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Assessing the Effectiveness of Climate Adaptation Initiatives for Climate-Induced Migrants: Evidence from Rasalpur Slum in Barishal City Corporation

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ABSTRACT

Climate-induced internal migration is increasingly becoming an adaptive strategy in response to environmental degradation and disasters. This study investigates the impact of climate change policies on the lives of climate-induced migrants residing in Rasulpur Slum under the Barishal City Corporation, Bangladesh. The research primarily aims to assess the level of awareness of climate change policies among these migrants, compare their socioeconomic conditions before and after migration, and examine the support provided by relevant authorities. A mixed-method approach was adopted, involving a quantitative survey of 60 respondents selected through systematic sampling and qualitative data collected via five key informant interviews. The findings reveal limited awareness about climate change policies among migrants and highlight both improvements and deteriorations in their post-migration conditions. While schooling opportunities and savings behavior have improved, challenges persist in housing, access to clean water, and women's employment. The study concludes that despite migration serving as a coping mechanism, policy implementation gaps and inadequate institutional support hinder the long-term wellbeing of climate-affected populations.

JEL Classifications: Z10, Q01, Q54

Keywords: Internal Migration, Climate-induced Migration, Climate Change Policy, Slum-Dweller.

INTRODUCTION

Migration is a significant component for shaping the distribution of population in a country between and within countries (Bell et al., 2015). The information on international migration is more frequent and available than on internal migration (BRAC, 2018; Neelim and Siddiqui, 2015). Nevertheless, the internal migration rate is two-thirds in Bangladesh (Afsar, 2003). The livelihood and economic shapes of the population are influenced largely by internal migration (Farhana et al., 2012; Marshall and Rahman, 2013). There is a positive economic consequence of the internal migration (Alam and Mamun, 2022) including raising

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GDP, and remittances (Marshall and Rahman, 2013). However, migration is a rational decision for individual and collective development (Farhana, Rahman, and Rahman, 2012). One thing is that climate changes are the foremost factors of internal migration (Ullah, 2004).

Climate-induced internal migration refers to the movement of people from one area to another within the same country due to climatic problems or seasonal environmental changes (Gupta, 2020). In Bangladesh, this form of migration has become increasingly important because the country is highly disaster-prone and vulnerable to climate-related hazards. For many affected people, migration is a strategy to reduce risk and protect their lives and livelihoods (Kartiki, 2011).

After leaving their places of origin, many climate-induced migrants settle in urban slum areas. However, life in these settlements is often difficult, as migrants face problems related to housing, sanitation, water supply, and other public services (Ahsan et al., 2014). Although many migrants move in search of better economic opportunities, these expectations are not always fulfilled.

Some studies show that migrants relocate to urban areas for improved livelihood opportunities and income generation (Gazi et al., 2017). Yet, their economic condition often remains unstable. During the COVID-19 pandemic, many internal migrants lost their jobs or sources of income and were forced to return to their native areas (Rahman, 2022). This suggests that not only natural disasters, but also health and economic crises, can influence patterns of migration and return migration.

Khulna and Barishal are both coastal and disaster-prone regions of Bangladesh, where climate-related migration is common. Many people move into and out of these areas due to environmental stress and livelihood insecurity (Household Survey in Bangladesh, 2020). At the national level, Dhaka continues to receive a large number of disaster-affected migrants. It has been reported that around 2,000 people enter Dhaka city following disaster impacts, contributing to the growing pressure of climate-induced displacement in urban areas (Sun, 2022). That's why it is called that climate migration is one kind of tackle-of adaptation to climate change (Naser et al, 2019).

This study was conducted on the climatic migrants in Rasulpur slum of Barishal City Corporation and tried to compare climate migrants' perception on policy-induced impact on socio-economic status before and after migration. Readers interested in this selected topic will benefit from this study and be guided by the expected research outcomes for further study.

BACKGROUND OF THE STUDY

People in developing countries respond to climate change through internal migration (Waldinger, 2015). Due to the environmental and Climatic problem, people failed to cope up with their existing livelihood and thus they have to face forced displacement in the slum area of the city from their own land (World Bank, 2016) and in this way slum area is created and this migration is called environmental migration.

After migration, poor people often settle in slum or trespasser areas. In Barishal Division, the total slum population was 49,401, and it was reported that all were environmental migrants. The total number of migrants was 4,593 in the early era of the 21st century (BBS, 2011).

There are several common hazards in the coastal areas of Bangladesh, such as drought, sea level rise, tidal inundation, riverbank erosion, flood, cyclone, storm surges, earthquake, and fire (Ahsan, 2019). Among these hazards, climate change is considered one of the major drivers of internal migration in coastal regions (Khan, 2022). Barishal is one of the coastal areas of Bangladesh and is therefore highly exposed to these climate-related hazards.

A few climate change-related policies are available in Bangladesh (Martin et al., 2013), but the impacts of their implementation are still not clearly visible. After migration, climate-induced migrants experience both positive and negative changes in their lives.

On the positive side, some studies show that migrants have been able to increase their income after migration (Hossain, Afsar and Bose, 1999; Gazi et al., 2017). They have also been able to save money and earn cash income more regularly (Gazi et al., 2017). In some cases, migrants have improved their livelihoods in the city compared to their previous conditions in their place of origin (Farhana et al., 2012). They have also been able to improve their status and wellbeing through social capital after migration (Rahman and Rana, 2016).

Similarly, people living in the Korean Development Corporation (KDC) slum in Barishal, Bangladesh, realized that migration could be a useful solution for improving their income level and livelihood conditions (Islam et al., 2021). In addition, women have been able to contribute to family income by joining the informal sector after migration (Farhana et al., 2012). However, these positive changes are not always long-lasting (Gazi et al., 2017).

On the negative side, climate-induced migrants often face serious socioeconomic difficulties after migration. Their income and savings may decline, which forces them to reduce household expenditure and health-related costs (Roy and Basu, 2019). They also have limited access to health and education facilities after moving from their original areas to urban slum settlements (Rana and Ilina, 2021).

Slum dwellers (climatic migrants) are the sufferer of the inadequate environmental services such as housing, safe water, sanitation facilities, etc. (Rana and Pirachan, 2020). Basically, they migrated to recover their economic status fighting poverty and so this type of fighting is a strategy to decline poverty but there is no conformity this strategy will be ensured (Kothari, 2002). Based on the above information, migration is an adaptation strategy among climate-victim migrants. Because they migrated from their land due to adverse environmental problems, it is noted that after migration, they face enormous crises.

