Moving to Adapt

Migration and adaptation to environmental stress in the Gandaki, Upper Ganga, Indus and Teesta River Basins
About HI-AWARE

HI-AWARE aims to enhance the adaptive capacities and climate resilience of the poor and vulnerable women, men, and children living in the mountains and flood plains of the Indus, Ganges, and Brahmaputra river basins. It seeks to do this through the development of robust evidence to inform people-centred and gender-inclusive climate change adaptation policies and practices for improving livelihoods.

The HI-AWARE consortium is led by the International Centre for Integrated Mountain Development (ICIMOD). The other consortium members are the Bangladesh Centre for Advanced Studies (BCAS), The Energy and Resources Institute (TERI), the Climate Change, Alternative Energy, and Water Resources Institute of the Pakistan Agricultural Research Council (CAEWRIPARC) and Wageningen Environmental Research (Alterra). For more details see www.hi-aware.org.

This series is based on the work of the Himalayan Adaptation, Water and Resilience (HI-AWARE) consortium under the Collaborative Adaptation Research Initiative in Africa and Asia (CARIAA) with financial support from the UK Government’s Department for International Development and the International Development Research Centre, Ottawa, Canada. CARIAA aims to build the resilience of vulnerable populations and their livelihoods in three climate change hot spots in Africa and Asia. The programme supports collaborative research to inform adaptation policy and practice.

Production team
Nagraj Adve & Samuel Thomas (Editors)
Debabrat Sukla (Communication officer, HI-AWARE)
Mohd Abdul Fahad (Graphic designer)

Photo Credits
Cover: ICIMOD
Photo 2: Nabin Baral, Photo 3: Alex Treadway, Photo 4: Alex Treadway

Copyright © 2018
Himalayan Adaptation, Water and Resilience (HI-AWARE)
All rights reserved. Published 2018

Disclaimer: The views expressed in this work are those of the creators and do not necessarily represent those of the UK Government’s Department for International Development, the International Development Research Centre, Canada or its Board of Governors.

In addition, they are not necessarily attributable to ICIMOD and do not imply the expression of any opinion by ICIMOD concerning the legal status of any country, territory, city or area of its authority, or concerning the delimitation of its frontiers or boundaries, or the endorsement of any product.

Creative Commons License
This brief is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License. Articles appearing in this publication may be freely quoted and reproduced provided that i) the source is acknowledged, ii) the material is not used for commercial purposes, and iii) any adaptations of the material are distributed under the same license.

This publication is available in electronic form at www.hi-aware.org
Key Message

Labour migration in the Hindu Kush Himalaya boosts household adaptive capacities by spreading risk and diversifying livelihoods. It is incumbent on policy makers to make migration more beneficial for people, and to help build household resilience in the face of environmental change. However, migration is a costly and complicated pathway, which is not available to, or feasible for, all households. Thus, other in-situ adaptation options are equally important.
Communities living in the river basins of the Hindu Kush Himalaya (HKH) are increasingly becoming vulnerable to the impacts of climate change. Vulnerabilities are more acute and access to solutions extremely challenging in the mountain and hills due to the mountain specificities. The sedentary bias in development overlooks the important role that human mobility and migration play in the livelihoods of people and societies. Migration has traditionally offered people the opportunity to escape socioeconomic and other pressures in their areas of original habitation, and to diversify livelihoods in ways that make their households less vulnerable in general, and to the impacts of global environmental changes in particular (Piguet 2013).

Labour migration and resulting remittances play an important role in rural livelihood strategies in the face of slow-onset climate change impacts such as desertification, variable rainfall patterns, and temperature changes, by increasing the ability of the households to rely on existing household resources (Tacoli 2011). Recent empirical evidence shows that migration can be a powerful adaptation strategy for populations facing global environmental changes (Black et al. 2011). However, there are gaps in empirical understanding as many studies are limited to single documented events or natural resources, and quantitative studies are limited. Under HI-AWARE, a survey of around 2,000 households in four study basins – Indus, Upper Ganga, Gandaki and Teesta – was conducted in the mountains, hills and plains, to contribute to the empirical literature on the role of migration in household adaptive capacities in the HKH region. We analyzed the adaptive capacity of households in four critical sectors – agriculture, livestock, water, and forests.

