Shri Shivaji Education Society, Amravati

Shri Shivaji College of Arts, Commerce and Science, Akola (MS)

NAAC Reaccredited with A Grade
(CGPA 3.24)
College with Potential for Excellence
Status by UGC
Lead College Status by SGB, Amravati University, Amravati
DST FIST Support

In Collaboration with
Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola. (M.S.)

UGC Sponsored
National Conference
On

Contribution of Indian Thinkers and Literary Writers in Social Reforms (NCCSR-2019)

(An Interdisciplinary Approach)
January 5th, 2019

CERTIFICATE

This is to certify that Mr./Mrs./Miss./Dr. Asst. Prof. Dilip N. Lanjewar of Head, Department of Geography, M. S. Gate College, Washim, has Participated and Presented a paper tittle "Impact's of Climate Change on Human being" at the National Conference on "Contribution of Indian Thinkers and Literary Writers in Social Reforms (NCCSR-2019)" on 5th January 2019 Organized by Faculty of Humanities and IQAC Shri Shivaji College of Arts, Commerce and Science, Akola (MS)

His or her paper has been included in the conference bearing the AJANTA -ISSN - 2277 - 5730 with 5.5 Impact Factor

Dr. Rameshwar M. Bhise
Principal

Assistant Professor
Mahatma Shantaram Gote
Arts, Commerce & Science College,
Washim

Dr. Kiran S. Khandare
Convener

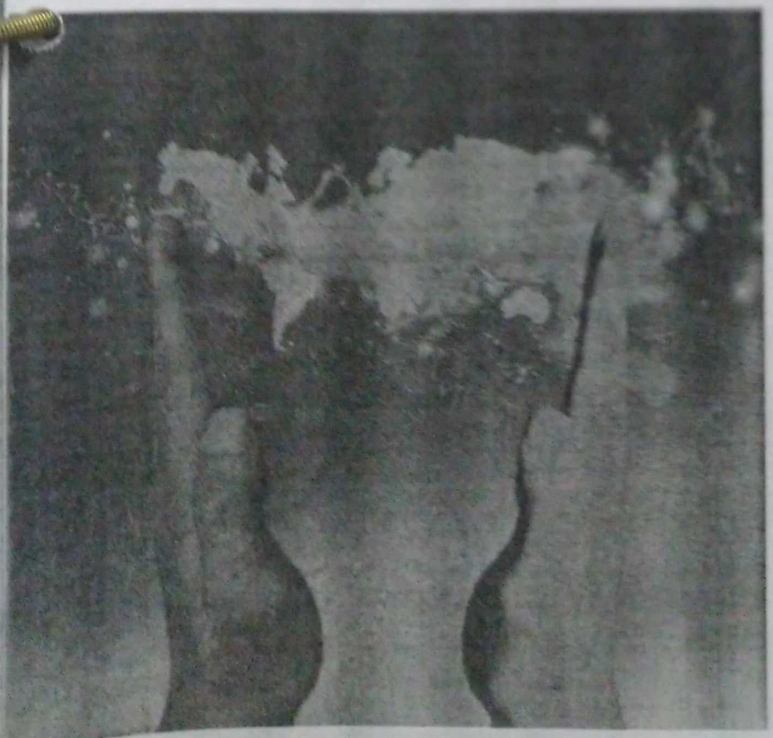
Dr. Jiwan H. Pawar
Organising Secretary

Peer Reviewed Referred and UGC
Listed Journal (Journal No. 40776)
ISSN 2277 - 5730
AN INTERNATIONAL MULTIDISCIPLINARY
QUARTERLY RESEARCH JOURNAL

AJANTA

Volume-VIII, Issue-I
January - March - 2019
English Part - III

IMPACT FACTOR / INDEXING
2018 - 5.5
www.sjifactor.com



Ajanta Prakashan

ISSN 2277 - 5730

AN INTERNATIONAL MULTIDISCIPLINARY
QUARTERLY RESEARCH JOURNAL

AJANTA

Volume - VIII Issue - I English Part - III January - March - 2019

Peer Reviewed Refereed
and UGC Listed Journal

Journal No. 40776

IMPACT FACTOR / INDEXING
2018 - 5.5
www.sjifactor.com

✧ EDITOR ✧
Asst. Prof. Vinay Shankarrao Hatole
M.Sc.(Maths), M.B.A.(Mktg.), M.B.A.(H.R.),
M.Drama (Acting), M.Drama (Prod. & Dir.), M.Ed.

