

# **ASSESSMENT OF IMPACTS OF CLIMATE INDUCED MIGRATION IN BANGLADESH ON FEMALE WORKERS**

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## **ASSESSMENT OF IMPACTS OF CLIMATE INDUCED MIGRATION IN BANGLADESH ON FEMALE WORKERS**

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# Assessment of Climate Induced Migrant Women in Bangladesh: A Case for Dhaka Based Slum Dwellers

(FINAL)

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**Bangladesh Nari Sramik Kendra  
(BNSK)**

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# Contents

Lists of Tables and Figures.....	3
Abbreviations .....	4
Chapter: 1 Introduction .....	5
1.1. Background .....	5
1.2. Context .....	6
1.3. Literature Review .....	8
1.4. Objective of the Research.....	10
1.5. Rationales and Scope .....	10
1.5.1. Rational of the Study .....	10
1.5.2. Scope of the Study .....	11
Chapter: 2 Methodology .....	12
2.1. Analytical Framework.....	12
2.2. Study Design .....	13
2.3. Study Area .....	13
2.4. Targeted Respondents .....	14
2.5. Data Collection Method and Instruments.....	14
2.6. Data Entry, Quality Control, Analysis and Report Writing.....	16
2.7. Ethical Considerations.....	17
2.8. COVID-19 Safety Precaution .....	18
Chapter: 3 Results and Discussion .....	19
3.1. Demography of CIM Family .....	19
3.2. Climate Induced Migration-Drivers and Patterns .....	19
3.3. Profile of CIM Women (Employment Status and Earning).....	27
3.4. Social Security and Vulnerability of Climate Migrant Women .....	30
Chapter: 4 Case Studies/ IDI.....	31
Case story 01.....	32
Case story 02.....	33
Chapter: 5 Discussion and Way Forwards .....	34
5.1 Extent of climate induced migrants' women at the Dhaka-based slums .....	34
5.2 Access of CIM female workers to employment and skill development.....	34
5.3 Extent of vulnerabilities including GBV faced by the CIM women.....	35
5.5 Legal and policy supports for the protection of CIM women.....	36
5.5 Way Forward.....	37
References .....	39

## Lists of Tables and Figures

Table 3. 1: Demographic information of CIM Women .....	19
Table 3. 2: For how long you are living in Dhaka (years) .....	21
Table 3. 3: Percentage of responses regarding disasters occurred during last five years .	22
Table 3. 4: Percentage of responses regarding types of changes in climate in locality .....	23
Table 3. 5: Changes in Profession of CIM .....	24
Table 3. 6: Access to Legal Support.....	30
Table 3. 7: Awareness about works of Rights organisations .....	30
 Figure 3. 1: Responses regarding source of migration.....	 20
Figure 3. 2: Responses regarding source of migration .....	20
Figure 3. 3: Responses regarding hometown of migrated women .....	21
Figure 3. 4: Responses regarding observation of the changing climate in their locality ..	23
Figure 3. 5: Responses regarding land loss due to different natural disasters .....	24
Figure 3. 6: Responses regarding impact of migration on income.....	26
Figure 3. 7: Responses regarding impact of migration on living standard .....	26
Figure 3. 8: Overall risks for CIM women at urban slums.....	36

## Abbreviations

ADB	Asian Development Bank
BNSK	Bangladesh Nari Sramik Kendra
CCVI	Climate Change Vulnerability Index
CIM	Climate Induced Migrant
DNCC	Dhaka North City Corporation
DSCC	Dhaka South City Corporation
IGA	Income Generating Activities
GBV	Gender Based Violence
IDI	In-depth Interview
IOM	International Organization for Migration
IPCC	Intergovernmental Panel on Climate Change
IDMC	Internal Displaced Monitoring Center
MoEFCC	Ministry of Environment, Forest and Climate Change
SWOT	Strengths, Weaknesses, Opportunities and Threats
ToR	Terms of Reference
WHO	World Health Organization

# Chapter: 1 Introduction

## 1.1. Background

A rise in sea levels and coastal erosion could lead to a loss of 17% of land surface and 30% food production by 2050. It has been predicted that only due to heat stress per year GDP losses would be 4.9% or at least USD 30 billion losses by 2030; and 3.83 million full-time job losses by 2030. Climate-fueled disasters (e.g., drought, floods, and storms) would cause of around USD 4.075 billion losses per year by 2030. And one-third of Bangladesh population at risk of displacement by 2030. Climate change has been acting as a threat multiplier in Bangladesh - climate change is now a growing humanitarian crisis in Bangladesh.

Human displacement varies depending on different push and pull factors such as socio economic, demographic and cultural factor including unavailability of work, unemployment, poverty, natural disaster e.g.: flood, drought, riverbank erosion or salinity intrusion, also there are some other socio cultural factors that influence the migration those are such as marriage, family conflict, better living, better education facilities, social discrimination and insecurity and political chaos (Rahman and Rahman, 2012; Rabbani, Khan, and Tuhin, 2015). Historically climatic events and environmental factors had a long impact on migration flows worldwide and people had to fly from their native place with severe or worsening conditions due to shoreline erosion, coastal flooding and agricultural disruption etc. (IOM, 2016; Islam and Shamsuddoha, 2017). World's climate has gone through major changes throughout the history of the planet and since the industrial revolution, when the energy consumption from fossil had increased which accelerates the emission rate of greenhouse gases, the process of climate change has become more a consequence of human action than of natural phenomena (Milán-García *et al*, 2021). Since the last century change in the global climate patterns has been observed that has triggered more extreme weather events including hurricanes, heat waves, and droughts globally. The Intergovernmental Panel on Climate Change (IPCC) has projected that, at the current rate, global temperatures are likely to average 1.5°C above pre-industrial levels at some point between 2030 and 2052 (Sherbinin, 2020). Since the early 20th century global warming is following the upward trend of the average surface temperature, and most notably since the late 1970s, already has and will continue to change the conditions of life on planet Earth. This phenomenon has influenced the probability of natural hazards and their magnitude such as floods, storms, or droughts and the sudden change in climate behavior has posed remarkable changes in local living conditions that leave population in many regions with worsening conditions for which they consider moving to better places, for an affordable and better life (Berleemann and Steinhardt, 2017).

Climate change is impacting humane migration has gained growing attention among both among scholars and policymakers and it has also been recognized as the key drivers of mobility by the United Nations Summit for Refugees and Migrants, and the Global Compact for Migration and the Global Compact on Refugees in the Agenda for Humanity, in 2016 (Kaczan, and Orgill-Meyer, 2020.). An estimate of Internal Displaced Monitoring Center (IDMC)<sup>1</sup> shows, that more than 17 million people worldwide has been displaced in 2018 due to natural disaster while a large amount of people was displaced by long term environmental changes caused by increasing temperatures and changes in precipitation and rainfall patterns (Wiig *et al*, 2020), an effect of global warming. According to recent estimate by Internal Displaced Monitoring Center (IDMC)<sup>1</sup> shows, disaster has caused new displacement worldwide of 30.7M people in 145 countries and territories and internally 7M people has displaced in 103 countries and territories. Some study claims that by 2050 as a result of climate change, up to 143 million people in Africa, Asia, and Latin America will become internally displaced (Rigaud et al., 2018; Wiig *et al*, 2020). Most new displacements in 2020

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<sup>1</sup> <https://www.internal-displacement.org/database/displacement-data>

were recorded in East Asia and the Pacific that is 12.1 million and in South Asia which is 9.2 million and these regions are highly exposed to tropical cyclones, monsoon rains, and floods and home to millions of people (Clement *et al*, 2021). Besides, sudden onset disaster impact on human mobility slow-onset climate change impacts like temperature and precipitation patterns, as well as sea-level rise are also increasingly driving human mobility (Clement *et al*, 2021). Factors like variability and anomalies in rainfall, extreme precipitation; temperature changes and extremes; and droughts can increase migration (Hoffmann et al. 2020; Šedová, Čizmaziová, and Cook 2021) and these particularly affect internal migration in agriculture-dependent countries like South Asia, Africa, and South America, leading to out-migration (Berlemann and Steinhardt 2017; Hoffmann et al. 2020; Clement *et al*, 2021).

Marginalized groups have fewer opportunities and capabilities to face natural disasters and environmental crisis because usually the poor, the elderly, women, children, and minority group face cultural or religious barriers to migrate (Chindarkar, 2012; Sams, 2019). Therefore, gender is an important element to understand the relationship between gender, vulnerability and migration because it is shaped by social, cultural, economic, political, environmental and ecological factors. Several studies show that women are generally more oppressed to environmental and climatic risks and more affected for their specific gender roles and responsibilities in family and community (WEN, 2010; Chindarkar, 2012; Gioli, 2012; IOM, 2010; Sams, 2019) and also women and girls are more likely to be exposed to gender based violence and trauma because they more often lost their homes and shelters due to natural hazards for reducing in economic activities and increasing the workload for survival. Thus, their vulnerabilities to any natural hazard are relatively greater than men's (Sams, 2019).

## 1.2. Context

Being a South Asian country Bangladesh is one of the agriculture- dependent countries, also highly vulnerable to climate change impact due to its low elevated geographical setting and high population density. Within regions, there are particularly vulnerable countries that drive up the overall numbers. For example, as shown in the first Groundswell report, Bangladesh, with up to 19.9 million internal climate migrants by 2050, has almost half the projected internal climate migrants for the entire South Asia region (World Bank, 2021). In global climate negotiations, the United Nations Framework Convention on Climate Change (UNFCCC) Task Force on Displacement prepared a report including recommendations for integrated approaches to avert, minimize, and address climate-related displacement (UNFCCC 2018b; 2018c) for the Executive Committee of the Warsaw International Mechanism for Loss and Damage. The UN Secretary-General has appointed a Special Rapporteur on the human rights of internally displaced persons, who in 2020 submitted a report focused on internal displacement in the context of slow-onset climate change impacts (United Nations 2020).

Because of the natural susceptibility to extreme weather of the country the people of Bangladesh have always used migration as a coping strategy. However, as circumstances is intensifying under climate change, more people are being driven from their homes and land by more frequent and severe hazards. Sea level rise, storms, cyclones, drought, erosion, landslides, flooding and salinization are already displacing large numbers of people (Environmental Justice Foundation, 2018). An estimation shows that by 2050, one in every seven people in Bangladesh will be displaced by climate change and up to 18 million people may have to move because of sea level rise alone (Environmental Justice Foundation, 2018). Change in the climatic pattern, intensified and more frequent climatic events are challenging the ability to achieve high rate of economic growth that is required to sustain poverty of the country. It is predicted that in the upcoming years the frequency of occurrence and severity of flood, tropical cyclone, storm surges, droughts will increase which will disrupt the life of the marginalized poor population and the economy of the country and in the worst-case scenario, rise in the sea level will result in the displacement of millions of people

who will become the climate refugee from the coastal part of Bangladesh (MoEF, 2009). This scenario will also have a huge adverse impact on their livelihood, long term health impact on the large portion of the population in Bangladesh (MoEF, 2009) which will increase the number of internal migrants.

United Nations Framework Convention on Climate Change – Cancun Adaptation Framework	The framework formally incorporates mobility in the context of climate change in the 2010 Cancun Adaptation Framework, calling on countries for “measures to enhance understanding, coordination and cooperation with regard to climate induced displacement, migration, and planned relocation,” while “taking into account their common but differentiated responsibilities” (UNFCCC 2010, 4).
Sendai Framework for Disaster Risk Reduction	<p>Focused on disaster displacement, the Sendai Framework outlines “targets and priorities for action to prevent and reduce disaster risks, including through governance, investment in disaster reduction for resilience, and disaster preparedness, recovery, rehabilitation, and reconstruction” (United Nations 2015).</p> <p>The Sendai Framework articulates the need to include migrants in disaster risk reduction and management in three places (see Guadagno 2016 for in-depth analysis):</p> <p>Paragraph 7: governments should engage with relevant stakeholders, including [...] migrants [...] in the design and implementation of policies, plans and standards.</p> <p>Paragraph 27(h): empower local authorities, as appropriate, through regulatory and financial means to work and coordinate with [...] migrants in disaster risk management at local level.</p> <p>Paragraph 36(a)(vi): Migrants contribute to the resilience of communities and societies and their knowledge, skills and capacities can be useful in the design and implementation of disaster risk reduction.</p>
Paris Agreement	The Preamble of the Paris Agreement states that the “Parties should, when taking action to address climate change, respect, promote and consider their respective obligations on [...] migrants” (UNFCCC 2015)
UNFCCC Task Force on Displacement	The Warsaw International Mechanism for Loss and Damage focuses on preparing for and addressing loss and damage from both sudden- and slow-onset climate change impacts, including effects on mobility. The UNFCCC Task Force on Displacement, established under the Warsaw Mechanism, is specifically mandated to address climate-related displacement through supporting “efforts, including finance, technology and capacity building of parties and other actors, including with and for communities and local actors, to avert, minimize and address displacement related to the adverse impacts of climate change, at all levels, including community, national, regional and international levels” (see Task Force report: UNFCCC 2018b).
UNFCCC 24th Conference of Parties Decision	The COP24 Decision, informed by a report from the UNFCCC Task Force on Displacement, invites UNFCCC parties “[to] facilitate orderly, safe, regular and responsible migration and mobility [...] in the context of climate change, by considering the needs of migrants and displaced persons, communities of origin, transit and destination, and by enhancing opportunities for regular migration pathways, including through labor mobility” (UNFCCC 2018a, 44).
Global Compact for Safe, Orderly, and Regular Migration	Recognizes the need to strengthen joint analysis and sharing of information to better map, understand, predict, and address migration movements, such as those that may result from sudden-onset and slow-onset natural disasters and the adverse effects of climate change, as well as develop adaptation and resilience strategies, taking into account the potential implications on migration.
Global Compact on Refugees	Provides specific commitments to address the drivers of environmental mobility and develop policies aimed at ensuring greater protection for those affected by these movements.

