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## **Climate change induced migration: A study on informal settlement in Dhaka city**

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### **Abstract**

The purpose of this paper to know decision making plan of urban migrant people of urban slam in Dhaka city in the context of climate change. Besides this study also make out the reason of migration for the settlement of urban slam and the current socio economic situation and vulnerability of those who have moved to urban as slam dwellers. The study conducted at two slum of Dhaka with purposive sample survey, KII and in depth qualitative interview of selected climate migrant slum dwellers. The study found that migrants residing in urban side-line of Dhaka city slum have been using migration as livelihood or survival strategy for quite some times. Mainstream migration literature of Bangladesh mostly highlighted economic, social and demographic challenges as drivers of rural, urban migration. This study found that many economic, social and demographic challenges that led to migration decision of the slum dwellers are deeply bounded with the environmental or climatic stresses of the areas of their origin. Migrants of Dhaka slum mostly experienced environmental stresses, i.e. riverbank erosion, cyclone, flood, water logging drought and salinity. In other words, these groups of people have taken help of different types of migration (short-term, cyclical, seasonal or permanent) to adapt to the changes that took place in their lives due to social and economic reasons influenced by climatic stresses. After migration city slum's vulnerability represents necessary reformulation of the existing policies on migration in the context of climate change. This study effort to identify the major climatic stress and shocks in the decision to migrate. It also clarify livelihood pursued by migrants and other house members. This study is on adaptation strategies of urban migrants in the context of climate change.

**Keywords:** climate change, climate migrants, slum dwellers, living condition

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### **Introduction**

Bangladesh is one of the most vulnerable countries facing the adverse effects of climate change, including migration (Sikder, 2015) <sup>[1]</sup>. Environmental displacement has already become intense in geographically and environmentally vulnerable areas in Bangladesh. Thus, climate induced migration to big cities or nearby places is getting spontaneous over the last few decades. For instance, frequent exposure to natural disasters makes coastal people often bound to migrate in search of secure lives and livelihoods (Akter, 2009). Many Bengalis have pushed to migrate out of their communities due to climate change-induced pressures such as more frequent extreme weather events, rising sea levels, soil salinity and flooding. Members of many coastal communities, whose livelihoods depend on farming or fisheries, choose to move to urban cities due to loss or damage to land (Ismail, 2016) <sup>[6]</sup>. Coastal villages are typically densely populated and regularly experience coastal floods, river erosion, saltwater intrusion and other natural calamities made worse by sea-level rise. Increasing sea-level in the future, coupled with existing problems, can push many on the move (Kartiki, 2011) <sup>[7]</sup>. The migrants who are affected by climate change mostly come to the city and stay in the urban slams. In the urban settings they find jobs typically in informal sectors. Some of them also resort to selfemployment initiatives. Migrants living in informal urban settings are extremely vulnerable to physical, social, health insecurity as most of the settlements are located in environmentally degrading places coupled with unhygienic conditions. People living in these settlements are also exposed to climatic stress such as hailstorm, cyclone, thunderstorm, cold

wave, heat wave, flooding etc. Besides, some of these settlements are make-shift arrangement which could face eviction without prior notice (Siddiqui et al, 2015).

It is widely recognized that Bangladesh is one of the most vulnerable countries facing the adverse effects of climate change. Both sudden and slow one sets of climatic events are putting major stresses over traditional livelihoods particularly for poor people on rural areas. In order to find new livelihoods, the migration pattern of the affected population group involves temporary, seasonal or permanent as well as cyclical – migration. Different types of research have illustrated that while migration in Bangladesh is sensitive to climate stresses and shocks, yet the drivers of migration are complex. A combination of economic, social, demographic and political factors influences the decision to migrate. Similarly, the decision to migrate depends also on individual and household characteristics which are influences by either the barriers or facilitators by meson level institutions (Siddiqui et al, 2015).

### **Objectives**

The research work has been designed to explore the following objectives:

1. To know decision making plan of urban migrant people of urban slam in Dhaka City in the context of climate change.
2. To make out the reason of migration for the settlement of urban slam.
3. To know the current situation and vulnerability of those who have moved to urban as a slam dwellers.

4. To identify some proposal of policy reform that make lead to a reduction in the stress in their area of origin.

### Literature Review

This literature review provides the reader with an overview of major academic works concerning climate change induced migration on informal settlement in Dhaka city.