LITERATURE REVIEW OF THE STUDY

Climate Migration

Migration happens due to natural disasters such as tsunami, floods, droughts, earthquakes etc. is called environmental migration (Gupta, 2020) or climatic migration. These migrants are called climatic migrants or climatic refugees (Bettini, 2014). They are migrated only for push factors and even they have limited choice in terms of migration (Ahsan et al., 2014). Sometimes people of the disaster-prone area moved their place for livelihood stress and economic crisis not environmental factors (Paul, 2005; Rahman et al., 2015). However, climate migration is one kind of mechanism of adaptation to climate change (Naser et al., 2019). In Bangladesh context 2,000 people are moving to Dhaka every day and it is beset by over 10 million climate refugees according to the Mayors Migration Council (Sun, 2022). Besides, about 97105 in Barishal division and about 16000 people in Khulna division were forced by different extreme climatic events to migrate from their own house and land to another nearby area (Household Survey in Bangladesh, 2020).

Socioeconomic Status of the Migrant Population

Reviewing the articles, it is seen that poor people leave their own area due to climatic problems and many other reasons and move to other slum areas in the hope of a better life. In reality, there are both positives and negatives impact of migration in their socio-economic lifestyle of displaced population. For economic purpose, migration was a positive indicator for displaced population because it helped to increase their income level (Hossain, Afsar and Bose, 1999). Also, they were able to save money and to earn cash money (Gazi et a., 2017). Both men and women benefited joining in the informal economic activities like restaurant workers, maid servants, and daily laborer's (Farhana et al., 2012). These works were the indicators to remove unemployment rate because they had no had no work or did not work before migration; better job searching was the main purpose behind their migration (Islam and Baten, 2016). We know that poverty is a barrier and a serious enemy of the developing country. Due to extreme level poverty, poor people take decision to migrate urban area for better income and better lifestyle. So, Migration can be a strategy to get out poverty (Kothari, 2002). Note that, slum dwellers in the Barishal city take loan from different NGOs with high interest which creates extra burden for them. As a result, they are migrated in urban areas mitigating their burden and extra tension (Islam et al., 2021). On the other hand, displaced population especially climate-induced migrants because their income and saving are still low that's forced to decrease the expenditure cost and health cost is raised (Roy and Basu, 2019). For the educational purpose, displacement can be removed there is a wide gap between them urban and rural areas in terms of both quality of education and type of the educational facilities (Haidar and Kabir, 2010). Moreover, good social networks, securing productive assets, reducing dependency ratios and choosing appropriate destinations are the successful factors for their wellbeing after migration from their own land (Rahman and Rana, 2016). In the negative sense, rural to urban migration creates a lot of housing problems which results are the low space of living. Many people are confined to one room with more members, and they faced toilets facilities and cooking facilities. Even their children are not open space to play (Gazi et al., 2017). Also migrated people have limited

accesses to health and education facilities in the slum area of Dhaka city (Rana and Ilina, 2021). Water Supply is very erratic and inadequate there (Khan, Hossain and Kraemer 2014) that means urban slum dwellers who are migrated from other are deprived of satisfactory environmental services such as housing, safe water, sanitation facilities, etc. (Rana and Pirachan, 2020). Generally rural people are forced to migrate in the urban area that is for saving deficit, economic activities. But in the time of Covid-19, garments workers were forced to return their homeland due to the shutdown of their working place (Rahman, 2022). In the Rajshahi city, although poor migrants have contributed significantly to economic growth and earned higher wages in high productive areas, they are still socially and economically deprived of the greater benefits of economic growth, such as food and education, housing, sanitation and independence (Farhana et al., 2012). In terms of physical and mental health, rural to urban migrants in living in slums are vulnerable highly due to lack of adequate housing and health knowledge and more smoking (Khan and Kraemer, 2014). Besides they involved in the involved in the informal economy. Because of their involvement in the informal sector, they always face high levels of risk and harassment this also hampers their physical and mental fitness (Hossain and Khan, 2012). Worth mentioning, climate migrants suffered from a lack of adequate water, insufficient drainage system, lack of toilets, tube well and bathing facilities, inadequate hygiene management, lack of basic skills required for urban, lack of jobs, low wages and income (Khan, 2022). Even a lack of skills for tertiary professions they are unable to obtain a decent profession. The female members have a large percentage of illiteracy, so they remain at home excessively (Tanni et al., 2014).

From the discussion above, it is clear that the socioeconomic situation of the population before internal migration has altered somewhat because of climatic issues or for any other reason. In the review of the research mentioned above paper, this change which assures them of a happier and healthier life, was also not noted. However, several studies specifically point out that the former means of subsistence of immigrants were not always inferior to those used today. Nevertheless, their advantages following their relocation did not promote a healthy way of life.

CONCEPTUAL FRAMEWORK OF THE STUDY

Climatic migration is one kind of coping mechanism with the devastating effects of natural disasters (Bettini, 2014). The conceptual framework of this study in the ***Figure 1*** was developed to ensure consistency in the measurement of socioeconomic status before and after migration. In the earlier version, the indicators of socioeconomic status appeared different across the two phases, which created difficulty in making a valid comparison. To address this limitation, the present framework uses the same set of socioeconomic indicators for both the pre-migration and post-migration periods. These indicators include schooling status, access to drinking water, access to household water, housing condition, women's work participation, income, savings, and loan status. Using identical indicators at both time points allows a more systematic comparison of the migrants' socioeconomic conditions.

The framework assumes that climate-related hazards such as flood, cyclone, riverbank erosion, salinity intrusion, and tidal inundation act as the major driving forces behind climate-induced migration. Once migration occurs, the study examines how

migrants' socioeconomic conditions change from their place of origin to their place of destination. In this sense, climate-induced migration is treated as the central process through which climate vulnerability influences socioeconomic life.

To make the comparison methodologically sound, information on both before-migration and after-migration conditions was collected from the same respondents through retrospective self-reporting. Each respondent was asked to describe his or her condition before migration and the present condition after migration using the same variables. The responses were then categorized and compared through percentage distribution and descriptive analysis. Thus, the comparison is not based on two different groups, but on the same migrant households across two different time points.

