



POLLUTION - A THREAT TO HUMAN HEALTH

SUSEELAMMA.T

Physical Director, Government Degree College for Women, Guntur.

SUJATHA, N.

Lecturer in English, Government Degree College for Women, Guntur.
jyothulaa@gmail.com

ABSTRACT

The contamination of air, water, or soil by substances those are harmful to living things. Light from cities and towns at night that interferes with astronomical observations is known as light pollution. It can also disturb natural rhythms of growth in plants and other organisms. Continuous noise that is loud enough to be annoying or physically harmful is known as noise pollution. Heat from hot water that is discharged from a factory into a river or lake, where it can kill or endanger aquatic life, is known as thermal pollution.

There are so many kinds of pollution Air pollution, Water pollution, Soil pollution. And Noise pollution, are so hazardous and harmful to all living beings. Of these some are due to human faults causing lot of health problems especially in human beings. So it is an urgent need of the hour to be aware of these pollutions and try to minimize the pollution for the existence of living things.

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Air Pollution:

Air pollution occurs when gases, dust particles, fumes (or smoke) or odour are introduced into the atmosphere in a way that makes it harmful to humans, animals and plant. Things that pollute the air are called pollutants. Examples of pollutants include nitrogen oxides, carbon monoxides, hydrocarbons, sulphur oxides, sand or dust particles, and organic compounds that can evaporate and enter the atmosphere. There are two types of pollutants:

Primary pollutants are those gases or particles that are pumped into the air to make it unclean. They include carbon monoxide from automobile



exhausts and sulfur dioxide from the combustion of coal. Secondary pollutants when pollutants in the air mix up in a chemical reaction, they form an even more dangerous chemical. Photochemical smog is an example of this, and is a secondary pollutant. When pollution occurs in the air, it can easily travel and spread, and because we breathe in air, we cannot easily avoid it.

1. Carbon Monoxide, Fuel combustion from vehicles and engines.

Reduces the amount of oxygen reaching the body's organs and tissues; aggravates heart disease, resulting in chest pain and other symptoms.

2. Lead

Smelters (metal refineries) and other metal industries; combustion of leaded gasoline in piston engine aircraft; waste incinerators (waste burners), and battery manufacturing. Damages the developing nervous system, resulting in IQ loss and impacts on learning, memory, and behavior in children. Cardiovascular and renal effects in adults and early effects related to anaemia.

3. Nitrogen Dioxide

Fuel combustion (electric utilities, big industrial boilers, vehicles) and wood burning. Worsens lung diseases leading to respiratory symptoms, increased susceptibility to respiratory infection.

4. Sulfur Dioxide

Comes from fuel combustion (especially high-sulfur coal); electric utilities and industrial processes as well as natural occurrences' like volcanoes. Aggravates asthma and makes breathing difficult. It also contributes to particle formation with associated health effects

5. Ground-level ozone:

Chemical reactions involving air pollutants create a poisonous gas ozone (O₃). Gas Ozone can affect people's health and can damage vegetation types and some animal life too.

Water Pollution:

Water pollution is the contamination of water bodies very often by human activities. Water pollution occurs when pollutants (particles, chemicals or substances that make water contaminated) are discharged directly or indirectly into water bodies without enough treatment to get rid of harmful compounds. Pollutants get into water mainly by human causes or factors. Water pollution is the second most imperative environmental



concern along with air pollution. Water pollution affects not only individual living species, but also populations and entire functioning ecosystems that exists in the waters. Humans have now realized the importance of clean water as a foundation for life. In recent time, more and more organizations and councils are working hard to educate, protect, restore waterways and encourage practices that help keep waters from contamination, and also to preserve water ecosystems from destruction.

There are many types of water pollution because water comes from many sources. Here are different types of water pollution:

1. Nutrients Pollution

Some wastewater, fertilizers and sewage contain high levels of nutrients. If they end up in water bodies, they encourage algae and weed growth in the water. This will make the water undrinkable, and even clog filters. Too much algae will also use up all the oxygen in the water, and other water organisms in the water will die out of oxygen starvation.

