Exposed and exploited

Climate change, migration and modern slavery in Bangladesh

Ritu Bharadwaj, Devanshu Chakravarti, N Karthikeyan, Shakirul Islam and Urmi Jahan Tanni

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a grassroot migrants' organization

About the authors

Ritu Bharadwaj is a principal researcher at IIED.

Devanshu Chakravarti is a social development researcher with more than 20 years' experience in climate change adaptation.

N Karthikeyan is a development economist.

Shakirul Islam is a researcher, activist, migration expert and founding chair of the Ovibashi Karmi Unnayan Program (OKUP).

Urmi Jahan Tanni is a researcher in OKUP's Climate Change and Migration group.

Corresponding author: Ritu Bharadwaj, ritu.bharadwaj@iied.org

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International Institute for Environment and Development
44 Southampton Buildings, London WC2A 1AP, UK
Tel: +44 (0)20 3463 7399
www.iied.org

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Climate change has profound implications for vulnerable communities in low- and middle-income countries like Bangladesh. Facing irreversible losses and damages, households with limited resources and weak social safety nets, are compelled to undertake distress migration, often becoming victims of modern slavery. Focusing on two climate-vulnerable regions in Bangladesh — Pirojpur and Sylhet — this paper examines the links between climate change, migration and vulnerability to modern slavery. It outlines actionable measures to enhance community resilience in areas of origin, establish safe and equitable migration pathways, and ensure stronger enforcement of migrants' rights.

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Abbreviations

BMET	Bangladesh Bureau of Manpower, Employment and Training
CBOs	Community-based organisations
CRI	Climate Risk Index
CVI	Climate Vulnerability Index
DMCs	Disaster management committees
EGPP	Employment Generation Program for the Poorest
ILO	International Labour Organization
IPCC	Intergovernmental Panel on Climate Change
IRI	Inherent Resilience Index
NGOs	Nongovernmental organisations
NHD	National Household Database
SPI	Social Protection Index
VGD	Vulnerable Group Development
VGF	Vulnerable Group Feeding

Summary

Climate change is an escalating global crisis with profound implications for vulnerable communities, particularly in low- and middle-income countries like Bangladesh. The increasing frequency and intensity of climate-related events — ranging from flash floods and cyclones to salinity intrusion — are creating irreversible losses and damages. For households with limited economic resources and weak social safety nets, these disruptions compromise livelihoods, food security and long-term resilience. The interplay of climate shocks and socioeconomic vulnerabilities compels many to undertake distress migration, often as a last resort to sustain their families and survive.

Bangladesh exemplifies these challenges, as climate impacts in regions like Sylhet and Pirojpur continue to erode household stability. Sylhet faces recurrent flash floods, which devastate crops, while Pirojpur grapples with salinity intrusion and riverbank erosion that undermine farming and fishery-based livelihoods. These cascading effects disproportionately impact marginalised groups, including women-headed households and smallholder farmers, pushing them to migrate internally to urban centres or internationally to Gulf countries. However, migration rarely resolves their vulnerabilities — instead, it often exposes them to exploitative labour conditions and precarious living arrangements, creating new risks.

This research examines the links between climate change, migration and vulnerability to modern slavery. It looks at the drivers behind migration decisions and highlights how systemic gaps in social protection exacerbate vulnerabilities. By integrating quantitative and qualitative data from two climate-vulnerable regions of Bangladesh, the study aims to provide actionable insights into breaking the cycle of distress migration and exploitation.

Key findings

1. Escalating climate impacts

From 1960 to 2022, the frequency of climate-related disasters in Bangladesh has nearly doubled, rising from an average of four events per year before 1990 to seven events per year after 1990.

The economic costs of climate-related loss and damage have surged nearly fourfold, from an average of US$145.64 million annually (1960–1990) to US$557.53 million annually (1991–2022). Disasters like cyclones Sidr (2007) and Amphan (2020) highlight the increasing intensity of climate shocks.

In Sylhet and Pirojpur, community perceptions indicate worsening impacts of both rapid-onset events such as cyclones and slow-onset changes such as salinity intrusion and coastal erosion. For instance, 99% of respondents in Pirojpur reported rising temperatures, while 90% noted increased river erosion.

2. Disrupted livelihoods and food security

Communities across Pirojpur and Sylhet suffered significant economic loss and damage because of climate-induced disasters. In Pirojpur, average estimated annual asset losses per household reached BDT100,385 (US$873), while Sylhet saw BDT84,506 (US$735) of asset losses.

Livelihood sectors, including agriculture and fisheries, have been severely disrupted. More than 52% of households reported reduced crop production due to salinity, erratic rainfall and flooding.

Some 66% of households report that fish production has declined due to rising water temperatures and salinity intrusion, affecting food security and income.

Nearly 42% of households experienced crop losses, while 48% reported livestock losses, directly impacting household resilience and forcing negative coping strategies.

3. Rising migration

Internal migration has surged, with 84% of households beginning to migrate internally between 2011 and 2024. Migration to urban centres like Dhaka, Khulna and Chittagong dominates, particularly for construction work (31%) and garment factory jobs (35% in Sylhet).

International migration[1] has similarly increased, with 88% of households reporting international migration since 2011, predominantly to Gulf nations. Construction work accounts for 33% of international migrant jobs.

The average cost of international migration is substantial, with households in Pirojpur spending BDT461,220 (US$4,021), often financed through destructive coping mechanisms like selling land (25%) or taking high-interest loans (18%).

4. Widespread modern slavery among migrants

Modern slavery takes many forms, with those surveyed experiencing issues such as wage withholding, restricted movement, abusive conditions, threats, intimidation and even physical violence (see Box 2).

Among internal migrants, 92% experience at least one form of modern slavery, with more than 52% enduring more than three forms.

For international migrants, the prevalence of modern slavery is even more alarming, with 99% reporting at least one form and 81% experiencing more than five forms.

The most vulnerable occupations are non-farm labour, construction work (70% of international migrants), and agricultural work (77%).

5. Key drivers of distress migration

Regression analysis[2] shows that households facing higher climate risks are 161% more likely to migrate internally and 214% more likely to migrate internationally. This highlights the critical role of climate-induced shocks in driving distress migration.

Households with better education and larger landholdings are 356% more likely to migrate internationally, reflecting the dual nature of migration as both a coping and adaptive strategy.

Non-migrants often represent a 'trapped population', with 26% categorised as having very low resilience, characterised by landlessness, food insecurity and dependence on subsistence farming.

Recommendations

To address the interconnected challenges of climate change, migration and modern slavery, this study identifies the following priority actions:

Build climate resilience locally to address the root causes of distress migration. Investment in climate-resilient infrastructure, such as cyclone shelters, saline-resistant crop varieties and robust irrigation systems, is crucial to mitigating the impacts of climate-induced shocks. Early warning systems must be strengthened and integrated with community-based disaster preparedness programmes to enhance anticipatory action and reduce exposure. Such measures will empower communities to adapt and reduce their reliance on migration as a survival strategy.

Enhance livelihood opportunities. Diversifying income sources is essential for reducing vulnerability. Skills development programmes should provide access to non-farm employment opportunities, particularly in urban and industrial sectors. Restoring degraded ecosystems and promoting adaptive farming practices can improve productivity and offer sustainable livelihoods, reducing the push factors driving distress migration.

Protect migrants from exploitation. Strengthening labour laws and enforcement mechanisms is critical to combating modern slavery. Bilateral agreements with destination countries should ensure that cross-border migrants have access to legal protections, fair wages and safe working conditions. Establishing robust monitoring and accountability systems can further safeguard migrant rights.

Expand social protection. Social safety nets should be expanded and made accessible to vulnerable populations. Programmes such as cash transfers, food security initiatives and post-disaster recovery support should prioritise at-risk groups, including women-headed households and people with disabilities. Addressing structural barriers to access, such as geographic exclusion and lack of documentation, is essential for ensuring equitable distribution and effectiveness. Strengthening the coverage of social protection will help communities absorb shocks and avoid distress migration.

Foster safe migration pathways and financial protection. The high cost of migration often exposes families to debt bondage and exploitation. Regulating recruitment agencies and providing affordable credit options can reduce the economic pressures associated with migration. Pre-departure training can make migrants aware of their rights and the demand for their skills in destination markets, while programmes for returnees should focus on rebuilding livelihoods and providing psychosocial support. Facilitating safer and more affordable migration pathways will reduce risks.

Leverage climate finance for resilience and adaptation. Climate finance can address the interconnected challenges of climate change, migration and modern slavery. By scaling up investments in climate-resilient infrastructure, social protection programmes and adaptive livelihoods, climate finance can mitigate the need for distress migration. It can

1 In this paper, 'international migration' refers to the movement of people across national borders. This encompasses both migration to neighbouring countries and migration to destinations further afield.

2 This is used to estimate the relationship between dependent and independent variables. For more details, see Annex 3.

support anticipatory measures, such as early warning systems and forecast-based financing, enabling communities to prepare for and mitigate the impacts of climate disasters.

Integrating climate finance into social protection frameworks can enhance their responsiveness to climate shocks. Direct financial transfers during disasters, funded through mechanisms like the Fund for Responding to Loss and Damage, can provide immediate support. Climate finance for skills development and job creation in climate-resilient sectors can provide sustainable economic opportunities for vulnerable households. By strategically leveraging climate finance, governments can reduce the vulnerabilities that drive distress migration and exploitation.

By addressing the interlinked challenges of climate change, migration and modern slavery, these recommendations aim to build resilience, protect migrants and create pathways for equitable and sustainable development.

1 Introduction

1.1 Why climate-induced distress migration is an urgent concern

Climate change is one of the most significant global challenges of the 21st century, affecting ecosystems, economies and societies. Many countries are experiencing new types and forms of climate impact at a higher intensity than they are equipped to handle (Bharadwaj and Shakya, 2021). These impacts are increasingly falling into the category of loss and damage — where the capacity of affected communities and countries is compromised to such an extent that they can no longer absorb the effects of climate hazards or adapt to climate impacts (Bharadwaj et al., 2023c).

The interplay of recurring and high-intensity climate-extreme events, coupled with socioeconomic factors such as population density, income inequality and the degrading environment exacerbates the challenges faced by vulnerable communities. Together, they increase the risks of food insecurity, livelihood loss and even threaten their survival. In so doing, they compel vulnerable communities to migrate to find alternate livelihoods and means for survival (Bharadwaj et al., 2022).

The Intergovernmental Panel on Climate Change (IPCC) has documented a significant rise in the frequency and severity of climate-related disasters, leading to substantial human displacement (IPCC, 2021). The Internal Displacement Monitoring Centre reports that climate-related hazards like floods, storms and wildfires played a role in 26.4 million people being internally displaced in 2023 (Internal Displacement Monitoring Centre, 2023).

Migration can occur due to both slow- and rapid-onset climate distress (see Box 1). Slow-onset events, such as drought, threaten natural resource-based livelihoods, such as agriculture, livestock and fishery. Such events compromise people's ability to earn a living, leading them to search for better economic opportunities through migration. Similarly, when rapid-onset hazards such as hailstorms or floods damage crops, cultivable lands and property, communities may have few or no options for adapting where they are. Under such situations, migration is the only viable option for survival.

This disruption is not uniform — it disproportionately affects low- and middle-income countries that have contributed minimally to global greenhouse gas emissions. Communities with limited economic resources, weak social safety nets and heavy dependence on natural resources are especially vulnerable. For instance, the World Bank reports that the 74 lowest-income countries emit only one-tenth of the world's greenhouse gases, yet they bear the brunt of climate change effects (World Bank, November 8, 2015).

According to the IPCC, extreme weather events have displaced, on average, more than 20 million people per year since 2008 (IPCC, 2022). Many of these extreme weather events were exacerbated by climate change. The IPCC report also highlights several projections for displacement and migration due to

BOX 1. MOBILITY PATTERNS DURING CLIMATE CRISIS

Rapid-onset events, such as cyclones and floods, usually result in short-term displacement followed by a return to affected areas. In contrast, slow-onset events, like sea-level rise or erosion, may result in permanent displacement. Although people often wish to return to their homes, some remain in protracted displacement situations for years or become displaced several times. Similarly, drought-related migration patterns could change from short-term seasonal migration to permanent out-migration with longer-term impact on land degradation or water availability.

climate change. By one estimate from the report, 31–72 million people across sub-Saharan Africa, South Asia and Latin America would be displaced by 2050 due to water stress, sea-level rise and crop failure. Even with aggressive efforts to cut global emissions and the most optimistic scenarios for warming this century, these pressures are going to increase.

1.2 Cascading impacts driving migration and modern slavery in Bangladesh

South Asia, home to more than a quarter of the world's population, is a hotspot for climate-induced distress migration and displacement. The World Bank's Groundswell report projects that, by 2050, without urgent climate and development action, South Asia could see more than 40 million internal climate migrants (Clement et al., 2021). Bangladesh, in particular, is frequently highlighted as one of the most severely impacted nations, facing challenges such as sea-level rise, increased frequency of cyclones, and riverbank erosion, all contributing to significant displacement and migration pressures. These impacts are also shaped by regional geographies and socioeconomic contexts.

1.2.1 Multidimensional impacts: from climate shocks to survival crises

Climate change exacerbates existing inequalities by disproportionately impacting already marginalised individuals and groups within the same community, as vulnerable populations, particularly smallholder farmers, fishers and landless labourers, face the greatest challenges. Women and children in these communities are disproportionately affected, as they often bear the burden of coping with food shortages, disrupted schooling and additional caregiving responsibilities (UN Women and UN Environment Programme, 2022). The erosion of cultural practices tied to land and water further isolates these communities, compounding the non-economic losses and damages caused by displacement.

These cascading effects often begin with the loss of livelihoods due to climate-induced events; for example, flash floods in the north-eastern Sylhet region reduce agricultural yields, while salinity ingress in coastal areas of Pirojpur undermines both farming and aquaculture (Ahmed et al., 2020). The loss of productive capacity forces families to abandon traditional income-generating activities, leaving them financially insecure.

This disruption in livelihoods invariably leads to food insecurity. With reduced household income, families struggle to afford nutritious food, exacerbating malnutrition and health issues, particularly among women and children (World Food Programme, 2023). As resources dwindle, families often resort to borrowing money to survive, which contributes to mounting debt burdens. These debts are typically acquired through informal credit systems, often with exploitative terms, creating cycles of financial dependency and eroding long-term resilience (Raihan, 2023).

Economic strain and resource scarcity often fracture social cohesion in affected communities, as households are forced to make difficult decisions to cope with climate-induced crisis. This fracture manifests in the breakdown of traditional family roles, relationships, and community support systems. For example, children are frequently taken out of school to contribute to household income or care for younger siblings, disrupting their education and limiting future opportunities. At the same time, families reduce food intake or sell critical assets, or migrate, leading to the separation of family members (Mahmud, 2023b). This fragmentation erodes the informal networks and community-based safety nets that households rely on during crises, such as shared childcare, resource pooling, or mutual support in rebuilding livelihoods. As these systems break down, vulnerable households become increasingly isolated, making it increasingly harder for them to recover and adapt. Without adequate support systems, these interconnected impacts push many families toward migration as their only remaining option (Clement et al., 2021).

1.2.2 Distress migration: a destructive coping mechanism

For many communities in Bangladesh, migration is not a voluntary choice but a last-resort coping mechanism in the face of relentless climate impacts. Internal migration often involves displaced individuals moving to urban centres like Dhaka and Chittagong. These cities, while offering potential economic opportunities, frequently fail to provide adequate infrastructure or social services for the growing number of migrants (Bharadwaj et al., 2021). Many migrants end up in overcrowded and unsanitary slums, where access to proper housing, clean water, sanitation and healthcare is extremely limited. The conditions exacerbate the spread of disease and increase household expenditures on essential services like food, shelter and medical care. Additionally, migrant children often face disrupted education, as they can't enrol in government schools or access subsidised school meals at their destinations (Bharadwaj and Huq, 2022).

Migration creates far-reaching social consequences, affecting not only the migrants but also the families left behind. Families are often separated, disrupting traditional roles and overburdening women who remain in rural areas. Women are forced to take on multiple responsibilities — managing the household, caring for

children and older people, and earning a livelihood. This often leaves them with limited resources and little support. Meanwhile, men who migrate for work are frequently unable to send remittances immediately, placing their families in financial uncertainty (Bharadwaj and Huq, 2022). Women who migrate alongside men are not spared from hardship, often enduring exploitative labour conditions, overwork and unsafe living arrangements, which increase their vulnerability to harassment and violence (Bharadwaj and Shakya, 2021).

At their destinations, migrants face desperate employment conditions, leaving them with little bargaining power. Many take informal jobs in sectors such as construction, domestic work or brick-making, where labour laws and workplace safety standards are widely ignored. Informal employment arrangements mean migrants lack contracts, insurance and employment security. They are often forced to work long hours for low pay in hazardous environments (Bharadwaj et al., 2022). For instance, migrants working in brick kilns frequently suffer from lung diseases due to prolonged exposure to dust and polluted air. Many migrants are also exploited by intermediaries or recruiters, who further diminish their protections and rights (Bharadwaj and Huq, 2022).

International migration presents its own challenges. Many Bangladeshi households view migration to Gulf countries as an opportunity to achieve financial stability. However, they typically cover the high costs of migration by accessing informal loans, leaving families deeply indebted. Migrants often encounter exploitative labour conditions, lack of legal protections, and unsafe environments in host countries. Women migrants, in particular, face heightened risks of abuse and harassment, with limited access to legal recourse (Bharadwaj et al., 2021). Further, the receiving areas are often inadequately prepared to accommodate migrants in terms of basic shelter and sanitation facilities. This leads to migrants often living in unsanitary conditions, exposing them to disease. Most migrants do not have proper housing facilities, access to sanitation and subsidised healthcare facilities. In such conditions, access to social security can help tide them over some immediate difficulties. But most social security schemes lack portability across regions. Once they journey from their villages to distant cities in search of work, they lose access to the social safety net. Those who migrate with family are not able to send their children to government schools or avail government-subsidised health services or school meals at the destination. This results in higher expenditure on food, health and shelter (Bharadwaj et al., 2021). The women who stay behind often end up overburdened. They are forced to run the household, care for children and the elderly, and earn a living because migrating men are not able to send remittances immediately after moving (Bharadwaj and Huq, 2022).

1.2.3 Modern slavery: the final link in a chain of vulnerabilities

While migration may offer a temporary survival strategy, it frequently creates new cycles of vulnerability — often setting the stage for modern slavery. For many, the promise of better economic opportunities remains unfulfilled as they become trapped in exploitative working conditions and precarious living environments. This happens because displaced individuals lack the resources, social networks and legal protections needed to safeguard them against exploitation (Bharadwaj et al., 2021).

The International Labour Organization (ILO) estimated that approximately 50 million people were living in modern slavery in 2021, including 28 million in forced labour and 22 million in forced marriages (ILO, 2022). Alarmingly, this marks an increase of 10 million people since ILO's 2016 estimate, highlighting a growing crisis. Climate change has been identified as a significant contributor to this trend, exacerbating poverty, displacement and unsafe migration, all of which heighten the risk of modern slavery.

Migrants are frequently subjected to forced labour in brick kilns, construction, domestic work and garment manufacturing, where exploitative conditions are rampant. Without formal contracts or workplace safety measures, they endure long working hours, low wages and hazardous environments (Bharadwaj et al., 2021).

Debt bondage is another pervasive issue, particularly for families borrowing money to finance migration. Recruitment agents often charge exorbitant fees for international migration, leaving migrants trapped in cycles of debt they cannot repay. Their financial dependency forces them to accept abusive working conditions to meet repayment obligations. Women migrants are especially vulnerable, often facing sexual exploitation, harassment and overwork.

The Global Slavery Index 2023 (Walk Free, 2023) ranks Bangladesh among the countries with the highest prevalence of modern slavery, with an estimated 1.2 million people — equivalent to 7.1 per thousand — living in modern slavery. The country is particularly vulnerable due to weak enforcement of labour laws, socioeconomic inequalities and the impacts of climate disasters, which exacerbate displacement and exploitation. Following events like Cyclone Sidr (2007), for example, traffickers have preyed on displaced populations, luring them with false promises of employment or stability (Bharadwaj et al., 2021). And displaced populations in general, particularly in regions like Sylhet and Pirojpur, are targeted by traffickers and employers in exploitative industries. These regions are not only hotspots for climate impacts but also for trafficking and labour exploitation. Ten per cent of the total trafficking cases in Bangladesh were reported in Sylhet division (Ministry of Finance, 2022).

The destructive nature of distress migration highlights the urgent need for stronger labour law enforcement, improved housing and sanitation infrastructure, and integrated social support systems that address the needs of both migrants and their families. Addressing these challenges is essential to breaking the cycle of vulnerability and ensuring dignity and security for displaced populations. Without proactive interventions, the links between climate change, migration and modern slavery will only grow stronger.

1.3 Purpose and approach of the research

In this research, we have investigated the nexus between climate change, migration and vulnerability to modern slavery in Bangladesh by looking at two regions with distinct climate vulnerabilities:

- The district of Sylhet in the north-east of Bangladesh is experiencing frequent flash floods as a consequence of heavy rainfall and upstream river overflows. These floods inundate farmlands, destroying rice paddies and other crops that are the backbone of local livelihoods. The recurrent nature of these disasters forces families to sell assets, take on debt, or migrate, either temporarily or permanently. The haor ecosystem — a series of shallow wetlands — intensifies Sylhet's vulnerability, as its natural bowl-like topography facilitates the rapid accumulation of floodwaters. Displacement here often occurs in cycles, as households return to rebuild after each event, only to face renewed disruptions (Rahaman et al., 2015; Needs Assessment Working Group, Bangladesh, 2022).
- The coastal district of Pirojpur in south-western Bangladesh experiences slow-onset hazards, including rising sea levels and salinity intrusion. These hazards degrade arable land and freshwater resources, undermining both agricultural productivity and fisheries-based livelihoods. Residents report declining yields of staple crops and fish species, compounding food insecurity and economic instability. Communities increasingly find themselves forced to migrate inland or to urban areas as traditional ways of life become untenable. Cyclones, such as Sidr (2007) and Amphan (2020), exacerbate these challenges, leading to episodic, large-scale displacements (Ahsan, 2010).
- The research covered 19 unions[3] (10 in Mathbaria upazila[4] in Pirojpur district and 9 in Gowainghat upazila in Sylhet district) and 33 villages[5], chosen for their high levels of climate vulnerability as indicated by the Climate Vulnerability Index (CVI) (LoGIC, 2023). A total of 648 households participated in an in-person household quantitative survey, with 70.06% identified as migrant households (including internal and international migrants) and 29.94% as non-migrant households. The research also included female-headed households and people with disabilities, to ensure that marginalised groups were represented. Additionally, qualitative data were collected through 18 focus group discussions with 10–15 people in each session, 27 in-depth interviews and 17 key informant interviews, engaging diverse stakeholders such as local officials, migrants and victims of modern slavery. This multi-layered sampling approach ensured a comprehensive understanding of the interplay between climate impacts, migration and vulnerability (see Annex 1 for details about the sample profile and research area).

1.3.1 Research framework

The pathways from climate impacts to migration — and subsequently to modern slavery — are neither uniform nor straightforward. To systematically analyse these dynamics, we have applied the 3P framework — predisposing, precipitating and protective factors — which categorises the drivers of vulnerability and migration while identifying targeted interventions to address associated risks (Bharadwaj et al., 2024). In Figure 1, we show how predisposing drivers interact with climate drivers (precipitating factors) that create vulnerability and impacts in the absence of protective factors.

Predisposing factors encompass the underlying socioeconomic, demographic and political conditions that make some households and communities more vulnerable to climate change impacts. For example, marginal landholding size, indebtedness, low literacy levels and exclusion from social protection schemes often determine a household's capacity to adapt to climate stressors. Social and political drivers, such as weak local institutions, insufficient disaster response systems and limited early warning mechanisms, exacerbate these vulnerabilities (see Figure 2). By categorising and measuring these factors through the Inherent Resilience Index (IRI), the study aims to identify the root causes of vulnerability and variations across different household categories.

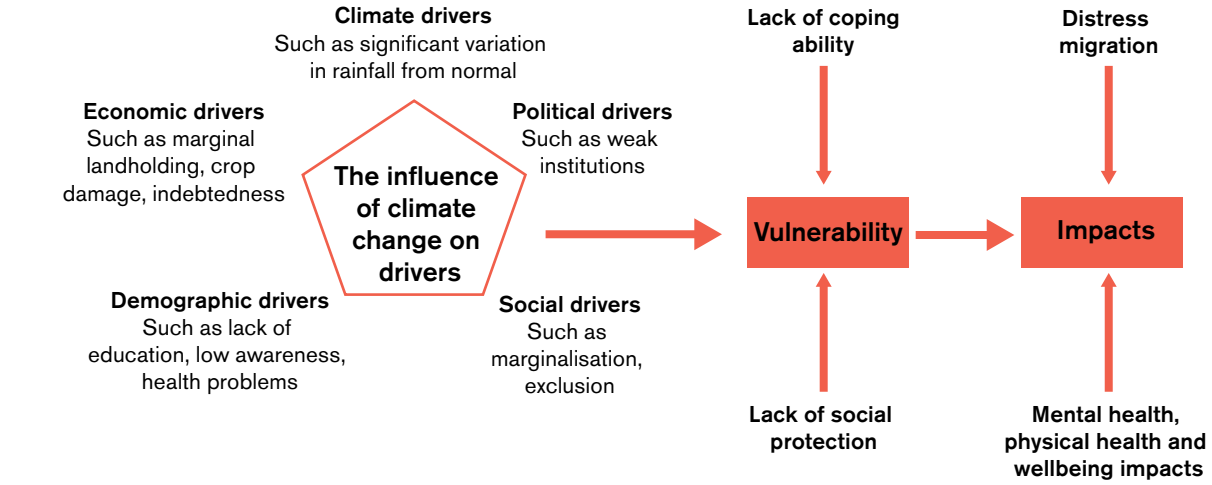
Climate change is the precipitating factor, directly exacerbating vulnerabilities and triggering migration. Rapid-onset events, such as flash floods in Sylhet,

3 Union councils are the smallest local government administrative units in rural areas.

4 Upazilas are sub-districts.

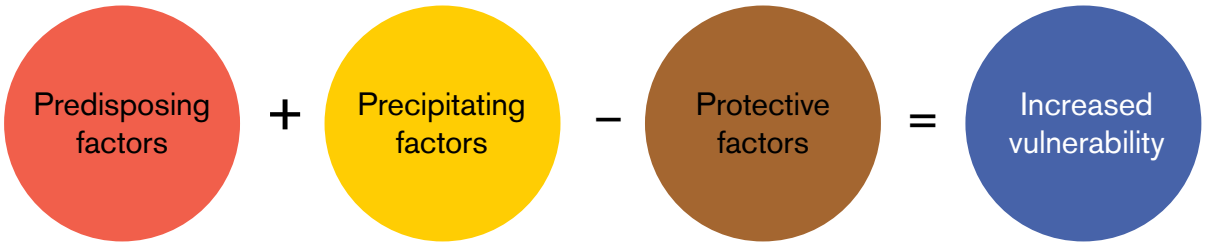
5 Bangladesh is administratively divided into 8 divisions and 64 districts. For local governance, the country is further subdivided into upazilas (sub-districts), municipalities (pourashova), city corporations (metropolitan municipal corporations) and union councils (rural councils).

