

Subject : ENGLISH ESSAY

Topic : CLIMATE CHANGE

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ENGLISH ESSAY

CLIMATE CHANGES> OUTLINE <Introduction :-

"Climate Change does not respect national borders." These words of 'Ban Ki-moon' shows true reality of Climate change. & Everyone in the world is going to be affected by climate change. The changes are transpiring irrespective of any region, country, continent and have global impacts. Climate change is the gradual increase in earth's average temperature. These changes cause long-term shifts in global weather patterns. These changes in climate are induced by human activities such as expansion of greenhouse gases emissions, land use, deforestation and degradation of forests. It is a pressing issue that needs immediate attention. Causes of climate change entails global warming

Air pollution, Deforestation, land use, Industrial processes & farming and Irresponsible human behavior. The effects of climate change includes Rising global temperatures, Rise in global sea level, ocean acidification, glacial retreat, decrease in snow cover, disruption in: agriculture, disappearance of forests, Immersion of coastal areas, Threats of human life etc.

* CAUSES OF CLIMATE CHANGE

1. Global Warming:-

Global warming causes climate change by increasing global temperatures, which intensifies the greenhouse effect. Human activities such as burning fossil fuels, deforestation and certain farming practices trap heat which alters weather patterns, leads to more extreme like floods & droughts, melts ice and cause rise in sea levels and disrupts ecosystems by changing temperature and rainfall patterns worldwide.

2. Air Pollution :-

It can be cause for climate change through following points:

- **Greenhouse Gas (GHG) Emissions:**
GHGs like carbon dioxide (CO_2), methane (CH_4) and Nitrous Oxide (N_2O) are released from sources such as burning fossil fuels trap Earth's heat warming the planet.
- **Aerosols:**
Some components of air pollution like black carbon (soot), are potent climate forcers. They absorb sunlight & accelerate the melting of snow contributing to warming. While other aerosols like sulphates can have cooling effects by reflecting it.
- **Extreme weather:**
heatwaves & wildfires release large amount of stored carbon into atmosphere.

3. Deforestation:

- **Carbon Release:**
when forests are cutdown or burned, the stored carbon is released back into the atmosphere as carbon dioxide.
- **Loss of Absorption Capacity**
- **Increased Greenhouse Gases:**
The combined effect of releasing stored carbon & losing a vital carbon sink leads to greenhouse effect.

- **Altered Water Cycle:**

Large forests regulates global weather by absorbing & releasing moisture. Deforestation disrupts these cycle which leads changes in rainfall patterns, increased droughts & alter weather patterns.

4. **Land Use Changes:**

- Land use causes climate change by altering carbon storage and balance of Earth's energy exchange. Practicing deforestation and industrial agricultural released stored carbon into atmosphere as CO_2 .

- **Evapotranspiration:**

Changes in land cover affect the amount of water vapor released, influencing temperature and moisture in the atmosphere.

- **Changes in Regional & Global Climate Patterns.**

- **Impacts on agriculture and soil health**

- **Urbanization & heat Island Effects**

5. **Industrial Processes & Farming:**

Industrial processes contributes to climate change by releasing large amount of greenhouse gases such as carbon dioxide and methane into atmosphere.

Other industrial activities such as burning fossil fuels for energy to produce goods, chemical reactions during manufacturing eg (cement, plastic) and direct leaks from industrial equipment.

6. Irresponsible Human Behavior Towards Climate Change:

Burning fossil fuels, deforestation, industrial processes, excessive release of greenhouse gases (like CO₂ & Methan) into the atmosphere are trapping heat and raising global temperatures. These behaviors are significant drivers of climate change.

* CONSEQUENCES OF CLIMATE CHANGE:

1. Rise in Global Temperature:

- Greenhouse gasses trap heat, causing the Earth's surface temperature to rise.
- Since the 1980s, each decade has been hotter than the previous one.
- Most land areas are experiencing more hot days & more frequent heat waves.

- High Temperature increase The risk of heat-related illnesses.
- Wildfires are more likely to start and spread faster when it is hot.
- The Arctic is warming at least twice as fast as the global average.
- Heat causes more illness.

