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ENVIRONMENTAL POLLUTION: EFFECTS AND PROBABLE SOLUTIONS

Introduction

The earth is our common home and provides us with the air that we breathe, food that we eat, water that we drink and so much more. She has taken care of us since the beginning of time but we have not proved to be as faithful as she. Human activities have been determined to be the leading cause of environmental degradation. Pollution can be defined as the release of contaminated and toxic substances (pollutants) into the environment which cause adverse effects on normal biological processes. Pollution is broad and can be subdivided into water pollution, air pollution, land pollution and noise pollution. Pollution causes harm to all living things and their various habitats. The hope is that available solutions will be implemented to counter the effects of pollution.

Water pollution can be defined as the release of pollutants into water bodies such as streams, ponds, rivers, lakes, seas or oceans. Water pollution poses a great danger not only to human existence but also the existence of other species. Improper refuse and sewage disposal and dumping of industrial effluents into water bodies has led to the death of many water organisms and contaminated water otherwise fit for human consumption. Air pollution is defined as the release of pollutants into the atmosphere. This is perhaps the most common form of pollution as it can be found in all urban cities. This is due to the high rate of fuel combustion from motor vehicles, domestic use and industrial activities.

Land pollution also known as soil pollution constitutes another form of pollution and is characterised by the release of pollutants and chemicals onto the soil. The use of pesticides and deforestation and release of hazardous waste from industries onto the soil are some of the few causes of this form of pollution. Another form of pollution is noise pollution. This is the frequent exposure of humans and other species to noise of extremely high intensity which is harmful to their existence. According to the World Health Organization, any noise above sixty-five decibels can be said to be noise pollution. Noise pollution affects the quality of human life and other living organisms and can lead to very serious ailments.

Pollution has numerous adverse health effects on life. Water and air pollution have a direct effect on the quality of human, animal and plant life. Water pollution results directly in the contamination of water otherwise used for domestic purposes such as drinking, cooking cleaning, washing of clothes and utensils amongst others. The result of this pollution is the prevalence of diseases such as typhoid, lead poisoning and cholera with the effect of a high mortality rate and shorter life spans. Water pollution also affects marine flora and fauna. The discharge of waste and harmful chemicals into water bodies results in eutrophication which in turn leads to an inadequate supply of oxygen for them leading to their death.

According to the World Health Organization, ninety-percent of the world's

population breathes in polluted and unsafe air and the continents worst hit are Africa and Asia. Due to the inhalation of chemicals in the atmosphere, various respiratory ailments such as lung cancer, bronchitis, asthma, heart disease, stroke, skin and eye diseases are more becoming common and pervasive. Soil pollution also has an effect on human and animal life. The most direct effect is a reduction in the quality of food available for human and animal consumption. Soil pollution makes land unsuitable for plant growth by damaging the soil and depleting it of its nutrients. These crops grown on soil which has been polluted by toxic substances are harmful to humans and other animals when consumed.

Furthermore, environmental pollution makes land unsuitable for plant growth by damaging the soil and depleting it of its nutrients. The effluents from industries contain many harmful chemicals which make the soil toxic and unfit for plant growth and can also cause soil erosion. Some of the insecticides and pesticides used by farmers also remove compounds of nitrogen from the soil and reduce soil fertility. Deforestation as a result of increased urbanisation and industrialization as well as mining also rid the soil of its nutrients. When a piece of land has been polluted, it means that plants can no longer thrive there and this decreases the amount of food needed for an ever-increasing human population, leaves farmers without a source of income and affects the economy of a country as a whole. Crops grown on contaminated land when consumed lead to an increased mortality rate in both humans and other animals and can also cause various disorders, skin diseases, etc. Various wildlife is also forced to relocate to new habitats or adapt or face extinction. This relocation of wildlife also then puts a strain on the amount of resources available as they move to the habitat of other animals and have to share resources.

Overall, it may be said that the combined effect of air and water pollution is global warming. Global warming is caused by the release of harmful gases into the atmosphere as a result of domestic and industrial activities. Some of these gases include ozone, carbon dioxide, nitrogen oxides, etc. These gases are called greenhouse gases. The effect of these greenhouse gases is a continued heating up of the earth (land and oceans) resulting in the phenomenon called global warming. Global warming occurs when these greenhouse gases prevent heat from escaping the earth's atmosphere. Some of the main sources of greenhouse gases are burning of fossil fuels and deforestation (the burning down of forests for industrial purposes). Global warming causes melting of glaciers and sea ice, the intense heating up of the atmosphere results in extreme weather conditions such as hotter and more frequent heat waves, rise in temperature of hot and humid places, more intense hurricanes and typhoons and tornadoes. Another effect is the occurrence of acid rain. Acid rain occurs when sulphur dioxide and nitrogen oxide are released into the atmosphere and react with water, oxygen and some other chemicals. Acid rain when it falls on the ground damages plants, the soil and the water bodies by increasing their level of acidity as well as causing irritation to human bodies.

The menace of environmental pollution can still be mitigated. Firstly, recycling of

waste which entails taking a material at the end of its useful life and converting it into a usable raw material for another product, may be adopted. This will a long way in reducing the amount of refuse which is dumped into water bodies and onto land thereby helping to curb the problem of water and land pollution. So many products which are used in the world today are made of plastic, paper, glass, wood or aluminium such as bottles, straws and spoons, to mention a few. If these products are recycled or made of more environmentally friendly or reusable materials, the amount of these materials which are found floating in water bodies or dumped as garbage will be greatly reduced. Recycling will also reduce the amount of materials sent to incinerators which release gases into the air as well as conserving natural resources such as timber. Recycling of sewage waste too must be done so that energy is also conserved.

Secondly, the adoption of alternative and renewable sources of energy can slow down global warming and its effects. In this vein, it is advisable that automobiles be manufactured to run on electricity or purely renewable energy resources and not gasoline or diesel which releases greenhouse gases. This is more urgent as global warming has no geographic barriers and its effects can be felt worldwide. There is also the need to have suitable laws in place to ensure that anyone who drives an automobile which emits black exhaust fumes due to incomplete combustion is fined. The burning of fossil fuels and coal must also be stopped and affordable alternatives are developed and provided to the masses.

Thirdly and most importantly, there is an urgent need for proper public environmental education. Individuals in every part of the world have to be made aware of the environmental pollution which is caused by their daily activities such as cooking and driving. When people are taught how their daily activities contribute to the problem at large, they no longer see it as a vast problem beyond their reach but as a problem that affects us all. This will encourage them to take part in environmentally conserving activities as well as educating and encouraging those around them. Although we have organizations like the World Health Organization that provide information on problems like these, governing bodies in countries all over the world should create laws to protect the environment and agencies who would be in charge of implementing environmental laws.

Pollution is a matter of concern for everyone. Every form of pollution is important and we must do better in the way we treat the environment before we no longer recognize our surroundings. The attitude of many towards it must be changed and they must be brought to see the importance of improving the way they live and go about their daily business. We must be cautious in our actions, we have to recycle, we have to enlighten those around us, we have to use more renewable energy resources and obey any government laws concerning the environment. If care is not taken, due to the rapid urbanisation and over-population which we face in the world today, the earth won't be able to sustain both humans and other organisms. We must take care of the earth as she takes care of us.