The framework also incorporates policy awareness and institutional support as two important explanatory dimensions. Policy awareness refers to the respondents' knowledge or understanding of climate change-related policies, adaptation initiatives, or support programs available for climate-affected populations. Institutional support refers to the assistance received from government agencies, NGOs, city corporations, or other relevant bodies. These two variables are included because awareness and support may influence the extent to which migrants can adapt successfully after relocation.

In this study, climate change initiatives are connected to socioeconomic variables through their potential role in shaping post-migration outcomes. For example, when migrants are aware of support mechanisms and are able to access institutional assistance, they may experience better opportunities in housing, water access, livelihood support, schooling, or financial stability. On the other hand, lack of awareness or weak institutional support may worsen vulnerability and limit the adaptive benefits of migration. Therefore, the framework does not treat socioeconomic change as an isolated outcome; rather, it is understood as being influenced by both migration itself and the level of policy-related support available to migrants. Overall, the conceptual framework provides a clearer analytical structure by linking climate-related hazards, climate-induced migration, policy awareness, institutional support, and socioeconomic comparison before and after migration. This structure strengthens the internal logic of the study and improves the interpretation of the research findings.

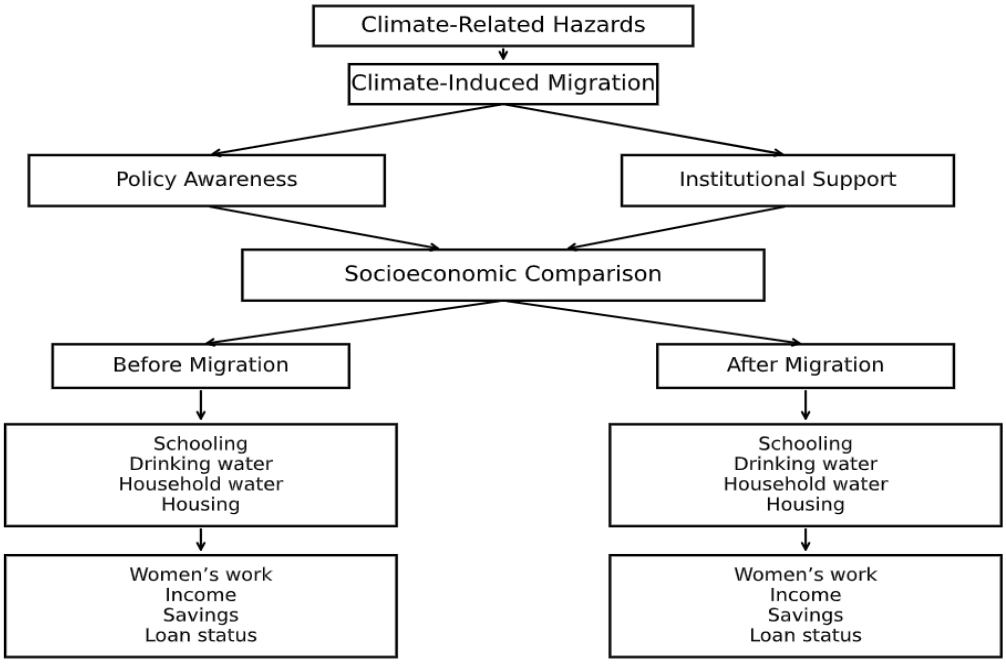


Figure 1 Conceptual Framework; Source: Authors

SIGNIFICANCE OF THE STUDY

This study is significant socially because it contributes to the growing body of knowledge on climate-induced internal migration by linking environmental hazards, migration, policy awareness, institutional support, and changes in socioeconomic conditions within a single analytical framework. Theoretically, it helps clarify how migration operates not only as a survival response to climate stress but also as a complex adaptation process shaped by access to services, livelihood opportunities, and support systems. Socially, the study is important because it focuses on the lived realities of climate-induced migrants in an urban slum setting, where vulnerabilities related to housing, water, income, women's work, and financial insecurity remain highly visible. By examining these issues in Rasulpur Slum of Barishal City Corporation, the study provides evidence that can help policymakers, local authorities, NGOs, and development practitioners design more effective, inclusive, and context-sensitive interventions for climate-affected populations.

METHODOLOGY OF THE STUDY

The core of the entire research effort is the methodology (Yasmin and Hossain, 2021). This study used a mixed method. The Rasulpur slum is located in Barishal's Ward No. 9 (9) of the city corporation. The largest proportion of migrants in our survey is one thing. Rasulpur has a total population of 6000 people, according to Barishal City Corporation (Population Census in Bangladesh, 2010). Here, 60 populations out of 6000 are chosen following systematic sampling process. It is indicates that a sample of one out of every hundred people is used. So, the exact sample size of the study is 60.

A key component of study technique, design, sample size, population, location, and topic validation are justification. One type of research design for the study is the mixed method (Neuman, 2016). Rasulpur was chosen as the study location because it is a slum region with a high migrant population. The populations in this region are primarily displaced (BBS, 2011).

However, among the chosen sample, males and females were chosen using a purposive sampling technique. They are the subject of a survey using a semi-structured questionnaire. The primary data that were directly acquired from the chosen study location are what this research is mostly based on. For a better representation, some additional secondary data are employed to accentuate the study's main points. This information on Bangladesh's climate-vulnerable regions, migration, and overall migration has been compiled from journals, books, research publications, and other materials. The collection of data taken place between November 28 and December 11, 2023. Using SPSS software and an Excel sheet tools for quantitative data, these have been displayed in tables, graphs, charts, diagrams, and other ways through percentage distribution. The first part assigned the demographic factors of the respondents, such as (gender, age, and educational qualification of the respondents). Then, the other parts are linked to the objective of this study.

Justification of the Methodology

The methodology of this study was designed to suit its descriptive and comparative research objectives. A systematic sampling method was followed in the quantitative phase because the target population in Rasulpur Slum was relatively concentrated, and selecting respondents at a fixed interval provided a practical and organized way to ensure wider coverage of the study area while reducing selection bias within existing time and resource limitations. Simple percentage analysis was considered sufficient because the main aim of the study was to describe and compare the socioeconomic conditions of climate-induced migrants before and after migration across selected indicators such as schooling, water access, housing, women's work, income, savings, and loan status, rather than to establish causal relationships or predictive models. In addition, a qualitative component was included through Key Informant Interviews (KIIs) using a semi-structured interview guide, as this method allowed the researcher to gather deeper contextual insights and institutional perspectives that could not be captured through survey responses alone. The qualitative data were analyzed to identify key patterns related to policy awareness, institutional support, and post-migration challenges, thereby complementing the quantitative findings and strengthening the overall interpretation of the study.

