The Economic Journal of Nepal, Vol. 37, No. 1 & 2, January-June 2014 (Issue NO. 143) © CEDECON-TU

Disaster induced Migration and Social Conflict: An Enquiry in the Light of Cyclone Sidr in Bangladesh

Bashir Ahmed¹ Mohammad Tarikul Islam² A.S.M. Firoz-UL-Hasan³

Abstract

Conflict induced internal displacement has been a burning problem worldwide as a result of increasing disaster due to clime change. Disaster induced migration has the potential to become a phenomenon of a scale and scope not experienced in human memory. Displacement due to disaster is considered to be a socio-economic and political problem, when it gets solved, the issue of displacement is also ignored. Bangladesh was struck by a category-4 cyclone (Sidr) on the evening of 15 November in 2007 which resulted in displacement of 650,000 people. Such migration posed a serious threat towards social stability and leads towards social conflict. Migration is generally considered as a source of social conflict. Over 3 million people live in slums and squatters of Dhaka city with very little utility service. Slums and squatters are the informal settlements of Dhaka city that accommodate the low-income group of people. Conflict (quarrel, clash, fight) in the slums and squatters is a regular phenomenon. The displaced persons are knowingly and unknowingly discriminated on various grounds and suffer as the survivors of various stigmas. The study reveals that, undue influence by the muscleman, discrimination between migrated and poor slum dwellers, and demand for money by the terrorist group, ignorance to the migrated people by the different quarters and sexual harassment to the migrated adolescent girls are responsible for slumping of social conflict. Their voices are ignored, their pleas are neglected and thus they are excluded from the mainstreamed section in the society.

Keywords: Disaster; Migration; Human Security; Social Conflict

Introduction

Bangladesh is a disaster prone country and impact of climate change subsidizes towards frequent disaster event resulting in consequences in all aspect of human lives. The statistical evidence suggests that, Bangladesh having around 160 millions of people is highly

¹ Ahmed is an Associate Professor at Department of Government and Politics, Jahangirnagar University, Savar, Dhaka, Bangladesh

² Islam is a Ph. D. scholar at Department of Government and Politics, Jahangirnagar University, Savar, Dhaka, Bangladesh

³ Hassan is an Assistant Professor at Department of Government and Politics, Jahangirnagar University, Savar, Dhaka, Bangladesh

vulnerable to climate change and sea level rise (National Plan for Disaster Management 2010-2015, 2010). Migration, results of disaster is heading for human movement from one climate zone to another for survival for existence. Some waves of migration have been associated with cultural collapse, as familiar landscapes no longer provided safe or supporting habitats and livelihoods for people.

Migration, whether permanent or temporary, has always been a traditional response or survival strategy of people confronting the prospect, impact or aftermath of disasters. Disaster induced migration has the potential to become a phenomenon of a scale and scope not experienced in human memory. Its effects on the economy, development, and national budgets could have significant implications for almost all dimensions of human security, in addition to political and state security. Today, environmental change including climate change presents a new threat to social coherence and a new situation for migration. Climate change will visit urban and rural areas alike with increasingly frequent and violent hazard events.

The geographical location and low-lying characteristics of the country makes Bangladesh more vulnerable and susceptible to different natural and climate-induced disasters. Disaster induced migration has turned into serious epidemic and posing potential threat to human security in Bangladesh. It is evident that, Bangladesh was struck by a category-4 cyclone (Sidr) on the evening of 15 November in 2007 which resulted in displacement of 650,000 people. Such migration posed a serious threat towards social stability and leads towards social conflict⁴ (Brown, 2008)

Natural and human induced hazards such as floods, cyclones, droughts, tidal surges, tornadoes, earthquakes, river erosion, fire, infrastructure collapse, high arsenic contents of ground water, water logging, water and soil salinity, epidemic, and various forms of pollution are frequent occurrences in Bangladesh. Climate change adds a new dimension to community risk and vulnerability. Although the magnitude of these changes may appear to be small, they could substantially increase the frequency and intensity of existing climatic events (floods, droughts, cyclones etc.). Current indications are that not only will floods and cyclones become more severe, they will also start to occur outside of their "established seasons". Events, such as drought, may not have previously occurred in some areas and may now be experienced (Black, 1998).