Source: Groundswell Part 2: Acting on Internal Climate Migration, Washington DC, the World Bank

The impacts of climate change induced natural disasters are not gender neutral because the experiences, needs and priorities of the climate migrants are varied by gender roles, position and among climate migrants, women are more vulnerable than men due to their socioeconomic condition and gender discrimination in the patriarchal society of Bangladesh who are likely to be poorer, less educated, have a lower social status and have limited access to and control over natural resources (Sams, 2019). Climatic events may not only directly impact women and vulnerable populations, but also make them more vulnerable because of their interaction with socio-cultural factors as women tend to be poorer, less educated, have a lower health status and have limited direct access or ownership of natural resources, they are excessively affected by climatic risks (Demetriades & Esplen, 2010; Bhatta *et al*, 2015). Climate-induced women migrants are at a greater risk of sexual and gender-based violence (Brown, 2008; Bhatta *et al*, 2015) and many women due to lack of safe accommodations are being forced to migrate after a climatic event (Mitchell, Tanner & Lussier, 2007; Bhatta *et al*, 2015).

**Box 1: Climate Actions of Bangladesh to Address Climate Induced Displacement or Migrants**

- Honorable Prime Minister of Bangladesh is serving as Chair of the 48-nation Climate Vulnerable Forum (CVF) since June 2020
- Honorable Finance Minister has also assumed the presidency of the Vulnerable Twenty (V20) Group of Finance Ministers.
- Bangladesh Climate Change Strategy and Action Plan 2009 (BCCSAP)
- Climate Change Trust Fund Act 2010
- Intended Nationally Determined Contribution 2015 (INDC) > NDC 2018 > Revised NDC 2021
- Bangladesh Prospective Plan (2021-41)
- Delta Plan 2100
- 8th Five Year Plan (2021-25)
- National Adaptation Plan (NAP) (In progress)
- Mujib Climate Prosperity Plan 2030 (In progress)

### 1.3. Literature Review

Climate migration is a global phenomenon and its significant influence over human life, livelihood and displacement is being recognized by international organizations and governments around all over the world. Climate change refers to a long-term change in average weather patterns that includes changes in the mean temperature, humidity and rainfall and these changes may be the result of long-term natural variability or human activity. Similarly, change in the environmental settings includes the physical and biogeochemical change in the environment that may either be a result of natural phenomena or human activities. Both climate change and environmental change can cause slow-and sudden-onset events (Prokkola *et al*, 2021). The slow-onset events relate to environmental degradation comprising of loss in biodiversity and desertification, increased salinization and sea level rise and these processes develop gradually from incremental changes that is occurring over many years. On the other hand, sudden-onset events, befall in a matter of hours or days and comprise hydro meteorological hazards such as flooding, windstorms, landslides, cyclones and geophysical hazards, including earthquakes, tsunamis and volcanic eruptions and so on (Prokkola *et al*, 2021). The impacts of climate change are already being felt through increasing natural phenomenon like prolonged drought and heavy rainfall contributing to flooding, sea-level rise and abnormally high temperatures (Blunden and Arndt, 2017; Stapleton *et al*, 2017) and these changes in climate are impacting the ecosystems upon which livelihoods and economies, cultures and societies depend for water, food, energy and waste removal, among other services (Cozzetto *et al*, 2013; Stapleton *et al*, 2017). Each of these events are causing both short- or long-term migration.

The climate-induced migrants are those who leave their habitual homes, or choose to do so temporarily movement as their livelihoods have been adversely affected by extreme weather events (McLeman & Smit, 2006; ADB, 2012; Bhatta *et al*, 2015). Displacement because of climatic events

is often categorized as ‘distress migrations’ that refers to the members of any household who pursued migration as a short-term coping strategy in response to adverse weather events and this movement could be either a labor migration or migration to make a family living under climate-induced adverse events (Bhatta *et al*, 2015). Michael Kugelman<sup>2</sup> in his article stated that, in recent years, millions of South Asians have been displaced by the effects of climate change. Destructive weather events like Cyclone Amphan have caused frequent displacement. Back in 2009, Cyclone Aila displaced 2.3 million in India and nearly a million in Bangladesh. Pakistan’s 2010 floods damaged or destroyed 1.1 million homes and displaced about 11 million people and large numbers settled in major cities instead of returning home<sup>2</sup>. In 2012, floods displaced 1.5 million in the Indian state of Assam. More gradual impacts can also cause displacement. In dry, rural regions, acute water shortages have caused farmers, fisher people, and others with water-dependent livelihoods to migrate to cities. This climate-induced mass displacement is compounded by two enabling factors: the large number of people who work in the agricultural sector, and densely populated coastal areas<sup>2</sup>.

Climate change is progressively accepted as a major human security issue that has possessed serious global threats and for the world’s poor the impact will be most severe as it is excessively affecting their livelihoods and security. Women comprise 70% of those living below the poverty line and they are most likely to bear the heaviest burdens when natural disasters strike. Besides, they are more often overlooked as potential contributors to climate change solutions, and thus to the security of all human beings (Dankelman *et al*, 2008). Women are often more vulnerable to disasters than men through their socially constructed roles and responsibilities (Pan American Health Organization, 1998; Mitchell *et al*, 2007; Dankelman *et al*, 2008). Besides, they have less access to resources that are essential in disaster preparedness, mitigation and rehabilitation (Dankelman *et al*, 2008) which make them more vulnerable in natural calamities. Mostly they are responsible for reproductive tasks such as food collection and energy supply for the household as well as many care-giving tasks, such as caring for the children, sick, elderly, the home and assets (Enarson, 2000; Dankelman *et al*, 2008). Additionally, water, sanitation and health challenges put an extra burden over them when there is a disaster and a collapse of livelihood (Patt *et al*, 2007; Dankelman *et al*, 2008). Farhana *et al* (2012)’s study results show that, the underlying cause of migration is mainly driven by economic and social factors i.e., unemployment, poverty, political and ethnic conflicts, religious etc. In the migration process the push factors are more active than pull factors, as poverty and unemployment always push the poor villagers to change their residence to the cities. After migration majority of the migrants comparatively improved their livelihoods in the city. Though poor migrants have contributed significantly to the economic growth and gained from higher wages in higher productivity areas, they remain socially and economically excluded from the wider benefits of economic growth such as access to food and education, housing, sanitation and freedom (Farhana *et al*, 2012).

In south Asian country Bangladesh is being recognized as one of the most vulnerable countries to climate change and disasters and according to the Climate Change Vulnerability Index (CCVI) based on sensitivity of populations, physical exposure of countries, and governmental capacity to adapt to climate change among the 32 ‘most at risk’ countries, Bangladesh as number one (Maplecroft 2015; Reggers, 2019). According to a news article, river bank erosion, landslides, soil degradation and deforestation are causing millions of climate change refugees and it is an alarming fact that a meter-rise in sea level would inundate 18 per cent of our land mass, directly impacting 11 per cent of our people. The article also mentioned that apart from cyclones and tidal surges, riverbank erosion is one of the major disasters in Bangladesh and about 5,000 to 6,000 hectares of land are lost to river erosion every year which is affecting about one lakh people every year in this

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<sup>2</sup> <https://www.wilsoncenter.org/article/climate-induced-displacement-south-asias-clear-and-present-danger>

country and estimated loss in BDT 250 million crore a year<sup>3</sup>. Even internal migrant of the country, are being forced to move from one place to another face's dire financial straits. In this, the struggle for livelihood and survival of the affected people became the main one. While walking on this inaccessible path, many people go astray, women fall prey to harassment and disaster, and many have to change places again and again<sup>3</sup>. Climatic events may not only directly impact women and vulnerable populations, but also make them more vulnerable because of their interaction with socio-cultural factors. Furthermore, adaptation, that is, the ability to adapt to and cope with changes due to climate change, is also gendered. Adaptive capacities of individuals greatly depend on income, education, health and access to natural resources. Given that women tend to be poorer, less educated, have a lower health status and have limited direct access to or ownership of natural resources, they are disproportionately affected by climatic risks (Demetriades & Esplen, 2010). There are also other issues of safety and security arising from women's health status and disintegration of social networks. Mitchell et al. (2007) observe that women suffer from psychosocial impacts of natural disasters to a greater degree as compared to men. The extra burden of looking after their family members under distress situation results in many women suffering from anxiety and post-traumatic stress (Bhatta *et al*, 2015). Women in Bangladesh were found to be more vulnerable during cyclones because cultural norms prevented them from leaving their homes in time and learning to swim (Nelson *et al*, 2002; Bhatta *et al*, 2015).

## 1.4. Objective of the Research

The marginalized groups of Bangladesh have fewer opportunities and capabilities to face natural disasters and environmental crisis because usually the poor, the elderly, women, children, and minority group face the most vulnerable situation. Women of rural Bangladesh are generally more oppressed to environmental and climatic risks and more affected for their specific gender roles and responsibilities in family and community. Climatic events may not only directly impact women and vulnerable populations, but also make them more vulnerable because of their interaction with socio-cultural factors as women tend to be poorer, less educated, have a lower health status and have limited direct access or ownership of natural resources, they are excessively affected by climatic risks.

In this context the overall objectives this research study is to conduct a study on lives and access to employment of climate change induced migrant women. Specific objectives are –

- Identify the extent of climate induced migrants' women at the Dhaka-based slums
- Specify their access to employment of CIM female workers and skill or capacity need assessment of them
- Specify the extent of vulnerabilities including GBV faced by the CIM women at the slums; to assess the existing laws and policies for the protection of domestic workers and
- Mapping a way forward to fight this new challenge in coming days.

## 1.5. Rationales and Scope

### 1.5.1. Rational of the Study

South Asia is a highly climate vulnerable region and experiences a high degree of exposure to environmental risk and being one the South Asian countries, Bangladesh faces the more adverse climatic events like rising sea levels, increasing cyclonic activity, increasing temperatures, higher inter-annual variability of precipitation as well as water-related hazards induced by climate variability (Bhatta *et al*, 2015). In every 3-5 years, two-thirds of Bangladesh is inundated by floods, and approximately every 3 years a cyclone hits the country (World Bank, 2009; Bhatta *et al*, 2015). The poor people are the ones to bear the brunt of climate change and they are the ones to migrate

<sup>3</sup> <https://thirdlanemag.com/en/climate-refugee-sunderban-bangladesh-gouranga-nandy-2/>

under adverse events due to lower adaptive capacity (Kumar & Viswanathan, 2012; Bhatta *et al*, 2015). Both sudden and slow onset events such as flooding, cyclones, and storms surges, changes in precipitation, temperature, and sea level rise have a detrimental impact on key economic sectors of the country and over time these events are influencing decisions of marginalized population to move in different place to access greater economic opportunity (Bhatta & Aggarwal, 2015; Bhattacharyya & Werz, 2012; Bhatta *et al*, 2015). The effects of climate change are not gender neutral and impact the poor, marginalized and vulnerable population groups such as women. Uneven gender relations and access to resources make women more vulnerable to the impact of climate change than men as adaptive capacities to any kind of natural hazard of an individual greatly depend on income, education, health and access to natural resources and in the rural Bangladesh women tend to be poorer, less educated, have a lower health status and have limited direct access or ownership of natural resources, therefore they are disproportionately affected by climatic risks (Bhatta *et al*, 2015). Not only the climatic factors Climate-induced women migrants and young girls are even greatly vulnerable to sexual and gender-based violence. Even after getting migrated to a new place due to lack of education and skills they could not get access to employment which put them in worst situation. Thus, this study wants to address the climate migrant women at Dhaka slum based on their extent of vulnerabilities including GBV, their access to employment and will assess their need of skill and capacity development training for getting better jobs.

