NEW EDUCATION POLICY:2020

Nation Building Perspective

EDITED BOOK

Cheif Editor

Dr. Pradeep Kumar Tiwari

Editor

Dr. Rajesh Kumar Shukla

Published By: Book Rivers

Website: www.bookrivers.com

Email: publish@bookrivers.com

Mobile: +91-9695375469

1ST Edition: -2023

MRP: 599/-INR

ISBN: 978-93-5842-083-8

CONTENTS

INCREASING POPULATION AND CLIMATE CHANGE

Rahul Kumar

Research Scholar,
Department of Geography
School of Social Sciences, IFTM University, Moradabad

Dr. Mohan Lal 'Arya'

Professor
Department of Geography
School of Social Sciences, IFTM University, Moradabad

Population Growth:

Population growth the root cause of environmental degradation is population growth. It took many centuries for the world's population to reach the first 100 crores. In the beginning of the 19th century, the population of the world was about 100 crores, which increased to 200 crores after 123 years. It took 33 years to reach the next 100 crore. Thus in 1960 the population of the world increased to 300 crores. It took only 14 years to reach the next hundred crore and after that it took 13 years. By the end of 2000, the population of the world has increased to more than 6 billion. In 2011, the population of the world became 7 billion, that is, the last 100 crore population increased in just 11 years. In 2021, the population will be about 8 billion. The pressure on natural resources is increasing to meet the food, housing and other needs of the growing population at such a rapid pace. Another sinister aspect of population growth is that most of the growth is taking place in economically backward countries. The population growth rate in India is 1.1 percent. While it is 0.7 percent in the United States and 0.6 percent in China. The main reason for the high

population growth is the high birth rate. The birth rate average is 18 in USA, 16 in China, 19 in India and 35 in Pakistan per thousand. Due to population growth, the per capita availability of natural resources like land, minerals, water etc. is continuously decreasing. The problems of malnutrition, starvation, unemployment, poverty, lack of housing, etc. have arisen due to population growth. Indiscriminate exploitation of natural resources has increased the frequency of natural calamities like famine, flood, etc.

Climate Change:

When there is a long-term change in the meteorological conditions in any region or region on a large scale, it is called climate change. Climate change has been happening on the earth in different eras. Variability is a property of climate. Climate change can happen slowly or quickly. Looking at the temporal history of the earth, it is known that there have been many ice ages, when the earth's surface Most of the world was glaciated and the sea level went down. In subsequent periods, due to increase in temperature again, the ice cover got compressed and the sea level kept rising. Natural factors such as internal sources of the earth, continental drift and solar relations were responsible for the climate change that occurred before the beginning of the industrial era.

After industrial revolution and population growth, as a result of increase in economic activities of human beings and widespread changes on earth with modern technology, the role of human beings in the process of climate change kept on increasing. Due to the effect of green house gases produced by various human activities, the increase in global temperature and ozone depletion have accelerated the pace of climate change. As a result of the increase in the temperature of the lower atmosphere and surface due to the green house effect, changes in the local, regional and global level started in the climate.

Climate data is proof of continuous rising temperature and changing climate on the earth. Earth's average surface temperature increased by 0.6 degrees in the 20th century. Twentieth century was the warmest century in the last 2000 years. The 1990s was the warmest decade of the 20th century and 1998 was the warmest year. Many countries located in middle and high latitudes received above average rainfall. Whereas in some 19 countries of Asia and Africa, increase in the frequency and severity of famine was marked in the last decades. The 18 warmest years ever recorded have been since 2001. According to the IPCC report, by the end of the 21st century, the temperature of the earth will increase by 1.4 degrees Celsius to 5.8 degrees Celsius. An increase of. "Record temperatures have been recorded in Iran, Pakistan and Kuwait in the last two years. Turbat in Pakistan recorded the highest temperature of 53.7°C on May 28, 2017, which is higher than Jacobabad, the hottest place ever recorded. Although the highest temperature recorded in Death Valley, California is 56.7 degrees Celsius, but this is an uninhabited area, two-week heat wave in Europe in 2003 was described as a once-in-a-thousand-year event. Scientists have linked greenhouse gases to the recent prolonged drought in California and the extreme heatwave in southern Europe in 2017. In 2019, there is severe heat in Europe and America. 41.2 degrees Celsius in the third week of July 2019 in Bordeaux city of France temperature marked, which was the highest in the last several decades. Belgium, Netherlands, Luxembourg, Germany, Italy, Netherlands and Britain also experienced similar extreme heat. In July 2019, it was 32 degrees Celsius in Anchorage City, located in the snowy region of Alaska in the United States. Temperature recorded. 43 degrees Celsius in Spain in July 2022. Grey, 42 degrees in France, Grey. And 40 degrees in Britain, Grey. The temperature was recorded, which is the highest ever.

