



Cover Page



DOI: <http://ijmer.in.doi./2022/11.05.98>

ECOLOGICAL ENVIRONMENTAL CHALLENGES: A STUDY OF GLOBAL CLIMATE CHANGE

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ABSTRACT

The need of the many and the greed of the few have ruptured our natural habitat and have made life on planet earth very fragile. Infact, the greatest paradoxes that the present millennium witnesses are addressing the gaps between techno savvy revolution on the one hand and on the other environment degradation. The very processes that have improved quality of living of few people as a result of scientific and technological revolutions have resulted in global warming and have resulted in environment degradation. The World-Wide Fund for nature (WWF) puts together a report called “The Living Planet Report” (LPR). The LPR uses an ecological footprint to measure peoples’ natural resource use. The 2014 LPR report estimates that people are presently using 20% more natural resource than the world can produce. According to recent news clipping that appeared in Times of India on May 9, 2020, states that some current estimates put humanity’s collective footprints at 23% more than what the earth can support. Infact, the earth takes over a year and two months to generate what the human population consumer in a year. Thus, the gestation period of recouping natural loses is longer than its consumption. The same edition of the Times of India paper also gives a tabular char on how the use of certain chemicals is a potential source of health hazard. “This research paper to be discussed about the “**Ecological, Environmental Challenges in Global Climate change**”.

Keywords: Climate Change, Global Warming Development Strategy, Educational Environment, Industrialization

Introduction

Statement of the Problem

“If you are fearful of the destruction of the environment, then learn to quit being an environmental parasite.”

—Wendell Berry

A familiar Environmentalist.

Global environmental change impacts most often and most severely on people that have less material wealth, for example, on people who are undernourished and/or without a reliable supply of safe water. Environmental insecurity – the double vulnerability that arises from both poverty and environmental change – is at its most obvious in low-income societies. This is not to say that people in high-income societies are immune from the risks of global environmental change, as was clearly revealed in the damage caused to some middle-income households in New Orleans by Hurricane Katrina in 2005. Nevertheless, as is the case with all environmental hazards, Katrina showed that it is the poor who tend to suffer the most, and that vulnerability to environmental change is socially differentiated across gender, class, race, and age.

The poor and the marginalized tend to be more vulnerable to environmental change for numerous interlocking reasons. They are typically heavily dependent on natural resources and ecosystem services whose abundance and quality is at risk from environmental changes. They are more likely to live in places that are affected by environmental degradation and hazards because land is cheaper or free in these places. Their homes frequently do not have adequate waste disposal services and water supply. They cannot afford insurance and rarely receive compensation for losses they incur. The poor and marginalized are often more food insecure due to smaller landholdings and poorer quality land, and/or because they have little purchasing power in food markets. Their property and labor rights are nonexistent or minimal and variable. They have less capacity to exercise their skills and act on their values and aspirations because of barriers to accessing information, health care, and education. They have little voice in the decisions that affect them, be they the allocation of food at mealtimes, the allocation of land among villagers, the formulation of social welfare and land-use policies, the development of large-scale infrastructure projects, and the formulation of disaster and environmental management policies. They therefore tend to be more exposed, more sensitive, and less able to adapt to environmental change. Geographers such as Hans Bohle, Tom Downing, and Michael Watts have made critical contributions to understanding the ways in which these social determinant’s structure vulnerability to environmental change.



Cover Page



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Problem of Environment

It is therefore the larger context of modernity and its contrapuntal forces – the limited alleviation of environmental constraints for some and the exacerbation of environmental problems for others, the attainment of a certain kind of material well-being and power for some and the exacerbation of poverty and powerlessness for others – that gives rise to the problem of global environmental change and as a risk to human security. Human security is a variable condition where people and communities have the capacity to manage stresses to their needs, rights, and values. Environmental change is a human security problem when it undermines the needs, rights, and values that are important to individuals and communities.

The growing attention paid to environmental change as a human security issue does not fit so well with the national security policy community. It does, however, have some appeal to the development policy community and to environmental groups and organizations. In the future, it is likely that the concept of environmental security as human security will become more central in the fields of environmental studies and development studies, and figure more prominently in their respective policy domains. A key institution in this respect is the Global Environmental Change and Human Security project, in which geographers have been influential.

The present millennium is grappling with a major human made catastrophe, resulting in environment degradation, rising sea level, global warming and the gradual depletion of the ozone layer. Survival of all living species including humans has increasingly become very difficult as land, water and air has become polluted as never before. The current marker of contemporary world scenario i.e., globalization, industrialization liberalization and consumerization has eroded the delicate balance between human activity and nature. The need of the many and the greed of the few have ruptured our natural habitat and have made life on planet earth very fragile. Infact, the greatest paradoxes that the present millennium witnesses are addressing the gaps between techno savvy revolution on the one hand and on the other environment degradation. The very processes that have improved quality of living of few people as a result of scientific and technological revolutions have resulted in global warming and have resulted in environment degradation. The World-Wide Fund for nature (WWF) puts together a report called “The Living Planet Report” (LPR). The LPR uses an ecological footprint to measure peoples’ natural resource use. The 2004 LPR report estimates that people are presently using 20% more natural resource than the world can produce.