✧ PUBLISHED BY ✧

Ajanta Prakashan
Aurangabad. (M.S.)

VOLUME - VIII, ISSUE - I - JANUARY - MARCH - 2019
AJANTA - ISSN 2277 - 5730 - IMPACT FACTOR - 5.5 (www.sjifactor.com)

CONTENTS OF ENGLISH PART - III

31. Impact's of Climate Change on Human being

Asst. Prof. Dilip N. Lanjewar
Head, Department of Geography, M. S. Gote College, Washim.

Abstract

Each living human being is affected by the global warming particularly the impact of global warming is seen on climate change. Bio-diversity, Agriculture. Ecosystem, Glacier melting, Change in sea level, Flood and Drought. Due to Global warming agriculture and ecosystem is badly affected . Thus this paper discuses the cause and Impact of global warming.

Key Words :- Global warming, Climate change, Human being.

Introduction

Global climate change and variability are considerations of creature. The recurrent droughts and floods threaten seriously the human food's problem of billions people who are indigent on land for many of their desires. The global economy is adversely bringing flounced terribly oftentimes because of extreme events like droughts and floods, cold and heat waves, forest fires, landslips etc. The natural hazards like earthquakes, tsunamis and volcanic eruptions, though not related to weather disasters, may change chemical composition of the atmosphere. It will, in turn, because weather connected disasters. Increase in atmospheric pollutants because of emission of greenhouse gases like carbonic acid gas because of burning of fossil fuels, chlorofluorocarbons (CFCs), hydro chlorofluorocarbons (HCFCs), hydro fluorocarbons (HFCs), fluorocarbons (PFCs) etc., Ozone depletion and UV-B filtered radiation, eruption of volcanoes, the "human hand" in deforestation in the form of forest fires and loss of wet lands are causative factors for weather extremes. The loss of forest cover, that commonly intercepts downfall and permits it to be absorbed by the soil, causes precipitation to achieve across the land eating away high soil and causes floods and droughts. Paradoxically, lack of trees conjointly exacerbates drought in dry years by making the soil dry more quickly. Among the greenhouse gases, CO2 is the predominant gas resulting in heating because it traps radio wave radiation and emits it back to the earth surface. The global warming is nothing however heating of surface atmosphere because of emission of greenhouse gases, thereby increasing international atmospheric temperature over a long period of time. Such changes in surface air temperature and resultant adverse impact on downfall over a protracted amount of your time area

Assistant Professor

unit called global climate change. If these parameters show year-to-year variations or cyclic trends, it is known as climate variability.

Important Weather Extremes and their Impact at Global Level

The year 1998 was the warmest and declared as the weather-related disaster year. It caused hurricane havoc in Central America and floods in China, India and Bangladesh. Canada and New England suffered heavily due to ice storm in January while Turkey, Argentina and Paraguay suffered with floods in June 1998. In contrast, huge crop losses were noticed in Maharashtra (India) due to un-seasonal and poor distribution of rainfall during 1997-98. The 1997/1998 El Nino event the strongest of the last century, affected 110 million people and coasted the global economy nearly US$ 100 billion. The year 2003 was the year of heat and cold waves across the world. The European Union (EU) suffered to a large extent due to heat wave that occurred in summer 2003. In India Uttar Pradesh, Bihar, West Bengal, Orissa and Andhra Pradesh are the States that experienced summer heat waves. The frequency of such unusual weather phenomena is likely to increase across the world and huge economic loss is expected.The Mean Sea Level (MSL) rise is likely to be slightly less than one mm/year along the Indian coast. Sea level rise may lead to disappearance of low-lying areas of coastal belt in addition to changes in ocean biodiversity. It threatens health of corals and polar bear population. Greater number of high surges and increased occurrences of cyclones in post-monsoon period, along with increased maximum wind speed, are also expected. This phenomenon of sea level rise threatens the area of land available for farming. As per the United Nations Report of FAO, India stands to lose 125 million tonnes equivalent to 18% of its rainfed cereal production from climate change by 2015. China's rainfed cereal production potential of 360 million tonnes is expected to increase by 15% during the same period. It would also cause a worldwide drop in cereal crops, leaving 400 million more people at risk of hunger, and leaving three billion folks in danger of flooding and while not access to water provides. The crop production losses because of temperature change can also drastically increase the quantity of undernourished folks, severely hindering progress in combating poverty and food security.

