

Essay

Global Warming and the ways to counter it. ①

"Outline"

i- Introduction

(a) Hook

(b) Global Warming refers to the long term increase in Earth's average temperature due to human activities such as the burning of fossil fuels, deforestation and industrial processes. This phenomenon has extreme and long-term impacts on natural eco-systems, weather patterns and human societies.

(c) Thesis Statement: The increasing issue of global warming needs a multi-dimensional approach, including the transition to the renewable energy sources, implementing reforestation projects and strictly following environmental regulations to reduce green house gas emissions.

ii- Causes of Global Warming

(a) Fossil fuel burning

(b) Deforestation

(c) Industrial Processes

(d) Agricultural Practices

(e) Waste Management

iii- How has global warming become a threat in the contemporary world?

(a) Glaciers Melting

(b) Increasing number of natural disasters

(c) Shrinking Economy

(d) Increasing dry spells and droughts

(e) Degradation of environmental habitats due to migration of animals.

(f) Rising health problems and malnutrition in Pakistan.

iv- How can the recent 8-inch Sea Level increase affect the world?

(a) Causes of the sea-level increase.

(b) Impacts of the sea-level increase.

v- Examples of two major climate-hit countries.

(a) Kuwait

(b) Pakistan

vi- Possible ways to counter Global Warming-

(a) Promote use of renewable energy sources.

- (b) Reduce the production of Green house gases.
- (c) To produce new genetically engineered crops
- (d) To implement climate change agreements with all honesty.
- (e) To initiate global reforestation campaigns.
- (f) To control population explosion
- (g) To provide economic, food and technological assistance to climate-hit countries.
- (h) To use social-media efficiently to promote Green Earth.

vii- Critical Analysis

viii- Conclusion

In 2015, Karachi experienced a severe heat wave that resulted in the death of 1200 individuals. Just three years later, another heatwave killed 65 people in the city within the course of three days. According to an article by Wara Khan in Dawn, 2022 was marked to experience world's highest march temperature at 50 degree celsius in both Pakistan and India facing an extreme heatwave that broke the records. These recurring heatwaves highlight the extreme impacts of global warming and the need of immediate action.

Global warming refers to the long-term increase in Earth's average temperature due to human activities, primarily the burning of fossil fuels, deforestation and industrial processes. This phenomenon has long-term impacts on natural eco-systems, weather patterns and

human societies -

This increasing issue demands a multi-dimensional approach which may encompass the transition to renewable energy sources, reforestation projects and strictly following environmental regulations to reduce green house gas emissions. It is important to examine the root causes that contribute to the accumulation of these gases in the earth's atmosphere. These root causes include the excessive burning of fossil fuels for energy and transportation resulting in CO₂ emissions in the atmosphere, intensifying the green house effect. Deforestation further compounds this issue by eliminating the earth's natural capacity to absorb CO₂ through photosynthesis, weakening its natural carbon shortage. Industrial processes including manufacturing and mining release methane (CH₄) and nitrous oxide (N₂O) and fluorinated gases (HFC's) contributing significantly to

green-house gas emissions - Similarly, agricultural practices such as live stock farming, rice cultivation and synthetic fertilizer use also release methane and nitrous oxide further worsening the green-house effect. Additionally waste-management processes, including landfills and waste treatment facilities emit methane and other gases during the decomposition of organic waste intensifying the already critical situation. These causes altogether have trapped the heat in earth's atmosphere and leading to a steady increase in the global surface temperatures. Mitigating global warming is a detailed approach and it is imperative to explore the profound threats it possesses in order to counter them. The constant rise in the temperature has threatened the planet multi-dimensionally. The first and foremost threat in this context is the constant melting

of glaciers world-wide. The glaciers are the source of clean water used for various purposes, including drinking and agricultural activities, which are a source of income for agrarian countries like Pakistan. According to some estimates glaciers loose about 267 gigatons of ice due to global warming. All this water is not only wasted but becomes a source of disasters. For example, the floods of 2022 in Pakistan. Scientists have declared that the main cause of global warming remains the emission of green house gases - the direct result of the industrial revolution. According to WMO (World Meteorological Organization) the six years from 2015 - 2021 have remained the warmest, in the entire history. As a result occurs a rise in the sea level due to melting glaciers, and upon analyzing we observe that none of its effects are turning useful. Currently the

