

ENVIRONMENTAL POLLUTION AND PUBLIC HEALTH

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Abstract

Pollution is the aberrant and unfavourable alteration of the environment, with harmful effects on the life of man and other organisms. It is, in fact, an unwanted change in the physical, chemical or biological characteristics of air, land and water that may adversely affect the life of all organisms. Environmental pollution is a wide reaching problem and is likely to influence the health of human populations is great. This paper provides the comprehensive view about the effects of environment pollution in the perspective of air pollution, and noise pollution. Study finds that these kinds of pollutions are not only seriously affecting the human by diseases and problems but also the animals and trees/plants.

Key words: Environment Pollution, Air Pollution, Water Pollution, Noise Pollution

INTRODUCTION

Environmental pollution is mostly the consequence of unbridled human population explosion, unplanned urbanization and industrialization, undesirable environmental alteration, unscientific overexploitation of natural resources, intensive agriculture and the rapid strides in technological advancement. It has now assumed global dimensions and its frontiers are no more confined to any particular part of the planet. Environmental pollution is defined as “the contamination of the physical and biological components of the earth/atmosphere system to such an extent that normal environmental processes are adversely affected.” Pollutants can be naturally occurring substances or energies, but they are considered contaminants when in excess of natural levels. Any use of natural resources at a rate higher than nature’s capacity to restore itself can result in pollution of air, water, and land. Environmental pollution has existed for centuries but only started to be significant following the industrial revolution in the 19th century.

Objectives of the study

1. To study the general effects of environmental pollution
2. To study the causes, effects and rescue methods to alleviate the dangers of air pollution, and noise pollution.

Methodology

The study was descriptive in nature. Secondary data were used for the purpose of the study. Secondary data were collected from books journals, reports, magazines and from various websites.

Environmental Pollution

Pollutants are the gaseous, solid or liquid substances or agents which can cause pollution or contribute to pollution. Mostly pollutants are the 'byproducts' of man's actions. At present, enormous quantities of solid, liquid and gaseous wastes are dumped to our surroundings. Nature is unable to absorb most of them. Hence, they accumulate in the environment and pollute the biosphere.

Primary and secondary pollutants

Environmental pollutants are of two major groups, primary and secondary. Primary pollutants are the simple pollutants, directly released to the environment from their sources, carbon monoxide, hydrogen sulphide, ammonia etc. Secondary pollutants are the complex pollutants, formed in the environment by the chemical combination of primary pollutants with other substances.

Qualitative and quantitative pollutants

Based on natural existence, pollutants may be classified into two categories, qualitative and quantitative. Qualitative pollutants are the pollutants which do not normally occur in the environment, but are introduced into the environment by human activity. Insecticides, fungicides etc. Quantitative pollutants are the substances which turn to be pollutants when their environmental concentration exceeds a critical level. Carbondioxide, Nitrogen oxide etc are examples.

General effects of environmental pollution

Environmental pollution harmfully affects the life of organisms or causes potential health hazards in them.

Some of its general effects are the following:

1. Causes the wastage, qualitative degradation and quantitative depletion of natural resources.
2. Induces serious disorders and diseases and adversely affects human health and welfare.
3. Brings about unfavourable changes in climate and other environmental conditions.
4. Poisons the whole biosphere and poses serious threats to the normal existence of organisms.
5. Abnormally alters the dynamics of the ecosystem and adversely affects the efficiency and organization of species.

Air Pollution

Air pollution is the contamination of atmosphere air with undesirable, harmful or toxic substances, making it noxious and harmful to organisms and materials. It involves an abnormal degradation or alteration in the composition of atmospheric air.

Sources of air pollution

The sources of air pollution are varied and numerous. They are of two major groups namely natural and artificial. Artificial sources are man-made and hence called anthropogenic sources.

- **Natural sources**

Volcanic eruption, weathering of rocks, wild fires, dust storms and sand storms, natural decay of organic matter etc are the major natural sources of air pollution. Volcanic eruption and organic decay release to the atmosphere noxious gases such as hydrogen sulphide, sulphurdioxide and carbon monoxide.

- **Anthropogenic sources**

Artificial sources of air pollution are mainly related to population explosion, extensive urbanization, massive industrialization, intensive agriculture etc.

General effects of air pollution

Air pollution adversely affects human health and welfare in several ways as follows:

1. Causes harmful mutations, congenital abnormalities and inborn disorders and diseases.
2. Causes serious health hazards in man. Respiratory ailments, lung cancer, heart diseases, hypertension, chronic asthma and bronchitis, irritations to eye, nose, throat and respiratory tract etc are some of them.
3. Causes destruction to vegetation, crops, forests and live stock.
4. Spoils fabrics and protective surface coatings and discolours paintings.
5. Disturbs and depletes the ozone umbrella by the actions of some chemicals pollutants.

Control measures

1. Raise the heights of the smoke stacks and chimneys of factories for reducing the concentration of pollutants at ground levels and also for the atmospheric dilution of smoke.
2. Use furnace fuels which have very low sulphur contents.
3. Use gaseous fuels in automobiles to enable complete combustion and also to reduce the emission of toxic substances.

