

Forum: Environment Commission
Issue: Measures to mitigate the damage of climate change disasters
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Position: Chair of the Environment Commission

Introduction

The world already has experienced widespread damage caused by climate change disasters; sea levels and ocean temperatures are rising, and droughts are ruining agricultural production annually. For example, the increase in temperature has already decreased crop yields in southern Europe by reducing the number of available water resources as a result of extreme heat. Global warming – one of the largest aspects of climate change – is primarily caused by the emissions of greenhouse gases, such as carbon dioxide gas, which then become trapped in the earth's lower atmospheric layer and accelerate the increase of the global temperature.

Since the 1900s, the worldwide emissions of carbon dioxide and chlorofluorocarbons (CFCs) have increased by almost 50 percent. As the oceans absorb some of the carbon dioxide gases, many marine species have also experienced detrimental effects due to the harmful substances released and absorbed by seawater. Moreover, mainly due to the melting ice, sea levels have been increasing. Researchers predict that sea levels will rise by, at most, 23 inches by the end of the century.



Caption 1: Emissions resulting from the combustion of fossil fuels

Definition of Key Terms

Global Warming

An increase in the temperature of the world's atmosphere commonly ascribed to the greenhouse effect.

Greenhouse Effect

The trapping of the sun's heat energy in the earth's lower layer.

Climate Change Disasters

Negative outcomes of the climate change, mostly pertaining to natural disasters.

Carbon dioxide

A gas without any color or smell created by burning carbon.

General Overview

Habitat Loss

Animals living in the Earth's poles have been losing their habitats due to climate change. In fact, according to Bill Fraser, an ecologist from the Polar Oceans Research Group in Sheridan, Montana, the numbers of Adélie penguins have decreased from more than 32,000 pairs to 11,000 within 30 years. Some animals living on land, such as foxes, have migrated to other regions because they could not adapt to the changing climate. While the population of some species are decreasing at a fast rate, other organisms are beginning to increase in number. For instance, more than 20 years of consecutive warm seasons have allowed spruce bark beetles to thrive, destroying more than four million acres of spruce trees, threatening biodiversity in the region.



Caption 2: A picture of the Quelccaya ice cap, already in the progress of melting

The emission of greenhouse gases – including carbon dioxide, methane, and nitrous oxides – during the combustion of fossil fuels is the main factor leading to the enhanced greenhouse effect, where the

increase in Earth's temperature exceeds the value maintained by the natural greenhouse effect (i.e. global warming). The Arctic is warming at the fastest rate on the planet with the average annual increase of 2.5 degrees Celsius since the 1950s. This has caused ice shelves lose mass by calving icebergs, where a big piece of ice falls apart from the ice shelves, or by melting as a result of warm ocean currents and warm temperatures. It is estimated that in the twentieth century alone, the volume of ice shelves has decreased by 90 percent. They continue to decline in a rate of approximately 9 percent per year. If this continues, ice shelves in the Arctic region will completely disappear by 2050, and it is likely that the animals residing on the ice shelves will become extinct. As a result, animals residing in the North Pole – such as polar bears, seals, and walruses - are widely considered as one of the most victimized groups in response to the rising temperatures.



Caption 3: Polar bear loses its habitat

Damage to the global economy

A group of scientists from the University of California and Stanford University have concluded that the average global income is expected to fall to 23% by the end of 21st century as a result of climate change. This is because the global warming increases the overall temperature, and the droughts caused by the extreme heat might make the crops wither and result in less productive work.

As a case study, a group of climate scientists and economists studied the relationship between the economy of the United States and changes in the global climate. According to the team, the warmer places in the country are likely to suffer the most: for example, the increased number of droughts associated with a warming climate would kill many crops, forcing people to migrate to the northern and western regions of the country. Economists predict that if most of the population is concentrated in certain regions, then such regions would become more developed than others. Therefore, the wealth gap between regions in the United States would widen if the climate continues to change at a rapid rate. This could potentially apply to other nations in the world.

UN Involvement, Relevant Resolutions, Treaties and Events

United Nations Environment Program

After the United Nations noticed the detrimental effects of climate change, they established the United Nations Environment Program (UNEP) to alleviate the associated environmental problems. In response to the ongoing crisis in the Arctic, UNEP published “Year Books” in order to prevent further damage posed by global warming. The UNEP published The UNEP Year Book 2013, which alerts people by showing that the changes in the Arctic would inevitably affect far beyond the region. In 1988, The UNEP and the World Meteorological Organization (WMO) established a panel that focuses on the scientific view of climate change called the Intergovernmental Panel on Climate Change (IPCC).



