterioration in chemical, physical and biological properties of water brought by human activities which may cause harmful effects on human and aquatic life.”

Sources of water Pollution

Sources of water pollution are classified accordingly how pollutants are introduced in water.

1) Point Sources –

Is the sites near water where direct discharge of effluents falls in water. A flow of pollutants through regular channels such as sewage system putting urban sewage in riverbed, in point source.

- **Urban sources** – discharges from houses, commercial establishment. Connected to public sewage includes excreta, domestic and municipal garbages etc.
- **Industrial Sources** – Suspended solids, heavy metals, nitrates etc. industrial waste water discharge into water body.
- **Cultural sources** – religious fair after every 12 years. In the form of Kumbha Mela at Alahabad, Nashik, Where millions of people from all over India get together and pollute the water.

2) Non point source -

The scattered pollutants like pesticides and fertilizers in due course from ground to water is non point source

- **Agricultural Sources** – Fertilisers, pesticides, insecticides, herbicides, metallic salts, carbonates and acids, nondegradable

Effects of water pollution on human health :

Water contaminated with heavy metals cause serious health problems. Mercury compounds in waste water converted into extremely toxic by bacterial action into methyl mercury which causes weakness of tongue, lips and numbness of limbs, blurring of vision and deafness. In India 4 million children die every year from water borne diseases.

Soil :

It is most fundamental resource of our environment. Soil is a natural body, produced naturally, requires hundreds of years to form. Soil is the upper layer of the earth crust.

Soil is defined as a mixture of mineral and organic matter and is capable of supporting plant life. The ratio of elements exists in the soil as shown below.

Mineral Matter	45%
Soil Air	25%
Soil Water	25%
Organic matter	5%

Soil Pollution

Soil pollution can be defined as, the addition of substances to the soil, which adversely affect physical, chemical and biological properties of soil and reduces its productivity

Sources of Soil Pollutants :

- Industrial waste
- Fertilizers and Pesticides waste.
- Domestic / Discarded waste
- Radio active waste
- Others

Noise Pollution

The unpleasant and unwanted sound is called noise. Noise is an environmental pollutant and does not remain in environment for longer time.

Loudness is measured by decibel scale. Noise with its loudness and frequency can affect human ear,

Sources of Noise Pollution : (according to sound source origin)

- i) Automobiles / Vehicle e.g. modes of transport
- ii) Industries
- iii) Domestic appliances.
- iv) Constructional activities / blasting / stone crushing.
- v) Celebration / functions / Elections / Crackers
- vi) Musical clubs / Hotels / Bars / Weekly markets.
- vii) Thunder storms

A sound level (Intensity) of normal conversation ranges between 35 dB, prolonged exposure to noise of 80 dB or more may lead to impairment hearing and above 140 dB is painful.

Nuclear Hazards

The radio active wastes are generated when nuclear energy is produced. This radio active waste is hazardous and causes death to man and other biotic community when not properly disposed. Any leakage or accident taking place in nuclear power plants might be due to technical or man made fault, causes nuclear hazards.

Sources –

- 1) **Natural sources** – It include terrestrial radiation from radio nuclides of earth crust like thorium, uranium, radium and cosmic rays.
- 2) **Man-made sources** –
 - Atomic explosions, performed to test the nuclear arms produce radio active particles and release radiation in the atmosphere as huge clouds which are carried to long distances by wind and settled down. Contaminates soil, plants and animals large scale destruction in japan from 1st Atomic bomb in 1945 on Nagasaki and then Hiroshima had its hazardous effects.
 - Nuclear test under earth's surface or in Ocean water which also acts as source of radio active radiation.
 - X- rays and radiation therapy for cancers also emit radiation.

Effects :

- Radiations affects genes and chromosomes – It can cause genetic disorders in the next generation.
- It leads thyroid cancer.

Role of Individuals in Prevention of pollution :

Environment belongs to all and also important for all. The role of every individual in preventing pollution is of prime importance. Individual efforts towards prevention will be visible not only at local community level but also at the global level. It is a duty and also a responsibility of the human community which has commanding position on the earth. To protect earth and to provide conducive environment for biotic species is the immediate need.

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