Emission of green house gases on the earth, continuous rising temperature and extreme heat in many parts of the world including

Europe and America have given serious indications for the future. Climate scientists have predicted similar extreme heat waves and heat wave wreaking havoc in the world in the future. Jacobabad (more than 50 degree Celsius for several consecutive weeks) will be hot in many cities. By the end of the 21st century, three quarters of the world's population will have to deal with life-threatening heat. Climate scientist Camila Mora at the University of Hawaii believes that the situation is going to be much worse in the future. By the end of the 21st century, at least 3 degrees Celsius in the global average temperature. Increase is possible. Mora's team analyzed data from 783 deadly heat waves over the past 35 years. With that heat the humidity makes a lot of difference. Humidity 50 percent or more and temperature 38 degrees Celsius. Or in excess, it has a fatal effect on the body. By the year 2100, about 74 percent of the world's population will have to face such conditions for at least 20 days every year.

Impacts of Climate Change:

The effects of climate change are being seen on a wide scale in different parts of the world. Incidents like sea storm, forest fire, drought, heat wave have increased. The number of extreme heat days in Europe and America is on the rise. If seen in the context of the Asian continent, the Tigris and Euphrates rivers have reached the verge of drying up due to the scorching heat and continuous dry weather in the Middle East. Millions of people have had to flee from the Tigris-Euphrates region. Of the 10 deadliest typhoons ever to hit the Philippines, 5 have occurred in the past 15 years. India's Ganga, Vietnam's Mekong and China's Pearl River deltas have seen more storms and floods. On the basis of deaths, human development financial loss and per unit gross domestic product (GDP) loss due to climate extreme events (storms, floods, heat waves) in the last 20 years, different countries of the world have been assessed by Berlin-based organization 'German Watch'. Climate Risk Index (CRJ) is released. In 2016, India was ranked

sixth in the world due to 2,119 deaths and $21 billion in property losses due to extreme climate events. In 2017, it came down to 19th place due to less Jan-Dhan loss.

In the last two decades, 5 lakh 24 thousand people of the world were killed in 11,000 extreme climate events. In the year 2017, 86 lakh people were displaced due to floods, 75 lakh due to storms and 13 lakh due to drought. A report published by the United Nations titled "Economic Losses, Poverty and Status: 1998-2017" revealed that India has suffered an economic loss of about Rs 5.89 lakh crore in the last 20 years due to natural disasters caused by climate change. In these 20 years, the world economy suffered an economic loss of about Rs 215.6 lakh crore, which is twice more than the loss in the last 20 years. India's place comes after America, China and Japan in country-wise losses. According to the United Nations, the cost of dealing with climate change in developing countries could reach $300 million by 2030 and $500 million by 2050.

101 out of 116 models of the Intergovernmental Panel on Climate Change (IPCC) assume that carbon will be removed from the air to meet the 2 degree target. But for that 819 billion tonnes of gas will have to be removed by 2100. That's how much the world will emit over the next 20 years at current emissions rates. Currently, there is no technology to remove carbon on such a large scale. One option is to grow more forests, which act as carbon sinks. It also seems impossible to motivate the growing world population to plant trees equal to the area of India or grow crops for energy. Deeply plowed fields should be replaced by shallow plowed fields, but scientists doubt that so much carbon dioxide can be absorbed by it that it can balance the gas released from farming. The work of collecting and storing carbon can also be done in a biomass burning power plant. Through chemical filters, carbon dioxide can be extracted directly from the air, converted into rocks,

or crushed into minerals and dumped into land and sea. It will not require much land, but both are very expensive solutions.

The 'Green New Deal' GND (2019) holds great promise in curbing greenhouse gas emissions. If serious work is done to achieve its goals, then the world can be saved from global warming. Most scientists agree that the accord will not limit global warming to 2 degrees Celsius, because the agreement focuses on the US, which is currently responsible for 15 percent of emissions. America's emissions are decreasing compared to developing countries. This reduction is the highest after Australia and Gulf countries, but this reduction is insufficient. Rich countries must immediately cut further. Developed nations such as Saudi Arabia, Canada, Germany, Japan, Britain, etc., major emitters of greenhouse gases, can afford their own Green New Deal. But developing countries like India, Pakistan, Malaysia are not financially constrained till then, Unless they get financial help for industries operated by renewable energy instead of coal, petroleum and gas. According to the Green New Deal, by 2030, greenhouse gas emissions will have to be reduced by half from the present. To meet the most ambitious goal of the Paris Agreement (reducing 2°C by 2100), the United States would need to move from 20 percent to 100 percent renewable energy sources within the next ten years.

