

Climate Change: Causes and Consequences

Outline

① Introduction:

When a living being contracts a virus, the host's body responds by raising its core temperature in an attempt to rid the virus. This escalation ends in either the virus's death, or the host's death. Either way, the virus dies. The earth, humanity, and climate change may well be a re-enactment of this phenomenon on a much larger scale. The Global Temperature average for 2010 settled around 1°C above the pre-industrial average (1850-1900), while for 2025, it reached about 1.5°C above the base-line. With current emission rates, the trend is expected to continue on an upwards trajectory. Climate change is not a new phenomenon, but it is one that has been neglected by both developed and developing nations alike. Though in recent years the gravity of the issue has been realized, there is much to be done to address the various ways in which human activity has led to an increase in greenhouse gas emissions that have led to climate change. The incentive is high as the consequences of climate change are multi-fold; from compromised health, ~~transmission~~, ~~that~~, ~~that~~, agricultural damage, infrastructural damage, socio-economic turmoil, and ecosystem disruption. Time is of the essence, and ~~only~~ a coordinated global initiative ~~can~~ is our only hope to resolve this ongoing issue.

② Causes:

- i) Burning of fossil fuels releases CO_2 into atmosphere
 - ↳ For energy used in cooking, industrial / transport fuel, heating, electricity production etc.
- ii) Deforestation which reduces trees to absorb CO_2 , more released / rampant.
 - ↳ For housing, urban schemes / development etc.
- iii) Livestock farming, cows / sheep etc. produce methane and fertilizers contain nitrous oxides. Both are greenhouse gases like CO_2 .
- iv) Short-sighted corporate greed:
 - ↳ Exacerbates prior 3 by disregarding sustainable levels of production in favour of profits
- v) Overpopulation: Exacerbates energy needs to meet demands.

③ Consequences:

i) Health:

- ↳ Temperature increase leads to weather extremes (Too hot and arid in certain regions) causing stroke and death.
- ↳ Vectors of infection e.g. Anopheles mosquitoes more active since warmer temperature leads to ~~increased~~ metabolism and ~~quicker~~ breeding cycles, spreading malaria. Rainfall alterations and flash floods lead to ~~increased~~ standing water, their ideal breeding grounds.

ii) Agriculture:

- ↳ Temperature sensitive crops compromised
- ↳ Altered rainfall patterns / infrequent rains reduces crop health.

iii) Infrastructure:

- ↳ Increased temperature causes railroads and bridge expansion beyond calculations, potential accidents.
- ↳ Increased storms and flash floods erode buildings, homes etc.
Also wash away soil foundations causing buildings to sink, and maintenance costs to rise.
- ↳ Waste/surface runoff dumped into reservoirs, reducing hydroelectric power capacity, increased cleanup costs.

iv) Socio-economic:

- ↳ Medicine, maintenance, fuel costs increase
- ↳ Work conditions more intense, strikes, unrest
- ↳ Irritability will rise, productivity decrease.
- ↳ Mortality increase
- ↳ Migration to different areas / countries
- ↳ Poverty increase.

v) Ecosystem:

- ↳ Animals retreat to different habitats or simply die off.
- Food chain disturbed
- ↳ Rise of water levels leads to saltwater and freshwater systems mixing up, killing certain aquatic species.
- ↳ Plants sensitive to temperature changes die off. Land becomes more arid and barren, desertification

④ Case Studies on effects:

- ↳ i) California Wildfires 2025
- ↳ ii) Karachi and Bangladesh coastal flooding.

⑤ ~~Solutions and roadblocks~~

- ↳ Sustainable energy (renewables)
- ↳ Population control
- ↳ ~~Educating masses~~

- ↳ ~~Pushback from profit-centric corporations~~
- ↳ ~~Global coordination, implementation and enforcement of responsibility~~
~~bottlenecks~~
- ↳ ~~Mindset shift of general public~~
~~(harder for developing nations to be responsible)~~

⑥ Conclusion