

[Vol. LXIV, No. 1 (II)]

[2022]

पुराणम्
PURANA
(Half-yearly Bulletin)

[Vol. LXIV, No. 1 (II)]

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पुराणम्
PURANA

(Half-yearly Bulletin of the Purana-Department)

आत्मा पुराणं वेदानाम्



ALL-INDIA KASHIRAJ TRUST
FORT, RAMNAGAR, VARANASI (INDIA)

Journal on

PURANA (पुराणम्)

ISSN No.: 0555-7860

Vol. LXIV, No. 1 (II), 2022

(Special Issue)

January-June, 2022

Impact F. : 6.1

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Managing Editor & Publisher:
ALL-INDIA KASHIRAJ TRUST
FORT, RAMNAGAR, VARANASI (INDIA)

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CLIMATE CHANGE AS A CHALLENGE TO HUMAN SECURITY WITH REFERENCE TO INDIA

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Abstract

Since the 'Age of Revolutions', there has been wide changes in the evolution of the human beings. The phenomenon of liberalization and globalization have added the impacts of every aspect of human lives. The Industrial Revolution in Europe have slowly and gradually contributed to the phenomena of the Climate Change which refers to adverse shifts occurred in nature. These variations or changes have placed impacts on all living beings in the environment. According to changing time and circumstances, idea of challenges and securities is changed. The human beings throughout the globe are facing one of the greatest challenges in the form of Climate Change in contemporary period. The Republic of India is also not an exception to this. The concept of development is largely associated with the resources that are available in nature. Almost all sectors are directly or indirectly connected to the environment. India, being one of the evolving major powers has to deal with this threat by taking into consideration its wide range of impacts on several spheres. This research paper tries to explain the various causes and forms of climate change. Also, it highlights important impacts on all living beings including the humans with reference to Indian state. It also remarkably studies the role played by India at global platform with reference to its cooperation for solving this issue.

Keywords: Nature, Challenges, Power, Impacts, Cooperation.

Introduction

Conceptual Framework

Like everywhere in global scenario the climate change has become a great challenge to every country to which even India is not an exception one. It is a seriously growing threat to the idea of security in broader way and to the idea of human security in particular. The wide spread impacts of the climate change can be seen especially in the 21st century in the almost all activities of public sphere. Climate being one of the crucial factors of the environment tend to impact on the human health, wellbeing, anthropology, demography and other several factors. Climate change has been one of the serious issues which needs to be taken care off. The idea of development is closely associated with the environment. However, over the centuries, development has brought much environmental destruction. "Climate change is considered as one of the disaster risk factors in the

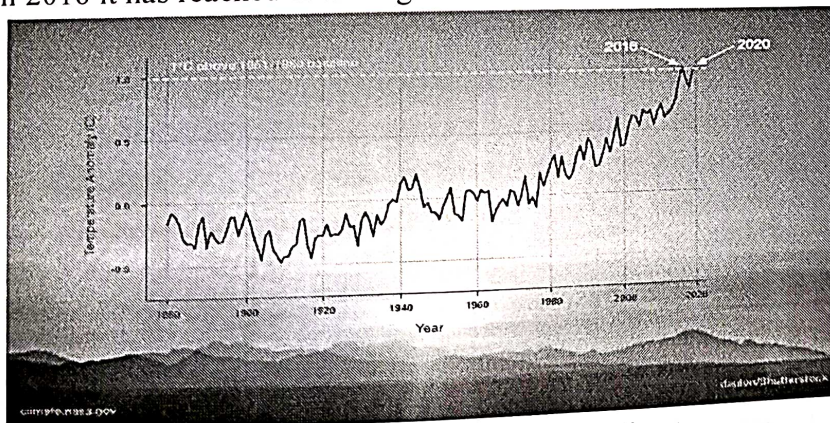
Hyogo Framework for Action (HFA) between 2005 and 2015 and Sendai Framework for Disaster Risk Reduction (SFDRR (in 2015–2030.”ⁱ Due to faster growing changes and human activities as well as sometimes due to certain natural calamities on the earth, temperature is raising day by day. This can be experienced in the form of global warming. This includes changes in the weather pattern, raising certain gasses in the atmosphere, melting of polar ice and so on. Global warming as a part of climate change

Historical Overview

Since ancient times, it has been predicted that the climate on the early would continue to rise. The ancient Greek philosopher has notified that when there is deforestation, lands become warmer as an impact of that. The study of climate change has slowly and gradually developed through various factors. “Through theoretical propositions, experimentation, study of proxy records, historical documents, and computer models that simulate the past, and potentially the future, with increasing accuracy, climatic scientists have achieved a general consensus on the process of climate change that is useful to historians as they develop interpretations of the changing relationships of human societies to the environment.”ⁱⁱ Information regarding climate change can be spread from such factors and accordingly with the risk management approach, there have been initiatives taken by nations in recent years.