### 1.5.2. Scope of the Study

In Bangladesh, women face solely the impact of extreme weather events and natural disasters due to their gender position. The gender relations could be adversely affected by the disaster events to influence the existing gender inequality and discrimination in the society which may interrupt the women empowerment and overall development of a country. After migration in response to natural disasters women's position have been overlooked according to their gender role and relation in the society. Thus, this study will assess the lives and access to employment of climate change induced migrant women. The study has following scopes;

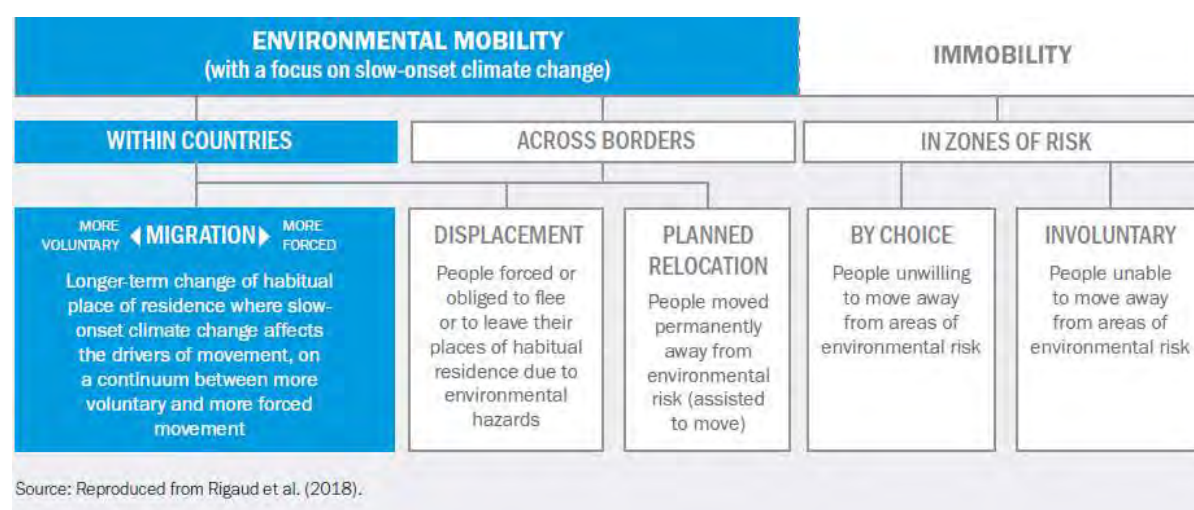
- This study will show the pathway for national adaptation strategies under the national planning systems and formulation of migration policies in gender perspective as gender is one of the most important policies in gender perspective as gender is one of the most important factors shaping the migratory experience.
- The study will assess the access to employment of CIM female workers living in the slums of Dhaka
- Study will assess the extent of vulnerabilities including GBV faced by the CIM women at the slums and their work place for mapping a way forward formulating strategy in existing laws and policies for the protection of CIM workers
- Study will assess the need of capacity and skill development training for the CIM workers in order to create opportunity for them to have better working opportunity

## Chapter: 2 Methodology

### 2.1. Analytical Framework

A deeper understanding of climate change induced migration/displacement is required to specify the increasingly potent future drivers of migration and built a global, regional and agency specific architecture to deal the CIM aligning with the Warsaw International Mechanism (WIM). Internal climate migration also acknowledges the complexities of mobility in the context of climate change. Human mobility is an umbrella term used to describe all aspects of the movement of people, including involuntary internal and cross-border displacement of populations, voluntary internal and cross-border migration, and planned relocation (UNHCR et al. 2015). “When environmental factors, including climate change, affect mobility, this is referred to as environmental mobility (Foresight 2011), encompassing the categories of migration, displacement, and planned relocation. The term human mobility in the context of climate change is also used to describe such movements for climate-related reasons (Warner and Afifi 2014). In practice, mobility is usually multicausal, and direct linkages between environmental factors and mobility are often difficult to single out; however, evidence of those linkages is growing, and understanding of the complexities is improving (Hoffmann et al. 2020; Šedová, Čizmaziová, and Cook 2021). Internal climate migration (short-run) has impacts on the long-term shifts in population distribution or more permanent migration occurring within countries that can be attributed largely to the slow-onset impacts of climate change on livelihoods, through shifts in water availability, crop productivity, and/or sea-level rise augmented by storm surge.” The following figure 1 defines the environmental mobility (with countries and across borders) and immobility.

Figure 1: Broader landscape of mobility (and immobility) in the context of climate change



The content of **Climate Induced Women Worker** would be taken into account when developing the question. The following table showed a brief overview of analytical framework of the study and detailed research methodology was covered in the later part of this proposal.

Objectives	Tools that were used
Identify the extent of climate induced migrants' women at the Dhaka-based slums	<ul style="list-style-type: none"> <li>• Social and Economic Indicators</li> <li>• Survey Data</li> <li>• Statistical Report and Secondary Data</li> <li>• Stakeholders' Evidence</li> </ul>

Objectives	Tools that were used
Specify their access to employment of CIM female workers and skill or capacity need assessment of them	<ul style="list-style-type: none"> <li>• Brainstorming workshop</li> <li>• Expert evidence</li> <li>• Survey data</li> <li>• Trend analysis</li> </ul>
Specify the extent of vulnerabilities including GBV faced by the CIM women at the slums; to assess the existing laws and policies for the protection of domestic workers and finally, mapping a way forward to fight this new challenge in coming days.	<ul style="list-style-type: none"> <li>• Case studies</li> <li>• Survey data</li> <li>• In-depth Interviews</li> </ul>

## 2.2. Study Design

To achieve the objectives of this study, a mixed method of approach was used, in which both qualitative and quantitative data from primary and secondary sources were incorporated and analyzed. A cross-sectional survey was conducted in selected slums of the both Dhaka City Corporations.

The data collection was done by adopting a mixed (both qualitative and quantitative) approach. On the qualitative part the data collection included Case Studies and In-depth Interviews (IDIs). Through the qualitative query the intensity of vulnerability of migrants and/ or potential migrants was assessed and their adaptive measures was recorded along with their trends of socio-economic and livelihood pattern.

On the quantitative part, a semi-structured questionnaire was used to assess the intensity of effect according to the respondents which was developed by core research members and approved by BNSK. To identify the inhabitants who were affected by this pandemic, snow-ball method was used. The study team collected survey data from 10 different slum areas in Dhaka metropolitan area where five slums was selected from North City Corporation and five from South City Corporation.

Furthermore, with a focus on the gendered manifestations of power, this research captured the diversity and complexity of women's experience. Gender norms and hierarchical gender relationships were considered as a context for understanding the data.

## 2.3. Study Area

A cross sectional survey was implemented in the different slums in Dhaka City Corporations. We selected 10 slums from both Dhaka North City Corporation (DNCC) and Dhaka South City Corporation (DSCC) with the basis of literature review. We gathered and collected information for every slum of Dhaka city. Then we reviewed some criteria to select the slums.

- Total household lived in the entire slum
- From which district they (people of the slums) forced to move
- For which reason they forced to move (we conceded them who migrated for cyclone, river erosion, heave rain, droughts, salinity etc.)

In the context of Bangladesh, those who forced to migrate internally, most of them lived in the slum area. That's why we chose ten different slums in the Dhaka City Corporations.

Both the quantitative and qualitative data had been collected. In qualitative data, In-depth Interviews (IDI's) from the selected participants were collected. During the qualitative data collection, the IDI and case study participants were selected based on the experienced of climate/disaster induced migration and wiliness of the participants to participate for in depth

discussion. As an example, three case story participants were selected, one displaced from cyclone, one from river erosion and one from salinity. Besides, five IDIs were conducted based on the similar context.

## 2.4. Targeted Respondents

As the main objective of this study is to identify the extent of climate induced migrants' women at the Dhaka-based slums, we developed some criteria to choose the proper respondents for our study. The criteria are as follows-

- All respondents were female
- Displaced from outside Dhaka
- Displaced because of occurring climatic event in their previous location (Like- cyclone, river erosion, drought, salinity etc.)
- Working women who contribute to her family expense
- With minimum age of 18

Though our earlier decision about sample size was to collect equal to 40 data from each slum, we were not following that instruction. If we followed that, we had to be biased selecting respondents. So, for random selection we were forced to modify the number of the data from each slum.

For case stories and IDIs we didn't have any extra selection criterion aside these but we were trying to collect maximum of two qualitative data from each slum.

## 2.5. Data Collection Method and Instruments

As we already mentioned that it is a cross sectional study, primary and secondary both types of data were collected for this study.

### *Primary data*

Primary data was collected from the questionnaire survey, In-Depth-Interviews (IDIs) and Case stories.

### 2.5.1. Quantitative (survey)

The quantitative survey was conducted among climate induced migrant women workers. A climate induced migrant women perform any kind of works, like- jobs (formal or informal), business etc. To carry out the survey, a semi-structured questionnaire was created on kobo collect app which was followed to collect primary data.

#### I. Sample Size

The survey aimed to identify the household experiences and challenges of their adaptation due to the changing situation. The sample size determined by using following simple formula:

$$n_1 = \frac{p * (1 - p) * z^2}{e^2}$$

Here,

n= Sample size

p= 0.4 (proportion of the households whose have characteristic)

z=1.96 (Sample variant considering 95% confidence level)

e= 5% (margin of error).

The calculated sample size is 369 which is rounded up to 400 for adjusting the missing values.

## II. Sampling Design

The Stratified Random Sampling method was used in this study. In the case of the climate induced migrant, we used a random sampling method from an existing list that we made before primary data collection.

The study area was initially divided into Dhaka north City Corporation and Dhaka south city corporation. The sample size of climate induced migrant women worker was allocated equally in each area.

### 2.5.2. Qualitative method

The qualitative data was collected through IDIs and Case stories, where we used a semi structured checklists for IDIs and have followed some criteria to gather case stories. During quantitative survey, enumerators were identifying the respondents for IDIs and case stories with a basis of some criteria.

#### I. In-depth Interviews

We followed some criteria to identify the respondents of IDIs and the responsible person for this process was the enumerators. A total of 5 IDIs have been taken. Here are the criteria that we have given enumerators to choose best respondents for IDIs.

- Tried to collect at least one data from each segment (cyclone, drought, heavy rainfall, salinity, river erosion)
- Talkative person who can brief her situation in details
- Those who have at least 30 minutes time to give us interview which is important to maintain the quality of data.
- Those who displaced in recent times for climatic problem.

#### II. Case Stories

The respondents for case stories were also chosen by the enumerators. They found correct respondents with research team's guideline. A direct guideline from principal investigator was given to select the respondents. The 3 case stories have been taken for this study.

Data collection methods	Mode	Target respondents	No of interviews
Questionnaire survey	Face- to Face Interview	CIM women workers in the slums	403
IDI	Face- to Face Interview	CIM women workers who want to share their life scenario	5
Case Stories	Face-to Face Interview	CIM women workers who faced extreme incidents in their life	2

### 2.5.3. Field data collection

#### I. Recruitment of the Field Personnel

A group of experienced field personnel were recruited for data collection of this study. Personnel with a minimum education level (graduation 3<sup>rd</sup> year complete), maturity (to handle the unwanted situation), friendliness, and experience in similar work appointed locally. To ensure data quality, 10 field personnel were present, including 7 female and 3 male enumerators. They were instructed with gathering quantitative data, IDIs and case stories via face-to-face interviews. They gathered quantitative information using kobo collect app and collected qualitative information as well.

The gender of the enumerators was very vital because of the mode of this study. As we already know that here we want to access the life cycle of a CIM women those who have involved in IGA. Some questions were so sensitive for gender perspective. That's why we were appointed more female enumerator than male.

## **II. Training and Field-testing**

In Dhaka, a two-day comprehensive data collection training program with Kobo toolbox was organized for field personnel including enumerators and supervisors, where one day for in house training and another day for field test and taking feedback. Data collection modules and strategies were taught to field personnel. Training sessions were led by members of the core team. The training would prepare field personnel and enumerators by providing them with the necessary knowledge, skills, and a guideline for safe and ethical data collection.

Prior to conducting the actual study, the respective tools were field-tested. These field tests were carried out by a group of data collectors under the supervision of the study team. The tools were field-tested in a similar context, but with different participants who did not participate in the final study. During field testing, the items of each tool, the appropriateness of the used language, ethical issues, and the relevance of the tools to the study were critically checked and marked. The completed tools were delivered to BNSK for approval for use in the field of study. The quantitative and qualitative data were collected in 7 days, with the remaining 3 days devoted to the qualitative data.

## **III. Data collection process**

We planned to collect data with assistance of 10 field enumerator; a research assistant guided them in a proper manner. A field plan was developed to collect the data smoothly which was followed for data collection. It also helped enumerators to work in a group and our research assistant monitored the full data collection process. The enumerators collected data using kobo collect apps and sent all data in the server daily. So, the research assistant checked it properly and also the consultant himself monitored every day's activity which was very effective and helpful to enumerators.

### **2.6. Data Entry, Quality Control, Analysis and Report Writing**

After the field work was completed, an experienced data processing team was hired to process and clean the data. As data collection process was carried through Kobo collect android app, there was no need to entry the data separately. An excel file automatically created after the completion of the field work. To assure the quality of data, we followed up at least 2 per cent of the respondent where we cross checked them with a small set of follow up question. We also checked the data carefully to avoid the unexpected outliers of the values. After that the data set was cleaned and processed to analyze very carefully.

The qualitative data was written in Bengali which was recorded in a recorder also and then translated into English. For scripting and translation, qualified translation staff was used. The scripted and translated qualitative information/ dialogs were shared for analysis with experts. Following computerization, the research team conducted a field test of the tools and contents in a comparable area (not included in the sample area) to ensure consistency and integrity.

The qualitative and quantitative analyses were carried out separately in the analysis section. The methodology section describes the detailed analysis plan. The study's primary unit of analysis was individuals, with results summarized by area. A comparative analysis of the areas was also carried out.

### **2.6.1. Quantitative data analysis**

Quantitative data analysis techniques included univariate and bi-variate analysis. However, the got the data set in an excel file, the analysis was done by the assistance of STATA which is the most useful statistical software. The measurement levels of the variables were considered while analyzing the data. Basic statistical tools were used for data analysis are as follows: Frequency analysis, multiple response analysis, Cross tabulations, and Hypothesis testing (p-value).

### **2.6.2. Qualitative data analysis**

Outline of approaches to qualitative data analysis:

- a) Documentation of the data and the process of data collection;
- b) Organization/categorization of the data into concepts;
- c) Connection of the data to show how one concept may influence another;
- d) Corroboration/legitimization, by evaluating alternative explanations, disconfirming evidence, and searching for negative cases; and
- e) Reporting the findings.

### **2.6.3. Report writing**

The first step towards the report preparation was preparing an outline for the report. The outline was consistent with the expected output and research questions. Triangulation of qualitative and quantitative findings, as mentioned, was made to prepare the report. Draft report will be finalized after incorporating comments and suggestions from BNSK within 3 working days after receiving comments. This paper consists five chapters. The first chapter discussed the background of the study, research questions, existing literature to identify research gaps, the second chapter discussed conceptual framework for the study, and methodology of the study. The third and fourth chapter analyzed the demographic background and the socio-economic status of climate induced women workers in Dhaka City, who participated in the survey. A brief conclusion follows the policy recommendations.

## **2.7. Ethical Considerations**

Since the study team used both interview data and document reviews, the ethical issues were addressed in two ways. First, we showed the questionnaire to the respondents prior to conducting the interviews. We also tried to understand them about the entire context and importance of this study. After that we seek their verbal consent due to their general aversion and negative attitude toward signing any written document. We maintained the transparency and accountability of our study's goal, methods, and findings in this manner. We also ensured that In-Depth interviewees' confidentiality and anonymity were protected. We only used the names of those who explicitly gave us permission to do so. We were aware that interviews about past events could result in some recall bias, so we attempted to triangulate all such information with other interviewees' narratives or documentary sources. Second, for our documentary research, we identified several quality control criteria: authenticity, credibility, representativeness, and meaning.