Figure 1. How predisposing drivers interact with climate drivers



Source: Bharadwaj et al., 2024

Figure 2. Interaction of predisposing, precipitating and protective factors



and slow-onset events, like salinity intrusion and sea-level rise in Pirojpur, undermine livelihoods and food security, forcing families to migrate. By constructing a Climate Risk Index, we have assessed the intensity and frequency of these climate-induced shocks, providing a detailed understanding of how they influence migration decisions. Trends in climate-induced migration have been validated using existing literature and community-level insights from both study regions.

Protective factors involve policy and programmatic responses designed to mitigate vulnerabilities and protect at-risk populations. Social protection systems can act as safety nets, helping vulnerable households absorb climate shocks, adapt their livelihoods and build resilience. We have assessed the effectiveness of Bangladesh's social protection schemes in addressing climate-induced migration and curbing modern slavery. We have also analysed the adequacy of disaster response mechanisms, infrastructure, and institutional capacity to provide anticipatory responses to climate events. The Protection Index assesses these protection measures and identifies gaps and opportunities for enhancing resilience.

Through this multi-layered approach, we aim to enhance understanding of the climate–migration–slavery nexus and provide actionable insights for policymakers, practitioners and development partners. By highlighting the interconnected impacts of climate change, distress migration, and vulnerabilities to modern slavery, this research seeks to inform more integrated and equitable responses that address both immediate risks and long-term socioeconomic challenges posed by climate impacts.

2

Understanding climate impacts at the household level

This section delves into the direct and indirect impacts of climate change in Bangladesh, focusing on the scale and diversity of damage it inflicts at the household level, disrupting agricultural production, work availability and fisheries-based livelihoods. The aim is to provide an understanding of how these disruptions lead to cascading challenges that compel vulnerable households to migrate.

The analysis in this section highlights how rapid-onset and slow-onset climate events, such as flash floods in Sylhet and salinity intrusion in Pirojpur, create distinct but region-specific impacts, affecting households differently based on their local vulnerabilities and socioeconomic conditions. By examining these localised effects, this section seeks to uncover the mechanisms through which climate-induced shocks erode household resilience, driving socioeconomic instability. It also explores the extent of loss and damage experienced by communities in terms of livelihoods and food security, laying the groundwork for understanding the drivers of distress migration and their link to modern slavery.

2.1 Analysis of disaster occurrence and damage in Bangladesh

2.1.1 Analysis of change in disaster frequency (1960–2022)

To understand how climate impacts have increased over time, we analysed the frequency of disaster events in Bangladesh over a 62-year period (1960–2022) (EM-DAT, n.d.). This reveals a clear upward trend in the occurrence of extreme weather events (presented in Figure 3).

The data shows that between 1960 and 1990, the country experienced an average of four disaster events per year. This figure rose significantly after 1990, with an average of seven disaster events per year recorded. The trendline in the graph highlights a steady increase in disaster frequency over time, underscoring the growing intensity of climate-related disruptions.

"The frequency of natural disasters has increased over the last ten years. It has caused a lot of damage to me, like my agricultural crop has been damaged. Every year, the paddy crop is destroyed by flood or heavy rainfall. Due to frequent cyclones, many houses have been destroyed; many trees have been destroyed. Riverbank erosion is happening every year. I have lost 100 decimals (approximately one acre) of our cultivable land due to erosion. Just think how we could survive here."
A community member from Mathbaria, Pirojpur

This increase in disaster events corresponds with global climate change trends, in which rising temperatures, shifting rainfall patterns and intensified weather phenomena amplify the vulnerability of regions like Bangladesh. The post-1990 period is particularly critical, reflecting the impacts of climate stressors such as more erratic monsoons, rising sea levels and

Figure 3. Change in disaster frequency in Bangladesh, 1960–2022

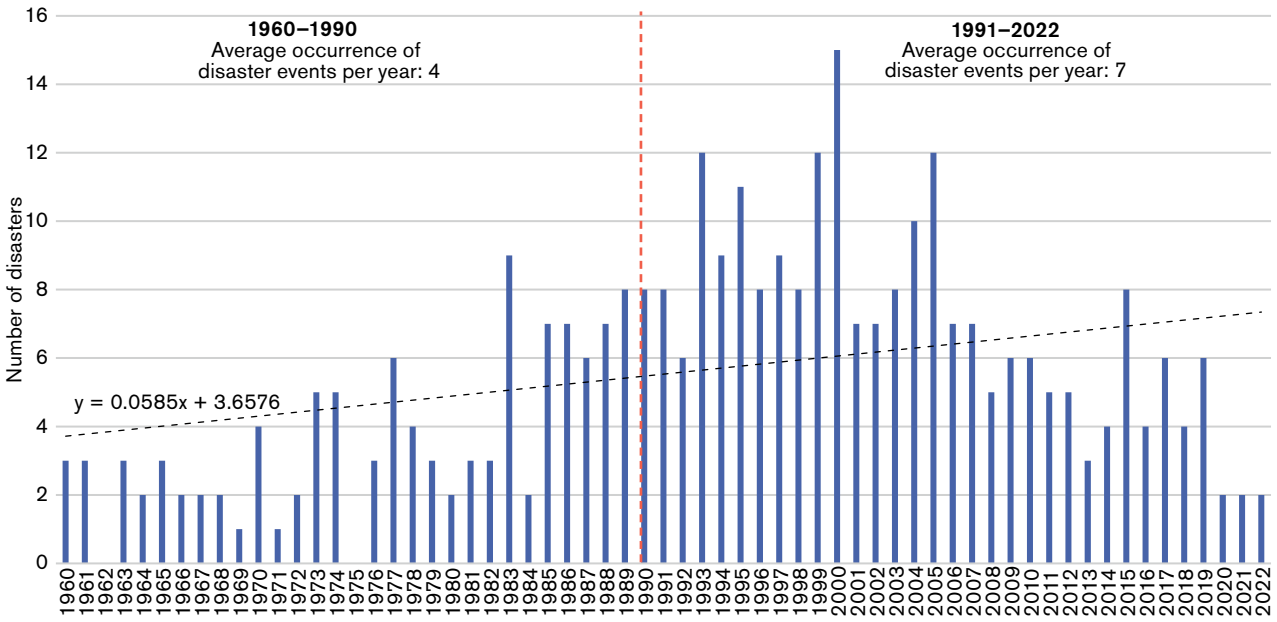
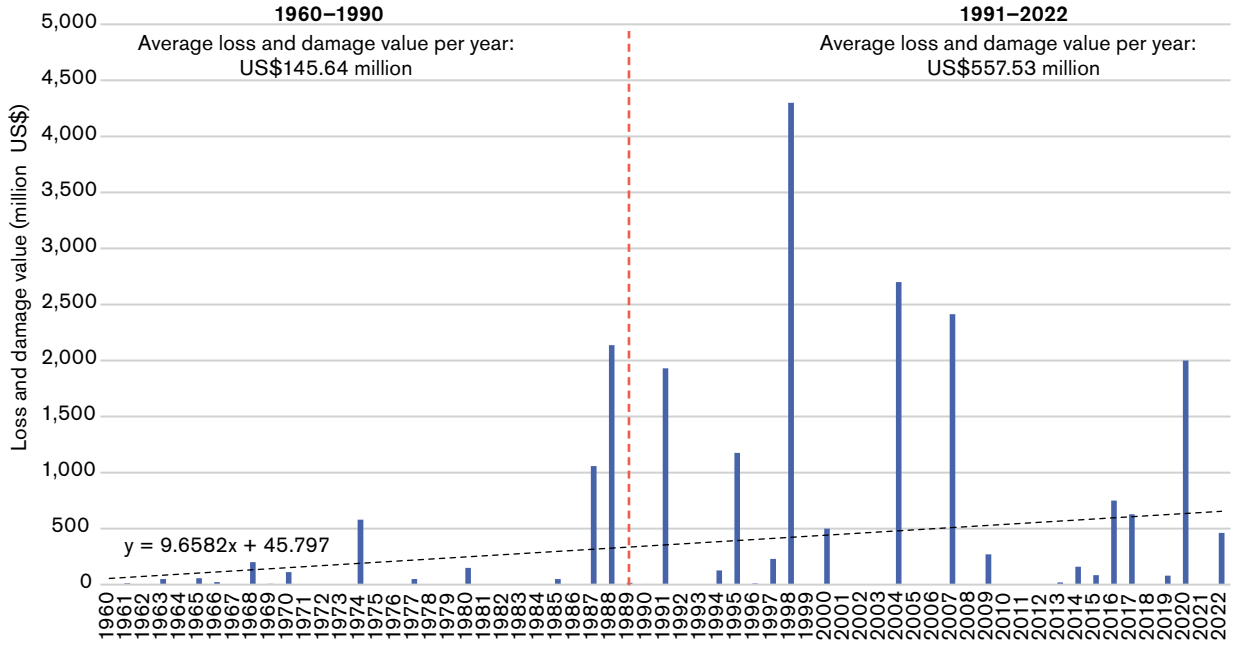


Figure 4. Change in loss and damage value, 1960–2022



Data source: EMDAT, 2023

increased cyclonic activity. These changes have placed immense pressure on communities and ecosystems, heightening their exposure to recurrent and overlapping climate shocks.

2.1.2 Analysis of loss and damage value in Bangladesh (1960–2022)

We also analysed the change in the value of loss and damage caused by disasters over the years in Bangladesh. Figure 4 illustrates the escalating economic costs of climate-related loss and damage in the country between 1960 and 2022.

This analysis shows a stark increase in the average annual loss and damage value over time. From 1960 to 1990, the average yearly loss stood at US$145.64 million. This figure surged to US$557.53 million during the period from 1991 to 2022 — a nearly fourfold increase.

This upward trend reflects the growing intensity and frequency of climate-related disasters such as cyclones, floods and salinity intrusion. The economic impacts, shown through peaks in loss and damage, correspond to major climate events, with certain years displaying particularly high losses. These years align with catastrophic events like the 1998 flood, Cyclone Sidr in 2007 and Cyclone Amphan in 2020, which caused extensive destruction to infrastructure, livelihoods and ecosystems.

"During the flood of 2022, I was not at home; I was in Sandwip, Chittagong. I arrived here about eight days after the flood and I found a lot of damage here. My family was at home, they were traumatised after the sudden shock. The flood washed away my home, cow and ducks. My family took shelter in the nearby primary school. There were no sanitation facilities and they drank the flood water. As a result, my wife and child got affected by diarrhoea. It was a terrible situation when I came home."
A community member from Gowainghat, Sylhet

"We used to follow the traditional calendar for cultivation. But now it is not possible to follow the calendar, as we do not know when the rain comes and what will be the temperature. Last year, the rain started in June, but this year it started in November. Just think how could we understand when it will come?"
A community member from Mathbaria, Pirojpur

The rise in the loss and damage value underscores the vulnerability of Bangladesh's economy to climate stressors, particularly in agriculture and fisheries, which form the backbone of rural livelihoods. The data emphasises the cumulative economic toll of recurring disasters, which strain recovery efforts and deepen the vulnerability of affected populations.

Correlating the data on disaster frequency and loss and damage values vividly illustrates how the financial impacts of climate change are escalating.

2.2 Localised impact of climate trends

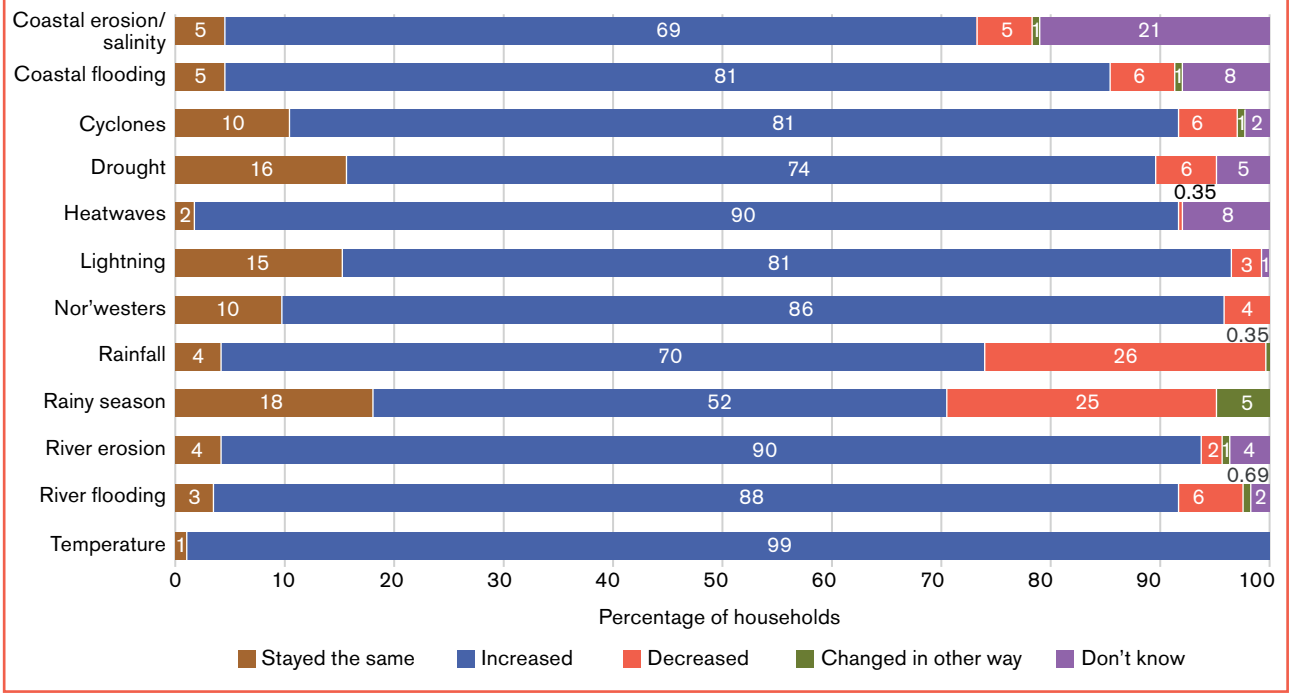
To understand the localised impacts of these climate trends on vulnerable communities, we gathered detailed community perceptions from the districts of Pirojpur and Sylhet, two regions with distinct climate vulnerabilities. By engaging directly with affected households and local stakeholders, we aimed to capture how disaster trends are altering livelihoods, food security and overall wellbeing.

2.2.1 Community perception of climate events in Pirojpur and Sylhet

Pirojpur: Figure 5 presents community perceptions in Pirojpur regarding changes in the frequency and intensity of various climate events.

A significant majority of respondents reported that climate events such as heatwaves (90%), river erosion (90%), temperature increase (99%) and coastal flooding (81%) have increased over time. These findings reflect a

Figure 5. Community perceptions of how climate events have changed in Pirojpur



widespread acknowledgement of the intensifying effects of climate change in this coastal district, particularly concerning hazards that directly impact livelihoods and living conditions.

- **Increased hazards:** Community members identified a substantial rise in extreme weather events such as lightning (81%), nor'westers[6] (86%) and cyclones (81%), highlighting the vulnerability of the region to rapid-onset climate shocks. Some 81% of respondents reported increased coastal flooding, and 88% reported increased river flooding, underlining the compounded risks faced by low-lying and riverine areas.
- **Slow-onset changes:** Respondents also reported gradual but impactful changes, with 69% of those surveyed reporting coastal erosion/soil salination and 74% reporting droughts, signifying the persistent and long-term degradation of natural resources. These slow-onset hazards are critical contributors to the decline in agricultural productivity and freshwater availability, both of which are essential for the region's predominantly agrarian and fisheries-based livelihoods.
- **Decreases and other changes:** A small section of respondents also reported decreases or other forms of change in specific events. For instance, 26% of respondents noted reduced rainfall, while 21% could not say whether there had been coastal erosion. This variation in perception may be attributed to the localised nature of climate impacts and differences in individual exposure to specific events.
- **Rainy season and monsoon onset:** 52% of respondents indicated that the onset of the rainy season has shifted, complicating traditional agricultural cycles that rely on predictable rainfall patterns.

The analysis highlights how local communities in Pirojpur perceive both rapid- and slow-onset climate impacts, reflecting their lived experiences of environmental and socioeconomic disruptions. These perceptions are consistent with broader climate models and studies, which show that coastal regions like Pirojpur are increasingly vulnerable to both sudden shocks and incremental changes.

"Nowadays, we are unable to grow anything like we did in the past. Our production has decreased compared to the past, and the cost of cultivation has increased due to soil salinity and insects. Fish production has significantly decreased. In the past, we caught lots of fish from the river, but now we find very little."
A community member from Mathbaria, Pirojpur

"The increasing salinity of the soil has devastated our crop production. Despite using excessive fertilisers and pesticides, I'm unable to reap financial benefits. Moreover, the frequency of disasters has increased. Previously, floods were rare occurrences, but now they inundate our area two to three times a year. Alongside floods, other disasters such as cyclones and drought have increased drastically."
A community member from Mathbaria, Pirojpur

Sylhet: Figure 6 illustrates community perceptions in Sylhet regarding changes in the frequency and intensity of various climate events.

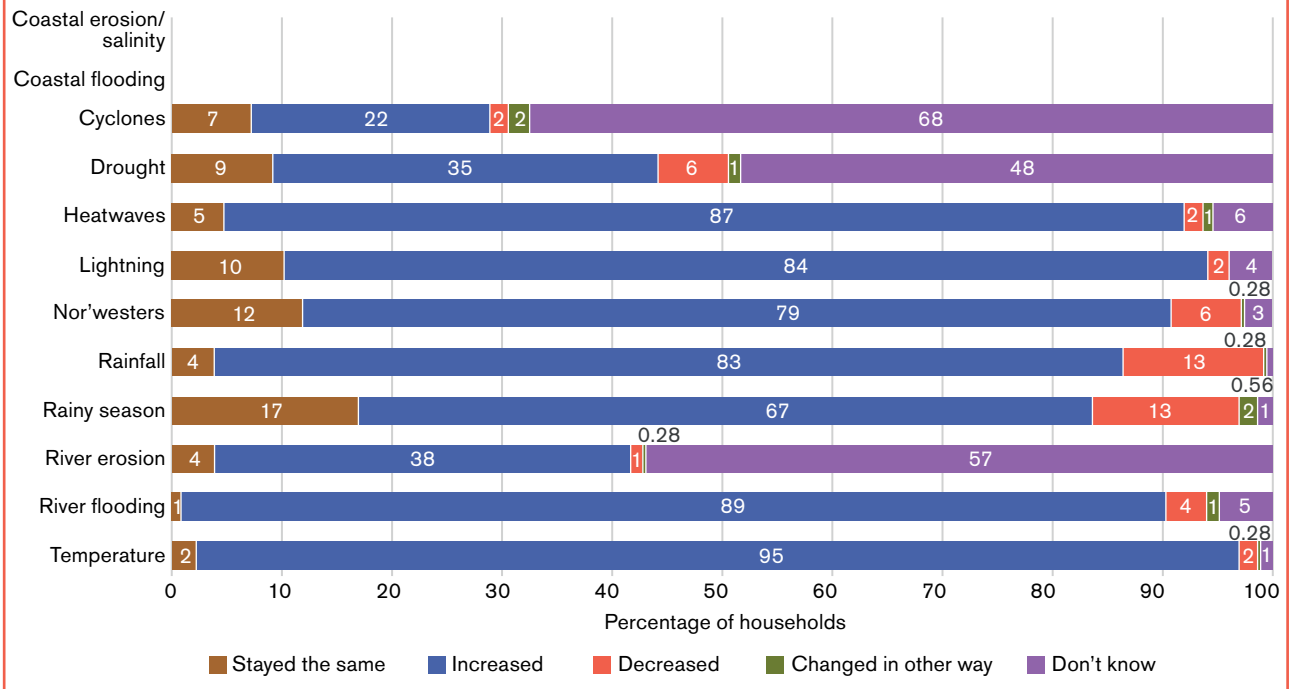
Similar to Pirojpur, the data from Sylhet reflects a strong community perception of the increasing intensity of climate-related hazards. Key observations include:

- **Rapid-onset hazards:** A significant majority of respondents reported an increase in events such as lightning (84%), nor'westers (79%) and heatwaves (87%), reflecting Sylhet's heightened vulnerability to extreme weather. River flooding (89%) was also perceived to have increased substantially.
- **Temperature and rainfall trends:** 95% of respondents noted a rise in temperatures, while 83% observed increased rainfall. These changes are critical as they disrupt agricultural practices and exacerbate flash flooding, which impacts livelihoods dependent on rice paddies and other crops.
- **Erosion and seasonal variability:** River erosion emerged as a key concern, with 38% of respondents indicating it has increased. This reflects the persistent threat of soil degradation and loss of arable land along riverbanks, compounding the challenges faced by farming communities. Additionally, 67% of respondents noted changes in the onset of the rainy season, further complicating traditional farming cycles and water resource management.
- **Other hazards:** The perception of increased droughts (35%) and cyclones (22%) suggests that slow- and rapid-onset events are converging to create a complex web of climate stressors. While Sylhet is less affected by coastal-specific hazards, these events still impact the region's interconnected ecosystem and socioeconomic structure.

The analysis underscores Sylhet's acute vulnerability to a mix of rapid-onset disasters and shifting climate patterns. These perceptions highlight the region's need for adaptive strategies that address both immediate hazards and longer-term climate variability to safeguard livelihoods and build resilience.

6 A nor'wester, also known as a kalbaisakhi, is a localised thunderstorm and rainfall event that occurs in Bangladesh during the summer

Figure 6. Community perceptions of how climate events have changed in Sylhet



2.3 How are communities suffering due to climate impacts?

2.3.1 Economic impacts of disasters on households in Pirojpur and Sylhet

We also analysed the percentage of households in both the study areas that reported experiencing losses and damages across key categories (see Figure 7).

Damage to housing was reported by 69% of households, making this the most commonly reported loss and damage. This finding underscores the vulnerability of housing infrastructure, particularly in disaster-prone regions like Pirojpur and Sylhet. Frequent flooding, cyclones and other extreme weather events exacerbate the damage, leaving families without adequate shelter and forcing them to allocate substantial resources for rebuilding.

Nearly half of the households (48%) reported losses of livestock, reflecting the significant impact of such losses on the livelihoods of rural households. Livestock losses are particularly detrimental as they directly affect income, food security and resilience, especially in agrarian households.

Approximately 41% of households experienced crop losses due to climate events. These losses highlight the direct impact of hazards such as flooding, salinity intrusion and erratic rainfall on agricultural productivity. These losses not only undermine food security but also push families toward financial instability and distress migration. Equipment losses were reported by 29% of households, highlighting significant damage to essential tools and machinery necessary for agricultural and fishing activities. This not only hampers immediate recovery efforts but also affects long-term livelihood sustainability. Finally, about 12% of households reported damage to durable goods, including furniture and household appliances. Although this category ranks the lowest, the loss of durable goods adds an additional layer of economic burden on already vulnerable families, often forcing them to take on debt to replace these items.

The widespread nature of these losses highlights the urgent need for interventions to enhance the resilience of households. Strengthening housing infrastructure so that it can withstand climate impacts, introducing climate-resilient agricultural practices, and providing financial safety nets for the replacement of critical assets can help reduce the long-term impacts of such disasters. These findings emphasise the need for strategies to address the vulnerabilities of households in Sylhet and Pirojpur.

To understand the economic toll of climate-induced disasters on households, we assessed the value of losses across various categories, including crops, livestock, equipment, housing and other assets (see Figure 8).

While respondents in both Pirojpur and Sylhet reported significant damages, the economic burden was notably higher in Pirojpur, reflecting its heightened vulnerability to slow-onset hazards like salinity intrusion and river erosion.