DATA ANALYSIS AND FINDINGS OF THE STUDY

Demographic Status of the Respondents

In this study, climate-induced migrants are considered the respondents of the survey method. At the very first of the study, the respondents are asked about demographic variables consisting of age, gender, religion, occupational, and educational status presented below Table 1.

TABLE 1. DEMOGRAPHIC STATUS OF THE RESPONDENTS

Demographic Criteria		**Frequency (f)**	**Percentage**
Age	20-30	23	38.3
	30-40	13	21.7
	40-50	7	11.7
	50-60	7	11.7
	60-70	7	11.7
	Below 20	3	5.0
	Total (n)	**60**	**100.0**
Gender	Male	24	40.0
	Female	36	60.0
	Total (n)	**100**	**100.0**
Religion	Islam	56	93.3
	Hindu	4	6.7
	Total (n)	**100**	**100.0**
Occupation	Farmer	2	3.3
	Fisherman	8	13.3
	Small Business	10	16.7
	Hawker	1	1.7
	Tailor	4	6.7
	Housewife	21	35.0
	Housemaid	7	11.7
	Midwife	1	1.7
	Student	2	3.3
	Day Labour	3	5.0
	Govt. Employee	1	1.7
	Total (n)	**100**	**100.0**
Education	Illiterate	26	43.3

	Primary Passed	21	35.0
	Under SSC	7	11.7
	SSC Passed	6	10.0
	Total (n)	**100**	**100.0**

Source: Field Work, 2022

From Table 1 it is seen that the total sample size (n) of the study is 60. Among them, 38.3% of respondents are between 23 and 20 years of age. 21.7% of respondents are between 30 and 40, 11.7% are between 40 and 50, 50 and 60, 60 and 70 years of age. Only 5.0% are the below 20 years of age. From this statement the participation of respondents aged 20-30 years is higher in the study. According to gender, 40.0% of respondents are male that's the frequency (f) is 24 and 60.0% are female that's frequency (f) is 36. Female respondents are more than male. For religion, the percentages of Muslims and Hindus are 93.3% and 6.7% among the respondents. The percentage of Muslims is recorded as higher than Hindus. In the study are, there are different types of work status for earning livelihood. For occupation 3.3% are farmers, 13.3% are fishermen, 16.7% are small businessmen, 1.7% are hawkers, 6.7% are tailors, 35% are housewives, 11.7% are housemaids, 1.7% are midwives, 3.3% are students, 5% are day labors and only 1.7% are Govt. employee. Lastly, this table showed the educational status of the respondents. A large part is illiterate among them whose percentage is 43.3%. Besides, 35% have primary level education, 11.7% educational qualifications are under SSC. Only 10% are SSC passed.

Comparison of the Social Status before and after Climate-Induced Migration

This section indicated the comparison of the social status before and after climate-induced migration. Here social status means educational status, access to water, housing status, and religious status.

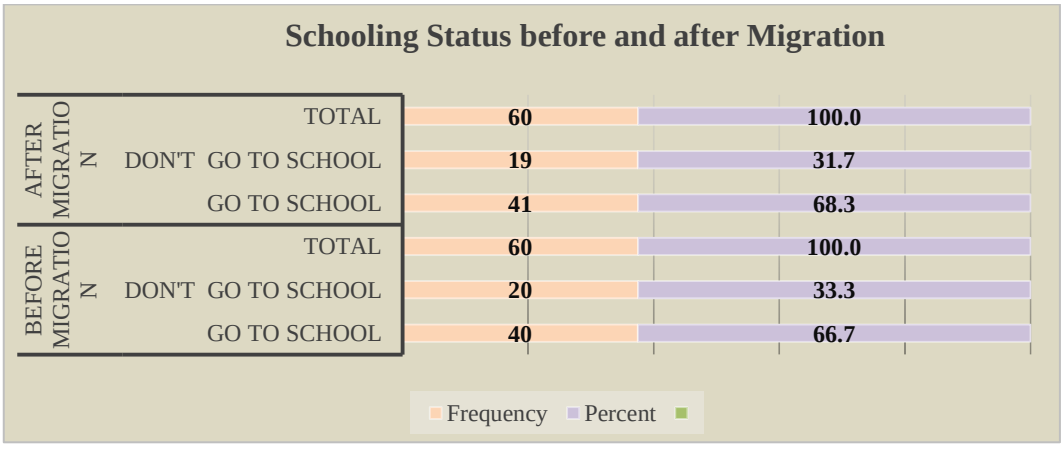


FIGURE 2. SCHOOLING STATUS BEFORE AND AFTER CLIMATE-INDUCED MIGRATION

Figure 2 views that 66.7% of respondents said that their children got the opportunity to go to school before migration while 68.3% of respondents argued that their children get the opportunity to go to school in the present livelihood system. Similarly, 33.3% of respondents claimed that their children did not have the opportunity to go to school before migration while 31.7% of respondents also claimed that their children don't have the opportunity to go to school in the present livelihood system. Schooling status is comparatively better in the present livelihood system than before migration.

Qualitative Insight (KII): A local schoolteacher interviewed noted that while access to education increased post-migration due to the presence of government primary schools nearby, *"many children drop out early to help parents earn or care for younger siblings."* This indicates that while access improved, sustained attendance remains a challenge.

