

Essay on Global Warming (A Grave Threat to Ecology)

"The Earth has a natural system of balancing the absorption and release of heat, that it absorbs from the sunlight, but for the last few years, the balance seems to be under severe threat. There has been enormous increase in gases like carbon dioxide, methane, nitrous oxide, etc."

As the temperature rises, there is a rise in sea level, due to the melting of glaciers and the ice sheets of Greenland and Antarctica. While sea level is expected to rise almost every year but a considerable variation is seen nowadays. In some regions, the rise in sea level may be almost nil, but others might experience a rise of as much as twice the global average. The predictions are that the rise in sea level in some parts of the north pacific and to the west of Greenland may be comparatively more and it can spoil the ecological balance of the respective region.

As per the latest report of the U.K. Met office's Hadley center for Climate Prediction and Research, global warming over the next century might turn out to be much worse than estimated. If the Green House Gas (GHG) emissions are stabilized, which means an immediate cut of 60-70% emission of carbon dioxide globally, even then the rise of atmospheric temperature would be 1°C and rise in sea level would be approximately 1Metre. Based on the finding of the Intergovernmental Panel on Climate Change (IPCC), the center predicted that warming overland could lead to a 6°C rise in temperature by 2100, which is 2°C higher than the earlier estimates.

As per the findings of a joint study conducted by the Indian Institute of Technology New Delhi and Hadley Centre, global warming

may also cause a good increase in rainfall over the western coastline of India.

Effects of Afforestation:-

It is assumed that planting more trees will solve the problem as the trees absorb more carbon dioxide, but it is a wrong presumption. Planting more trees will absorb carbon dioxide from the atmosphere in some parts of the world, but in other parts, global warming may hamper the growth of trees or even may cause their destruction. Therefore, afforestation may not be a perfect solution to this problem. One important point to note is that the forest area is usually darker than the other areas, especially when the surface is snowclad and being darker absorbs more sunlight comparatively. Hence it might accelerate warming. Different forests reflect the different amount of sunlight, dark green forests absorb more solar radiation than the land surface and so the benefits of their carbon intake could be reduced and in some areas be reversed by the darkening effect. Dying forests might result in greater emission of carbon dioxide, thus changing the climate to our peril.

The Hadley center reported that the average temperature in 1999 was lower than that of 1998, but the year 1999 was still the fifth warmest year since global records began in 1860. The center has further discovered that by 2050, the trees and soils will start falling and perishing which will result in less absorption of carbon dioxide.

Global warming due to sunlight is likely to be set off or reduced to some extent by volcanic aerosols. During the 21 century, a large-scale reduction in the amount of rainfall is being expected in some areas such as southern Africa, Australia, Central America, and the northern region of South America. The highest increase in

precipitation over land may occur in East Asia, Central Africa, Eastern South America, and at high latitudes.

The Hadley center has also predicted that Antarctica ice may have all but melted away by 2100 if urgent precautionary measures are not taken to cut down the emission of greenhouse gases. The melting of ice is due to the warming of water of the North Atlantic as well as due to rising air temperatures in the region. Melting ice from the frozen continents shall increase the level of the sea. Melting of sea ice can further accelerate global warming as the ocean surface would not now reflect as much sunlight as ice sheets.

Adverse effects of Global Warming

(1) Antarctica home of penguins is getting hotter slowly and gradually. The annual melt season has increased up to three weeks in the last twenty years.

(2) Mount Kili Manjaro has lost 75% of its ice cap since 1912. The ice on this Africa's highest peak could vanish totally within the next 15 years if no remedial measures are taken.

(3) Venezuelan mountain peaks had only two glaciers today out of six.

(4) India's worst heatstroke killed more than 2500 people in May 1998.

(5) Polar Bears in Hudson Bay are having fewer cubs, possibly as a result of earlier spring ice break up.

(6) Coral reefs suffer from the loss of algae that color and nourish them. The process called bleaching is caused by a warmer ocean.

(7) Florida farmland up to 300 meters inland from Biscayne Bay is being infiltrated by saltwater rendering the land too toxic for crops. Saltwater is also nibbling at the edge of farms on Maryland's eastern shore.

According to World Meteorological Organisation, deaths from heatwaves in big cities are expected to double worldwide over the next two decades, if no measures are taken to check global warming. In the largest cities of the USA, an average of 1500 deaths take place every year. It is expected to increase such deaths to 3000-4000 by 2020.

A study conducted by the Indian Ocean Experiment (INDOEX) reveals that the effect of aerosols in the atmosphere will magnify the warming over several developing countries. The study indicates that precipitation might change over tropical regions due to aerosols. Aerosols have both a warming and cooling effect on the climate. On average estimation, aerosols are expected to have a cooling effect, as they indirectly help in the formation of cloud droplets, making clouds more bright and more reflective.

In 1992, the United Nations Framework Convention on Climate Change (UNFCCC) was adopted. It recognized that industrialized countries were mostly responsible for increased Green House Gases, concentration in the Earth's atmosphere and should be the first to act against climate change.

In 1997, United Nation's conference on global warming was held in the ancient Japanese Capital of Kyoto for ten days, the climate change meet lay deadlocked as none was ready to take initiative to check the further damage to planet earth. The USA and 37 other industrial nations agreed to a binding reduction in their Green House Gas emission by 2012, setting out a target of five percent below 1990 levels. The next meeting held in Buenos Aires, where it was agreed on

Nov. 14, 1998, to set a timetable for discussing by 2000 the many issues that still need to be settled.

Actually, the USA and Europe want that other developing countries like, India, China, should act as per the accord signed at Kyoto, but India, China has their own reasons, as in these countries, industrialization has just begun, while developed countries who are actually responsible for the global warming must act fast to have some remedial measures.

In a nutshell, global warming has become a grave threat to the ecological balance of the earth. The civilization is moving slowly towards a doomsday. All the nations, particularly the most industrialized, developed countries have to be active to take immediate action on the matter, otherwise, the human race shall have to face an unimaginable peril and the day is not too far.