menace of global warming has become a great concern for living beings taking them to the brink of destruction. Moreover it has now-adays started to express itself in multiple forms, such as the rise in number of diseases, and natural disasters that need to be minimized, in all circumstances. According to the World Research Institute (WRI), the temperature of earth has currently risen by 1.1 degree celcius since the industrial revolution and will rise to 1.5 degree celcius by 2050 as stated by the IPCC (International Panel on climate change). Therefore a number of countries have adopted certain measures like the 20 billion tree programme by Pakistan to minimize the impacts of global warming. Natural disasters caused due to global warming have not only affected underdeveloped nations like Pakistan, but also severely

impacted developed nations like Japan. Talking about Pakistan, according to United Nations Office for the Co-ordination of Humanitarian Affairs (OCHA), thirty three million people have been affected by the floods of 2022 in Pakistan. This was not the only time when Pakistan faced such extreme disasters, but a similar situation also occurred in 2020, displacing millions of people and adversely affecting economy. Thus if this temperature keeps on increasing the developing nations ~~will~~ might ~~longer exist.~~ cease to exist.

Similarly the economy of multiple nations has come under threat as the disasters due to global warming not only take lives but also wash out agricultural areas.

This was clearly reflected in the planning minister's statement that more than 10 billion dollars worth of damage has been done by the floods of 2022. Apart from that the land that comes under

The curse of floods becomes infertile causing a decay in agriculture. If floods and other natural disasters continue at the same rate, multiple nations would end up in food shortages especially the under-developed ones. Additionally severe dry spells and droughts are also caused due to the constant temperature rise. The droughts not only make the soil infertile, but also cause difficulties for the farmers to reap the existing sown crops. Pakistan has been included in the list of top twenty-three drought hit countries between 2022 to 2023 by the United Nations Convention to Combat Desertification (UNCCD) and that region is one of the major areas in Pakistan affected by drought. This somewhat results in migration of people to stable areas causing a reduction in agricultural production, which results in food shortages. Thus the higher

The temperature the lesser the agricultural products.

Adding more to it, global warming has become a major cause of migration of animals and birds.

It has been observed that a number of birds have left their habitats and moved to cooler regions of the world causing, a disturbance in the equilibrium of nature.

Furthermore, global warming has also become a cause of multiple health issues and malnutrition.

The spread of bacteria and other harmful fungi gets access to humans with weaker immune systems in the presence of water. These infections target women and children having weaker immune systems. According to World Health Organization (WHO) Pakistan had reported 4531 cases of measles and 15 cases of wild polio virus in 2022 and the main factor behind the rise of cases was uncontrolled floods.

In addition, the rising temperatures are resulting in heat-waves taking the precious human lives -

Lastly the rise in temperature has compelled the movement of people from climate-affected countries to climate-stable countries. A prominent example is the migration of people from Somalia to Italy due to drought. This migration causes a sufficient rise in population in the in the later countries, resulting in slum settlements and street crimes in the developed nations. This also signifies that global warming has become a serious threat in the contemporary world.

~~At this stage, it is~~

A recent 8-inch rise in sea levels has become increasingly concerning due to global warming. The increase in sea level occurs due to thermal expansion and

melting of ice-sheets and glaciers. This sea-level increase can have a cascade of impacts, with extreme consequences. This increase accelerates coastal erosion, resulting in loss of land and critical infrastructure. The heightened frequency of flooding during high-tides and storms, threatens homes, businesses and infrastructure in low-lying areas disrupting lives and economies. Moreover the infiltration of salt water into fresh water sources, compromises drinking water and agricultural productivity. This in result intensifies challenges for the coastal community. Their displacement becomes an urgent reality necessitating adaptive responses to ensure stability, but due to ill-planned government strategies, the communities end up suffering.

