
CONSEQUENCES OF GLOBAL WARMING IN INDIA**RANU CHATURVEDI****Department Of Pg Studies And Research In Chemistry Rani Durgavati University Jabalpur****Abstract**

Present paper highlights the consequences of global warming in the life style of the people of India. Due to the extreme rise in temperature not only human beings but also various specie has been in problematic situation. According to the statistics, it has been estimated that earth temperature has increased to a great level since mid 20th century due to the increased atmospheric green house gas concentrations globally because of the increased demand of the human living standard. Global warming causes the climate to change including the rise of sea level. Recently, the intergovernmental panel on climate change (IPCC), in its fifth assessment report has suggested a 1.5 mm sea level rise per year for India. As a developing country, where around half of the total population is below the poverty line, India is going to be one of the worst sufferers of this due to its disaster prone and low elevation geography.

Key words-Global warming, Indian climate, temperature.

Introduction:-

Global warming refers to the rise in surface temperature of the earth due to the green house effect created by green house gases. Green house gases like CO₂ methane are the main but reason of increasing the global warming on the earth which directly impacts the rising sea levels, melting ice caps, glaciers, unexpected changing climate which represents life threats on the earth. Global warming is current increase in temperature of the earth's surface (both land and water) as well as it's atmosphere. Global warming is affecting many places around the world. It is accelerating the melting of ice sheets, permafrost and glaciers which is causing average sea levels to rise. It is also changing precipitation and weather patterns in many different places, making some places dryer, with more intense periods of drought and at the same time making other places better, with stronger storms and increased flooding. These changes have affected both nature as well as human society and will continue to have increasingly worse effects if green house gas emissions continue to grow at the same pace as today. Like other countries, India has also started experiencing extreme weather events which lead to change the climate. As mentioned earlier, global warming is one of the major affecting parameter to change the climate. In India, it is observed that the annual mean temperature has increased at the rate of 0.42 0C. Indian agriculture system is based upon south-west and north-east monsoon. Almost 80% of the total precipitation comes from south-west monsoon in India.

Material and methods :-

The data sets for the annual mean temperature of India over the period 1990-2017 was taken from India meteorological department (IMD) Development in the agriculture and allied sectors of India are of interest to a wide spectrum of people across the world. All the data sets of food grain production including rabi and Kharif were taken from this report. The report contains production data from 1990-1991 to 2016-17. In India, kharif crops are shown at the beginning of south-west monsoon (i.e. June to September) and harvested during autumn season (i.e. September to October). Such crops are highly dependent on the timings as well as amount of rainfall. The farmers in India are mainly dependent on this monsoon for growing the crops. Such crops need cool climate during growth period but warm climate during the germination of seed and maturation. Wheat, barley, Gram, linseed, mustard massoor, peas are several major Rabi crops in India.

Result and Discussion:-

Tread of temperature in India-The average annual temperature shows an increasing trend over India. Hence the effect of warming is clearly visible from 2001 to 2017. Extreme high temperature (25.2⁰C) was noticed in the year 1996. High temperature may help some of the crops to grow faster, whereas some of them may get negatively affected. Now global warming is not any more a hypothetical issue. It is an issue which can be visualized all around. Due to repeat industrialization, green houses gases such as carbon dioxide, methane, nitrous oxides, chlorofluorocarbon have been increased significantly over the last century.

Global warming : Impacts on India-Though India contributes lowest (Only 0.3%) to the amount of emission driving global warming, it is one of the worst victim of global warming effects. The country tops the global climate risk index, a ranking of 170 countries most vulnerable to climate change, published in 2009 and compiled by German watch, an international non-governmental organization that works on environment and development issues. The effects of global warming leads to climate change in various aspects. Though all the climate change aspects are related to each other, they are described below separately.

A consequence of green house effect-Global warming refers to the continuous increase of the earth's climate system. It is going to be one of the biggest environmental and humanitarian crises in the very foreseeable future. A lot of reasons are responsible for global warming. In 2007, the intergovernmental panel on climate change (IPCC) of the united nations reported with more than 90% certainly that man-made generation of CO₂ is the primary cause of global warming. In 2013, the IPCC concluded that the largest driver of global warming is carbon dioxide emissions from fossil fuel combustion, cement production and land use changes such as deforestation. Tropical deforestation is another major contributor to global warming. When these forests are burned, they release huge amounts of carbon into the atmosphere and the forests no longer available absorb CO₂.

Health Hazards :-Global warming has significant effects on human health. Mosquito borne diseases like malaria can be a threat because of warmer weather. Infectious disease like dengue fever caused by dengue virus can be another consequence of warmer weather. According to international centre for Diarrhoeal disease research (ICDDR,B) climate change will make the people of India more vulnerable to disease like cholera, dengue. Cardiovascular and respiratory disease and malnutrition because of reduction of food production. In April, there were a serious heat waves in the country that triggered illness, mainly viral infections and gastro enteric disorders.

Climate change has also an impact on mental health. According to American psychologist Clayton & Doherty, global climate change has substantial negative impacts on mental health and well-being. Main victims are the vulnerable populations and those with pre-existing serious mental illness. Apart from the above stated consequences of global warming India may face a lot of climate abnormalities like unpredictable weather pattern, seasonal irregularities, food and water insecurity etc.

Effects on agriculture:-The three cropping seasons in India namely Rabi, Kharif-I, Kharif-II may be negatively affected by the climate change effects. Due to drought and lowering of ground water, irrigation will be obstructed as the largest demand for surface and ground water is to support the irrigation of crops in dry months. Increase in temperature may rise the irrigation demands to 200 Mm³ in the month of March alone. Moreover, flooding causes a less of arable lands causing a drop in the crop yield. The IPCC estimates that Central and south Asia can expect a 30 percent drop in yield by 2050.

Solution : How India is preparing to face the challenges :-The preparation of India to face the challengers of global warming, though not enough, cannot be overlooked. It has gone a long way to protect its people by developing an early warning system and building at least 2500 concrete storm shelters. This has resulted in a vast reduction in storm related deaths. The country has so far invested more than US\$ 150000 to reduce vulnerability to natural disasters by building embankments and cyclone shelters and creating a storm early-warming system. But billions more are needed to build similar infrastructure in the next 15 years to mitigate the threats, along with enhancing research on climate resistant agriculture.

Conclusion:-The conclusion confirms that global warming is the major challenge for our global society. There is very little doubt that global warming will change our climate in the next century. So what are the solutions to global warming ? First, there must be an international effort to decrease the hike in the temperature. Second funding for developing cheap and clean energy production must be increased, as all economic development is based on increasing energy usage. We must not pin all our hopes on global politics and clean energy technology, so we must prepare ourselves for the limiting use of the fuel and energy in our daily routine. By changing our styles a lot of the costs and damage that could be caused by changing climate can be mitigated.

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