

Causes and Effects of Pollution

There are different types of pollution but each one can cause effects in the environment. Pollution can be caused both naturally and by humans. We are polluting the environment every time we make a short trip to a friend's house or a grocery store. Our environment consists of many pollutants in the air and water. Pollution is hazardous and can cause problems to the population and the environment. Environmental pollution occurs when chemicals pollute natural surroundings. Pollution disrupts the balance in our ecosystem and affects people's lives. The action of one person can have the possibility of affecting the whole ecosystem. It also causes illnesses, contamination of seafood, and global warming. Pollution has gotten worse since there has been growth and development of the population in our lifetime. The advancement of science and technology has made people prisoners in their own world. We ruin nature without even thinking about the serious consequences it has on the environment. In order to fix our pollution problem, we need to expand our knowledge of nature and develop understanding of human behavior. It is vital to understand the different types of pollution and how it is affecting our environment that we live in. Government should spend a share of the budget by working to limit and reduce pollution.

There are six types of pollution but the most health concerning one is Water, Air, and Soil pollution. Pollution disrupts the balance in our ecosystem which affects not only our lives but plants, animals, and trees as well. The harmful toxic mixtures that are in the air are the result of air pollution. Water pollution is where the bodies of waters are contaminated which is not good for drinking, bathing or washing. Soil pollution is where the soil is contaminated by harmful substances. Each pollutant has different ways of affecting the environment such to where it is bad for our health.

Air pollution is caused mostly by transportation we use and electricity. Air pollution can cause severe and long-lasting effects to different systems and organs in our body, as stated in this article called, "Air Pollution Research Problems", it states that, "Relationship of air pollution to broncho-pulmonary diseases such as lung cancer, emphysema, asthma, chronic bronchitis, and other related respiratory disorders" (Calvert, 1971, p.699). Weather also plays a huge role in affecting the air. An article I have read called, "Improvement of air pollution prediction in a smart city and its correlation with weather conditions using metrological big data." Explains how "Specific weather conditions create and escalate critical air pollution conditions" (Zaree, Honarvar, 2017, p. 1303). The effect of diesel particles has a negative effect on human health in the United States. The following quote is from a neoteric research that was published by the Clean Air Task Force where it explains how many people have been affected from air pollution.

This particular report stated that the factor responsible for death of more than twenty one thousand people in the U.S. per year is fine particulate pollution from diesel vehicles, with the damages connected to health from the diesel PM is estimated to be total \$139.00 billion in year 2010(as cited in Sehdev,Saini,Singh & Jain, 2018, p. 25).

The emissions of Nitrogen Oxides that are from diesel fuel engines are the reason there is a problem with health. The weather may intensify or worsen air pollution. According to the article, "Synergistic effects of ambient temperature and Air pollution on Health in Europe: Results from the PHASE project" says that "Climate change could affect air quality directly but also indirectly via changes in human behavior" (Analitis, Donato, Scortichini, Lanki, Basagana, Ballester, Astrom, Paldy, Pascal, Gasparrini, Michelozzi, & Katsouyanni, 2018 p.4).The particles from diesel run engines lead to health problems. Due to these factors, the United States population has a short life span.

People die from drinking unsafe water which causes diseases. Water pollution can be caused by trash that is thrown in the water or the trash that get into the water from land. It is also caused by the detergents and soaps that people use for bathing, washing laundry, and the dishes. Detergents have chemical compounds that are used for cleaning. They are made from natural substances such as lye and plant saponins. According to the article called, "Washing cloths photo-catalytically to reduce global water pollution" it states that "Many of the laundry detergents contain a 35 to 75% phosphate which causes variety of water pollution problems" (Sawant, Somani, Omanwar, & Somani, 2018, p. 22). Phosphates are added into detergent in order for dirt to come off clothing and not get re-deposited. The bucket of water that is polluted with soap or detergent is not drinkable which makes the water contaminated. Marine life is threatened by water pollution as well. The environmental issues are the fertilizers that are going into the waterways which cause marine life to worsen. The toxic chemicals can go into the water ways which leads to nitrogen making algae to bloom leading to fish or other organisms dying because the algae take up all the oxygen in the water.