To begin, the authenticity or dependability of a document was determined by determining its author and verifying its consistency and style through comparison with similar documents. The credibility was then maintained by demonstrating that the documents at hand had not been tampered with in any way. We occasionally review the interview transcripts to ensure the authenticity and dependability of the primary documents. When we discovered discrepancies between interview data and archival documents, we prioritized the documentary evidence. Third, the issue of representativeness is more relevant to certain types of documents, such as policy speeches delivered by senior ministers or government officials, which typically reveal government policy.

## 2.8. COVID-19 Safety Precaution

We have developed a clear set of instructions for any face-to-face interaction that is required within the scope of this research, in accordance with WHO guidelines: The use of a facemask during any face-to-face interview, frequent hand sanitization with sanitizers, maintain social distancing (3 feet apart at least), daily checking of body temperature and oxygen saturation before starting any activities, additional safety equipment depending on nature of the interaction including usage of disposable hand gloves, face shield/ goggles and protective head cap. During the training session, members of the research team and data enumerators were given detailed instructions on how to carry out the procedures. The necessary safety equipment, including facemask, disposable gloves, sanitizers, face shield, and oxygen meters, were provided by the “Change Initiative,” a research platform affiliated with this team.

## Chapter: 3 Results and Discussion

### 3.1. Demography of CIM Family

Table 3.1 presents the demographic information of the respondents. The mean age of the respondents were 33 years (SD  $\pm 9.99$ ). The average household's size was 4.27 (SD  $\pm 1.48$ ) and was 2.17 (SD  $\pm 1$ ) for the female headed households. Most of the respondents were married (82%) and only 10% respondents were widows. About 44% of the respondents were illiterate and only 31% respondents had completed their elementary/ primary school. Only few (7%) respondents reported that they can read and write without any institutional/formal education.

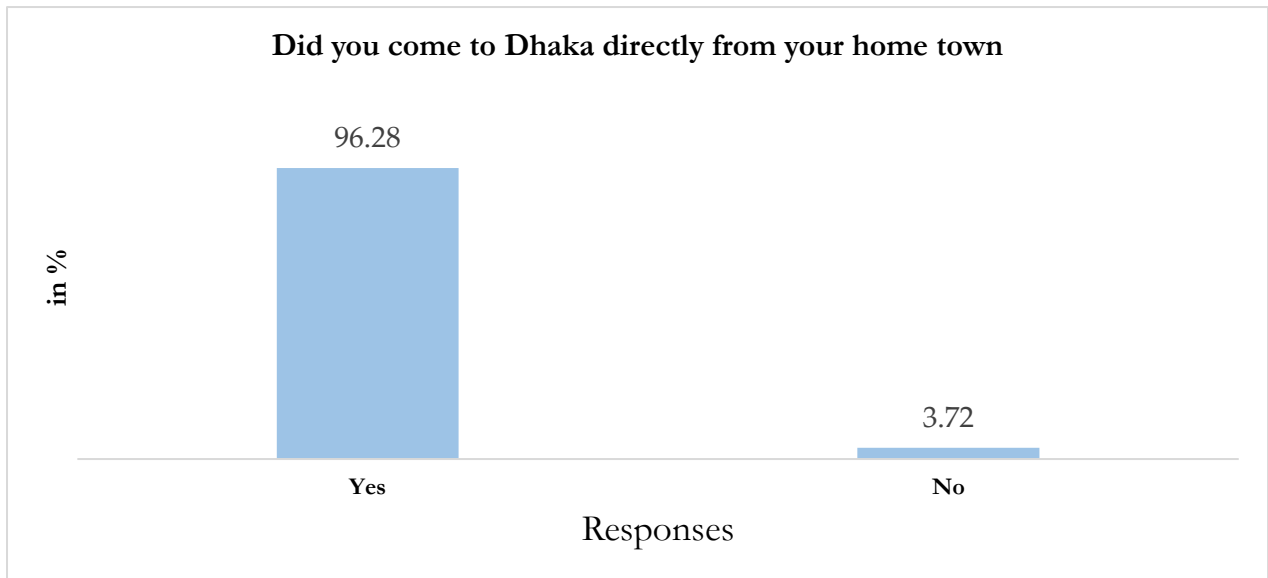
*Table 3. 1: Demographic information of CIM Women*

Variables	Percentage
<b>Marital status</b>	
Married	82.13
Widow	10.67
Divorced	4.96
Unmarried	1.99
Others	0.25
<b>Education</b>	
Illiterate	44.17
Elementary/ primary school	31.51
Secondary school	15.38
No institutional education, but can read and write	7.44
Higher secondary school	1.24
Graduate	0.25
<b>Profession</b>	
Domestic worker (house & office)	51.86
Small business	23.57
Garments worker	11.91
Day labor	6.45
Formal job	3.23
Cook at restaurant/ hostel	2.23
Others	0.74
	<i>N= 403</i>

### 3.2. Climate Induced Migration-Drivers and Patterns

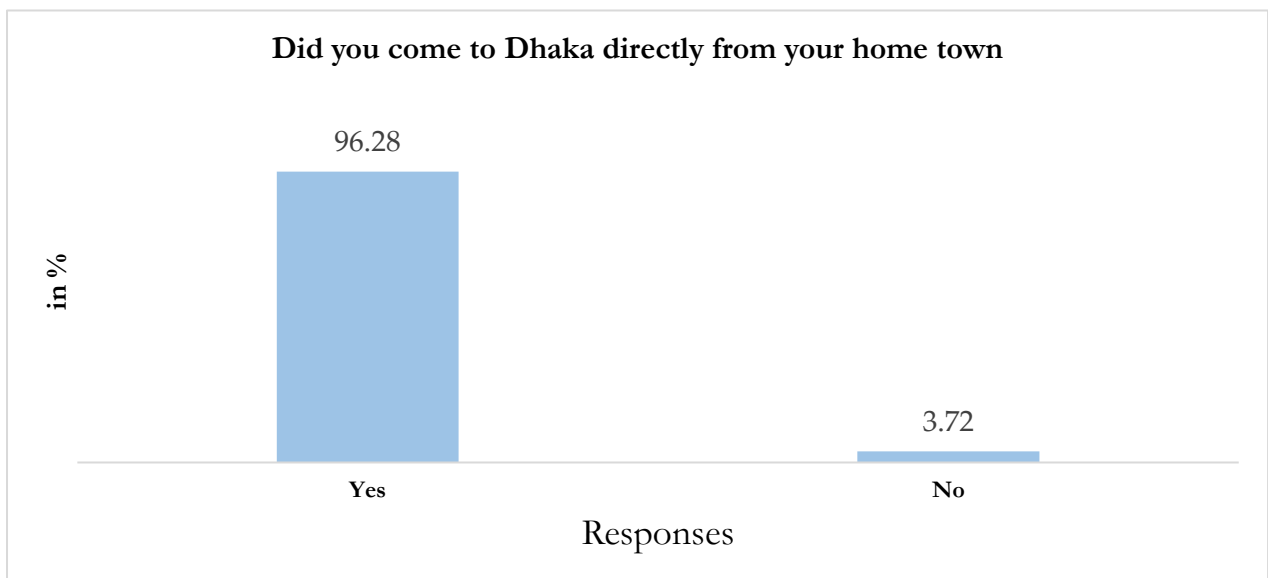
#### 3.2.1. Sources of climate induced migration (CIM)

Figure 3.1 presents that almost 96% respondents were migrated from their home town due to climate change related disasters and also slow-onset events. However, rest 4% migrated due to climate disasters and others personal or economic reasons. Most of the migrated families were jeopardized by climate induced disasters including losing sources of livelihoods drastically.



*Figure 3. 1: Responses regarding source of migration*

Among them, highest 21% respondent CIM women took shelter in the Dhaka-based slums from cyclone-prone Barisal district and also 10% respondents came from Noakhali, 7% respondents came from Bhola, vulnerable island states. Moreover, 5% respondents came from Rangpur and Sylhet, 4% of respondents came from Jamalpur, Khulna, Sunamgonj.



*Figure 3. 2: Responses regarding source of migration*

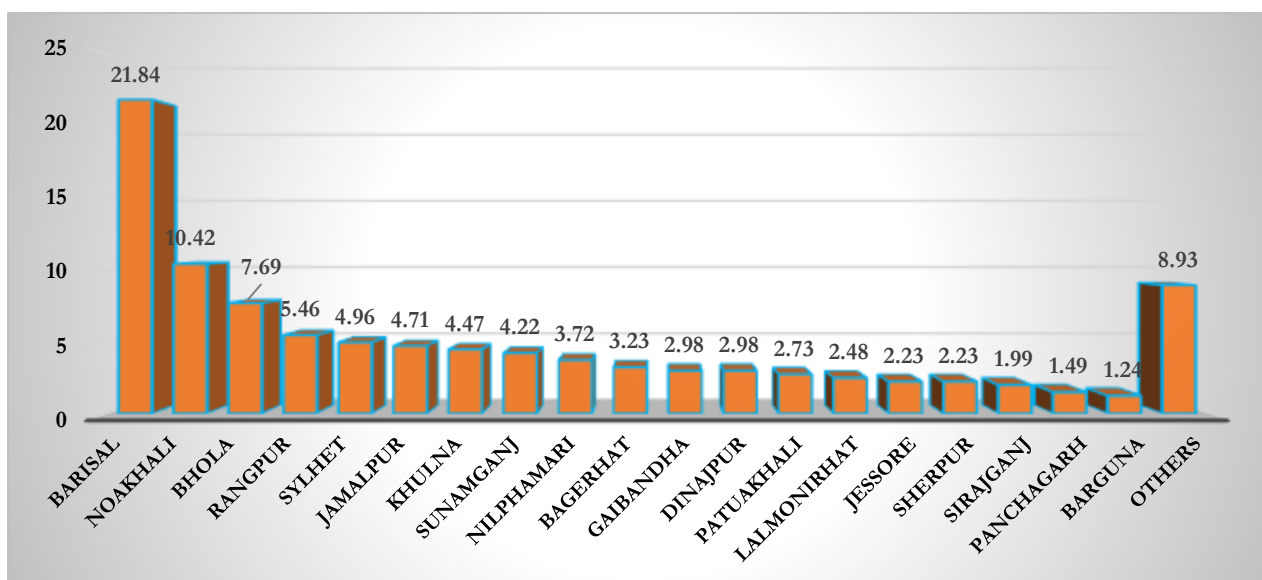


Figure 3. 3: Responses regarding hometown of migrated women

Of these, 11 districts have less than 5% high resilience as per the household responses, indicate the significant challenges in the livelihood and changes in the case of a natural disaster are affecting these areas. Once again, Cox's Bazar and Bandarban feature in this unfortunate list, along with Chuadanga, Barguna, Bhola, Patuakhali, Narail, Kurigram, Sunamganj, Jamalpur and Netrokona.<sup>4</sup>

### 3.2.2. Length of CIM to Dhaka

Study finding revealed that surveyed CIM women and their families have migrated to Dhaka around ten years back. That means extensive migration have been started after the cyclone Aila in the coastal Bangladesh that affected the human lives and livelihoods devastatingly.

Table 3. 2: For how long you are living in Dhaka (years)

Mean $\pm$ SD	Min	Max
9.75 $\pm$ 4.66	1	27
N= 403		

### 3.2.3. Reason behind migration from home town/ previous places

Table 3.3 presents the nature of climate change related impacts that pushed the families to be migrated in the slum inhabitants of megacity Dhaka. Among different climatic reasons, about 18% of the respondents claimed that they were migrated due to excessive rainfall/flood. In contrast, 4% of the respondents faced drought and water scarcity in their locality before the migrations. However, about 8.56% respondents claimed that they have migrated due to unavailability of cultivable land and only 5.71% respondents reported that crop failure is major reason for their migration. Regarding securing better life and livelihoods of the climate induced displaced people, about 13.8% respondents reported that they lost the source of livelihoods and they didn't earn enough (9.36%). However, in addition to the climatic reasons more than 10% respondents reported that they migrated for better job opportunity and required earnings.

Table 3. 3: Percentage of responses regarding reasons for migration from home town

<sup>4</sup> [A Nationwide Approach on Measuring Households' Resilience by Constructing Climate Resilient Livelihoods Index \(CRLI\) in Rural Bangladesh \(scirp.org\)](#)

Reason	Percentage in responses	Percentage in cases*
<b>Climatic events</b>		
Too much rain/Flood	17.92	67.00
Water shortage/Drought	4.18	15.63
Repeated droughts	3.05	11.41
Long term salinity	3.92	14.64
Crop failure or damages	5.71	21.34
No land available for crop farming/agriculture	8.56	32.01
<b>Impacts of Climate Induced Displacement</b>		
The source of livelihood is completely closed	13.8	51.61
Not enough income from IGAs	9.36	34.99
Unemployment in the displaced location	7.23	27.05
Job opportunity in migrated place	11.28	42.18
Adequate income in migrated place/location	10.68	39.95
<b>Others</b>	4.32	16.13
		<b>N= 403</b>

N.B: \*Multiple responses

### 3.2.4. Disasters occurred during last five years before migration in the locality

Table 3.4 presents that the responses regarding different disasters before their migration. About 34% of respondents reported that excessive rain and flooding mostly occurred in their locality, 26% of respondents reported that they were displaced due to riverbank erosion, 20% of respondents reported that they were displaced due to severe storm and cyclone. However, only 9% of respondents reported their reason of displacement was high salinity and 1.52% of respondents were displaced due to landslide.

