Natural Disasters: Socio-Economic Impacts in Bangladesh

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Abstract

Bangladesh is a South Asian developing country. This country is often known as the country of natural disasters at the global level. The socio-economic impacts of natural disasters are very destructive in Bangladesh. Natural disasters cause the death of many lives almost every year and also create the risks of poverty, unemployment, disempowerment in the country, which might be a global problem in the future. Natural disasters often cause food crisis in the country as well. Due to natural disasters, many people have to depend on aids since they lose almost everything in the natural disasters like cyclones or flooding. In the context of globalized environmental degradation, Bangladesh is one of the major victims. Bangladesh has been struggling to cope with this situation for a long time. But natural disasters as well as effects of climate change often hinder the development of the country as well as many other states. So, such problem has to be solved globally; rather than locally. In this paper, the focus would be how Bangladesh faces natural disasters and how much Bangladesh is able to adjust with the situation.

Key words: Bangladesh, natural disasters, climate change, risk, consumption, empowerment, employment, poverty.

1. Introduction

Bangladesh is a South Asian country, popularly known as developing country. Now-a-days natural disasters as well as effects of climate change and the name of Bangladesh are synonymous, since natural disasters often occur in Bangladesh. In another way, Bangladesh is sometimes is known as the country of natural disasters in the international community. “Bangladesh, India and Pakistan are the most vulnerable countries hit hard by natural

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Natural disasters now and then cause uncountable losses of life and assets and thus natural disasters leave much socio-economic impacts in Bangladesh. According to Keller and Blodgett, since 1995 the world has been experiencing devastating natural disasters or catastrophes in different parts of the globe like the Indian Ocean, the North America, Japan and so on for rapid warming of the climate change effects. Bangladesh, as the largest deltaic and low land, is one of the greatest victims of natural disasters or today’s very common used term climate change effects. “High spatial and temporal climatic variability, extreme weather events, high growth rate and population density, high incidence of poverty and social inequity, low literacy rate, poor institutional capacity, inadequate financial resources, and insufficient infrastructure have made Bangladesh highly vulnerable to climate change”.

“The land area of 148,393km² is mainly the deltaic plains of the Ganges and Brahmaputra River systems. The prevailing climate is monsoonal, and the dominantly agricultural economy is attuned to its wet and dry seasons.” This land has more than 230 major rivers and their tributaries and distributaries and each year between 30-70% of the country’s total land is flooded, some 80 per cent of the land of Bangladesh is floodplain. It is very difficult for Bangladesh and its people to cope with the natural disasters as well as the effects of the climate change with its limited resources.

2. Aim and Research Questions

This paper will focus on the socio-economic impacts of natural disasters in Bangladesh in terms of climate change issues, and this is a great challenge for Bangladesh like many other countries in the world. This paper will examine the risks of poverty, unemployment, empowerment and consumption as well.

2.1. Can Bangladesh cope with the effects of natural disasters as well as climate changes in the context of the globalised world?

2.2. What are the impacts of natural disasters and climate changes on the people of Bangladesh?

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3. Framework for Analysis

This paper is written on the basis of primary and secondary information like government reports, books, articles, electronic journals and so on. At first local issues like Bangladesh will be discussed. Then it will be shortly interconnected with the global phenomenon in terms of climate change and, particularly, natural disasters. “A disaster, or natural disaster, is the effect of a hazard on society, usually as an event that occurs over a limited time span in a defined geographic area”\(^6\). According to other scholars, “Natural disasters are defined as events (shocks) that are triggered by natural phenomena or natural hazards (such as earthquakes, hurricanes, floods)”\(^7\). In Bangladesh, hurricanes or cyclones and almost regular floods are comparatively common. Bangladesh is a low income country and the standard of living of its population is very poor, whereas almost every year natural disasters cripple its economy. Thus socio-economic condition is often hampered.

Beck defines ‘risk’ as “the anticipation of the catastrophe”\(^8\). Beck continues, “Risks are always future events that may occur, that threaten us”\(^9\). But in the case of Bangladesh, the risks of natural disasters are always in practice, i.e. loss of lives, more poverty, unemployment, disempowerment of women, illiteracy and so on. This affects trade and investments as well as consumption. Beck interestingly terms “the globalization of environmental problems as social problems”\(^10\). We completely agree with Beck. About empowerment, the definition of the World Bank is mentionable, “Empowerment is the expansion of assets and capabilities of poor people to participate in, negotiate with, influence, control, and hold accountable institutions that affect their lives”\(^11\). In terms of empowerment, we argue that any natural disasters usually make women more vulnerable, as they become the major victims due to natural disasters. Thus they are disempowered in Bangladesh in the context of global empowerment of women.

