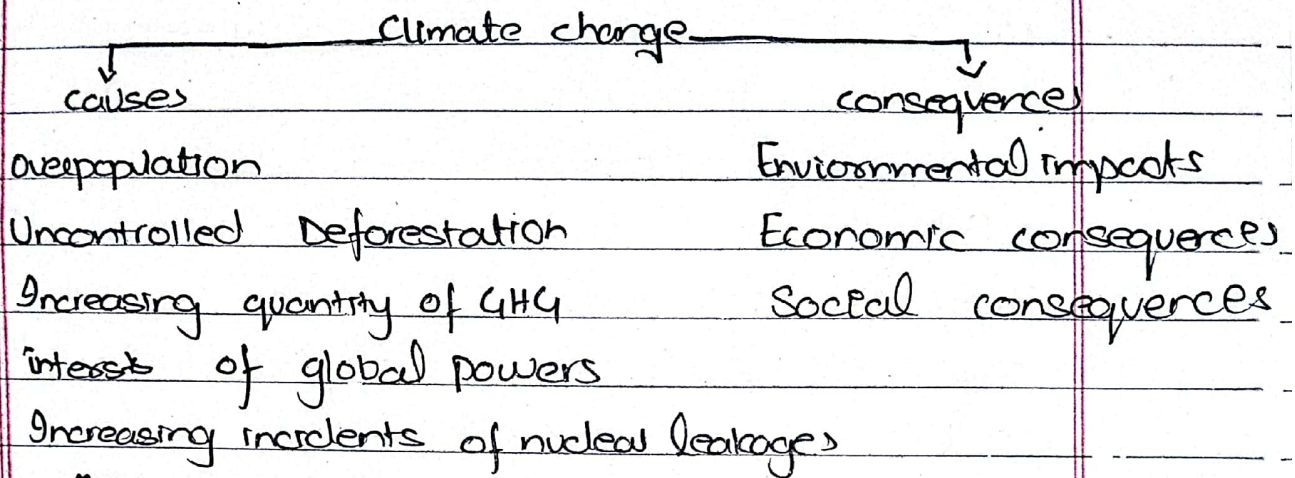


# CLIMATE CHANGE: CAUSES AND CONSEQUENCES

## BRAIN STORMING



## OUTLINE

### INTRODUCTION

- Attention grabbers
- General statements
- Thesis statement: The growing threat of climate change is primarily driven by overpopulation, uncontrolled deforestation, strategic interests of global powers, increasing incidents of nuclear leakages and increasing quantity of green house gases leading to profound environmental, economic and social consequences that demands urgent global action.

### MAIN BODY:-

- CAUSES OF CLIMATE CHANGE
- Overpopulation
  - census comparison (2017 vs 2023)
  - Population density in major cities.

## • Uncontrolled Deforestation

- Deforestation is contributing 10% in global warming -

- 5% area contribute in 0.4% of GDP

- case study: Swat's lush forest under threat from Rampant Deforestation

- Increasing incidents of nuclear leakage

- Chernobyl disaster (1986)

- Fukushima Daiichi Nuclear Disaster (2011)

- Strategic interests of global power

- US withdrawal from Kyoto protocol

- US - China trade rivalry

- Increase in green house gas emission.

### CONSEQUENCES:

- Environmental impacts

- Rise in global temperature

- Extreme weather conditions

- case study: Australian bushfires (2019-2020)

- and their link to rising temperature

- Economic consequences

- Damage to infrastructure and agriculture

- case study: Economic losses in Pakistan in 2022 flooding -

- Social consequences

- Displacement and Migration

- case study: 2010 Pakistan Floods

- Health risks

- case study: Karachi - Heatwave (2015)

- water-borne diseases due to floods

- Conclusion

Thesis restated

# THE ESSAY

In 2015, the city of Chennai, India faced a catastrophic flood that brought life to a standstill. With heavy rainfall streets turned into rivers, and thousands were left stranded in their homes. The flooding which resulted in killing of more than 200 people and submerged lakhs of homes, underscored how climate change can intensify extreme weather. This incident is just one example of broader trend affecting countries worldwide as climate change increasingly disrupts weather patterns and exacerbates natural disasters such as floods, draughts, tsunamis etc. The growing threat of climate change is primarily driven by overpopulation, uncontrolled deforestation, increasing incidents of nuclear leakages and, strategic interests of global powers and increasing emission of green house gases leading to profound environmental, economic and social consequences that demand urgent global action.

