

Climate change and its effects

Outlines

1. Introduction:

- (a) A global issue; Unprecedented threat to humanity.
- (b) Controversy regarding the issue.
- (c) United efforts needed immediately.

2. Understanding Climate change:

- (a) Adverse effects of industrial revolution.
- (b) Role of green-house gases.

3. Causes of Climate change:

- (a) Emission of greenhouse gases.
- (b) Deforestation and land-use changes.
- (c) Industrialization and Urbanization.

(d) Unsustainable agricultural practices

4- Impacts of climate change:

(a) Rising global temperature and heatwaves.

(b) Melting glaciers and rising sea levels.

(c) Disruption of ecosystem and biodiversity loss.

5- Climate change as a threat to humanity:

(a) Increased frequency of extreme weather events; hurricanes, floods.

(b) Fires in Los Angeles and the broader California regions; Dry climate, Santa Ana winds, Droughts, rising temperature.

(c) Fear of epidemics of new diseases.

6- Global efforts to combat climate change:

- (a) The Paris agreement and international commitments.
- (b) Clean energy projects and efficient use of energy
- (c) Mitigation strategies
- (d) Renewable energy sources

7- Challenges in the way of joint efforts:

- (a) Economic interests of nations.
- (b) Lack of awareness
- (c) Developing countries neglecting the issue.

8- The way forward:

- (a) Promoting afforestation and sustainable practices.
- (b) Strengthening international cooperation.
- (c) Public awareness campaigns and individual responsibility.

a. Conclusion:

- (a) A Looming global threat; need for immediate remedial measures.
- (b) Need for Urgent and collective action.

(c) Introduction:

Climate change is one of the most pressing global issues of our time, impacting ecosystems, economies, and communities worldwide.

At its core, climate change refers to long-term shifts in temperatures and weather patterns, primarily driven by human activities such as deforestation and the burning of fossil fuels.

But the issue remains deeply controversial.

Dispute arises over its causes, the severity of its impacts, and the best methods to address it.

However, as the effects of climate change become increasingly apparent; through rising sea levels, extreme weather events, and biodiversity loss; the need for unified, immediate

climate action has never been more critical. Only through global collaboration and a shared commitment to sustainability can we hope to mitigate the effects of this crisis and safeguard the planet for future generations.

"Climate change does not respect border; it does not respect who you are rich and poor, small and big. Therefore, this is what we call 'global challenges,' which require global solidarity."

(Ban Ki-moon)

(2) Understanding Climate change:

The industrial revolution brought rapid industrial growth but caused significant environmental harm. Reliance on fossil fuels like coal and oil led to massive carbon dioxide emissions, and air and water pollution. These activities disturbed the

ecosystems, increased greenhouse gas concentration, and initiated global warming, marking the beginning of human-induced climate change. Greenhouse gases such as CO_2 , methane (CH_4), and nitrous oxide (N_2O) trap heat in the atmosphere, contributing to global warming. While these gases are essential for maintaining Earth's temperature, human activities have increased their levels, leading to rising temperatures, melting ice caps, sea-level rise, and extreme weather events.

(3) Causes of Climate change:

The Primary cause of climate change is the accumulation of greenhouse gases (GHGs) in the atmosphere. CO_2 emission from burning fossil fuels for energy and transportation are the largest contributors. Deforestation is also the cause of climate change by reducing the planet's (Earth) ability to absorb CO_2 .

Industrial activities release not only CO_2 but also methane (CH_4) and nitrous oxide (N_2O), which are major green house gases. Unsustainable agricultural practices, such as excessive livestock farming and the use of synthetic fertilizers, also add up to the problem. Urbanization and over-reliance on non-renewable resources compound the crisis.

(iv) Impact of Climate change:

"Climate change is not some far-off problem; it is happening here; it is happening now."

(Barack Obama)

Global temperatures have risen by approximately 1.1°C since the pre-industrial era, leading to the melting of glaciers and polar ice caps. This, in turn, causes sea level to rise. Climate change also disrupts ecosystems,

causing species extinction and biodiversity loss.

5(a) Extreme Weather Events:

Extreme weather events such as hurricanes, floods, droughts, and heatwaves have become more frequent and severe. This is all due to climate change. Rising global temperatures intensify hurricanes, causing stronger winds and heavier rainfall. Warmer climates also disrupt precipitation patterns.

5(b) Fires in Los Angeles:

Fires in LA and the broader California ~~region~~ ~~area~~ ~~of the~~ region is intensified by climate change. LA faced devastating wildfires, notably the Palisades fire, which consumed over 23,000 acres of land, destroyed more than 6,000 structures, and resulted in at least 20 fatalities. So, climate change is a significant factor contributing to the increasing frequency and intensity of wildfires in Los Angeles.

and other parts of California.

High temperature: Climate change has led to rising global temperatures, including in California.

Warmer temperatures dry out vegetation, turning it into fuel for wildfire. Prolonged heat waves also make it harder for ecosystem to recover.

Droughts and Dry Conditions: California has experienced more frequent and severe droughts in recent decades, partly due to climate change.

These droughts reduce moisture in plants and soil, creating ideal conditions for fires to ignite and spread.

Stronger Santa Ana Winds: Santa Ana winds, which blow hot and dry air from inland regions towards the coast, can rapidly spread wildfires. Climate change linked to conditions that may intensify these winds.