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\(^9\) Ibid

\(^10\) Beck, *World at Risk*, op.cit. p. 161

4. Discussion

In this paper some important socio-economic aspects of Bangladesh will be highlighted, for examples, loss of human lives, health, education, property damages in terms of natural disasters. Three major natural disasters like Cyclone of 1970, Cyclone of 1991 and Cyclone of 2007 will be focused in this paper, though almost every year many people die from natural disasters and a lot of properties are damaged. More than 70 percent people of Bangladesh live in the rural areas and the rest of the population live in the urban areas. Rural people are comparatively more victims of natural disasters in Bangladesh.

4.1. Human Losses:

Bangladesh is one of the most densely populated countries in the world. Some about 1000 people live in per square kilometer. More than 40% people of the state still live below poverty line\(^{12}\). In most of the cases the poor people are exposed to natural disasters. It is tough to estimate how many people died for natural disasters in Bangladesh so far up to 2009. Bangladesh achieved its independence from Pakistan in 1971 after a bloody Liberation War. Immediately before the Liberation War of the country, Bangladesh (former East Pakistan) witnessed a devastating loss of lives in the recorded history of the soil for natural disaster like cyclone and flooding as well. In November of 1970, there was one of the severe cyclones accompanied by flooding, especially in the southern part of Bangladesh. Different reports estimate that about half a million of people were dead, and many were wounded. Thousands of dead bodies were washed away in the rivers and in the Bay of Bengal. Many people suffered from water-borne diseases and died afterwards.

The cyclone of 1991 also killed a large number of people i.e. some total 140,000 throughout the coastal zone of Bangladesh\(^{13}\). “When a cyclone and floods hit Bangladesh in 1991, the death rate for women was almost five times higher than for men”\(^{14}\). Because, Huq and Ayers argue, Bangladeshi society is conservative: male dominated. Usually females are not allowed to go out side without informing their male relatives, and information can pass from male to male easily, especially in the public places. Another cause, they argue, most of the females can’t swim at all\(^{15}\). I argue that the dress of the females is another problem in swimming. Usually most of the Bangladeshi women wear traditional ‘sari’ which is twisted all over the body. That’s why they are more vulnerable than males in any natural disasters like flooding and cyclones.

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\(^{12}\) Shahid, Probable Impacts of Climate Change on Public Health in Bangladesh, op.cit. pp. 1


\(^{15}\) Huq and Ayers, Climate Change Impacts and Responses in Bangladesh, op.cit. p. 9
Recently on 15 November of 2007, cyclone ‘Sidr’ hit the south-western coast of Bangladesh and affected approximately 30 of Bangladesh’s 64 districts of the country, which caused total of 3,295 people dead and more than 50,000 people missing. “More than 8.9 million people in 1,950 unions of 200 upazilas under 30 districts were affected by Cyclone Sidr. Official reports indicated an increasing death toll over 3,406 people, with 1,001 missing and 55,282 injured”\(^{16}\). It is mentionable that this time Bangladesh Government took proper steps to evacuate most of the people immediately before the Sidr attacked. That’s why loss of lives was minimized than before. “Overall, the Early Warning System worked well. Three million people were evacuated and 1.5 million were accommodated in cyclone shelters”\(^{17}\). But according to huge population cyclone shelters are not sufficient. At the same time poor people don’t want to leave their cattle and other assets behind. To me, me nothing is more valuable than human life.