At this stage, it is important to present the examples of some states that are highly affected by climate change. Kuwait wins

the race and leads the list of top climate-hit countries. According to reports of World Bank 2021, Kuwait's temperature is increasing twice the temperature of the world. A temperature of 53.2 degree centigrade has been recorded with the prediction of 4 degree addition in the coming years. This rise has caused severe problems like the conversion of rivers into plains along with the death of aquatic life. Apart from that incidences of jungle fires are usually reported during its hot days, which has overall threatened the lives of the wild animals.

Similarly, the other example of climate-hit countries is Pakistan which is constantly under the attacks of global warming and its drastic impacts. Pakistan faced floods ~~two years in a row i.e.~~

~~2022 and 2023~~ in 2010 and 2022 which destroyed it both economically and socially. According to secretary of United Nations, Antonio Guterres, Pakistan has been facing humanitarian crisis due to floods. Other reliable reports suggest that thousands of lives were lost owing to diseases and acres of fertile land became barren due to floods.

After analysing the drastic threats of global warming, it is important to suggest measures to address the situations. Indeed the first step in this regard can be the use of renewable energy resources, like solar and wind energy that are free from the release of Green house gases, instead of burning fossil fuels, which contribute heavily in the emission of GHGs. Initiatives for the cause have already been taken nationally

and internationally. A local example is the establishment of Quaid-e-Azam Solar Power (Private) Limited with 100 Mega watt capacity. Similarly another step includes the conversion of fuel-operated cars - major source of GHGs to electric cars. The developed and developing nations are trying their best to shift their automobile industry to electric vehicles. Pakistan has already played its role by launching MG ZS EV an electric car, on 14th August 2022. These vehicles enable the masses to travel without producing any gas. Another example of electric vehicles in Pakistan is the Electric Bus in Karachi launched in 2023, for Public facilitation.

Additionally the impacts of global warming can be diminished through the production of genetically engineered crops

able to bear drought and salinity extremes. Inventing other crops like Glycine max (Soybean) would make it possible to counter global warming and fulfill agricultural demands efficiently. Moreover the issue of global warming can also be countered through the implementation of different climate accords. One such example is the Paris climate accord which was signed by 190 countries. However this was not followed by developed countries due to which a greater rise was seen in the emission of GHGs. If such accords are implemented by countries, we will be able to limit the green house gases and ultimately global warming.

Furthermore, global reforestation can also assess the menace of global warming, in its palms

as trees serve as a sink for carbon dioxide. The Amazon forests are usually termed as lungs of the earth due to provision of twenty percent of oxygen world-wide, but they are constantly being used for different purposes like paper and fireworks causing a fall in number of trees and thus the oxygen levels, which overall raises global warming. Reforestation can help address this issue and can help us in fighting the impacts of it.

In addition to that, getting control over the constant rise in population has become a must to control global warming.

Over and above that, the threat can also be countered through aiding the climate-hit countries with food, and technological

help. In addition, technological and economic help will enable under-developed countries to rebuild their infrastructure and adopt the measures with which they can counter severe floods and droughts in future. One example of this is the aid by the Canadian government to Pakistan, after the floods of 2010.

Above-all no measures from the above-mentioned ones will be possible until the masses become fully aware of the threats of global warming. This can be only possible by using social-media channels to make every one aware about the challenges of global warming and making them realize their responsibility towards the planet.

After this insightful investigation it is clear that global warming

is a real threat to life on planet Earth. However it has not directly threatened human beings, but its impacts such as constant rise in melting of glaciers, rising sea level and heat waves have resulted in many natural disasters. Moreover it is the joint product of humans themselves in the form of green house gases, released from various sources and therefore humans bear the responsibility to make combined efforts to address the issue.

In conclusion, global warming has been a long persistent issue and it is the by-product of the industrial revolution. To curb it a number of measures both nationally like the ten billion Tree Plantation Tsunami programme - and internationally the adoption of The Paris Agreement should be realized in order

world wide to address and finally omit the issue of global warming. It is necessary for each country to take the necessary steps as it is the issue of both the developed and the developing nations.