According to recent news clipping that appeared in Times of India on May 9, 2020, states that some current estimates put humanity’s collective footprints at 23% more than what the earth can support. Infact, the earth takes over a year and two months to generate what the human population consumer in a year. Thus, the gestation period of recouping natural loses is longer than its consumption. The same edition of the Times of India paper also gives a tabular char on how the use of certain chemicals is a potential source of health hazard. One of the major impacts of continuous exploitation of our natural resources for the purposes of promoting industrialization and consumerization is global warming. This phenomenon has become a very critical issue and debatable, in the academic especially in the context of preservation and conservation of our bio diversity.

UNDERSTANDING GLOBAL WARMING

Global warming means that the temperature of the earth is gradually increasing over the last 100 years, global temperature has risen 0, 6 °C. If temperature continues to rise, the world’s climate can change drastically. Ice sheet in the Artic and Antarctic will melt resulting in rising sea and ocean levels. While it would result in virtual extinction of islands like the Republic of Maldives, Lakshdweep in India, and some Island of the Pacific and many more located worlds over, are nearing the fate of a watery grave. Scientists have also predicted that it would cause flooding in the low-lying areas, such as the Netherlands, Bangladesh and Egypt.

Looking at the magnitude of this catastrophe one of the Millennium Development Goals (MDG) focuses on ensuring environmental sustainability. The details of this goal are:

Factors Responsible for Global Warming

In most of the developed and developing countries of the world the phenomena of carbon dioxide emission from motor vehicles, aero planes, power stations, air conditioners and fires, trap more of suns’ heat than any other gas. This results in contributing to global warming and its immediate impact is visible in the changing climatic conditions world over. It has been increasingly realized that to reduce the threat of global warming, all countries of the world need to work together to reduce environment pollution and its degradation. In this regard a conference was held at Kyoto Japan wherein all different countries in the world met together for drawing a common protocol to reduce global climate warming and address issues of environment degradation.

Another important commitment of ensuring the life of our future generation livable resulted in the formulation of:



Cover Page



DOI: <http://ijmer.in.doi./2022/11.05.98>

Copenhagen Accord

More recently Heads of States, Heads of Government and Ministers met a Copenhagen and have brought out the Copenhagen Accord to address the challenges of global warming. This accord is operational immediately by all countries of the world. Some of the important points of this accord are:

Endorses the continuation of the Kyoto Protocol Underlines that climate change is one of the greatest challenges of our time and emphasizes a “strong political will to urgently combat climate change in accordance with the principle of common but differentiated responsibilities and respective capabilities. To prevent dangerous anthropogenic interference with the climate system, recognizes “the scientific view that the increase in global temperature should be below 2 degrees Celsius”, in a context of sustainable development, to combat climate change. Recognises “the critical impacts of climate change and the potential impacts of response measures on countries particularly vulnerable to its adverse effects” and stresses “the need to establish a comprehensive adaptation programme including international support”. Recognises that “deep cuts in global emissions are required according to science” and agrees cooperation in peaking (stopping from rising) global and national greenhouse gas emissions “as soon as possible” and that “a low emission development strategy is indispensable to sustainable development”. About mitigation agrees that developed countries would “commit to economy-wide emissions targets for 2020” to be submitted by 31 January 2010 and agrees that these Parties to the Kyoto Protocol would strengthen their existing targets. Delivery of reductions and finance by developed countries will be measured, reported and verified in accordance with COP guidelines. Agrees that developing countries would report those actions once every two years via the U.N. climate change secretariat, subjected to their domestic seeking international support.

Recognises “the crucial role of reducing emission from deforestation and forest degradation and the need to enhance removals of greenhouse gas emission by forests”, and the need to establish a mechanism to enable the mobilization of financial resources from developed countries to help achieve this. Developing countries, specially these with low emitting economies should be provided incentives to continue to develop on a low emission pathway. States that “scaled up, new and additional, predictable and adequate funding as well as improved access shall be provided to developing countries... to enable and support enhanced action. Agrees that developed countries would raise funds of \$30 billion from 2010-2012 of new and additional resources. Agrees a “goal” for the world to raise \$100 billion per year by 2020, from “a wide variety of sources”, to help developing countries cut carbon emissions (mitigation). New multilateral funding for adaptation will be delivered, with a governance structure. Establishes a Copenhagen Green Climate Fund, as an operating entity of the financial mechanism, “to support projects, programme, policies and other activities in developing countries related to mitigation”. To this end, creates a High-Level Panel. Establishes a Technology Mechanism “to accelerate technology development and transfer... guided by a country driven approach”

Impact of Natural and Human Disaster on Women

The frequent occurrence of global warming impacts lives of all living species including humans and women in particular. In other words, it leads to feminization of poverty and disaster. In situations of natural disaster such as landslides, earthquake, floods, tsunami etc. that cuts across gender, class, religion and region, impacts women multifariously. Different forms of physical losses especially those related to loss of members of family, near and dear ones, sometimes bread earner, property, shelter, hearth and basic necessities of survival has psychologically and emotionally traumatized women belonging to different age groups. Studies have shown that disaster have caused total uprooting of household, especially those that belong to the poverty belt. The degree of calamity varies from family to family impacting their socio-economic conditions adversely. The processes of rehabilitation in many countries of the world addresses the practical and immediate needs of woman and fail to take into account those factors that would bring about transformatory or strategic changes in the status of women i.e., making her self-sufficient and self-reliant.