**Table 3. 3: Percentage of responses regarding disasters occurred during last five years**

Disasters	Percentage in responses	Percentage in cases*
Heavy rains/ Floods	34.58	73.45
Riverbank erosion	26.64	56.58
Storm/ Cyclone	20.33	43.18
Drought	7.94	16.87
Salinity	9	19.11
Landslide/ Mudslide	1.52	3.23
		<b>N= 403</b>

N.B: \*Multiple responses

### 3.2.5. Observed severe changes in climate in the locality

About 73% of respondents reported that they observed severe changes in climate in their locality. Only 17% of the migrants reported that they didn't know anything regarding these features and only 8% of the respondents reported that they didn't observe anything like this.

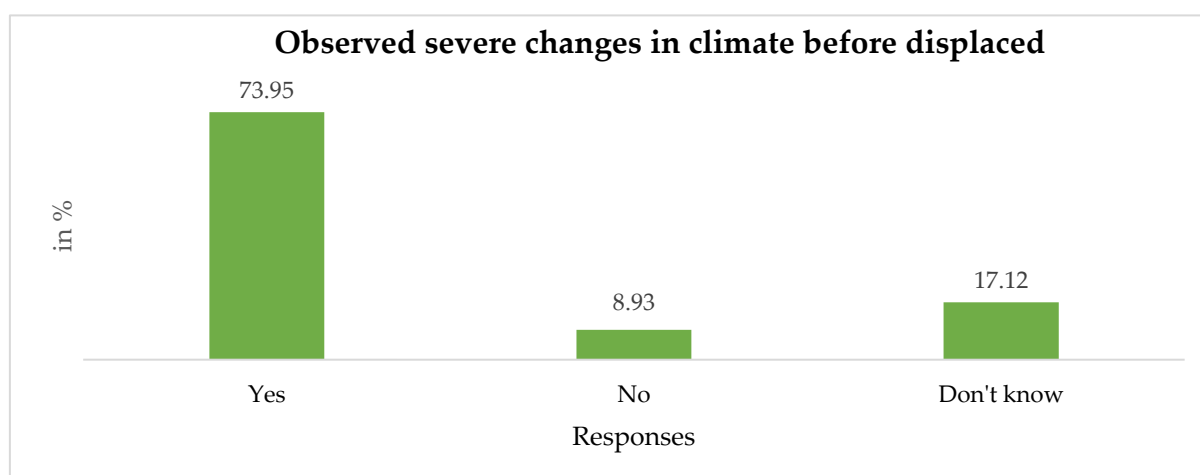


Figure 3. 4: Responses regarding observation of the changing climate in their locality

### 3.2.6. Observed changes in climate in the displaced location

About 35% of the respondents reported that flood increased in their locality, 26% of the respondents reported that rainfall increased in their locality. In contrast, nearly 10% of the respondents reported that span of dry season increased in their locality. Similarly, 10% of the respondents reported temperature increased and respondents came from saline prone areas reported that salinity increased in their locality (11%) (Table 3.5).

Table 3. 4: Percentage of responses regarding types of changes in climate in locality

Indicators	Percentage in responses	Percentage in cases*
Increased flood	35.64	70.81
Increased rainfall	26.69	53.02
Increased salinity	11.99	23.83
Increased dry season/Heat wave	10.98	21.81
Increased temperature	9.97	19.8
Increased water level	1.86	3.69
Cold wave	2.2	4.36
Others	0.68	1.34

N.B: \*Multiple responses

### 3.2.7. Losses due to extreme weather event in their home town/locality

Table 3.4 presents the responses regarding losses due to extreme weather events experienced by the slum inhabitants in their place of living. About 43% respondents reported that they had lost their income in source in their locality, 22% reported that they had lost their land, 23% reported that they had lost homestead settlement and only 10% reported they had lost their livestock due to extreme weather events, thus they migrated from their living places and migrated to Dhaka.

Table 3. 4: Percentage of responses regarding losses due to the extreme weather event

Weather events	Percentage in responses	Percentage in cases*
Loss of income source	43.07	93.3
Loss of Land	22.22	48.14
Loss of Livestock	10.65	23.08
Loss of homestead settlement	23.83	51.61
Others	0.23	0.5

Weather events	Percentage in responses	Percentage in cases*
		<i>N= 403</i>

N.B: \*Multiple responses

### 3.2.8. Loss of land due to climate disasters

Figure 3.4 presents the response regarding land loss due to different types of disaster in their localities. Almost 90% of the respondents reported that they had lost their local lands due to different natural disasters and migrated to Dhaka.

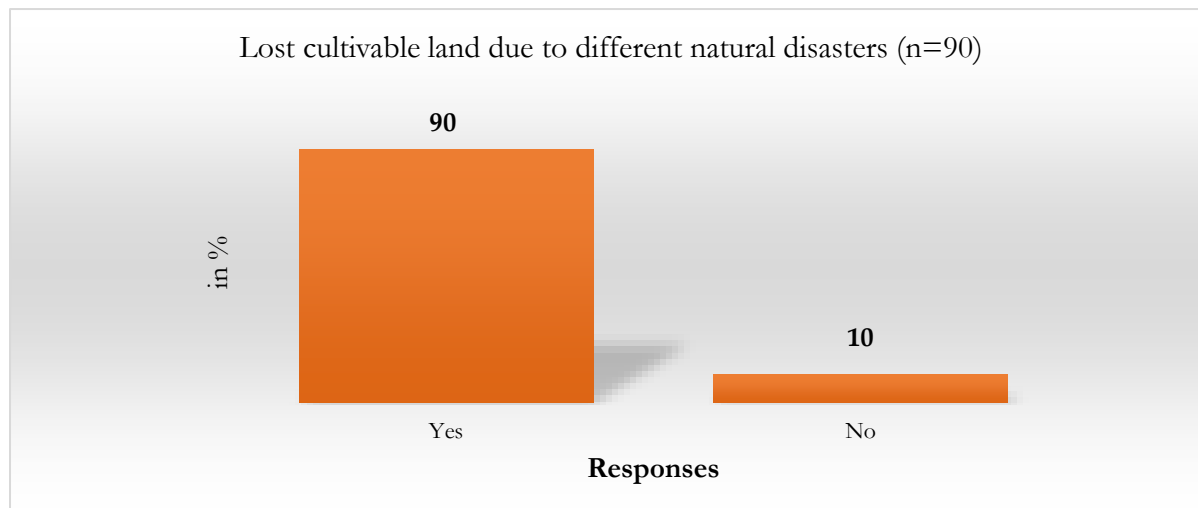


Figure 3. 5: Responses regarding land loss due to different natural disasters

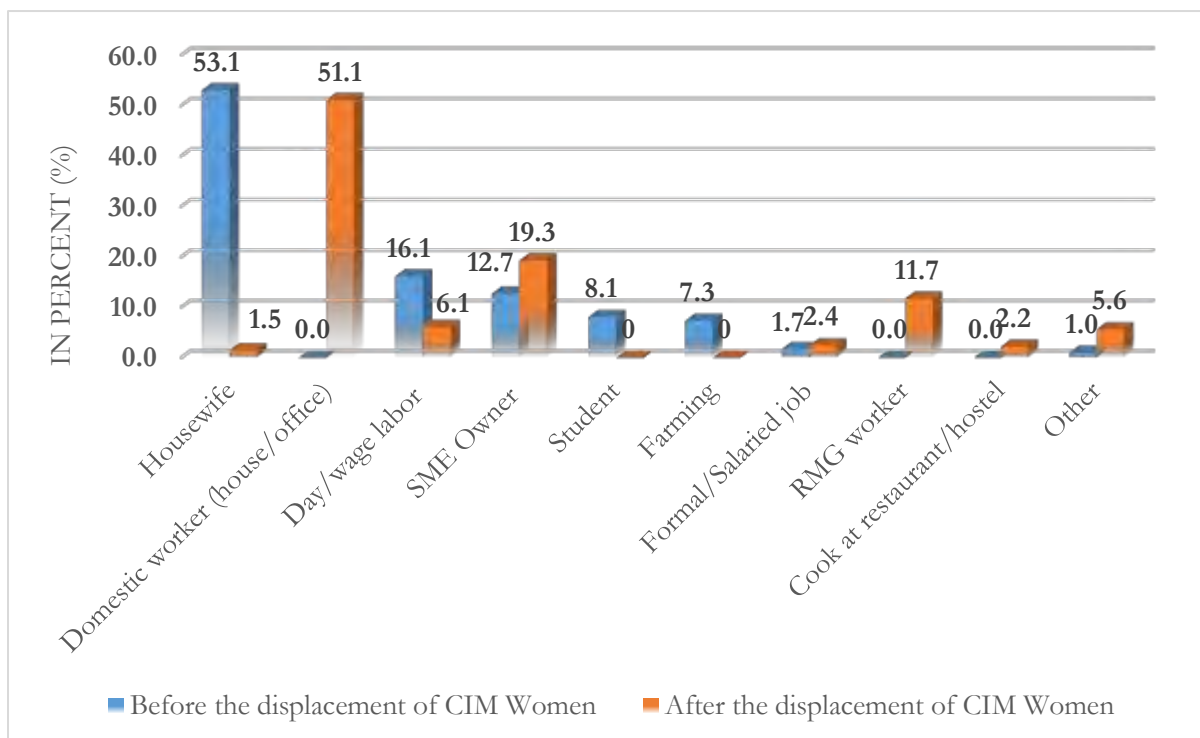
### 3.2.9. Profession of climate induced migrants before displacement

Table 3.6 presents that around 53% CIM women were housewives before the climate induced displacement, but after the migrated to Dhaka of CIM women among them 51% have been engaged as domestic workers either engaged in households' service or office. Before the displacement, not a single woman was involved as domestic worker. Only 16% of the respondents were Day/wage labor<sup>5</sup> before the displacement, however, after migration to Dhaka around 6.11% or one-third has become the day/wage labor. Interestingly, before the displacement around one-eighth (12.71%) respondent women or her family members were engaged as SME<sup>6</sup> Owner, however, after migration of CIM women the opportunity has been increased and around one-fifth of the respondents are now involved in SME related IGA activities.

**Table 3. 5: Changes in Profession of CIM**

<sup>5</sup> Engaged as cleaner, waste collector, municipal worker, agriculture, daily industrial etc.

<sup>6</sup> Grocery store, tea stall, vegetable/ fruit seller, street hawkers, poultry farming, swing, cow/ buffalo production etc.



Moreover, before the displacement 7% of respondents were students, but after the migration not a single woman has access to education, they have been compelled to involve in income generating after the migration. and around 12% were engaged in farming activities. Similarly, though before the migration there was no involvement of woman in RMG sector but after the migration around one-eighth (11.74%) respondent women have been RMG worker and only 2.44% are engaged in formal jobs.

### 3.2.10. Impact of migration on income

Almost 88% of the respondents stated that their income has increased due to migration. However, only 12% of the respondents reported that their income didn't increase (Figure 3.5).

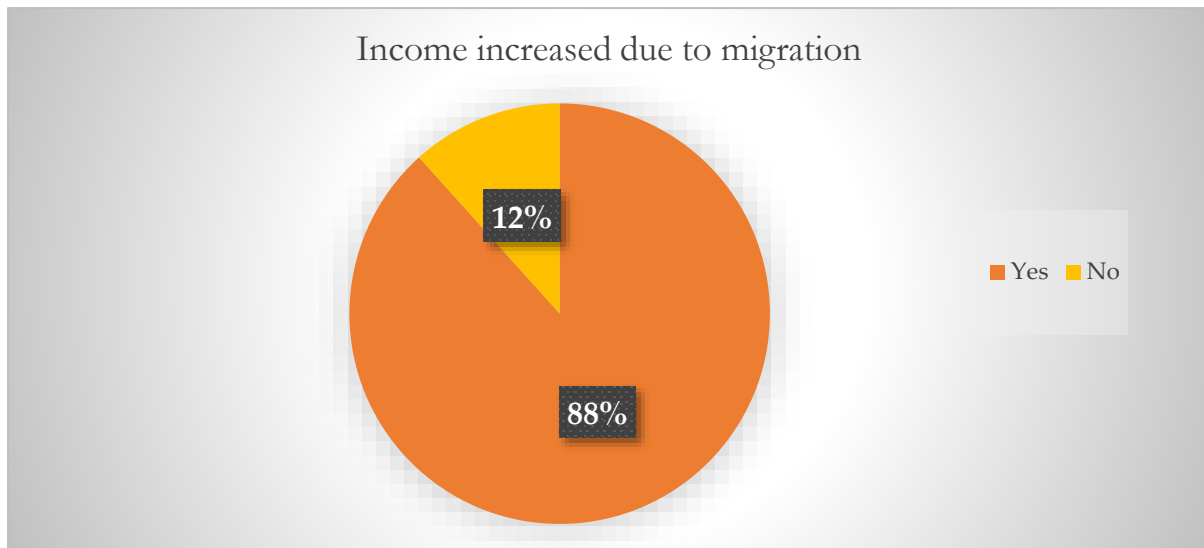


Figure 3. 6: Responses regarding impact of migration on income

### 3.2.11. Impact of migration on living standard

Result showed that about 73% of the respondents reported that migration moderately improved their living standard from earlier, 10% of the respondents reported their living standard deteriorates and only 7% of the respondents replied that they had the similar standard like earlier.

