



ENHANCING RURAL RESILIENCE FOR CLIMATE-INDUCED MIGRATION RESPONSES

Key Messages

- Migrants engage in year-round and seasonal work, with social connections playing a key role in job opportunities, especially for women.
- Migrant households' livelihoods are affected by unpredictable weather conditions, reduced water availability, and extreme events like heatwaves, droughts and floods, which lowered crop yields and fish stocks. This led to income loss and financial instability, especially for farming households.
- Migration was primarily driven by economic hardships, including poverty, job scarcity, and debt. Yet, these hardships were worsened by climate impacts, particularly droughts and floods, which reduced crop yields.
- Migrant households dealt with these impacts by participating in community development projects, adopting climate-resilient farming techniques, and diversifying income sources. However, to enhance their coping and adapting capacities, more efforts are required to improve social protection measures, local vocational training, and integration of climate resiliency plans into local development initiatives.
- To enhance local livelihoods, increase adaptability, and decrease climate change-induced migration, the following investments are needed:

At sub-national level:

- Agricultural training:
 - Implement training at the local level, utilising local knowledge and resources.
 - Focus on small-scale climate-resilient techniques suitable for individual farmers and small communities.
 - Introduce climate smart agriculture and sustainable farming practices that lead to more sustainable agricultural ecosystems, long-term productivity, and year-round income generation.
 - Ensure commune agriculture officers provide effective extension services to improve agricultural productivity.
- Irrigation infrastructure:
 - Build and maintain irrigation systems, including solar-powered water pumping stations, within communes and districts to support local agricultural production.
 - Bolster the capacities of community-based organisations (CBOs) to manage water resources to ensure sustainability.
- Community engagement:
 - Improve community involvement in the planning and implementation of development projects.
 - Establish or strengthen local committees to oversee the adaptation strategies and ensure they meet the specific needs of the communities.
 - Establish local agriculture markets in communes to enhance access to markets for local products.

- Youth's skills building:
 - Encourage youth with/without disability to join Technical and Vocational Education and Training (TVET) programs for skills development and climate-resilient job opportunities.
 - Incentivise local youth to work in community development initiatives.
 - Establish youth networks to share best practices and mobilise skills resources.

At national level:

- Policy development:
 - Integrate climate change-induced migration into relevant policies, strategies and plans for an enhanced response to climate change impacts.
 - Create policies that support sustainable agricultural practices that are agroecologically specific, and provide incentives for their adoption.
 - Integrate or mainstream climate change impact on migration into Nationally Determined Contribution (NDC) and its Action Plan.
- Research and development:
 - Promote research and development in precision agricultural technologies that optimise resource use and boost climate resilience.
 - Map out local and external resources to support climate change adaptation or mitigation projects.
- Capacity building:
 - Strengthen the capacities of both national and sub-national governments and community organisations to design and execute 'fit-for-purpose' adaptation projects.

Implementation guidance:

- Clearly define the roles and responsibilities of each government agency involved in the policy actions.
- Provide step-by-step implementation plans, including timelines and required resources.
- Plan policy dialogues to discuss and refine these recommendations with stakeholders from both sub-national and national levels.

Introduction

The increasing severity and frequency of climate change-induced hazards threaten livelihoods around the world. In vulnerable regions, these hazards—including the loss of land, homes, crops, and livestock—can force populations to migrate as a survival strategy (Mastrorillo et al. 2016). This dynamic interplay between climate change and migration exists in both sudden disasters and slow-onset environmental degradation (Leighton 2009; Docherty and Giannini 2009).

Cambodia is particularly susceptible to these challenges. Climate-related events such as floods and droughts disrupt agricultural production and undermine socio-economic development

(Sok et al. 2021; Chhinh et al. 2023). This instability may be a factor in Cambodia's high internal and external migration, especially the significant rural-to-urban movement (NIS 2020). Despite the need for clear data, research suggests environmental pressures and the search for income diversification drive migration trends within Cambodia (IOM 2009). Climate change also has gendered impacts, potentially increasing burdens on women as family structures and traditional roles shift in response to migration (Goh 2012).