4.2. Health:

After any devastating cyclone or flood health sector becomes very vulnerable for lack of food and pure-drinking water and so on. Different water-borne diseases like acute diarrhea, gastroenteritis, typhoid, various skin diseases, hepatitis etc often spread out in the affected areas. It is mentionable that still many village people drink water from ponds, rivers and lakes. Again many people depend on rainwater, especially for agriculture. They preserve it in the rainy season and use it in the summer or hot seasons. But natural disasters pollute that water. “Contamination of safe water sources created scarcity of safe water for drinking, washing and bathing”\(^{18}\). Unsafe drinking water often causes them suffer from different diseases. But the situation deteriorates immediately after any natural disasters, because that water can not be drunk any more for saline and the contamination of dead bodies like cattle and human beings. There are not enough tube-wells so that rural people can drink safe water. On the other hand, poor sanitation system is also responsible to deteriorate the situation. Usually rural sanitation facilities are very poor. Any natural disasters make the situations worse.

Huq and Ayers argue that climate change and its effects in health sector have increased the incidence of malaria dramatically during last 30 years and 14.7 million Bangladeshi people are in high risk of this fatal disease beside other diseases like dengue fever, dysentery, asthmas, hypertension and skin diseases, especially in the hot summer\(^{19}\). They further continue, “…increased flooding as well as drought is resulting in a decline in the availability of clean water, for a country where water-borne diseases are already responsible for 24 per cent of all deaths”\(^{20}\). Many hospitals are destroyed either completely or partially. Electricity


\(^{17}\) Ministry of Food and Disaster Management, Super Cyclone Sidr 2007: Impacts and Strategies for Interventions, op.cit. 2008, p. 1

\(^{18}\) Ministry of Food and Disaster Management, Super Cyclone Sidr 2007: Impacts and Strategies for Interventions, op.cit. p. 13

\(^{19}\) Huq and Ayers, Climate Change Impacts and Responses in Bangladesh, op.cit. p. 8

\(^{20}\) Huq and Ayers, Climate Change Impacts and Responses in Bangladesh, op.cit. pp. 8
is disconnected for several days. Communications become very tough. Thus supply of medicines with other stuffs remains stopped or at least rare. Injured people need proper and immediate treatment but mostly they can not get sufficient treatment for lack of money. Government and NGOs, and also foreign aids rush into the affected areas, but sometimes aids are not sufficient. At least for the disconnection of communication aids and reliefs do not reach in time.

Scarcity of medicine and other important materials is also responsible for deteriorating the scenario. About the recent Sidr, Ministry of Food and Disaster Management reports, “Some 55,282 people who got injury during the cyclone may cause further deterioration in the health sector if the do not have proper treatment facilities”\(^21\).

“Bangladesh is vulnerable to outbreaks of infectious, waterborne and other types of diseases”\(^22\). Rahman further argues that water-borne diseases are a great problem in the public health sector and the present climate change effects will increase its negative impacts in future\(^23\). Health is important factor in terms of development. But the poor people of Bangladesh are affected now and then by natural hazards or disasters. For lack of education, many people remain unconscious about fatal diseases during any problematic time.

### 4.3. Education:

Education is known as the backbone of a nation. Natural disasters often leave bad impacts on educational sector too. Many educational institutions are destroyed either partly or completely in natural disasters. For example, in the cyclone of 1991, total 9287 educational institutions were damaged either fully or partly. Among them, primary schools were 5,148 and secondary schools were 1,693\(^24\). Only in educational sectors Cyclone Sidr in 2007 resulted in a total value of damage and losses of BDT 4.7 billion, as some 5,927 educational institutions were partly or fully damaged\(^25\). The Report continues:

“In the twelve badly affected districts (namely Bagerhat, Barguna, Barisal, Bhola, Gopalgonj, Jhalakathi, Khulna, Madaripur, Patuakhalki, Priojpur, Satkhira, and Shariatpur) an estimated 4,879 registered secondary and higher secondary schools, colleges and madrashahs existed prior to the disaster. Out of these, a total of 3,736 (76.6 percent) were either fully or partially damaged, of which 787 (16 percent) were fully damaged. It was found that most of the affected institutions were made of C.I. sheet roofing with wooden pillar and bamboo fencing”\(^26\).