2. Surface water pollution

Surface water includes natural water found on the earth's surface, like rivers, lakes, lagoons and oceans. Hazardous substances coming into contact with this surface water, dissolving or mixing physically with the water can be called surface water pollution.

3. Oxygen Depleting

Water bodies have micro-organisms. These include aerobic and anaerobic organisms. When too much biodegradable matter (things that easily decay) end up in water, it encourages more microorganism growth, and they use up more oxygen in the water. If oxygen is depleted, aerobic organisms die, and anaerobic organism grow more to produce harmful toxins such as ammonia and sulfides.

4. Ground water pollution

When humans apply pesticides and chemicals to soils, they are washed deep into the ground by rain water. This gets to underground water, causing pollution underground. This means when we dig wells and bore holes to get water from underground, it needs to be checked for ground water pollution.



5. Microbiological

In many communities in the world, people drink untreated water (straight from a river or stream). Sometimes there is natural pollution caused by micro-organisms like viruses, bacteria and protozoa. This natural pollution can cause fishes and other water life to die. They can also cause serious illness to humans who drink from such waters.

6. Suspended Matter

Some pollutants do not easily dissolve in water. This kind of material is called particulate matter. Some suspended pollutants later settle under the water body. This can harm and even kill aquatic life that live at the floor of water bodies.

7. Chemical Water Pollution

Many industries and farmers work with chemicals that end up in water. These include chemicals that are used to control weeds, insects and pests. Metals and solvents from industries can pollute water bodies. These are poisonous to many forms of aquatic life and may slow their development, make them infertile and kill them.

8. Oil Spillage

Oil spills usually have only a localized effect on wildlife but can spread for miles. The oil can cause the death to many fish and get stuck to the feathers of seabirds causing them to lose their ability to fly.

NOISE POLLUTION:

Sound is essential to our daily lives, but noise is not. Noise is generally used as an unwanted sound, or sound which produces unpleasant effects and discomfort on the ears. Sound becomes unwanted when it either interferes with normal activities such as sleeping, conversation, or disrupts or diminishes one's quality of life. Not all noise can be called noise pollution. If it does not happen regularly, it may be termed as 'nuisance'. It is also believed that it is not only humans who are affected. Water animals are subjected to noise by submarines and big ships on the ocean, and chain-saw operations by timber companies also create extreme noise to animals in the forests. Generally, noise is produced by household gadgets, big trucks, vehicles and motorbikes on the road, jet planes and helicopters hovering over cities, loud speakers etc. Noise is considered as environmental pollution, even though it is thought to have less damage on humans than water, air or land pollution.



Household sources: Gadgets like food mixer, grinder, vacuum cleaner, washing machine and dryer, cooler, air conditioners, can be very noisy and injurious to health. Others include loud speakers of sound systems and TVs, ipods and ear phones. Another example may be your neighbor's dog barking all night everyday at every shadow it sees, disturbing everyone else in the apartment.

Social events: Places of worship, discos and gigs, parties and other social events also create a lot of noise for the people living in that area. In many market areas, people sell with loud speakers; others shout out offers and try to get customers to buy their goods. It is important to note that when these events are not often, they can be called '[Nuisance](#)' rather than noise pollution.

Commercial and industrial activities: Printing presses, manufacturing industries, construction sites, contribute to noise pollutions in large cities. In many industries, it is a requirement that people always wear earplugs to minimize their exposure to heavy noise. People who work with lawn mowers, tractors and noisy equipment are also required to wear noise-proof gadgets. There are two major effects

Effects on Hearing: The immediate and acute effect of noise pollution to a person, over a period of time, is impairment of hearing. Prolonged exposure to impulsive noise to a person will damage their eardrum, which may result in a permanent hearing.

Effects on general health: Health effects of noise include anxiety and stress reaction and in extreme cases fright. The physiological manifestations are headaches, irritability and nervousness, feeling of fatigue and decreases work efficiency. For example, being pounded by the siren of fire fighters, police or ambulance in your city all night everyday leave people stressed and tired in the morning.