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Polluted Environment and Mental Sickness

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Introduction

Pollution contamination of the environment as a result of human activities. The term *pollution* refers primarily to the fouling of air, water, and land by wastes. In recent years it has come to signify a wider range of disruptions to environmental quality. Thus litter, billboards, and auto junkyards are said to constitute visual pollution; noise excessive enough to cause psychological or physical damage is considered noise pollution; and waste heat that alters local climate or affects fish populations in rivers is designated thermal pollution.

The 20th cent. has seen pollution approach crisis proportions throughout the world. At issue is the capacity of the biosphere to disperse, degrade, and assimilate human wastes. The biosphere is a closed ecological system with finite resources and is maintained in equilibrium by grand-scale recycling. Under natural conditions organic and certain inorganic materials in the biosphere are continually recycled by processes including photosynthesis and respiration, nitrogen fixation and denitrification, evaporation and precipitation, and diffusion by wind and water action. But the introduction of massive quantities of waste matter at any point in the biosystem may “overload” it, disrupting the natural recycling mechanisms.

Pollution is contaminants into the natural environment that cause adverse change.[1] Pollution can take the form of chemical substances or energy, such as noise, heat or light. Pollutants, the components of pollution, can be either foreign substances/energies or naturally occurring contaminants. Pollution is often classed as point source or nonpoint source pollution. Although pollution had been known to exist for a very long time it had seen the **growth** of truly **global proportions** only since the onset of the *industrial revolution* during the 19th century. The industrial revolution brought with it technological progress such as discovery of **oil** and its virtually universal use throughout different industries.

Technological progress facilitated by super efficiency of capitalist business practices had probably become one of the main causes of serious deterioration of natural resources. At the same time, of course, development of natural sciences led to the better understanding of negative effects produced by pollution on the environment.

Environmental pollution is a problem both in **developed** and **developing countries**. Factors such as *population growth* and *urbanization* invariably place greater demands on the planet

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and stretch the use of natural resources to the maximum. It has been argued that the **carrying capacity** of Earth is significantly smaller than the demands placed on it by large numbers of human populations. And overuse of natural resources often results in nature's degradation.

In one word, environmental pollution takes place when the environment *cannot* process and neutralize harmful by-products of human activities *in due course* without any structural or functional damage to its system. Pollution occurs, on the one hand, because the natural environment does not know how to decompose the *unnaturally* generated elements (i.e., anthropogenic pollutants), and on the other, there is a lack of knowledge on the part of humans on how to decompose these pollutants artificially. As a matter of fact, India did much more than any other developing country could do to control pollution. Even in controlling global warming and reduction of the Green House gases we were certainly ahead of developed countries like Canada, USA, Australia. General incentives were given by our government to design and develop indigenously pollution monitoring instruments within the country and make us self-sufficient.

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The issue we would like to discuss here is about environmental pollution, to make it simpler and precise, we sometimes refer it to the word pollution in the later parts of our assignment. Pollution is spreading like wildfire in many regions of the world. The two most significant types of pollution would be air and water pollution. Of course, there are still various other types of pollution such as soil contamination, noise pollution, light pollution and many more that we going to discuss further after this. Pollution has becoming one of the most debated and concerned topics of all times by global citizens because of its disastrous effects on everything on this Earth. Although there are quite an amount of people that care about the level of pollution our earth is facing, there are still too much people ignoring this issue and some even continue doing some activities that produce even more pollution to the surroundings intentionally or unintentionally.

Pollution of the environment is causing great damage to ecosystem that depends upon the health of this environment. Air and water pollution can cause death of many organisms in the ecosystem, including humans. According to some estimations, 14.000 people die each day in the world, most of them are in Africa. This is really no surprise when you look at the data that says that 700 million Africans do not even have access to a proper toilet, whether alone clean water. Pollution is a very serious issue and took everyone to prevent and reduce the level of pollution that our mother Earth has suffered. Without the cooperation of all global citizens, this issue is almost impossible to be solved

Definition

The definition of pollution is the process or act that human did during our daily lives which had pollute or contaminated the environment or a state of being polluted with harmful chemical substances that may cause health problems to human beings or even cause some deathly disease such as cancer which is the growth of abnormal cells in the human bodies.

According to Oxford dictionary, the definition of pollution is the presence in air, soil, or water of a substances with unpleasant or harmful effect.

Environmental pollution is “the **contamination** of the physical and biological components

of the earth/atmosphere system to such an extent that normal **environmental processes** are adversely **affected**". (Ref. 1)

"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". "**Pollutants** can be naturally occurring substances or energies, but are considered contaminants when **in excess of natural levels.**"

Pollution is "the **addition** of any substance or form of energy (e.g., heat, sound, radioactivity) **to the environment** at a rate **faster** than the environment can accommodate it by dispersion, breakdown, recycling, or storage in some harmless form".

"Pollution is a special case of habitat destruction; it is **chemical destruction** rather than the more obvious physical destruction. Pollution occurs in all habitats—land, sea, and fresh water—and in the atmosphere."

"Much of what we have come to call pollution is in reality the nonrecoverable matter resources and waste heat."

"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."

"Pollution is habitat contamination".

Types

There're so many types of pollution on Earth. So, let's have a quick look on them before going any deeper about it.

Air Pollution

It's the most serious pollution of all and it brings a serious effect on human health. It can be categories into few types depending of on their combination of pollution or toxins in the air itself. For example, aforementioned ozone which is known as smog and particle pollution which is known as soot are the two most common and widespread types of air pollution we currently facing. There're also pollution that consist deadly pollutants such as carbon monoxide, lead, nitrogen dioxide or even toxins like benzene, mercury and acid gases.