The impacts of climate change on the environment and human mobility are becoming increasingly worrying: the number of natural disasters has doubled over the past two decades. Every year 30 million people worldwide are forced to move because of serious degradation of environmental conditions, natural disasters and depletion of natural resources. This figure is expected to soar by the middle of this century. Moreover, international protection and operational frameworks are deficient, leaving several categories of people forced to flee or seeking safer existence without effective national or international protection. Extreme climate events – be it the result of environmental destruction by people, or naturally occurring changes in climate – are forcing people to flee their traditional place of residence

⁴ Social conflict is the struggle for agency or power in society. Social conflict or group conflict occurs when two or more actors oppose each other in social interaction, reciprocally exerting social power in an effort to attain scarce or incompatible goals and prevent the opponent from attaining them. It is a social relationship wherein the action is oriented intentionally for carrying out the actor's own will against the resistance of other party or parties

with enormous sufferings in points of transit and the points of destination without any support from aid agencies or Government authorities (EM, 2010).

The growth of environmental displacement is likely to be closer to about half of total populations in 2020. This is very alarming for Bangladesh. Flooding, intense storms, or droughts, or more gradual but similarly intense changes in regional climates place great stress on livelihood systems. Faced with an unconceivable scale of environmental change, migration may be an adjustment mechanism of first resort, or a survival mechanism of last resort. Mitigation of greenhouse gases will likely be insufficient to avoid global temperature increases of 2°C or more, making adaptation a necessity at all scales (Annan, 2005).

Migration may be an adaptation mechanism for those with the resources to move early and far enough away from danger. However, in extreme cases and for those with fewer means to move, migration may be an expression of failed adaptation—an attempt to escape from imminent suffering or even death. The complexity of disasters today is demonstrated by the processes in which they can combine with and compound each other as well.

Cyclone Sidr hit the south-western coast of Bangladesh in the evening of 15 November 2007. The storm arrived as a category-4 super cyclone with peak winds at 250 kilometers per hour. The cyclone continued to travel in a north-northeast direction, affecting parts of central Bangladesh, where it was subsequently downgraded into a category-3 cyclone (IFRC, 2007). Approximately 30 of Bangladesh's 64 districts were affected by the storm. Unlike many other regions in Bangladesh, the area affected only has a single harvest from the November to January. As such the timing of the cyclone was particularly destructive. This was because crops that were nearly ready for harvest were damaged. A quarter of ready-to-harvest crops were destroyed. Added to that many households lost their food stocks because their homes were damaged. Approximately 1.5 million households were damaged leaving millions of people without shelter. In many districts more than half of thatched-roof homes that house the extreme poor, were completely destroyed. A high proportion of wood-framed houses with corrugated iron roofs have been destroyed or severely damaged in coastal areas. It also displaced 650,000 people and posed serious threat to social coherence (UNDP Bangladesh, 2008).

The paper strives hard to explore about challenges posed by disaster induced migration to trigger social conflict in Bangladesh. The paper also assesses how environmental factors including climate change affect vulnerable groups, and how environmental pressures pose severe threat towards protecting social harmony in Bangladesh. The paper also briefly reflects the policy discourse towards minimizing the trend of migration following any disaster event in Bangladesh.