Understanding the complex ways climate change shapes migration patterns is critical, especially in areas with limited empirical data (ADB 2012). This policy brief explores this

relationship in Cambodia, examining how past and present weather events influence migration in rural communities. It investigates the direct impacts of climate change on these movements, aiming to suggest affordable coping strategies for affected populations.

The policy implications are drawn from the key findings of a participatory research conducted in June and July 2023, employing both qualitative and quantitative methods. The methods included desk reviews, field observations, key informant interviews and a survey of 240 households with migrant members in three communes: Sre Ktum (Mondulkiri), Kbal Romeas (Stung Treng), and Kanhchor (Kratie). Insights from a subnational policy dialogue, held on 28 June 2024, with relevant provincial government officers and local authorities are also incorporated into the implications.

Migrants’ characteristics

Predominantly, migrants do year-round employment pursuits, followed by seasonal migration, which is more common among men. Permanent migration shows a unique trend with more women opting for it. Overseas employment offers higher incomes than

domestic jobs, with men generally earning more than women in all destinations except within provinces. Economic disparities are evident, with male migrants generally out-earning their female counterparts, except for women working locally who earn marginally more. The highest earnings are reported by overseas workers, with men significantly surpassing women in income. Urban migration yields similar wages for both sexes, approximately aligning with the minimum wage of USD200 per month. Conversely, local district employment results in the lowest earnings, especially for women.

Social connections play a crucial role in job acquisition, with both genders relying heavily on friends, neighbours, and relatives. Female migrants tend to rely more on social connections, while men prefer online services and direct communication with employers or companies. The use of agencies, both legal and illegal, for job placement is less frequent among migrants.

Climate hazards and their impacts on sources of livelihoods

Climate change has adversely impacted villagers' income sources and livelihoods in the target communes in different ways. Unpredictable

Figure 1: Types of climate hazards the locals have experienced in the past ten years by commune (in percent)