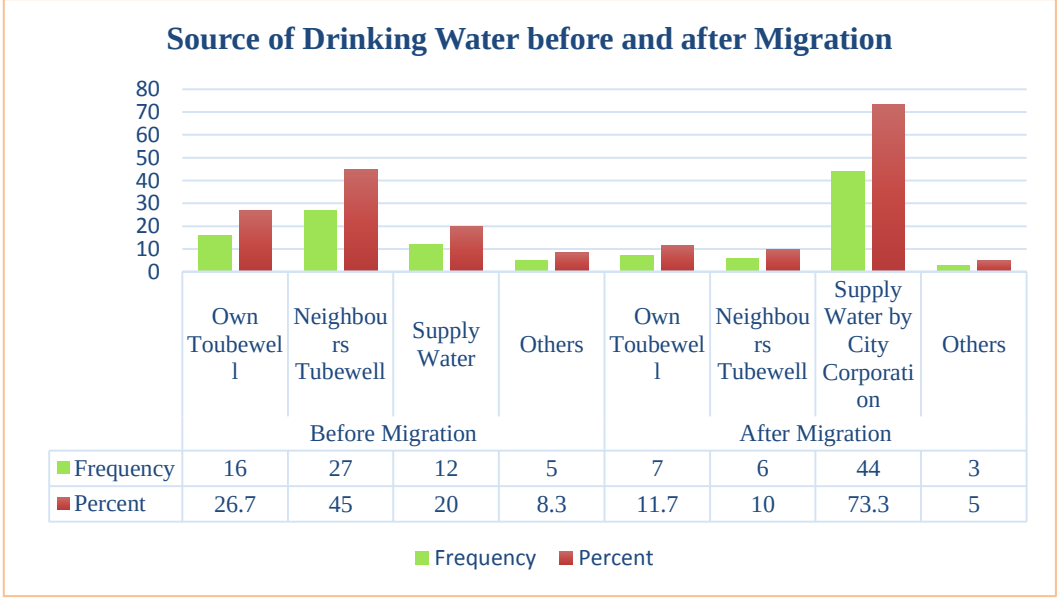


FIGURE 3. SOURCES OF DRINKING WATER BEFORE AND AFTER CLIMATE-INDUCED MIGRATION

From ***Figure 3*** it is seen that before migration 26.7% population collected drinking water from their own tube well, 45% from a neighbor's tube well, 20% from supply water, and only 8.3% from other sources. After migration a large part of the population which means 73.3% collect drinking water from supply water by the city corporation, 11.7% from their own tube well, 10% from a neighbor's tube well, and only 58.3% from other sources. Here, it is shown that most of the people depend on the supply of water by city corporations in the present society and neighbor's tube well in the past livelihood system.

Qualitative Insight (KII): A community leader stated, *"Though the city supplies water, it is irregular and often unclean. People still walk long distances to fetch water from alternative sources when supply fails."* This highlights the quality and reliability issues not visible in quantitative data.

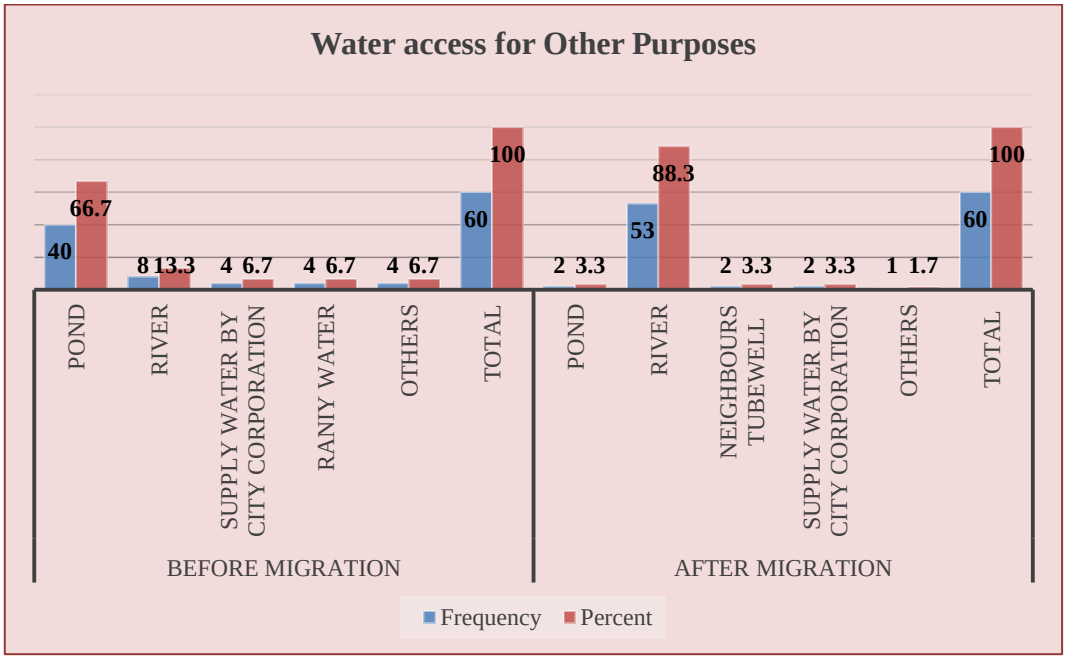


FIGURE 4. WATER ACCESS STATUS BEFORE AND AFTER CLIMATE-INDUCED MIGRATION

Figure 4 shows illustrates the sources of water used by respondents before and after climate-induced migration. Prior to migration, the majority (66.7%) used **pond water**, with small portions relying on river water (8.3%), supply water, rainwater, or others (each 6.7%). After migration, **use of river water rose sharply to 88.3%,** while pond usage dropped to just 3.3%. Access to city corporation supply water remained very limited (1.7%), indicating a **decline in safe and accessible water sources for non-drinking purposes,** which contributes to increased vulnerability to waterborne and skin diseases, as highlighted in KII findings.

Qualitative Insight (KII): Key Informant Interviews (KIIs) revealed that water access for daily household tasks (such as washing clothes, bathing, and cleaning) became significantly more difficult and unsafe after migration. A female respondent shared, *"Before, we used pond water, which was cleaner and more familiar. Now we are forced to use river water that smells bad and causes skin rashes."* Another community leader explained that many slum dwellers lack proper drainage and storage facilities, which worsens hygiene conditions. Although city-supplied water is technically available, it is prioritized for drinking and often insufficient for other purposes. A local health worker warned, *"Skin diseases are now common among children and women because of frequent use of polluted river water."* These qualitative insights highlight the **health risks and infrastructural gaps** faced by migrants, which are not fully captured in the quantitative data alone.