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\(^21\) Ministry of Food and Disaster Management, Super Cyclone Sidr 2007: Impacts and Strategies for Interventions, op.cit. p. 20

\(^22\) Rahman, Atiq, *Climate change and its impact on health in Bangladesh*, Regional Health Forum, Volume 12, Number 1, 2008, p.19 (http://www.searo.who.int/LinkFiles/Regional_Health_Forum_Volume_12_No_1_Climate_change_and_its_impact.pdf)

\(^23\) Ibid, p. 25

\(^24\) Karim, *Cyclonic Storms in the Coastal Areas of Bangladesh: Socioeconomic Impact*, op.cit. pp. 6


\(^26\) Ibid, pp. 34-35
It clearly indicates that educational institutions, especially primary and secondary levels are highly affected with the natural disasters in Bangladesh. Immediately after any natural disasters students lost their educational materials in the cyclone, as most people lost their houses. So education is hampered very much, especially in the rural areas of Bangladesh. The reconstruction of so many buildings is a very expensive and time-consuming matter, as Bangladesh is one of the poorest countries in the world. So many times, it is seen that students attend classes in the open field of the school. Many poor students have to stop going to schools for poverty. Many children lose their parents in the cyclones and become very helpless. Then it turns as a matter of survival. So they start looking for means of livelihood at an early age of life. They involve in labour mostly in agriculture and also in different risky industrial jobs. Some go to towns for better living. In this way, many children leave schools at an early age. Governments and different organizations try to rehabilitate the affected people including poor students, but still, many remain deprived of basic things. Thus educational activities are often hindered in Bangladesh due to natural disasters.

4.4. Property Damages:

It is already mentioned that most of the people of Bangladesh live in villages and most of the people are poor. And the majority people live on agriculture. Natural disasters often cripple their economy, especially in the agricultural activities. People not only lose their houses, cattle, crops, trees and so on but also lives. Thus they become very helpless and lead very miserable lives indeed. For example, the recent Cyclone Sidr of 2007 caused heavy economic losses. “The preliminary damage and loss assessment for crops, livestock, and fisheries is estimated to be BDT 30.2 billion (US$ 437.6 million), of which BDT 1.5 billion (US$ 21.3 million) is damage to assets and BDT 28.7 billion (US$ 416.3 million) is production loss”27. More than two million farming families were affected by the Cyclone Sidr. Thousands of people became jobless after the disaster. For a long time, thousands of the poor people have to live on aids or reliefs from foreign countries, NGOs and the Government of Bangladesh. Many people also depend on their relatives.

It is already mentioned that Bangladesh is an agricultural country but due to frequent natural disasters, she has to suffer from food crisis. Almost every year, she has to import million tons of different food items from abroad. Sometimes, it is a great challenge to ensure food security for the Government of Bangladesh. The poor farmers are basically main victims of any natural disasters. So, often food prices increase after any natural disaster, which affects the poor people more.

In the coastal areas, the poor fishermen are the greatest victims of any cyclones, because they lose their fishing boats and other necessary equipments. That means many poor people lose their bag and baggage in the devastating cyclones. Thus they become very destitute after any cyclone. So, Karim commented:

27 Report, Cyclone Sidr in Bangladesh: Damage, Loss, and Needs Assessment for Disaster Recovery and Reconstruction, op. p. 43
“...the socio-economic and environmental situations are the two most important factors, which are closely related in explaining poverty in Bangladesh. The very fact that survival of the poor people over the centuries is a testimony to their adaptive behavior and survival contingent strategies. It is no doubt that cyclones are the greatest natural enemy of the coastal people.”

About the economic total cost of the Cyclone of 1991 in Bangladesh an estimated cost was more than 2 billion US Dollars in all sectors. In the rescue operation other countries like the United States of America took part. The rescue operation was known as the ‘Operation Sea Angel’ in 1991. The US joint task force was involved in relief distribution, repairing communication systems, medical care, water purification and so on. Even in the post Sidr of 2007 reconstruction the US another task force again took part like before. Siddiqui comments the following:

“Since the people of coastal areas will be affected adversely due to the sea level rise and about 40 million people will lose their settlements and livelihood, so, a steady process of out migration from the coastal areas to the urban centers within the region and further inland to the north is inevitable.”

This creates some risks about overall investments, from local and global levels, which affects on employment opportunities in the southern coastal areas of Bangladesh.

Bangladesh has to struggle against natural disasters every year. Infrastructural destructions like roads and highways, dams, houses, school buildings etc, hamper its economic development very much. Besides Bangladesh Government, many NGOs like Grameen Bank, BRAC and also foreign agencies work on the affected areas for overall recovery in economy and society.

