
REVIEWING ENVIRONMENTAL CONCERN: ANALYZING IMPACT THROUGH AN INTERDISCIPLINARY APPROACH WITH SPECIAL ATTENTION TO BANGLADESH AND INDIA

M Mostafizur Rahman Ph.D.*

**Assistant Professor, Department of Folklore Studies, Islamic University Bangladesh, Kushtia-Jhenaidah
7003.*

***Corresponding Author:**

mostafizur@folklore.iu.ac.bd

Abstract:

The study investigates the causes, nature, and the effects of the environmental problem in addition to the propensity for environmental deterioration from a multidisciplinary perspective. The various challenges related to climate change and its detrimental effects on human life and livelihood were the main emphases of this essay. The threat to the environment is not only the most significant problem the world is now facing, as has been previously established, but it is also a shared endeavor by the majority of people on the planet to protect human existence. Science has established that greenhouse gas emissions are drastically increasing the planet's vulnerability. If the threat is not mitigated, lives, livelihoods, and the entire ecosystem would suffer in ways that humans have never imagined. The crisis might lead to food and clean water shortages as well as threats to human life and health. Sea level rise may cause more than 10 times as many refugees in the future. Following the alteration of eco-systems, suffering has already begun intermittently in many regions of the planet. Human activity that is thoughtless is mostly to blame for global warming. This essay seeks to comprehend the environmental situation and its potential resolution through ongoing global climate change discussions. Finally, it may be claimed that human fragility after a climatic disaster commonly strikes at diverse times. Environmental management policies that are effective are urgently needed

Keywords: *Global Warming, Climate Change, Environmental Crisis, Disaster*

1. OVERVIEW:

Scientists have noted a degree of systematic warming in Bangladesh as well as a rise in the frequency of cyclones and related natural disasters. It is virtually always remarked that the country's six seasons' telltale indications are becoming more and more muddled (IUCN Bangladesh 2011). Recent global events may have brought to light instances of severe weather, such as record-breaking rains in India, Pakistan, or even Australia that caused enormous areas to flood, or unheard-of snowfall in Europe or North America. Although far from complete, information on the aftereffects of catastrophes, such as fatalities, and damage to infrastructure and agriculture, is relatively available. There are other, more urgent queries, such as how to record or measure the effects of the previously seen progressive alterations. What effects of climate change are most likely? Where are the impacts most likely to occur, and how should they be recorded? How can we gauge a more comprehensive picture of the effects and implications throughout time? It has been hypothesized that some concentrations are rising due to human activity and that this change would affect the climate (Chhatwal 244). Potential habitats for insects or disease vectors (carriers of illness), including malaria, dengue, intestinal ailments, and other epidemics grow when the temperature rises (IUCN Bangladesh 2012). The coastal regions of Bangladesh are under risk from sea level rise. Its coastline measures 710 km (Sarwar 2005). Bangladesh has been impacted by SIDR and AILA, two catastrophic cyclones. Rapid urbanization and population expansion have significantly raised the demand for water. Existing groundwater supplies are severely stressed, making growth impossible. Poverty and additional food insecurity brought on by water scarcity, coastal flooding, and riverine floods are very real concerns. Unexpected but likely situations for Bangladesh include population relocation, heat-related deaths, and vector-borne illnesses.

Bangladesh and India share a number of difficulties. Despite having overlapping regions, both countries have the same climate and risk factors. Because the neighbors share resources like water, the decisions made in one nation might have a significant influence on the other. The similarities between the two will make the link between them more urgent when the effects of climate change start to manifest. Bangladesh and India will be pushed to catch common ground in joint water resources as temperatures slowly start to climb and precipitation becomes more unpredictable. This article, which analyses the Indo-Bangla environmental challenge from the countries' socioeconomic and cultural viewpoints and focuses on climate change, is a part of that project.

The goal of this paper is to gain a basic understanding of the environmental crisis using a multidisciplinary approach and sources that address socioeconomic factors related to air, water, noise, and soil pollution, and degraded biodiversity system and the greenhouse effect's antagonistic effects. Through this study, a research gap may be found. As a result, some new research topics may emerge, some existing research may need to be supported and sustained, and some research fields may need to be reorganized in accordance with the proposed structure. The literature on finished research and study projects on climate change in Bangladesh is included in this study. There may be more resources that may widen our knowledge and informational base and aid in our decision-making on whether to do further research in this area.

2. Study goals:

- 2.1 To determine what causes environmental degradation.
- 2.2 To do research on how environmental deterioration affects human health.
- 2.3 To recommend countermeasures for the environmental situation.

3. Methods of study:

Secondary sources of information were employed in the study, including reliable national, and international journals, periodicals, surveys, newspapers, and internet searches on the topic.