Disaster Induced Migration: Hazard in the Wake of Climate Change

Migration is well known as the first-born coping strategies for dealing with a degradation of environmental conditions due to natural disaster. However, the increase in the magnitude and geographical scale of environmental change caused or exacerbated by both climate change and human activity have led many in the academic circles and in the international community to refer to environmentally induced migration as a new type of phenomenon, and a new challenge for the 21st century (United Nations University, 2008)

Natural disasters and environmental degradation will increasingly determine the nature of human mobility as well as its humanitarian and human security dimensions, which will need to be urgently assessed. Drastic estimates predicting unmanageable environmental migration

flows. Already today, over 30 million people worldwide are being displaced because of the increase in desertification, droughts, sea-level rise, and extreme weather events, and this figure is rising sharply (Crawford, 1997). Alarmingly, this figure already exceeds the number of those obliged to flee because of armed conflicts and persecution. Most in danger are vulnerable groups in the least developed countries whose capacity to adapt to the effects of climate change is extremely poor, those residing in low-lying coastal areas and areas of considerable over-population.

Environmentally induced migration is rarely mono-causal. The cause-consequence relations are increasingly complex and multi-factorial. A growing number of people flee because of multiple causes of injustice, exclusion, environmental degradation, competition for scarce resources and economic hardship caused by dysfunctional states. Some leave voluntarily, some flee because there is no other choice; and some may make the decision to move before they have no other choice but to flee. The different degrees of force and the complex set of influencing factors blurs the traditional concepts of migration and displacement, creating confusion among the academia and the international community about whether to talk about migration or displacement in the case of people fleeing disasters and environmental degradation.

The interaction between the environment and migration is a two-way process: besides sudden or slow on-set environmental disasters leading to both internal and cross-border movements of people, massive migration for environmental reasons may in turn affect environmental conditions both in areas of origin and destination and the transit routes in between, notably when large concentrations of people are forced to seek refuge in other ecologically fragile areas (Everett, 1966).

The majority of migratory movements provoked by climate change and environmental degradation are expected to occur within countries, although increased cross-border movement of people will also occur. It is obvious that all the affected persons, whether or not they leave their country; need to be properly protected as regards their human, social and economic rights. Furthermore, this protection should include reliance on effective support from the international community if national support is lacking or insufficient.

Migration produces serious threat to maintain social coherence of the people. It is obvious that, mismanagement of resources by environmental migrants in areas of destination can increase the probability of conflicts in many aspects. Disagreement can arise over diminishing resources available, including fishing waters, freshwater supplies and fertile land, and increase disputes over rights of property use. Frustration, despair and hostility can easily explode into violence in countries comprised of a patchwork of different ethnic, linguistic, religious and ideological groups. However, also international conflicts as a consequence of climate-related migration have been ascertained as a potential risk. It is therefore regrettable that the implications of inter-linkages between environmental degradation, migration and potential for increased conflicts have not been taken fully into account. These implications are difficult to assess because of their interaction with other social, economic and political factors, which affect human vulnerability to environmental change and its migratory and other consequences. Environmentally induced migration also has impacts on human security, particularly on social peace and stability (Terminski, 2012).

The international community has implemented numerous programs to reduce poverty, improve environmental conditions, and fight threats to human security like desertification and climate change. Processes such as desertification and climate change have received widespread international attention, and the United Nations established secretariats to address these threats at the Rio Conference in 1992. The United Nations is currently re-thinking its strategy with respect to the theme of migration through the High-Level Dialogue on Migration and Development (Bauder, 2006). But in spite of attempts to deal with environmental problems and limit their socio-economic consequences, the world's ecosystem have continued to degrade and decline Millennium Ecosystem Assessment⁵. As a result migration may emerge as a coping capacity or adaptation mechanism in response to worsening environmental conditions.

Migration is often also in response to perceived or actual differentials and disparities between regions or countries, although other factors such as demography, and the level of poverty also play pivotal roles. The regions facing the greatest challenges in achieving UN's Millennium Development Goals (MDGs) overlap largely with those facing the greatest risks related to both abrupt tipping points and slower onset change (Black, 2008).

Distinctive Problems Caused by Disaster Induced Migrants

Migration is generally considered as a source of social conflict. As mass relocations are presumed to occur in response to degradation, conflict may erupt in receiving areas in response to competition, as environmental migrants may burden the economic and resource base of the receiving area and promoting contests over resources; ethnic tension, which may occur if migrants are from a different ethnic group; distrust between sending and receiving areas if the origin site perceives maltreatment of migrants; 'fault lines' which are pre-existing tensions following socioeconomic issues(Hewitt, 1999). This section will briefly explain the reasons behind social conflict due to disaster induced migration.