Md. Zakir Hossain (2014) <sup>[4]</sup> in his PhD study, Pro-Poor Urban Adaptation to Climate Change in Bangladesh: A Study of Urban Extreme Poverty, Vulnerability and Asset Adaptation, explored drivers of climate change vulnerability for the urban extreme poor. The research has conducted household life-history interviews to explore the vulnerabilities and asset adaptation strategies of the extreme poor households (Hossain, 2014) <sup>[4]</sup>.

The RMMRU Working Paper, Adaptation Strategies of Poor Urban Migrants In The Context of Climate Change: A Case Study Of Informal Settlements In Natore, Sirajgang And Rajshahi, (2015) <sup>[11]</sup> by Tasneem Siddiqui, Mohammad Jalal Uddin Sikder, Rashed Alam Bhuiya and Mohammad Tawheedul Islam selected for the research were located in the northwestern region of Bangladesh: Sirajganj, Natore Pourashava and Rajshahi City Corporation. This study found that many economic, social and demographic challenges that led to migration decision of the slum dwellers are deeply bounded with the environmental or climate stresses of the areas of their origin (Siddiqui et al, 2015).

Garrett, J., & Chowdhury, S. (2004) <sup>[3]</sup> represented the amount of people move from urban to rural areas in the discussion Paper, Prepared for Rural Livelihoods Program (RLP), CARE-Bangladesh “Urban-Rural Links and Transformation in Bangladesh: A Review of the Issues” (Garrett and Chowdhury, 2004) <sup>[3]</sup>.

Siddiqui and Mahmood (2014) <sup>[8]</sup> conducted research on the impact of migration on poverty and development, covering 5000 households. Their study included both internal and international migrants and found that 50 percent of those who migrate in the country head for Dhaka city (Mahmood & Siddiqui, 2014) <sup>[8]</sup>.

Afsar (2000) showed in the study “Rural Urban Migration in Bangladesh: Causes, Consequences and Challenges” that 13% of permanent and 38% of temporary migrants migrated to Dhaka city before they were 20 years of age (Afsar, 2000).

While, Huq- Hussain (1996) <sup>[5]</sup> showed in his study about socio economic change in female migrants adaptation in Dhaka that a high proportion (44%) of long-term migrants moved to Dhaka before they were 13 years old. Compared to the male migrants, the female migrants were even younger (Huq- Hussain, 1996) <sup>[5]</sup>. Martin, M., Kang, Y. h., Billah, M., Siddiqui, T., Black, R., & Kniveton, D. (2013) <sup>[9]</sup> found in the (Working paper 4) “Policy analysis: Climate Change and Migration Bangladesh” that there are important links between migration and climatic stress (Martin et al, 2013) <sup>[9]</sup>.

Abul Kalam Md. Iqbal Faruk reported in the study “Climate Change Induced Migration in Bangladesh” (2015) <sup>[2]</sup> that there is no specific definition for environmental migrants (Faruk, 2015) <sup>[2]</sup>. The researchers also represent the information of various aspects of climate change and urban life style and consider how to improve respondent’s livelihood and also consider how to prevent socio economic problems.

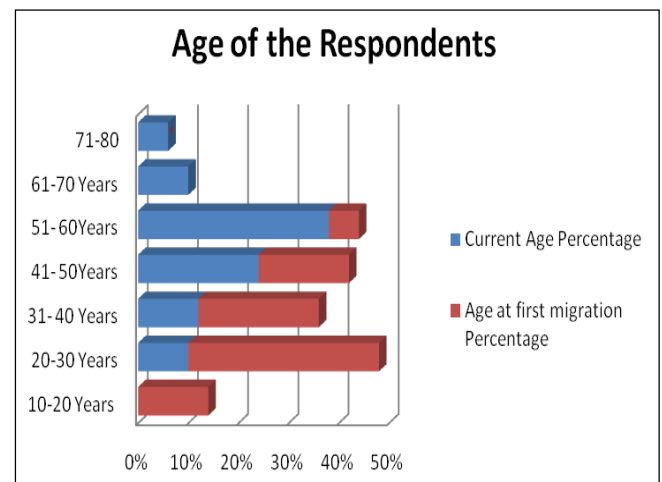
This paper seeks to redress these gaps and represents climate change induced migration on informal settlement in Dhaka city. This paper also not only represents the decision making plan for climate change, but also represents current situation and vulnerability of those who have moved to urban as slam dwellers.