Figure 7. Households experiencing loss and damage

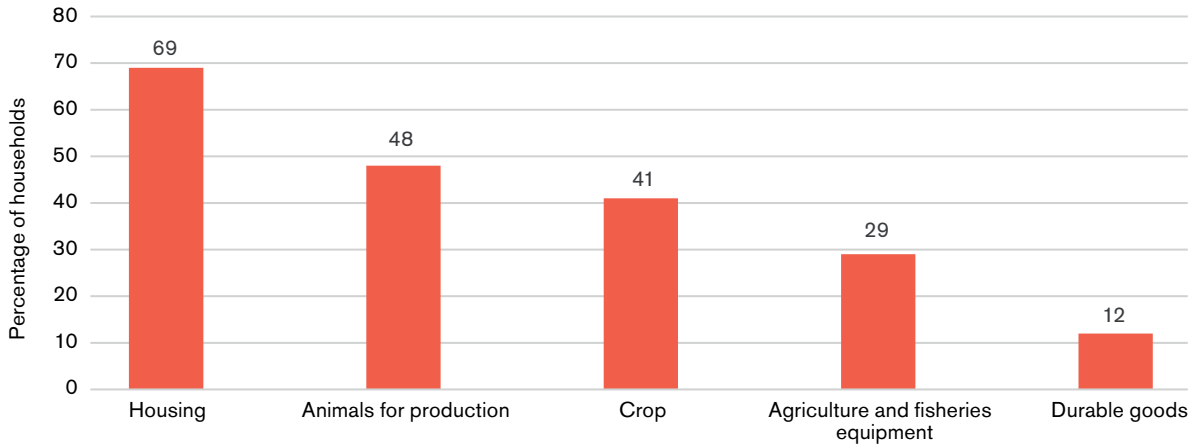
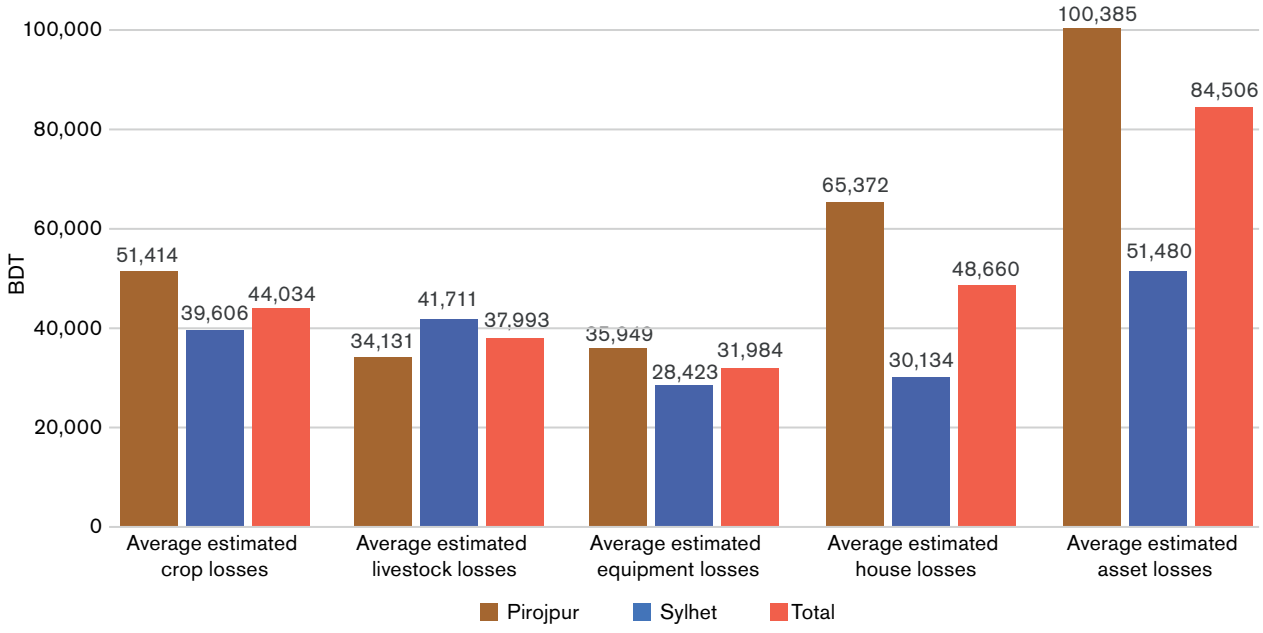


Figure 8. Average per household value of losses and damage suffered in Pirojpur and Sylhet



Note: A Bangladeshi taka (BDT) is valued at 0.0083 US dollars (November 2024)

"I was a farmer. I used to cultivate rice on my own land. I had ten cows and 30 goats. But the recent flood destroyed everything. Now I work in a garment factory. My wife works in a brick kiln. We lead a very poor life."
A community member from Gowainghat, Sylhet

"The people affected by river erosion are essentially refugees. Some individuals are seeking shelter in the Majhir Char, a river island. Most of the displaced people took shelter there. There are almost 200 families in the Majhir Char, and all of them are displaced from their original land."
A government officer in Pirojpur

Crop losses: The average estimated crop losses were highest in Pirojpur, amounting to BDT51,414 (US$447), significantly surpassing the losses reported in Sylhet of BDT39,606 (US$345). This disparity highlights the compounding impact of salinity intrusion and recurring cyclones on agricultural productivity in coastal areas.

Livestock losses: Livestock-dependent households in Sylhet reported average losses of BDT41,711 (US$363), compared to BDT34,131 (US$297) in Pirojpur. The higher losses in Sylhet emphasise the vulnerability of livestock-based livelihoods to extreme weather conditions such as heavy rainfall and flooding.

Equipment losses: Losses to equipment were more pronounced in Pirojpur at BDT35,949 (US$330), compared to Sylhet at BDT28,423 (US$247). These losses reflect the loss and damage to essential tools and infrastructure critical for agricultural and fishing activities.

Housing damage: Housing damage emerged as the most significant in monetary terms. Households in Pirojpur faced average damages of BDT65,372 (US$569), considerably higher than Sylhet's average of BDT30,134 (US$262). This finding underscores the susceptibility of housing infrastructure in Pirojpur to extreme events like cyclones and storm surges.

Asset losses were the largest category of economic impact. In Pirojpur, the average estimated asset losses reached BDT100,385 (US$873), while Sylhet reported BDT51,480 (US$448), reflecting the broader economic vulnerability of households in both regions.

2.4 Impacts suffered at the household level

Beyond an economic assessment of loss and damage suffered by the households, we also analysed the impacts of climate change on key livelihood indicators in Bangladesh, drawing on household-level data from Pirojpur and Sylhet. The analysis focused on four critical dimensions: the effect of climate change on crop production, work availability, fish production and food security. By capturing community perceptions and quantitative data, this analysis aims to highlight how climate change disrupts economic activities, depletes natural resources and exacerbates food insecurity, driving households toward negative coping mechanisms such as migration.

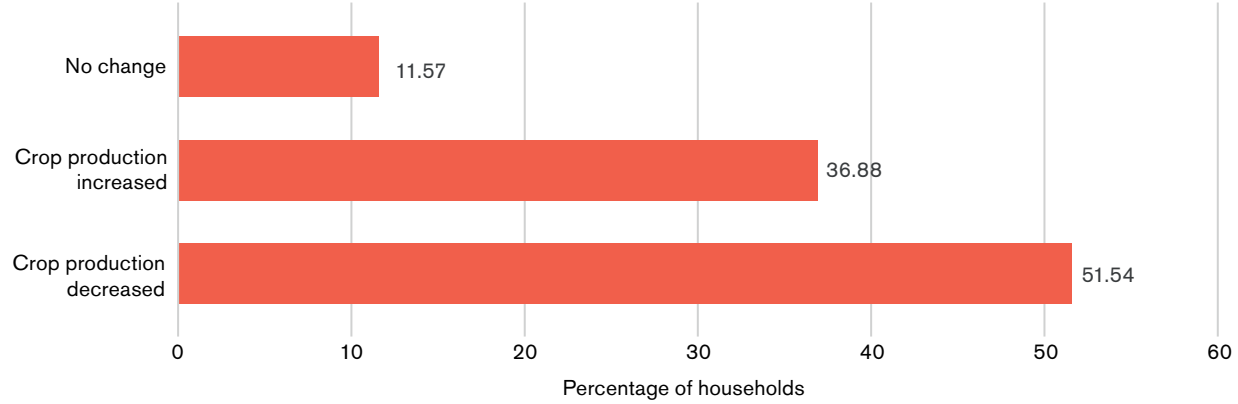
2.4.1 Impact of climate change on crop production

The data on the perceived impact of climate change on crop production reveals significant variations in household experiences. Around 52% of households in both regions reported a decrease in crop production, attributing this decline to changing rainfall patterns, extreme weather events and salinity intrusion. The findings are consistent with the results highlighted in a 2015 study, which noted a marked reduction in crop production in villages in Pirojpur district after Cyclone Sidr (Moni et al., 2015). Cyclones combined with prolonged exposure to saline water intrusion have devastated arable lands, rendering traditional farming practices untenable. Furthermore, irregular rainfall and extended drought periods have disrupted sowing and harvesting cycles, contributing to the observed decrease in production in more than half of the surveyed households.

However, 37% of households observed an increase in crop production, which may be linked to adaptive agricultural practices or improved access to resilient crop varieties in certain areas. The communities that reported an increase in crop production are likely to have benefited from targeted interventions, such as the introduction of salt-tolerant crop varieties, diversification into non-traditional crops, or improved irrigation systems. These findings highlight the crucial role of localised adaptation strategies in mitigating climate impacts.

The perception of no change among a small proportion of households could point to varying levels of awareness or resilience, emphasising the need for location-specific policies that consider unique environmental, social and economic contexts.

Figure 9. Perceived impact of climate change on crop production



2.4.2 Impact of climate change on work availability

Figure 10 highlights the perceived impact of climate change on work availability, as reported by households in both study regions.

A large majority (75%) of respondents indicated that work availability has decreased due to climate-induced stressors. This reflects the disruptions caused by extreme weather events, such as floods and cyclones, which damage critical infrastructure, agricultural lands and local economies, making it harder for communities to find consistent work opportunities.

In contrast, only 8% of respondents reported an increase in work availability. A greater availability could be attributed to temporary employment opportunities created during disaster recovery efforts, such as rebuilding infrastructure or engaging in relief operations. However, such work is often short-lived and does not address long-term livelihood security.

The remaining 17% of respondents either perceived no change in work availability or were uncertain about changes. This may be indicative of regional variability or differing levels of dependency on climate-sensitive sectors such as agriculture and fisheries. Households that rely less on these sectors may experience less direct disruption to their income sources.

2.4.3 Impact of climate change on fish production

The graph in Figure 11 illustrates the perceived impact of climate change on fish production in both study areas.

A significant 66% of households reported a decrease in fish production, highlighting the effects of climate-induced changes on this critical livelihood sector. This decline can be attributed to multiple factors, including rising water temperatures, altered breeding patterns, salinity intrusion and the loss of freshwater ecosystems, all of which disrupt fish habitats and productivity. The sharp decline in fish production is a major concern, especially in communities like Pirojpur and Sylhet, where fishing is the mainstay of livelihoods and food security.

Figure 10. Perceived impact of climate change on work availability

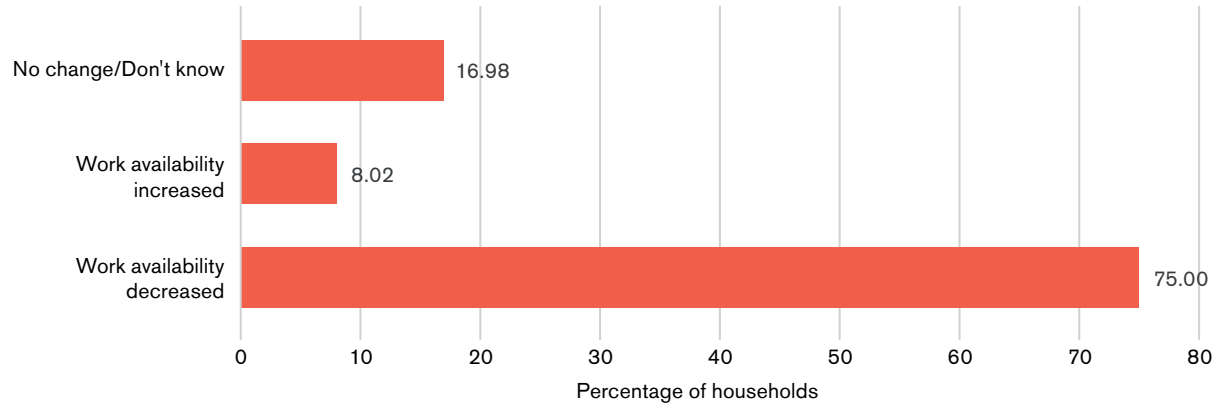
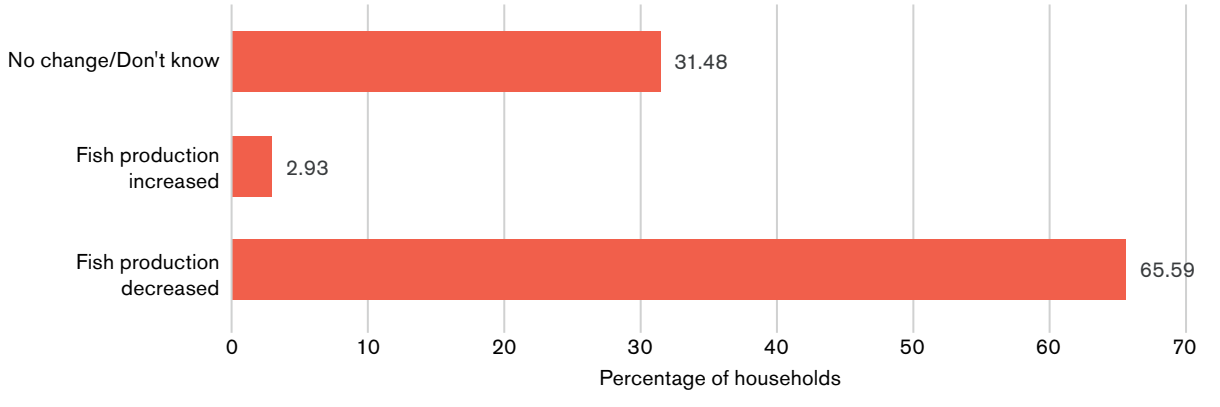


Figure 11. Perceived impact of climate change on fish production



"There is a significant change in fish production compared to the past. Previously, the fish yield was 90%. But now it has reduced to 30%. Nowadays, we eat less fish than before. Generally, in the past, when we went to the river, we got lots of fish, but now it is very hard to get fish, and some days people come back empty-handed."
Small-scale fisher from Mathbaria, Pirojpur

"Previously, when I used to go fishing in the river, I would catch fish weighing 20 to 25kg. However, nowadays, if I go fishing in the same river, I only catch 3 to 4kg of fish. The decrease in fish population is caused by the gradual reduction in the river's depth and an increase in salinity."
Small-scale fisher from Mathbaria, Pirojpur

2.4.4 Impact of climate change on food security

Our analysis showed that food insecurity in Pirojpur and Sylhet typically manifests through reduced meal availability. A significant proportion of households (42%) reported experiencing a lack of food during disaster events, indicating the direct impact of climate-induced shocks such as floods and cyclones on food availability. Another 12% sometimes face food shortages and 7% frequently have only one meal or less per day. These findings underscore the precariousness of food security during climate shocks, where disaster events exacerbate the challenges faced by vulnerable communities.

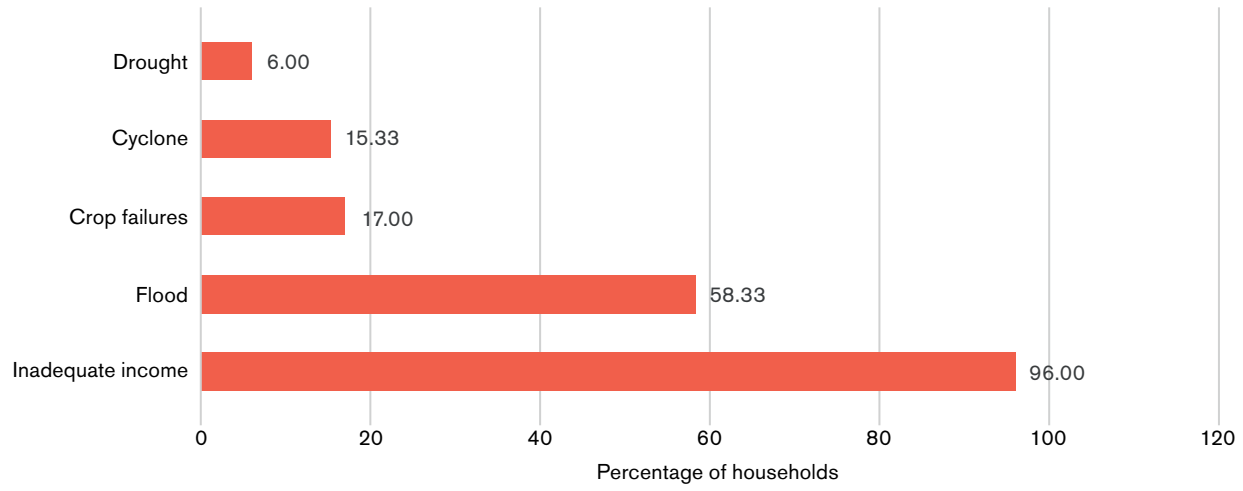
In Figure 12, we have presented the key drivers of food scarcity as perceived by households.

Inadequate income emerged as the most prominent factor, affecting 96% of respondents. This indicates that the economic consequences of climate impacts, such as loss of livelihoods and reduced work availability, are central to the issue of food security. Floods were identified as the second most significant driver (58%), reflecting the physical destruction and displacement caused by recurring extreme weather events. Crop failures (17%), cyclones (15%) and drought (6%) were also noted as contributors to food shortages, demonstrating the multidimensional impacts of climate change on agricultural productivity and community resilience.

"Now pests are proliferating despite regular pesticide spraying. Earlier, there used to be a lot of rain, so there was no need to give fertiliser; the crops were good in that rain. But now it hardly rains, and when it does, it floods everywhere. When the farmer needs rain, it does not rain; he has to give water to the crops from the canal or through the machine in the deep tube well."
A farmer from Gowainghat, Sylhet

In summary, the findings in this section reveal the extensive and multidimensional impacts of climate change on livelihoods and food security in Bangladesh, particularly in vulnerable regions like Pirojpur and Sylhet. The analysis highlights significant disruptions in crop production, work availability and fish production, with the majority of households reporting declines across these sectors. These impacts are compounded by recurring losses and damages affecting assets, livestock and homes, which erode the economic stability of affected communities. Furthermore, food insecurity remains a critical issue, with many households facing meal shortages, particularly during disaster events, and citing floods, inadequate income and crop failures as major contributing factors. The evidence underscores how climate change exacerbates existing vulnerabilities, leaving households with limited capacity to adapt and recover.

Figure 12. Reason for food scarcity at household level



3

Impact of climate change on household migration decisions

This section explores how climate change drives migration and examines the characteristics of households most likely to migrate within Bangladesh and across borders. Building on the evidence of climate change's impacts on livelihoods and food security outlined in the previous section, we have analysed how these pressures translate into migration trends over time. We start by investigating historical trends in migration, highlighting the increasing prevalence of climate-induced displacement. We then examine the underlying drivers of migration through the lens of the 3P framework, analysing predisposing, precipitating and protective factors. This includes examining the role of household-level vulnerabilities, the intensity of climate-induced shocks, and the availability and effectiveness of social protection systems. Finally, using regression analysis, we delve into the socioeconomic characteristics of households that choose to migrate versus those that do not, providing an understanding of migration as both a destructive coping mechanism and an adaptive response to climate stressors.

3.1 How has migration increased over the last few decades?

Migration trends reveal a significant increase in both internal and international migration in recent decades, driven by a combination of economic pressures and intensifying climate impacts. Some 84% of households began migrating internally between 2011 and 2024, with a much smaller proportion reporting migration in earlier decades (14% between 2001 and 2010, and 2% between 1990 and 2000) (see Figure 13).

This sharp increase underscores the escalating vulnerability of communities who are compelled to move within the country in search of better opportunities and safety from climate-induced risks.

International migration follows a comparable trend, with 88% of households initiating international migration between 2011 and 2024, compared to just 9% between 2001 and 2010 and 4% between 1990 and 2000 (see Figure 14).

"People from our area never used to go abroad because everything we needed was right here. The first person from our village migrated 25 years ago in 1998. Now, from 150 families, at least one member from each family has migrated abroad. Why are we migrating? It's not for luxury; it's not a beautiful choice for us. In fact, there's simply no work available to support our families and children here. So, we're forced to migrate. Many people here are so poor that they can't even scrape together enough money to migrate abroad, so they end up moving to different districts within Bangladesh."
A union member from Gowainghat, Sylhet

Figure 13. Internal migration in Pirojpur and Sylhet, 1991–2024

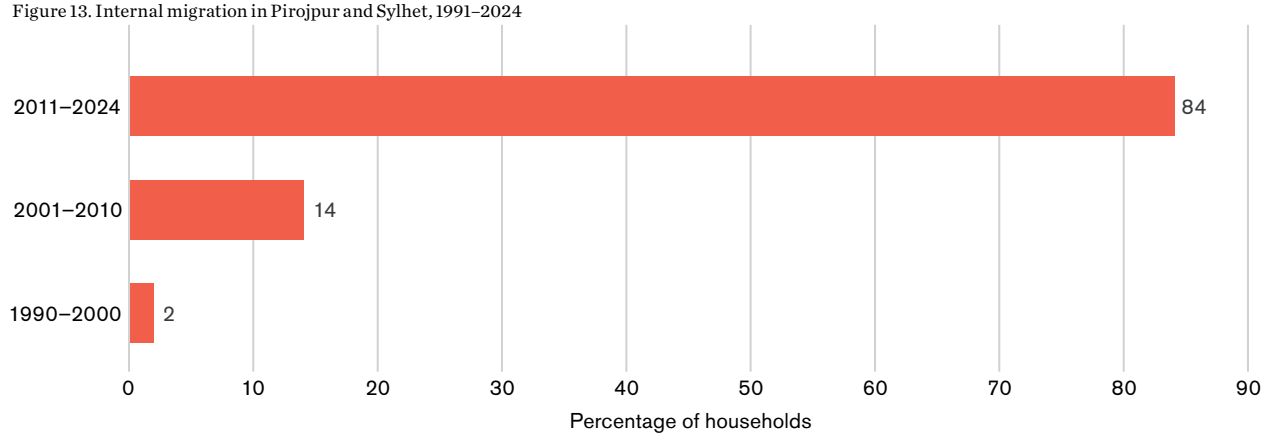


Figure 14. International migration in Pirojpur and Sylhet, 1991–2024

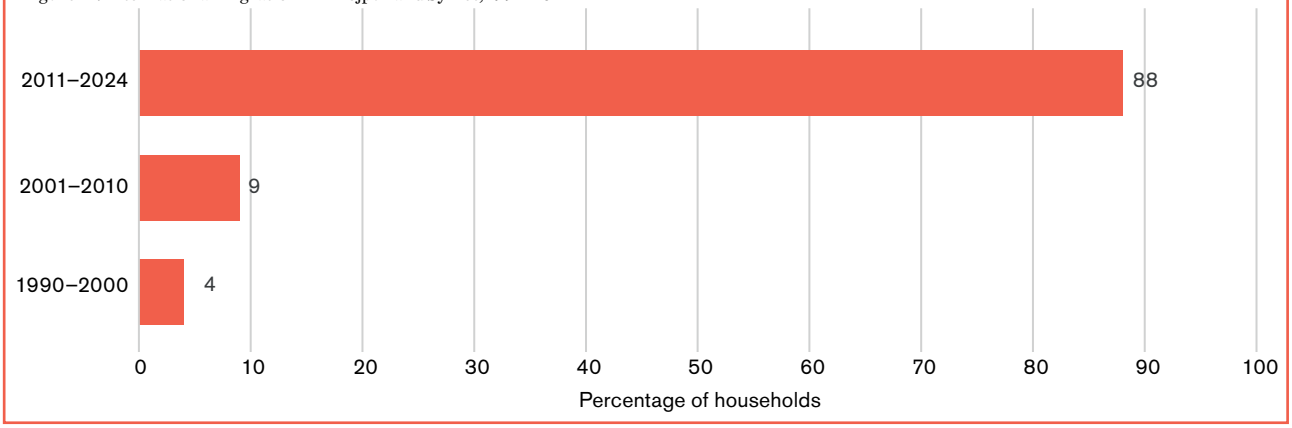
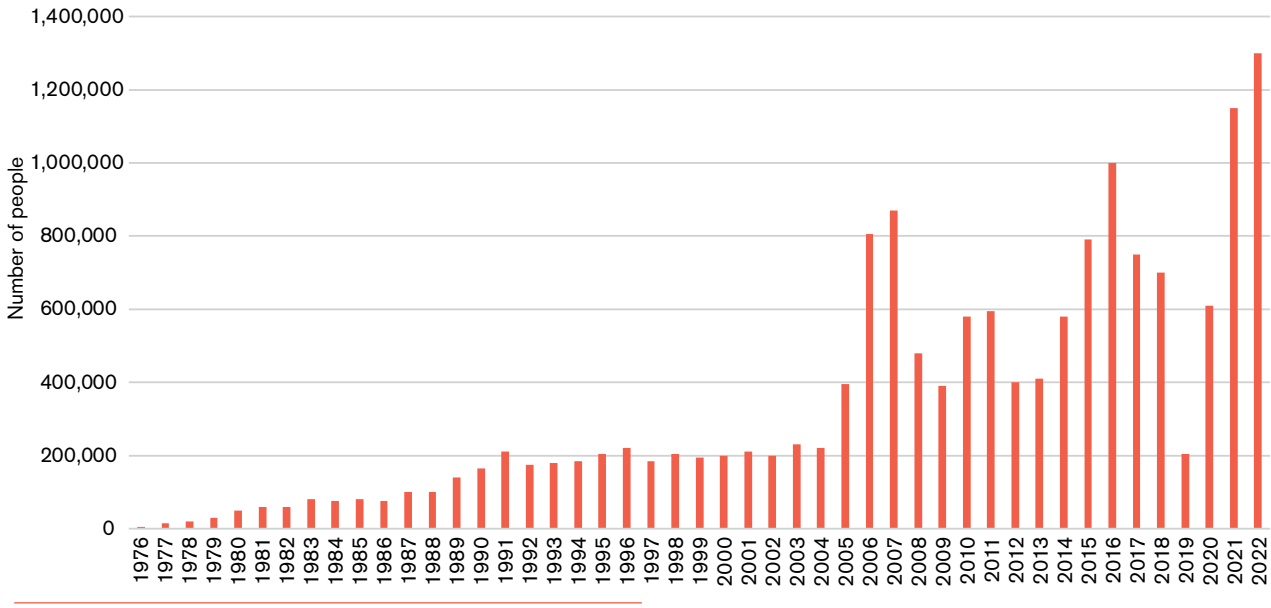


Figure 15. Departures from Bangladesh for overseas employment, 1976–2023



Source: Bangladesh Bureau of Manpower, Employment and Training (BMET)

Data from the Bangladesh Bureau of Manpower, Employment and Training (BMET) on departures from Bangladesh for overseas employment between 1976 and 2023 (BMET, 2024) (see Figure 15) also shows a similar pattern, with a substantial rise in international migration, particularly since the early 2000s. Peaks in migration are evident post-2006 and 2016, with the highest recorded numbers observed in recent years.

This surge reflects the growing reliance on international migration as a critical coping mechanism, as local livelihoods become increasingly unsustainable due to climatic and economic challenges.

3.2 Trends in internal and international migration

3.2.1 Internal migration

An analysis of internal migration trends in Bangladesh provides an understanding of the movement patterns of households and the options for employment available to them at destination sites.

Figure 16 shows the destinations of internal migrants from Sylhet and Pirojpur.

The data shows a significant preference for migration to large cities such as Dhaka, Khulna and Chittagong. An overwhelming 96% of households from Pirojpur reported migration to these urban centres, highlighting the centrality of metropolitan areas in providing employment and livelihood opportunities. This reflects the challenges faced by rural regions, where diminishing resources and climate impacts leave limited options for sustaining livelihoods. In contrast, Sylhet households demonstrate a more dispersed migration pattern, with 50% of households migrating to large cities and a notable proportion choosing nearby districts (15%) or their district capital (35%). This divergence suggests that proximity to urban hubs or regional centres influences migration decisions, particularly for Sylhet residents. Pirojpur residents are exposed to both extreme climatic events like cyclones and rising salinity, which impacts their agriculture-based livelihoods more severely.

"Last year I lost my house due to the flood. Flood [water] washed away all my belongings. I lost my hens, ducks and a cow. Different diseases become common because of the disaster in our area. This includes pneumonia, diarrhoea and fever. In the past, people cultivated rice, green chili, pumpkin and other vegetables, but now nothing grows here properly. Sometimes the seeds get rotten due to heavy rainfall or [are] sometimes washed away by flood water. The production is very low compared to the past. So, I do not get work regularly here."

