



Climate Change: Effects On Human Health

Dr. Urmila Sabharwal

Associate Professor
Geography

Pt. Neki Ram Sharma Govt College, Rohtak, Haryana, India

Abstract: Climate change refers to shift in temperatures and weather patterns measured over a long period of time. Climate change now is largely due to human activity, like burning fossil fuels, natural gas, oil, and coal etc. Greenhouse gases are released into the atmosphere due to the burning of these materials which ultimately results in global warming. Climate change is also associated with wildfires, changes in temperature and precipitation and various diseases. Climate change affects food production, food quality, as well as food prices and distribution systems. Nevertheless, the climate has continually changed over thousands of years which occurred naturally. This paper aims to discuss about the human-influenced climatic change that is happening now at a much faster rate.

Index Terms -Climate, Global warming, Greenhouse gases, Fossil fuels, Food, Wildfire.

I. INTRODUCTION

The word 'climate' is derived from *klima*, which means "inclination," "slope," or "latitude". In modern use, the climate is often found paired with change. This compound noun (climate change) may be defined as "a change in the Earth's climate, specifically: global warming." Climate change can be a natural process where temperature, rainfall, wind, wind direction, humidity and other elements vary over decades or more. Since the 1800s, human activities have been the main driver of climate change, primarily due to burning fossil fuels like coal, oil and gas. In a series of UN reports, many scientists and government reviewers agreed that limiting global temperature rise to no more than 1.5°C would help us avoid the worst climate impacts and maintain a healthy and livable climate. Climate change will impact human health in various ways as the ecology of our planet changes. Environmental changes such as increased heat waves, sea-level rise, and increased global drought will aggravate already-existing health problems, increase the onset of new health problems, and, in some cases, cause premature death. Changes in climate or weather conditions affect the various factors responsible for the spread of infectious diseases (Epstein, 2001a, Wu et al., 2014). Studies have found that long-term climate warming favors the geographic expansion of several infectious diseases (Epstein et al., 1998, Ostfeld and Brunner, 2015, Rodó et al., 2013). The extreme weather events may help create opportunities for more clustered disease outbreaks or outbreaks at non-traditional places and time (Epstein, 2000). Moreover, climate change is affecting many of the social determinants for good health, such as livelihoods, equality and access to health care and social support structures. These climate-sensitive health risks affect the most vulnerable group of people, including women, children, ethnic minorities, poor communities, migrants or displaced persons, older populations, and those with any chronic disease. Climate change can harm the population's health by increasing ground-level ozone and particulate matter air pollution in various areas. A rise in the global temperatures could cause associated increases in premature deaths due to ozone and air pollution. Air pollution in the form of carbon dioxide and methane raises the global temperature. Smog and soot are the two most prevalent types of air pollution. Smog can irritate the eyes and throat. It can also lead to many health problems, like decreased lung function, increased hospital admissions etc. The microscopic airborne particles in soot, gaseous or solid, are injurious to health and may even cause heart attacks. Polycyclic aromatic

hydrocarbons (PAH) are released into the atmosphere from traffic exhaust and wildfire smoke. In large quantities, they have been linked to various issues, such as eye and lung irritation, blood and liver-related problems, and even cancer. Because of trapping of the earth's heat in the atmosphere, greenhouse gases lead to warmer temperatures, which in turn lead to the hallmarks of climate change: rising sea levels, extreme weather conditions, heat-related deaths, and the increased transmission of infectious diseases. Hydrofluorocarbons (HFCs) are the chemicals that are found in air conditioners and refrigerators. These are thousands of times more potent than carbon dioxide in their ability to trap heat.

Climate change affects food production, food quality, as well as food prices and distribution systems. Long periods of warmer temperature result in drought-related stress which decreases the productivity of crops and livestock, fruit crops and milk yields. Shifting rainfall patterns, longer summers, droughts, and more severe precipitation events all lead to a change in planting and harvesting. As per the Indian Meteorological Department (IMD), instances of heavy rainfall have increased by almost 85% in the country since 2012. More than 60% of India's agriculture is dependent on the monsoon; hence, a less predictable monsoon could adversely impact our economic activity. The planting of crops that are usually harvested in winter has to be delayed because of delayed winter, marking a drastic shift in food availability. Ultimately, this can result in a gradual shortage of supplies, leading to mass food shortages. Climate change is also increasing the vulnerability of many forests to wildfires. According to official data, from November 2021 to June 2022, Madhya Pradesh recorded the highest number of fire incidents, followed by Chhattisgarh, Maharashtra, Odisha and Andhra Pradesh. Wildfires also simultaneously impact weather and the climate by releasing large quantities of carbon dioxide, carbon monoxide and fine particulate matter into the atmosphere. Resulting air pollution can cause many health issues, including respiratory and cardiovascular problems. Furthermore, wildfires can have a negative impact on mental health and psychosocial well-being. The emissions that cause climate change come from every part of the world and affect everyone, but some countries produce much more than others. The 5 countries that produce the most emissions, measured in millions of tons of CO₂ in 2021:

1. China
2. United States
3. India
4. Russia
5. Japan



The last report of the World Meteorological Organization (WMO) pointed out that during the last year recorded (2020), the concentration of CO₂ in the atmosphere broke another record, despite a drop in fossil fuel emissions during the Covid-19 pandemic.

II. Objectives

1. To discuss about the climatic changes, global warming, ozone depletion, increasing air pollution and wildfires
2. To discuss the effects of climate change on human health
3. To raise awareness about the serious consequences of climate change

III. Research Methodology

This paper is based on secondary data. The journals, e-paper, newspaper articles and online material have been included.

IV. Conclusion

India ranks third in the list of countries with the largest emission of greenhouse gases. The country has set a target of 33-35% reduction in the “emissions intensity” by 2030, compared to 2005 levels. India is planning to undertake adaptation and mitigation actions, increasing energy efficiency across sectors and making greater use of renewable sources of energy.

As a part of the NAPCC, the Indian government launched eight missions in focused areas. They are:

National Solar Mission, National Mission for Enhanced Energy Efficiency, National Mission on Sustainable Habitat, National Water Mission, National Mission for Sustaining the Himalayan Ecosystem, National Mission for a “Green India” Goals, National Mission for Sustainable Agriculture, National Mission on Strategic Knowledge for Climate Change. India is currently involved in setting up targets in the international forums to combat climate change. India is also playing a crucial role in climate change mitigation. Despite the progress India has made in developing the renewable energy sector, the country still has many obstacles. The three main challenges include lack of infrastructure, lack of financial support, and limited understanding from investors. Climate change with its adverse effects has reached our doorsteps. It is now essential that human beings should act wisely, to be able to cope with the climatic changes and take necessary safety measures to avoid disasters in the future and save the environment. The effects of climate change on health are majorly negative and impact most of the countries. Everyone must act to combat climate change, but those who contribute most to the issue must be the countries with a larger obligation to do so first.

REFERENCES

- [1] Climatetrade.com
- [2] Un.org
- [3] Investopedia.com
- [4] Climate Change and Human Health
- [5] The Role of Nurses in Confronting the Issue
- [6] Sayre, Lucia MA; Rhazi, Nadia BA; Carpenter, Holly BSN, RN; Hughes, Nancy L. MS, RN Nursing Administration Quarterly 34(4):p 334-342, October/December 2010
- [7] cdc.gov
- [8] nrdc.org
- [9] Times of India -Nov 7, 2019, Climate change causing excessive rain, floods in India: Manka Behl, Aug 4 2022
- [10] CNBCTV18.com Mar 16, 2023
- [11] Who.int