The global powers must take into consideration the adverse consequences of climate change and take appropriate actions otherwise the Planet Earth will soon no longer be in condition for survival of life -

Before discussing the causes of climate change, it is pertinent to define the term climate change. Simply, climate change is long-term shifts in temperature and weather patterns. Such shifts can be natural ~~such as~~ due to sun's activity or large volcanic eruptions, but since last few centuries climate change is due to human activities ~~such as~~ <sup>due to</sup> burning of fossil fuel, trapping like coal, oil and gas, which produces heat trapping gases.

In addition,

Pakistan is among the worst hit countries by climate change.

Firstly, overpopulation is often cited as a contributing factor to climate change, ~~but~~ It is important to understand that not only overpopulation contributes to climate change but also resource use. Going back into the last century, there was

no issue of climate change because resources available were more than the need - But today population of the world has drastically increased in size - ~~whereas~~ As taking the example of Pakistan, the population of Pakistan reported in 2023 census is 241.49 million as compared to 2018 population count that was 207.68 million - The population of Pakistan increased by approximately 16.28% from 2018 to 2023. According to Pakistan Bureau of Statistics, the recent census indicates an average annual growth rate of about 2.4%.

In broader perspective, the population of world is expected to increase by 9 billion in 2050. The population will then need resources for survival and that will drastically impact climate.

Secondly, forests that are the oxygen source for Earth are now required in large quantity to fulfil the needs of increasing population. Forests are not only used for domestic purposes but also for economic benefits.

According to various estimates, including Intergovernmental panel on

climate change (IPCC) and the World Resource Institute (WRI), the deforestation accounts for about 10-15% in global warming. Considering example of Pak as contributors on global warming, like many other forests and valleys whose scenic beauty is destroyed by cutting trees, Swat valley is also under threat from rampant deforestation. Experts claim that 30% to 40% of trees in various regions of Swat have already been cut down and those involved in the process intend to raise <sup>this</sup> to 70% trees. The issue began when government, allowed those owning private forests to cut down trees. However, soon trees were felled in private and government-owned forest. When the government finally ordered to stop cutting the trees, the orders were neglected by timber mafia. Local journalist Adnan Bacha told Friday Times that several forest have been ruthlessly cut down in past few to five months. He said deforestation process in district saw various valuable trees like chinar, Deodar and others. Deforestation is causing further damage to climate causing unexpected floods etc.

Thirdly, nuclear disasters are also major contributors in climate change of planet Earth. In the start of twentieth century nuclear power processes were discovered but didn't get much

attention because of the image that it had. It was seen as the ultimate threat to the world. The effort there was to combat the nuclear power. It was not until the 1950s when the world started focusing on developing nuclear power economy.

Then the nuclear power began to emerge on globe and the competition posed great risks to human life and also to the climate. One of the many examples is Chernobyl accident in 1986 in Ukraine in which the nuclear power plant went out of control during a test at low-power, leading to an explosion that claimed approximately 30 lives and released large amounts of radiation into the atmosphere.

Another example is Fukushima Daiichi incident in 2011 in northern Japan the second worst nuclear accident after Chernobyl disaster. The explosion of the reactor resulted

release of radiations into the air. The radiations posed a great threat to the atmosphere.

Fourthly, the strategic interests of the global powers are of great importance in causing climate change. In 2001, President George Bush withdrew U.S. from the Kyoto protocol, an international treaty committing signatory countries to reduce greenhouse gas emission. U.S. withdrew due to concerns that it is placing binding emission reduction targets on developed countries, excluding major economies like India and China. The U.S. argued that this will harm its economy and its competitiveness while allowing significant emitters in developing world to continue increasing their emission without constraints. Similarly, U.S. as a global power has no fear of other country but since China is emerging as a global power on the globe U.S. is taking many steps. It is keeping an eye on its trade affairs and its relations with other countries. To counter China U.S. had withdrawn from Paris



Agreement - These all are the strategic interests of the global powers that contribute to climate change -

lastly, all the causes discussed are linked to the release of greenhouse <sup>house</sup> gases e.g. carbon dioxide, methane, Chlorofluorocarbon e.t.c.