### Research Methods

The paper was a descriptive type of quantitative research carried out from March 2019 and June 2019. A quantitative data analysis technique was used to analyze climate change induced poor migrants informal settlement condition in Dhaka, Bangladesh. Data have been collected from two slums as the Jilpar slum Shahjadpur and Khlbaritake khalpar slam areas of Dhaka. These two areas will be selected because of convenient of the researcher. The target groups of the respondents are the lower class slum dwellers who were migrated from their home land to Dhaka city because of any kinds of climate effects. A purposive sampling was adapted. A total of 50 participants were interviewed. The respondents belonged to the age 20 years and above. This research has been conducted with the respondents as well as key informants at certain points of the migration routes of climate migrants. KII (Key Informant Interview) will be used to collect information about respondents from their family members and neighbors. All respondents data outcome have been analyzed by applying statistical technique, frequency distribution. Collected data processed with the help of Excel (2016 version) and the data will be measured with numerical value against each item of the variable. A pre-tested, modified, semi structured, self-administrated interview schedule was designed based on living condition of the climate migrant in Dhaka City. Data were checked, cleaned and edited properly before entry and analysis. Data will be presented to use different data presentation such as multi variant table and figurers (pie chart, bar chart etc.).

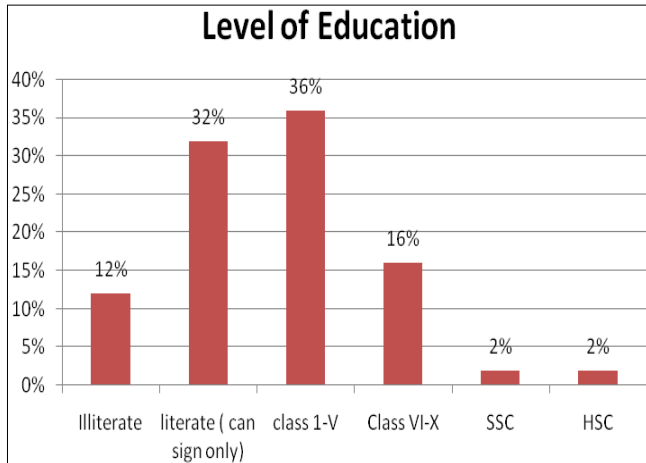
### Results and Discussion

#### Age Composition



**Fig 1:** Respondents Age Composition. Source: field Survey, 2019  
During the study, it has been seen that the maximum respondent current age within 51 to 60 years while the age of first migrate in between 20 to 30 years.

**Education Profile**

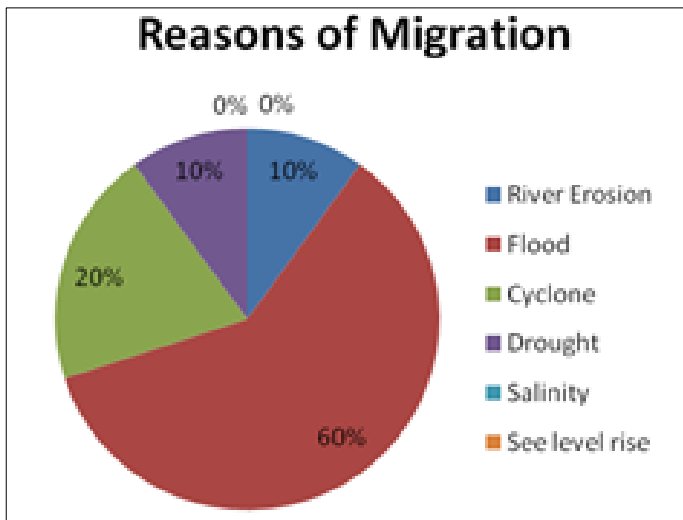


Source: field Survey, 2019

Fig 2: Respondents Education Profile.

Summarizes that the illiterate respondent's percentage was 12, while literate who can sine only their name was 32%. Maximum number of Respondents education profile was in between class VI X.