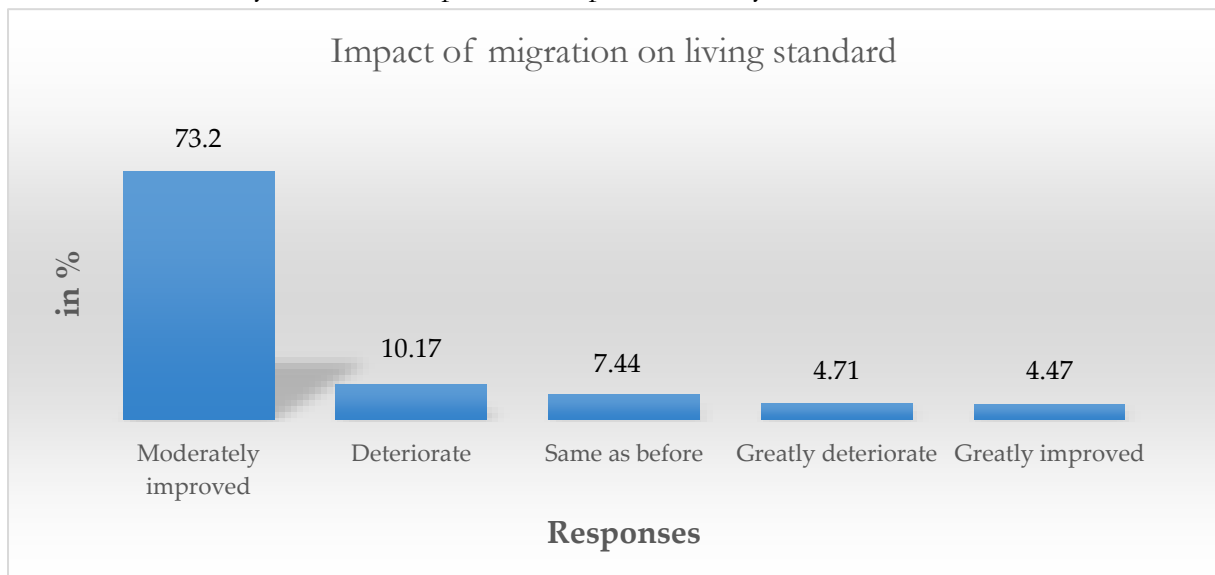


Figure 3. 7: Responses regarding impact of migration on living standard

It is prominently evident that the CIM women and their family members enjoyed comparative better housing and enjoyed more before being displaced due to climate induced disasters. Moreover, around one-fourth CIM women have no access to healthcare facilities. Moreover, a significant number of CIM women can't provide the primary education to their children due to higher fees or limited access to free of cost public primary education. Alarming indication is that upon reporting around each of every 8 CIM women feel unsafe at current location or slums.

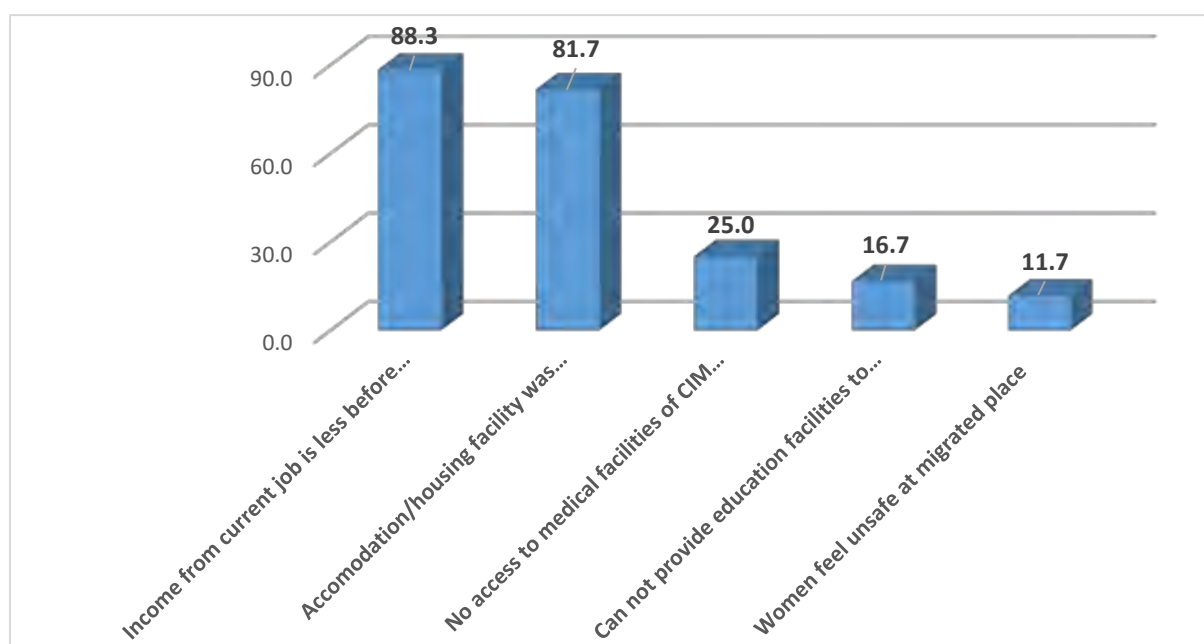


Figure 3.8: Responses regarding impact of migration on income and basic need

### 3.3. Profile of CIM Women (Employment Status and Earning)

#### 3.3.1. Received any Training or Advocacy after Migration

The survey result of the study shows, most (95.04%) of the climate migrants who are living in the slum did not receive any training or advocacy after they had migrated to Dhaka and before getting any job. The result shows only 4.96 % of the climate migrant women have get any training before perusing their job.

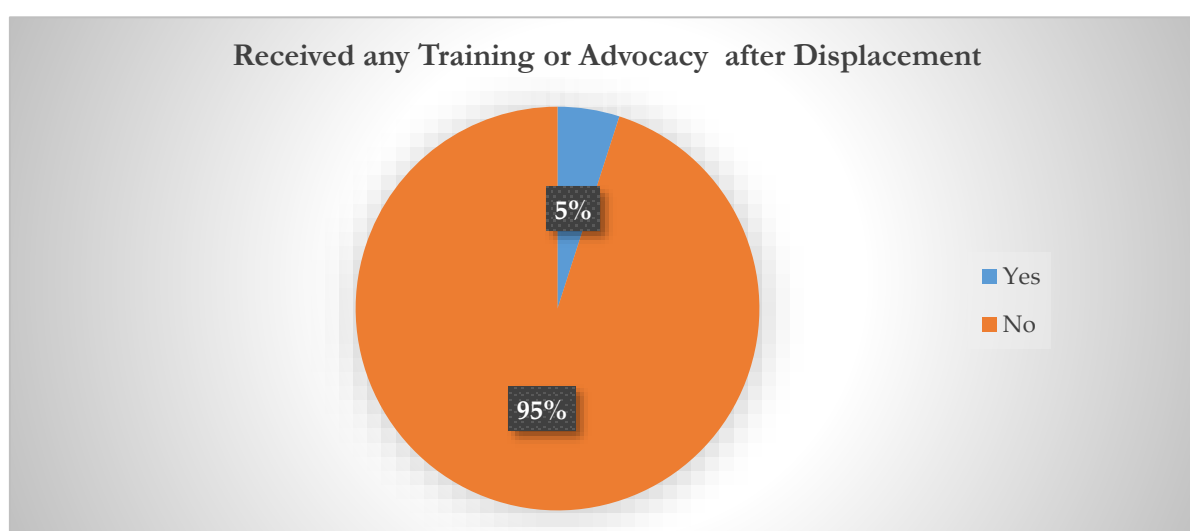


Figure 3. 9: Responses regarding training and advocacy for skill development

### 3.3.2. Impact of education and training on job

More than fifty percent (57.8%) of the women climate migrants reported that they faced difficulties on getting job for not having proper education and training and rest of the 42.82% of the respondents reported that they did not face any difficulties while getting job.

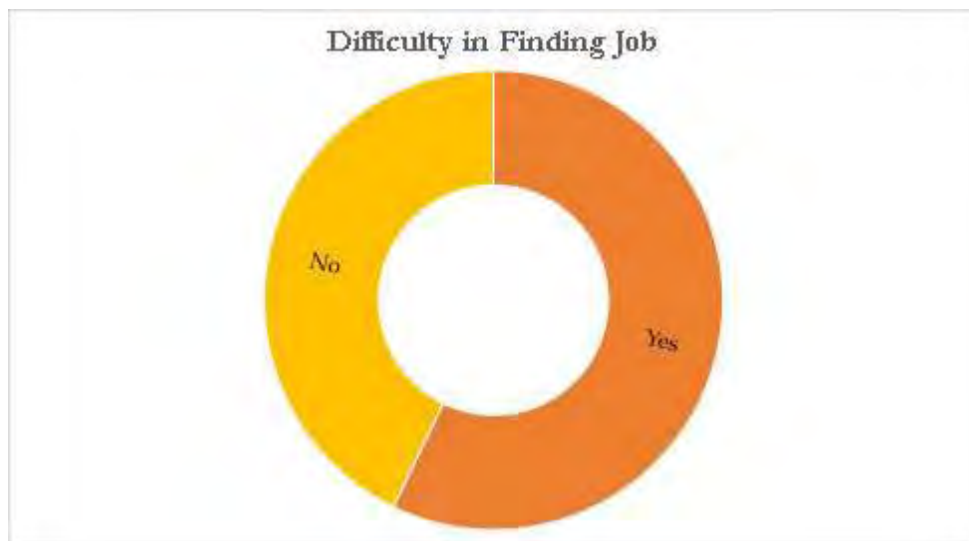


Figure 3. 10: Impact of education and training on job

### 3.3.3. Need of skill development training

Almost 72% of the respondent reported that they need skill development training to get better job facilities.



Figure 3. 11: Impact of education and training on job

### 3.3.4. Challenges faced during COVID 19

Result showed that about 41 % of respondents reported that they have lost their jobs, 26% of the respondents reported that their business closed during the lock down and 18% of the respondents reported that their salary was reduced and didn't get on time.

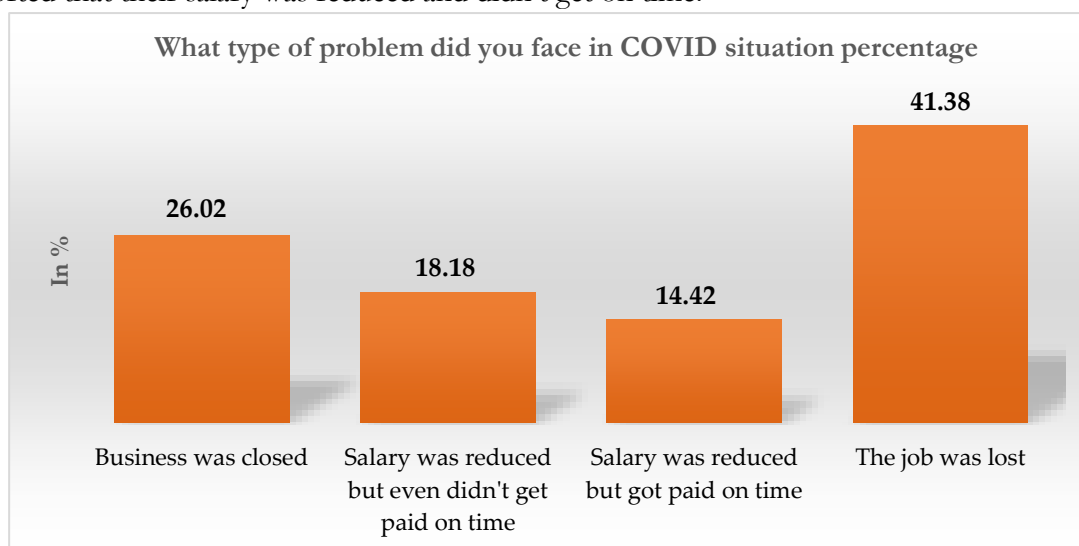


Figure 3. 12: Challenged faced during COVID 19

### 3.3.5. Source of income during Lockdown

During COVID 19 pandemic many of the CIM women have lost their income source and during the survey they were being asked how they have been managing their household expense. The study results show that, about 28.92% of them were using their savings to manage household expense, 9.64% get relief aid from the external source, only 2.46% received financial support from different organization and 13.99 (~=14%) did not received any help during the lockdown. A majority (44%) of the respondents (44.8%) mentioned that they have taken loan to manage their household expenditure

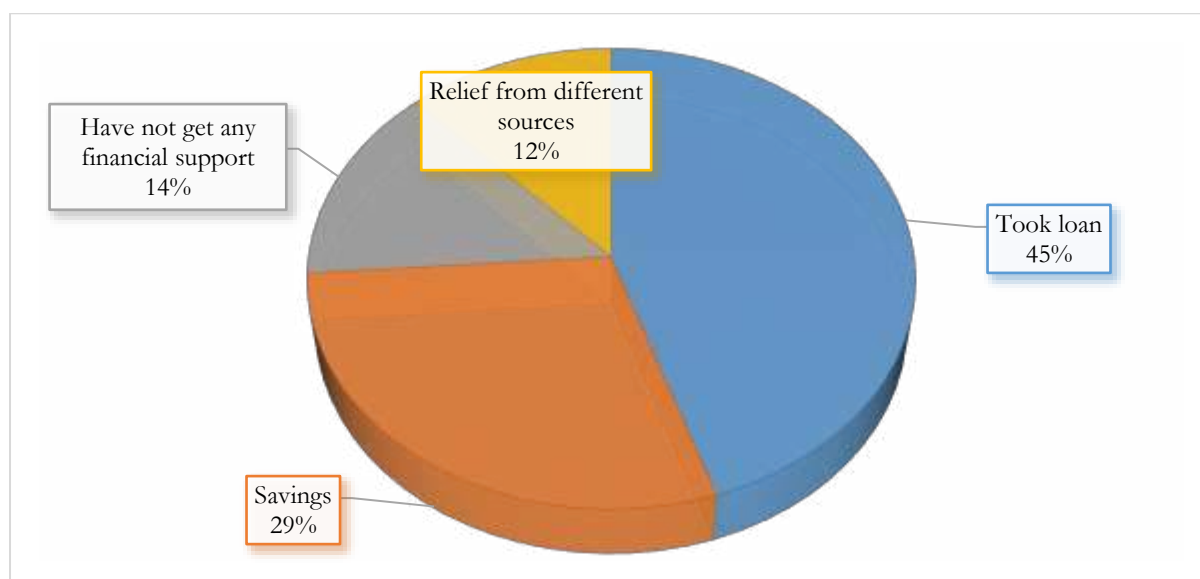


Figure 3. 13: Responses regarding sources of income during lockdown

## 3.4. Social Security and Vulnerability of Climate Migrant Women

### 3.4.1. Gender Based Violence Related Information

In our primary data collection, when we collected data from women workers, almost one of five women reported that they didn't feel safe at their neighborhood because of their displacement.