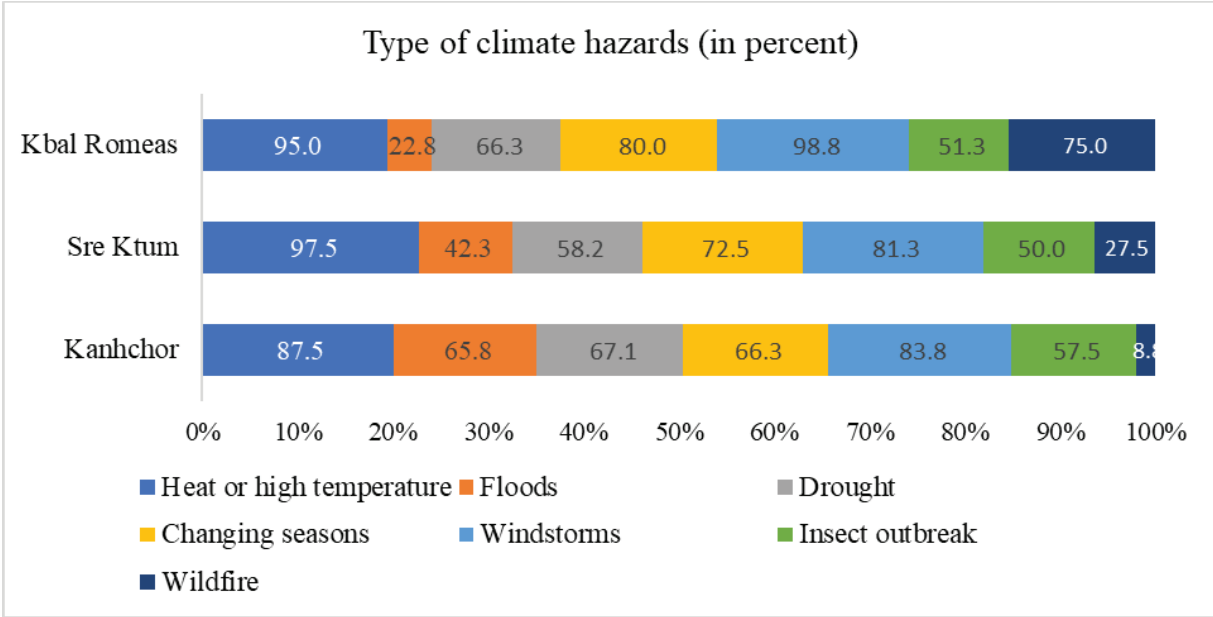
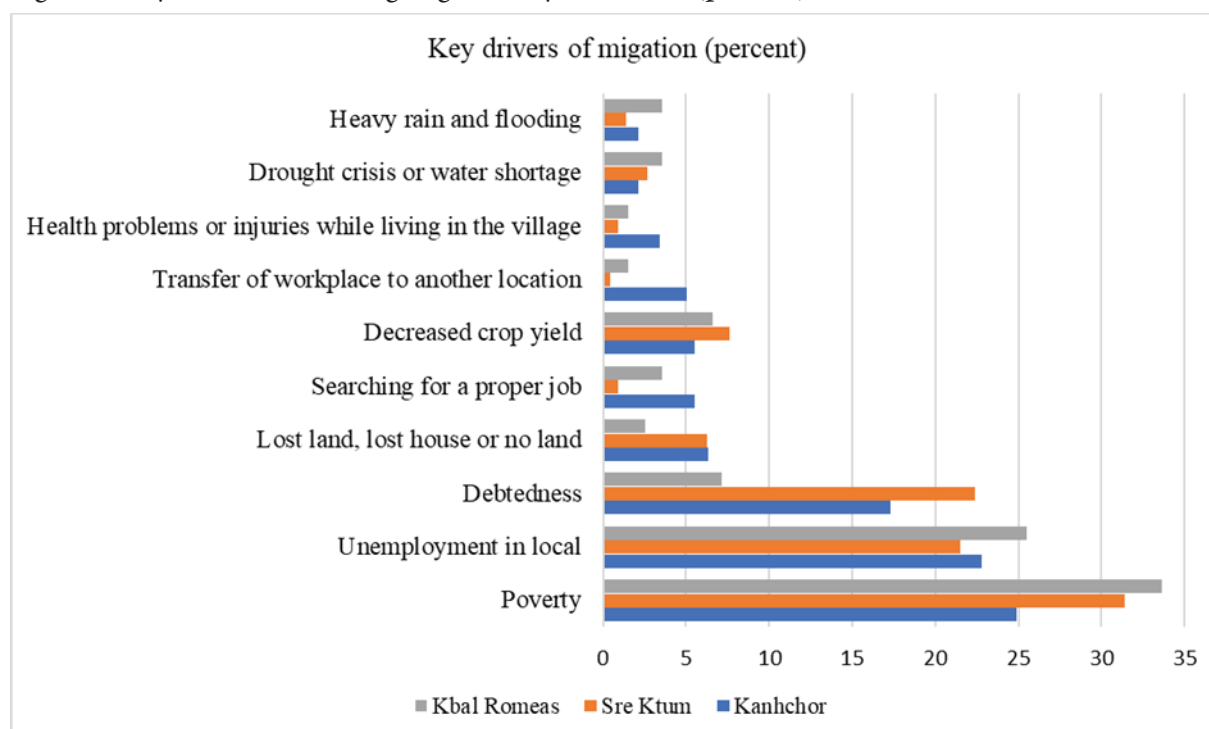


Figure 2: Key factors influencing migration by commune (percent)



weather patterns lead to reduced water for agriculture, animal deaths from droughts, and household damage from floods, resulting in lower crop yields, declining fish stocks, and reduced incomes. Farmers, especially cassava cultivators, face significant challenges, leading to replanting and reluctance to grow certain crops. Despite attempts at new agricultural techniques, drawbacks like high production costs and health issues persist. Fishing households also suffer from declining fish stocks due to dried-out natural lakes. These findings echo broader trends in Cambodia, where climate change affects agricultural productivity and rural livelihoods due to limited coping strategies, natural resource dependency, and inadequate infrastructure.