4. Results and argument:

There is enough information to conclude that the temperature of the entire planet has increased modestly during the past few decades (Chhatwal 243). Why is it crucial to keep temperatures below 1.5 degrees? People are dying from the climate issue as a result of the temperature being 0 degrees. The best course of action to prevent the triggering of irreversible change reactions, such as melting glaciers polarize and tossing in to the Arctic, is to destabilize the climate, according to the consensus of scientists. One hundred businesses are accountable for 7.1% of the world's emissions, and the G20 nations are in charge of 80% of all emissions since the previous accords, when global banks spent US\$ 1.9 trillion in fossil fuels. The poorest 10% of the world's population only contribute 1% of our CO₂ emissions, compared to the richest 10% (Greta).

The aforementioned details were heavily emphasized in the speech of Greta Thunberg, a sixteen-year-old Swedish girl who was nominated for the 2019 Noble Peace Prize and is known as the "voice of the planet" and is transforming the world through her movement to raise awareness of environmental threats like global warming. Sweden's tiny Scandinavian angel is causing a stir by demonstrating that environmental threats and their adverse effects can only bring about global disaster. At the age of nine, she began studying climate change. She was unable to accept it when she learned that rising greenhouse gases were causing the globe to warm. If such were the case, she reasoned that soon after something had to have been done. The people need to take it seriously, but just one did, leading her to consider reading about global warming. She learned more about global warming as she read more about it. And once she really

comprehended it, she was unable to turn away. She made the first little action that ignited the climate change movement. Over 11 million people have been on strike today as a result of Thunberg's simple decision to sit down and sign out in the middle of the street.

A small number of wealthy nations have committed to reducing their greenhouse gas emissions over a specific period of time, but these commitments exclude transportation by air, sea, and land, as well as imports and exports of commodities and consumption. They do, however, take into account the option for nations to offset their emissions abroad. To keep within the meager remaining budget, wealthier nations must immediately reduce their tax rates, which are not included in these commitments. If high emission persists even for a few years after 2050, the remaining budget will be lost (COP 24). It is difficult to resolve this situation without having the whole picture in view. Finding all-encompassing answers is important. Instead, it appears to have provided some sort of chance for nations to negotiate exceptions and stop chasing their goals.

5. Five global environmental problems:

According to the German news organization Deutsche-Welle, there are five major global hazards to Earth that must be dealt with if people and other creatures are to be allowed to exist there indefinitely. The following are the threats:

5.1 Air pollution and climate change:

Regrettably, atmospheric carbon has increased. The extent and rate of such growth are unparalleled. The eventual result is climate disruption. Burning wood, coal, oil, gas, and other fossil fuels releases a lot of carbon dioxide into the air. One in nine deaths in 2012 were attributed to diseases caused by carcinogens and other substances in polluted air, according to the World Health Organization.

5.2 Deforestation:

Currently, 30% of the world's territory is covered by forests, which is a decrease from the 11,000 years ago, when agriculture first emerged. Forests are being destroyed on an annual basis in tropical regions more than 7.3 million hectares. Once covering 15% of the planet's surface, tropical woods now only comprise about 6-7%. This last region has seen significant degradation due to logging and fire. Natural forests operate as carbon sinks, preventing carbon from escaping into the atmosphere and the oceans while also acting as reserves for biodiversity.

5.3 Species extinction:

To the point of extinction, wild animals are slaughtered on land for bush meat, ivory, or "medicinal" items. Huge commercial fishing vessels at sea wipe out whole fish populations are using bottom trawling or purse seine nets. Significant contributors to the extraordinary wave of exterminations brought on by a single species—humans—include habitat loss and damage. The list of endangered and vulnerable species maintained by the IUCN is constantly expanding. In addition to having a natural right to exist, all species provide goods and "services" that are necessary for human survival. Consider bees and their capacity for pollination, which is essential for the development of food.

5.4 Soil dilapidation:

Soil erosion, growing monocultures, compaction, excessive exposure to pollutants, and changes in land use are just a few of the many variables that have an impact on soils. Nearly 12 million hectares of agricultural land sustain significant damage annually, according to UN estimates.

5.5 Over population:

The global human population is still expanding quickly. The world populace numbered 1.6 billion when the 20th century began; today, people number somewhere about 7.5 billion. By 2050, there might be roughly 10 billion of us. Pressure on vital natural resources like water is increasing as a result of expanding global populations and prosperity. The continent of Africa and southern and eastern Asia are where the majority of growth is taking place.

