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## CLIMATE CHANGE: THE BIGGEST THREAT TO MODERN HUMAN CIVILIZATION

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### Abstract

Climate change is emerging as a serious problem which is a global concern. Weather, Global warming and climate change are inter-linked. Climate change is a long-term change in the weather condition which has resulted in heat waves, sea level rise, ice melting, water scarcity, food crisis and many other. Climate change is more a result of human activity than a natural catastrophe. Excess emission of greenhouse gas into the atmosphere is one of the major reasons for climate change which started with the Industrial revolution. Countries across the world are tackling the issue of climate change by shifting towards renewable source of energy, using nature ways to reduce the emission of carbon dioxide and promoting urban mobility. India being a tropical country and because of its geo-climatic condition is prone to natural catastrophe and has encountered extreme floods and cyclone and drought in the past years. In the year 2020 India experienced the worst two cyclones in 100 years which resulted in the death of millions of people. India has adopted renewable energy, Community supported agriculture, eco-friendly mode of transport, electric vehicles to tackle climate change, India has unfastened resources which can help India to generate maximum renewable energy. We also need to protect our forest and protect green urban as India is at a high risk and more prone to climate change crisis.

**Keywords:** Climate Change, Global Warning, Natural Catastrophe, Renewable Energy, Greenhouse Gas, Weather.

### Introduction

Climate change is the crisis of our time which calls for concrete actions. Climate Change or global warming can be delineated as the rise in average temperature of the earth surface. The principal cause of climate change is excess burning of fossil fuels like coal and oil which results in the production of greenhouse gases into the atmosphere specially carbon dioxide and other greenhouse gases which has resulted in global warming. Since 1950 from the period of Industrial revolution we are emitting carbon dioxide into the atmosphere which has amplified with each passing year along with it the global population has also tripled in the past 70 years. The demand increases with the rise in population and so it is the use of resources, today we have so many facilities across the globe producing carbon dioxide into the atmosphere along with it we see a rise in vehicles on the road, In India every day 5600 new private vehicles are added, rising in massive air pollution. Agriculture, rice cultivation, livestock ranching, deforestation, man-made disaster has contributed to global warming. The effect of global warming is being experienced across the globe, extreme heat waves have resulted in the death of thousands of people around the world, since 2002 Antarctica has been losing 134 billion metric tons of ice per year, the rate has increased with extreme burning of fossil fuel. There is a wide consensus all across the globe that the problem of climate change is stemming from the intense concentration of greenhouse gas in our atmosphere which is acting as the biggest challenge to mankind. It is estimated that the rise of even two degree Celsius would result in the collapse of global ecosystem, the speed at which it is rising provides us an idea of how dangerous it is. The sub-Saharan countries are likely to be most affected and which will devastate their economy. Floods, cyclone, rise in sea level, earthquake are producing of climate change followed by drought, water scarcity, food shortage. Climate change has a drastic effect on the environment, social, economic and political sector which has resulted in the death of millions of people and has given birth to a number of diseases which has very little cure. India being a tropical country which experiences sunlight almost 365 days, have unfastened resources still continues to remain prone to natural disasters because of its Geo-climatic conditions, India has experienced worst climate condition since the time of Independent, having the second largest population in the world with insufficient resources to serve its people have indirectly or directly contributed to the climate change and it is one of the burning issues in India today. A relief and rehabilitation programme are required to prevent the catastrophe from effecting the future generation and protect human race.

### Research Methodology

For the purpose of this exploration, I have used an amalgamation of two of the archetypical social sciences research tools application—as they are authentic and brilliant method to assemble statistics from multiple appellants in a methodical and convenient way. Question was asked to the parents and their children, survey, interviews –consisting of several interrogation which were dispersed among representative of each contender group.

### Objective of the Research Paper

The main areas of exploration in this paper incorporates

1. What is climate change and why it is becoming a serious threat



2. A study on climate change taking place and its effects
3. How are countries across the globe tackling climate change
4. What are the causes and effect of climate change in India
5. What is the government and different state doing to tackle climate change issues.