Other than natural disaster, depletion of renewal sources of energy such as water, also impacts the lived lives of women. In the Indian context researches have shown that women located in rural remote habitations belonging to the desert regions and hilly terrains have to spend much of their waking hours fetching drinking water for their survival and those of their families. This manual effort done by woman on a regular basis has a toll on their frail physical bodies lacking nutrient and care. Scarcity of water also impacts all kinds of agrarian operations performed by women such as weeding, sowing, harvesting and looking after the livestock.

In this regard many interesting audio-video materials have been prepared by different agencies such as the government and private, for arousing sensitivity of the people on this important issue. In this regard, a very famous film titled ‘Do Boond Paani’ highlights the trials and tribulations that women face in fetching the most important survival need i.e., water.

Depletion of other resources like forest also severely affects women as wood for burning of the hearth, fodder for the livestock, procurement of indigenous medicines, herbs and many more affects the economy of the household. In hilly areas such as Uttaranchal women have to trek many miles in high altitudes for fetching fodder for their cattle. Very many times a drive from Dehradum to Chamoli



Cover Page



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and further to Joshimath, a very pathetic sight can be seen, where women appear like tiny dots in the early hours of morning on steep ridges of high mountains fetching fodder for their cattle's unmindful of the deep trenches below that could be fatal for their own lives.

Construction of dams on important rivers of India has also impacted the lives of village community including women. The processes of rehabilitation are very slow and in affective. The submerging of villages and agriculture lands further deteriorates the earning capacities of the household and further aggravates the already existing grinding poverty.

Role of Education

Environment concerns have increasing acquired primacy in the domain of both implicit and explicit knowledge. Some countries of the world including India and Maldives have a separate subject called Environmental Studies that have been introduced at the primary level. The domains of this subject have stressed upon immediate, social and natural environment which is depicted variedly in visuals and content of the textual materials. There is also a mention about the importance of preservation and conservation of environment. Many suggested activities have been depicted in textual material of the above-mentioned countries including South Africa. The importance of environment is also referred to in Social Sciences, Science and in the domain of Languages which includes English and Hindi in the Indian context and local dialects such as Dhivehi in the Maldivian context. These books referred to the present scenario related to environment degradation and workable strategies for addressing this phenomenon including global warming.

Many institutions of higher learning have disciplines related to environment such as Environmental Engineering, Life Sciences, Environmental Planning, Landscape Architecture, Urban Design, Building Engineering and Management and Architectural Conservations. There could be many more courses existing that are offered to students for addressing global warming and evolving mechanism for addressing environment pollution. Effort should be made by institutions running these courses to stress more on application and field experiments.

Some Suggestive Initiatives and Strategies

While environment concerns weaves into subjects offered at school and higher stages effort should be made to go beyond textual materials and strengthen the implementing contextual strategies for addressing global warming and environment degradation as stated earlier. Good initiatives at the grassroots such as the Chipko movement, Narmada Bachao Andolan and Mahila Samakhya should be disseminated through different print medias for arousing sensitivity towards this vital issue. Success stories of NGOs working for preservation and conservation of nature should be highlighted at different forums so that their initiative can be adopted, adapted and replicated. Regional efforts such as the SAARC initiative in the context of environment should be widely disseminated in all educational institution at different levels. Different mediums such as songs, posters, puppets, games, essay competition, debates, and ecotourism can be explored.

Summing Up

New and emerging technologies should focus upon renewal sources of energy and also have inbuilt mechanism of arresting environment pollution. Existing technologies using solar and wind energy should be increasingly used and made cost effective and user friendly so that they are popularly used by people belonging to all strata of the society. In this context solar cooker, solar dryer, solar and wind energy are already being used, but they need greater popularization and social acceptance by the people. In this regard multipronged approaches including different forms of media can be utilized. Training programmes need to be organized on a regular basis keeping in mind the need of the users and their time so that the existing and new technologies are propagated and greatly utilized by the people particularly women. Thus, for preventing global warming and preventing our environment from further degradation there is a need to bring together all stake holders and to mobilize each one of them to work in a mission mode in individual and collective capacities for instilling in all people belonging to different age groups – consciousness, concern, commitment and building capacities for preservation and conservation of our natural resources and making our planet livable for all with quality, equity and equality.

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Cover Page



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