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**The Effect of Global Climate Change on  
the Coastal Areas of Bangladesh:  
The Identity Crisis of Environmentally  
Displaced People**

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**Abstract**

This paper explores the effect of climate change in the global arena on the coastal areas specially on the coastal areas of Bangladesh. It also elucidates the identity crisis of environmentally displaced people. In so doing, it is tried to uncover the relationship between globalization and environment. By taking this relationship into consideration, special concentration is placed on the effect of climate change on coastal regions of Bangladesh. General Circulation Models suggest that if the increasing of the emission of greenhouse gases continues, the area-averaged annual mean warming would be about 3°C in the decade of the 2050s and 5°C in the decade of the 2080s over the land regions of Asia. Global climate changes affect the coastal areas around the world significantly, especially in the low income countries like Bangladesh, Maldives etc. In this paper, I employed my own arguments, where it is necessary, that I have learnt in my class of 'Global Conflicts' course at Philipps University-Marburg, Germany. It is clear from the review of literature that the relationship between globalization and environment is complex but the effect of the former is prominent on the latter. Finally, the paper clarifies the identity of the environmentally displaced people on the bases of general and intellectual ideas and claims for a distinct law for the protection of this group of people.

**Keywords:** Climate Change, Coastal Area, Identity Crisis, Environmentally Displaced People

## **Introduction**

It is argued that global climate has been changing in most cases by the activities of human beings. People emit greenhouse gases in a continuous way which results in significant climate change and intraseasonal and interannual variability specially in the Asian region. According to Steve Yearley (cited in Ritzer, 2007), globalization and environment are closely related to each other and the term environment is already global in many different ways. General Circulation Models suggest that if the increasing of the emission of greenhouse gases continues, the area-averaged annual mean warming would be about 3°C in the decade of the 2050s and 5°C in the decade of the 2080s over the land regions of Asia. Global climate changes affect the coastal areas around the world significantly, especially in the low income countries like Bangladesh, Maldives etc. Among the changes, accelerated sea-level rise has received much attention and may entail elevated tidal inundation, increased flood frequency, accelerated erosion, rising water tables, increased salt water intrusion and a suite of ecological changes. These biophysical changes are expected to cause various socio-economic impacts including loss of land infrastructure and coastal resources as well as declines in associated economic, ecological, cultural and subsistence values (Klein & Nicholls, 1999, cited in Dolan & Walker, 2006). One research shows that in coming years poor villagers of Bangladesh will face the severity of climate change in their livelihoods and survival which we have already seen with thousands of lives lost and thousands of people displaced. Therefore, as a consequence of climate change, migration has received the attention of most researchers and policy makers in the last two decades. Some researchers introduced a new concept of environmental refugees and have defined, quantified and classified this type of migrants. “The connection between the environment and migration is assumed to be obvious: people will be forced to migrate if drought occurs, land is degraded or sea levels rise” (Sabine, et al. 2008). So, to McAdam, environmental migration is not a new concept. The events and processes accompanying global climate change threaten to increase human movement both within states and across international borders. The Inter-governmental Panel on Climate Change has predicted an increased frequency and severity of climate events such as storms, cyclones and hurricanes, as well as longer-term sea level rise and desertification, which will impact upon people's ability to survive in certain parts of the world. Bangladesh Climate Change Strategy and Adaptation Plan (2009) reported that there is the impending threat of displacement of more than 20 million people in the event of sea level rise in the near future. And the settlement of these environmental refugees will pose a serious problem for the densely populated country Bangladesh and hence migration must be considered as a valid option for the people of the affected areas.