With the advent of geographical discoveries, and industrial revolution there was rapid industrialisation and process of urbanisation across the globe. This process leads to expel large amount of Carbon Dioxide which started degrading the environment. Since then, there has been sharp rise in the unnatural warming in the environment. “This rate of warming is ~50 times faster than the rate of warming during the previous 21,000 years.”ⁱⁱⁱ

As this issue is becoming very serious day by day, taking into consideration the countries in the world have adopted several measures on international platform. It was with the view of creating better future with sustainable development. Following is the chart that shows sharp rise in the temperature leading to the challenge of global warming although from 1980s decade but specifically from 2016 it has reached to the highest level.



Source: <https://climate.nasa.gov/resources/global-warming-vs-climate-change/#:~:text=Global%20warming%20is%20the%20long,gas%20levels%20in%20Earth's%20atmosphere.>

The emergence of environmental degradation or phenomenon of global warming as a challenge is also connected with the idea of security. At international level security has been very dynamic concept which meaning has changed from time to time. In contemporary period the different challenges have evolved with reference to the idea of security.

From State to Human Centric Idea of Security with regard to Climate Change

There have been various dimensions in the development of idea of security. In a broad way, idea of security can be seen as a complete absence of violence with freedom to have various choices. For any country the concept of security has lots of significance through which they preserve their national interests. It is an inevitable aspect of every country's foreign policy. In the traditional form of state, the security aspect was related to the state security or national security in which the objectives or the motives of the state used to fulfil rather than human welfare with secrecy. The security traditionally was seen as a threat with reference to wars which used to occur among countries. Over a period of time, the nature of wars has changed similarly the notion of security also changed. "In the past, security strategy has often been focused on external threats, and more specifically external *military* threats (which therefore require a military response)".^{iv} However, here it is more important to understand that what are the dimensions in the concept of security and how the concept has changed over a period of time.

The idea of security has shifted from the inter-state wars to the intra-state wars. This can be seen after the end of World War II where newly independent states have faced this challenge. Here the idea of security has shifted from the state-centric to the human centric. This does not mean the state security has lost or gained less importance. The new idea of human security has received prominent concern especially from the end of cold war from the further issues. This includes the issues like environmental pollution, global warming, depletion of Ozone layer, problems of multiculturalism, issue of migration and displacement and the increased armaments have attained serious remarks as a challenged the human security. "Culture, economies, trade, production-lines, values, politics are no longer framed within national boundaries, peoples of the world are connected through their actions and inactions, and as such threats to security and livelihoods transcend state apparatus."^v These challenges related to human security does not face by single individual country. Thus, human security required more comprehensive strategies from nations. Due to changing nature of conflicts the response of state towards it has also changed by finding new ways of protectionist measures, one popular measure at international platform is signing various treaties and agreements of non-proliferation of various types weapons. For the environmental challenge as well, various institutional mechanism takes various efforts through several conferences and global seminars of which India has been a key contributor for solving this issue. This is how the idea of security can be seen with the shifts within itself.

Climate Change in Indian Scenario

The emission of large number of green gasses have largely contributed to not only degrade the environment but most importantly it is impacting human health negatively. There are diverse

impacts of environmental degradation and the climate change on overall development of human beings. One of the important aspects of this is the human health with reference to the idea of human security. Impacts of climate change on human health have been very complex, long-lasting and erratic. The shifts or changing environment and its impacts on the human health is the result of various socio-economic activities of human beings, the fast economic growth, and poor state of sanitation and public health care system, and changing life standards.

As the impacts since the industrial revolution and after opening up of Indian economy, there has been sharp rise in the temperature of Indian state as well. As there are modifications in the climate the weather pattern becomes less predictable. This has impacted Indian economy from multiple angles. Due to exposure to direct sun rays even the temperature in the water bodies have increased. Indian ocean, Arabian Sea and other sources are experiencing this. "Ocean heat content in the upper 700 m (OHC700) of the tropical Indian Ocean has also exhibited an increasing trend over the past six decades (1955–2015), with the past two decades (1998–2015) having witnessed a notably abrupt rise."^{vi} With the same rise in sea levels, various natural cyclones and changes in the Himalayan ranges have added the seriousness to the challenge. Besides this there has been changes in rainfall since some decades. This change in environment factor has brought deep impacts on agriculture in general and on overall economy due to uncertain rainfall. Irregular rainfall in various regions of India has brought much loss to the Indian farmers.

Factors Causing Climate Change

The challenge of Climate change can be caused various factors. According to changing time, there has been variations into it. Broadly these factors can be classified into two types: natural causes and anthropogenic causes. The later one has impacted more in terms of overall degradation of the environment. The changes in the land structure, changing patterns of earth orbit in galaxy and continental drifts makes changes in geography and in a way in the climate. This leads to the emergence of natural calamities. Geological factors like shifts in tectonic plates, volcanic eruptions, the differences in temperature of water due to the oceanic currents all such natural factors make changes in the environment.