A community member from Gowainghat, Sylhet

"After losing everything due to riverbank erosion, I was struggling to manage adequate food, water and sanitation facilities. My only child died due to malnutrition. It was a nightmare for me. I was so depressed about losing my child. I was trying to find some work, but I couldn't manage any work. At that time, there was no work in the area, as many people lost their land. Then, I decided to go to work in a brick kiln in Dhaka."

A victim of riverbank erosion from Mathbaria, Pirojpur

Figure 16. Destination of internal migrants from Pirojpur and Sylhet

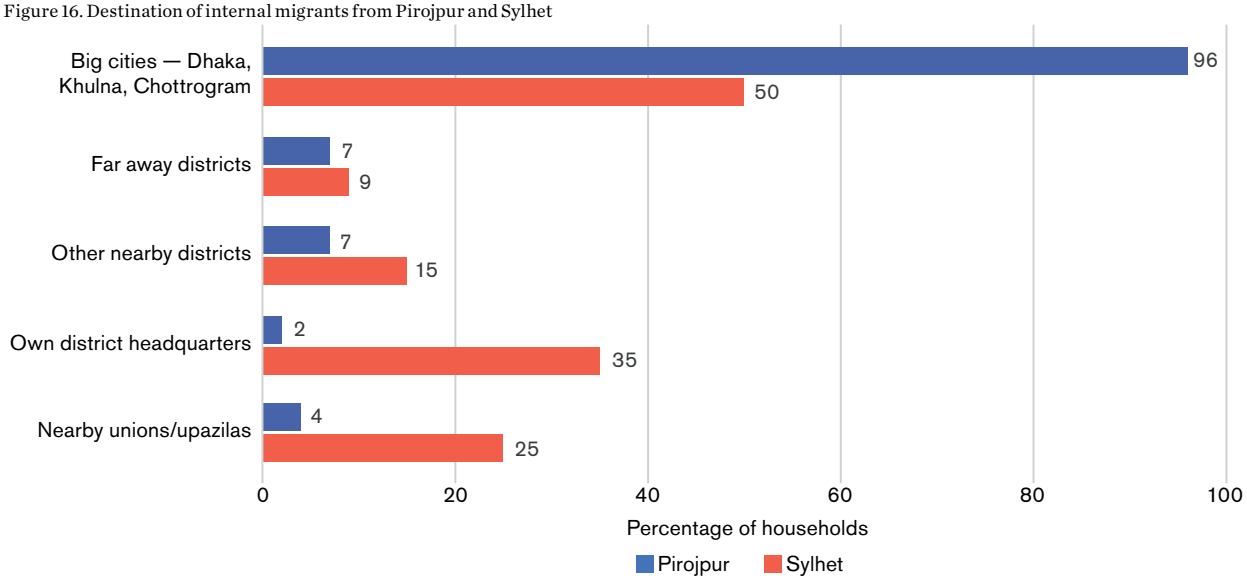


Figure 17 details the nature of employment taken up at destination sites for internal migrants.

In Sylhet, construction work (31%) emerged as the dominant sector, followed by factory work (17%) and agricultural work (18%). These findings resonate with reports-describing a high dependence on labour-intensive, low-skilled occupations among rural-to-urban migrants (Hossain and Rahaman, 2024). In Pirojpur, the trend is different, with garment work emerging as the largest employment sector (35%), followed by construction work (17%) and factory roles (11%). The prevalence of garment work, especially in Pirojpur, can be linked to its proximity to industrial hubs, indicating the influence of geographic access on employment patterns (Marshall and Rahman, 2012).

These migration patterns are strongly tied to environmental pressures and the socioeconomic characteristics of households. Studies suggest that migration, particularly from rural or climate-stressed regions, is a survival strategy in response to livelihood disruptions (Joarder and Miller, 2013). Meanwhile, other findings indicate that the affordability of internal migration — supported by informal social networks and minimal direct costs — makes it a viable option for households with limited economic resources (Azam, 2011).

Cost of internal migration

The vast majority of respondents, 93%, reported that they did not incur any financial costs for their internal migration. This suggests that internal migration in Bangladesh is largely facilitated through informal or non-monetary channels, potentially involving existing social networks such as family and friends at the destination. Only a small fraction of migrants, 7%, indicated that they paid money for their migration. This could involve payments to middlemen, brokers or transportation services, likely in situations where the migrants lacked direct access to the destination or the means to organise their relocation independently.

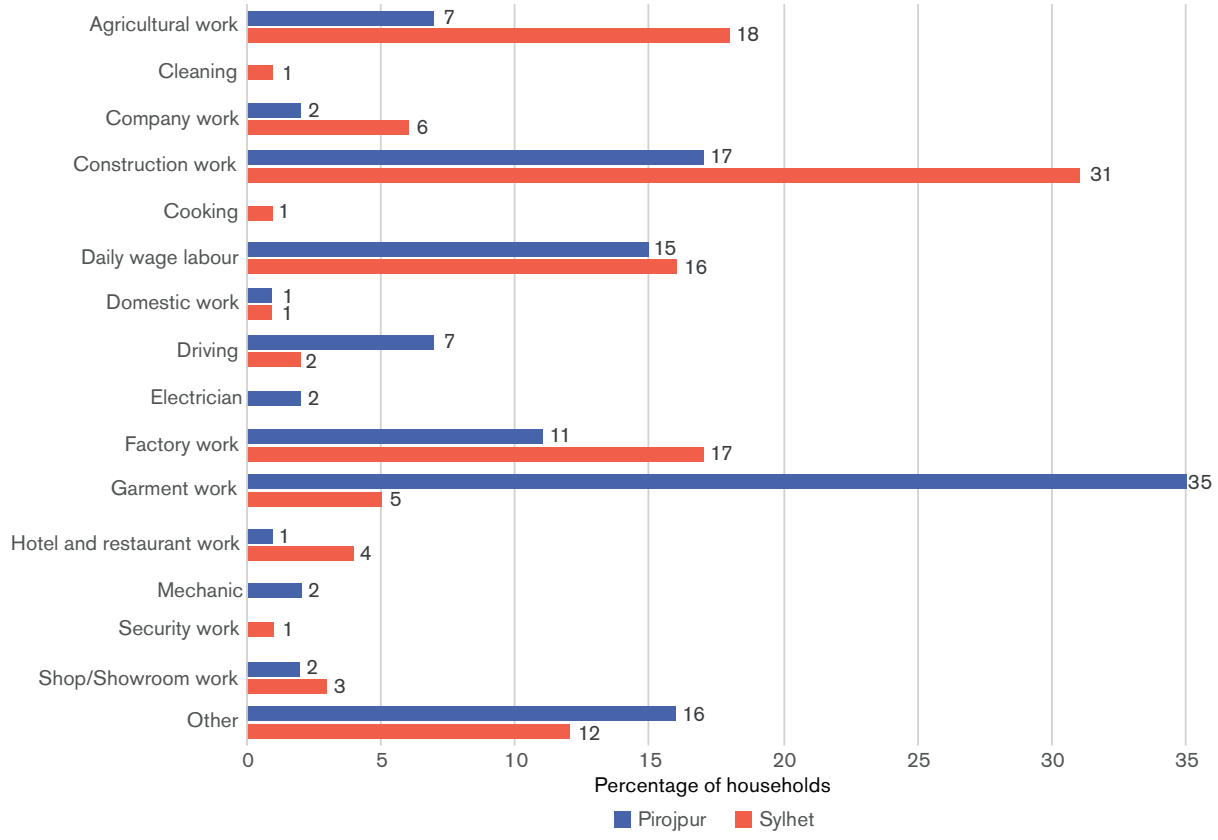
The absence of significant financial barriers for internal migration aligns with the understanding that internal movement is often driven by immediate necessity, such as seeking livelihoods or escaping climate-induced distress, and relies heavily on informal, cost-effective arrangements.

3.2.2 International migration

Our analysis of the survey data on international migration reveals significant insights into both the preferred destinations and the occupational landscape of international migrants, along with challenges related to employment status and repeat migration patterns.

International migrants show a clear preference for Gulf countries, with Saudi Arabia dominating at 51%,

Figure 17. Occupations pursued by internal migrants at their destination



followed by the UAE at 15% and Oman at 14%. The concentration of migrants in Gulf countries reflects the long-standing labour demand in these economies and the established migration pathways facilitated by recruiting agencies and remittance flows. Other notable destinations include Malaysia (6%), Qatar (4%) and Kuwait (4%), with minimal representation in destinations like the Maldives, Lebanon and Bahrain (1% each). These trends align with findings that remittances from Gulf nations constitute a significant portion of Bangladesh's economy, contributing to national development and poverty reduction (Azam, 2011).

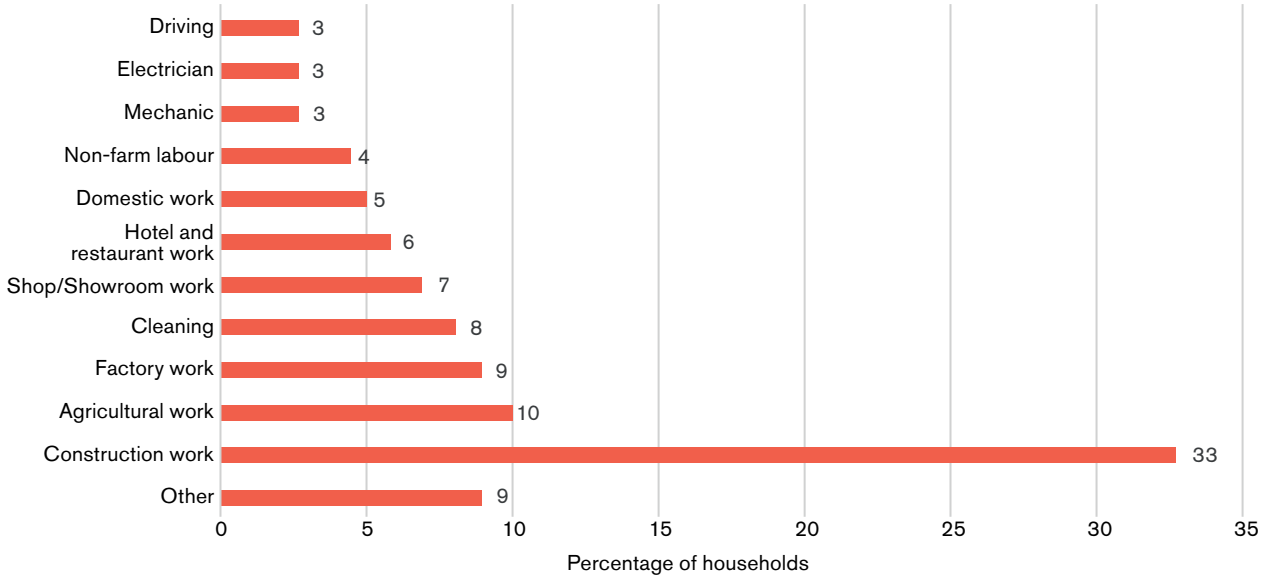
Construction work accounts for the largest share of employment among international migrants (33%), followed by agricultural work (10%) and factory work (9%) (see Figure 18). This pattern emphasises the labour-intensive, low-skilled jobs that Bangladeshi migrants typically undertake, and is consistent with other studies on migration in South Asia. International migrants also undertake roles in the service sector, including shopkeeping (7%) and hotel industry work (6%), albeit in smaller proportions. These figures highlight the limited diversification of occupational opportunities abroad, as many migrants remain confined to sectors with minimal upward mobility. Such employment trends are reflective of the broader social and economic profile of the communities that govern migration flows from Bangladesh (Mahmud, 2023a).

Analysis of employment status based on the data from the households surveyed reveals that while 50% of migrants are employed legally with work permits, a substantial proportion — 32% — are irregular workers without permits, while 18% have returned to Bangladesh. The high proportion of undocumented migrants underscores the precarious conditions faced by many workers, including the risk of exploitation and limited access to social protection mechanisms in host countries. This finding aligns with analysis of the vulnerability of Bangladeshi migrants in destination economies, where labour rights are often undermined by restrictive visa policies and lack of enforcement (Bhuiyan et al., 2015). Our household survey found that close to 21% of undocumented migrants are actively seeking support to return home.

The data on repeat migration patterns indicates that 79% of households have undertaken migration twice, while 12% have migrated three times and 9% have migrated more than three times. This trend points to the cyclical nature of migration, driven by persistent economic needs and limited local opportunities. Data from the BMET corroborates this finding, noting that migration from Bangladesh is often repetitive, with households relying on remittances as a survival strategy amid declining agricultural productivity and climate impacts (BMET, 2024). These trends underscore the need for policies that ensure safer migration pathways, enhance skills development for diverse occupations and provide support mechanisms for undocumented migrants.

"Due to increased salinity in the river, the fish production has decreased. Before going abroad, I was a fisherman. I was happy and caught huge fish in the river, which was a good source of income. But for the last five years, the salinity has increased in the river and the fish production has decreased significantly. I was struggling to make ends meet. I was helpless. At that time, a recruitment agent suggested that I go abroad for work. After consulting with my mother, I decided to migrate."
An unsuccessful return migrant from Mathbaria, Pirojpur

Figure 18. Occupations pursued by international migrants at their destination



"We once had 1,100 bighas[7] of property on this left riverbank. Now, 800 bighas have been lost to river erosion, leaving us destitute. My house is now on the Wapda embankment, on government land. The government built a road and I live along that road. What has been lost is gone. If you see 10 bighas of land now, there will be less than 2 bighas left in the next four months. This is how quickly our land is being eroded."
A union leader from Mathbaria, Pirojpur

Cost of international migration

The analysis of the cost of international migration reveals that households often resort to destructive or negative coping strategies to fund the high expenses associated with international movement, exposing them to greater risks and long-term vulnerabilities. The average cost of migration reported by households, as shown in Figure 19, is substantial, with households in Pirojpur incurring higher costs (BDT461,220/ US$4,012) compared to those in Sylhet (BDT413,667/ US$3,433). To meet these expenses, families adopt various funding strategies, many of which jeopardise their economic stability and resilience.

A significant proportion of households (25%) reported selling land or other productive assets to meet the cost of undertaking international migration (see Figure 20).

While selling assets provides immediate capital, it depletes critical livelihood resources, leaving families economically fragile and less equipped to withstand future shocks. Similarly, reliance on high-interest loans from local moneylenders (18%) and informal sources like samitis[8] (13%) exacerbates financial vulnerability, often creating cycles of debt that are difficult to escape. Even borrowing from relatives (59%), which is the most common funding strategy, can create additional social pressures.

Figure 19. Average cost of international migration borne by households

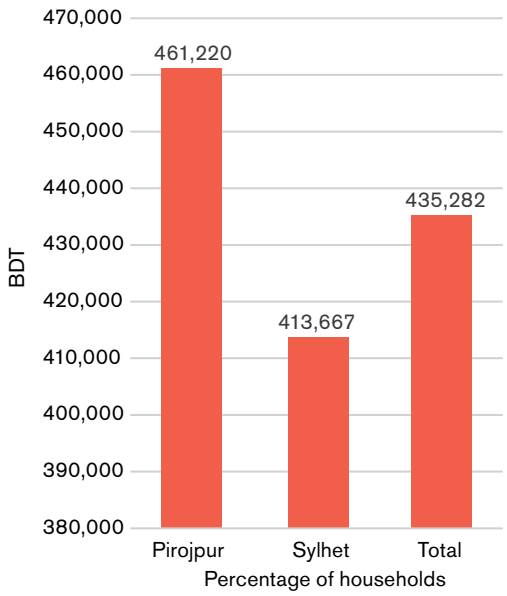
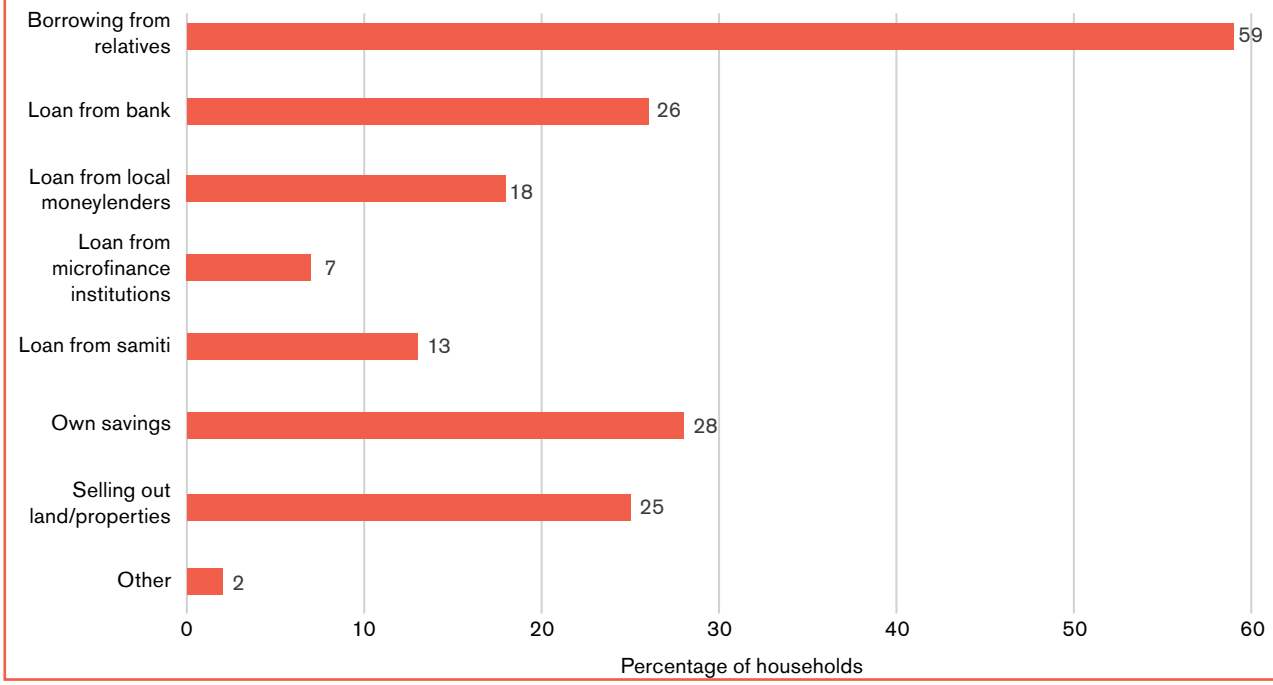


Figure 20. Source of funding for international migration



7 1 bigha is equal to 0.62 acres.

8 In Bangladesh, samitis are grassroots savings and credit groups or cooperatives that provide financial services to their members, especially in rural areas where formal banking services are limited.

These destructive coping mechanisms expose families to broader socioeconomic risks. Liquidating assets and accumulating debt often result in diminished food security, inability to invest in education or healthcare, and loss of economic mobility. In the event of migration failure — such as unemployment abroad, delayed remittances or repatriation due to irregular status — families find themselves in a dire financial situation. Moreover, the reliance on irregular funding channels and informal migration networks can increase exposure to exploitation, both for the migrants and their families back home.

3.3 Understanding the underlying drivers of migration: constructing the 3P index

Migration decisions are shaped by a complex interplay of factors that influence households' capacity to cope with environmental and economic pressures. The 3P framework (composed of predisposing, precipitating and protection factors) was developed to systematically analyse these drivers. **Predisposing factors**, such as inherent socioeconomic and structural characteristics, determine households' baseline resilience and ability to respond to risks. **Precipitating factors** refer to immediate triggers, often linked to climate-induced events, that force households to migrate. Finally, **protection mechanisms** assess the role of existing social safety nets in mitigating vulnerabilities. Together, these components provide a holistic understanding of why some households migrate while others do not, and they highlight the structural inequalities that shape migration choices. The construction of indices for each component enables an understanding of household vulnerabilities and capacities, offering insights for policy and planning.

3.3.1 The role of predisposing factors in the migration decisions of households

To assess the underlying drivers of migration, we constructed the Inherent Resilience Index (IRI), which focuses on capturing predisposing factors — the structural and socioeconomic characteristics that influence household resilience and shape migration decisions.

The IRI was developed using five key variables that collectively represent a household's capacity to cope and make adaptive choices. Each variable was normalised to a scale of 0 to 100, and the aggregated scores provide a single resilience value for each household. Higher scores indicate greater inherent resilience, while lower scores reflect heightened vulnerability. By quantifying these predisposing factors, the IRI allows for a comparative assessment of households, identifying disparities in resilience and highlighting those most at risk of being pushed into distress migration due to inadequate coping capacity.

Insights into predisposing factors

Educational status of the head of the household (see Figure 21): Education plays an important role in shaping resilience and migration opportunities. A higher proportion of international migrant households are headed by persons with education beyond the 10th standard (grade), which enhances their ability to navigate complex international migration processes. Conversely, non-migrant households have the highest proportion of illiteracy (61%), underscoring their limited capacity to diversify livelihoods or relocate.

Type of housing (see Figure 22): Housing type serves as an indicator of economic stability. Cross-border migrant households exhibit a significant proportion of permanent or semi-permanent housing (40%), reflecting better financial conditions. In contrast, non-migrant and internal migrant households predominantly live in temporary 'kaccha'[9] housing, reflecting their vulnerability.

Access to sanitation (see Figure 23): Access to improved sanitation facilities is a marker of resilience. International migrants are more likely to have 'Pacca' (permanent) water-sealed toilets, indicating better living standards. Non-migrants and internal migrants predominantly rely on less secure sanitation, reflecting poor infrastructural access.

Landholding size (see Figure 24): Land ownership significantly impacts resilience. International/cross-border migrants have an average landholding of 0.51 acres, compared to 0.32 acres for internal migrants and 0.40 acres for non-migrants. Land serves as a financial cushion, facilitating international migration.

Annual income and adequacy (see Figure 25): International migrants earn significantly higher incomes (BDT293,833/US$2,556 annually) than internal migrants (BDT165,237/US$1,437) and non-migrants (BDT141,916/US$1,234). Despite their higher earnings, nearly half (48%) of international migrant households report income inadequacy, reflecting the high costs associated with international migration and the financial pressures it imposes to repay debt incurred in undertaking migration.