## **Globalization and its Effects on Environment**

Global warming has been considered as a serious environmental problem because the earth is continuously warming in these days. There is one crucial cause for this global warming which is regular emission of green house gases which include carbon-di-oxide, carbon-mono-oxide, methane, chlorofluorocarbon, nitrous oxide etc. (UNEP Report, cited in Shamsuddhoha and Chowdhury, 2007). They also claim that since the industrial revolution green house gases have been concentrating and human activities, i.e. use of fossil fuel, changes in the land use, are the most responsible for this which lead to deforestation and expansion and commercialization of agriculture. This increasing will lead to global warming and the ultimate consequence is sea level rising. Moreover, Yearly considers environment as a global term since there are two environmental problems which are global. These problems are ozone layer depletion and global climate change. And later Intergovernmental panel on Climate Change (IPCC) was established to ensure environmental protection (Steve Yearly, cited in Ritzer, 2007). Therefore, globalization is a contrasting aspect which is considered to bring economic growth as well as infrastructural development. In most cases, this economic growth and development are tried to achieve without taking the natural environmental settings into consideration. So, there is a relationship among globalization, development and environment. At one side globalization accelerates economic growth, structural change and at the other side alters the industrial structure of countries, resource use and pollution levels. It diffuses capital and technology. However, it is argued that the environment may improve or deteriorate depending on the environmental characteristics relative to existing capital and technology. "Globalization transmits and magnifies market failures and policy distortions that may spread and exacerbate environmental damage. Such marginalization of economies and people may result in poverty-induced resource depletion and environmental degradation" (Panayotou, 2000). So, this is the contrasting aspect of globalization which at the positive side improves prospects for world economic growth and increases global output while at the negative side reduces economic prospects in individual countries, sectors and industries resulting in poverty-induced resource depletion and environmental degradation. But for me, whatever role globalization plays for the economic growth, it destroys the existing environment in two ways. On the one side, globalization talks about continuous economic growth which is completely dependent on the destruction of environment since mass production is possible only at the cost of environment and its raw materials. On the other side, for the continuation of mass production it is required to set up new industries which emit atmosphere and environment destructive gases. Therefore, there is a crucial relationship between globalization and environmental destruction.

It is claimed that trade liberalization and its outcome and free trade which are the determinants of globalization are the channels through which globalization affects the natural environment and environmental quality. Furthermore, free trade maximizes the efficiency of resource allocation by

creating channels for economic activities to least-cost producers that result in production of a given level of output at the least cost where natural and environmental costs are not included. However, it is claimed that free trade maximizes social welfare by reducing use of agrochemicals that will also reduce environmental degradation in protectionist countries significantly and increase it marginally in low protection countries resulting in overall gains in environmental protection and sustainability (Panayotou, 2000). Nonetheless, it is stated that market failures that are related to unpriced or underpriced resources and policy failures that are related to environmentally harmful subsidies both should be removed for protecting natural environment (Repetto, 1993, cited in Panayotou, 2000). Moreover, the studies of the relationship between income levels and environmental degradation showed an inverted U-shape relationship especially for localized effects (Grossman and Krueger, 1995). At low income levels (early stages of development), income growth is associated with higher levels of environmental degradation until a turning point is reached (between \$5,000-10,000) beyond which further income increases result in environmental improvement. This finding came to be known as the Environmental Kuznets Curve which tends to suggest that environmental degradation is a "growing up" problem to be overcome through rapid economic growth rather than through targeted environmental policies. To the extent that free trade speeds up economic growth and raises per capita incomes, any restrictions on trade or diversions of resources away from export-led growth slow down the transition to a positive income-environment relationship (Boyce, 2004). Furthermore, it is argued that foreign direct investment works as a vehicle for environmental improvement on the grounds that foreign firms have technological know-how resulting in production of standard products. In their cases, these firms give much more concentration on protecting environment as they are more subject to mass media and public opinion. Here international agreements are also effective to protect natural environment. We know that globalization of governance includes formal international agreements, supranational institutions that try to impose some resistance on using environmental resources and put regulation to use environment in a sustainable way. It also includes informal governance such as civil society which is a network encompassing both state and non-state actors (Boyce, 2004).

So, we can say that there is no doubt of the role of globalization in destabilizing the natural environment and the mostly affected countries are with low income. Moreover, studies show that environmental regulation does not have much effect on firms' competitiveness. Most of the world's polluting industries are located in southern countries and also in the eastern European countries and these countries are accounted for a rising share of world exports. We also know that dirty industries are migrating from North to South and as a result, the process puts downward pressure on environmental standards in the South. At the same time it is claimed by the North Pole that environmental quality is a luxury and only the affluent can afford it. So according to this view it depends on income growth. It is also claimed by the North Pole that the

bottom billion cause a disproportionate share of environmental degradation. A World Bank report on trade and environment holds that because of low environmental standards in developing countries dirty industries are being shifted to these LDCs. Furthermore, LDCs may purposely undervalue the environment in order to attract new investment. As a result, these both situations could lead to excessive environmental pollution in LDCs (Dean, 1992).