Effects of climate change on Global Level

The IPCC describe the likely effects of climate change, including from increases in extreme events. The effects on key sectors, in the absence of countermeasures, are summarized as follows. Water: Drought affected areas are likely to be more widely distributed. Heavier precipitation events are terribly probably to extend in frequency resulting in higher flood risks.

Assistant Professor
Mahatma Shikshan Sanstha's

By mid-century, water availability is likely to decrease in mid-latitudes, in the dry tropics and in other regions supplied by melted water from mountain ranges. More than one sixth of the world's population is presently hooked in to soften water from mountain ranges.

Agriculture

Based on some of the past experiences indicated above, impact of climate change on agriculture are one among the key deciding factors influencing the longer term food security of mankind on the earth. Agriculture is not only sensitive to climate change but conjointly one among the key drivers for global climate change. Understanding the weather changes over a amount of your time and adjusting the management practices towards achieving better harvest are challenges to the growth of agricultural sector as a whole. The climate sensitivity of agriculture is uncertain, as there is regional variation in rainfall, temperature, crops and cropping systems, soils and management practices. The inter-annual variations in temperature and precipitation were a lot of higher than the predicted changes in temperature and precipitation. The crop losses may increase if the expected global climate change will increase the climate variability. Different crops respond otherwise because the heating can have a posh impact. The tropics ar additional hooked in to agriculture as seventy fifth of world population lives in tropics and 2 thirds of those people's main occupation is agriculture. With low. levels of technology, wide range of pests, diseases and weeds, land degradation, unequal land distribution and speedy growth, any impact on tropical agriculture will affect their livelihood. Rice, wheat, maize, sorghum, soybean and barley are the six major crops in the world grown in 40% cropped area, and contribute to 55% of non-meat calories and over 70% of animal feed Consequently, any result on these crops would adversely have an effect on the food security.

Food

Whereas some middle latitude and high latitude areas can at the start have the benefit of higher agricultural production, for many others at lower latitudes, especially in seasonally dry and tropical regions, the will increase in temperature and also the frequency of droughts and floods are probably to have an effect on crop production negatively, which could increase the quantity of individuals in danger from hunger and exaggerated levels of displacement and migration.

Industry, settlement and society

The foremost vulnerable industries, settlements and societies are usually those set in coastal areas and stream flood plains, and those whose economies are closely connected with climate sensitive resources. This applies significantly to locations already liable to extreme

Assistant Professor

weather events and especially to areas undergoing rapid urbanization. Where extreme weather events become additional intense or additional frequent, the economic and social costs of those events will increase.

Health

The changes in climate are probably to change the health standing of millions of people, including increased deaths, disease and injury due to heat waves, floods, storms, fires and droughts. Increased malnutrition, diarrhea disease and malaria in some areas can increase vulnerability to extreme public health, and development goals will be threatened by long term damage to health systems from disasters.

Rising temperature

In temperate climate, increased temperature could increase insect population. Rising temperature may affect insect survival, development, geographic range and population size. It may affect insect physiology. Under such situation some insects take several years to complete life cycle and some insects develop quickly at certain temperature range based on degree days Therefore, crop damage increase. Migratory pests may migrate earlier. Natural enemy-host relationship may affect resulting into reduced parasitism. Rising temperature may change gender ratios of insects such as thrips. The population of insects will increase due to lower winter mortality of insects as a result of warmer winter. Higher temperature may tend to shift crops geographically and hence its pests to higher altitudes. From fossil records it is understood that diversity of insect species and intensity of feeding increase with increase in temperature. Increased temperature could decrease insect population in some crops, which cannot be grown in higher temperature. The same condition may be conducive for increased activity of natural enemies of that pest further reducing its population.

