



Financial Capability Among Climate-Displaced Households: Financial Access, Adaptive Decision-Making, and Post-Displacement Livelihood Recovery

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Abstract

Climate-related displacement can disrupt household income, employment, productive assets, housing, savings arrangements, social networks, and access to formal financial institutions at the same time that families face unusually high expenditure requirements. Under such circumstances, financial literacy alone provides an incomplete explanation of household recovery because displaced families also require opportunities to act through accessible savings mechanisms, payments infrastructure, affordable credit, insurance, social protection, and secure financial documentation. This study examines financial capability among climate-displaced households through an integrated framework combining financial knowledge, planning behavior, emergency liquidity, formal financial access, and post-displacement financial decision-making.

Because no original household-level field dataset was supplied, the study is explicitly framed as a simulation-based research article and does not present synthetic observations as actual survey evidence. A simulated dataset representing 360 hypothetical climate-displaced households was constructed across four financial-capability categories. The analysis evaluates livelihood recovery within six months, access to formal financial services, emergency-buffer capacity, planning regularity, and reliance on high-cost emergency borrowing. Simulated livelihood recovery increases from 27.78% among low-capability households to 77.78% among high-capability households.

Formal financial access rises from 38.89% to 87.78%, while modeled reliance on high-cost emergency borrowing falls from 52.22% to 14.44%. The findings support a multidimensional interpretation of financial capability in which knowledge and behavioral competence become materially useful only when households retain practical access to financial institutions and resources. The article concludes that climate-displacement policy should integrate financial education with portable identification, transaction accounts, accessible emergency savings, responsible credit, cash-transfer infrastructure, livelihood assistance, and climate-resilient social protection.

Keywords: financial capability, climate displacement, household resilience, financial inclusion, livelihood recovery, emergency savings, disaster displacement, climate vulnerability.



1. Introduction

Climate-related hazards increasingly interact with economic vulnerability, settlement patterns, livelihood dependence, and pre-existing social inequalities to influence human mobility. Climate change should not be treated as a single deterministic cause of displacement because mobility decisions emerge through interactions among environmental, economic, political, social, and demographic conditions. The World Bank's *Groundswell* study nevertheless demonstrated the potential scale of internal climate migration, projecting that climate impacts could contribute to the movement of more than 140 million people within Sub-Saharan Africa, South Asia, and Latin America by 2050 under unfavorable development and climate scenarios.

Displacement produces an immediate financial problem because the location of the household may change while its economic obligations do not disappear. Housing, food, transport, healthcare, education, communication, debt servicing, and livelihood-restoration expenditure can continue or increase even after regular income has been interrupted. Opitz Stapleton, Nadin, Watson, and Kellett emphasize that adequate income, savings, insurance, and borrowing capacity can facilitate adaptation or adjustment following mobility, whereas inadequate resources and household indebtedness can make rebuilding in receiving locations considerably more difficult.

The scale of disaster-related displacement demonstrates why household recovery deserves sustained economic attention. The Internal Displacement Monitoring Centre recorded 24.9 million new disaster displacements across 140 countries and territories during 2019, with floods, monsoon rainfall, tropical storms, and other hazards accounting for major movements in several highly exposed regions. Disaster-displacement statistics should not be interpreted as identical to climate-displacement counts because they also include non-climatic hazards; nevertheless, weather-related hazards constitute a major component of recorded disaster mobility.

Financial capability offers a useful framework for examining how households respond after displacement. Sherraden distinguishes financial capability from financial literacy by arguing that effective financial functioning requires both an ability to act, involving knowledge, skills, confidence, and motivation, and an opportunity to act, involving access to appropriate financial products and services. This distinction is particularly relevant to displaced households because knowing how to budget or save provides limited protection when identification documents are lost, banking facilities are inaccessible, mobile connectivity is disrupted, accounts cannot be reached, or financial products are unsuitable for households with unstable income.

The present study therefore examines financial capability as a post-displacement recovery resource rather than as an isolated measure of financial knowledge. It integrates planning behavior, emergency liquidity, access to formal financial services, and borrowing patterns with a modeled livelihood-recovery outcome. The study is explicitly methodological and simulation based. It does not claim that the numerical patterns reported below were observed among real climate-displaced families. Instead, it develops a transparent empirical architecture that could subsequently be tested using ethically collected household-level data.



2. Objectives of the Study

2.1 To Examine Financial Capability as a Multidimensional Recovery Resource

The first objective is to conceptualize financial capability among climate-displaced households as a combination of knowledge, financial behavior, accessible resources, and institutional opportunity. This approach avoids reducing household recovery to financial literacy alone. A household may understand budgeting principles yet remain unable to act effectively when its income-generating assets have been damaged, its documentation is inaccessible, or formal services are unavailable near the displacement location.