### **Effects of Global Climate Change on Coastal Areas of Bangladesh**

The developing countries are trying continuously to increase their economic development to compete with those of developed countries in the global market giving no concentration on their own natural environment. As a consequence, natural settings of environment of those countries are losing their equilibrium. The research conducted in Asia reveals that agricultural productivity is likely to suffer severe losses because of high temperature, severe drought, flood conditions and soil degradation. Most of the coastal areas go under water because of sea level rising which results in food security under tremendous threat since the people engaged in agriculture cannot produce crops anymore and in some cases they have to migrate to another places. Dolan and Walker conducted a study on climate change impacts on one of Canada's most sensitive coastlines such as northeast Graham Island, Haida Gwaii (Queen Charlotte Island), British Columbia. They identified three characteristics of vulnerability from climate change and natural hazards that address environmental vulnerability. Firstly, they show vulnerability in terms of droughts, floods etc and how this affects people and structure. It is argued that structural adaptation i.e. flood protection do not discourage people from living in high risk areas but may encourage development and consequently increase vulnerability. Secondly, vulnerability is a human relationship not a physical one which claims that vulnerability is socially constructed rather than determined by the occurrence of a physical event. Thirdly, vulnerability is a physical risk and a social response within a defined geographic context. They also identified some determinants of adaptive capacity such as access to and distribution of wealth, technology, information, risk perception and awareness, social capital and critical institutional frameworks to address climate change hazards (Dolan & Walker, 2006). To me, in coastal areas, not only of Canada but also of the whole world, the most prominent problems are flood hazards and sea-level rising. I think, climate related vulnerabilities should be understood by considering the physical, economic and the social environment of particular countries of Asia. Surface water and groundwater resources in Asian countries play significant roles in forestry, agriculture, fisheries, livestock production and industrial activity. Moreover, in Bangladesh, where we see the severe impact of environmental degradation not only in coastal areas but also even in capital city Dhaka, most people are engaged in agriculture which mostly depends on nature. Bangladesh is called a country of

rivers since the country is criss-crossed with hundreds of rivers. The people living in remote coastal areas depend for their agricultural production on rain, surface water, ground water as they don't have sophisticated technology to use. However, changes in global climate bring tremendous changes in agricultural production, fisheries, livestock resulting in changes in their livelihood. In our country the impacts of climate change are already clear. Study reports show that Bangladesh will lose around one-third of its land and there will be 30 million more displaced people due to climate induced problems in next 50 years. Moreover, Countries such as the UK are historically responsible for causing climate change. By 11 January each year, the average UK citizen will emit as much as the average Bangladeshi will in an entire year. Industrialized countries bear not only the historic responsibility but also the current responsibility for climate change. They should provide compensation to the countries where people are dealing with the impacts of climate change caused by the actions of others. Furthermore, the World Bank offers climate loans to Bangladesh which is also a trick that will push us into deeper poverty with no means to escape. Bangladesh is recognized as one of the most vulnerable countries under climate change. Several studies explored the causes of vulnerability of Bangladesh due to Climate Change (Ahmed and Neelormi, 2009). In general, warming would increase both the summer as well as winter mean temperatures, while there would be an increase in monsoon rainfall with a likelihood of withdrawal of dry season rainfall over the country. The water resources sector of the country would most likely be affected significantly due to anticipated changes. Most of the adverse affects of climate change will be in the form of extreme weather events, while water-related hazards such as flood, drought, salinity ingress, bank erosion, and tidal bore are likely to be exacerbated, leading to large scale damages to crop, employment, livelihoods, and national economy. Vulnerability and adaptation to the adverse impacts of climate change are the most crucial concerns for Bangladesh. The southern part of the country has been subjected to excessive natural hazards which include poor drainage, high rates of sedimentation, salinity ingress along the rivers, sea level rising and flood. This region is called coastal zone and is significantly influenced by tidal effects. Statistical report says that majority of the land of coastal zone is within one meter from mean sea level and of which a significant portion falls below high tide level (Ahmed, 2002). If climate change does lead to a 3-foot rise in sea levels around Bangladesh by mid-century, as some scientists predict, then 20 million people will be climate change refugees here. It is an aspect of global warming that is only now being more fully appreciated, but which is called one of the biggest threats facing not only in Bangladesh but in the worldwide. There will be global destabilization of population and the poor will be the most affected. They'll have very little to lose once they've lost their land. In Dhaka, the impact is already being felt, with some half a million migrants arriving in the city each year. Research shows that the biggest reason for moving is environmental degradation. People are moving, being displaced forcibly, because of climate factors (Nature reports Climate Change, 2009). So, from this we can say that if sea level rises one meter, majority of this



region will go under water. In this region there is another problem. The region is considered as a backward region compared to its provision for physical infrastructure. Therefore, if the region goes under water, the people will suffer from water logging and salinity.