Competition

The arrival of disaster induced migrants can burden the economic and resource base of the receiving area, promoting native emigrant contest over resources. Pressures are expected to rise with the number of migrants and residents, particularly when resources are scarce in the receiving area and property rights are underdeveloped. The excess demand for resources may also generate lateral pressure, expansion of economic and political activities beyond the region's or state's borders in order to acquire resources, which increases the risk of social conflict.

Ethnic Tension

When disaster induced migrants and residents belong to different ethnic groups, the migration may promote tension. Residents may feel threatened, host countries may fear separatism, migrants may attempt to reunify with their home country, and residents may respond aggressively. Situations involving long-standing ethnic disputes between migrants and residents are likely to be particularly prone to social conflict.

Distrust

Disaster migration may generate distrust between the area of the migration's origin and host area. For example, the migrants' origin country may suspect that the receiving country accepts migrants so as to upset the ethnic balance in the origin. The receiving government

⁵ The Millennium Ecosystem Assessment, released in 2005, is an international synthesis by over 1000 of the world's leading biological scientists that analyzes the state of the Earth's ecosystems and provides summaries and guidelines for decision-makers.

may suspect that the origin seeks to penetrate the host, while the origin side may resent actual or perceived mistreatment of migrants by the receiving side.

Fault lines

The conflict may also follow existing socio-economic fault lines. For example, migrant pastoralists and resident farmers may compete over land, or migrants and residents may compete over jobs. Additionally, migration from rural to urban areas another fault line e presents competing effects. Rebels may mobilize poor and frustrated rural migrants to challenge the state, which may respond with force. However, urban settings may offer migrants more opportunities, defusing tensions.

Disaster Induced Migration Causes Social Conflict: Inquiry in the Light of cyclone Sidr Experience

In 2007, the country was ravaged by Cyclone Sidr, which displaced 650,000 people and killed 3,447 (official record). While the impact of Cyclone Sidr was relatively moderate when measured by impact on overall Gross Domestic Product (GDP) (estimated to be equivalent to 2.8 percent of Bangladesh's GDP), the effects of the storm were highly concentrated by district. Following cyclone Sidr, trend of migration therefore increased and consequently, state of human security puts in danger. The damages caused by cyclone Sidr is stipulated in the table below:

Affected families	2,064,026
Affected persons	8,923,259
Dead people	3,363
Injured people	55,282
Missing people	871
Damaged houses	1,518,942
Damage to crops in hectare	1,512,878
Damage to trees	4,065,316
Total livestock dead	2,634,069
Damage to educational Institutions (full & partial)	16,954
Damage to road (complete & partial) in km	8,075
Damaged embankment (km)	1,875
Damage to bridges and culverts	1,687

Table 1: Damages caused by cyclone Sidr

Source: UN Rapid Initial Assessment Report, United Nations Dhaka, November 2007

Nowadays, environmental change including climate change induced disaster presents a new threat to human security and a new situation for migration. It is predicted that, by 2050 when human population is projected to peak, some 9 billion people will live on Earth. The majority of them will live in urban areas with crushing environmental footprints. Many mega cities are located in areas prone to sea level rise. Climate change will visit urban and rural areas alike with increasingly frequent and violent hazard events (Castles, 2002).

While poverty is an overall denominator of this food insecurity in Bangladesh, the additional intensifiers are disability (gender, age, and physical challenge), disaster induced migration/displacement and location (disaster proneness, access to the market, etc.) as well

as other aspects related to utilization (education, awareness, cultural practices, etc.). Due to extensive tree clearing, forest encroachment and illegal occupation followed by degradation due to disaster in every year, environment security is at stake. The populations of the Bangladesh begin to realize critical issues of social, economic and environmental sustainability such as a significant decrease of water supply caused by significant loss of water resources (springs), recurrent natural disasters and probable impact of climate change. These issues lead to significant threats to agricultural and community livelihood along the down streams.