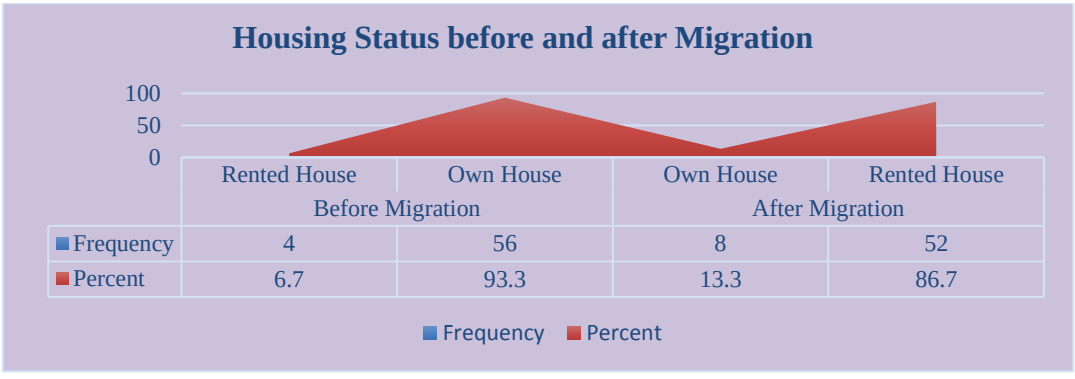


FIGURE 5. HOUSING STATUS BEFORE AND AFTER CLIMATE-INDUCED MIGRATION

Figure 5 showed that before migration most of the population that's percentage is 93.3% lived in their own house and only 6.7% lived in the rented house. Facing climatic problem only 13.3% able to build own house for living and large portion (86.7%) of them are not able to build their own houses after migration. They lived in rented house.

Qualitative Insight (KII): An elder slum resident explained, *"We had land and homes of our own, even if they were modest. Here we live in tin-roof shacks with high rent and no legal protection."* The emotional and psychological impact of this shift is significant but hidden in numbers.

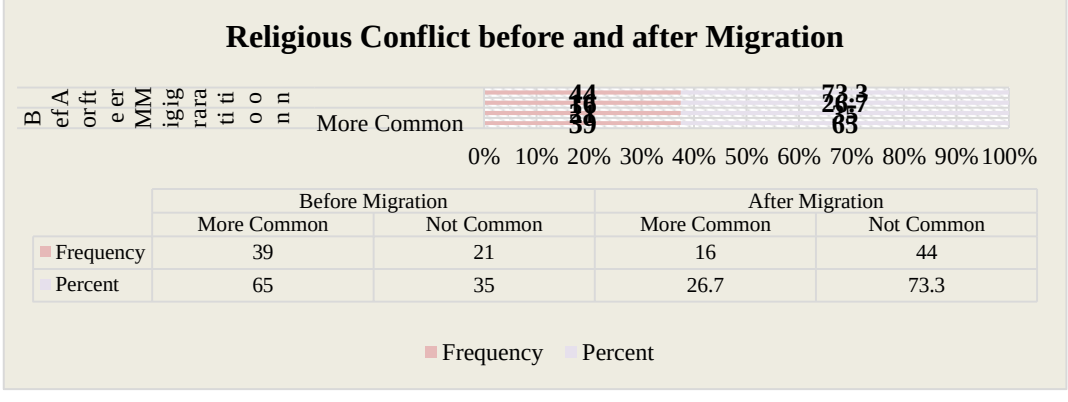


FIGURE 6. RELIGIOUS STATUS BEFORE AND AFTER CLIMATE-INDUCED MIGRATION

Figure 6 indicates the scenario of the religious conflict and problems before and after migration. Comparatively, the religious problems were more extreme in the previous lifestyle of the respondents which percentage is 65% thant in the present lifestyle of the respondents which percentage is 26.7%.

Qualitative Insight (KII): A female religious leader noted, *"In slums, we live closely with people of other religions. We've learned to tolerate more, but it doesn't mean deep harmony. Tension still rises during festivals."*

Comparison of the Economic Status before and after Climate-Induced Migration

This section indicated the comparison of the economic status before and after climate-induced migration. Here economic status means the work status, income status, saving status, and loan status.

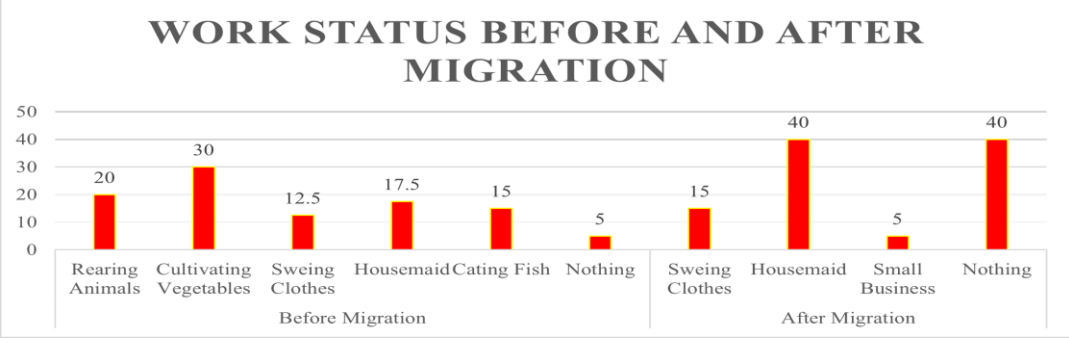


FIGURE 7. WOMEN'S WORK STATUS BEFORE AND AFTER CLIMATE-INDUCED MIGRATION

From the ***Figure 7*** it is depicts that most of the women spent leisure time after migration. Normally, they engaged themselves with many earning activities before migration. 20% women reared animals, 30% cultivated vegetables, 12.5% sewed clothes, 17.5% worked other's home, 15% caught fish for family support and only 5% did not any economic work for family before migration. On the other hand, only 15% sew clothes and 5% do small business after migration. Surprisingly, 40% do not any economic work where another 40% do people's household chores that are rich.