### **The Idea of Refugees and the Identity of Environmentally Displaced People**

Before starting to write on this issue I would like to find out the definition of some confusing terms such as Migrant, Refugee and displaced people because definition gives us primary notion of the concepts. First of all, I will provide the dictionary<sup>1</sup> meanings of the concepts.

- **Migrant:** A person who moves from one place to another especially in order to find work.
- **Displaced:** Persons who have been forced to move away from their home to another place. (Sometimes displaced persons are technically called refugees)
- **Refugee:** A person who has been forced to leave their country or home because there is a war, or for political, religious and social reasons.

Now we will look for the debate on the identity of those people who have been forced to leave their home or country because of environmental disasters. Bates (2002) started her explanation by following some questions such as

1. What distinguishes environmental refugees from other refugees— or other migrants?
2. Are all environmental refugees alike?

In so doing, Bates used the definition of environmental refugee provided by El-Hinnawi, the UNEP researcher.

“Those people who have been forced to leave their traditional habitat, temporarily or permanently, because of a marked environmental disruption (natural and/or triggered by people) that jeopardized their existence and/or seriously affected the quality of their life [sic]. By ‘environmental disruption’ in this definition is meant any physical, chemical, and/or biological changes in the ecosystem (or resource base) that render it, temporarily or permanently, unsuitable to support human life.” (El-Hinnawi, 1985, cited in Bates, 2002).

According to Bates, though for the first time El-Hinnawi defined environmental refugee, his definition is vague in the sense that it didn’t separate environmental refugees from other migrants and also didn’t make

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<sup>1</sup> Oxford Advanced Learner’s Dictionary

distinction among environmental refugees. Even critics mentioned three other problems existed in environmental studies which are as follows:

1. All studies gave concentration on some specific regions specially Asia and Africa.
2. Rareness of case studies of conditions that produce environmental refugees.
3. Scholars are not interested to use the term refugee.

So, for Bates, people who migrate because of environmental degradation from one place to another have to migrate voluntarily or involuntarily. Voluntary migrants have several motives and among them the most important is the desire for economic improvement. However, others are forced to migrate and they are called refugees. On the other hand, according to UN Convention on Refugees 1951, those who don't migrate because of fear of prosecution are not refugees, rather they are voluntary migrants. I think the problem lies here. There is no consensus among the experts on this identity issue. One may ask that why definition is important. I think definition is very necessary as without a precise definition, practitioners and policymakers are not able to make plans and make targeted progress. And since there is already accepted and acknowledged definition and status of refugees by the UN Convention, the people who move from one place to another because of environmental disaster, they can be called Environmentally Displaced people or Environmental Migrants. At least I won't treat them as Environmental Refugees though both groups are involuntary migrant groups rather I would treat those people as environmentally displaced people. If we just go through the 1951 UN Convention on Refugees, it would be clear why I choose to call these people displaced. According to 1951 UN Convention on Refugees, the refugees must have the following four characteristics such as:

1. They must be outside of their country of origin.
2. They must be unwilling or unable to avail themselves of the protection of their country or return there.
3. Such inability or unwillingness must be attributable to a well founded fear of being persecuted.
4. The persecution feared must be based on reasons of race, religion, nationality, membership of particular social group or political opinion.

From the above definition it can be inferred that refugees are forced to migrate as like as other forced migrants who migrate because of environmental destruction. Sometimes they are also called refugees (Myers) though they aren't protected under the UN Convention. Even the people who have not yet crossed an international border are not protected by UN Convention. Though the Geneva Convention considers the protection of environment in the context

of warfare and recognizes the link between environment and human survival, it didn't even consider the protection of environmentally displaced people.

Moreover, Dun and Gemenne also acknowledge that there is no consensus on the definition of environmental migration and consequently it is not only confusing but also not helpful. According to them, the main reason of not having clear definition of such group is the difficulty of isolating environmental factors from other drivers of migration. Another problem covers whether environmental migration is forced or voluntary migration. Therefore, they made distinction between two types of intellectuals such as:

- a. Those who talked about environmental factors as a major driving force of migration are alarmists and they use the term Environmental refugees.
- b. Others insist on the complexity of migration process and take a skeptical position about migrants.