However, like mentioned above the anthropological factors at more important to take into consideration. Due to industrialisation, there is increase of greenhouse gasses in the atmosphere, changes in the usage of land pattern and the developmental activities are changing the climate. The various impacts of climate change on the Indian state can be seen through the following factors.

Diverse Impacts of Climate Change

Since the environment is degrading, it is not only affecting the nature but more to every living being. The result of tremendous progress has not only contributed to the abolition of constricted natural resources but also to giving rise to various socio-economic problems. The overall quality of the natural resources is degrading day by day.

Greenhouse Gas Emission

The gasses derived from Various industries in India like energy sectors, industrial process sector, waste management, agriculture and others are not properly composed. Especially secondary sectors emit the gas on a larger scale which lead to air pollution. "Moreover, 43 million tonnes of municipal solid waste was collected annually, out of which 31 million was dumped at the landfill sites and 11.9 million was treated, the environment ministry said in 2016."^{vii} This increase in waste continue to pose challenge to human security.

Climate Change and Agriculture

Agriculture cannot be seen in isolation without the impacts of environment onto it. It has direct connection to weather and other healthy geographical conditions. However, since there is climate issue agricultural production is badly affected. Although in certain production agriculture has given better results, but with the same the quality of the land as well as production have declined. The challenge of food security has given rise to other social threats. Due to climate change, natural calamities like Floods and draughts occurred. This again devastate the agricultural production.

Impacts on Forests and Water Resources

Climate Change has also impact on the forest. Climate change has changed the vegetation pattern and influenced the connected environmental cycle. Since forests are affected, the communities dependent on forests have also faced the challenges and in a way repercussions of climate change. Climate has also impacted the water resources in terms of melting glaciers, rise in sea levels. Such problems create another challenge like large scale of human displacement. "Projected sea level rise could damage aquaculture industries, and exacerbate already declining fish productivity. There will also be higher risks of increased frequency and intensity of coastal surges and cycles."^{viii}

Human Health: The Major Impacted Factor

With climate change the health has been majorly affected factor in India. There has been rise the various types of diseases. Since the climate change impacts on the various social, economic, environmental determinants, there new diseases arise out of newly changed components. Issues like polluted air, lack of safe drinking water, lack of naturally grown food are all related to health. The climate change has also widened the health inequalities among countries at global level and within countries also. The availability of the health services has not reached equally in spite of growth in technology and development to still inaccessible areas. "With the poorest people largely uninsured, health shocks and stresses already currently push around 100 million people into poverty every year, with the impacts of climate change worsening this trend."^{ix} One more complementary Challenge to human health due to climate change which is gaining global attention is the challenge of migration. "It is estimated that 22.5 million people are displaced annually by climate or weather-related disasters, and these figures are expected to increase in the future."^x Physical and psychological trauma caused due to migration has repugnant impacts on the human health.

Legal Framework of Indian State

As far as domestic laws are concerned, there are no specific laws on climate change. However, laws related to the protection of the environment played important role in terms of giving attention to the issue. Prevention and Control of Pollution Act with regard to Air and Water were passed. Protection of the Environment Act, 1986 and Ozone Depleting Substances (Regulation and Control) Rules, 2000 are some of the examples. While understanding the sobriety of the climate change, even Supreme Court of India has addressed the issue through the Article 21 of the Indian Constitution which highlights the broad arena of right to life. "The Supreme Court in the *Kedia Leather & Liquor Ltd.*, case held that, "environmental, ecological, air and water pollution amount to violation of the right to life assured by Article 21 of the Constitution."^{xi} For living a dignified life, healthy atmosphere or environment is of utmost important.

Way Forward - India's Cooperation at Global Level

With the end of cold war, the security perception has also changed. There is emergence of new global challenges of which climate change is one of the serious one. India being an emerging global player is contributing its inputs to solve these challenges. As a part of international community, India is actively participating into various activities and measures taken by the countries in the world. The very popular one is UNFCCC (United Nations Framework Convention on Climate Change) in 1992 by nearly 200 countries. Similarly, Kyoto Protocol of 1997, Copenhagen Accord of 2000 and Paris Peace Agreement of 2015 are the major milestones in the protection of environment in which the global community has addressed the challenges and began with measures. In a recently organised G-20 meeting, Prime Minister Narendra Modi has highlighted India's integral and comprehensive approach towards fulfilling the motives of the Paris Peace Conference. India's initiatives are reflected through government policies like National Plan on Climate Change, Swachh Bharat mission, National Clean Air Programme, Namami Gange Policy. Since the climate change is a global challenge, integrated mechanisms of all nations are required. India, indeed one the major player on the global map playing significant role in meeting these challenges.

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