Qualitative Insight (KII): One female respondent stated, *"I used to raise poultry and sell eggs. Here, I don't even have space to keep a hen."* Another said, *"Working in other people's houses brings money, but also humiliation. We had dignity in our village."*

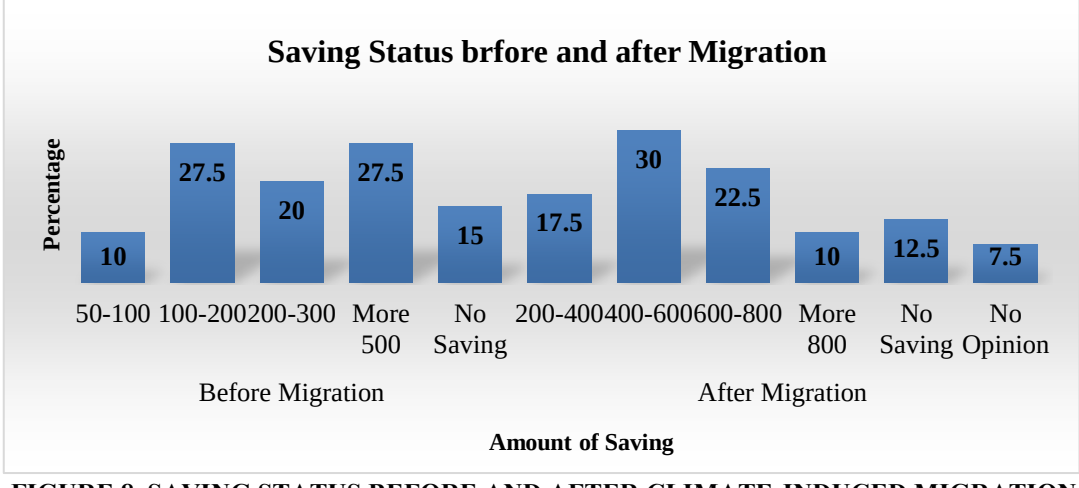


FIGURE 8. SAVING STATUS BEFORE AND AFTER CLIMATE-INDUCED MIGRATION

The ***Figure 8*** indicates the saving status of the respondents before and after migration. Before migration, 27.5% of respondents monthly saved about 200-300tk as well as more than 500tk. Then 20% respondents saved 200-300tk. Only 10% saved 50-100tk and 17.5% did not save money for future. On the other hand, 30% respondents save 400-600tk, 22.5% respondents save 600-800tk, 17.5% save 200-400tk and only 10% save more than 800tk. Mentioned that 12.5% do not save for future and 7.5 have no opinion on the saving for future.

Qualitative Insight (KII): A microcredit officer noted, *"Many women join savings groups, but loans taken under pressure often deepen debt. It's more survival than savings."*

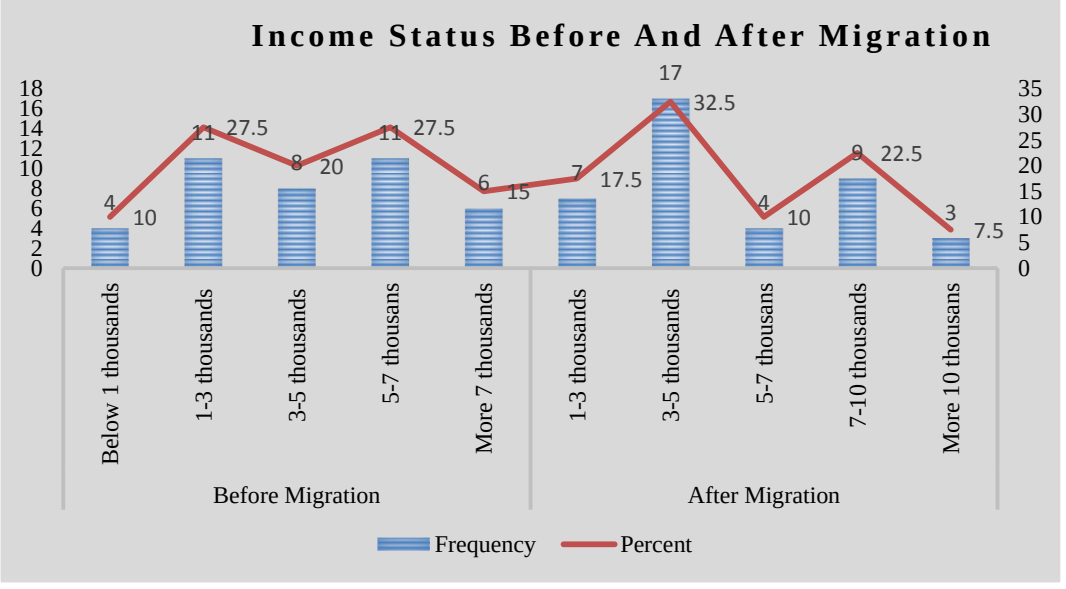


FIGURE 9. INCOME STATUS BEFORE AND AFTER CLIMATE-INDUCED MIGRATION

Figure 9 indicates the comparison of the income of the selected people before and after climate-induced migration. A large part including 27.5% of respondent's monthly income was one to three and five to seven thousand. 20% of income was three to five thousand and 15% of income was more than seven thousand. Only, 10% of income was below one thousand before migration. In contrast, a large part including 32.5% of respondents' monthly income is three to five thousand TK per month. The second largest part is 22.5% whose income is seven to ten thousand and the third largest part is 17.5% whose income is one to three thousand, fourth largest part is 10% whose income is five to seven thousand after migration. Only 7.5% of people's income is more than ten thousand.

Qualitative Insight (KII): A shopkeeper said, *"Earning in the city is higher, but so is the cost of living. After rent and food, there's little left. Sometimes it feels like we were better off before."*

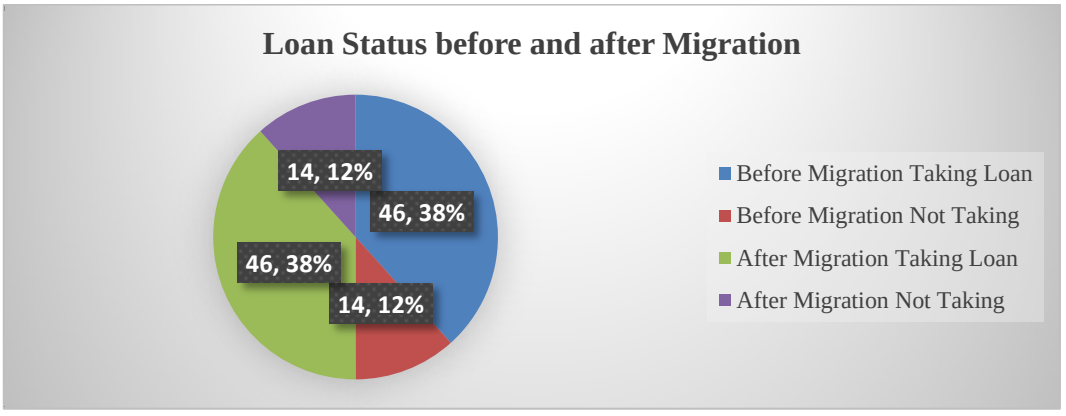


FIGURE 10. LOAN STATUS BEFORE AND AFTER CLIMATE-INDUCED MIGRATION

From ***Figure 10***, it is shown that 38% population took a loan for the development of the family whose frequency is 46 out of 60, and 12% did not take a loan from NGO, gram somite, etc. for the development of the family before migration whose frequency is 14 before migration. After migration, the same proportion of people take loan for the development of the family and the same proportion of people don't take loans for the development of the family.