Each study area is confronted with a distinct set of climate hazards, ranging from heatwaves, floods, droughts, wildfires, insect outbreaks, windstorms, to unpredictable seasons (Figure 1). Notably, heatwaves and windstorms stand out as the most severe, with a “moderate” impact rating across all regions. Conversely, droughts and insect outbreaks pose a less severe threat, and wildfires are deemed to have a “very low” impact.

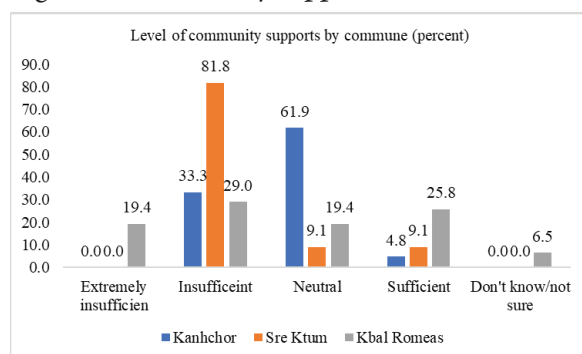
Delving into regional specifics, Kanhchor is particularly susceptible to droughts, with a high-risk level, while heatwaves and wildfires present a moderate risk, and floods are less likely. In Sre Ktum, the risk of heatwaves is alarmingly high, accompanied by moderate risks of windstorms and changing seasons, whereas floods and wildfires are less of a concern. Kbal Romeas faces a very high risk of both heatwaves and windstorms, with droughts also posing a moderate threat. Here too, floods and wildfires are less probable.

In Sre Ktum, the interconnected issues of deforestation and shifting weather patterns are of significant concern. Rising temperatures and erratic rainfall lead to drought conditions that inflict severe damage on crops such as cassava. This disruption to traditional farming practices results in soil degradation, diminishing its fertility and challenging the sustenance of agricultural livelihoods.

Why people migrate: Economic hardship and climate impacts

While there were many factors influencing migration, the study identified poverty as the

Figure 3: Community supports



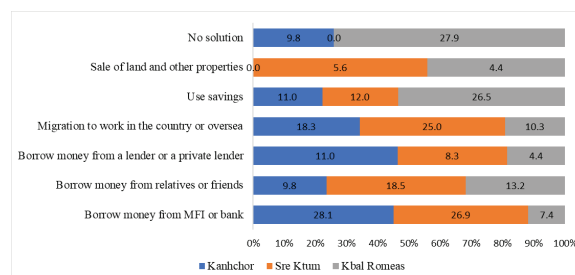
principal economic driver of migration, with over 30 percent of respondents citing it as the primary reason (Figure 2). This is compounded by job scarcity and debt, which further exacerbated the situation.

Climate change also plays a non-negligible role in this dynamic. Although not the most significant factor, its impact is tangible, with 5-7 percent of respondents attributing reduced crop harvests to their decision to migrate. Additionally, 2-3 percent cite drought and water scarcity, and 1-3 percent mention excessive rain and flooding as contributing factors.

Combined economic factors overwhelmingly dominate the drivers of migration, accounting for 50-60 percent of the reasons provided. Social and cultural reasons follow, comprising around 25-30 percent of the motivations. Environmental factors, while impactful, are less influential overall, contributing to 4-7 percent of migration decisions.

