

Research paper on global warming and air pollution

[Environment](#), [Pollution](#)



Writing Proposal

Global warming and the effects of pollution is a topic that has been widely researched on by environmentalists. There is a lot of literature on the topic written by different scholars. Working committees from international bodies like the United Nations have also come up with reports detailing the intricacies of global warming and ways of dealing with the issue. In tackling the topic of global warming and the effects of pollution on glaciers, I outline the effects of global warming and air pollution on the environment.

In discussing the effects, I will measures currently in place to mitigate the effects of global warming and air pollution on the environment. I will link the effects of the two phenomena on the glaciers. This will show how global warming and air pollution are affecting the glaciers. All the assertions will be backed and collaborated by work form renowned scholars and publications.

I choose Chronicles of Ice from the book The Future of Ice: A Journey into Cold. I found this particular chapter of the book very informative on the topic of global warming and their effects on glaciers. The reading recounts a visit by the author to remote places and her worry that human activity is helping degrade the environment. In recounting her experiences, she uses process analysis to explain how glaciers form and how with the help of humans they are declining. She does this in an informative and interesting way.

The arguable thesis for the paper will be global warming and air pollution and their effects on glaciers. In arguing for, I will outline the impact of human activities in increasing pollutants in the atmosphere and causes of global

warming. I will also outline points on the neglect on man in conserving the environment. In contrast, I will outline points on measure currently being instituted to mitigate the effects of air pollution and global warming.

I will use internet sources to locate paper written by scholars on the subject of global warming, air pollution. I will link their work to other researches that I will make form my local library. In conducting the research, I will rely more on recent publications. Finally, I will look for publications and working reports by international bodies like the United Nations.

Global warming is a phenomenon that describes the rise in normal temperatures of the earth's atmosphere and the oceans. Since early twentieth century, there has been an increase of 0.8°C of temperature with over two thirds of the increase taking place from 1980. Scientists postulate that global warming is as a result of a rise in the concentration of greenhouse gases in the atmosphere. Greenhouse gases refer to those gases that are able to absorb infra-red radiation emanating from the sun.

These gases occur in nature in the earth's atmosphere. The naturally occurring greenhouse gases absorb enough infra-red radiation to sustain life. However, due to increased air pollution, there are more greenhouse gases. This is because pollutants also contain green house gases namely methane, carbon dioxide and nitrous oxide. These increased greenhouse gases are responsible for the increasing temperatures in the earth's atmosphere and in the oceans.

Solar radiation penetrates the cloud cover into the earth's atmosphere. Earth absorbs enough radiation to sustain life, and the surplus is reflected back into space. Reflection of the surplus radiation is done by mechanisms in the earth surface chief of which are oceans and glaciers. However, the extra greenhouse gases in the atmosphere trap more solar radiation thereby keeping it from leaving the earth's atmosphere.

This creates a veritable hothouse, hence the increase in atmospheric temperatures and in the oceans.

An increase in atmospheric temperatures has a wide range of effects. Some of them are positive while others are negative. For instance, an increase in atmospheric temperatures implies that people living in the higher latitudes of the globe can grow crops due to an elongated growing season. The increase in atmospheric carbon dioxide will benefit most staple crops that utilize carbon dioxide for growth and expel oxygen as waste.

Conversely, some plants do not react well to increased levels of atmospheric carbon dioxide. In addition to that, increase in temperatures will elongate heat waves, floods and even more severe droughts. More to that, pathogens in the soil and air thrive better in warm and moist environments; thus a greenhouse effect would enhance the breeding of these disastrous pathogens and pests.

On a broader perspective, the thermohaline layer in the deep oceans controls the ocean currents. As explained by the principle of density, this control of currents by the thermohaline layer is responsible for renewing of

oxygen and the heat capacity of the ocean water. When glacial melt water mixes with the warm ocean water, it sinks to the bottom of the ocean. This is because colder water is denser when compared to warm water.

Effects of global warming and air pollution on glaciers

Glaciers are formed from snow that accumulates and get compressed forming a big mass of ice. As espoused in the reading, glaciers grow due to more accumulation than ablation of the snow. As ice melts due to increased temperatures, the glacier gets smaller. However, if more snow falls than ice is melting, the glacier keeps getting bigger over time. If ice melts faster than the snow is replacing it, the glacier eventually vanishes.

Over the last century, glaciers worldwide have been melting fast. The fresh snow replacing the fast melting ice is not able to maintain or sustain the sizes of the glaciers. A good example of this is Mount Kilimanjaro in Tanzania. The mountain has lost almost all the snow on its peaks. It is projected that in the next twenty years, all the ice on its peaks will have melted. Another apt illustration is the tip of Argentina that used to be completely frozen (Ehrlich 41). It is projected that in fifty years, the Himalayas, a catchment area for more than forty percent of the world's population will not have any glacier.

One of the causes of this is global warming, attributable to the increase in greenhouse gases as a result of increased air pollution. As explained by the mechanisms through which solar radiation is retained due to the activity of the greenhouse gases, the increased atmospheric temperatures accelerate

the rate at which these glaciers melt. As stated earlier, global warming also results in the increase in temperature in the oceans. This causes the melting of the ice caps in the Polar Regions. This causes the vast glaciers to retreat as huge boulders of ice dislocate and float on water bodies.

Efforts to mitigate the effects of global warming

Efforts to alleviate the impact of climate change have been spearheaded across the globe by both developing and developed countries. These efforts are aimed towards the reduction of emissions of greenhouse gases and fluorocarbons. The efforts are also aimed at enhancing the uptake of carbon dioxide by the carbon sinks. Governments in developing and developed countries are aiming at using less polluting technologies, improving energy efficiency and more emphasis is being laid on renewable energy sources. Governments are also formulating policies aimed at preventing or reducing the discharge of greenhouse gases into the atmosphere. For example, the United States of America enacted the Pollution Prevention Act of 1990 that chiefly uses a different approach to combat global warming by way of preventing the production of pollutants at source. This is a more proactive measure, as opposed to releasing pollutant into the environment when their production can be stopped.

The Kyoto Protocol was coined in an attempt to fight global warming. The protocol institutes binding obligations for industrialized nations to trim down their release of greenhouse gases. This is an international treaty that aims to alleviate the levels of greenhouse gases release into the atmosphere. The

treaty aims to achieve levels of concentration that would prevent precarious anthropogenic interference with the climate (Baumann, 3)

There are many other efforts towards the mitigation of global warming. They include, but not limited to geoengineering; research efforts towards management of greenhouse gases and carbon dioxide removal.

Conclusion

Our activities are increasingly undermining the stability of our planet. It is our duty to play our part in combating global warming. Every little effort goes a long way. If we are conscious of our environment, we will alleviate the effects of climate change and save our planet thereby helping sustain life.

Works cited

Baumann, Christian. Kyoto Protocol: Outline the Rationale Behind and the Main Provisions of the Kyoto Protocol on Climate Change for Both Developed and Less Developed Countries and Assess Critically the Effectiveness of the Treaty. München: GRIN Verlag GmbH, 2010.

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