Literature Review

The wind-up global warming is likely to result in erratic climatic behaviour including irregular precipitations which is visible now in the form of deficient monsoon. The meteorological and climate changes shall herald myriad problems. 2019 has been regarded as the second warmest year and warmest decade. Climate change has an effect on all the countries. It has a negative effect on the economy and affecting lives. Extreme heat waves, rise in sea level and weather pattern are radically changing. Greenhouse gases emission reduced by 6 % during the year 2020 due to travel bans and lockdown due to COVID-19 pandemic resulted in economy slowdown. The Paris Agreement which came into force in the year 2005 aimed at strengthen the global response by keeping the temperature below 2 degree Celsius, also strengthen the ability to deal with the collision of climate change through pertinent financial flow, new technology and enhance capacity building. Rather than focusing on reducing greenhouse gas emission now we see an increase emphasis on the need for decarbonization that is for uncoupling economic growth and social well-being from the use of carbon based fuels, in the case of London we see in the city halls or corridors or walls of private organisation such as the Co-op Tower in Manchester with the Largest with the largest solar facade in the UK, but also in the mundane design and operation decisions being made in the provisions of everyday services- waste, water, transport and energy. Looking at the climate governance in this we have helped to recognise a new phenomenon the growth of urban experiments designed to respond to climate change. In Malmo many climate innovations are underway including new measures to increase the amount of cycling used as a proportion of model share and with the aim to be carbon neutral. Urban living labs is spreading rapidly in Europe as a main through which public and private actors are testing innovations in buildings, transport and energy systems to combat climate change. Maximum countries especially in UK are moving towards renewable source of energy, combine technology and nature to combat climate changes and use nature as an instrument to move towards a sustainable development. Promoting eco-friendly transport, construction of passive houses and collecting energy from sunlight, introduction of electric cars and buses, introducing of city lagoons, new techniques of water harvesting with the use of smart technology, promoting smart agriculture. The government of India have taken measure to combat climate change by stimulating e-mobility, working on electric cars providing charging infrastructure. India has one of the least motorization rates in the world, enhance energy security by reducing the dependency on fossil fuels, along with it water conservation, rejuvenation of water bodies to combat water scarcity are some of the measures taken to fight against Climate Change in India along with smart cities mission making India self-sufficient and promote sustainable development for all.

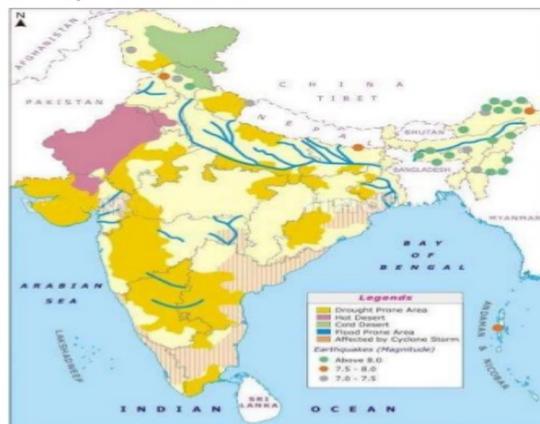
Findings

Climate change is a threat to humankind which will have a drastic effect on the lives of mankind. The rainfall pattern shall change forever which will also led to change in soil composition at many places which will negatively affect agriculture, further resulting in crop reduction or crop failure resulting in food shortage or food crisis with a very serious impact in nutritional security of world's 6.75 billion people. Even though India is trying to eradicate the problem of poverty, hunger and malnutrition by 2030, we can't forget that 200 million people living in India are undernourished and around 300 million people are living below poverty line in India. Already India is suffering from shortage of food in the rural areas with maximum food being wasted in the urban areas which calls for a balance between the two zones.