4. Grow trees in cities and industrial centres. Trees can serve as biological filters. They absorb gas contaminants from air, while liquid and solid particles settle on their foliage.

Noise Pollution

Noise pollution is the 'dumping' of unwanted sounds to the surrounding, making it boisterous and unpleasant. Noise is the undesirable, unpleasant and irritating high intensity sound whose waves are irregular and short in duration. As a pollutant, noise is as harmful as the noxious gases and toxic chemicals of our environment. Noise pollution has now become a global menace, dangerous to man in diverse ways. It has been estimated that the public noise level gets doubled once in every six years, very seriously impairing our hearing powers. If the noise level steadily increases at the present rate, in a few years to come, no person above the age of ten years will have perfectly normal hearing powers.

Sources of noise pollution

The major sources of noise pollution are:-

- **Transport noise**

This includes the noise from surface and air transports such as road transport, rail traffic and air craft's. The roaring of motor vehicles exceeds 100 dB(decibels), hooting of trains is more than 130dB and the thundering sound of supersonic jets often called the *sonic boom*, is more than 170dB. It is feared that the sonic boom may disrupt the ozone layer, damage buildings and cause unpredictable problems to the inhabitants around aerodromes.

- **Industrial noise**

It includes the roaring of industrial machines which is 90-110dB in intensity. Prolonged exposure to industrial noise gradually deafens the victims.

- **Domestic appliances and gadgets.**

These include generators, food blenders, washing machines, vacuum cleaners, television set etc. These also serve as a constant source of noise pollution.

Effects of noise pollution

Some of the adverse effects of high intensity sound are the following:-

1. Damages ear drum and causes hearing loss and deafness
2. Seriously affects the normal functioning of brain and nervous system.
3. Causes hormonal imbalance, anxiety, stress and fright.

4. Causes emotional disturbances, violent behavior, mental imbalance and insanity.
5. Stimulates the multiplications of harmful viruses.
6. Encourages alcoholism and addiction to drugs and sleeping pills.
7. Aggravates peptic ulcers, asthma, eczema etc.
8. Disturbs deep sleep, causing fatigue and frustration and adversely affecting our physical and mental health.

Control and protective measures

1. Replace old noisy factory machines by new ones with silencers.
2. Use ear covers, ear plugs etc by factory workers to protect themselves from high sound.
3. Insulate the sound- producing machines and the walls and ceilings of factories with sound absorbers.
4. Regulate traffic in such a way that looting of horns can be avoided.
5. Grow trees in and around factory premises to attenuate noise.
6. Deny licences for old rattling vehicles, which remit high sound and heavy smoke.

Conclusion

Environmental pollution is a major issue in different parts of the world, which requires the policy makers to employ some mitigation strategies. Everything on our planet is correlated, and while the nature supplies us with invaluable environmental services without which we cannot exist, we all depend on each other's actions and the way we treat natural resources. We should adopt an integrated view of nature – it is not an entity that exists separately from us and we should care for it in the most appropriate manner. Only then can we possibly resolve the problem of environmental pollution.

References

1. Carter, F. W. 1985. Pollution Problems in Post-War Czechoslovakia, Transactions of the Institute of British Geographers, 10(1), pp. 17-44.
2. Kan, H. 2009. Environment and Health in China: Challenges and Opportunities Environmental Health Perspectives, 117(12), pp. A530-A531
3. Bhaskaran.k.k , Mohammed Rfeeq APM (2010)Environmental studies,pp137-163.
4. Air Pollution Fifth Leading Cause of Death in India: Study." *The Times Of India*. N.p., 14 Feb. 2013. Web. 15 May 2013. http://articles.timesofindia.indiatimes.com/2013-02-14/pollution/37099315_1_air-pollution-premature-deaths-toxics
5. Daily Dose of Air Pollution." *Air Pollution in Delhi*. N.p., 10 Nov. 2012. Web. 15 May 2013.<http://urbanemissions.blogspot.com/2012/11/pollution-in-delhi-winter-time-highs.html>

6. Kuruganti, Poonam. "Air Pollution: Urgent Cause for Concern." *HealthIndiacom Air Pollution Urgent Cause for Concern Comments*. N.p., 12 July 2012. Web. 15 May 2013. <http://health.india.com/diseases-conditions/air-pollution-urgent-cause-for-concern>.
 7. Gamble, J., Lewis J. (1996). Health and respirable particulate (PM10) air pollution: A causal orStatistical associations?. *Environ Health Perspect* 104:838-850.Ghio,
 8. A.J., Samet J. (1999). Air pollution and health: metals and air pollution particles. *AcademicPress*, p.635-651
 9. Ehrlich R. (1980) Interaction between environmental pollutants and respiratory infection. *EnvironHealth Perspect*. 35:89-100.
 10. Dockery, D. Schwartz, J. Spengler J. (1992). Air Pollution and Daily Mortality: Associations withParticulates and Acid Aerosols. *Environmental Research* 59:362-73
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