9 A kaccha house is a temporary or semi-permanent dwelling typically made from materials like mud, bamboo, or thatch.

Figure 21. Education status of household head

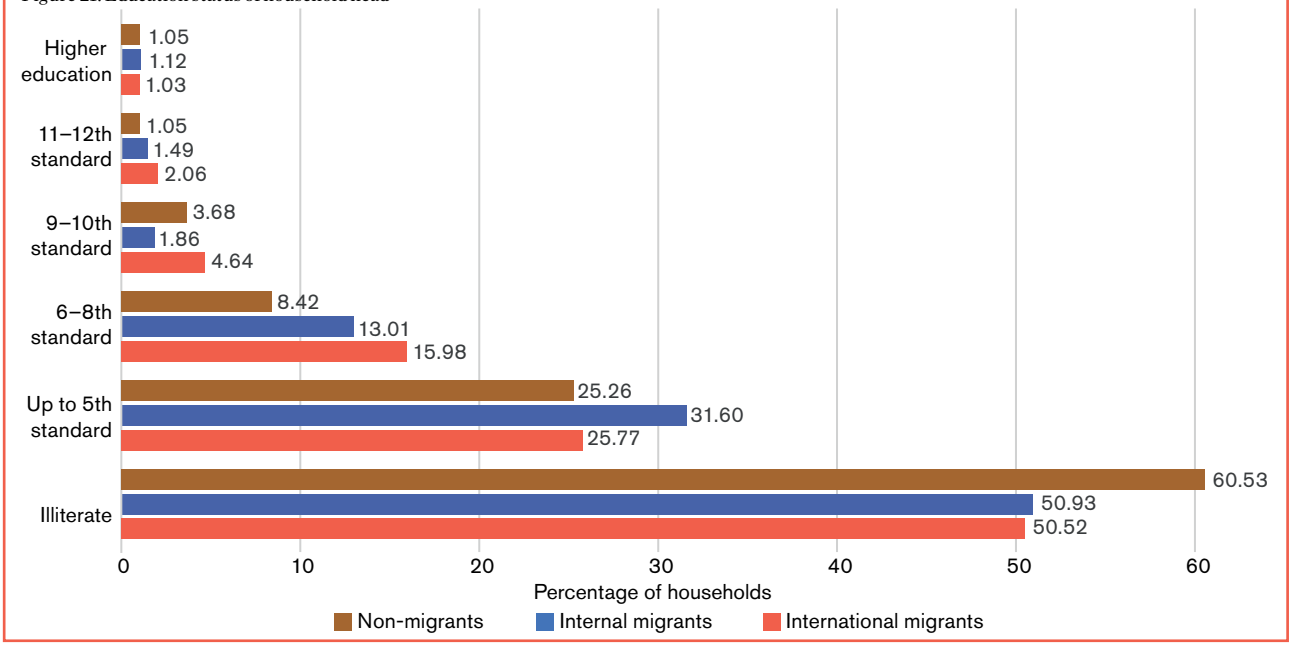


Figure 22. House type owned by households

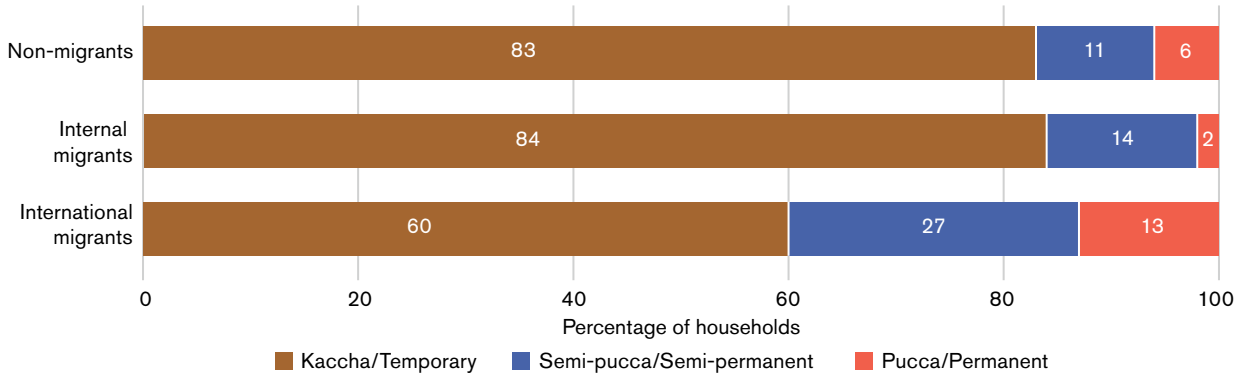


Figure 23. Access to sanitation facilities by households

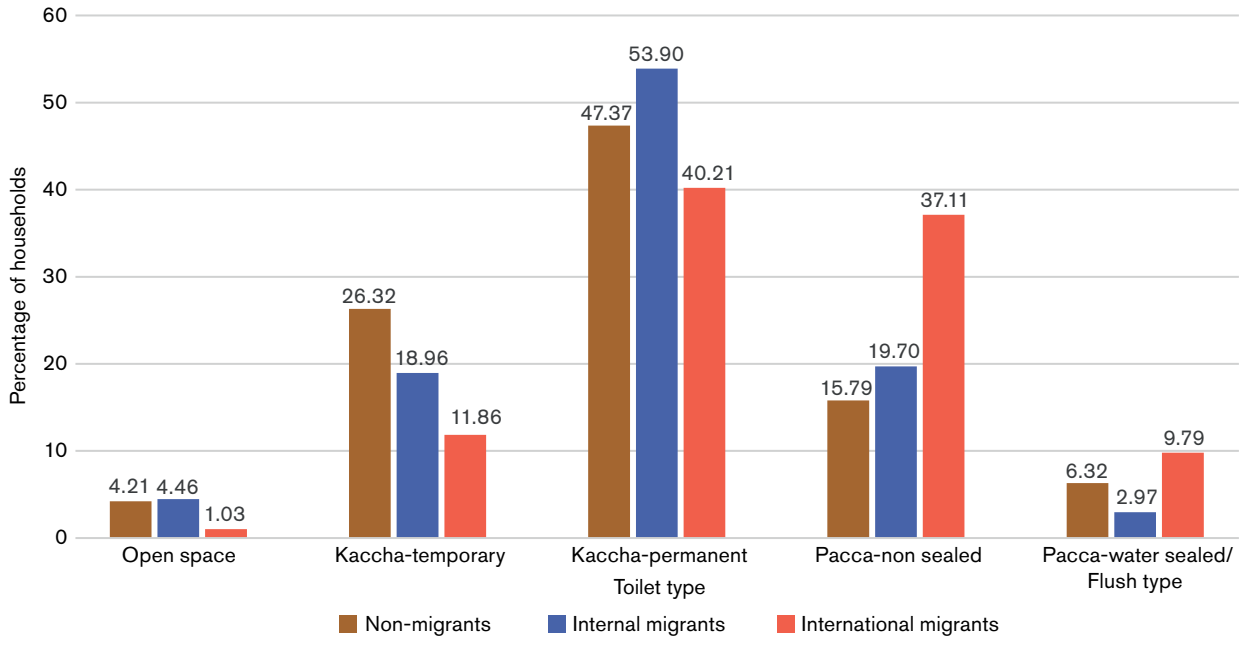


Figure 24. Landholdings of households

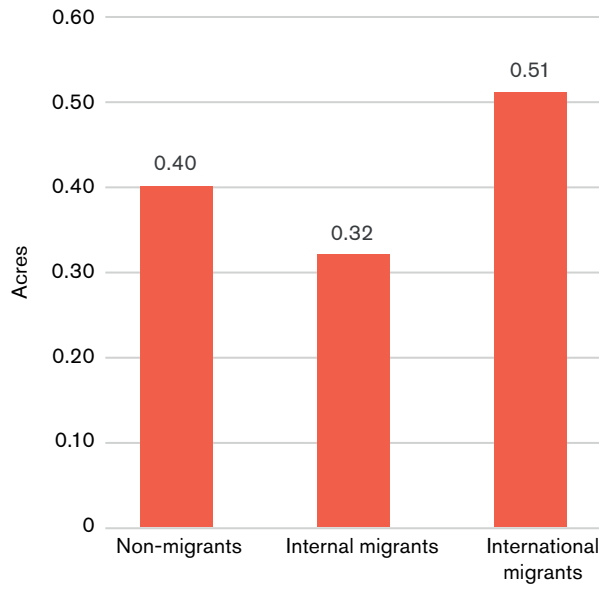
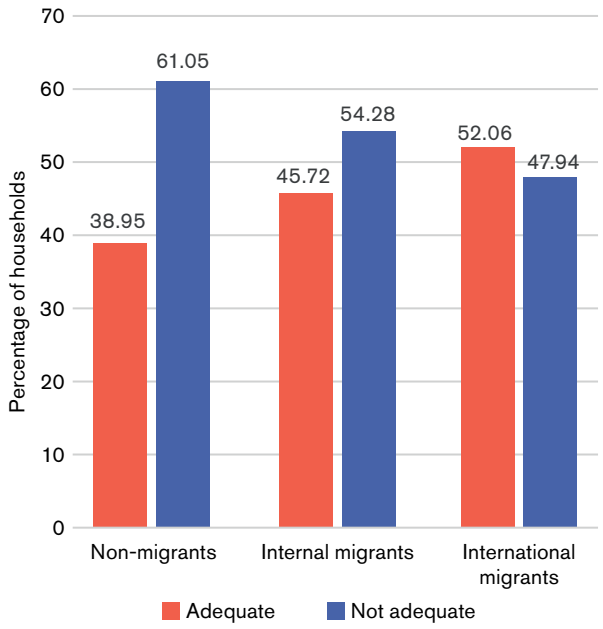


Figure 25. Adequacy of household income



"I used to be a farmer, but now I am a day labourer. I once had 200 decimals [approximately 2 acres] of land, but riverbank erosion took it away — 160 decimals [was] lost to the river. Now I have nothing. Cyclone Amphan destroyed my house, leaving me homeless. I once had everything and lived like a king, but now I live like a beggar. Climate change has brought me to this situation."
A community member from Mathbaria, Pirojpur

"The agricultural land area in Gowainghat is gradually decreasing. This decline is a result of the rising demands of a growing population, leading to the development of infrastructure like roads, residential areas, schools, religious institutions and factories. Another reason is flooding. Consequently, the amount of arable land is diminishing."
A government officer from Gowainghat, Sylhet

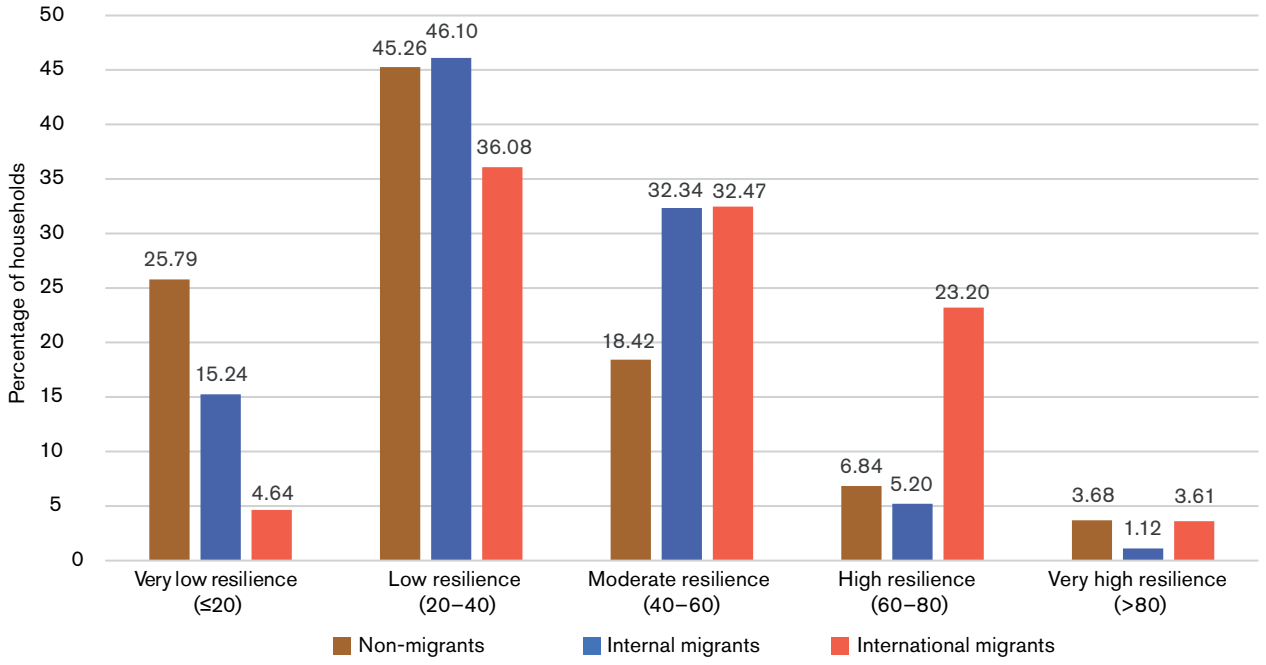
The average IRI values reveal differences between non-migrants, internal migrants and international migrants. Non-migrants have the lowest average resilience score (33.89), followed by internal migrants (35.86) and international migrants (47.08).

The breakdown of IRI for households by resilience categories, shown in Figure 26, highlights a concentration of households in the low resilience and very low resilience categories across all three groups. Non-migrants show the highest concentration of households in the very low resilience category (26%) and low resilience category (45%). The very low resilience category households among non-migrants represent a trapped population, which is unable to migrate or adapt due to their extremely limited resources. This group, characterised by acute vulnerability, includes disproportionately high numbers of women-headed households, people with disabilities and other marginalised groups who face compound barriers to mobility and resilience. These households lack the economic capacity or structural support to pursue migration as a coping strategy, leaving them reliant on external assistance or social safety nets for survival.

Internal migrants, while slightly better off than non-migrants, also face significant constraints, with 46% of households in the low resilience category and 15% in the very low resilience category. This underscores that internal migration, which typically involves lower costs compared to international migration, is accessible even to households with resilience levels similar to those of non-migrants. However, the limited resources of these households mean that internal migration often serves as a short-term survival strategy and does not necessarily translate into a significant improvement in their coping capacity or long-term resilience, leaving these households vulnerable to continued economic and environmental risks.

International migrants demonstrate a higher average resilience and a more balanced distribution across resilience categories. However, 36% of international migrant households remain in the low resilience category, with 5% in the very low resilience bracket. This indicates that despite higher resilience scores on average, a significant proportion of international migrants face financial and structural vulnerabilities, particularly when financing the high costs of migration.

Figure 26. IRI values for households in different resilience categories



The data points to a critical correlation between resilience and migration choices. While higher resilience enables households to pursue international migration, the cost of such migration often forces destructive coping mechanisms, particularly for those in the low resilience category. Our analysis of the funding sources for international migration reveals that 25% of households sell land or property and 59% borrow from relatives to finance migration. These actions deplete critical household assets, potentially pushing them into lower resilience categories post-migration. Additionally, landholding data reflects that international migrants possess, on average, the largest landholdings (0.51 acres), compared to non-migrants (0.40 acres) and internal migrants (0.32 acres). This finding underscores the paradox of international migration: while it is a viable pathway for households with more substantial pre-existing resources, the liquidation of assets to cover migration costs undermines long-term stability. This trend is particularly concerning for households in the low resilience category, where the depletion of productive assets may exacerbate their vulnerabilities.

3.3.2 Precipitating factors as triggers for migration

We developed the Climate Risk Index (CRI) as part of this research to quantify the immediate losses and damages households face due to climate-induced shocks. As a part of the 3P framework, the CRI captures the precipitating factors that act as triggers for migration decisions. These are not long-term vulnerabilities but rather acute and tangible impacts that force households to reassess their survival strategies, often leading to migration.

The CRI includes four key variables: crop losses, livestock losses, loss of household assets and loss of livelihood equipment (see section 2.4 for loss values related to these variables). The CRI was calculated as a composite index, with each variable normalised and scaled between 0 and 100. This approach allows for the comparison of cumulative losses across households. Higher CRI values indicate greater exposure to climate risks, emphasising the severity of impacts.

Crop losses represent the monetary value of destroyed agricultural production caused by events such as floods, salinity intrusion or droughts, which directly threaten food security. Livestock losses quantify the financial damage from the death or sale of animals, which often act as critical assets for rural households. Loss of household assets encompasses the destruction of items like furniture, clothing or essential appliances during climate shocks, increasing economic strain on affected families. Finally, the loss of livelihood equipment, such as fishing nets or agricultural tools, highlights the disruption of income-generating activities that underpin household economies. Together, these variables illustrate the economic burden faced by households during extreme climate events, shown in Figure 27.

Understanding the CRI is essential for several reasons. First, it reflects the severity of climate impacts and identifies the most affected households. Second, it provides insights into how immediate and acute losses trigger migration decisions, whether internal or cross-border. Finally, the CRI can help policymakers and practitioners prioritise interventions, enabling them to

allocate resources to mitigate risks in areas of high vulnerability and reduce the pressure to migrate.

The CRI presented in Figure 28 reveals the differing levels of vulnerability experienced by households across non-migrant, internal migrant and international migrant categories. Non-migrants report the lowest average CRI value (37.54), with nearly half of these households (48%) categorised as very low risk. This lower risk profile explains why a large proportion of non-migrants remain where they are: their exposure to climate shocks is relatively manageable. However, a critical subset of non-migrant households, comprising 25%, faces very high risks. This group represents a trapped population that remains immobile, not by choice but due to extreme vulnerability and a lack of resources. These households, often including female-headed families, people with disabilities and those relying on subsistence-level livelihoods, are unable to migrate or adapt, leaving them disproportionately exposed to escalating climate risks.

Internal migrants show a slightly higher average CRI value (42.56), reflecting greater exposure to moderate climate risks compared to non-migrants. These risks often materialise as crop losses, livestock depletion and damage to housing and other assets, pushing households to migrate internally as a reactive coping strategy. Despite this, 41% of internal migrant households fall into the very low-risk category, suggesting that some households pursue internal migration for economic or social reasons unrelated to acute climate shocks. However, 24% of internal migrant households are in the very high-risk category, underscoring that internal migration frequently becomes a necessary survival mechanism when risks become unmanageable. This group demonstrates the precarious nature of internal migration, which often serves as a temporary measure rather than a sustainable adaptation pathway.

"In the last five years, the amount of agricultural land has decreased by 2% in Mathbaria. The amount of agricultural land has decreased due to riverbank erosion and various infrastructural developments including shelters, new roads, road widening, factories, embankments, river embankments and educational institutions."
A government officer from Mathbaria, Pirojpur

Figure 27. Total loss and damage suffered by households

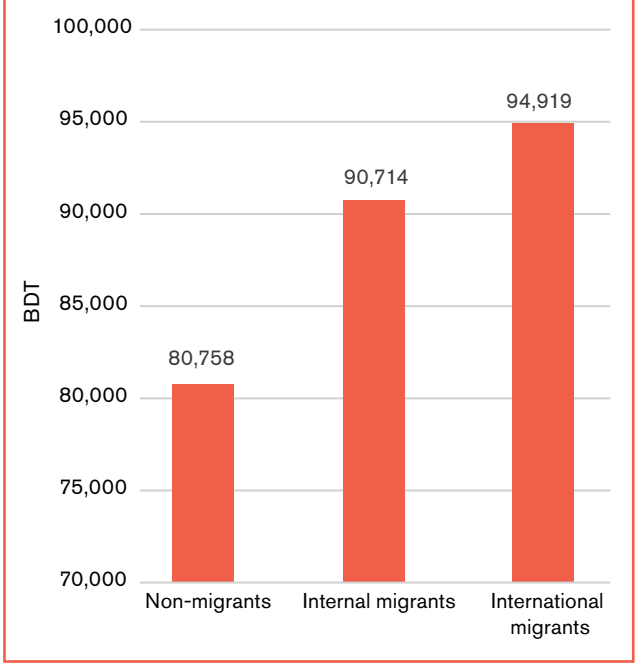
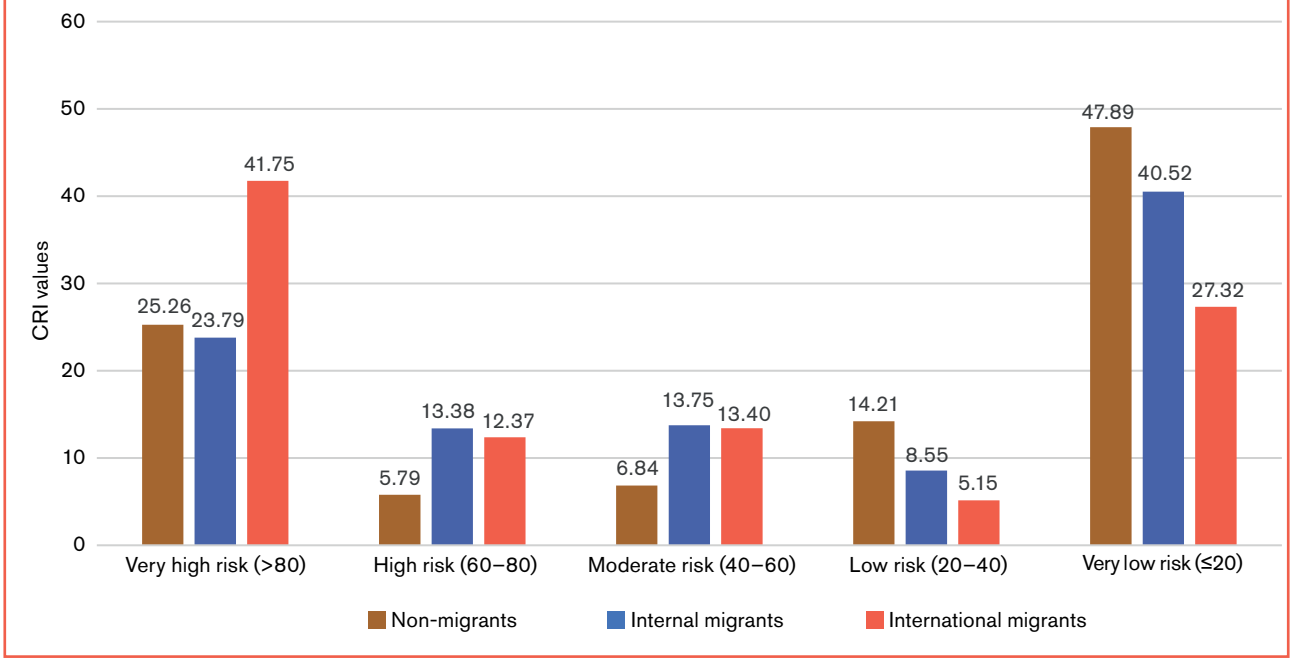


Figure 28. Breakdown of CRI values of households



"In the haor areas, there is no opportunity to utilise the land more than once due to the presence of water for seven months. When the water recedes, only a boro crop [a type of rice grown during the dry season] can be cultivated. Currently, our aim is to maximise land utilisation by transitioning from mono-cropping to multi-cropping systems."
A government staff member from Sylhet

International migrants stand out with the highest average CRI value (56.79), signifying their acute and repeated exposure to severe climate impacts. These impacts often involve catastrophic losses, including the destruction of homes, agricultural land and critical assets. Among international migrants, 42% fall into the very high-risk category, reflecting their chronic exposure to extreme climate events. For these households, international migration is a desperate measure, driven by the inability to recover from escalating climate-induced damages. This migration often entails significant financial burdens, as households resort to destructive coping mechanisms, such as selling land, livestock or other productive assets, to fund costly international journeys. While this strategy may provide temporary relief through remittances, the erosion of asset bases leaves these households more vulnerable to future shocks.

The CRI analysis demonstrates how climate-induced risks correlate with household asset profiles, migration decisions and long-term resilience. Non-migrants with lower CRI scores tend to stay in place due to manageable risks, while those in the very high-risk category remain trapped, lacking the means to escape or adapt. Internal migrants reflect a middle ground, where moderate risks push households to migrate reactively but without significantly altering their resilience. International migrants face the most severe risks, leading to drastic migration strategies that erode their long-term adaptive capacities.

3.3.3 Role of protective factors in limiting climate change impacts on households

The Social Protection Index (SPI) component of the 3P framework provides an assessment of the support provided by government systems to households across three critical phases of disaster events: before, during and after. It captures the effectiveness of institutional mechanisms like early warning systems, evacuation planning, immediate relief and long-term rehabilitation. The SPI is calculated by aggregating household-level data on access to these support measures, normalised on a scale of 0 to 100. Higher scores reflect better coverage and accessibility of social protection systems. The SPI is important for understanding how social safety nets shape household resilience and migration decisions.

Factors shaping the SPI

Pre-disaster support (see Figure 29): This includes measures such as early warning systems, evacuation planning, actively functioning disaster management committees (DMCs), training on climate resilience and support for building resilient infrastructure. Among these, early warning systems had the highest coverage, with 46% of internal migrants and 45% of non-migrants benefiting from these systems. However, the utilisation of other pre-disaster support, such as training and climate-resilient infrastructure development, remains negligible, reflecting a significant gap in proactive resilience-building efforts. The relatively higher reliance on early warning systems among internal and non-migrants may indicate that these households depend on basic, widespread preventative measures, while the 24% of international migrants benefiting from early warnings reflect limited access to even these basic supports.

Support during disasters (see Figure 30): This dimension covers immediate interventions such as food provision, medical aid, materials and access to safe shelters. The most significant form of aid provided during disasters was food distribution, benefiting 44% of non-migrants, 37% of internal migrants and 34% of international migrants. This highlights that non-migrants are more likely to depend on direct food relief as they lack other adaptive options, unlike internal and international migrants who may already be employing migration as a coping strategy. However, the coverage of medical support remains limited across all categories, with internal and international migrants at around 7%, and non-migrants showing marginally higher reliance on these services at 10%. The overall low percentages for these essential services reflect a critical gap in immediate disaster response mechanisms.

Post-disaster support (see Figure 31): This includes long-term recovery assistance such as financial aid, rehabilitation efforts and epidemic control. Relief and rehabilitation support was the most prominent post-disaster measure, accessed by 17% of non-migrants, 15% of internal migrants and 15% of cross-border migrants. The relatively higher proportion of non-migrants receiving this support highlights their dependence on post-disaster aid to recover and sustain livelihoods, as they are often unable to migrate to mitigate risks. Financial support remains limited across all groups, with internal migrants (4%) showing slightly higher access compared to non-migrants and international migrants.

The average SPI scores reveal notable disparities among household categories. Non-migrant households report the highest average SPI value (12.59), reflecting relatively better access to government support

Figure 29. Government support prior to disaster events

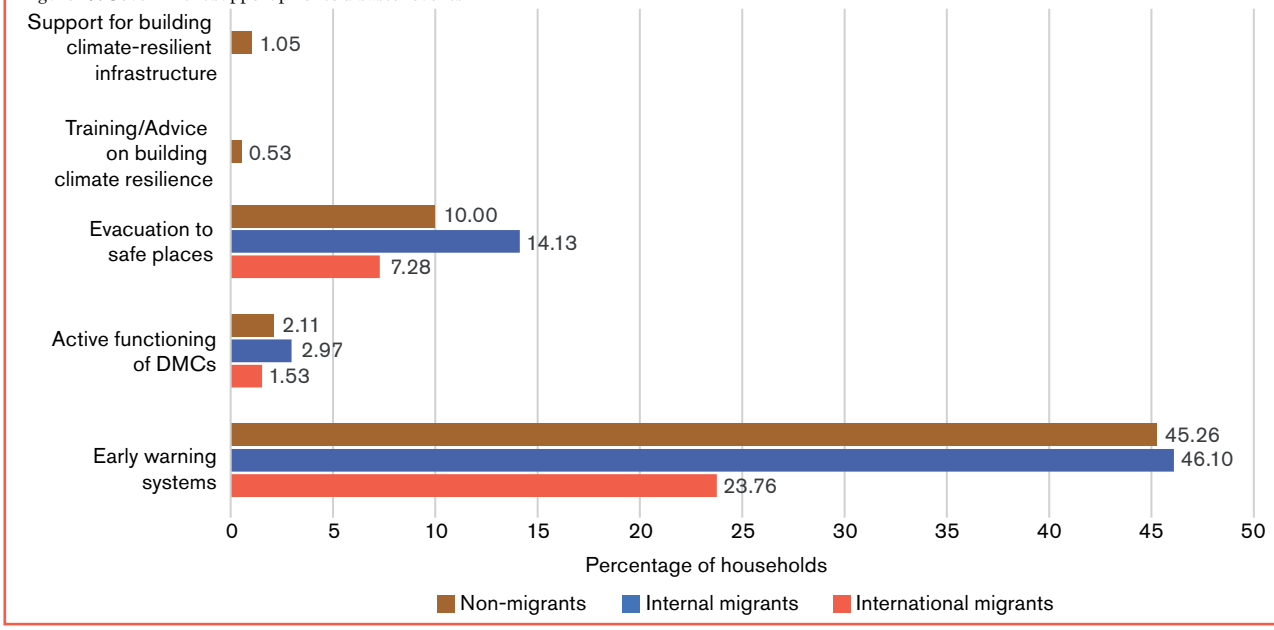


Figure 30. Government support during disaster events

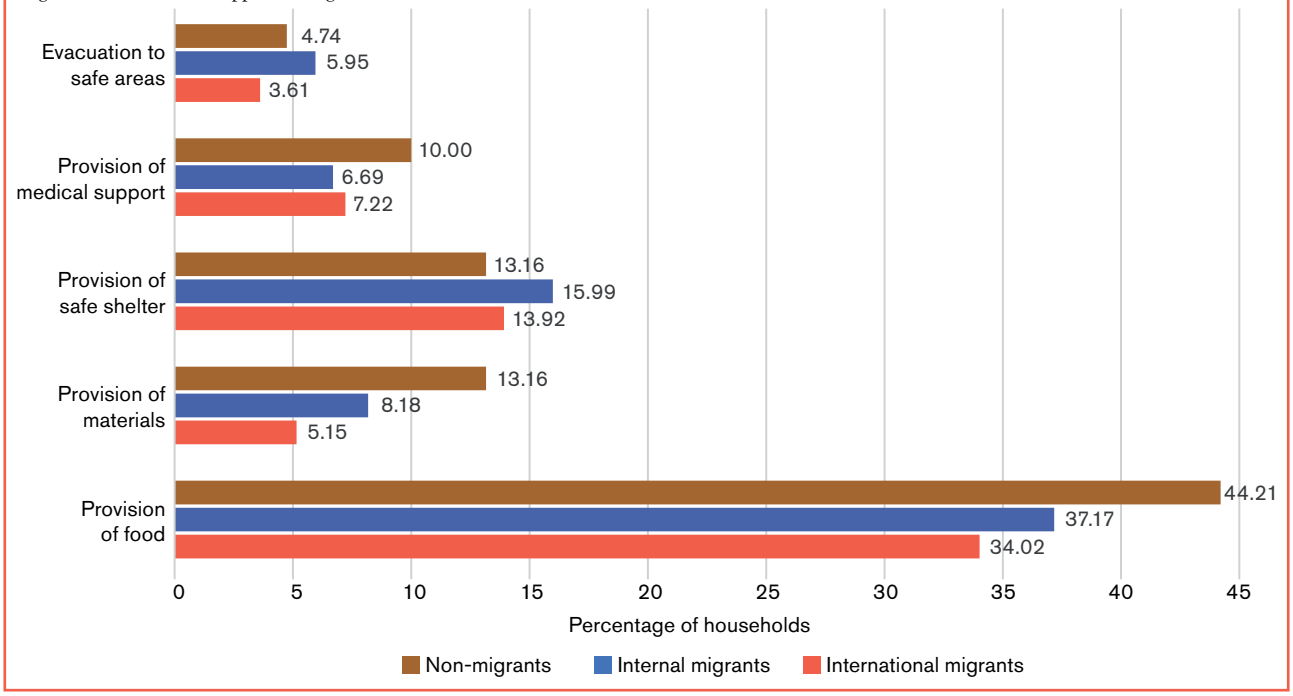
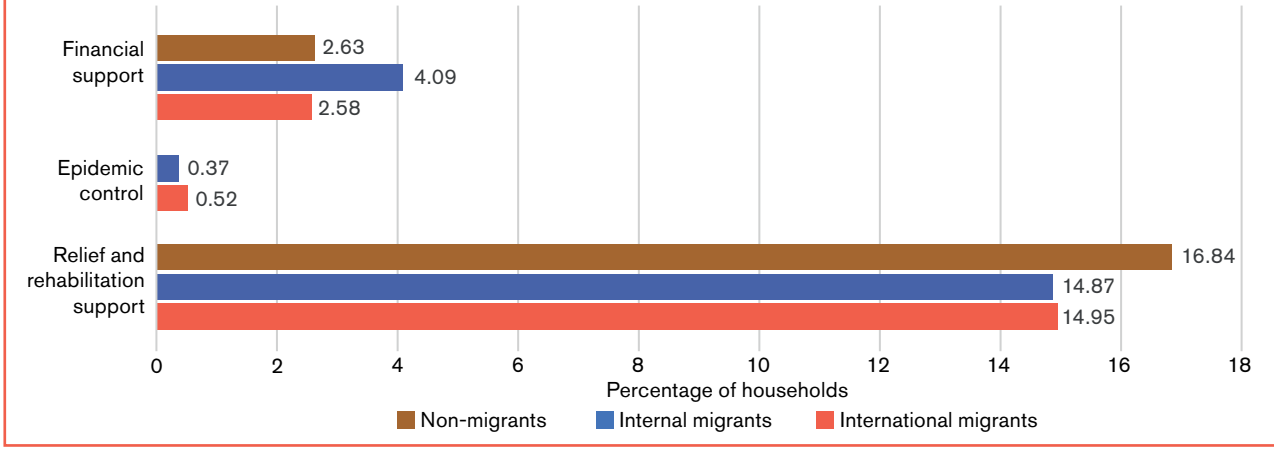


Figure 31. Government support after disaster events



mechanisms. Internal migrants follow closely behind (12.04), while international migrants exhibit the lowest SPI score (10.67). This indicates a diminishing level of access to social protection as households move from local resilience strategies (non-migrants) to internal migration and then to international migration.