Climate Change impacts in India

What the INCCA Report has found

- Forests and natural ecosystems**
  - Increased net primary productivity
  - Shifting forest borders; species mix; negative impact on livelihoods and biodiversity
- Human health**
  - Higher morbidity and mortality from heat stress and vector/water-borne diseases
  - Expanded transmission window for malaria
- Reduced agricultural productivity**
  - Sharp fall in land productivity of 17% farmers
  - General decrease in productivity of crops; however, cash crops like coconut may increase
  - Crops earlier grown in lower or mid-Himalayan regions are now grown at higher altitudes
  - Marine fisheries are likely to be impacted as the area of spawning shifts to higher latitudes

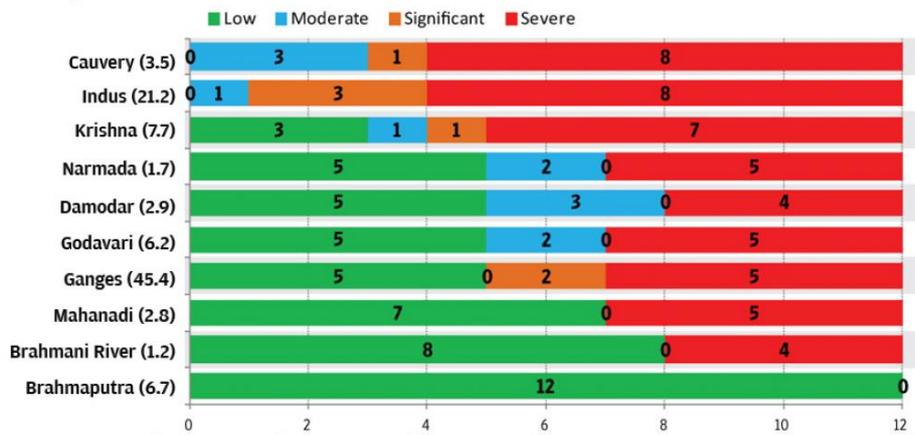




India is an agricultural country which produces 90% of the crops which require maximum amount of water .70% of India’s groundwater is used for irrigation purpose. Today India is experiencing the worst water crisis in the world and very soon half of the population will have no access to drinking water as a result of erratic rainfall. High percipitation shall not mean high water table. Most of the hydrological bounty is likely to drain out as a result of increase run-offs and also due to reduced holding power of the soil because of reduced forest cover. Melting of ice cap or ice sheet hall deprive our rivers of a perennial water source, this would further result in server water scarcity making them the rivers seasonal.The dreaded sea level rise will also mean that the brackish water shall intrude upon the agricultural land making them unworthy of agriculture and infiltrate the freshwater aquifers thereby further threatening the source of potable drinking water. The water crisis and water stress has resulted in water wars across the globe where we see Indo-China, Indo-Bangladesh, Indo-Pakistan and Indo-Nepal being part of the water wars. There is lack of water management facilities in India and watershed management.

## Most of India has severe water scarcity

Bars show the number of months in a year by water scarcity situation in given river basin. Figures in parentheses with river basin indicate the population in crores. Data refers to 1996-2005