It creates a negative impact for the rural poor and vulnerable group of people, especially disaster victims or disaster induced migrants who cannot afford the expenses of cases and do not have clear understanding of how to get access to justice in the upper courts on some issues that could be easily resolved at the local level. Disaster induced migrants are in trouble to get access to health services or are being out of coverage from the preview of the health services.

In Bangladesh, development-planning, social awareness building, participation in central government's program, cooperation with NGOs as development partner, sound disaster management, and judicial and extra-judicial performances reflect the position and status of governance, good or bad. Hence, disaster induced migrants as the marginal section of the society is almost deprived from political benefit. GOB is responsibility to cope with local contingencies like natural disaster, poverty, old age, widowhood, vulnerabilities, sickness, unemployment, employment injury, disabilities etc. by providing various aid likes social assistance and social services. But the service providing bodies of the government are mainly confronted with some chronic problems. As a result, it has failed to show as viable institution to render social assistance and social services properly. Moreover, functions of the government regarding social security are not enough to address the existing social contingencies resulting less coverage of disaster victims or disaster induced migrants.

People, particularly disaster victims/migrants are experiencing difficulties due to unemployment, health hazard, growth of population, and excessive price of daily commodities. The ability to earn a livelihood in a given climate and environment is one of the determining factors that potential migrants are concerned about for the future. What is unknown is how mounting environmental pressures affect migration. Livelihoods are affected by environmental change, especially in rural areas (El-Hinnawi, 1985).

Moreover, development activities with women participation are not only undermined through socio-economic norms but difficulties of changing environment make them more vulnerable as well. Dhaka's ever growing slum settlements is a physical manifestation of displaced people. If people have access to facilities and information, they may be less vulnerable to disaster. Lower levels of education among the poor and limited access to information reduces their ability to deal with disasters. Investigations have been carried out into whether people in disaster prone areas have access to facilities in spite of poverty and poor livelihood pattern.

Over 3 million people live in slums and squatters of Dhaka city with very little utility service. Slums and squatters are the informal settlements of Dhaka city that accommodate the low-income group of people (Centre for Urban Studies, 2005). Conflict (quarrel, clash, fight) in the slums and squatters is a regular phenomenon. This creates noise and violence that disturbs the city dwellers, particularly the nearby residents, office workers, and school children. Besides, many of the slum residents are involved in prostitution, drug trafficking,

hijacking, mugging etc. These activities threaten the social and cultural environments of the city. What's more, Social conflict refers to the various types of negative social interaction that may occur within social relationships, and may include physical violence.

In an attempt to learn about the consequences of disaster induced migration towards social conflict, a brief survey was conducted from November-December 2012. Two slums namely Agargoan and Shyamoli of Dhaka, capital city of Bangladesh were selected and it was found that, cyclone Sidr induced migrated people reside in two slums since December 2007. Out of total 9035 people living in these slums, only 50 people were selected while another 50 from the poor migrated dwellers were interviewed to learn about the dimension of social conflict following convenience sampling. Figure 1 reveals that, 4795 people affected by Sidr affected people have found to be living in two slums.

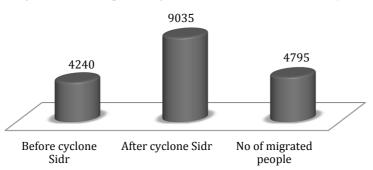


Figure 1: No of People Living in Two Slums Before and After Cyclone Sidr

Figure 2 speaks about engagement of livelihood activities by the migrated people. It shows that, most of them are engaged as Rickshaw puller (30%), day laborer (25%) and domestic service provider (15%) respectively.