When examining the breakdown of SPI values (see Figure 32), a substantial majority of households across all categories fall into the very low access category (≤20). Among international migrants, 80% report very low access to social protection, followed by internal migrants at 77% and non-migrants at 72%. These figures highlight systemic gaps in providing equitable and adequate social protection, particularly for migrating households. The limited access to social protection is more pronounced among international migrants, suggesting that their distance from local governance structures and their often-undocumented status might hinder their ability to access formal support systems.

"The government doesn't provide any assistance to us. During floods, we only receive rice, water and pulses. Sometimes I receive clothes and medicine. For those days, my children and I eat just one meal a day. Sometimes NGOs [nongovernmental organisations] come and give us money. Last year, one NGO gave me BDT10,000. Our chairman and member [of the union] also helped by providing tin sheets for my house."
Woman heading a household in Gowainghat, Sylhet

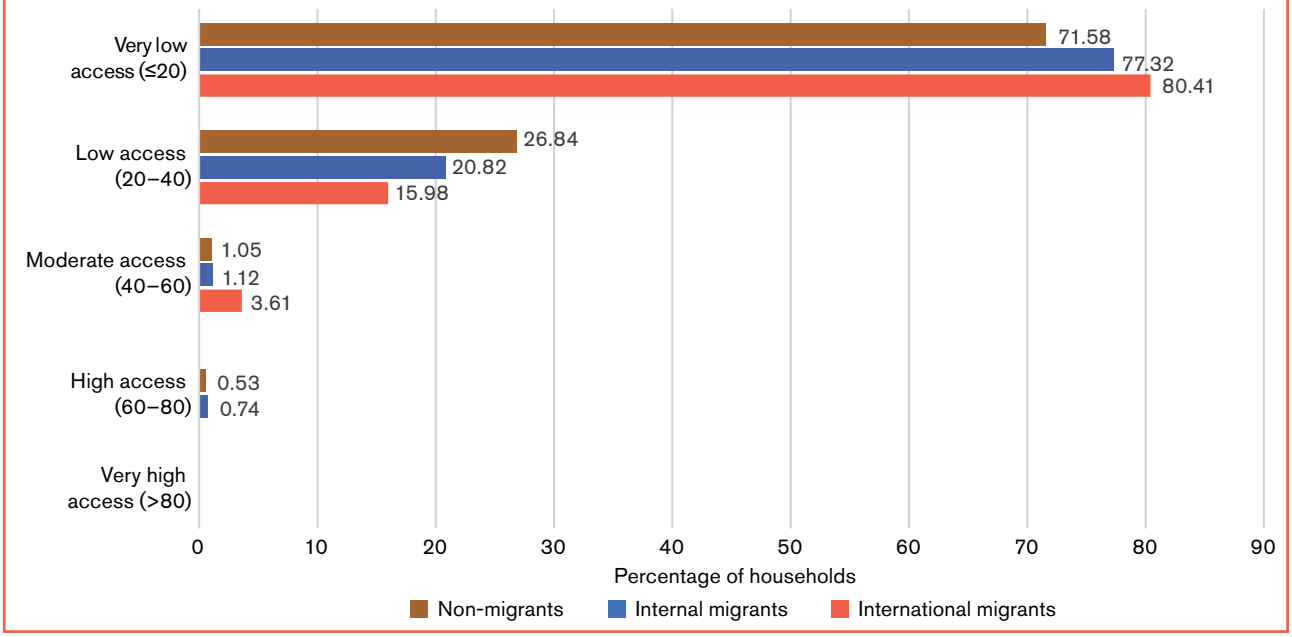
Households in the low access category (20–40) of SPI values form the second-largest group, with non-migrants representing the highest proportion (27%), followed by internal migrants (21%) and international migrants (16%). This reinforces the trend that non-migrants benefit slightly more from governmental safety nets compared to migrating households.

The SPI highlights critical gaps in social protection across all household categories, with the highest disparities observed for international migrants. While non-migrants have relatively better access to governmental safety nets, their SPI scores reveal substantial unmet needs, particularly for those in the very low access category. Internal and international migrants face compounded challenges due to insufficient pre-disaster preparedness, limited in-disaster support and inadequate post-disaster recovery mechanisms. These findings underscore the importance of strengthening and decentralising social protection systems to ensure inclusivity and accessibility for all household categories.

3.4 Why some households choose to migrate and some don't

We carried out a regression analysis to unpack the complex interplay of factors influencing household migration decisions in the context of climate change (see Annex 3). We examined the determinants of migration — international, internal and non-migration — to identify the key drivers that compel some households to move, while others remain despite facing similar risks. We have specifically tried to explain the roles of inherent resilience (IRI), exposure to climate risks (CRI) and access to social protection measures (SPI) in shaping

Figure 32. Breakdown of SPI values for households



these outcomes. Understanding these dynamics not only helps us better understand the conditions that prompt migration but also reveals the vulnerabilities of non-migrants, particularly those who are trapped due to limited resources or adaptive capacities.

3.4.1 Analysis of internal migration drivers

The regression analysis provides an understanding of the key factors influencing households' decisions to migrate internally as a response to environmental and socioeconomic pressures. The findings suggest that the decision to migrate internally is significantly driven by climate-related risks, while other factors, such as inherent resilience and access to social protection, appear less influential.

Households with higher climate risks have 161% higher odds[10] of opting for internal migration than households with lower risks. This highlights the strong association between environmental shocks — such as loss of crops, livestock and infrastructure — and the choice of internal migration as a coping mechanism. The significant influence of a household's CRI value emphasises that internal migration is often reactive, occurring when households face acute climate-induced stress but lack the resources for international movement.

In contrast, resilience, as measured in the IRI, was statistically insignificant[11], suggesting that the inherent resilience status (whether high or low) does not create a significant distinction between internal migrants and non-migrants. This could indicate that internal migration is pursued across various resilience levels, often as an immediate survival strategy irrespective of households' baseline resilience.

Social protection, as measured by the SPI, was also statistically insignificant[12], indicating that differences in access to social protection measures do not significantly influence the choice to migrate internally. This reflects the limited availability and efficacy of pre-disaster, during-disaster and post-disaster government support for most households, irrespective of their migration status.

Our analysis shows that internal migration tends to occur as a reactive measure to mitigate medium to high climate risks rather than as a planned, resilience-based strategy. Households facing such risks often lack access to substantial support systems or long-term strategies, compelling them to relocate within the country.

The findings highlight the importance of addressing climate vulnerabilities through proactive resilience-building and effective social protection systems. Enhancing the reach and impact of social safety nets, combined with targeted adaptation measures, can reduce the need for internal migration as a last resort. Policymakers will need to prioritise interventions that mitigate climate risks at their source while ensuring equitable access to resources that strengthen household resilience and stability. Where households intend to undertake opportunistic migration, they should be supported through skill enhancement, placement support and safe migration pathways.

3.4.2 Analysis of international migration drivers

The regression analysis explored the determinants of international migration, providing insights into why some households choose to migrate internationally in response to environmental and socioeconomic pressures. The findings indicate that both climate risks and inherent resilience play a significant role in influencing international migration decisions, whereas social protection appears to have limited influence.

Households with higher climate risks are 214% more likely[13] to migrate internationally compared to non-migrant households. This indicates that severe climate-induced shocks — such as the destruction of land, loss of crops and damage to homes — are critical factors compelling households to move across borders. CRI's significance underscores the reactive nature of cross-border migration as a response to escalating and unmanageable climate-induced stress. The inability to mitigate repeated shocks locally often drives households to seek opportunities abroad.

Inherent resilience is a significant determinant of international migration, with households demonstrating higher resilience showing 356% higher odds[14] of migrating internationally compared to non-migrants. This finding reflects that households with greater adaptive capacities — such as better education, access to financial resources, and asset diversity — are more likely to adopt international migration as a proactive, strategic decision. It suggests that resilience enables households to navigate the high financial and logistical barriers associated with international movement.

10 p-value = 0.046

11 p-value = 0.373

12 p-value = 0.542

13 p-value = 0.004

14 p-value = < 0.001

The SPI is statistically insignificant[15], suggesting that access to social protection measures does not significantly influence international migration decisions. This reflects systemic gaps in pre-disaster, during-disaster and post-disaster government support for households exposed to high climate risks. The lack of influence of SPI highlights that international migration is often pursued independently of government-provided safety nets, relying instead on household-level strategies.

International migration emerges as a strategic yet reactive response to compounded environmental and economic stressors. Higher resilience enables households to overcome the substantial costs and risks associated with international movement, such as travel expenses, visa processes and finding employment in foreign countries. On the other hand, repeated climate shocks push even moderately resilient households to adopt drastic coping mechanisms, including selling land or accumulating debt to finance migration. The limited role of SPI further underscores the inadequacy of existing social safety nets in mitigating the need for international migration.

"As a mother, it pains me to the core to say that I'm unable to provide my children with the basics of nutritious food. It's a cruel twist of fate that I have chickens and ducks that lay eggs, but I cannot afford to feed those eggs to my own flesh and blood. Instead, I'm forced to sell them in the market just to get some money to buy essentials like pens and paper for my children's education."
A female respondent from Gowainghat, Sylhet

"After the disaster, we were fortunate to have a programme called 'Food for Work,' which provided some relief for a few days. However, since then, there haven't been any ongoing projects to support us."
A beneficiary of a government-funded programme from Mathbaria, Pirojpur

Notably, occupational patterns among international migrants reinforce the connection between resilience and migration decisions. A substantial proportion (46%) of international migrant households do not rely on farming, signifying a shift away from traditional farming to non-farm activities due to climate impacts. This is complemented by lower engagement in farming (22%) and associated activities (5%), as environmental degradation renders agricultural livelihoods less viable.

The findings underscore the need to address the root causes of international migration by reducing climate vulnerabilities and enhancing household resilience. Policymakers must prioritise adaptive measures that strengthen economic opportunities in vulnerable regions, while providing accessible social safety nets to reduce dependence on costly international migration funded by the sale of productive assets. Furthermore, interventions should aim to lower the barriers to migration for those in dire need while ensuring adequate protections for migrants in host countries.

3.4.3 Analysis of non-migrant households

Analysis of non-migrant households highlights their distinct socioeconomic characteristics, particularly regarding primary occupation categories and the presence of a trapped population. Non-migrants differ significantly from internal and international migrants in terms of their dependence on land-based livelihoods and their varying levels of vulnerability (see Table 1).

Non-migrant households predominantly engage in farming-related occupations. As shown in Table 1, 53% of non-migrant households rely on farm-based occupations, such as farming, associated farm activities and farm wage labour. This dependency is higher compared to internal migrants (44%) and international migrants (36%). Non-migrants' reliance on farming underscores their strong connection to land-based livelihood options.

Only 35% of non-migrant households are involved in non-farming-related occupations, such as non-farm labour or salaried jobs. This figure is much lower compared to internal migrants (53%) and international migrants (57%), who have a greater tendency to diversify their livelihoods. The smaller share of non-farm-based occupations among non-migrants may reflect limited access to opportunities outside their immediate location, further reducing their ability to migrate.

Another key distinction is the higher proportion of non-migrant households involved in running local shops or small commercial ventures (13%), compared to internal migrants (3%) and international migrants (7%). This indicates that while some non-migrants manage to develop entrepreneurial activities, these efforts are primarily localised and not geared toward mobility.

3.4.4 Trapped population among non-migrants

Within the non-migrant group, a subcategory of households emerged as a trapped population. These households face severe socioeconomic constraints that prevent them from migrating, even when exposed to high climate risks (see Table 2).

15 p-value = 0.172

Table 1. Primary occupation in households by migration category

PRIMARY OCCUPATION	NON-MIGRANTS (%)	INTERNAL MIGRANTS (%)	INTERNATIONAL MIGRANTS (%)
Farming	25.26	20.45	21.65
Farming associated	11.58	10.41	5.15
Farm wage labour	15.79	13.01	9.28
Non-farm labour	23.68	40.15	45.88
Local shop	12.63	3.35	6.70
Salaried job	1.58	4.46	0.52
Others	9.47	8.18	10.82

Table 2. The trapped population among non-migrant households

PREDISPOSING VARIABLES	NON-MIGRANT HOUSEHOLD RESILIENCE				
	Very low resilience	Less resilience	Moderately resilient	Highly resilient	Very highly resilient
Average landholding (in acres)	**0.04**	0.18	0.47	1.01	1.11
Landless households (%)	**51.02**	25.58	17.14	-	-
Illiterate household head (%)	**77.55**	60.47	54.29	30.77	28.57
Women-headed households (%)	**22.45**	11.63	5.71	-	-
Experiencing one meal or less in a day (%)	**93.88**	68.60	54.29	38.46	14.29
Living in temporary 'kaccha' housing (%)	**100.00**	94.19	71.43	23.08	-
Farming as primary occupation (%)	**38.78**	45.35	57.14	100.00	100.00
Trapped population (%)	**26**	45	18	7	4

Trapped households are characterised by the following indicators of vulnerability:

Landlessness and small landholdings: Among the trapped population, 51% are landless and those with land have an average landholding of just 0.04 acres. This lack of access to productive resources makes migration unaffordable.

Low educational attainment: A significant 78% of trapped households have an illiterate household head. This limits their ability to access better income opportunities or navigate the complexities of migration.

Gendered vulnerability: Women-headed households account for 22% of the trapped population, compared to much lower percentages in other non-migrant subcategories. Gender-based social constraints exacerbate their inability to migrate.

Food insecurity and poor living conditions: Trapped households experience extreme food insecurity, with 94% of them surviving on one meal or less per day. Furthermore, 100% of these households live in temporary 'kaccha' housing, reflecting their chronic poverty and exposure to risks.

Dependence on farming: About 39% of trapped households rely on farming as their primary occupation. This contrasts with higher-resilience households, where farming is complemented by non-farm income or diversified livelihood strategies.

The analysis highlights two critical aspects of non-migrants — their limited livelihood diversification and their potential to be part of a highly vulnerable trapped population. Non-migrants' strong reliance on land-based occupations, combined with poor resilience indicators, underscores the need for targeted interventions. For the trapped population, policies must focus on improving education, access to productive resources, and social protection. Enhancing income diversification through skills development and non-farm opportunities could help reduce their vulnerability and provide pathways for resilience-building.

4

How vulnerable are migrants to becoming victims of modern slavery?

Migration, often undertaken as a means of survival in the face of environmental, social or economic distress, can leave individuals and households highly vulnerable to exploitation. Distress migrants, particularly those who move without adequate support systems or protective frameworks, are at heightened risk of falling victim to modern slavery. Driven by desperation, such migrants frequently accept informal, precarious work arrangements, leaving them exposed to coercion, exploitation and abuse. This includes being forced into unpaid or underpaid labour, experiencing restrictions on movement, and enduring unsafe or degrading working conditions.

This section explores the scale and dimensions of modern slavery among internal and international migrants. Drawing on the established indicators of modern slavery (see Box 2), we have examined the extent to which migrants experience these conditions. The higher the number of forms of modern slavery experienced, the higher the likelihood that this includes more severe forms, such as intimidation and threats, physical and sexual violence, and abusive working and living conditions.

By quantifying the prevalence of modern slavery, we aim to highlight the areas that require strengthened legal protections, enhanced social safety nets, and international cooperation to address the root causes and consequences of modern slavery.

4.1 Extent and nature of modern slavery experienced by internal migrants

In Figure 33, we analyse the extent and nature of modern slavery experienced by internal migrants, revealing the pervasive and compounded exploitation faced by this vulnerable group. The data categorises the prevalence of modern slavery based on the number of indicators experienced, providing insights into the systemic nature of exploitation. When contextualised with findings from the regression analysis, the nexus between climate change, distress migration, and vulnerability to modern slavery becomes evident.

An overwhelming 92% of internal migrants report experiencing at least one form of modern slavery, demonstrating their widespread susceptibility to exploitative practices during migration or at their destinations. The data also highlights the compounded nature of exploitation, with 56% of internal migrants enduring 1–3 forms of modern slavery, often involving withholding of wages and restrictions on movement. Internal migrants also reported greater levels of exploitation: 26% of internal migrants report experiencing 4–6 forms of modern slavery, while 10% reported being subjected to more than six forms, including physical

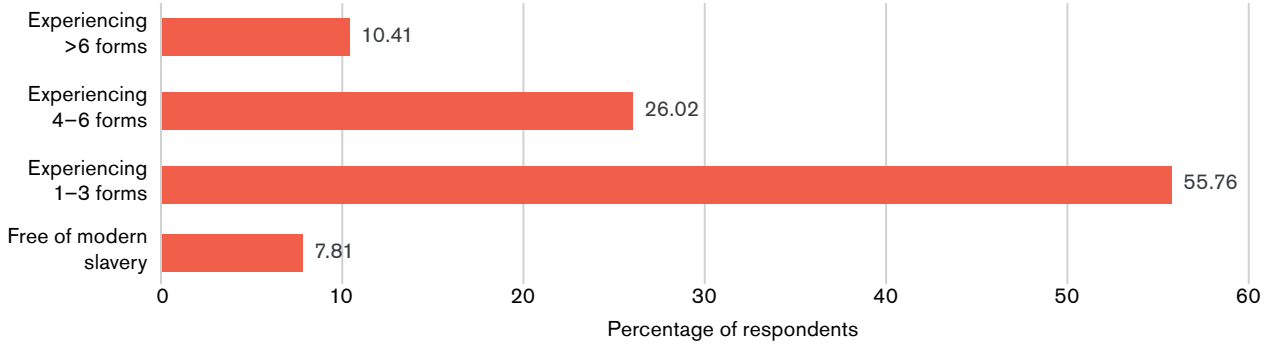
BOX 2. DEFINING MODERN SLAVERY AND INDICATORS OF EXPLOITATION

Modern slavery is an umbrella term referring to a broad category of egregious exploitative practices of individuals which violate international laws and conventions. Modern slavery includes forced labour, bonded labour/debt bondage, human trafficking and forced marriage. The term 'slavery' indicates 'ownership' over an individual and the inability of an individual to exit the exploitative situation in which they find themselves, due to coercion, threats, deception or abuse of power. For more information, visit www.antislavery.org/slavery-today/

For the purposes of our analysis, and to ensure objective analysis of the levels of exploitation migrants face, we used the International Labour Organization's Indicators of Forced Labour (2012) and their definition, as follows:

1. **Abuse of vulnerability:** Exploitation of a worker's personal, social or economic situation to impose conditions that would not otherwise be accepted. This includes taking advantage of poverty, lack of education or dependence on the employer.
2. **Deception:** Misleading workers about the nature of the job, working conditions, location or wages. This often occurs during the recruitment process or after arrival at the workplace.
3. **Restriction of movement:** Limiting workers' ability to leave the workplace or their living quarters, often through physical barriers, surveillance or threats.
4. **Isolation:** Preventing workers from contacting others, including family or outside agencies, to limit their ability to seek help or escape. This is common in remote workplaces or situations involving domestic servitude.
5. **Physical and sexual violence:** Using violence or the threat of violence to coerce workers into submission, maintain control or punish attempts to escape.
6. **Intimidation and threats:** Instilling fear in workers through verbal, physical or psychological threats, including threats to their family members.
7. **Retention of identity documents:** Confiscating or withholding workers' passports, visas or other identification to prevent them from leaving or seeking alternative employment.
8. **Withholding of wages:** Delaying or refusing payment of wages as a means to control workers or to create dependency on the employer.
9. **Debt bondage:** Forcing workers to repay inflated debts through labour, often with no realistic prospect of repayment. This frequently involves manipulated or hidden costs imposed during recruitment or employment.
10. **Abusive working and living conditions:** Subjecting workers to degrading, unsafe or unsanitary working or living conditions that violate basic human rights.
11. **Excessive overtime:** Requiring workers to work beyond legal or agreed-upon limits, often without proper compensation or breaks, creating physical and mental exhaustion.

Figure 33. Internal migrants experiencing modern slavery



violence, intimidation, or bondage. These higher levels of exploitation reflect the intersecting vulnerabilities that internal migrants face, driven by economic desperation and inadequate safeguards.

"After my husband's death, the responsibility for the family and children fell on me. There are no job opportunities in the area, so I went to Dhaka. I took my son with me. I took a loan from a samiti. The loan amount was BDT4,000 [US$35]. We went to Dhaka and got help from a recruitment agent. We paid the recruitment agent BDT2,000 [US$17] and he managed work for me and my son.

"I worked at a home, while my 14-year-old son worked at a shop in New Market. He worked there for a very low wage. His salary was only BDT5,000 [US$43]. He worked there for eight months. After eight months, he protested and asked for a better salary. However, instead of increasing his pay, the owner falsely accused him of theft, and he spent three months in jail. As poor people, we do not receive help from others, not even from the police. While it is said that the law is equal for everyone, it seems that the law only favours the rich and not the poor.

"During work, I was beaten for many days. They paid me BDT10,000 [US$87] as a salary. I used to start work at 6am and worked all day long till 10pm. However, after one month, they did not pay me a single penny; instead, they only provided food and a place to stay, where I slept on the floor. One day, they beat me at night, and I left the job. As a result of my absence, the cows I had obtained from World Vision were sold. Now I am like a beggar. I have nothing to survive."
Forced labour victim from a village in Gowainghat, Sylhet

The regression analysis contextualises these findings by demonstrating that households facing higher climate risks are 161% more likely to engage in distress-driven internal migration. These migrations are frequently reactive, triggered by acute climate-induced shocks such as crop failure, flooding or livelihood loss, leaving migrants without adequate resources or resilience to cope with their circumstances. The absence of robust pre-migration support systems is further highlighted by the statistically insignificant influence of the IRI and SPI on migration decisions[16].

These findings emphasise the critical role of climate change in exacerbating vulnerabilities that push individuals into distress migration and subsequent exploitation. Internal migrants often face systemic gaps, including weak enforcement of labour rights and insufficient social safety nets, which leave them highly susceptible to modern slavery. Addressing these interconnected challenges through targeted social protection measures and stronger institutional support is imperative to breaking this cycle of vulnerability and exploitation.