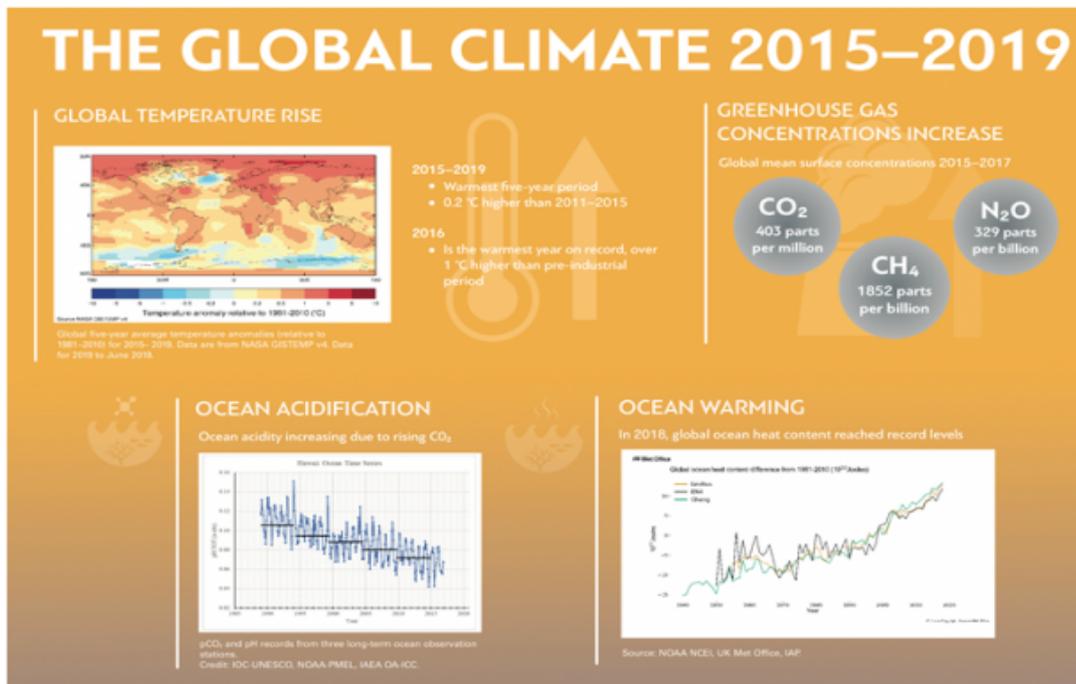


Note: Concept of different water scarcity levels are explained in the story. \* Indus river basin includes areas in Pakistan.

Source: Hoekstra, A.Y. and Mekonnen, M.M. (2011) Global water scarcity: monthly blue water footprint compared to blue water availability for the world’s major river basins, Value of Water Research Report Series No. 53, UNESCO-IHE, Delft, the Netherlands.

A serious health can happen if we don’t overcome the challenge of climate change, increase health –related incidence of various kinds of known and unknown diseases, mostly vector and water borne diseases, various dermatological disorders and disease occurring mostly because of hyper-thermogenic disorder. The climate change is also likely to affect our rich-biodiversity and physical geography, already many plants and animals have extinct, some have become endangered and many will. Deforestation, use of forest for development projects and forest fires has contributed to the climate change.

Natural disasters are produced of climate change, if we look at 2020, we have experienced around 200 natural disasters across the globe starting from COVID-19 to two major cyclones and locust attach, with floods in North east areas and heavy rainfall in Kerala and Jaipur. what is common in all these disasters is Climate Change. The recent report by Assessment of Climate Change over the Indian region explains the first comprehensive study by the Ministry of earth science how climate change will impact weather patterns in India. Climate extreme and global warning are being experienced across the world. Climate extreme would include change in the pattern of rainfall, sea level rise, heat waves etc. India’s average temperature has risen by around 0.7 degree Celsius from the year 1901 to 2018. Many cities and states in India have faced serve climate changes, Intense heat, intense rain and then we have at the end intense floods. In 2016 Kerala was declared drought –hit, Kerala seek 1000 crore from the Centre to face the worst drought in 115 years and what level in dams fell by 40%, but after a few years in 2018 Kerala faced massive floods over 450 people died and millions were impacted by the flood which are regarded as one of the worst floods experienced in 100 years. In 2019 Kerala first had rainfall deficit of minus 31.5% and then floods which killed 120 people which continued in august and resulted in a plane crash in Cochin. On the other hand, if we talk about Assam, Assam in prone to floods and it has become a regular occurrence, earlier if we look at the History Assam would face floods once in 100 years, from 2016 to 2020 Assam has experienced massive floods apart from 2018 where the flood rate was less and the reason behind this was deforestation, unplanned group and Climate Change. India faced two major cyclones in India in 2020 which killed many people and resulted in huge money lost. Climate change contributes to cyclones as ocean and seas are becoming warmer, these cyclones are becoming stronger and more dangerous.