In short, the impact of climate change on livelihoods cannot be overlooked. It contributes to migration by inflicting economic hardship and crop losses. Local authorities and NGOs corroborate that a lack of farming support, low yields, and debt compel individuals to seek better incomes elsewhere. Extreme weather events, such as those damaging cashew and rubber crops, force many into short-term or seasonal migration as a means of survival. This underscores the need for comprehensive policy interventions that address both the economic and environmental dimensions of migration.

Figure 4: How local communities deal with climate losses by commune (percent)



Adaptive capacity: how communities cope with climate change

Climate change has negatively impacted villagers' livelihoods. In the surveyed communes, 67.1 percent of families have faced severe weather impacts, leading to significant losses in property, crops, and livestock, as well as higher healthcare expenses. Subsequent impacts include reduced work availability, and business shutdowns. Notably, recurring droughts since 2020 have severely decreased crop yields, critically undermining farmers' livelihoods.

To cope with these impacts, farmers need financial and technical supports, better market infrastructure, and transportation. Respondents also proposed diverse strategies to mitigate climate impacts, including migration and borrowing. Participatory community engagement, funded projects like REDD+, and increased climate change awareness were highlighted as crucial for livelihood improvement and local development. Yet, villagers were dissatisfied with the received support and limited coping strategies. Social media was the primary source of climate-related information, with friends and family members serving as the secondary sources. Traditional media and community meetings also contributed to raising awareness about climate, while information from NGOs and early warning systems was the least received. This finding underscores the importance of diverse communication channels in providing climate information at the local level.

Community engagement and leadership were also the key enablers of adaptive capacity. A significant majority of the surveyed population actively participated in community improvement activities, with over 64 percent attending commune meetings. Projects like REDD+, backed by NGOs, were vital in fostering community development and curbing migration. Nevertheless, assuming key leadership roles in decision-making processes was still uncommon among most participants.

Thus, support systems and coping strategies in response to climate change impacts are the areas that require attention. The general sentiment among villagers is that the support available is insufficient (Figure 3). Common strategies to cope with climate-related losses include borrowing money, migrating for employment, and utilising savings (Figure 4). Notably, in some areas, villagers lack well-defined coping strategies; and climate resiliency plans have not been fully integrated into village development plans, despite the support from REDD+ projects.

Policy dialogue insights: Strengthening responses to climate-induced migration

The subnational policy dialogue highlighted several strategies for addressing climate-induced migration. Vocational training programs were emphasised as successful in providing immediate employment opportunities, particularly in industrial areas such as the Kratie town. Agricultural initiatives focused on promoting climate-resilient practices and providing technical training on smart agriculture will bolster local economies and enhance food security, thereby reducing migration. Provincial disaster management committees were noted for improving preparedness and response measures, ultimately reducing displacement. Reforms in public services and social support systems, including updates to IDPoor and the implementation of social insurance schemes, have improved social protection for the poor and strengthened community resilience. These

measures have been regularly integrated into three-year rolling commune development plans to ensure a coordinated and sustained effort in mitigating climate impacts and supporting affected communities.

Subnational governments emphasised the critical need for adequate financial and material resources, enhanced job placement programs, and technical training tailored for climate-resilient agriculture. Community engagement strategies, including comprehensive surveys, public forums and direct participation, were identified as essential in aligning development plans with local knowledge and needs and fostering climate resilience. Furthermore, supporting vulnerable groups through tailored training, promoting safe migration practices, and community initiatives involving the poor, the elderly, people with disabilities and women-headed households was highlighted as a crucial step for promoting inclusiveness. Yet, despite the theoretical alignment with national strategies, the practical implementation of these measures depends on securing sufficient funding and addressing local cultural attitudes towards migration.