Water Pollution

Since we can't survive without water for just a few days, it shows how valuable water is to us. Water pollution is mainly causes by wastage thrown into it, but it's also can causes by chain reaction from soil pollution and air pollution. Soil normally acts as a filter of underground water sources which is the root of water we drink, as the filter is polluted, no doubt that the water will also be polluted. Water pollution causes tons of effect on human beings since other than drinking from it, it will also contaminate the sources of protein we need to obtain in order to maintain our good health.

Soil Pollution

Soil Pollution is majorly causes by agricultural chemicals such as pesticide and fertilizers since the increase in amount of human and the food consumption. As the soil is contaminated, the chemical won't disappear itself but remain within the soil, when rainfall the water will wash it

away and bring it into the water sources which again causing a water sources being contaminated by chemicals that may bring side effect towards human and of course other living things on Earth.

Radioactive Pollution

This is a type of physical pollution of air, water or soil by radioactive substances. Radioactive substances involve alpha particles, beta particles and gamma rays. This type of pollution can also happen either naturally or manmade. Natural radiation is also known as background radiation, it mainly involves cosmic rays and those substances that are naturally radioactive substances such as uranium, radium, and radon. Manmade radiation of course are mainly toward mining and refining of plutonium and thorium.

Sources of Environmental Pollution

Fossil Fuel Sources of Environmental Pollution

In modern industrialized societies, **fossil fuels** (oil, gas, coal) transcended virtually all imaginable barriers and firmly established themselves in our everyday lives.

Not only do we use fossil fuels for our obvious everyday needs (such as filling a car), as well as in the power-generating industry, they (specifically oil) are also present in such products as all sorts of plastics, solvents, detergents, asphalt, lubricating oils, a wide range of chemicals for industrial use, etc. (Ref. 14)

Combustion of fossil fuels produces extremely high levels of *air pollution* and is widely recognized as one of the most important “target” areas for reduction and control of environmental pollution.

Fossil fuels also contribute to *soil contamination* and *water pollution*.

Power-generating plants and transport are probably the biggest sources of fossil fuel pollution. Common **sources** of fossil fuel pollution are:

Industry:

- Power-generating plants
- Petroleum refineries
- Petrochemical plants
- Production and distribution of fossil fuels
- Other manufacturing facilities

Transport:

- Road transport (motor vehicles)
- Shipping industry
- Aircraft

Fossil fuel combustion is also a major source of **carbon dioxide** (CO₂) emissions and perhaps the most important cause of global warming. Learn more about the causes and effects of global warming here.

Other (Non-Fossil Fuel) Sources of Environmental Pollution

Among other pollution sources, *agriculture* (livestock farming) is worth mentioning as the

largest generator of ammonia emissions resulting in *air pollution*.

Chemicals such as pesticides and fertilizers are also widely used in agriculture, which may lead *water pollution* and *soil contamination* as well.

Trading activities may be another source of environmental pollution.

For example, it's been recently noted that packaging of products sold in supermarkets and other retail outlets is far too excessive and generates large quantities of solid waste that ends up either in landfills or municipal incinerators leading to *soil contamination* and *air pollution*.

Residential sector is another significant source of pollution generating solid municipal waste that may end up in landfills or incinerators leading to *soil contamination* and *air pollution*.

Effects of Pollution

1. **Environment Degradation:** Environment is the first casualty for increase in pollution weather in air or water. The increase in the amount of CO₂ in the atmosphere leads to smog which can restrict sunlight from reaching the earth. Thus, preventing plants in the process of photosynthesis. Gases like Sulfur dioxide and nitrogen oxide can cause acid rain. Water pollution in terms of Oil spill may lead to death of several wildlife species.
2. **Human Health:** The decrease in quality of air leads to several respiratory problems including asthma or lung cancer. Chest pain, congestion, throat inflammation, cardiovascular disease, respiratory disease are some of diseases that can be caused by air pollution. Water pollution occurs due to contamination of water and may pose skin related problems including skin irritations and rashes. Similarly, Noise pollution leads to hearing loss, stress and sleep disturbance.
3. **Global Warming:** The emission of greenhouse gases particularly CO₂ is leading to global warming. Every other day new industries are being set up, new vehicles come on roads and trees are cut to make way for new homes. All of them, in direct or indirect way lead to increase in CO₂ in the environment. The increase in CO₂ leads to melting of polar ice caps which increases the sea level and pose danger for the people living near coastal areas.
4. **Ozone Layer Depletion:** Ozone layer is the thin shield high up in the sky that stops ultra violet rays from reaching the earth. As a result of human activities, chemicals, such as chlorofluorocarbons (CFCs), were released into the atmosphere which contributed to the depletion of ozone layer.
5. **Infertile Land:** Due to constant use of insecticides and pesticides, the soil may become infertile. Plants may not be able to grow properly. Various forms of chemicals produced from industrial waste is released into the flowing water which also affects the quality of soil.

Pollution not only affect humans by destroying their respiratory, cardiovascular and neurological systems; it also affects the nature, plants, fruits, vegetables, rivers, ponds, forests, animals, etc, on which they are highly dependent for survival. It is crucial to control pollution as the nature, wildlife and human life are precious gifts to the mankind.

References

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Patrick Allitt, *A Climate of Crisis: America in the Age of Environmentalism* (2014).