



## Human Influences on Climate Change: A Review

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### Abstract

Human beings are progressively affecting climate and temperature via combustion of fossil fuels, forest reduction and animal husbandry. That increases the greenhouse effect and global warming by adding huge volumes of greenhouse gases to those naturally existing in the atmosphere. Changes in precipitation, for example, lead to changes in water availability and quality as well as severe weather events like strong hurricanes and floods. It becomes necessary to look at the cumulative trend in climate change effect on human health, to adopt alleviation measures, such as consolidation health systems and service delivery systems via early monitoring, illness research, vector and disease control, and medical insurance. Investment in research and development, calculation of health risks, mapping of vulnerability, creating baseline conditions, modelling the scenarios and accepting methods for clean expansion and so on.

**Key Words:** climate change, human health, environment, natural resources, malnutrition,

### Introduction

Some gases in the atmosphere of the Earth retain heat and block it from escaping into space. These are what we term 'greenhouse gases.' These gases are known as the greenhouse effect as a warming blanket over the Earth. Both human and natural sources produce greenhouse gases. The atmosphere naturally contains gases such as carbon dioxide, methane and nitrous oxide. Others, such as chlorofluorocarbons (CFCs), are man-made exclusively. When short-wave radiation arrives from the sun, most of it goes directly through the earth and reaches the surface. The Earth absorbs much of this radiation and generates infrared radiation at longer wavelengths. Instead of going into space, the greenhouse gases absorb part of this infrared radiation. The atmosphere then sends radiation back to the surface in all directions and causes the planet to heat up. This phenomenon is called the greenhouse effect. Our survival depends on the greenhouse effect. Indeed, Earth would be approximately 30 degrees cooler without greenhouse gases than it is now. We would not be able to live without greenhouse gases and their warming impact. However humans have been adding more and more greenhouse gases to the air since the Industrial Revolution, trapping much more heat. Instead of keeping the Earth



warm and steady, the greenhouse effect heats the globe considerably more quickly. This is what we term the 'increased greenhouse effect' and the primary driver of climate change.

**Potential climate change health effects** Global global climate change will impact human health via a variety of complicated, scale and timely mechanisms. Similarly, as a consequence of the environment, geography and susceptibility of the local people the effects would differ regionally. Impacts would be good as well as bad (although expert scientific reviews anticipate predominantly negative). This is no surprise since climate change will disrupt or modify a broad spectrum of natural, biological and physical processes that are essential to the Earth's lifestyle system. Human beings contribute to a change in circumstances of life on Earth via climate change.

**Health effects of various kinds of global change** Global climate change is part of a wider range of global change in the environment. These modifications affect each other and often have interactive effects in concert acting.

### **Stratosphere decrease of ozone**

Over the last few decades, stratospheric ozone depletion by man-made gases, such chlorofluorocarbons, is expected to peak around 2020. At the last two decades, environmental UV irradiance at the ground level is believed to have risen by up to 10% in the mid-to-high latitudes. Modeling based on scenarios that combines processes of accumulation of emissions, ozone breakdown, UVR flux and cancer induction, suggests that in mid decades of the 21st century, European and United States populations would suffer an excess of 5-10% in the incidence of skin cancer. When climate change and subsequent stratospheric cooling delays protective ozone recovery, excess skin cancers will become more frequent.

**Loss of biological diversity and invasive species** The increased human demand for space, resources and food leads to the fast extinction of plant and animal populations and species. The destruction of ecosystems that offer "natural goods and services" is a major consequence for people. Loss of biodiversity also implies loss of many natural substances and genes before discovery, others of which have yielded tremendous medicinal and health advantages. Myers believes that 5 6ths of therapeutic products of tropical vegetative origin have yet to be recruited for human use. Meanwhile, "invasive" species spread to new non-natural habitats all over the globe via increased human food production, trade and movement. The resulting changes in the makeup of regional species have numerous human health implications. For example, the



choked growth of water hyacinth in eastern African Lake Victoria, imported as a beautiful plant in Brazil, provides a breeding habitat for water snail transmitting schistosomiasis and diarrhoea.