4.1.1 Prevalence of modern slavery among internal migrants across occupations

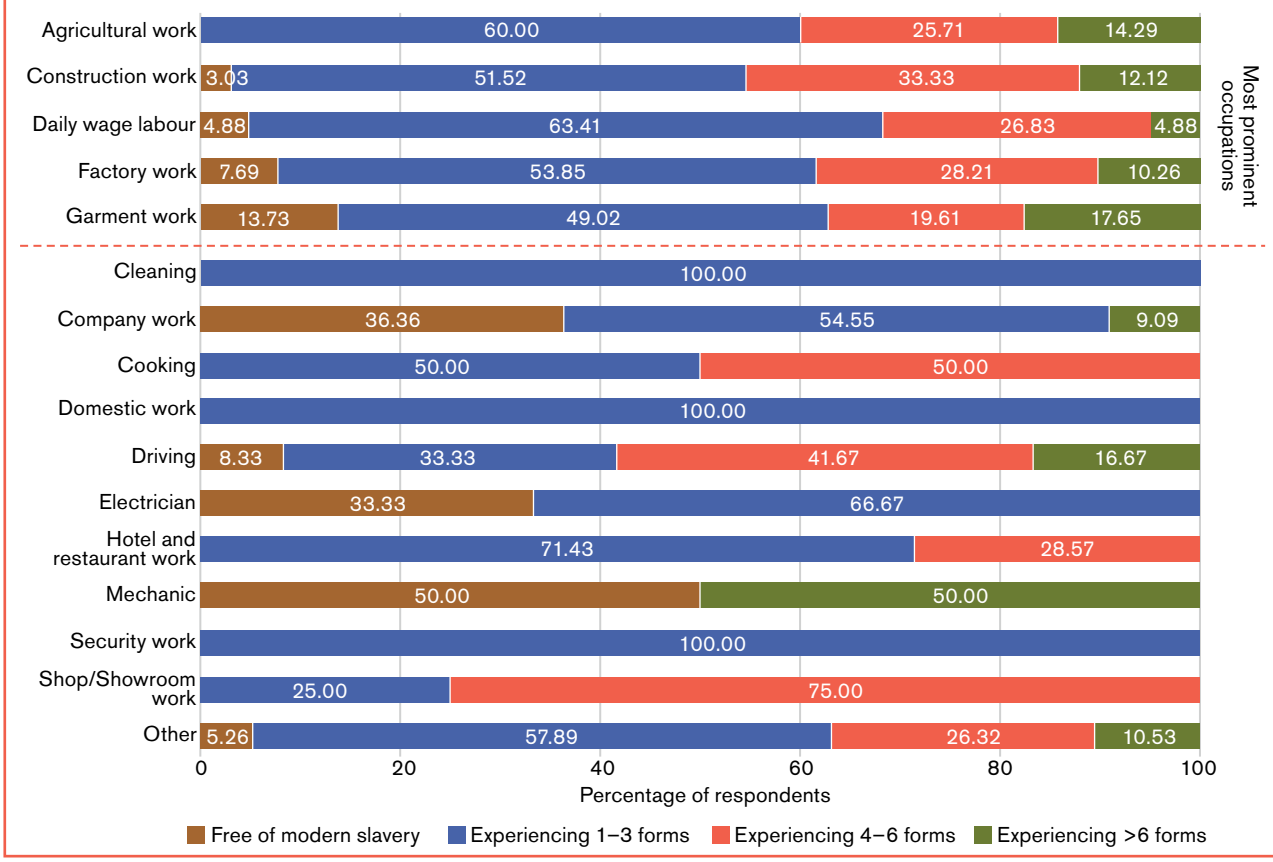
Figure 34 shows the occupations of internal migrants experiencing modern slavery, and the degrees of exploitation experienced across different occupations, highlighting stark disparities in the severity of exploitation. While all occupational groups face some form of modern slavery, the intensity and frequency of more severe exploitation (4–6 forms or more than 6 forms) vary significantly across sectors.

Workers in agriculture, construction and garment work are among the most severely affected. In agriculture, 26% of workers experience 4–6 forms of modern slavery and 14% face more than six forms, making it one of the most vulnerable sectors. Similarly, the construction sector reflects severe exploitation, with 33% experiencing 4–6 forms of modern slavery and 12% facing more than six forms. The garment sector shows a troubling pattern, where 20% of workers endure 4–6 forms of modern slavery and 18% suffer more than six forms, underscoring the hazardous nature of work in these industries. These sectors are characterised by a high demand for labour, informal employment practices and weak enforcement of labour protections, leaving workers at high risk of extreme exploitation.

"It was very hot in the garment factory and the work was very tiring. We would start work at 8am and wouldn't finish until 8pm, toiling throughout the day without any proper sitting facilities. The factory did not give me any compensation after my accident. Now, I see that if there is an accident, they pay BDT100,000 [US$869] as compensation, but I didn't know this then. We are uneducated people; we won't understand."
Internal migrant from a village in Mathbaria, Pirojpur

16 As reflected in p-values of 0.373 and 0.542, respectively.

Figure 34. Occupations of internal migrants experiencing modern slavery and extent of exploitation



In contrast, sectors such as factory work, daily wage labour, and driving reflect moderate levels of modern slavery. For instance, 28% of factory workers face 4–6 forms of modern slavery, while 10% experience more than six forms. Similarly, 27% of daily wage labourers endure 4–6 forms of modern slavery and 5% experience more than six forms, indicating persistent but slightly lower levels of severe exploitation. Among those employed as drivers, 42% of workers experience 4–6 forms of modern slavery and 17% suffer more than six forms, showing that while vulnerability exists, it is not as acute as in agriculture or garment work.

At the lower end of the spectrum, workers employed in cleaning, guarding and domestic work predominantly experience 1–3 forms of modern slavery, with no significant representation in the more than six forms category, showing that in these sectors, the exploitation is less severe, as evidenced by the absence of workers facing more than three forms of modern slavery.

"My brother arranged for me to work as a domestic worker in Dhaka. My uncle resided there, providing a place for my boys to stay while I worked. I worked in a flat as a domestic worker, performing various tasks from 6am to 9pm daily, including cooking, laundry, floor cleaning and washing dishes. Despite my efforts, I was only paid BDT8,000 [US$70] per month. Unfortunately, the daughter of the household was unsatisfied with my cooking. They provided me with inadequate bedding on the floor and insufficient meals. I cooked various dishes for them, but instead of providing me with proper meals, they gave me leftovers or stale food to eat. Their treatment made me feel as if I was not considered a human being, but rather an animal. Furthermore, I was restricted from leaving the house without their permission. Communication with my family required permission from the homeowner and I was not allowed to contact them otherwise. Despite facing mistreatment, I worked there for three years. However, after my uncle's passing, my aunt refused to care for my sons, leaving me with no choice but to return home with them. I get a widow's allowance."
Forced labour victim from a village in Gowainghat, Sylhet

This analysis underscores the varying degrees of risk across different occupational groups and highlights the need for targeted interventions. Sectors such as agriculture, construction and garment work demand immediate attention to address the extreme forms of exploitation prevalent within them. For sectors with

moderate or lower vulnerability, such as cleaning and domestic work, the focus should remain on ensuring access to basic labour rights and preventing systemic exploitation from escalating. Addressing these disparities requires nuanced, occupation-specific strategies to mitigate the vulnerabilities faced by internal migrants and safeguard their rights.

4.2 Extent and nature of modern slavery experienced by international migrants

We analysed the extent and nature of modern slavery experienced by international migrants, as depicted in Figure 35, revealing a severe and pervasive pattern of exploitation. The data underscores the heightened vulnerability of international migrants to forced labour. When combined with findings from the regression analysis, a clearer picture emerges of the drivers of international migration, systemic exploitation and modern slavery.

Staggeringly, more than 99% of international migrants reported experiencing at least one form of modern slavery, indicating the near-universal exposure of this group to exploitative practices. These findings are consistent with the regression analysis, which shows that households with higher inherent resilience (IRI) had 356% higher odds of engaging in international migration[17]). This suggests that while greater resilience enables households to overcome financial and logistical barriers to migration, it does not shield them from systemic exploitation and forced labour in destination countries.

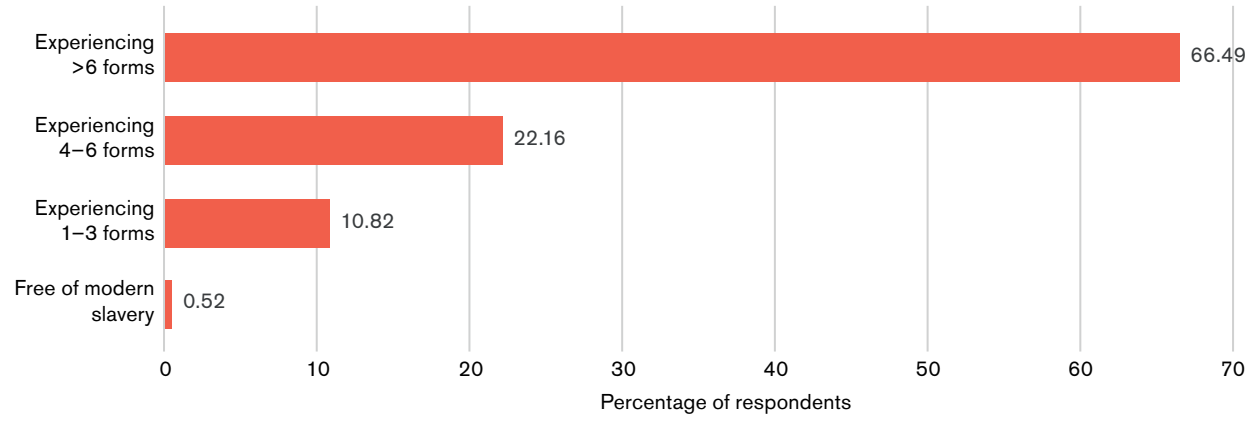
The graph also reveals the compounded nature of exploitation, with 22% of international migrants enduring 4–6 forms of modern slavery. Alarmingly, 66% of international migrants report experiencing more than six forms of modern slavery, reflecting extreme levels of exploitation. These severe cases often involve threats, intimidation, physical violence, or abusive living and working conditions. The compounded nature of exploitation mirrors the systemic failures at both ends of the migration journey — the lack of protections in origin countries and the insufficient legal safeguards in destination countries.

"I went to Qatar. It cost me BDT450,000 [US$3,911]. Initially, the recruitment agent painted a promising picture, assuring me of a salary between BDT30,000 [US$261] to 40,000 [US$348] and guaranteed employment with a reputable company, complete with a work permit. However, upon reaching the country, my hopes were dashed. The living conditions were poor, with 20 to 25 people sharing a single room.

"After a few days, I realised that they hadn't placed me in the main company as promised. The company they had described to me was different, but they assured me of proper payment. Instead of the promised salary of BDT30,000–40,000 [US$261–348], they offered me about BDT20,000 [US$174]. I stayed in that company for a year, during which we had to cover our food expenses with our own money, costing us 200 Riyals [US$53]."
Victim of forced labour in a village from Gowainghat, Sylhet

The regression analysis further highlights the role of climate risk (CRI) in driving international migration, with households facing higher climate risks having 214% higher odds of sending members abroad. This indicates that environmental pressures are key drivers of distress migration, forcing individuals into exploitative conditions abroad as a trade-off for escaping immediate

Figure 35. International migrants experiencing modern slavery



17 Exp(B) = 3.564, p-value = < 0.001

vulnerabilities at home. The statistically insignificant impact of the SPI on migration decisions reflects that the existing safety nets are neither strong enough nor comprehensive enough to provide protection to the community during climate crises and therefore does not influence households' decision to migrate. This suggests that social protection programmes fail to provide adequate support for vulnerable households to withstand climate-induced shocks or economic stress locally. As a result, these households are left with no option but to pursue risky migration journeys, where they remain unprotected and exposed to exploitative working conditions.

The prevalence of modern slavery among international migrants underscores a global failure to provide adequate protections, leaving them highly susceptible to systemic exploitation. Addressing the factors that expose the migrants to modern slavery requires coordinated efforts in both origin and destination countries to strengthen international labour protections, enhance legal enforcement mechanisms, and create safer pathways for migration.

"In the last flood that occurred in 2022, I lost my house, three cows, six goats, ten ducks and some chickens. All the necessary things including furniture, crockery, clothes and other items were washed away. I am a poor person. There are six members in my family, but I am the only earning member. After losing everything, now I am in deep despair. I am unable to manage all the things I lost in the past flood and we are living a very painful life. After the flood, I did not understand what to do where to go. At that time, a recruitment agent told me to go to Oman.

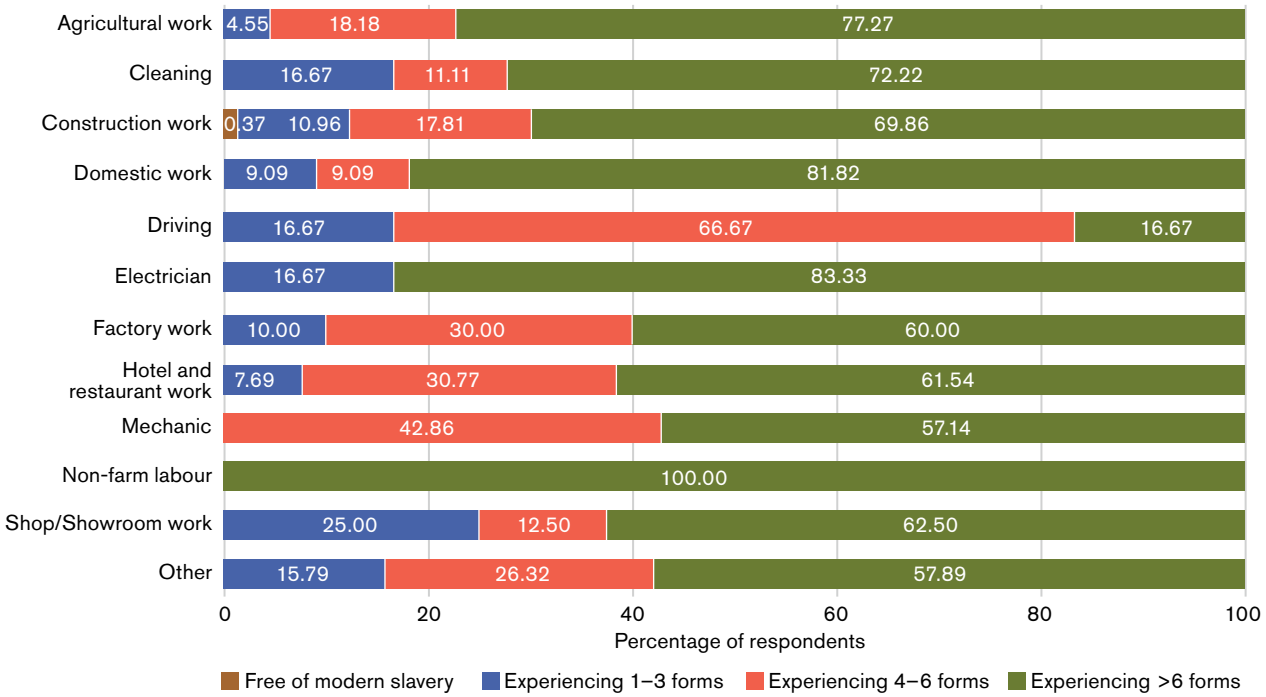
"My passport had been taken away by the recruitment agent, leaving me without identification. I couldn't go to the market without permission, nor could I go outside. Eventually, I managed to escape and found work at two different places for the following two months. However, my situation took a turn for the worse when I was apprehended by the police. I spent one year in jail and later they sent me back to the country [Bangladesh].

"It pains me deeply that despite spending so much money to go abroad, people do not find success. They don't find jobs or opportunities. Life abroad is full of hardships."
Victim of forced labour from Gowainghat, Sylhet

4.2.1 Prevalence of modern slavery among international migrants across occupations

In Figure 36, we have analysed the relationship between occupation types and the prevalence of modern slavery among international migrants, highlighting varying degrees of vulnerability across professions.

Figure 36. Occupations of international migrants experiencing modern slavery



Migrants engaged in certain occupations, such as non-farm labourers, electricians, cleaners, mechanics, hotel and restaurant workers and agricultural workers, exhibit significantly higher levels of severe exploitation. For instance, non-farm labourers face the highest vulnerability, with all respondents reporting more than six forms of modern slavery. Similarly, 83% of electricians and 72% of cleaners experience severe exploitation. Agricultural work, a dominant occupation among international migrants, also shows alarming levels of vulnerability, with 77% of workers subjected to more than six forms of modern slavery. These roles are typically characterised by informal work arrangements, physically demanding tasks and inadequate labour protections, making workers highly susceptible to exploitation.

"A relative living abroad offered me a chance for a better life in Oman. I saw it as a ray of hope in the darkness. I talked to him and let him know I wanted to go. Then he told me that he will provide a good job and a good salary. But he told me I have to spend BDT400,000 [US$3,476] for this purpose. I agreed. I sold some of our livestock to manage the cost and took a BDT200,000 [US$1,738] loan from a microfinance NGO.

"Initially, the owner gave me BDT2,000 [US$17] per month, then increased it to BDT10,000 [US$87] upon my request. During Ramadan, I asked for additional funds for Eid. They responded with threats and violence. They told me they would send me back to Bangladesh if I asked for more facilities. They attacked me physically, biting me inhumanely, leaving me injured and sick. Despite the severity of my condition, they callously ignored my pleas for medical attention, allowing my health to deteriorate further. Before Eid, without any treatment, without any notice and salary, they sent me back to Bangladesh. They informed me of my impending departure just two days before the flight, leaving me bewildered. After seven months in Oman, I [came] back to my country with an empty hand."
Victim of forced labour from a village in Mathbaria, Pirojpur

Moderate to high levels of exploitation are also evident in factory work, shopkeeping and the hotel industry. For instance, 60% of factory workers report experiencing more than six forms of modern slavery, while 63% and 62% of shop and hotel industry workers, respectively, face similarly severe exploitation. These findings reflect the precarious conditions inherent in these occupations, including long working hours, lack of formal contracts and low wages, which exacerbate migrant vulnerabilities.

Occupations such as driving, mechanic, factory work, hotel industry work and shopkeeping demonstrate slightly lower proportions of severe exploitation. In the case of drivers, only 17% report having experienced more than 4–6 forms of exploitation, while 67% report 4–6 forms. Mechanics show a slightly higher proportion of exploitation, with 43% experiencing 4–6 forms and 57% facing more than six forms of modern slavery. While these roles display relatively lower levels of severe exploitation, the prevalence of overlapping forms of abuse remains a concern.

"I went to Saudi Arabia to work as a domestic worker through a recruitment agent. After a month, the male member of the household began to subject me to physical and sexual abuse. When I sought help from the female owner, she also mistreated me. The situation worsened as I endured nightly harassment and was eventually raped by the male owner. I got severe injuries and illness. Though they took me to a hospital, I was returned to the same abusive environment after seven days. They abused me and I got pregnant. Then they forcefully took me to hospital and aborted my child without my consent. I was feeling like I was in hell. The entire ordeal felt like living in a nightmare."
Victim of forced labour from a village in Gowainghat, Sylhet

The predominant occupations of international migrants are construction work (33%), agricultural work (10%) and factory work (9%). These occupations are also marked by high levels of vulnerability to exploitation. Construction work, the most common occupation, shows 70% of workers experiencing more than six forms of modern slavery, indicating widespread systemic abuse. Similarly, agricultural work, though a less common occupation, demonstrates significant vulnerability, with 77% of workers reporting more than six forms of exploitation.

This analysis underscores the urgent need for interventions targeting occupations where international migrants face widespread exploitation, such as non-farm labour, cleaning, and agricultural work. While all sectors experiencing abuse require attention, these occupations stand out due to their informal nature, lack of regulation, and high prevalence of multiple forms of modern slavery. The findings highlight the systemic exploitation faced by international migrants due to informal work arrangements, weak labour protections and inadequate regulatory frameworks in destination countries. Strengthening labour laws, ensuring their enforcement and enhancing social protection systems are essential to safeguarding the rights and dignity of migrants in these high-risk occupations.

5 Recommendations

The findings of this study underscore the profound vulnerabilities faced by both internal and international migrants, particularly in the context of distress migration driven by climate change, socioeconomic pressures and systemic inequalities. The pervasive experiences of modern slavery, including forced labour and exploitation, highlight critical gaps in social protection, legal safeguards and enforcement mechanisms at both origin and destination locations. The compounded nature of exploitation faced by migrants, as evidenced by the multiple overlapping indicators of modern slavery, reflects the failure of existing systems to protect the most vulnerable. Additionally, the analysis reveals the existence of a trapped population among non-migrants — those who lack the resources or capacity to migrate despite facing extreme vulnerabilities — further emphasising the urgent need for targeted interventions.

This section presents a set of targeted recommendations to address the root causes of migration vulnerabilities, strengthen protection mechanisms and mitigate the risks of modern slavery. While these recommendations are specifically informed by the findings in Bangladesh, they offer valuable insights that can be applied to other countries facing similar challenges. Many regions across the Global South, particularly those experiencing climate-induced displacement and labour exploitation, can benefit from these actionable measures to enhance community resilience, establish safe and equitable migration pathways, and ensure stronger enforcement of migrant's rights.

Drawing on our findings, we have outlined actionable measures for policymakers, international organisations, and civil society to enhance community resilience in areas of origin, establish safe and equitable migration pathways, and ensure stronger enforcement of migrants' rights. By addressing these interconnected challenges, these recommendations aim to create a more just and inclusive framework that safeguards the dignity and wellbeing of all migrants, including those who remain trapped in precarious conditions.

Address inequity, exclusion and marginalisation in the delivery of social protection programmes

Communities in Bangladesh often perceive migration as a last-resort strategy to sustain their families amid worsening climate crises and socioeconomic pressures. However, such migration is fraught with risks, including forced and exploitative labour. To prevent distress migration and provide alternatives, the government of Bangladesh urgently needs to ensure the delivery of a robust and inclusive safety net. Social protection programmes must work in synergy to offer vulnerable communities access to comprehensive services, including education, healthcare, nutrition, skill enhancement and livelihood support. Programmes such as the Vulnerable Group Feeding (VGF), Vulnerable Group Development (VGD), Employment Generation Program for the Poorest (EGPP) and the Social Safety Net Programme in Bangladesh are critical components of this safety net. Yet, marginalised and socioeconomically vulnerable groups often face barriers to accessing these programmes, especially during times of acute need (Bharadwaj et al., 2023a).

Delivery of these programmes is frequently hindered by inequities in targeting, gender bias, social exclusion and a lack of transparency. To address these challenges, policymakers should mainstream gender considerations and ensure that both targeting and delivery mechanisms take into account the diverse needs of marginalised groups, including children, older people, women and people with disabilities, in both targeting and delivery mechanisms. For example, eligibility for social protection

schemes could be improved through a universal registry that integrates socioeconomic vulnerability and climate exposure data. Initiatives such as the National Household Database (NHD) managed by the Bangladesh Bureau of Statistics can serve as a foundation for such integration, enhancing targeting and prioritisation of the most vulnerable households (Bharadwaj et al., 2023a).

To strengthen the transparency and efficiency of social protection delivery, digital tools such as mobile financial services (for example, bKash and Rocket[18]) could be leveraged for direct cash transfers, reducing inefficiencies and leakages. These digital platforms have proven effective in enabling timely delivery of benefits, particularly in hard-to-reach areas. Moreover, linking these systems with national identification databases can streamline processes and ensure inclusivity. Expanding digital literacy programmes to rural and marginalised communities would complement these efforts, empowering individuals to access and utilise these services.

Awareness campaigns are equally critical, as many communities remain unaware of their rights and entitlements under existing social protection programmes. Engaging local leaders, NGOs and community-based organisations (CBOs) can help bridge this gap, ensuring that individuals are informed and empowered to assert their rights. Additionally, mechanisms for addressing grievances need to be strengthened to enhance accountability and build trust in these programmes.

To achieve last-mile connectivity, a multi-stakeholder approach is essential. Collaboration among local governments, private sector actors, NGOs and CBOs can ensure the effective delivery of services, especially in remote and climate-vulnerable areas. Co-developing contingency plans with clearly defined roles and responsibilities across governance levels can enable rapid and coordinated responses to crises. This approach also supports the scaling up of efforts in an anticipatory and agile manner, ensuring that communities receive timely assistance when climate triggers are activated (Bharadwaj et al., 2023a).

By addressing inequities and ensuring inclusivity in the design and delivery of social protection programmes, Bangladesh can create a more resilient safety net. This will reduce reliance on distress migration, mitigate vulnerabilities to forced labour, and enhance the overall adaptive capacity of communities facing the dual challenges of climate change and socioeconomic marginalisation.

Preparing communities for migration-related employment opportunities

While migration offers opportunities for engagement in sectors such as construction, garment manufacturing, factory work, driving and hotel industry work, many migrants lack the skills to take advantage of opportunities for better paid jobs in these sectors, relegating them to unskilled labour. To bridge this gap, there is a pressing need to systematically map migration hotspots in Bangladesh by layering climate change vulnerability, socioeconomic disparities and institutional factors. This mapping would identify the migration pathways of vulnerable communities, particularly during crises, and inform targeted interventions. Complementing this with participatory community-level assessments could provide insights into migration patterns (for example, solo migration versus family migration), education levels, skillsets and destinations.

To equip migrants for decent employment, it is vital to map skills requirements at destination sites and develop training programmes aligned with those demands. Systematic skill development for vulnerable communities should be paired with certification to improve employability and wage outcomes. A lack of certification is a significant barrier: many skilled workers are paid unskilled wages because they lack verifiable proof of their abilities. Leveraging national ID systems, such as Bangladesh's National Identity (NID) database, to document education, skills and certifications could streamline this process and ensure migrants do not need to carry paper certificates. This approach can be supported by digital platforms such as blockchain-based systems or centralised online portals, which would enable secure storage, verification, and sharing of migrant workers' educational credentials, skills, and certifications across borders.

Rural households continue to find it difficult to access opportunities to acquire new skills. For example, skills enhancement programmes like those under the Skills for Employment Investment Program (SEIP), often exclude the most vulnerable people due to rigid eligibility criteria (Bharadwaj et al., 2023a). Migrants who spend extended periods away from their villages or women burdened with domestic responsibilities find it difficult to meet such requirements. Revisiting these eligibility criteria to make them more inclusive — particularly for women, young people and marginalised groups — could ensure broader access to training. Additionally, integrating skills development modules into social protection schemes, such as the EGPP, could help vulnerable households better access these opportunities (Bharadwaj et al., 2023a).

17 bKash and Rocket are popular mobile financial service platforms in Bangladesh that allow users to send, receive, and store money digitally. These services are widely used for transactions, including remittances and direct cash transfers, particularly in areas with limited access to formal banking systems.

Updating skills development records to reflect training participation and certifications would provide a more holistic view of workforce readiness. For instance, digitised training logs linked to individual profiles in national databases could enable migrants to easily verify their credentials, improving their employment prospects.

Equipping vulnerable populations with relevant skills and certifications will not only enhance their employability but also reduce their susceptibility to exploitation in the labour market. A targeted approach to skills development, integrated with migration and labour market planning, can help transform migration into a pathway for resilience and opportunity, rather than a source of distress and vulnerability.

The high cost of migration often places families in a vulnerable position, leading to debt bondage and exploitation. Many migrants take on heavy loans to cover recruitment fees, travel expenses, and other associated costs, only to fall into a cycle of debt. To address this, it is crucial to regulate recruitment agencies to prevent unfair practices and provide affordable credit options to ease the financial burden.

Pre-departure training plays a key role in empowering migrants by educating them about their rights and preparing them with necessary skills for employment in destination markets. Additionally, programmes tailored to returnees should focus on rebuilding their livelihoods, offering financial support, and providing psychosocial assistance. Ultimately, creating safer, more affordable migration pathways will help reduce the risks migrants face throughout the process.

Ensuring decent employment opportunities for migrants at destination sites

Distress migrants often experience severe disadvantages in the labour market at their destination sites, making them vulnerable to exploitation. Many migrants work in environments where labour and workplace safety laws are poorly enforced, if at all. They are frequently overworked, underpaid and exposed to hazardous conditions, including polluted workplaces and inadequate safety equipment. Addressing these challenges requires a dual approach combining skills enhancement and structured job placement services.

