

Topic

Climate Change

Causes and Consequences

Outline

1. Introduction

(i) Hook

(ii) Background

(iii) Thesis statement: Climate change is driven by anthropogenic causes such as fossil fuels combustion, deforestation, industrialization, use of agricultural fertilizers along with minor natural contributors. All these causes have everlasting impacts on both environment and human life.

2. Causes of Climate change

(i) Fossil fuels combustion

a. 68% of global green house emission is due to the combustion of fossil fuels.

b. fossil fuels such as coal, oil and gas leads to the excessive global warming. sudden rise of temperature.

(ii) Deforestation

- a. Trees act as carbon sinks by trapping carbon dioxide and releasing oxygen.
- b. Cutting down the forests will release the CO_2 in atmosphere, leading to drastic climate changes.

(iii) Industrial revolution

- a. Fossil fuels dependency and emission of greenhouse gases.
- b. Energy intensive sectors release a lot of chemicals into the environment hence depleting ozone layer.

(iv) Agricultural fertilizers

- a. 2% of global greenhouse emission is due to the ^{potent gas} ~~chemical~~; nitrous oxide ^{released} ~~used~~ by fertilizers.
- b. Overuse of agricultural fertilizers leads to the soil degradation.
- c. Excess nitrogen and phosphorus can runoff to water reservoirs causing algal blooms (eutrophication) which later affects human health.

(v) Natural causes (minor contributors)

- a. Volcanic eruptions; when volcanic gas, aerosols droplets, ash are released into earth's stratosphere, they ~~caus~~ leads to ozone depletion.
- b. Shifting tectonic plates primarily changing lands and oceans.
- c. Varying solar radiations and orbital cycles such as Milankovitch cycle influencing ice ages and

warm interglacial periods.

3. Consequences of Climate change

(i) Environmental consequences

- a. Extreme weather events such as sudden heat waves, droughts, floods and heavy rainfall
- b. Rising sea levels due to melting glaciers and polar ice sheets
- c. Ecosystem and wildlife is disrupted due to the changing climate.

(ii) Human health risks

- a. Warm temperature expands the range of diseases carrying insects such as mosquitoes causing malaria and dengue fever.
- b. Worsen Air quality through smog and pollens are affecting the respiratory system of humans.
- c. Food insecurity, primarily causing malnutrition

(iii) Economic and Social instability

- a. Cost of disaster recovery, agricultural losses and damaged transport network affecting economic output
- b. Agricultural decline and infrastructure damage
- c. Increased poverty, Job losses, reduced productivity and higher food costs.
- d. Food and water insecurity affecting the people

e. Human displacements and ^{migration} ~~conflicts~~ can cause conflicts and economic crisis.

4. Way forward for Climate change

a. The Paris agreement, legally binding international treaty to combat climate change by limiting global warming to well below 2°C

b. Pakistan's billion tree tsunami, launched by the government of Khyber Pakhtunkhwa.

c. UNFCCC: United Nation framework convention on climate change, aims to stabilize green house gas emission

Conclusion

The Essay

"A ruined planet cannot sustain human lives in good health; A healthy planet and healthy people are two sides of same coin."

Dr. Margaret Chan, WHO

The above statement by ^{former} director general of WHO, Dr. Margaret Chan, frames the climate crisis not as a distant environment threat but also an immediate violation of human right to life as it states one cannot live ~~on~~ on a planet by ruining it, and expect nothing in return. For millenia climate change was induced by few natural causes such as volcanic eruptions, solar radiations and change in orbital cycles. However, the modern era has influenced the climate change by Anthropogenic causes of fossil fuels combustion contributing to 68% of green house emission. Moreover; deforestation, Industrial revolution, agricultural fertilizers contributes to changing climate as well. All of these causes, either, natural or anthropogenic are impacting the environment by causing ecological disruptions and it has everlasting effects on human health as it destroys the physical and mental wellbeing.

of humans. In order to combat climate change, dual approach of mitigation and adaptation is needed which includes Paris agreement and UNFCCC.