### **Impairment of ecosystems that provide food**

The growing strain of agricultural and animal production underlines the arable lands and pastures of the globe. An estimated one third of the once producing land of the globe was severely harmed at the beginning of the twenty-first century: erosion, compaction, salinisation, water logging and organic pollutants. Similar constraints on ocean fishing throughout the globe have severely depleted or strained most of them. Almost likely an environmentally friendly and socially acceptable method of utilising genetic engineering to boost food yields is needed to provide enough food (higher expectations) for additional three billion people over the next half century. Modeling studies have predicted that climate change will result in a worldwide mild decline of approximately 2-4 percent in grain yields for future commerce and economic growth (which represent two-thirds of world food energy). The projected return decline in the food insecure areas of South Asia, the Middle East, North Africa and Central America would be much higher.

### **Other worldwide changes in the environment**

Freshwater aquifers are being drained from their old fossil water sources on all continents. Agricultural and industrial demand magnified by population expansion frequently surpasses the pace of natural recovery significantly. In certain areas, water-related political and public health problems arise in decades. Several semi-volatile organic compounds (such as polychlorinated biphenyles) are now spread globally via a successive distillation process in lower cells, thus transporting chemicals from their typical origin into high, even polar, latitudes at low to medium latitudes. In consequence, polar animals and fish and the traditional human groups who consume them are growing high. It is obvious that chemical contamination is no longer a matter of local toxicity

### **The impact on human health of India of climate change**

India is a huge developing nation with the Great Himalayas, the third-largest ice mass in the world in the north, 7500 km in length, and a heavily populated south coastline. Almost 700 million of her over one billion rural people are directly dependent on their sustenance and livelihoods on climate-sensitive sectors (agriculture, forestry and fisheries), and natural



resources (such as water, biodiversity, mangroves, coastal zones, grasslands). There are frequent heat waves, floods (land and coastal), and draughts. Malaria, malnutrition and diarrhoea are significant issues for public health. Further growth in weather-related catastrophes and associated health consequences may hinder the country's already insufficient public health system. Trends in severe rainfall in India indicate that the west coast and the regions of northern, central, eastern and northeastern India have been growing. Throughout the final 10 days of April, a substantial growth in malaise indices occurred and a considerable increase in discomfort indices, relative humidity and maximum temperature during May were noted.

Between 1980 and 1998, eighteen heatwaves were recorded in India, with a heatwave in 1988 impacting 10 states and inflicting 1300 fatalities. In 1998, 1999 and 2000 heat waves in Odisha, India, caused an estimated 2000, 91 and 29 fatalities consecutively, and in 2003 more than 3000 deaths in Andhra Pradesh, India<sup>8</sup>. Climate changes in both ocean water and ambient air may lead to higher temperatures. An rise in the sea level caused by 3 temperatures may cause coastal floods, leading populations to utilise polluted water, insufficient sanitation systems, or to migrate to regions with insecure water supply and sanitation that can lead to cholera spread. Increasing temperatures and shifting rainfall patterns in many developing nations are anticipated to reduce agricultural yields and stress food supply. Coastal countries and territories are vulnerable to rising sea levels in the nation, with about 84 coastal districts impacted by tropical cyclones. The most impacted countries are Tamil Nadu, Andhra Pradesh, Odisha and West Bengal, Gujarat and the Union Puducherry Territory. Low nutrition and associated illness are now the most significant contributors to the global disease burden killing more than 3.5 million people a year, most of them children in poor countries. India may suffer a great danger from a shortage of critical resources, with its reliance on natural resources and climate-sensitive industries such as agriculture, water and forestry. Significant health consequences related to climate change may be widely categorised as follows:

1. Extreme health consequences linked to weather
2. Health consequences linked to air pollution
3. Food-borne and water illnesses
4. Vector-transmitted illnesses
5. Food and water scarcity effects



6. Psycho-social consequences for displaced people
7. Conflict health effects on access to essential resources

### **Conclusion**

Climate change has significantly affected human health via rising temperatures, rising sea standards, water and food supply, severe weather events such as floods, droughts, earthquakes etc., sensitive shelters and population movement. Direct environmental effects may facilitate the spread of vector-borne illnesses, hydraulic diseases, cardiovascular conditions, respiratory allergies and malnutrition, etc. Indirect consequences of climate change are also significant, such as mental health issues and unintended migration. Children, the elderly and communities live in poverty are the most vulnerable to climate change damage. Environmental effects Climate change such as extreme heat wave, rise in sea levels, cyclone changes, earthquakes, floods and droughts, severe storms, deteriorated air quality, directly and indirectly impact human physical, social and psychological health

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