To ensure safe and decent employment, placement services could be integrated with mobile applications, community-level institutions or extension services. A digital job-matching platform or village-level registry could list verified opportunities for workers with varying skill levels in industries such as construction, manufacturing, or government infrastructure projects. These systems would enable migrants to secure job opportunities before leaving their villages, bypassing exploitative intermediaries and contractors. For example, such platforms could facilitate direct employer–employee connections, ensuring that workers are recruited formally and provided with access to legally-mandated facilities, such as safe housing, fair wages and reasonable working hours. For international migrants, the Bangladesh government should initiate bilateral agreements with destination countries to guarantee that migrants have access to legal protections, fair wages, and safe working conditions, reducing their vulnerability to exploitation and abuse in foreign labour markets. Migrants should also be supported with additional services, such as awareness campaigns on labour rights, helpline numbers and secure remittance services. Rights-awareness initiatives are critical in empowering migrants to demand better working conditions and avoid exploitation. These efforts can be complemented by partnerships with NGOs and CBOs to deliver on-the-ground support, including temporary shelter, counselling and logistical assistance during transit.

Convergence with existing social protection programmes such as the EGPP or VGD programmes could provide a safety net for migrants, offering income support during transition periods. Collaboration with NGOs and private sector partners can further enhance migrants' access to job opportunities and legal protections.

To make these systems effective, destination site employers must be held accountable for providing minimum worksite facilities mandated by labour laws, including safe working conditions, access to healthcare and mechanisms to report workplace grievances. Improved enforcement of labour rights, combined with accessible and transparent placement services, will reduce informality in the labour market and diminish migrants' exposure to risks.

Integrating skills enhancement, structured placement services and rights-awareness programmes will help migrant workers access safer and more secure employment opportunities. These measures will not only improve working conditions for migrants but also reduce the structural vulnerabilities that make them susceptible to exploitation, ensuring their dignity and wellbeing at destination sites.

Establishing a migration advisory and helpline service

A toll-free migration helpline is essential to provide advice and support to migrants, ensuring their safety and wellbeing during transit and at destination sites. This helpline should serve as a critical resource for migrants, offering guidance on the 'dos and don'ts' of migration. It could assist migrants to register before they leave so they can be tracked, navigate temporary shelter or hostel options en route, and understand their rights and entitlements at work. Additionally, the helpline could provide life-saving information, such as

steps to take if migrants find themselves trapped in trafficking, forced labour or affected by emergencies like workplace accidents.

The helpline could also help migrants connect with social protection programmes at their destination, informing them about how to register and access services such as healthcare, housing or skills development opportunities. It could guide them on what to ask contractors or employers before taking a job, including requesting proper documentation and evidence of a commitment to safe working conditions. Raising awareness of entitlements, such as safety equipment, sick leave and reasonable working hours, can empower migrants to protect themselves from exploitation.

To make this initiative effective, several complementary measures are necessary:

- Publicising the helpline number through multiple platforms, such as newspapers, posters, radio, social media and word-of-mouth campaigns, is crucial. These efforts should also target families left behind, to ensure they are aware of the support available for their migrating family members.
- The success of a similar helpline in Jharkhand, India (Bharadwaj, 2022) highlights the importance of political and administrative backing. In Bangladesh, similar support from the Ministry of Expatriates' Welfare and Overseas Employment or the Ministry of Labour and Employment would institutionalise the helpline and enable coordination with other departments and state agencies.
- Integrating the helpline within Bangladesh's Department of Labour and Welfare would ensure sustainability. The helpline could converge with other initiatives, such as Bangladesh Overseas Employment and Services Limited (BOESL), to link migrants with skills training and employment opportunities.
- Helpline staff should receive training to ensure they offer empathetic and clear advice. Migrants often reach out in moments of despair, and the helpline staff must provide not only solutions but also reassurance and support.
- Helpline staff should be provided with information on how to respond to callers in crises, offering immediate assistance for issues such as wage withholding, unsafe working conditions or legal help in cases of trafficking. Collaboration with NGOs and CBOs can ensure rapid on-the-ground responses.

With these components in place, the helpline would serve as a vital resource for migrants, helping to mitigate the risks associated with migration and supporting migrants' rights and wellbeing throughout their journey and employment.

"No one contacted us about any problem after migration, such as [being a] victim [of] … forced labour, human trafficking or any other problem. Those who are going on illegal routes, obviously they do not contact us because they are afraid and may think that if they contact us, they will get into more trouble."
Government official from Pirojpur district

"Despite hearing about these issues often, no one approaches us to report them. The reality is that many people in the community are very poor and illiterate. They lack the knowledge of how to report such incidents or where to file complaints. Additionally, they perceive recruitment agents as more powerful than themselves, and fear retaliation if they were to file a case or complaint. This fear prevents them from reporting these injustices."
Government official from Pirojpur district

"It's essential to recognise that unsafe migration pathways are not solely created by external forces; rather, they are enabled by internal factors. The greed of guardians plays a pivotal role in driving individuals into such perilous circumstances. These guardians prioritise financial gains over the wellbeing of migrants, perpetuating a cycle of exploitation and vulnerability."
Government official from Gowainghat, Sylhet district

Building a network of NGOs to support migrants en route and at destination sites

To ensure comprehensive support for migrants, the government must collaborate with an extended network of NGOs and CBOs to complement the existing formal support systems. Migration resource centres, such as those operated by the Bangladesh Ministry of Expatriates' Welfare and Overseas Employment, often face challenges in reaching migrants due to limited coverage, bureaucratic hurdles and logistical constraints. Migrants may find it difficult to access these centres, sometimes incurring financial or work-related losses in the process. NGOs and CBOs can play a critical role by acting as accessible and informal extensions of these government-run facilities.

NGOs and CBOs near construction sites, industrial hubs or key migration routes can be particularly effective in providing on-the-ground support. These organisations

can act as watchdogs to ensure compliance with labour laws, monitoring workplaces to protect migrants' rights and entitlements. They can also offer immediate services such as food, temporary shelter, counselling and logistical assistance for migrants in transit or at their destinations. In cases of emergencies or exploitation, such as trafficking or forced labour, these networks can facilitate rescue operations and safe repatriation for affected individuals.

For internal migrants, NGOs can ensure continuous support for those working in industrial hubs or remote regions, where government presence may be sparse. Additionally, this network can be instrumental in bridging jurisdictional gaps where migrants move beyond the reach of their origin state or country. For example, CBOs can coordinate with local authorities and international organisations to provide support to Bangladeshi migrants working abroad, particularly in regions with limited consular support.

To operationalise such a network effectively:

- The government should formally engage NGOs and CBOs through partnerships, providing them with the resources and authority to act as extensions of official migration support systems.
- The government should ensure that NGO and CBO staff get adequate training to help them address issues faced by migrants in matters such as legal rights, workplace safety and access to social protection programmes.
- The government should allocate financial and logistical support to these organisations to enable them to provide sustained assistance, particularly during crises or emergencies. For example, during the COVID-19 pandemic, many migrants faced severe hardships, with thousands stranded in destination countries without work or income, desperately seeking support to return home. In such situations, well-resourced organisations could play a critical role in facilitating safe return, providing temporary shelter, food, and medical assistance, and ensuring that migrants return home with dignity.
- The government should establish clear guidelines and accountability mechanisms based on partnership agreements to ensure that NGOs and CBOs operate ethically and deliver effective support.

By leveraging the strengths of NGOs and CBOs, the government can significantly enhance its ability to address the needs of migrants, ensuring their rights and wellbeing at all stages of their journey. This collaborative model would fill critical gaps in existing support and create a more inclusive safety net for vulnerable migrant populations.

Ensuring portability of social assistance for migrants

Social protection programmes in Bangladesh often fail to extend their coverage to migrants, leaving those affected by climate-induced migration without a safety net. These programmes are traditionally designed to support communities within their home villages, overlooking the realities of migration and the breakup of family units. For example, initiatives like the VGF, EGPP and VGD primarily target stationary populations, excluding migrants who move in search of livelihood opportunities. As a result, migrants often find themselves in substandard living and working conditions at destination sites, deprived of basic rights, benefits and entitlements.

Integrating portability in social assistance programmes is essential for addressing the needs of migrants and their families. Portability would ensure that entitlements and benefits follow individuals regardless of their location, providing critical support both in their home villages and at their destination. Bangladesh can draw lessons from India's 'One Nation One Ration Card' initiative under the Public Distribution System (PDS) (Bharadwaj et al., 2023b), which allows beneficiaries to access food entitlements from any fair price shop across the country. A similar mechanism could be implemented in Bangladesh to ensure food security for migrants and their families.

There are operational challenges which could hinder the implementation of portable benefits. Migrants often lack awareness of their rights and face barriers such as inadequate documentation, limited digital literacy, and bureaucratic hurdles. These challenges are further exacerbated by the digital divide in rural and marginalised communities, where access to technology is limited.

To overcome these challenges and enhance the portability of social protection programmes in Bangladesh, we recommend the government of Bangladesh undertake the following measures:

- Develop a centralised database, building on initiatives such as the NHD, to track beneficiaries and ensure seamless access to entitlements across regions. This registry should integrate data on socioeconomic vulnerabilities and climate risk exposure.
- Launch targeted awareness campaigns to educate migrants and their families about their rights and the portability of benefits. Use digital platforms, local leaders and NGOs to disseminate information effectively.
- Invest in robust digital systems to enable real-time access to benefits. Mobile-based platforms, similar to those used for mobile financial services, can facilitate access to entitlements like food, healthcare and cash transfers at destination sites.

- Extend portability to include additional social assistance programmes, such as maternal health services, child education initiatives and sanitation facilities. Programmes like the School Feeding Program and Maternal Health Voucher Scheme could be adapted to ensure continuity of support for migrants' families.
- Collaborate with local governments, NGOs and private sector partners to implement portable benefits effectively. These partnerships can ensure last-mile delivery of services, particularly in urban and peri-urban areas where migrants often live.

By ensuring the portability of social protection programmes, Bangladesh can provide continuous support to migrants and their families, reducing the need for distress migration and enabling informed decisions about their welfare. Such an approach would create a more inclusive safety net, addressing the structural vulnerabilities faced by the most at-risk populations in the face of climate and economic challenges.

Integrating social protection with labour market reforms for migrant welfare

In Bangladesh, the fragmentation and lack of coordination between social protection programmes and labour market regulations often leave migrant workers without comprehensive support. While there have been various initiatives designed to address different aspects of social protection and labour rights, their uncoordinated implementation limits their effectiveness in protecting migrants, particularly those in distress situations. To address these gaps, an integrated system is needed to ensure that social protection programmes meet the basic needs of migrants (shelter, food and health), while labour market reforms safeguard their rights.

Social protection schemes such as the EGPP, VGD and the National Social Security Strategy should work in tandem with the policymakers responsible for labour laws to provide a safety net for migrants throughout their journey, from preparing to leave their homes to their employment at destination sites. Labour policies should ensure that migrants, especially those in short-term jobs, are registered and covered by formal labour contracts, ensuring they are not treated as invisible workers. Policies must guarantee:

- **Job security:** The government should implement policies that require all migrant workers, regardless of their migration status, to receive employment contracts that specify terms, wages and working conditions.
- **Health and accident insurance:** The government should ensure that migrants are covered under schemes similar to the National Health Insurance pilot programmes being tested in Bangladesh, ensuring access to medical care for workplace injuries and health emergencies.
- **Decent work standards:** Implementation of minimum worksite facilities, safe working conditions and adherence to working hours must be mandated by the government for all employers engaging migrant labour.

The government should introduce inclusive labour market reforms focusing on equitable access and opportunities for all, especially women and marginalised groups. Migrants should be supported through active labour market programmes that offer:

- **Skills certification and job search assistance:** Building on programmes like the Skills for Employment Investment Program (SEIP), migrants should be able to access skills certification and assistance to secure formal employment, reducing reliance on informal and exploitative work arrangements.
- **Supportive policies for vulnerable groups:** Social care systems should focus on aiding women, people with disabilities, older people and at-risk children, ensuring they are not disproportionately affected by migration pressures.

By aligning social protection programmes with labour market reforms, Bangladesh can build a robust system that safeguards migrants' rights, reduces their vulnerability to exploitation and enhances their capacity to achieve sustainable livelihoods. This coordinated approach will not only improve migrant welfare but also strengthen the country's overall social and economic resilience.

Leveraging climate finance to strengthen social assistance programmes and support migrants

Climate finance presents a critical opportunity to enhance the capacity of social assistance programmes in Bangladesh, ensuring they protect vulnerable populations from the impacts of climate change while building resilience against future risks. By integrating climate resilience instruments within social protection frameworks, climate finance can mitigate both economic and non-economic losses, with particular focus on the needs of internal and international migrants.

Social assistance programmes such as the EGPP and VGD can be expanded to target climate-affected regions and populations during extreme events like floods or cyclones. Climate finance can enable these programmes to provide enhanced benefits,

such as increased financial assistance or food aid during crises. For example, the Green Climate Fund's support for Pakistan's Ehsaas Programme illustrates how climate finance can bolster social protection systems, delivering both immediate relief and long-term resilience. A similar approach in Bangladesh could help vulnerable populations recover more effectively and avoid distress migration.

Additionally, climate finance can be directed to integrate early warning systems into social assistance programmes. Bangladesh's Forecast-based Financing model demonstrates the efficacy of pre-emptive actions, where funds and resources are released ahead of predicted disasters. Expanding this model using climate finance would enable social assistance programmes to transition from reactive responses to anticipatory mechanisms, reducing the adverse impacts of disasters on communities.

Beyond immediate relief, climate finance can also support regional climate risk assessments and infrastructure development. Investments in resilient infrastructure, such as flood-resistant housing, all-weather roads, and climate-adaptive water and sanitation facilities can ensure uninterrupted delivery of social protection during crises. Climate finance can also be used for vital capacity building for local officials to ensure that they are able to manage and deliver such programmes in extreme conditions.

The Green Climate Fund board and the newly established Fund for Responding to Loss and Damage need to prioritise support for governments to strengthen social protection systems and develop targeted programmes for climate migrants. This includes enhancing coverage, portability, and accessibility of social protection benefits for displaced populations and migrants. Investments could focus on innovative solutions to address climate-induced vulnerabilities, such as portable social safety nets, livelihood support, and reintegration programmes for returning migrants.

By embedding climate finance into social assistance programmes, Bangladesh can address both immediate needs during crises and long-term vulnerabilities. This approach will strengthen resilience, reduce reliance on distress migration, and provide a comprehensive safety net for affected communities, including internal and international migrants. Through such targeted interventions, climate finance can play a transformative role in safeguarding the wellbeing and dignity of Bangladesh's most vulnerable populations.

Annexes

Annex 1. The research area

The study was conducted in the Sylhet and Pirojpur districts of Bangladesh. These areas were selected after considering exposure to extreme climate events, the prevalence of climate-induced migration and vulnerability to human trafficking and forms of modern slavery, such as forced labour, debt bondage and forced marriage.

The following criteria were taken into consideration:

- Selecting one coastal district and one inland district.
- Selecting areas from climate hotspots in Bangladesh that are impacted by both slow- and rapid-onset extreme events (Bangladesh Planning Commission, 2018).
- Areas with evidence of prevalence of migration and human trafficking and other forms of modern slavery.

Pirojpur: The district of Pirojpur is situated in the southern part of Bangladesh. It is one of the six coastal districts of Bangladesh. The total area of the district is 1277.80km^2, of which 30.12km^2 is forested. Four main rivers flow through Pirojpur: the Baleshwar, Katcha, Kalinganga and Sandhya rivers (Bangladesh Bureau of Statistics, 2013).

Pirojpur is a disaster-prone district, being impacted by both slow and rapid onset extreme climate events. It experiences tropical cyclones almost on a yearly basis with cyclones Sidr (2007), Aila (2009) and Yaas (2021) the most severe during the past two decades. Pirojpur is among the ten districts of Bangladesh most affected by salinity. According to the Soil Resource Development Institute of the Bangladesh Ministry of Agriculture's soil salinity report 2010, salt-affected areas in Pirojpur increased from 21.30 thousand ha in 1973 to 35.83 thousand ha in 2009. The district is listed among the districts with high risk of erosion (Ahsan, 2010).

Sylhet: The district of Sylhet is situated in the north-eastern part of Bangladesh. It is part of the Sylhet division and is spread over an area of 3490.40km^2. The district is highly prone to flash floods and landslides. Erosion, droughts and earthquakes also have a significant impact on the region (Sarkar et al. 2024; Biswas et al., 2018). In 2022, Sylhet experienced three consecutive incidents of heavy rains and flash flooding, leading to loss of life and livelihoods. The district recorded its highest rainfall in 122 years (Doctors Worldwide, 2022). Recurring floods causing damage to rice crops and other agricultural activities have forced people to migrate to nearby cities (Ferdushi et al., 2019).

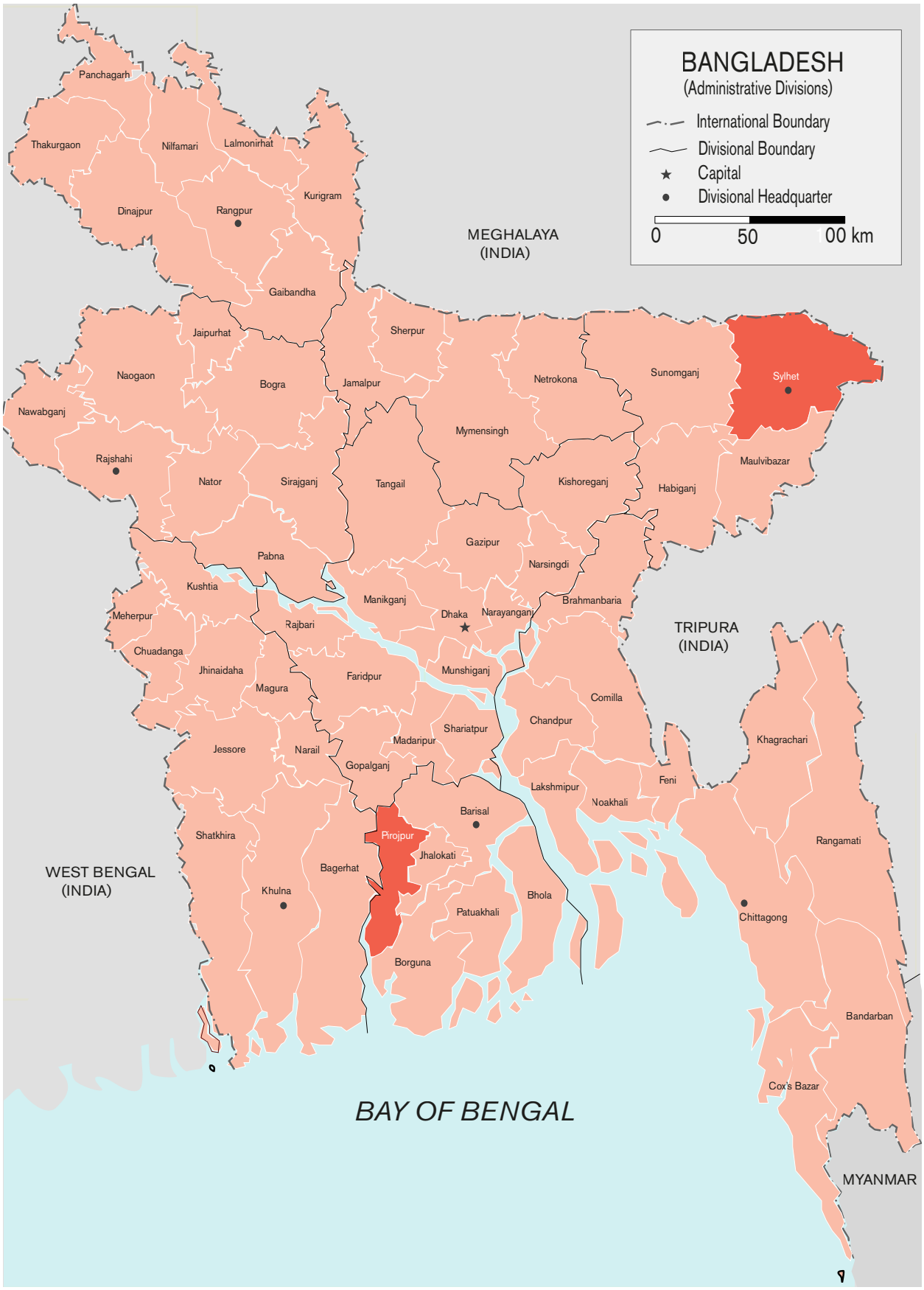
According to a study on climate change impacts on the livelihoods of the people in Tanguar Haor in Sylhet, floods have forced 35% of the surveyed population to change jobs and 43% of respondents to relocate, while 77% reported property loss, illness, and a lack of drinking water because of the floods (Rahaman et al., 2015). The Needs Assessment Work Group (NAWG), Bangladesh reported that flash floodings in the north-western part of the country have led to large-scale displacement of the large population, particularly in the downstream Sylhet and Sunomganj districts. Nearly 40% of Sylhet's population was displaced due to flash floods in May 2022 (NAWG, Bangladesh, 2022). Some 10% of the total trafficking in person cases in Bangladesh were reported in Sylhet division (Clement et al., 2021).

Field research was conducted in two locations: Mathbaria upazila in Pirojpur district and Gowainghat upazila in Sylhet district (see Figure 37).

Climate vulnerability index (CVI) of the unions studied: All of the 4,828 unions in Bangladesh are given a CVI score (LoGIC, 2023). Union index scores range from 0.65 to 0.34, with a higher score indicating higher vulnerability. The climate vulnerability index for the unions studied are listed in Table 3 below. The CVI values for the unions in this study range between 0.47 (Fatehpur-Gowainghat) and 0.58 (Gulisakhali).

Figure 37. Geographic distribution of study area

Figure 38. Location of study areas in Bangladesh



Credit: Armanaziz, via Wikimedia, CC BY 2.5

Table 3. CVI for the unions where the study was conducted

DISTRICT	UPAZILA	UNION	SERIAL NO. IN UNION LIST	CVI FOR THE UNION
Sylhet	Gowainghat	Gowainghat Sadar	159	0.51
		Lengura	537	0.54
		Paschim Jaflong	690	0.53
		Rustompur	1091	0.52
		Alirgoan	1102	0.52
		Towakul	1796	0.50
		Purba Jaflong	1757	0.50
		Nandirgoan	2228	0.49
		Fatehpur	2781	0.47
		Dowbari*		0.54
Pirojpur	Mathbaria	Sapleza	130	o.57
		Gulisakhali	108	0.58
		Daudkhali	712	0.53
		Amragachhia	1244	0.51
		Bara Machhua	1255	0.51
		Dhanisapa	1482	0.51
		Betmore Rajpara	1549	0.51
		Mirukhali	1757	0.50
		Tushkhali	1830	0.50
		Mathbaria Sadar	2291	0.49
		Tikikata	927	0.52

* Union not mentioned in the list provided in the LoGIC report, hence the score of the nearest union is considered.

Annex 2. Sample profile

The following sample for the qualitative and quantitative data collection was used for the research.

Table 4. Sample design for quantitative data collection

	PARTICULARS	MATABARIA UPAZILA/ PIROJPUR DISTRICT	GOWAINGHAT UPAZILA/ SYLHET DISTRICT	TOTAL	% TOTAL	% MIGRANT
1	**Demographic aspects**					
a	**Gender**					
i	Male	230	288	518	79.94	
ii	Female	58	72	130	20.06	
	Total	**288**	**360**	**648**	**100**	
	% of total	44.44	55.56	100		
b	**Female-headed household**	15	20	35	5.40	
c	**Persons with disabilities**	6	10	16	2.47	
2	**Migrants/Non-migrants**					
a	**Migrants**	202	252	454	70.06	100
i	Migrant workers, internal	120	152	272	41.98	59.91
ii	Migrant workers, international*	82	100	182	28.09	40.09
b	**Non-migrants**	86	108	194	29.94	
	Total	**288**	**360**	**648**	**100**	

* All international migrant workers surveyed were those currently working abroad.

Table 5. Sample design for qualitative data collection

SAMPLE NO.	TOOL	SAMPLE COVERAGE		TOTAL
		Pirojpur district/ Matabaria upazila	Sylhet district/ Gowainghat upazila	
1	**Focus group discussion**			
a	Male/Mixed groups	5	5	10
b	Female groups	–	3	3
c	Mixed groups	4	1	5
2	**In-depth interview**			
a	Migrant workers, international (male)	9	6	15
b	Migrant workers, international (female)	1	4	5
c	Migrant workers, national/seasonal (male)	1	1	2
d	Migrant workers, national/seasonal (female)	1	4	3
e	People with disabilities	1	1	2
3	**Key informant interviews**			
a	Representatives of local bodies (male/ female)	4	3	7
b	District level officials (agriculture, forestry, fisheries, climate change and DRR, social protection and migration) — subject to availability and willingness to cooperate	3	3	6
c	National level experts			4

Annex 3. Regression analysis model for analysing the decision to migrate

To understand the factors influencing household migration decisions, a multinomial logistic regression model was employed. This model analyses the likelihood of households choosing one of three migration outcomes: non-migration, internal migration, or international migration. The **dependent variable** (Y) in the model represents the migration status of the household, coded as follows:

- 1 for households with no members migrating (non-migrants)
- 2 for households with members migrating within the country (internal migrants)
- 3 for households with members migrating abroad (international migrants).

Independent variables

The model integrates three key independent variables to explore how different factors shape migration decisions:

- Inherent Resilience Index (IRI): Categorised as high resilience (1) and low resilience (2), this variable captures the household's ability to withstand shocks without resorting to migration.
- Climate Risk Index (CRI): Categorised as high risk (1) and low risk (2), CRI reflects the degree of exposure to climate-induced shocks such as crop losses, livestock losses, and damage to housing.
- Social Protection Index (SPI): Categorised as high access (1) and low access (2), SPI measures the extent to which households receive government support before, during, and after disasters.

Model specification

The multinomial logistic regression is expressed as follows:

$$\ln\left[\frac{Px}{1-Px}\right] = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \ldots + \beta_k X_{ki}$$

Where:

Px: Probability of a specific migration outcome,

X_{1i}, X_{2i}, ... X_{ki}: Independent variables (IRI, CRI, SPI, and others as required), and

β_0, β_1, ... β_k: Regression coefficients for each independent variable...

The regression model aims to explore the relationships between household resilience, exposure to climate risks, and access to social protection, and their collective impact on migration decisions. It provides insight into:

- Why some households choose to migrate internally or internationally
- Why certain households remain non-migrants, including those who are trapped due to structural vulnerabilities, and
- The influence of external support mechanisms in mitigating migration pressures.

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International Institute for Environment and Development
44 Southampton Buildings, London WC2A 1AP, UK
Tel: +44 (0)20 3463 7399
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