5. Global Context:

Natural disaster is a global problem too. It causes much destructions and damages many places in the world. For an example, in 2005 ‘Hurricane Katrina’ caused much damage in Mississippi and Louisiana which caused the flooding in New Orleans. Katrina killed more than 1600 people, thousands were wounded and it cost at least $ 100 billion property damages. This made history in the United States of America. Keller and Blodgett further mentions, “Natural disasters cost the United States between $ 10 billion and $ 50 billion annually; the average cost of a single major disaster is as much as $ 500 million”. Keller and Blodgett talked about another disaster caused by earthquake in China, which killed more than 300,000 people in 1976. They give another important statistics about natural disasters and its impacts:

28 Karim, Cyclonic Storms in the Coastal Areas of Bangladesh: Socioeconomic Impact, op. cit. p. 3
30 Keller and Blodgett, Natural Hazards: Earth’s Processes as Hazards, Disasters, and Catastrophes, op. cit. p. 6
“During the past few decades, natural disasters such as earthquakes, floods, and hurricanes have killed several million people on this planet; the average annual loss of life has been about 150,000. Financial loss from natural disasters now exceeds $50 billion per year; that figure does not include social losses such as loss of employment, mental anguish, and reduced productivity.\(^{31}\)

That means natural disaster as well as climate change issue is very burning questions in the contemporary global affairs. So, the United Nations already observed the 1990s as the International Decade for Natural Hazards Reduction.\(^ {32}\)

Tsunami, one of the major devastating natural disasters on earth due to earthquake in the Indian Ocean, killed over 300,000 peoples over ten countries from Indonesia to Somalia on 26 December 2004. Billions of dollars were lost in property damages.

In terms of current climate change debate, Weil argues that the relationship between GDP per capita and CO2 is amassing, because the emissions of the USA were 19.2 tons per capita in 1999, while in Bangladesh the emissions were only 0.2 tons per capita.\(^ {33}\) Chasek argues that now China is the world’s largest producer of greenhouse gases from 2006, but on a per capita basis the United States of America still produces CO2 more than China.\(^ {34}\) Chasek further noted: “While poverty results in environmental stress, the major cause of global environmental deterioration is an unsustainable pattern of consumption and production, particularly in the industrialized countries, which aggravates poverty and imbalances.”\(^ {35}\)

Another important global climate change risk is the rise of sea level. Weil argues that a rise in the global sea level of 3.3 (1 meter) will cause leaving 17% of Bangladesh underwater which will relocate around 10 million people from the southern-coastal part of Bangladesh to somewhere else in future.\(^ {36}\) This implies that millions of Bangladeshi people might be scattered all over the World.

In the context of climate change and natural disasters in South Asia, the World Bank is actively working on natural disaster risk management system particularly based on five pillars: (a) Risk identification and assessment, (b) Risk mitigation, (c) Emergency preparedness, (d) Catastrophe risk financing or transfer and (f) Institutional capacity building. But without solving the problem globally how much it can be successful so far locally that is my question, as the causes of recent climate change issues and natural disasters are very much related to each other.

\(^{31}\) Ibid, p 8

\(^{32}\) Ibid

\(^{33}\) Ibid, p. 7


\(^{36}\) Ibid

\(^{37}\) Weil, Economic Growth, op.cit. p. 493-494

6. Conclusion:

Natural disaster is not only a problem of Bangladesh but also a global problem. The thing which is important and pathetic for Bangladesh is that it is really tough for Bangladesh to cope with the socio-economic losses from natural disasters as well as climate changes. The rich countries like the USA, Japan, the European Union, and Australia can afford to reconstruct their economy comparatively easily after any natural disasters, which, Bangladesh as a developing country can not afford much. It may be mentioned that the per capita income in Bangladesh is US$ 621 in the financial year of 2009\textsuperscript{38}. At the same time it is clearly shown that Bangladesh is not much responsible at all for the degradation of current climate changes as much as she is facing negative effects now and then. With the help of foreign countries, Bangladesh is trying to minimize its losses by making so many cyclone shelters and other ways in the most affected areas, especially in the coastal areas, but often the shelters and other steps like disbursements of micro-credit, subsidies in agriculture are not sufficient at all. That’s why all countries including transnational bodies, i.e. the UN, should come forward to resolving problems like natural disasters as well as effects of climate changes globally and effectively.