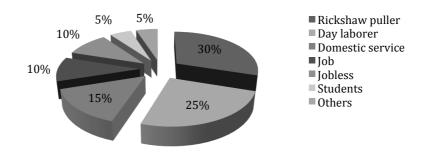


Figure 2: Occupation of the Cyclone Sidr Induced Migrated Population

Figure 3 represents the views of migrated people about the reason behind social conflicts in the slums. It shows that, undue influence by the muscleman, discrimination between migrated and poor slum dwellers, and demand for money by the terrorist group, ignorance to the migrated people by the different quarters and sexual harassment to the migrated adolescent girls are responsible for slumping of social conflict.

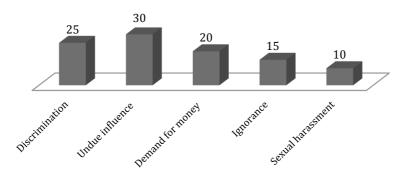


Figure 3: Sidr Induced Migrated People's Opinion About Social Conflict

Way forward: Quest for Solutions

The national policies and institutional frameworks of Bangladesh are not sufficient to protect the disaster-induced migration. The national policies concerning the climate change and environment issues such as National Environment Policy 1992, the coastal zone policy 2005, and the National Adaptation Programme of Action (NAPA) 2005, Bangladesh Climate Change Strategy and Action Plan 2008 indicate the climate change problems. But there are no clear indications in these policies how population displacement problems will be addressed. In addition, there are no detailed action plans with a timeframe to tackle this problem.

As experienced in cyclone Sidr 2007, there are weaknesses and inefficiency in managing the natural disasters in Bangladesh. The Government of Bangladesh could not repair the damage embankments even after more than one year in severely affected districts. A large number of people had been displaced from their homes. There were no proper and adequate rehabilitation programmes for the displaced people. In addition, there is lack of accountability and transparency in implementation and monitoring of response and rehabilitation programmes. In many cases, negligence and corruption of the local disaster management authorities had been reported in relief and rehabilitation programmes in the recent natural disasters in Bangladesh.

The following issues to substantiate environmental displacement during negotiation can be focused on. Approximate number of environmental displacement and predictions for the future Problems associated with huge population movements within the country such as pressure on existing limited resources or living in slums in environmentally hazardous areas which can be a humanitarian issue. The concept of environmental migration and environmentally displaced persons needs to be included in any future debate dealing with migration issues. In addition, it is recommended that these concepts be included in dialogues on environmental issues. Bangladesh Bureau of Statistics and research organizations and universities could plan a vital role in building a strong scientific basis to make sure that, trend of disaster induced migration is well pursued.

It is important to raise public and political awareness of the issue and its environmental, social, economic and political dimensions. The government in partnership with mass media should go ahead to create awareness among the relevant stakeholders to arrive at a cohesive platform to work together to encounter the problems. Role of civil societies is imperative to create social awareness. There is a need for a framework of recognition of disaster induced migrants such as in a separate convention or in parts of Intergovernmental Environmental Treaties. The government of Bangladesh is to act accordingly to bring the issue into a legal framework as to enable the migrated community to realize human security. The government should enforce law and order to improve the overall environment of the city through the reduction of anti-social activities.

There is a need to empower the relevant entities in the United Nations system and other major humanitarian assistance organizations to provide aid to environmentally displaced persons, environmental migrants/refugees, particularly when considering the displacement of entire communities. This can best be achieved if there is an international mechanism in place recognizing this category of individuals. Understanding of strong diplomacy from the government of Bangladesh to negotiate with the international counterparts has the essence.

The final suggestion is that concepts need to be devised and institutions reinforced or created in order to be able to assist the flux of forced environmental migrants, both at the international and national levels. At the national level, this could imply strengthening and encouraging various ministries to work hand in hand (e.g. Ministry of Home Affairs, Ministry of Environment and Forest, Ministry of Social Welfare, Ministry of Disaster Management and Relief, as well as Department of Disaster Management etc.) in order to address jointly the issue thus incorporating a multi-dimensional array of competences and perspectives.