This Original Resolution (GND) presented by US Democrats offers a ray of hope. In this sequence, Brazil will double its electricity generation from non-hydro renewable sources by the year 2030. China will use 20 percent renewable energy by 2030, reducing its carbon emissions. To reduce the dependence on coal in India, non-conventional energy sources like solar energy and wind energy are being developed rapidly. Scientists are continuously researching to develop new technology to reduce the level of green house gases. In this direction, Rice University of

Texas made a major discovery in 2019. In this, the catalytic reactor will directly use carbon dioxide to convert it into pure and concentrated formic acid, which will be used as a fuel to generate electricity. Similarly, a unique project is going on in Iceland since 2016 to prevent climate change. The project, called 'Carbonfix' in Reykjavík, draws greenhouse gases or pollution from nearby coal-fired power plants and first transforms them into water, in which carbon dioxide is dissolved. This water is then carried about a mile deep into the ground, where it comes in contact with basalt rocks, it turns into a mineral. Denmark's capital Copenhagen is on track to become the world's first carbon neutral city by 2025 in a bid to curb climate change. For this, by installing many wind turbines and solar panels in the city, the target is to get 100 percent energy through renewable energy. Municipal waste is being used to make biogas. Most of the traffic will have to be done by foot, bicycle and public transport. The city's carbon emissions have been reduced by 42 percent from 2005 to 2018 through various measures.

Concern and awareness are continuously increasing in the world community to deal with the crisis of climate change. On March 11, 2019, 40,000 people marched in the Netherlands demanding action against climate change. This was followed by a demonstration by students from 100 countries on March 15, 2019. On March 16, 2019, 45,000 people demonstrated in the French capital Paris, including 220 cities of France, to achieve the Paris climate target, which was named 'March of the Century'. On September 23, 2019, Swedish student Greta Unvarg's challenge at the United Nations Climate Conference gave voice to the dissatisfaction of all the children and young generation of the world.

Intergovernmental Panel on Climate Change, (IPCC)

The Inter-Governmental Panel (IPCC) was formed by the United Nations in 1988 to monitor world climate change. In this, scientists from different countries together prepare a report after

studying climate related changes in detail over a given period of time. It publishes reports on climate change from time to time. IPCC has issued six reports so far. Based on these, the governments of different countries are taking many steps to control the rising temperature. The first report in 1990 and all subsequent reports have emphasized that the Earth's temperature has been rising steadily since 1950 due to human activities. If this temperature is even 2" Celsius more than the temperature of the 19th century, then it will be difficult for the living beings to live on the earth. It is feared that the temperature of the earth will continue to increase till 2100.

Climate change: what we can do to counter?

By doing certain small things, we can see some changes, which will contribute in the amelioration of the climate change situation.

1. Use **Efficient Lighting:** Replace incandescent bulbs with compact fluorescents (CFLs). These use four times less energy and last eight times longer.
2. Use **Energy-Efficient Electronic Appliances:** They use 2 to 10 times less electricity for the same function and are mostly higher quality products that last longer and saves lot of energy and money.
3. Use **an Energy-Efficient Computer:** Buy a laptop instead of a desktop. It consumes five times less electricity. If you buy a desktop, get an LCD screen.
4. **Drive Less:** Walk, bike carpool or take public transport. You will save 1.5 kg of carbon dioxide for every 5 km if you do not drive.
5. **Check Your Tyres:** Keeping your tyres inflated properly. This can improve the fuel efficiency of your car.
6. Use **Water Carefully:** Do not waste water.Use a mug of water when brushing your teeth, shaving or washing your hands and face instead of a tap. While taking bath do not

use shower or tub bath, use bucket. Try to harvest rainwater in your locality.

7. **Say no to Plastic:** Take a cloth bag with you when shopping, avoid products with a lot of packing.
8. **Move Your Air Conditioning up by at the most 20 C:** You could save about 900 kg of CO, a year with this simple adjustment.
9. **Use Renewable Energy:** Sunlight can be used in many different ways to save energy. Use a solar water heater instead of an electric geyser. If you live in a village; you can use biogas from cow dung to save energy.
10. **Plant More Trees:** A single tree will absorb one ton of carbon dioxide over its lifetime.
11. Turn off Electronic Devices: Simply turning off your television, stereo, computer fans, lights when you are not using them will save you thousands of kilograms of CO, a year.
12. **Re-use and Recycle:** Recycling and re-using products such as paper and bottles will help protect the environment. Use recycled paper.

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