Caption 4: The logo of the United Nations Environment Programme

Intergovernmental Panel on Climate Change (IPCC)

The purpose of the IPCC is to show the views of the scientists on climate change and its effects on the world. The IPCC wishes to assess scientific views pertaining to the relationship between human and climate change, impacts of human-caused environmental variation, and ways to eliminate the risks posed by it. More than 1,300 scientists take their positions in this panel, and the overwhelming majority of those state that the effects of climate change will become more significant over time as greenhouse gas emissions are predicted to increase in all aspects of human society with few exceptions such as agriculture and forestry.

Action for Climate Empowerment (ACE)

Action for Climate Empowerment (ACE) was adopted by the United Nations Framework Convention on Climate Change (UNFCCC) and focuses on six priority areas – education, training, public awareness, public participation, public access to information, and international cooperation on these issues. These

were implemented to address the challenges associated with climate change. ACE urges nations to publicize and implement educational awareness programs, encourage more frequent and flexible access to information regarding the issue of climate change, and foster public participation in mitigating climate change and its outcomes. ACE also encourages governments to collaborate by sharing practices and lessons learned amongst each other.

The 2015 United Nations Climate Change Conference (COP 21)

The 2015 United Nations Climate Change Conference, COP 21 or CMP 11 took place in Paris, France. The COP 21 negotiated the Paris Agreement, which aims to keep the increase in average global temperature below 2 degrees Celsius above pre-industrial levels. In the Agreement, no country is forced to implement a specific target or course of action and is given the ability to determine its own contribution. However, Article 3 provides a guideline for the targets: they must be “ambitious” and exceed previously set targets; “represent a progression over time” which is noted in the compulsory report to the UNFCCC Secretariat every 5 years; and make efforts to achieve “the purpose of this Agreement as set out in Article 2.” There are no consequences for countries that fail to meet their commitments.

Sustainable Development Goals

Sustainable Development Goals (SDGs) are a list of 17 goals set by the United Nations, targeting aspects such as affordable and clean energy, climate action, life below water and life on land.



Caption 5: The list of the objectives proposed by Sustainable Development Goals

Timeline of Events

Date	Description of event
April 15, 1934	Most destructive dust storm occurred in the United States.

June 5 th , 1972	United Nations Environment Program was established.
1988	The Intergovernmental Panel on Climate Change was formed.
June 3, 2015	An extremely destructive heat wave struck India during the dry season.
November 30 th , 2015	The 2015 United Nations Climate Change Conference was held in Paris.

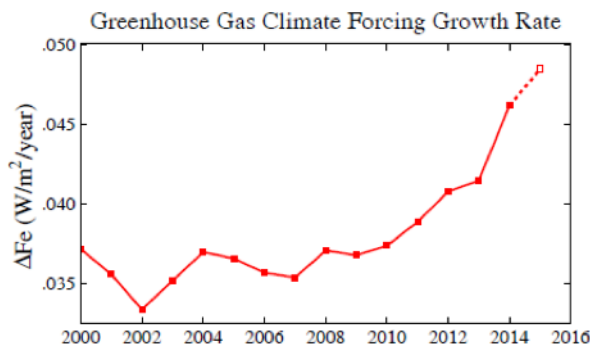
Possible Solutions

Raising awareness

Raising awareness about the issue of climate change disasters and its consequences is the first step in solving this problem. People should be informed about actions that contribute to the global warming and other climate changes, so that they can be more cautious when making actions that will damage the environment. It would be extremely vital to publicize the issue as well as steps taken against it, as many of such actions can be practiced in people's daily lives. Therefore, if a large number of people refrain from certain actions simultaneously, climate change can be slowed and the frequency of climate change disasters can be reduced. Social networking services (SNS) are effective mediums to spread the idea, as SNS have become increasingly prevalent amongst people. Moreover, since a large portion of pollutant emissions come from deforestation of agricultural farms, it is important to raise awareness to the farmers and limit the number of such practice in order to minimize the damage to the environment.

Reducing pollutant emissions

Most climate change disasters are caused by global warming, which is caused by excessive emissions of greenhouse gas from fossil fuel burning. In order to maintain the global temperature within increase of 2 degrees Celsius, people should refrain themselves from emitting pollutants. Some simple actions that people could make to reduce emissions of greenhouse gases are: walking instead of using transportation to reduce emissions caused by transportation, planting more trees, using reusable products, and using less hot water. Saving a gallon of gas can prevent 20 pounds of carbon dioxide emission, and planting trees could balance the increases of carbon dioxide because trees absorb carbon dioxide and produce oxygen. Although these practices are simple and trivial, these methods can effectively decelerate the process of global warming and prevent further damage. Member states can help achieve these methods by expanding and improving public transport and creating new policies on deforestation and reforestation.



Caption 6: The significant growth of greenhouse emissions from 2000 to 2016

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