6. Global environmental crisis:

Van Al Gore, a former contender for the US presidency, works to educate the public about the risks of global warming and urges quick action. Al Gore stated in the film *An Inconvenient Truth* that "temperature increases throughout the planet create larger storms. Is it feasible that there are threats besides terrorism that we should prepare for? Faster melting is occurring in the Arctic. If this keeps up, sea level will increase another 20 feet. Nearing Kolkata, 60 million people will be affected by flooding, and the World Trade Center in Manhattan, New York, will be submerged. A few tens of thousands of refugees might amount to hundreds of millions. If the ten warmest years ever recorded are examined, they have all happened in the past 14 years. 2005 was the warmest year of all. Most scientists agree that humans are to blame for global warming (Davis Guggenheim 2006).

7. Environmental emergency in India and Bangladesh:

7.1 Crisis in Bangladesh:

Bangladesh may experience the following environmental crisis on:

- i) Human health.
- ii) Agriculture.

- iii) Livestock.
- iv) Fisheries and forest.
- v) Threats on water resources and coastal areas.

These outcomes are anticipated in this context. However, studies show that when paired with qualitative data, the most exact quantitative impacts are less accessible (Achanta, et al. 2001). Bangladesh Government predicts possible impacts of climate change are as follows:

- i) Rising wind and storm surge speeds that cause more damage to the coastal region with increasingly frequent and severe tropical cyclones.
- ii) During the monsoon, Bangladesh saw heavier and more unpredictable rainfall in the Ganges-Brahmaputra-Meghna system, which led to: Higher river flows, which led to embankment overtopping and breaching as well as extensive flooding in rural and urban areas.
- iii) houses and agricultural land are lost to riverbank erosion as a result.
- iv) increased sedimentation in riverbeds causing clogged drainage systems.
- v) The Himalayan glacier melting results in higher river flows throughout the warmer months of the year (MoEF 2009).

7.2 Crisis in India:

A good number of Indian scholars have investigated how climate change has affected India's temperature and rainfall. The average national maximum temperature has risen by 0.6 degrees Celsius between 1091 and 1987, according to studies covering that time period (Rupa Kumar et al 1994) India as a whole had an increase in minimum and maximum temperatures of 2 degrees Celsius per decade between 1970 and 2003. (Kothawale and Kumar 2005). These are occurring as a consequence of the atmosphere's concentration of greenhouse gases (IPCC 2001). Another study that looked at the period from 1871 to 1990 showed no discernible pattern in the quantity of rainfall over the whole country of India (Parthasarathy et al.1993). They did find notable inter-annual and decadal changes. However, several studies show long-term shifts in localized and regional rainfall patterns during the Indian monsoon. The government forecasts rise in summer downpour of 3.7% for the whole country of India (MoEF 2010). A substantial reduction in winter precipitation is expected to result in a rise in mean annual rainfall of 0.3-0.3%. (IUCN, New Delhi, 2012).

The scientific projections of climate change in India are the following:

- i) Rainfall, which will increase as temperatures rise (Mall et al. 2006).
- ii) Temperature rise, according to research, the major GBM region might see 2-to-3-degree Celsius temperature rises between 2070 and 2100. (Kumar et al. 2006)
- iii) In the GBM area, glaciers regulate water flows as they melt. In general, glaciers have more water accumulation during hotter (drought) seasons and less accumulation during more humid (flood) seasons (Mall et al 2006).
- iv) Reduced lean-season (non-monsoon) flows are another possible effect of climate change due to the combination of higher precipitation/lower rain days and increased evapotranspiration as a result of colder winter temperatures (Gosain and Rao 2013).

8. Institutional Factors:

The government's Ministry of Environment & Forests (MOEF) is in charge of preservation, improvement, and development of the environment in both countries. The Ministry closely coordinates its efforts with those of other Ministries and Governments. The primary piece of legislation controlling environmental management is the Environment (Protection) Act of 1986. The Wildlife (Protection) Act of 1972 and the Forest (Conservation) Act of 1980 are two other significant pieces of law in the region. The weak point of the current system is its inability to be implemented effectively by environmental institutions, both at the center and on the ground.

9. Climate change issues in focus:

The impact of climate change on migration, water availability, agricultural productivity, and economic development are significant factors (McMichael et al. 2001).

- i) Water supply and sanitation are crucial factors in determining one's health (UN Mandate 2010).
- ii) Gender: Different effects of climate change are anticipated depending on a person's gender.
- iii) Human habitation and settlement: climate change, and irregular rainfall patterns may cause significant flooding, eroding land, and adversely affect human settlements.
- iv) Extensive erosion: The Brahmaputra basin's widespread bank erosion has had a number of negative social and economic effects, including the loss of agricultural land, livelihoods, homes and other vital infrastructure, displacement, and forced migration.
- v) Land and water: The most obvious impact on land and water would come from the river systems, whose flow is anticipated to change as a result of early glacier melt and monsoon disruptions.
- vi) The Change in Vegetation: Whether it works indirectly through ecological factors like competition for resources or directly through physiological limitations on growth and reproduction, climate change has a significant impact on a variety of species' distribution, abundance, phenology, and physiology (Shao and Halpin 1995).
- vii) Woods: The Brahmaputra floodplain is still a region with a lot of forests, with trees covering 64% of the total land area. In Mizoram and Arunachal Pradesh, trees cover 80% of the terrain, compared to 35–45% in Assam and

Sikkim. The northeastern woodlands will be impacted by climate change (Ramakantha et al. 2003; Verghese 2006).