Soil pollution can occur naturally or can be man-made. Water and Soil pollution happens together where the contaminated water goes into the soil and pollutes the soil. Soil can be polluted in many ways. Soil pollution can start by waste over flowing from landfills, storage tanks bursting underground, release of contaminated waste in the soil. According to the article called, "Soil pollution: Causes, effects and control, it says that "Plastic is one of the main causes of soil pollution, as it takes a very long time to disintegrate" (Mishra, Mohammad & Roychouhury, 2015, p. 12). People are impacted by water pollution because it causes health problems. Eating plants that are grown in polluted soil can cause damage to your health. It can also be polluted by pesticides. People use soil to grow plants which we use pesticides on in order for the plants to not get eaten from bugs or rats. This may alter the soil fertility and the growth of plants. The book called, "Pollution: Causes, Effects and Control", explains how "When a pollutant chemical comes into contact with microbial colonies in biofilms lining the voids within the soil matrix, various extracellular enzymes will be secreted" (Harrison, 2001, p. 365). This could destroy the chemical which can mess with the process of releasing energy and nutrients. There are long term effects of soil pollution which can be hard to deal with depending on what the contamination level is.

Global integration can influence the levels of pollution in different countries. According to an article called, "Does government ideology affect environmental pollutions? New evidence from instrumental variable quantile regression estimations", it says that "the process of globalization, which integrates the global economies into a single system, may also affect environmental pollutions" (Chang, Wen, Dong & Hao, 2018 p.388). This basically means that if we unite all the global economies together then it may affect the environment even more. In addition, the other important factors that may cause how much pollution is spread in the world are trade openness and foreign investment. As stated in the article by Chang, Wen, Dong, and Hao, they say that "there are three distinct transmission mechanisms via which trade openness may impact on the level of pollution through scale, composition and technique effects. The scale effect means that trade openness contributes to a rise in aggregate production, which expands the demand for energy and therefore generates higher pollutions" (Chang, et al., 2018, p.388). The effect of pollution that it has would depend on if a country is a pollution intensive manufacturer or not.

Pollution may influence cloud activity as well. Clouds are made of water droplets that form around particles in the air. According to Twomey, he says that, "Pollution may increase or decrease the brightness of clouds depending on the optical thickness of the clouds and the way in which cloud nucleus concentration varies with absorption optical thickness" (Twomey, 1977, p.1152). Scientists think that humans release carbon dioxide into the air which is the cause of temperatures to rise. Clouds could reflect the rays from the sun

that would make the earth cool or it can trap heat which can make the planet warm. Pollution can help make clouds grow, just a little bit of pollution may alter the thickness or thinness of the clouds.

The exposure of pollution is worse than it has ever been. There are public health problems concerning the diseases that pollution causes such as cancer, birth defects, and asthma which might be related to environmental exposures. The air and water we breathe are essential to our health and is needed to survive. According to Khan, and Ghouri, they state that,

Polluted drinking water or water polluted by chemicals produced waterborne diseases like, Giardiasis, Amoebiasis, Hookworm, Ascariasis, Typhoid, Liver and kidney damage, Alzheimer's disease, non-Hodgkin's Lymphoma, multiple Sclerosis, Hormonal problems that can disorder development and reproductive processes, Cancer, heart disease, damage to the nervous system, different type of damages on babies in womb, Parkinson's disease, Damage to the DNA and even death, meanwhile, polluted beach water contaminated people like stomach aches, encephalitis, Hepatitis, diarrhea, vomiting, gastroenteritis, respiratory infections, ear ache, pink eye and rashes(Khan, Ghouri,2011 p. 280). The wild life population drastically decreasing is another problem caused by pollution.

There are many ways we can help the environment to reduce pollution. People should stop being wasteful by making a habit of trying to use clean energy. First, in order to fix soil pollution, farmers can use herbicides which might take longer to react but does not have a negative effect on the soil. It is also best to use manure as a fertilizer and pesticide since it has little side effects compared to chemicals. Toxic waste plays a huge role in soil pollution and to stop this would be to reduce the toxicity before duping the waste but there also should be safe method to dispose of these wastes. Nevertheless the best way to avoid soil pollution would be to not use harsh chemicals except when it is really needed. To reduce air pollution one could turn the electronics off when not in use, carpool, use public transportation, biking or walking. Only run dishwashers or washers when it is full in order to conserve on water and electric. Everything people buy can be recycled. According to Environmental Protection Agency, they have a state implementation of standards they have to meet, they explain as follows, "In some states such as California, local air pollution districts work with the state to produce air quality plans. Each state plan also must prohibit emissions that significantly contribute to air quality problems in a downwind state (Environmental Protection Agency, 2017).

In conclusion, pollution is a negative externality that can cost civilization. Pollution affects living things negatively. In order to reduce pollution, government can make policies and regulations that could raise carbon tax, promote changing to different energy sources, make regulations to ban pollutants and pollution permits, and lastly changing consumer behavior by advertising other better alternatives that can be used to reduce pollution such as solar energy which is clean and renewable power from the sun or buying electric cars. The concept of three R's which means to reduce, reuse and recycle is good to implement in our daily lives. The ethical issue would be that pollution is affecting the world and human health. In order to fix the issue, government should enforce conservation methods such as using public transportation to go places.