Precipitation

Rain drops physically dislodge the insects from their hosts such as leafhoppers, plant hoppers, thrips, cut worms etc. while others drown to death e.g. mealy bugs, pupae of fruit fly, Helicoverpa, Spodoptera, Etiella , rice stem borers etc. Flooding is used as a control measure for termites and stem borers too. Heavy rainfall causes pest epizootics by fungal pathogens. It is anticipated that cutworm infestation will be more in future because they are sensitive to flooding and summer rainfall, which will increase in future.

Rising of CO2 level

Carbon dioxide is a perfect example of a change that could have both positive and negative effects. Carbon dioxide is expected to have positive physiological effects through

increased photosynthesis. The impact is higher on C3 crops such as wheat and rice than on C4 plants like maize and grasses. The direct effects of changes in CO2 concentration will be through changes in temperature, precipitation and radiation. However, indirect effects will bring changes in soil moisture and infestation by pests and diseases because of rising temperature and relative humidity. Such indirect effects through the increase in temperature will reduce crop duration, increase crop respiration rates, evapo-transpiration, decrease fertilizer use efficiency and enhance pest infestation. There is general consensus that the yield of main season (Kharif) crop will increase due to the effect of higher CO2 levels. However, large yield decreases are predicted for the rabi crops because of increased temperatures. The rising CO2 level in atmosphere has indirect impact on insect population. Soybean crop in higher CO2 concentration had 57% more insect damage (Japanese beetle, Leafhopper, Root worm, Mexican bean beetle) than earlier. It causes increase in level of simple sugars in the leaves that stimulates more feeding by insects. Increased C/N ratio in plant tissue due to increased CO2 level may slow insect development and increase life stages of insect pests vulnerable to attack by parasitoids. At our current rate of green house emissions, several of the main pests that target corn will increase in number and expand their range by the end of 21st century.

Effect on insecticide Use Efficiency

Warmer temperature requires more number of insecticide applications for controlling corn pests. Entomologists predict more generation of insects in warm climate that necessitates more number of insecticide applications. It will increase cost of protection and environmental pollution. Synthetic pyrethroids and naturalite spinosad will be less effective in higher temperature. Therefore, it is advisable for the farmers not to use insecticides with similar mode of action frequently to avoid developmentof resistance in case of more number of applications. Cultural management practicese.g. early planting may not be helpful because of early emergence of pests due to warmness.

Effect on natural pest control

Global warming is expected to make regional climates more varied and unpredictable which could affect relationship between insects and their natural enemies. In years of most variable rainfall, the caterpillars have significantly less number of parasitoids. This could be because the parasitoids use cues e.g. change in local climate to determine the best time for laying eggs. Unpredictable rains would possibly disrupt the parasitoids ability to trace their caterpillar hosts. The wasps use start of the rain as cues to hatch out of their cocoons and

Assistant Professor
Matoshri Shantabai Gote

appearance for a caterpillar to get their eggs. If the rains are late, they emerge late and may not find larval stage of host resulting in reduced natural pest control. Due to changes in climate, the frequency of occurrence of droughts, heat waves, windstorms and floods etc. will increase disrupting the natural ecosystems.

Effect on Forest insect pests

It is difficult to predict impacts of climate change on forest insect pests because of complexity of interactions between insects and trees. Population of green spruce aphid will increase due to global warming. The spruce bark beetle will increase due to warming because its predator Rhizophagus grandis is benefited by temperature rise. The Asian long horn beetle population will increase in warmer coastal areas that attack street plantations. In general, it is assumed that many forest insect pests will increase as a result of climate change. At the same time, it is likely that pests' natural enemies will benefit. So it is unclear to some extent as to what the overall effect of global climate change will be on forest insect pests.

Conclusion

The Inter governmental panel on Climate change (IPCC) concludes most of the observed increase in globally averaged temperatures since the mid-twentieth century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations increasing global temperature will cause sea level to rise, and is expected to to increase the intensity of extreme weather events and to change the amount and pattern of precipitation. Other effects of global warming include changes in agriculture yields, trade routes, glacier retreat, species extinctions and increases in the ranges of disease vectors.

Reference

1) Dubey R.K. :- Human Ecology and Environmental Education, Chugh publication Allahabad.
2) Fule Suresh :- Agriculture Geography. Vidhyabharti publication, Latur
3) Khanna G.N.:- Global Environmental crises and management,Ashish publication house, New Delhi.
4) www.global warming and It's effect.com.
5) www.earth temperature.com.