**Reasons of Migration**

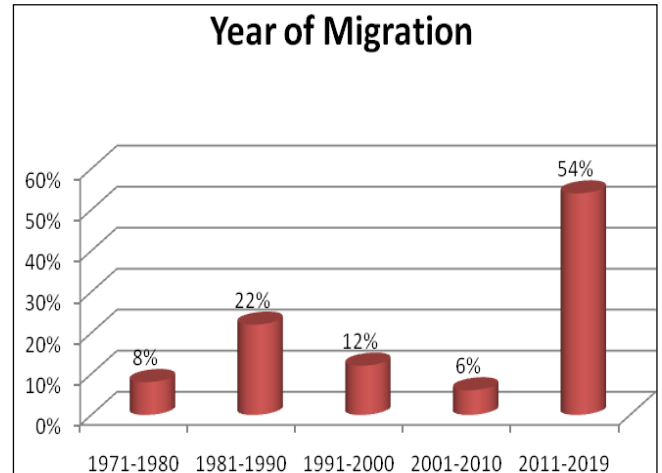


Source: field Survey, 2019

Fig 3: Respondents Reasons of Migration.

During the study it has been seen that 60% of the repondent migrated because of flood and 20% of the respondents migrated because of cyclone. On the other hand, 10% respondents migrated because of Draght which create no agricultural work available during the off-season (Monga period). Among the respondents 10% of them migrated for the reason of river erosion.

**Year of Migration**



Source: field Survey, 2019

Fig 4: Respondents Reasons of Migration.

**Year of coming and place of residences**

In this table shows that 76% respondents came from their home land before 1to 5 years ago.

Table 1: Frequency distribution of the respondents according to year of coming and place of residences

Year of coming	Place	1 to 5 years	6 to 10 years	11 to 15 years	16 to 20 years	21 to 25 years	total
Shahjadpur	Jilpar slam	17	2	2	1	1	25
KhIbaritake	khalpar slam	21	3	1	1	1	25
Total		38	5	3	2	2	50
Percentage		76%	10%	6%	4%	2%	100%