2. Rise in Global Sea Level

- Global sea level rise is strong evidence that the climate is changing.
- According to Intergovernmental Panel on Climate Change (IPCC) a United Nations body for assessing research on Climate Change, in its fifth report The global mean sea level has risen about 0.19 meters.

3. Ocean Acidification:

- Ocean acidification happens because of rising carbon dioxide (CO_2) levels.
- Oceans absorb about 25% of CO_2 released into the atmosphere.
- Carbonic acid releases hydrogen ions, which lower the ocean's pH and make it more acidic.
- Increased acidity reduces carbonate ions, which are essential for marine life.

4. Glacial Retreat:

- Glacial retreat is direct result of climate change.
- Rising global temperature caused by greenhouse gas emissions make glaciers melt faster.
- Glaciers lose more ice than they gain from snowfall, leading to their shrinkage.
- Warmer temperatures also disrupt normal snowfall patterns, reducing glacier growth.

5. Decrease in Snow Cover:

- Global warming causes higher temperatures, leading to reduced snow cover.
- Snow melts earlier in the season due to rising temperature.
- Precipitation may fall as rain instead of snow.
- Warmer conditions can prevent snow from accumulating at all.
- Economic systems and human activities relying on snowmelt are disrupted.
- Reduced snow cover affects water resources by changing the timing and volume of snowmelt runoff.

6. Disruption In Agriculture:

- Alter temperature and rainfall patterns, disrupt growing conditions in agriculture sector.

- Extreme weather events (droughts & floods) that damage crops.
- Climate change leads to reduced crop yields and lower agriculture practices.
- Accelerate soil erosion, reduce soil fertility
- Increase pests and plant diseases
- Threaten global food security and stability of food supply.
- Climate change will shift food-growing regions. Some regions may become unsuitable for certain crops due to rising temperature
- Areas / Regions where crops, such as rice do not grow because of cold climate will become cultivable due to global warming.

7. Disappearance Of Forests:

- Warmer temperature increase the frequency and intensity of wildfires and droughts damaging large forest areas.
- Insect infestations become more common and deadly, killing vulnerable trees.
- Sea-level rise can flood coastal forests, destroying habitats.
- Altered local climate conditions make it difficult for forests to grow and recover.
- Feedback loop: deforestation releases stored carbon, which worsens global warming and accelerate further forest decline.

8. Immersion of Coastal Areas:

- Rising sea levels from melting glaciers and expanding sea water low-lying coasts.
- Loss of land as shorelines shrink and communities face displacement.
- Worsened flooding during intensified storm surges, damaging homes and cities.
- Saltwater intrusion contaminates fresh-water sources, threatening drinking water.
- Ecosystem disruption endangers coastal habitats and biodiversity.

9. Threats To Human Life As

Consequence Of Climate Change:

- Deadly heatwaves increase mortality.
- Falling crop yields endanger food security.
- Forest loss worsens climate and resource scarcity.
- Coastal flooding displaces millions.
- Mass migration ~~and~~ create heavy pressure on jobs, housing & public services.
- Climate change drives mass migration as people move from drought, flood or disaster hit regions.
- Rise in crime fueled by scarcity & unemployment.
- Economic system face severe disruption.

Recommendations:

- Cut greenhouse gas emissions by reducing fossil fuel use and limiting transport and electricity consumption.
- Promote renewable energy sources like solar, wind and hydropower.
- Enhance carbon sinks through afforestation, especially planting mangroves.
- Anticipate climate impacts with adaptation measures such as efficient water use, disaster-resilient infrastructure and raised river dykes.
- Raise public awareness and encourage collective action, as individual efforts are key to success.
- Educating people about the causes, effects & solutions to climate change so they understand their role and responsibility.

Conclusion:

Climate Change refers to global shifts in temperature, rainfall and weather patterns that affect all regions and people globally. Evidence such as rising global temperatures, sea-level rise, shrinking ice sheets and glacial retreat proves that it is real and worsening. Its impacts threaten biodiversity, agriculture, food security, human health and ecosystems. The main cause is human activity, especially greenhouse gas emissions. To combat it, we must reduce emissions, adopt renewable energy and take collective actions. Global efforts will only succeed if everyone contributes, ensuring a safe and habitable planet for future generations. Ignoring climate change today means paying price tomorrow.