There also needs to be a better understanding of the social and economic losses people experience in order to help structure aid responses, particularly community resettlement. Finally, new policies should also acknowledge the various environmental migrant categories. Institutions in both source and receiving countries should work together to ensure safe, noncriminal, and orderly migration relations. There is a need of proper rehabilitation plan following disaster event in order to prevent migration from the affected areas. Rehabilitation programme to be launched right after disaster so that people affected gain confidence to live in and around their homestead and leverage to restore their lives and livelihood. Above all, social safety net programme of the Government of Bangladesh has to be expanded covering the disaster victims who have been migrated to urban areas and law and order situation is to be maintained properly at the slum area so as to prevent social conflict.

Conclusion

Disaster induced migration is an issue of immediate policy relevance, because of the potential magnitude and scope of environmentally induced migration. Climate-related stressors combined with ecosystem change - such as gradual - and rapid-onset events - already drive migration. Bangladesh Government already has to plan for the relocation and resettlement of affected populations. By means of the requirement for identifying appropriate adaptation pathways for climate change becomes more acute, it is imperative to address how changing environmental conditions affects individual and group decisions to migrate. A new level of policy and scientific attention to this issue is required to identify the policy alternatives to smooth the way forward and avoid tensions over natural and social resources, to minimize the conflict potential or even potential conflict centering migration. Besides,

government must should the responsibility to ensure social security of the migrated people living in the slums for their co-existence and to avoid social unrest. At the national level, Bangladesh must understand how environmental processes and environmental quality affect living standards of their populations within their homesteads and prevent them from migration to capital city or urban areas. At the regional level, multilateral dialogue may be necessary about how to address, coordinate, and ease environmental pressures as well as migration that results in part because of climate change induced disasters in Bangladesh. Government of Bangladesh must make best use of international forums to bring more resources to take necessary steps before or after disasters to preclude migration.

References

- Annan, K. A. (2005). In larger freedom: Towards development, security, and human rights for all. New York, USA: United Nations Press.
- Bauder, H. (2006), Labor movement: How migration regulates labor markets. UK: Oxford University Press.
- Black, R. (1998). *Refugees, environment and development*. New York, USA: Addison Wesley Longman Limited.
- Black, R. (2008). Demographics and climate change: Future trends and their Policy implications for migration. Brighton: Development Research Centre on Migration, Globalization and Poverty, University of Sussex.
- Brown, O. (2008), *Migration and climate change, international organization for migration*. Geneva: IOM Publication.
- Castles, S. (2002), *Environmental change and forced migration: Making sense of the debate.* Geneva, Switzerland: UNHCR.
- Centre for Urban Studies (2005), Slum of urban -Bangladesh, mapping and census. Dhaka.
- Crawford, A. (1997). *The local governance of crime: Appeals to community and partnership.* Oxford, UK: Oxford University Press.
- El-Hinnawi, E. (1985). *Environnemental refugees*. Kenya: United Nations Environnemental Programme.
- EM-DAT (2010). *The international disaster database*. Louvain, Belgium: Centre for Research on the Epidemiology of Disaster, Catholic University Press.
- Government of the People's Republic of Bangladesh. (2010). *National plan for disaster management 2010-2015*. Dhaka, Bangladesh: Government of the People's Republic of Bangladesh.
- Hewitt, K. (1999). Regions of risk: A geographical introduction to disasters. Harlow, Essex: Longman.
- IFRC (2007). Situation update on cyclone sidr 2007. Dhaka, Bangladesh: IFRC.
- Lee, E. S. (1966). A theory of migration. USA: University of Pennsylvania.
- Terminski, B. (2012), Environmentally-induced displacement: Theoretical frameworks and current challenges. CEDEM, Université de Liège.
- UNDP (2008). Cyclone sidr early recovery action plan. Bangladesh: UNDP Bangladesh Country Office.. 61,64
- United Nations University (2008). *Report on human security, climate change and environmentally induced migration.* Institute for Environment and Human Security.