Impacts of Climate change on the risk of Natural Disasters

Kendre Rameshwar Dhondiba
Research Student, Department of Geography,
Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.

Abstract This chapter explains what hazards and disasters are, reviews their trends, and assesses the potential impact of changing climate on hazards and extreme events. Observations since 1950 indicate increases in some forms of extreme weather events. The recent Special Report on Extreme Events and Disasters (SREX) by the Intergovernmental Panel on Climate Change (IPCC) predicts further increases in the twenty-first century, including a growing frequency of heat waves, rising wind speed of tropical cyclones, and increasing intensity of droughts. A one-in-20-years “hottest day” event is likely to occur every other year by the end of the twenty-first century. Heavy precipitation events are also on the rise, potentially impacting the frequency of floods and almost certainly affecting landslides. This chapter also examines the science of event attribution, its potential and possible issues. It further outlines the global distribution and impact of natural disasters.

Introduction: -
Global warming, climate change and pollution most controversial issues of 21st century. Global warming is the increase of the average temperature of earth’s atmosphere the scientific consensus of climatic changes related to Global warming is that the average temperature of the earth has risen between 0.4 and 0.8°C over the past 100 years. The increased volumes of Carbon dioxide and other greenhouse gases released by the burning of fossil fuels, land clearing, agriculture and other human activities are believed to be the primary sources of the global warming that has occurred over the past 50 years. It is predicted that average global temperatures could increase 1.4 and 5.8°C by the year 2100. Climate change will have a significant impact on the water, rising sea levels, polar ice caps, Rain Fall, Coral Reefs etc.

Objective: -
1. to discuss Disasters and climate change
2. to study main indicators of climate change
3. to understand the effect and solution of global warming and climate change

What is Global warming and climate change: -
Global warming and climate change refer to an increase in average global temperatures, natural events and human activities are believed to be contributing to an increase in average
global temperatures. This is caused primarily by increases in “greenhouse” gases such as carbon dioxide there are a total of about greenhouse.

Global warming refers to the recent and ongoing rise in global average temperature near Earth surface It is caused mostly by increasing concentrations of greenhouse gases in the atmosphere global warming is causing climate patterns to change However global warming itself represents only one aspect of climate change.

Climate change refers to any significant change in the measures of climate lasting for an extended period of time In other words climate change includes major changes in temperature, precipitation or wind patterns, among other effects that occur over several decades or longer.

**What are the main indicators of climate change?**

As explained by the usagency, the National oceanic and atmospheric administration (NOAA)there are 7 Indicators that would be expected to increase in a warming world and 3 Indicators would be expected to decrease.

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**Greenhouse effect:**

1. Energy from the sun drives the earth’s weather and climate and heats earth’s surface.
2. In turn the earth radiates energy back in to space
3. Some atmospheric gases (water vapor, carbon dioxide and other gases) trap some of the outgoing energy, retaining heat somewhat like the glass panels of a green house.

Six main greenhouse gases are carbon dioxide (CO₂) Methane (CH₄) nitrous oxide (N₂O), Hydrofluoric carbons (HFCs) per fluorocarbons (PFCs) and sulphrhexafluoride (SF₆) water vapor is also considered a green house gas.
Global climate change has already had observable effects on the environment. Glaciers have shrunk, ice on rivers and lakes is breaking up earlier, plant and animal have shifted and trees are flowering sooner.

**Effect of Global Warming:**

1. Temperatures will continue to rise
2. Ecosystems will change; species will move to other
3. Changes in precipitation patterns
4. Sea level becomes faster over the last century
5. Melting of polar ice caps and flooding
6. Droughts and desertification
7. Less fresh water will be available
8. Changes in food production
9. Changes in food production
10. Effect on the health of humans
11. Irregular weather patterns

**Impact of Climate Change on Future Hazards:**

Natural hazards that lead to disasters can cause tremendous impacts on societies, the environment, and economic wealth of the affected countries. Sectors that are closely related to climate, such as agriculture, tourism, and water, are facing a great burden by extreme events (IPCC). Some forms of climate extreme events have been on the rise over the last few decades. What is their link to human-caused climate change and how will a changing climate affect the occurrence of hazards in the future? Are past disasters going to be the future’s norm? This section draws largely from the special report on extreme events (SREX) (IPCC) as well as from the Working Group I contribution to the 5th IPCC Assessment Report. This chapter also features a focus on tropical cyclones and their relationship with climate change.

**Solutions:**

Earth’s temperature is rising day by day and there is no single solution to solve global warming which has already created havoc in today world. Threats of global warming include. Rising sea level, lost endangered species climate change and deadly storm events we have already seen the causes of global warming the solutions listed below require.

1. **Use energy efficient products:**
   - Energy efficient products have vast potential to save both energy and money and can be deployed quickly.
2. **Going nuclear:**
   - Nuclear technology produces low carbon emissions and increase in the use of nuclear energy could help in reducing global warming.
3. **Phasing out fossil fuels:**
   - Burning of fossil fuels like wood or coal produce more carbon emission than other product phasing out coal burning power plants and not burning fossil fuels directly will reduce dependence on fossil fuels.
4. **Stop deforestation:**
   - Less trees means less absorption of greenhouse gases which are in it responsible for more global warming.
5. **Explore renewablesources:**
   - Renewable sources like solar wind, geothermal and bio-energy create clean energy and have been in use around the world for many years.
6. Developing low carbon technologies.
7. Even if we stopped emitting greenhouse gases today
8. Greener farming
Conclusion:-

Global warming is the product of green house effect this global warming is predicated to lead a variety of negative effects to reduce this we need to develop steps for the prevention such as organizing self awareness programmers planning exhibitions in different parts of the countries to create awareness on global warming.

To benefit from good information on such local information on climate change, organisations working on disaster risk reduction and development will need to establish linkages with new partners, such as national meteorological offices or global centers of expertise on climate research. In addition, some methods and tools for disaster risk assessment may need to be adjusted to address better hazard trends.

Yet, while general patterns and trends can be projected with reasonable confidence, some of the information on precise changes in risks, particularly on the local scale and in relation to small-scale atmospheric phenomena, will remain relatively uncertain. Climate change does not just cause changes in known hazard risks, but also raises the level of uncertainty, and will generate surprises.

Disaster risk reduction and more robust development planning are crucial in adapting to the increasing risks associated with climate change. This is particularly important in the face of mounting vulnerability to natural hazards, as reflected, for instance, in rising numbers of people affected and escalating levels of economic damage. In almost all cases, climate change is just an additional factor to consider, which can be embedded in existing risk reduction strategie

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