Some of them reported our enumerators that most of the times they faced rude behavior from the opposite gender of their neighbors.

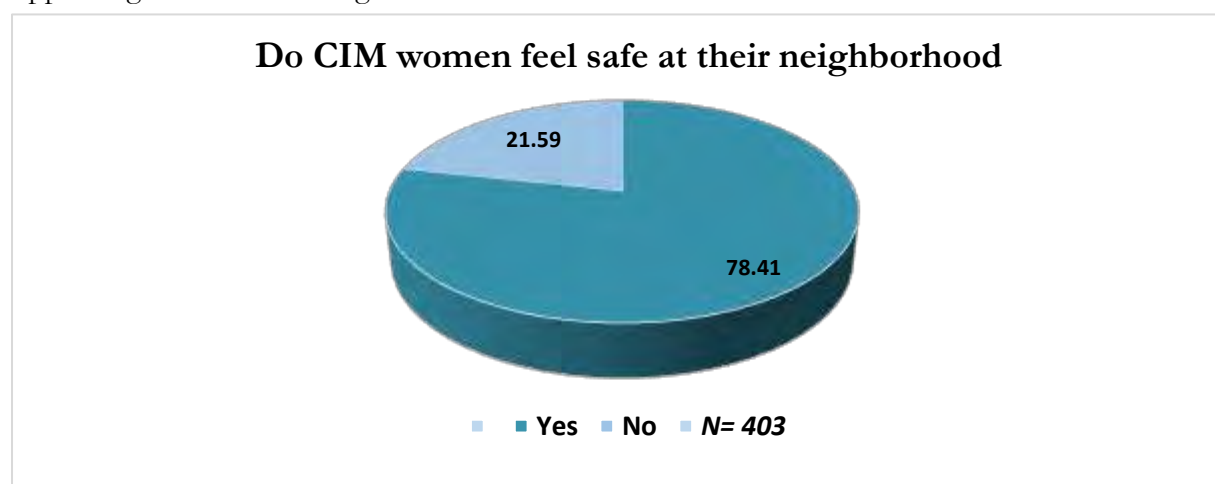


Figure 3. 14: Opinion about Harassment

The reason behind not feeling safe is some of them faced GBV after displacement. Though the rate of GBV faced women is not much high but it is alarming that in the 21<sup>st</sup> century when we talk about the SDG, a group of vulnerable people is facing such incidents what is not acceptable. 6.2 per cent CIM women workers reported us that they faced different types of GBV after displaced to Dhaka. In Bangladeshi context usually women didn't want to disclose their harassment related information especially to the unknown people. Though enumerators tried to collect the right information from them, if we see the pattern of the respondents who reported, most of them were married and the rate of reporting for the widow were zero. Here it might have a big impact of social norms. That's why may be the rate of reporting any harassment related incident of widows is zero. Those who reported their GBV incidents, all faced the oral abuse while one-third faced mental violence and 12 per cent faced physical violence respectively. Here the total sample size was only 25.

### 3.4.2. Redress and Access to legal Support

When we asked them, by whom they were victimized? Nine out of ten women addressed that after displaced to Dhaka at least one time, they were treated in a bad manner by their neighbors. On the other hand, 16 per cent said that they were victimized by the strangers. But the scare news is that only one of twenty-five directly reported to the police about their harassment.

Table 3. 6: Access to Legal Support

Where 19.35 per cent and 3.23 per cent women were asking for help from their family members and friends

What actions did you take against the GBV incidents	
Responses	Percentage in responses
Didn't take any action	45.16
Confronted the perpetrator	25.81
Ran from site	3.23
Asked for help from family	19.35
Asked for help from a friend	3.23
Reported to the police	16.00
Table 3. 7: Awareness about works of Rights organisations	
N= 25	

respectively. But a major number of women (45.16 per cent) didn't do anything against the incident.

There is a lack of information on a number of issues (like- rights and law related information) among women workers in Bangladesh, especially those displaced by climate change. 90 per cent CIM women don't even know any organization who work for the rights of women workers. There is a big gap created in the society. So, have a greater scope to work on it.

Do you know any of the organizations in Bangladesh who work on the rights of women workers?	
Response	Percentage
Yes	10.17
No	89.83
<i>N= 403</i>	

If we see the actions that was taken after the incident, A few numbers (12 per cent) of CIM women reported to the police. The number is too small to take any decision against the number of incidents that happened. The situation is so poor that one of ten victim women reported their incidents to the police. It might happen because the lack of information about this. It might happen also because of restriction of society.

### 3.4.3. Demand of CIM Women for Standard Lives and Livelihoods

According to the surveyed respondents CIM women, almost 88% demanded the descent job facilities by which they could meet the minimum expenses for livelihoods. It is also observed that among the respondents around 59% demanded for safe working and in-house environment, 56.6% claimed for access to water, improved sanitation facilities especially in the slums WASH facilities are precarious.

*Table 3.8: Demand for descent living standards*

Responses	Percentage in responses	Percentage in cases*
Descent job	25.5	88.3
Safe environment for women	17.0	58.8
Better housing	16.7	57.8
Access to wash and sanitation	16.4	56.6
Skill development or training	13.4	46.4
Access to education	10.9	37.7
Others	0.1	0.3
<i>N= 403</i>		

### 3.4.4. Willingness of CIMs to return back to displaced location

It has clearly demonstrated that around 87% climate-induced displaced women and their families would return to their home town if they were provided descent accommodation, opportunities for income generating and education facilities in your previous location.

*Table 3.9: Would you be willing to go back if you were offered accommodation, income and education facilities in your previous location?*

Response	Percentage
Yes	86.6
No	13.4

## Chapter: 4 Case Studies/ IDI

### Case story 01

**Respondent's name: Mst. Ruma Akhtar (Anonymous)**

**Age: 30 years**

Mst. Ruma Akhtar has faced riverbank erosion at least ten times in the village where she lived in. She has moved to Dhaka as she lost her dwelling in riverbank erosion. Ruma Akhtar has lost her home several times; as a result, she has suffered from extreme poverty. She faced difficulties in continuing bare the expanse of her children's education, and sometimes it became difficult for her to buy food for her household. Afterward, she was forced to migrate from her hometown to Dhaka. She added that her family directly moved to Dhaka, and at first, she and her family lived in Mirpur slum, then they were being evicted from the Mirpur slum, and now they live in Bauniabad slum. She mentioned that in her village, riverbank erosion is the most major disaster for which many families in her town had lost their livings and she has lost her land at least ten times. She also added that she had to leave her village due to climate change and had to shit in Dhaka, though currently, she is living a standard life. Due to riverbank erosion, a large amount of her village area is being eroded in the river along with house dwellings and cropland.

Mst. Ruma Akhtar has mentioned that including house rent, medical cost, educational cost monthly household expanse is around BDT 10,000 and she and her husband run this expanse. She said that her family household expenditure cost a lot that she could not able to save. During COVID 19 pandemic, she and her husband had lost their income source and had faced difficulties in running household expenses. During that period, she had not received any assistance from the government or any other donor agencies and led e hard life. She did not even get any help from the house owner. She feels if the house owner could consider her house rent and provide them with food, they could get helped.

Mst Ruma, by profession, is a domestic worker, but she has not received any work training. Because of not having skill development training, she could not get a job in any organization. She feels if she has had skill development training, she could get a better job with a better salary. Also, due to her lack of educational qualification, it has become hard to get a better job. She believes that to make them efficient in work, they need proper training and it would be great if they could get the training free of cost.

Mst Ruma said that she had not faced gender-based violence at her workplace; instead, her workplace has a safe environment. She also added that if she gets the chance to return to her village, she will return to her town. She believes that climate-induced migrant women do not have enough work facilities. Every organization should work to make these migrant women efficient workers and provide them with better job opportunities.

## Case story 02

**Respondent's name: Aklima (Anonymous), Age: 28 years**

**Occupation: Business (Tailoring)**

**Slum: Vasantake 1 no slum**

Mst. Aklima Begum is the victim of riverbank erosion. In 2008, her cultivable land got eroded, for which she was forced to leave her native village and had to migrate to Dhaka city. It is mentionable that she and many people around her neighborhood at her birthplace had shifted to different areas—currently, Mst. Aklima is the resident of Vasantake1, no slum, and this slum is occupied with many climate-induced female migrants. Mst Aklima mentioned that before moving to Dhaka, her family had not moved to any other place, and they directly moved to Dhaka from their birthplace as they did not have enough money. Hence, they directly moved to Dhaka city. She again mentioned that heavy rainfall and riverbank erosion are persistent phenomena in her birthplace storm. Due to heavy rainfall, crops get damaged, and due to riverbank erosion, their cropland and dwelling houses are eroded by the river. These climatic events had impacted her living in her birthplace; for example, heavy rainfall had damaged their crops. They faced difficulties in raising animals, for which her household earning got decreased. The last storm, Aila, occurred in 2009 that destroyed her household's dwelling, livestock, and cropland, which forced her and her family to migrate into a new place for better livings. Disaster induced by climate change has impacted her birthplace largely and caused her to relocate to Dhaka city. She observed that in her home, the intensity of riverbank erosion has increased. Many residences had to move into a new place as they lost their land in riverbank erosion.

Mst. Aklima has stated that after migrating to Dhaka, her family had received an excellent earning opportunity. At first, she started working as a domestic worker, but currently, she is managing her own business. She has set up a tailoring business, and her husband is a mason. Both of them are contributing to their household income and leading happy life. She also mentioned that after migrating to Dhaka monthly income of her household has increased. She said most of their earnings are spent on household needs; besides, they used those incomes in their children's education expense and saved some money. Her monthly household expense is around eight thousand takas, and the amount she and her husband earn is enough for her household; besides, she can manage to add money for the savings. Moreover, with her current household income, her living standard has been increased. Additionally, she said her family does not have any alternative income sources besides her and her husband's business and job.

Mst. Aklima mentioned that during the Covid19 pandemic, her family did not receive any assistance from the government or any other donor agency. She feels if they could get enough food facilities during the pandemic, it would have been beneficial. Besides that, if she could get a house rent waiver from the house owner, then it would also be helpful for her, but she had not received any help.

After migrating to Dhaka Mst. Aklima started working as a domestic worker with a small wage. She did not receive any formal, informal, or vocational training for work, and because of that, she could not get a better job. She feels if she got proper training for work, it would be easier for her to get a better job because in many places, before fixing her salary, she was asked if she had any training. She also mentioned that many climate-induced migrant women had received better jobs by presenting their potential skills; they have received training from different NGOs and working in various organizations. She again said that climate-induced migrant women are more vulnerable to incidence related to gender-based violence. She feels the domestic worker protection act 2005 is a social safety project that works to ensure a safe workplace and livelihood for rural women of Bangladesh.

## Chapter: 5 Discussion and Way Forwards

Climatic events may not only directly impact women and vulnerable populations, but also make them more vulnerable because of their interaction with socio-cultural factors as women tend to be poorer, less educated, have a lower health status and have limited direct access or ownership of natural resources, they are excessively affected by climatic risks. This study has identified the demographic scenario of climate migrants in urban slum focusing the Dhaka city and the factors forced them to migrate from their birthplace. This study has also addressed the current economic status of the household of climate migrant women and their involvement in income generating activities. This study has also identified the need of skill development training of the CIM women and the impact of lack of skill on the income opportunities. Being a most marginalized and vulnerable group of a country, women faced different form of gender based violence which has made the condition worse of the CIM women. This study has also bought the actual scenario of GBV of this most vulnerable group.

Climate change and natural disasters affect men and women in different ways. Vulnerability to climate hazard is also shaped by gender roles and responsibilities. Therefore, gender is a key analytical tool to climate migration. Climate change is predicted to continue and so will the adverse impacts on the life, livelihood of the population in Bangladesh either it is women and men. Unless the root cause of such gendered vulnerabilities and human rights abuses are addressed, these adverse impacts may only worsen the situation for women in Bangladesh. To reduce the worst effects and consequences of climate change on affected populations it is essential to develop gender sensitive policies, strategies and programs that empower population to adapt with the climate change factors in a proactive way. Local, national and international plans and policies are needed for ensuring the protection of the rights of climate change induced migrants.

### 5.1 Extent of climate induced migrants' women at the Dhaka-based slums

Almost 96% respondents were migrated from their home town. Almost 90% of the CIM women lost their local lands due to different natural disasters and migrated to Dhaka. Among the CIM families, one-fifth are from Barisal, 10% respondents are from Noakhali, 7% respondents are from Bhola, 5% respondents are from Rangpur and Sylhet, 4% are from Jamalpur, Khulna, Sunamgonj. About one-third CIM families have faced excessive rain and flooding in their locality, one-fourth CIM families displaced due to riverbank erosion, one-fifth CIM families were displaced due to severe storm and cyclone. However, only one-tenth CIM families had to migrate due to high salinity and landslides. Above findings is compatible with the climate vulnerability map of Bangladesh.