The household survey data, covering some 2000 households, forms the major dataset for the analysis. Descriptive statistical tools, supported by field narratives, helped capture the diverse nature of labour migration in upstream, midstream, and downstream areas of the river basins. A causal analysis using regression tools helped to analyse the drivers of household adaptive capacity, including the role of migration.
Major Findings

The survey focused on migration in the HKH and investigated the role that it plays in the adaptive capacities of households in the four river basins under study. The findings revealed that labour migration is an important response measure taken by households to increase their adaptive capacity. However, it is not an option affordable or feasible for all households. Individuals from only about 30% of the roughly 2,000 households surveyed in the study areas were involved in labour migration. This shows that not all are able to or willing to migrate. A higher proportion of households were involved in migration in the mountains as compared to the plain areas. Furthermore, migration is gendered, with women facing much higher barriers in moving than men, a finding similar to that of Gioli et al. (2017).

Consistent with previous findings, the main driver of migration is reported as economic, often associated with better employment opportunities elsewhere. Environmental drivers have weak attribution in the self-reported migration decisions in the study sites, which is also in line with the findings of other published studies. However, a higher proportion of migrant households reported temporary displacement and loss of property to extreme events in the last decade as compared to non-migrant households. It is not clear if these experiences influenced their migration decisions and this needs to be explored further.

An overwhelming majority (91%) of the households perceived changes in climate over the last decade. They reported an increase in annual average temperature, average temperatures in summer, and milder winters. Similarly, they say that there has been a decrease in annual rainfall but also that it has become more erratic. They also report that snowfall in upstream regions has decreased. However, only a limited proportion of households (35% regarding water, 30% for agriculture, 15% regarding livestock and 7% in the forest sector) reported undertaking adaptive response measures to reduce the negative impact of environmental changes. Most response measures undertaken by households are autonomous, with short term benefits, but often detrimental in the long term. Again, there is a distinct difference observed in mountain and plains, with much lesser adaptation in mountainous areas due to the inherent mountain specificities. These findings are similar to that reported by Hussain et al. (2018) in the Koshi River basin, Nepal.

The survey revealed a positive effect of migration in augmenting household adaptive capacity, but is statistically significant only for the agricultural sector. Lower remittances, which are mostly used to meet the household food and non-food consumption requirements, with little savings for investments, could be a reason for non-investment in adaptation measures. Apart from migration, access to external stakeholders, information, and technology are essential for improving the adaptive capacities of households. So, even when households have sufficient remittances, non-availability of adaptation options locally also affects the ability of households to adapt.
Policy Action

Implications: Labour migration has the potential to increase the adaptive capacities of households, provided that the migration outcomes are successful and a range of adaptation options are available locally. Presently, adaptation is mostly autonomous, and more a coping strategy. This affects the adaptive capacities of the households irrespective of their migration status. Also, migration is not an option available to all households due to various barriers to migration.

Recommendations: Policy makers and government agencies need to view migration as a potential entry point for climate change adaptation. Enhancement of labour migration outcomes and institutional support for individual adaptation efforts – with the potential for upscaling in a gender-inclusive manner – can improve the quality of, and benefits from, labour migration.

Conclusion

Labour migration has multiple drivers, with environmental changes adding to the other drivers. Unlike in the case of displacement, it is difficult to attribute labour migration to environmental factors. But labour migration plays a positive role in building household adaptive capacity, particularly in the agricultural sector, which is a key livelihood sector in the study sites. The extent of this positive contribution depends on the successful outcomes of migration and the availability of a range of local adaptation options.

A key message from this study is that households use labour migration as a strategy to spread risks and build their adaptive capacities to various changes, including environmental change. To make labour migration a successful adaptation strategy, there is a need for policy support to improve the outcomes of migration as well as to make adaptation options locally available.
This brief is based on the following HI-AWARE publications:


Additional references:


Contributors: Amina Maharjan1, Abid Hussain1, Suruchi Bhadwal2, Sultan Ishaq4, Basharat Ahmed Saeed5, Ishani Sachdeva6, Bashir Ahmad4, S.M. Tanvir Hassan6, Sabarnee Tuladhar1, Jannatul Ferdous8

For more information, please contact Amina Maharjan at amina.maharjan@icimod.org

---

1 International Centre for Integrated Mountain Development (ICIMOD), Nepal
2 The Energy and Resources Institute, India
3 LEAD, Pakistan
4 Pakistan Agricultural Research Council, Pakistan
5 Centre for Ecology Development and Research (CEDAR), India
6 Bangladesh Centre for Advanced Studies, Bangladesh