Conclusion and policy recommendations

The relationship between climate variability and migration in rural Cambodia is complex. It is evident that rising temperatures and unpredictable seasonal patterns are exerting a considerable influence on the decision-making processes of rural inhabitants, particularly concerning migration. The economic repercussions of climate change, such as the loss of income due to crop failures caused by extreme weather events, are exacerbating these migration patterns. This underscores the urgency of addressing climate-induced migration as a significant socio-economic issue. Given the findings of this study, it is imperative that policies are formulated to bolster the resilience of rural communities, with a focus on gender equality, disability, and social inclusion,

against the adverse effects of climate change and subsequently to reduce migration. The following recommendations are proposed:

At sub-national level:

- *Agricultural training:* Implement targeted training programs at the village level, capitalising on indigenous knowledge and readily available local resources to enhance agricultural resilience. Focus on disseminating small-scale, climate-resilient farming techniques that are tailored for individual farmers and smallholder communities, ensuring practicality and accessibility. Integrate climate-smart agriculture and sustainable farming practices that promote long-term ecosystem health, biodiversity, and soil and water conservation. Additionally, enhance year-round income generation through improved agricultural productivity with effective extension services by commune agriculture officers. This comprehensive approach fosters long-term agricultural health and a thriving ecosystem.
- *Irrigation infrastructure:* Initiate projects to develop and refurbish irrigation systems within communes and districts, aimed at bolstering local agricultural productivity and resilience to climate variability. Strengthen the capacity of community-based water resource management committees to oversee the sustainable use and maintenance of these irrigation systems. Additionally, prioritise building small- and medium-scale water pumping stations utilising integrated solar pumping technology. This will enhance irrigation efficiency and promote sustainable water usage while reducing dependency on traditional energy sources, further supporting agricultural resilience and productivity.
- *Community engagement:* Actively involve community members in both the planning and execution phases of local development projects to foster ownership and ensure alignment with local needs. Set up local committees with representatives from

various community segments to monitor and guide the adaptation strategies, guaranteeing that they are responsive to the unique challenges of their areas. Additionally, establish local agricultural markets to support the sale and distribution of local produce, thereby strengthening the local economy and providing farmers with better access to buyers.

- *Youth's skills building:* Encourage youth, especially those from disadvantaged groups, to join TVET programs to gain skills and knowledge that are demanded by the job market. This not only contributes to their individual growth but also aids in the broader objective of creating a workforce capable of tackling the challenges posed by climate change. Additionally, promote local youth involvement in community development initiatives and establish youth networking platforms to share best practices and mobilise skills resources.

At national level:

- *Policy formulation:* Integrate climate change-induced migration into relevant policies, plans and strategies, particularly those concerning rural development, agriculture and labour. This includes an understanding of how to manage migration caused by climate change and incorporating this knowledge into the existing instruments. Furthermore, incorporate the effects of climate change on migration into Nationally Determined Contributions (NDC) and its Action Plan. Also, enforce policies that promote sustainable agricultural practices, along with providing financial incentives and support for farmers to adopt these practices.
- *Research and development:* Invest in research initiatives focused on understanding the intricate relationship between climate change and migration patterns, with the aim of developing sustainable, long-term adaptation strategies. Engage in partnerships with international organisations to leverage

global expertise and secure additional funding for climate change research and adaptation projects. Additionally, promote research and development in precision agriculture technologies. These innovations can optimise resource use and boost climate resilience. This can involve developing drought-resistant crops alongside precision techniques that minimise environmental impact. As part of these efforts, it is essential to survey and document both local and external resources that can support climate change adaptation and mitigation initiatives, ensuring a comprehensive approach to addressing these challenges.

- *Capacity building*: Enhance the capabilities of national and sub-national governments and community organisations in managing and implementing climate change adaptation projects through continuous training and support. Offer technical assistance and systematic training programs to ensure that local adaptation efforts are coherent with overarching national strategies and objectives.

Implementation guidance:

- Clearly delineate the roles and responsibilities of each governmental tier involved in the execution of policy actions, ensuring clarity and accountability.
- Develop comprehensive step-by-step implementation plans that include detailed timelines, resource allocation, and budgeting to facilitate smooth execution.
- Organise policy dialogues with key stakeholders from both sub-national and national levels to discuss, refine, and gain consensus on these recommendations, fostering a collaborative approach to policy development.

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