These green house gases are now affecting atmosphere badly -

The ozone layer (O<sub>3</sub>) natural barrier from sun's UV rays is depleting due to the Chlorofluorocarbon and causing sun's UV rays to reach Earth

accelerating the global warming process.

degradation of the ozone layer is a major cause of global warming and the greenhouse effect.

As per the World Meteorological Organization (WMO),

the global average surface temperature in 2023 was 1.48°C above the 1951-2020 average.

According to NOAA, the global average surface temperature in 2023 was 1.48°C above the 1951-2020 average.

new high in May 2024, reaching approx. 1.27 ppm, which is 2.9 ppm higher than the previous years.

This marks one of the highest fastest growth rate in the last 50 years. The increase is due to rapid deforestation, fossil

fuels burning, use of refrigerators and air-conditioners - a major contributors to CFC gases.

Unfortunately, the world is facing climate change due to the activities of its own residents, ~~and~~ <sup>including</sup> like uncontrolled deforestation, overpopulation, nuclear leakages, strategic interests of global powers and increasing green house gas emission causing serious environmental, economic and social consequences.

First comes the environmental impacts caused by climate change - Rise in global temperature is an alarming environmental impact. 2023 was recorded hottest year on record globally, with temperature more than  $1^{\circ}\text{C}$  above long-term average. This leads to more intense heatwaves, wildfires and shifts in ecosystems. According to World Meteorological organization there are 80% chances that global temperature will ~~rise~~ temporarily exceed  $1.5^{\circ}\text{C}$  at least once between 2024 and 2028. Moreover, climate change is causing extreme weather conditions. One of the recent example is Australian Bushfires in 2019. It was so destructive fire preceded by extremely high temperature, and low humidity and strong winds which combine to create ideal conditions

for the rapid spread of fire. This also impacted a Australian agriculture between \$4 billion and \$5 billion dollars according to the researchers of University of Sydney. Climate change is drastically impacting environment.

Second, comes the economic consequences caused by climate change. Climate change is not only <sup>cause</sup> heatwaves or bushfire but also floods sometimes. These sudden disasters give a great shock to economic conditions of a country. Most recent example is flood in Pakistan in 2022. One-third of the country has been under water. The damage is estimated at \$14.9 billion, the loss to the GDP at \$15.2 bn and the total needs of rehabilitation at \$16.3 bn. The sector that suffered most damage during flood is housing at \$5.6 bn; agriculture, food, livestock and fisheries at \$3.7 bn and transport and communication at \$3.3 bn. The provinces of Sindh and Balochistan needed approx. 50% and 15% of recovery and reconstruction needs respectively. This shows how disasters due to climate change cause a devastating

damage to the economy of country -

lastly, the social impacts of climate change includes migration of people due to the disasters - One of the biggest migration in Pakistan was caused by 2010 flooding - The flood caused 86.8% households to move with 46.9% lived in an IDP camp, according to the report of NIH.

Moreover, climate change also cause health risks in humans including various respiratory and heart diseases and many others. One of the major health risks posed to human was during the heatwave of 2015 in Karachi - In June 2015, the temperature in Karachi went upto over 40°C and the mercury touched 45°C - The heatwave claimed more than 700 people in June - Most of the recorded deaths primarily from heatstroke and severe dehydration. Additionally, ~~some~~ sometimes diseases are caused after the disaster occurred - For example, after the floods many water-borne disease, outbreak in the area due to contaminated water and poor

hygiene including cholera, diarrhoea, dengue and malaria. The social consequences of climate change are so adverse that it also claims ~~off~~ lives.

To conclude, the major causes of climate change are overpopulation, uncontrolled deforestation, nuclear leakage, strategic interests of global powers and increase in green house gas emission. If the world was like as one unit can curb COVID-19 that claimed more lives in one day than why cannot it ~~cannot~~ overcome the environment, economic and social impacts of climate change. The world should strive to save the mother land by putting the vested benefits behind. The problem of climate change is difficult to solve but not impossible. So, the world should put efforts to harness the beauty of world and to avoid the ~~days~~ <sup>years</sup> like 2010, 2015 and 2022.

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