Alarmists came from the disciplines of environmental, disaster and conflict studies while skeptics belong to the field of forced migration and refugee studies. Interestingly, most classical theories on migration ignore the environment as a driver of migration whereas most environmental governance theories ignore migration flows. So, it is needed to bridge this gap. So, we see there is no consensus among intellectuals regarding the terminology. Again, even among the refugees, according to Kunz 1973, some are called *Anticipatory Refugees* who observe that their existing environment will deteriorate eventually and they have the ability to move and then migrate to other places. Others who are bound to migrate because of external force like environmental disaster are Refugees (Bates, 2002). However, I do not agree with Kunz in this regard. To me, those who migrate earlier just by observing future deterioration of environment, they should be termed as voluntary migrant or simply migrant. And the people who are forced to migrate because of sudden environmental disaster should be termed as Displaced or in some cases involuntary migrant.

Furthermore, Bates provides a working definition of environmental refugees in the simplest way. The people who migrate from their usual residence due to changes in their ambient non-human environment are called environmental refugees. However, this definition is also incomplete. In 1985 report El-Hinnawi offer three major types of environmental refugees which are as follows:

- People temporarily dislocated due to disasters, i.e. natural or anthropogenic
- People permanently displaced due to drastic environmental changes, i.e. construction of dams
- People who migrate based on the gradual deterioration of environmental conditions

However, El-Hinnawi did not provide any established criteria for distinguishing one environmental refugee type from the other. Hugo (1996) also suggests the following continuum in reference to environmental refugees:

Involuntary	Compelled	Voluntary
Environmental Refugee	Environmental Emigrant	Migrant

According to Hugo, in the first category people have absolutely no control over their migration, in the second category they have more control over the decision to migrate and in the last category, they have control over every decision of migration process (Hugo 1996, cited in Bates, 2002). I think, the use of terminology is still not clear. If we take these categories into consideration we can raise a question, then what is the difference between involuntary and compelled migrants? Since there is no consensus on the use of terminology for the people who have to leave their homestead or country because of environmental disasters, this group of people, despite their number is mounting gradually, is outside of the protection of national and international laws. Again, Norman Myers claims that maximum migration will cause due to additions of excessive people to the environment. The gradual degradation of the atmosphere by additional carbon dioxide and other greenhouse gases may cause sea level rises which will displace people living in low-lying coastal areas. Myers figures out that the number of environmental refugees will be 15 million in Bangladesh (Myers, 1993a, cited in Bates, 2002). So, whatever terminology we use to denote the people who leave their home or country because of environmental degradation, this group of people creates international attention. Although for the first time Myers used the term Refugee, he didn't provide any definition of it. I can say that Norman Myers just threw the concept to the world of intellectuals so that they could talk about it more and come to a standpoint of securing the rights of those people. Since he observed that the number of environmentally displaced people would be increased because of environmental problems, the developed countries could take two important decisions like

- i. Export the wherewithal for sustainable development for communities at risk, or
- ii. Import growing numbers of environmental refugees.

However, the developed countries didn't go for either, rather they choose another option named '*Lifeboat Ethic*' which treats environmental refugees as a security problem for the developed nations.

## Conclusion

It is said that nature is harsh on our country, Bangladesh and we are nature's laboratory on disasters. We don't have volcanoes but face various

types of natural disasters like drought, flood, sea level rise, landslide etc. The rivers swell with summer monsoons, filling Bangladesh's vast flood-plain and submerging a quarter to a third of the land in a typical year and up to two-thirds in the worst of years. Several cyclones usually tear through the heart of the country each year drowning people in storm surges and ripping up trees and homes. Less sudden calamities such as droughts in the country's few highland areas, erosion of the river banks and coastlines also rob of food and land of the people. Climate change will certainly make these disasters worse, threatening to reverse the country's progress and development. Researchers claim that hurricanes in this region have gotten stronger in recent decades and continued warming in the Indian Ocean could see the trend continue. Monsoon rainfall is likely to increase and to fall in more intense bursts making the annual floods broader, deeper, and longer and this could increase river erosion, too. Farmers are already reporting changes in the growing seasons. Therefore, like many other issues, it is the burning question not only for Bangladesh but also for the whole world to take proper steps for the protection of the coastal areas where millions of people have been living. It is the high time to come to a consensus on the identity of environmentally displaced people and formulate international law and also national law by following the former. All of the environmentally displaced people, nationally or internationally, should get the fundamental human rights. As the 1951 UN Convention was developed, alongside the 1948 UDHR, to provide special protection to the refugees who fled from their home country for five reasons, it is also feasible to formulate UN Convention to protect the people who flee from their homestead or home country because of environmental disasters.

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