- viii) Agriculture: The majority of people in the Brahmaputra floodplain depend on farming for their living. The most extensively farmed crops are rice, millet, wheat, legumes, potatoes, oil seeds, and sugarcane. It is anticipated that the more pronounced temperature differences, extreme drought and floods, and soil deterioration would all have a detrimental effect on agricultural output. Given the close relationship between rainfall patterns and crop patterns, even little changes in the latter are likely to have a big effect on the former.

10. Climate change and interdisciplinary approach:

Bangladesh has the largest delta in the world and is especially subject to the effects of climate change, which is closely connected to environmental catastrophes. This nation's capacity for social, technical, and financial adaptation is constrained. But there are measures to deal with the risky scenario from a sociocultural perspective. Here, folkloric knowledge may be quite important. Folkloric Diaspora holds the view that culture has a big part to play in protecting the environment. Indigenous knowledge systems are a useful tool for managing the environment. Selective harvesting, totemic and taboos, organic farming, crop rotation, and intercropping are the primary means of environmental protection among pastoralists. Sacred and prohibited places guarantee the preservation of natural resources. Some taboos protect certain trees and animals from human exploitation. The inhabitants of Meghalaya, for example, in India, have the opinion that it is foolish to cut down trees (Bareh). Locals engage in traditional farming to protect the environment. Indigenous people all throughout the globe employ the proverb "You care after mother nature and mother nature will look after you." It means to take care of the land so that it will continue to offer you with food for the wild, clean air to breathe, clean water to drink, and the traditional practice of not overharvesting the plants we use for food.

Traditional calendars have a significant influence on how indigenous people react to changes in weather and climate because they are based on a combination of regionally unique environmental, seasonal, climatic, and astronomical observations. When clouds are visible in the southwest part of the sky, training should continue. It is widely recognized that "minimal rain in the monsoon is a signal of significant cold in the following winter season." The utilization of lunar observations is another instance of how traditional calendars are put to use. Locals can forecast the state of the environment by studying the moon. Local knowledge has created extremely intricate systems to adjust to unfavorable situations in response to weather and extreme event forecasts. Penology, animal and bird behavior, insects, and spiders are a few of these. Mangoes, for example, are in great supply since high winds and heavy rain are forecast. Insects' presence suggests dry weather. Many rural communities base their local-level decision-making on all these inconsequential and infrequent data. Indigenous knowledge is valuable for the culture in which it develops as well as for scientists and planners who use it to make improvements to the environment. As a result, indigenous knowledge is not transferrable but rather creates connections between individuals and their environs. Therefore, by combining formal and indigenous forms of knowledge, we can quickly create the environment that is required to be sustainable and flexible.

11. Conclusion:

The rapid population growth, economic development, and overuse of natural resources are seen to be the primary causes of environmental degradation in Bangladesh and India. Environmental catastrophes that have impacted both nations include habitat damage, land degradation, deforestation, soil erosion, habitat destruction, and biodiversity loss. In these two countries, economic development and changing consumer habits have also increased the need for energy and increased transportation activity. The main environmental problems in this area are water shortage, air, water, and sound pollution. However, the nations who are in charge of the emission of carbon dioxide play cunning roles. They are shifting their emissions elsewhere and breaking their pledges to raise the bar while refusing to pay for remedies or bear the cost of harm. These have to be put an end to. Real, significant reductions in emissions at the source are what matter. However, merely lowering emissions is obviously insufficient. Emissions of greenhouse gases must end. Limit the carbon in the ground in order to keep global warming below 1.5 degrees. Politicians and CEOs are still seen as the biggest threats since they seem to be making a difference despite just engaging in sly accounting and contrived public relations. People won't exert pressure on those in positions of authority to take action if they are not fully informed about what is happening. Political leaders can get away with doing virtually nothing if there is no public pressure. There's still hope. The government or businesses are not the source of hope. It originates with the people. The folks who had been sleeping but had now begun to awaken. Things alter as people become conscious. Because, only the people can bring about change. In actuality, the people have been responsible for every significant development in our history. The transition can begin at any moment. It can be done by people.

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