

Air Pollution Effects on the Environment and Human Health

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Editorial Note

Air pollution is one of the biggest problems of our day, not only because of its impact on climate change but also because of its impact on public and individual health, which leads to increased sickness and death. Many contaminants are significant contributors to human disease. Particulate Matter (PM), a type of particle with a variable but small diameter that enters the respiratory system through inhalation and causes respiratory and cardiovascular disorders, reproductive and central nervous system dysfunctions, and cancer is one of them. Even though ozone in the stratosphere protects against ultraviolet irradiation; People, animals, crops, and other things can be harmed by high ozone concentrations at ground level.

The respiratory and cardiovascular systems are also affected by air pollutants. The pollutants that are poisonous to people include nitrogen oxide, sulphur dioxide, volatile organic compounds (VOCs), dioxins, and polycyclic aromatic hydrocarbons (PAHs). When inhaled at high volumes, carbon monoxide can cause immediate poisoning. When heavy metals like lead are consumed into the human body, they can cause either immediate poisoning or chronic intoxication, depending on the level of exposure. Respiratory issues like Chronic Obstructive Pulmonary Disease (COPD), asthma, bronchiolitis, lung cancer, and cardiovascular diseases can occur due to the intake of toxic gases.

Multiple human activities influence the environment. Hence the interactions between humans and their physical surroundings have been intensively explored. The biotic (living beings and microbes) and abiotic (inanimate objects) worlds collide in the environment (hydrosphere, lithosphere, and atmosphere). Pollution is defined as the introduction of substances that are hazardous to people and other living organisms in the environment. Pollutants are toxic solids, liquids, or gases that are created in higher-than-normal proportions and degrade our environment's quality.

Human activities pollute the water we drink, the air we breathe, and the soil where we grow the plants, all of which harm the environment. Although the industrial revolution was a big success in terms of technology, society, and the provision of a wide range of services, it also resulted in the release of massive amounts of pollutants into the air that is hazardous to human health. Without a

doubt, global environmental degradation can be considered a multifaceted international public health issue. This issue is linked to social, economic, and legislative concerns, as well as lifestyle behaviors. Urbanization and industrialization have reached unparalleled levels.

Climate change and air pollution are inextricably linked. Climate change is the opposite side of the same coin that degrades our planet's quality. The amount of incoming sunlight is affected by pollutants, such as black carbon, methane, tropospheric ozone, and aerosols. As a result, the temperature of the Earth is rising, causing ice, icebergs, and glaciers to melt.

Climate change will affect the frequency and prevalence of both residual and imported diseases in the world. Climate and weather have a significant impact on the duration, timing, and severity of outbreaks, as well as the global map of infectious illnesses.

Mosquito-transmitted parasitic or viral illnesses are highly vulnerable to climate change, as warming shortens the pathogen's incubation time and changes the vector's geographic map. Water warming as a result of climate change also results in a high prevalence of waterborne diseases.

Recently, eradicated illnesses such as cholera, poliomyelitis, tick-borne encephalitis, and malaria have showed up in European countries as a result of population migration. For successful pollution management, international collaboration corresponding to research, development, administration policy, monitoring, and politics are essential.

Air pollution legislation has to be updated and harmonized, and policymakers should propose the creation of an instrument for environmental and health protection.

In conclusion, the central argument of this article is that we should concentrate on nurturing local organizations to encourage experience and practice and then extrapolate these to the worldwide level through the development of effective regulations for ecosystem management.

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