In fact, the Locust attack which had its seeds in many parts of the country also has its roots in climate change. The world meteorological organisation said that the Locust attack is a result of changing climate conditions which can be linked to Human activity, In the desert areas there was an increase in temperature and rainfall which provided these locusts with the opportunity to bleed in a favourable condition.

Climate change has become a pressing issue in India. The government of India under Prime Minister Modi is continuously focus on renewable energy and water conservation to combat Climate change during the UN summit on Climate Change. Even after so many years of Paris Agreement we see a rise in carbon emission and has led to an increase in global warning.

We have reached a point of no return what we can do is prevent it from getting worst, recycle, reuse is not the solution to it we require massive movements to control climate change.

Different states in India have taken various measures to tackle climate change and reduce greenhouse emission. Development of sustainable mode of transportation to end air pollution problem in India like for instance the City of Pune has created especially footpaths for walking, adopted cycling as a means of transportation, street for people, street design, creating parking space, at present Pune has 4000 cycles –public Bicycle sharing system with vehicle free zones creating a 400 km cycling network, with a bus rapid transit which must be followed in every part of the country for better development and promoting eco-friendly mode of transportation.

Integrated Farming system in rain fed area for reducing risk associated with climate change and increasing productivity. National Mission for sustainable agriculture aims to increase productivity with the help of Integrated farming system in rain fed areas taking into consideration soil health management system. Micro irrigation which was started in 2014 which has become popular among the farmers in India, technology using drip and sprinkler irrigation which helps to reduce water wastage, less use of fertilizers and less human labour is required which has further reduced the cost of irrigation and electricity to a good extent.

Community supported Agriculture is a new measure adopted, which creates a direct contact between the consumer and the producer and the consumer has the right to choose its own crops which will maintain the quality and the quantity of the crop, which will also reduce food wastage and there exist no third party, the farmers will receive the money directly from the consumers further, keeping the income rate of farmers stable CSA is basically practices in 4 cities currently, Pune ,Mumbai,Hyderabad,Gurgaon.

India has fixed a target to obtain 175 GW of renewable energy which would comprises of 100GW from solar energy, 10GW from Bio-power, from wind energy 60GW and from small Hydropower plant 56 GW. India is the only country that receives sunlight



365 days. Karnataka has the highest installed solar plants, India aiming to achieve 100 GW. by 2022 in in 10 states which includes – Karnataka, Telangana, Rajasthan, Tamil Nadu, Gujarat, Maharashtra, Andhra Pradesh, Madhya Pradesh, Uttar Pradesh and Punjab. Diu smart city is the first city that runs 100% on renewable energy in India. The main reason behind adapting renewable source of energy is India: economic development, improve access to electricity, reduce greenhouse gas emission, enhancing energy security, mitigate climate change and sustainable development.

The government is also working to end the use of plastic in India, many states have adopted the no use of plastic policy and have been successful in India.

### Conclusion

Climate change is the biggest threat to human existence across the globe, if not controlled life in earth will come to an end. We as humans are responsible for climate change to occur with the rise in population demand for resources have also increased and we don't realize the fact that we don't have unlimited access to resources, natural resources also have limited access. Climate change has resulted in serious health issues, water scarcity and food shortage making life terrible for humans, it is estimated that by 2050 half of the population will have no access to drinking water. With increase in refugee the population of India is also increasing and the country doesn't have enough resources to serve his country. Many states in India have taken initiative to tackle the issue of climate change by introducing Community supported agriculture, moving towards renewable source of energy, promoting urban mobility and adopting eco-friendly mode of transportation, along with the introduction of electric vehicles to tackle climate change in India.

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