Qualitative Insight (KII): A local NGO officer mentioned, *"Most families here are in cycles of debt. They borrow to pay rent or medical bills, not for investment. It's a survival mechanism, not financial growth."*

The analysis reveals that while some socioeconomic indicators such as children's schooling, savings behavior, and religious tolerance have improved after migration, others have deteriorated. Key areas of concern include reduced access to clean water for daily use, lack of housing ownership, decline in women's economic participation, and increased reliance on high-interest loans. Qualitative data from KIIs supplement these findings, providing deeper insights into the emotional, health, and infrastructural challenges faced by migrants. The mixed-method approach highlights that despite the coping mechanism of migration, significant gaps in institutional support persist, especially in urban slum settings.

DISCUSSION OF THE STUDY

Climate-induced migration has become a critical adaptation mechanism in disaster-prone regions, reshaping the socioeconomic structure of affected populations (Naser et al., 2019). It functions as a necessary but complex policy response to mitigate environmental challenges (Todaro and Smith, 2015). Since Bangladesh's independence in 1971, climate issues have been a major driver of internal migration (BBS, 2015). Although various climate change policies exist (Martin et al., 2013), their implementation remains uneven, especially in urban slums.

Findings from this study confirm that climate-induced migrants from disaster-prone rural areas to urban slums, like Rasulpur, experience both gains and losses in their socioeconomic lives. Educationally, a slight improvement was observed in children's school attendance post-migration, echoing Haidar and Kabir (2010). However, access to basic services, especially drinking water, remained inadequate. Before migration, people relied on neighbors' tube wells due to low income and landlessness (Hossain, Afsar and Bose, 1999), but after migration, although access to supply water increased, issues of quality and irregularity persisted (Hossain and Khan, 2012; Khan and Kraemer, 2014).

Use of river water for daily household purposes also increased after migration, replacing previously used pond water. This shift has led to health concerns like skin infections—problems not faced before when pond water was used. These findings align with Khan (2022), who documented slum dwellers' struggle with inadequate sanitation and hygiene infrastructure.

Housing was another critical concern. Migrants who once owned land and homes now mostly reside in rented, often substandard housing, lacking access to basic services (Rana and Pirachan, 2020). Nevertheless, the post-migration environment did foster increased religious tolerance and inter-group adaptation, which contributed positively to social cohesion (Rahman and Rana, 2016).

Economically, migration resulted in both positive and negative outcomes. Many migrants left rural areas due to environmental challenges (Gupta, 2020) and hoped for better opportunities in urban areas. While men found some work in the informal economy (Farhana et al., 2012), the study found that women's employment dropped significantly post-migration. Before migrating, women engaged in productive activities like animal rearing and home-based work. After migration, a large portion became economically inactive or dependent on domestic help in wealthier households, which often offered less dignity and income.

Savings capacity improved slightly for some respondents, which reflects the pattern identified by Gazi et al. (2017). However, overall income remained low, consistent with earlier studies highlighting urban wage gaps and underemployment (Khan, 2022). High living costs and limited skills further aggravated the situation. Migrants continued to rely on high-interest loans both before and after migration, often worsening their financial vulnerability (Yahaya, 2021). As seen in prior literature (Islam et al., 2021), some families opted for secondary migrations to seek improved living conditions elsewhere. Thus, while internal migration offers partial economic relief and a chance at better infrastructure, it also introduces new dimensions of poverty, insecurity, and inequality.

CONCLUSION

This study concludes that the socioeconomic status of climate-induced migrants presents a mixed picture. There are noticeable improvements in some areas such as children's schooling, religious harmony, and saving ability after migration (Haidar and Kabir, 2010; Gazi et al., 2017; Rahman and Rana, 2016). However, there are clear setbacks in critical areas such as access to clean drinking water, water for household use, housing stability, sanitation, and women's work opportunities (Khan, 2022; Rana and Pirachan, 2020). In terms of income and loan dependency, the situation remains relatively unchanged, as

financial insecurity and reliance on high-interest loans persist (Yahaya, 2021). Although some aspects of life have marginally improved, the overall transition reflects both adaptive resilience and emerging vulnerabilities. Respondents acknowledged receiving occasional support from Barishal City Corporation (BCC), particularly during the COVID-19 period such as vaccination campaigns and public health announcements. However, trust in NGOs and social organizations remained low due to perceived mismanagement and unmet promises.

Therefore, climate-induced migration can be considered an adaptive strategy, but not a fully successful one, as it brings both opportunities and new challenges. To enhance the wellbeing of migrant communities, better implementation of existing policies, infrastructural investments, and gender-sensitive urban planning are essential (Alam and Mamun, 2022).

RECOMMENDATION

Based on the findings of this study, several areas have been identified that require further attention from policymakers, researchers, and development agencies:

- ***Enhancing Policy Awareness:*** Since awareness of climate change policies among migrants is limited, targeted campaigns and accessible communication channels should be developed to inform affected populations.
- ***Improving Urban Infrastructure:*** The lack of safe water and housing remains a critical issue. Local government and city corporations should prioritize infrastructural improvements in slum areas, particularly for non-drinking water access and sanitation.
- Women's Livelihood Support: Tailored programs are needed to enable climate-affected women to re-engage in income-generating activities post-migration, especially those who have lost access to land-based livelihoods.
- ***Loan and Financial Inclusion:*** As migrants often rely on high-interest loans for survival rather than investment, microfinance models must be redesigned with flexibility and financial literacy training.
- ***Further Research:*** Future studies should explore long-term adaptation strategies of climate migrants and assess the effectiveness of governmental and non-governmental support systems. It would also be valuable to conduct longitudinal research on post-migration well-being, resilience, and access to basic services.

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