

What is Pollution?

Understanding pollution and its various causes can help address the various concerns linked to environmental degradation and destruction, and the dangers it brings to human health. Pollution is of many kinds, but the commonly known are air, land, and water pollution. Below are the different types of pollution and their distinctive comprehensive explanations.

Air pollution

Air is the most polluted environmental resource. It is the introduction of harmful substances in the air that results in detrimental impacts to the environment and humanity. Air pollution reduces air quality by making it unclean or contaminated. It occurs when harmful substances such as foreign gases, odours, dust, or fumes are released in the air at levels that can harm the comfort or health of animals and humans, or even destroy plant life. Air pollution results from both human and natural activities. It is caused by emissions from manufacturing industries and power plants, vehicular emissions, smoking, natural events such as volcanic eruptions and wildfire, and burning of waste materials such as wood, rubber and plastics. The common air pollutants include hydrocarbons, volatile organic compounds (VOCs), dust particles, carbon monoxide, sulfur oxides, particulate matter, chlorofluorocarbons (CFCs), and nitrogen oxides.

Water pollution

Water pollution is the act of contaminating water bodies namely rivers, oceans, lakes, streams, aquifers, and groundwater. It occurs when foreign harmful materials like chemicals, waste matter, or contaminated substances are directly or indirectly discharged into water bodies. Any alterations in the chemical, physical, or biological water properties qualify as water pollution. Very often, the primary contributors to water pollution are human activities since they introduce substances that contaminate the water with harmful chemicals and toxic materials. Water is considered the second most polluted environmental resource after air pollution. The causes of water pollution include:

- The discharge of industrial waste in water bodies
- Agricultural pollution: practices such as the use of pesticides and other agrochemicals that get washed into water systems or infiltrate into groundwater
- Discharge and dumping of waste materials and home made products such as plastics and detergents into water bodies
- Oil spills
- Natural disasters such as floods and hurricanes that lead to intermixing of water with dangerous substances on the land
- Sediments from soil erosion

Land Pollution

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Land pollution is the destruction or decline in quality of the earth's land surfaces in terms of use, landscape and ability to support life forms. Many times, it is directly and indirectly caused by human activities and abuse of land resources. Land pollution takes place when waste and garbage is not disposed off in the right manner and as such, introduces toxins and chemicals on land. It also occurs when people dump chemical products to soils in the form of herbicides, fertilizers, pesticides, or any other form of the consumer by-products. Mineral exploitation equally leads to the decline in quality of the earth's land surfaces. In this regard, it has grave consequences for human health, plant life, and soil quality. Acid rain, construction sites, solid waste, mineral exploitation, agricultural chemicals, and deforestations are the primary causes of land pollution.

Noise Pollution

Noise pollution is mostly an undesirable sound or sound which generates horrible discomfort on the ears. It is measured in decibels (dB) and sound levels beyond 100 dB can cause permanent hearing loss. The industrial sound limit according to the World Health Organization (WHO) is 75 dB. In the contemporary society, noise has become a permanent aspect owing to the daily activities such as transportation including airports, traffic and railroads, industrial manufacturing, construction works, and concerts. In contrast to the other types of pollution, noise pollution lacks the element of accumulation in the environment. It merely occurs when sound waves of intense pressure reach the human ears and may even affect the body muscles due to sound vibrations. Noise pollution similarly affects marine and wildlife animals in the same manner it affects humans, and can even cause their death.

Light Pollution

Light pollution occurs due to lengthened and excessive use of artificial lights, such that it results in the brightening of the skies. As a consequence, it upsets the activities and natural cycles of wildlife and also affects the welfare of humans. Whenever artificial lights are used where they are not intended, it causes a nuisance. For instance, too much outdoor light intruding into neighbour's bedrooms can disrupt their sleep. Likewise, too much indoor light has implications on the health of the inhabitants of that room. Light pollution is also referred to as luminous pollution or photo pollution. The types of light pollution include glare, light trespass, and sky glow. City lighting, advertising and billboards, and night time entertainments are some of the main contributors of light pollution.