

43848 - Syeda Fatima - 089

Climate Change Causes and Consequences

1. Introduction

1.1 Hook

1.2 Background

1.3 Thesis statement: Climate change, driven primarily by human activities such as fossil fuel consumption, deforestation, and unsustainable industrial practices, is reshaping our planet's environment, leading to rising temperatures, extreme weather events, and threats to global food and water security.

2. Major Causes of climate change

2.1 Excessive use of fossil fuels.

2.2 Industrial emission and loss of carbon dioxide.

2.3 Deforestation and loss of green cover.

2.4 Rapid urbanization and population growth.

2.5 Overconsumption and waste production.

2.6 Agricultural activities and methane emissions.

3. Consequences of climate change

3.1 Rising global temperatures and heatwaves.

3.2 Melting glaciers and rising sea levels.

3.3 Floods, droughts and extreme weather events.

3.4 Food insecurity and water shortage.

4. Recommendations

- 4.1 Transition to renewable energy
- 4.2 Afforestation and reforestation drives.
- 4.3 Energy efficiency and conservation measures.
- 4.4 Strengthening environmental policies and governance.

5. Conclusion.

The Essay

"The Earth should not be a worse place after my life than it was when I was born here." - In this quote Rob Stewart highlights the issue of climate change. So, climate change has become one of the most urgent challenges facing humanity today, affecting ecosystem, weather patterns, and human societies around the world. It refers to the long-term alteration of the earth's climate system, primarily caused by human activities such as the excessive use of fossil fuels, industrial emissions, deforestation, and unsustainable agricultural practices, Rapid urbanization, population growth and overconsumption further exacerbate the problems, while weak environmental governance and transporting emission contributes significantly to

greenhouse gas levels. The impacts of climate change are already visible in the form of increasing global temperature, melting glaciers, rising sea levels, extreme weather events, and growing threats to food and water security. Climate change, driven primarily by human activities is reshaping our planet's environment, (is reshaping) addressing it requires urgent collective action, scientific innovation, and responsible stewardship of natural resources.

The burning of fossil fuels is the primary cause of climate change, affecting the earth's ecosystems and causing human and environmental health problems. Firstly, fossil fuels release greenhouse gases (such as carbon dioxide (CO_2) and nitrous oxide (N_2O)) into the atmosphere, which intensify the greenhouse effect by re-radiating heat back to the earth and increasing the average air temperatures. Secondly, the combustion of fossil fuels also releases a large amount of carbon dioxide, a greenhouse gas responsible for global warming which causes a rise in the overall temperature of the earth's surface. This warming leads to the melting of polar ice caps, a rise in sea levels, and the flooding of coastal regions, clearly showing how human activities contribute to environmental changes. These greenhouse gases remain in the atmosphere for decades to hundreds of years, continuing to trap heat. Thirdly, burning of fossil fuels produces various air pollutants, including fine particles and toxic chemicals (such as sulphur dioxide and nitrogen oxides), which harm human health, damage the environment, and contribute to the formation of smog and harmful air pollution. In summation, burning

harms ecosystem. It also threatens human health, showing the need for cleaner energy.

"Emissions are heading the wrong direction that we need to limit global warming". In this quote Ben Powlter highlighted gases impacts on the atmosphere. Industrial emission harm both the environment and human health when discharged into the air. They are primary source of acid rain, which changes the pH of soil and water environment, severely affecting crops, aquatic life and local ecosystem. In the late 20th century, high industrial sulphur dioxide emissions in Germany's Black Forest and Scandinavia caused acid rain that killed large areas of trees and made thousands of lakes too acidic to support fish. Industrial emissions also drive the greenhouse effect, causing global warming, melting polar ice, rising sea levels, and more extreme weather events. In Pakistan, heavy industrial emissions in cities like Lahore and Karachi, combined with seasonal crop burning, often produce dense smog. This smog reduces visibility and has serious, widespread impacts on human health, causing respiratory failure, lung and organ cancer, chronic poisoning and persistent fatigue among residents. Fine dust particles further irritate the lungs and eyes. Industrial emissions pose a serious threat to human health, causing chronic illnesses and long-term damage.

Deforestation is primarily driven by human economic activities that prioritise short-term gain over environmental sustainability. One major cause is agricultural expansion, particularly cattle ranching. For example, in the Amazon rainforest, around 17% of forest cover has been lost in last fifty years, mainly due to conversion of land for cattle grazing and farming. A second significant cause is commercial logging, where trees are cut for timber, papers and fuel. Both legal and illegal logging operations remove large forest areas and weaken ecosystem stability. Infrastructure development is another key driver. The construction of roads, urban settlements, and industrial projects opens previously remote forests to exploitation. In Pakistan rapid urban growth in cities such as Rawalpindi, Abbottabad, and Lahore has led to removal of old trees for road expansion and housing schemes. Livestock grazing also contributes to forest degradation by preventing natural regeneration. Additionally, the search for valuable resources such as gold and oil has increased encroachment into forested regions. These interconnected human activities collectively accelerate deforestation world wide.