Among the reasons related to climatic change disasters, about one-fifth CIM female migrated due to excessive rainfall/flood; and around one-seventh CIM female faced drought, water scarcity, and unavailability of cultivable land and crop damages. Consequently due to climate induced disaster about 43% CIM women lost their family income in source whether from migrated or their locality livelihood and migrated for better job opportunity and higher income. Around half of the CIM women had lost their land and homestead settlement due to extreme weather events, thus they migrated from their living places and migrated to Dhaka.

### 5.2 Access of CIM women workers to employment and skill development

More than fifty percent of the CIM women were housewives before their displacement, but after the migration of CIM women to Dhaka 51% have been engaged as domestic works either in households or offices. Interestingly, before the displacement, not a single woman was involved as domestic worker. Before the displacement only 16% of the respondents were day/wage labor in the cleaner, waste collector, municipality, agriculture farm, industries etc. but after migration to

Dhaka one-third has become the day/wage labor. Among them around ten percent has been involved as RMG workers.

Interestingly, before the displacement around one-eighth (12.71%) respondent women or her family members were engaged as SME<sup>7</sup> Owner, however, after migration of CIM women the opportunity has been increased and around one-fifth of the respondents are now involved in SME related IGA activities e.g. grocery store, tea stall, vegetable/ fruit seller, street hawkers, poultry farming, swing, cow/ buffalo production etc. Around one-fifth are involved in formal jobs which are RMG workers, day labor etc.

However, after migration almost 88% of the respondents stated that their income has increased due to migration. It means that access of the CIM women into the jobs or earning has been enhanced almost half-of housewives have been transformed to informal jobs, but they lack descent jobs. It has been observed that 95.04% of the climate migrants women did not receive any training and only around 5% of the CIM women have get any training before perusing their job. Consequently, around 85% CIM women lack access to formal jobs. Six among ten CIM women faced difficulties on getting job for not having proper education and training. Almost seven among ten CIM women need skill development training to get better job facilities.

### **5.3 Extent of vulnerabilities including GBV faced by the CIM women**

Around three-fourth of CIM women claimed that migration moderately improved their living standard from earlier and only one-tenth CIM women have claimed that their living standard deteriorated. Almost one of five women reported that they didn't feel safe at their neighborhood because of their displacement. Nine out of ten women addressed that after displaced to Dhaka at least one time, they were treated in a bad manner by their neighbors Some of them reported that most of the times they faced rude behavior from the opposite gender of their neighbors. The reason behind not feeling safe is some of them faced GBV after displacement. 6.2 per cent CIM women workers (N=403) reported us that they faced different types of GBV after displaced to Dhaka.

Though the reported cases of the GBV is not much higher but it is alarming that in the 21<sup>st</sup> century when we talk about the SDG, a group of vulnerable people is facing such incidents what is not acceptable. In Bangladeshi context usually women didn't want to disclose their harassment related information especially to the unknown people. Those who reported their GBV incidents, all faced the oral abuse and one-third faced mental torture and one-eighth faced physical violence respectively. Though enumerators tried to collect the right information from them, if we see the pattern of the respondents who reported, most of them were married and the rate of reporting for the widow were zero. Here it might have a big impact of social norms. That's why may be the rate of reporting any harassment related incident of widows is zero.

In terms of grievance reporting, half of them did nothing or giving effort to redress the grievance. The situation is so poor that one of ten victim women reported their incidents to the police. It might happen because the lack of information about this. It might happen also because of restriction of society. There is a lack of information on a number of issues (like- rights and law related information) among women workers in Bangladesh, especially those displaced by climate change. Nine out of ten CIM women don't even know any organization who work for the rights of women workers. There is a big gap created in the society. So, have a greater scope to work on it.

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<sup>7</sup> Grocery store, tea stall, vegetable/ fruit seller, street hawkers, poultry farming, swing, cow/ buffalo production etc.

## 5.5 Legal and policy supports for the protection of CIM women

Due to absence of any evidence-backed comprehensive welfare policy CIM women and their families are vulnerable as well. However, during COVID 19 about four among ten CIM women have lost their jobs, one-fourth CIM women entrepreneurs closed during the lock down and salary of one-fifth was reduced and didn't get on time. About one-fourth Covid 19 victims who are also CIM women used their savings to manage household expense, only one in ten CIM women received relief/aid from the external sources, and only 2.46% received financial support from different organization. Around one-seventh CIM women did not receive any help during the lockdown. However, it has been observed that migrated women who are already victim of climate change have further jeopardized due to Covid 19 as around 45% CIM women and their families were compelled to take loan to manage their household expenditures.

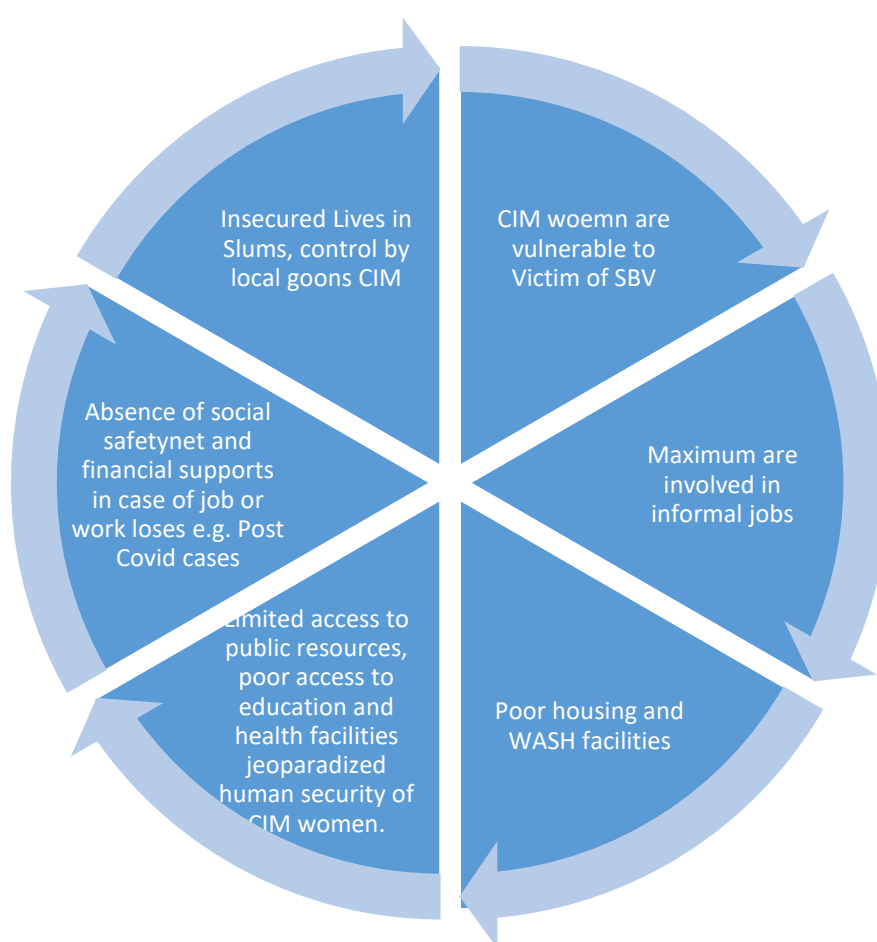


Figure 3. 8: Overall risks for CIM women at urban slums

Internal migration is common in Bangladesh—driven by both economic and environmental factors, and mainly toward urban areas. Major cities such as Dhaka already face challenges in absorbing influxes of migrants (Alam et al. 2018). Rural-urban migration is increasing the concentration of poor people in urban areas and putting a strain on urban and social services.

However, Bangladesh was projected to account for a third of internal climate migrants in South Asia by 2050 in the pessimistic reference scenario, due to its growing population and high vulnerability to climate change. Bangladesh's Perspective Plan 2021–2041 identified climate change

as a driver of future migration and also recognized migration as a potential adaptation option for people living in the most vulnerable areas (Government of Bangladesh 2020). It also acknowledges the need for both incremental and transformational approaches to build resilience to climate change in key sectors, especially agriculture.

## 5.5 Way Forward

Within the above evidence following evidence-backed way forward are recommend-

### A. Global level

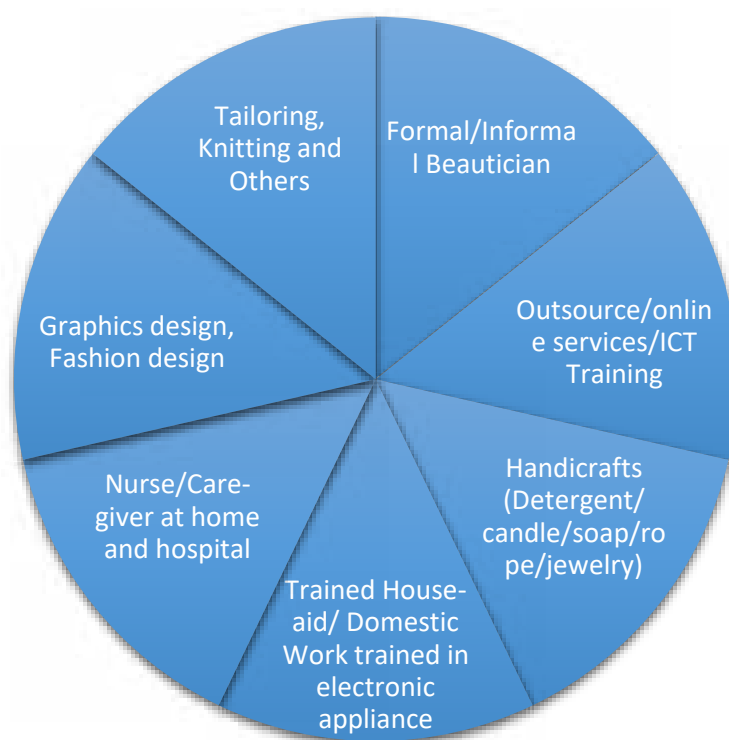
- a) Immediate actions to drastic cut to global greenhouse gas emissions as well as ensure equitable, inclusive and resilient development is essential to reduce as much as 60–80 percent of the internal climate migration.
- b) Bangladesh along with other member states of the Climate Vulnerable Forum (CVF) must provide concerted efforts for raising effective demand for immediate time-bound roadmap to design a global mechanism to address the climate migrant issues globally from humanitarian grounds
- c) Developed countries must provide concrete commitment in CoP26 to mobilize dedicated funds under the Warsaw International Mechanism (WIM) to ensure equity, justice and well-being of the CIMs especially the descent works of the climate victim women.

### B. National level

- d) Governments, development partners, NGOs and private sector should jointly develop a comprehensive “CIM Welfare Strategy” in compliance with the Paris Agreement and Mujib Climate Prosperity Plan (MCP). Integrate internal climate migration in potential green, resilient, and inclusive development planning.
- e) An E-database on CIM people should be created where all information about their current status and mobility related information would be available.
- f) Evidence-backed and well-designed plan for each phase of migration-before, during, and after moving, so that internal CIM as an adaptation strategy could bring positive outcomes. Before migration, ‘adapt-in-source’ can encourage communities to stay in place where community-led adaptation options are feasible and sustainable. During migration, policies and resource mobilizations could support safe mobility for the victims who are compelled to move away from unavoidable climate disaster risks. After migration, planning should ensure that both migration source areas and accommodated town/cities/areas are prepared and adequately equipped to meet the basic needs and standard lives of the populations.
- g) Bangladesh has also adopted a strategy to develop secondary cities and towns for creating innovative and new economic, education, and employment opportunities. To ensure the welfare of the CIM the government should identify climate-resilient and migrant-friendly compact towns/cities closer to the stressed regions that could act as new alternative economic hubs able to provide key services, such as education, housing, health care, and sanitation.
- h) Through urban planning that integrates climate-resilient infrastructure, coupled with economic opportunities and public services, the project aims to make Mongla an attractive alternative to Dhaka.
- i) Expanding the well-designed and proper-assessment-based “My Village, My Town” to improve infrastructure and amenities in rural areas and thus slow migration to cities. The initiative includes plans for climate-resilient road networks, providing adequate water supply, developing community spaces, and rural infrastructure development to bridge the rural-urban divide.
- j) To address the GBV, the proactive efforts is required from both the law enforcing agencies and local NGOs for monitoring, reporting and prompt trail of the allegations of victim CIM

women. To reduce the incidence of DW harassment, a one-stop-shop should be established in each ward/union level.

- k) Regular research at all sources to identify and track real number of CIM families from climate disaster-prone areas and their loss and damages; non-compliance of providing basic needs of CIM women and their families in accordance with national and international labor policy and laws.
- l) Inter-disciplinary studies on CIM women explicitly outlining the impacts on men and women are required for a more insights of the gender dimensions.
- m) Under the Public-Private Partnership (PPP), Bangladesh Skill Development Authority should adopt specific efforts to promote CIM women's IGA focused and sustainable technology-based trainings so that mobility can't hamper the economic opportunities' and study has indented the following trainings would empower the CIM women-



The study findings reaffirms that CI migrants will continue to be the humanitarian crisis in as long as climate change impacts intensifies. The adverse impacts of climate change will drive migration flow depending on the timely actions taking consideration of the “Whole-of-society” approach. Science- and human rights interface could only curb the immense risks of climate induced migrants pressure in coming days. Decentralized economic and social efforts care fundamental to address the climate induced internal displacement with proper attention by policymakers. Early and far-sighted global, regional, and national action is imperative to address the urgent challenges at the nexus of climate, migration, and sustainable development for all.

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## Annexures

### Annex 1: Changes in profession of CIM women

Profession	Before displacement %	After displacement %
Housewife	53.06	1.47
Domestic worker (house and office)	-	51.1
Day/wage labor	16.14	6.11
SME Owner	12.71	19.32
Student	8.07	-
Farming	7.33	-
Formal/Salaried job	1.71	2.44
RMG worker	-	11.74
Cook at restaurant/hostel	-	2.2
Other	0.98	5.62