

Environmental pollution: Effects on Humans, Animals, Plants and the Environment

Pollution is the introduction of contaminants into the environment that cause harm or discomfort to humans or other living organisms, or that damage the environment which can come in the form of chemical substances, or energy such as noise, heat or light. The three main types of environmental pollution are; Air pollution, Water pollution and Soil pollution. Pollutants can be naturally occurring substances or energies, but are considered contaminants when in excess of natural levels. Examples of pollutants and their sources include: organic chemicals and nutrients such as pesticides, herbicides, nitrogen and phosphorus (fertilizers) from agricultural activities. Heavy metals (mercury, lead) and acids from industrial processes; sediments, drugs and pathogens from runoff, urban waste water and human/animal feces and urine. Others are radioactivity and heat/thermal pollution from power plants.

Some effects on human health associated with air pollution are: Reduced lung functioning, Irritation of eyes, nose, mouth and throat, Asthma attacks, Respiratory symptoms such as coughing and wheezing, Increased respiratory disease such as bronchitis, Reduced energy levels, Headaches and dizziness, Disruption of endocrine, reproductive and immune systems, Neurobehavioral disorders, Cardiovascular problems, Cancer, Premature death.

Intake of pathogen contaminated water can cause waterborne diseases such as amoebiasis, giardiasis, ascariasis and hookworm infestation. Water polluted by heavy metals, pesticides, fertilizers and herbicides can cause cancer, damage to liver, kidney, nervous system and DNA. Swimming in polluted water can cause; rashes, ear ache, pink eye, respiratory infections, hepatitis, encephalitis, gastroenteritis, diarrhoea, vomiting, and stomach aches.



Children Playing with Polluted water



Soil and Water Pollution in Kenya

Soil pollution is, in a way, connected to water pollution and may cause cancer, headaches, fatigue, skin rashes and eye irritations. Contaminated soil may alter plant metabolism and reduce crop yields. Trees and plants may absorb soil contaminants and pass them up the food chain to consumer animals and humans causing ailments such as cancer.

Animals and plants are also affected by pollution: Acid rain (formed in the air) destroys fish life in lakes and streams. Acid rain can kill trees, destroy the leaves of plants, can infiltrate soil by making it unsuitable for purposes of nutrition and habitation. The Ozone layer in the atmosphere has been reduced/eroded by some air pollutants (greenhouse gases such as methane and carbon dioxide), thus allowing excessive ultraviolet radiation from the sun to enter the Earth causing damage to plants and animals. Excessive ultraviolet radiation may cause skin cancer in wildlife and damage lung tissues of animals. Ozone in the lower atmosphere can prevent plant respiration by blocking stomata and negatively affecting plants' photosynthesis rates which will stunt plant growth and reduce food production.

Three general characteristics of environmental pollutants are: Pollutants don't recognize boundaries, i.e. they are transboundary. Many of them can't be degraded by living organisms and therefore stay in the environment for many years; and they destroy living organisms and habitats. These characteristics emphasize the fact that pollutants present a serious long-term global environmental problem that affects more or less every country and therefore, can only be solved by a coordinated set of actions and unwavering commitment of countries to international environmental agreements.

Environmental pollution is causing a lot of distress not only to humans but also animals, driving many animal species to endangerment and even extinction. For example, the rapid increase in non-communicable diseases such as diabetes, hypertension and cancer is associated with the effects of environmental pollution. Perhaps we should adopt a holistic view of nature/environment. The environment is not an entity that exists separately from us; the nature is us, we are an inalienable part of it. In other words, people and the environment are part and parcel of each other; inextricably linked. We are as healthy/polluted as our environment. If only for our own sake, we should care for the environment in the most appropriate and sustainable manner. Only then can we possibly solve the problem of environmental pollution and save ourselves.

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