Source: field Survey, 2019

**Decision of Migration**

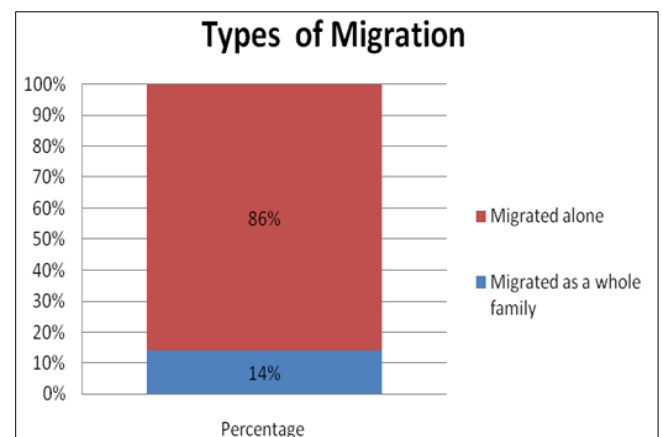


Fig 5: Types of migration

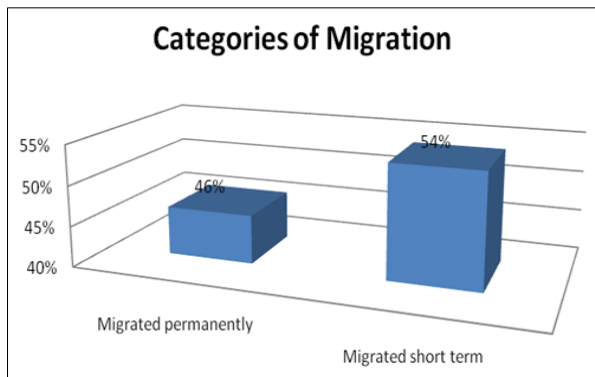


Fig 6: Category of migration

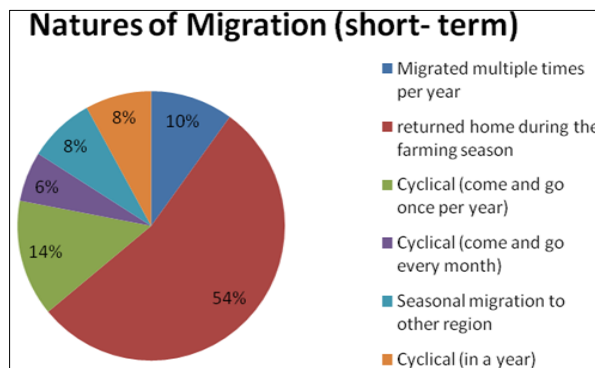


Fig 7: Natures of migration

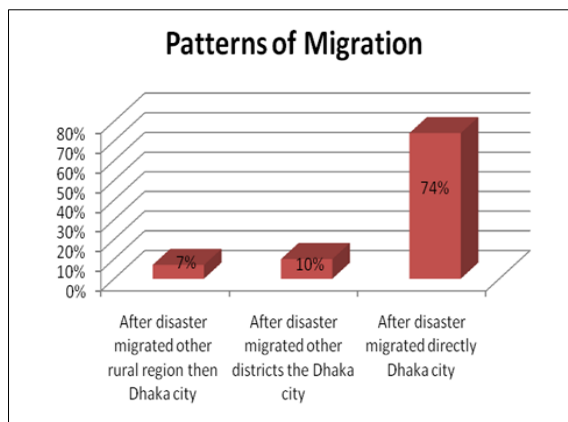
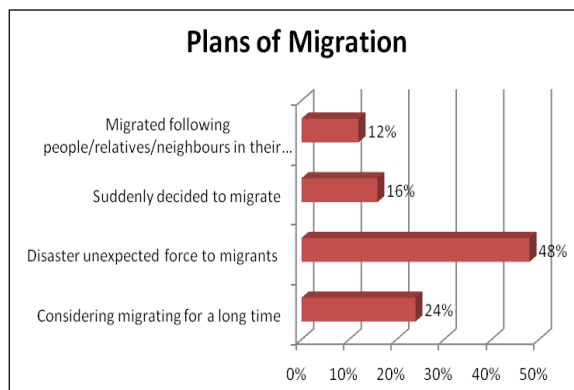


Fig 8: Patterns of migration



Source: field Survey, 2019

Fig 9: Plans of migration.

1. Half of the migrants stated that they were considering migrating for a long-time, other half of decided to migrate suddenly.
2. Migration decisions are mainly made by family members (father or sibling). Most of the cases migrants decided to migrate alone.
3. Most of them decided to migrated sort term.
4. Maximum of the respondents decided to return home during the farming season.
5. After disaster some of migrants decided to migrate other rural region then Dhaka city and few of them decided to migrate other districts then Dhaka city. Most of them decided to migrate directly Dhaka city.
6. Mainly the migrants decided disaster unexpected force to migrants as plan of migration.

**The current socio economic situation and vulnerability of urban climate migrants as a slam dwellers.**

1. It is clear that, The climate migrants found to work lay outside the jurisdiction of labour law in the every sector which they what to do work.
2. Most of the climate migrants in urban slum worked in unhygienic conditions that are very risky for their health. They had a propensity to b unaware about their health risk of doing unhygienic work.
3. Slums are situated in vulnerable areas such as lake and besides the drain. The living conditions are unhygienic.
4. All these two areas scenario of housing are in poverty.
5. Access to sanitation and safe drinking water are insufficient for the slum dwellers.
6. Most important thinks are also the dwellers of these areas are threaded by climate stress.
7. Some slum dwellers also faced man made environmental stresses.
8. The slum dwellers are experiencing skin diseases.
9. Urban poor people living in these settlements are equally vulnerable to physical and social insecurity.
10. A number of these settlements also face the threat of eviction.

**Some proposal of policy reform that make lead to a reduction in the stress in their area of origin.**

1. This research adequately demonstrates that a section of people move from rural climate effected area to urban areas, when their livelihood is no longer available in their rural settings.
2. Necessitate of decentralizing the poor people of slum settlement to nearby cities can be considered.
3. Those moving from a rural to urban setting require a different set of skills to find employment, while more capital is required for urban living costs.
4. Need to start immediately awareness program for the poor slum dwellers regarding diseases connected to flood and extreme events.
5. Effective adaptation strategies should build upon, and sustain, existing livelihoods and thus take into account existing knowledge and coping strategies of the poor.
6. Government and development partners should intake programmes at origin to introduce nontraditional livelihoods in the rural area.

## Conclusions

This study attempt to make out the reason of migration for the settlement of urban slam and the current socio economic situation and vulnerability of those who have moved to urban as slam dwellers because of climate change.

This study found that many environmental and demographic challenges that led to migration decision of the slum dwellers are deeply bounded with the environmental or climatic stresses of the areas of their origin.

Migrants in slum mostly experienced 4 environmental stresses, i.e. riverbank erosion, cyclone, flood and drought. In other words, these groups of people have taken help of different types of migration (short-term, cyclical, seasonal or permanent) to adapt to the changes that took place in their lives due to social and economic reasons influenced by climatic stresses. Most of the climate migrant slum dwellers expressed their desire to return to their village of origin, if they are provided with housing and livelihoods.

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