

# "Climate Change: Causes & Consequences"

## 1. Introduction:

- Attention grabber
- General statement
- Thesis statement:

Climate change has emerged as one of the most serious global challenges due to human activities such as, Overpopulation, deforestation, agricultural activities, nuclear leakage and industrial emissions, which has resulted in Global warming, Extreme weather events, environmental degradation, agricultural damage and food security and economic loss.

## 2. Causes of Climate Change:

### 2.1. Overpopulation

2.1.1. List of countries with rapid growing population: Pakistan,

India, Bangladesh, Nigeria and Democratic Republic of the Congo.

2.2- Uncontrolled deforestation

2.2.1- Amazon rainforest being cleared over 17%.

2.2.2- 90% of Malaysia forests being cleared.

2.2.3- Deforestation contributing for 10% of global greenhouse gas emissions.

2.3- Agricultural activities

2.3.1- Livestock and fertilizers

2.3.2- Rice production emits 8-10% of global methane.

2.3.3- Farm machinery depending on fossil fuels.

(2.4- Extreme weather events)

2.4- Nuclear leakage

2.4.1- Chernobyl disaster of 1986

2.4.2- Fukushima Nuclear disaster of 2011.

## 2.5. Industrial emissions

2.5.1. Responsible for 7% greenhouse gas emissions

2.5.2. Cement industry a major contributor

2.5.3. Paper industry contributes to  $\text{CO}_2$  emissions

## 3. Consequences of climate change:

### 3.1. Global warming

3.1.1. UN and World Bank reported 1.5°C temperature increase.

3.1.2. Serious consequences for agriculture, biodiversity and human life.

### 3.2. Extreme weather events

3.2.1. Pakistan's mega-flood of 2022.

3.2.2. Australia's Black Summer wildfire 2020.

3.2.3. Canada's worst wildfire 2023.

### 3.3 - Environmental degradation

3.3.1 - FAO reported 33% of the world's soil is degraded

3.3.2 - Amazon rainforest lost every year.

### 3.4 - Agricultural damage and food security

3.4.1 - In Pakistan, 4 million acres of crops destroyed.

3.4.2 - East Africa drought (2020-23)

3.4.3 - Affected wheat production in India (2022).

### 3.5 - Economic loss

3.5.1 - In Europe, infrastructure damage reached \$738 Billion dollars.

3.5.2 - In Pakistan, \$33 Billion dollars economic loss from 2022-26

## 4. Way Forward to curb Climate Change:

### 4.1. Afforestation

4.1.1. Billion Tree Tsunami

4.1.2. China's "Three North Shelter Forest Programme".

4.1.3. Miyawaki Method

### 4.2. De-weaponizing the world

4.2.1. Treaties like JCPOA

4.2.2. START I and START 2 and Limited Test Ban Treaty (LTBT) in 1963.

## 5. Conclusion.

## INTRODUCTION:

In 2022, catastrophic floods submerged one-third of Pakistan, displacing millions and destroying crops and infrastructure. This disaster illustrated how climate change is no longer a distant environment concern but an immediate threat to human survival. It is no secret that our green planet has undergone significant changes due to the effects of climate change, which have intensified since the advent of the industrial era. A global temperature increase of just  $1.5^{\circ}\text{C}$  is expected to have serious consequences for agriculture, biodiversity, water availability and human life. So, climate change is neither a new issue, nor is it a fully settled one. Developed nations are dealing with it successfully, whereas developing

nations are still struggling. Unfortunately, Pakistan is also one of them. Climate change has emerged as one of the most serious global challenge due to human activities such as overpopulation, deforestation, agricultural activities, nuclear leakage and industrial emissions which has resulted in global warming, extreme weather events, environmental degradation, agricultural damage and food (~~security~~) security and economic loss. These causes are not descended from heaven. They are man made and only strong will and determination is needed to address the issue of climate change.

Overpopulation is a primary driver of climate change. There are several countries with rapidly growing populations. Such as, Pakistan, India, Bangladesh, Nigeria and Democratic Republic of the Congo. The last census conducted in Pakistan showed a significant population surge reflecting an annual growth rate of 2.55%. India holds the top spot for absolute population increase. With an annual growth rate of 0.87% and has the population of 1.5 billion which is equivalent to 17.79% of the total world population. Bangladesh has a growth rate of 1.21% annually and Nigeria has a growth rate of 2.06%. Democratic Republic of the Congo features one of the highest growth rates of 3.21% annually, with a population projected to reach 116 million by the end of 2026. While on the other hand, countries

Like China, Bulgaria, Japan, South Korea and Romania are seeing declining growth rates due to low fertility and ageing populations despite having large populations. This increasing population needs a greater number of resources to live which are decreasing day by day and that is the main causes of climate change for this world.

Uncontrolled deforestation causes an environmental catastrophe by eliminating natural systems that reduce heat absorption, exacerbating the rise in global temperatures. The primary purpose of deforestation is agricultural, livestock farming, timber and population expansion. For example, a large portion of the Amazon rainforest has been cleared over the past four decades, for cattle ranching to support Brazil's role as the world's largest

beef exporter, for infrastructure development, logging and mining. As of early 2026, (the) it has been estimated that 17% of the original total area has experienced deforestation. Similarly, 90% of Malaysian forest has been cleared to cultivate oil palms for palm oil production. Trees play a critical role in absorbing carbon dioxide, converting it into oxygen and glucose and releasing it into the atmosphere as gas. The removal of forests leads to the release of stored carbon dioxide and methane gases both of which contribute to the greenhouse effect by trapping heat and intensifying global warming. Thus, studies concluding that deforestation accounts for 10% of global greenhouse gas emissions.

Greenhouse gases emitting from agricultural activities, and animal metabolic processes and

extensive use of fossil fuels, including natural gas, coal and oil is also one of the primary causes of climate change. Livestock such as, Buffalo, camels, sheeps, cattles, horses and goats are used for agricultural activities and are a primary source of methane gas. Similarly, the production of rice emits 8-10% of global methane. The production of nitrogen-based fertilizers requires substantial thermal energy which relies on natural gas and coal for energy production. The burning of fossil fuels results in the emission of both nitrous oxide and carbon dioxide. Additionally, the use of agricultural machinery, which has become the backbone of modern farming to achieve large scale agricultural production has saved farmers considerable time and effort. However, its reliance on fossil fuels has led to gas emissions, all contributing to climate change.