The study therefore evaluates capability through several complementary dimensions: planning regularity, emergency-buffer coverage, access to formal financial services, and capacity to avoid costly coping mechanisms. This multidimensional structure reflects the broader financial-capability literature, which treats financial knowledge and financial inclusion as mutually reinforcing rather than interchangeable conditions.

2.2 To Assess the Relationship Between Financial Capability and Livelihood Recovery

The second objective is to investigate whether stronger household financial capability would be expected to correspond with faster post-displacement livelihood recovery. Recovery is defined here as the household's ability to re-establish a sufficiently stable source of livelihood income within six months after displacement rather than merely receiving temporary emergency assistance.

The analysis also examines whether higher capability corresponds with greater formal financial access, larger emergency buffers, and lower use of high-cost emergency borrowing. These dimensions are important because disaster resilience research indicates that financial inclusion, insurance, savings, adaptive social protection, and other financial instruments can reduce welfare losses and improve households' capacity to respond to shocks.

3. Review of Literature

3.1 Climate Displacement, Livelihood Disruption, and Household Vulnerability

Climate-related mobility is shaped by the interaction between hazards and underlying vulnerability. Opitz Stapleton and colleagues argue that human mobility cannot generally be attributed to one isolated factor because social, economic, political, cultural, and environmental conditions interact to determine both vulnerability and capacity. Their analysis specifically identifies financial resources, access to services, livelihoods, and social networks as factors affecting adaptation, migration, displacement, and recovery.

The financial consequences of displacement can persist after the immediate emergency has ended. Evacuation or relocation may separate households from land, workplaces, productive assets, customers, transportation networks, and community-based forms of economic support. IFRC analysis similarly observes that disaster displacement may create emergency shelter, health, protection, and longer-term recovery needs and may be particularly difficult for already marginalized populations.

The problem is intensified where households experience repeated hazards or slow-onset environmental deterioration. The World Bank's *Groundswell* framework emphasizes that climate-related population movements can emerge through changes in water availability, crop productivity, ecosystem conditions,

and sea-level rise, while development pathways and adaptation measures influence the eventual scale of mobility.

3.2 Financial Capability, Inclusion, and Shock Absorption

Sherraden's financial-capability framework provides the principal conceptual foundation for the present study. Financial capability incorporates individual capacities such as knowledge, skills, motivation, and confidence but adds the institutional opportunity to use secure, affordable, accessible, and appropriate financial products. Low-income and financially vulnerable households therefore require both financial literacy and meaningful financial inclusion.

The OECD/INFE 2020 international survey similarly treats financial resilience as more than financial knowledge. Its framework incorporates the availability of a financial cushion, capacity to cope with financial shortfalls, saving behavior, long-term planning, control over money, expenditure management, and other behaviors associated with financial well-being. The survey covered 26 countries and economies and explicitly linked financial knowledge, behavior, attitudes, inclusion, and resilience.

Formal financial access is particularly relevant after a shock. The World Bank's Global Findex framework tracks account ownership, saving, borrowing, payments, and management of financial risk, while noting that financial accounts can help households manage emergencies such as job losses and crop failures. Such mechanisms can be especially important where displacement separates households from physical savings, property, livestock, or informal credit relationships.

3.3 Disaster Resilience, Financial Resources, and the Remaining Research Gap

Hallegatte, Vogt-Schilb, Bangalore, and Rozenberg argue that the welfare consequences of disasters depend not simply on the monetary value of damaged assets but on the capacity of households to absorb losses and recover. Their *Unbreakable* framework identifies financial inclusion, insurance, social protection, adaptive safety nets, and other risk-management mechanisms as important components of resilience, particularly among poorer populations.

Existing climate-mobility research also indicates that financial resources affect whether households can move safely and rebuild after movement. Opitz Stapleton and colleagues specifically note that income, savings, insurance, and borrowing capacity may support adjustment, whereas indebtedness and inadequate financial resources can constrain recovery at a destination.

A research gap remains between these two literatures. Climate-displacement scholarship often emphasizes mobility drivers, vulnerability, humanitarian protection, and livelihood loss, while financial-capability research commonly studies general household populations rather than families whose financial environment has been radically altered by displacement. The present study bridges these literatures by treating financial capability as a recovery mechanism whose usefulness depends simultaneously on household competence and institutional access.

4. Research Methodology

4.1 Research Design and Analytical Framework

The study adopts a quantitative simulation-based research design. The decision to use simulated observations is an ethical and methodological safeguard: no field dataset involving climate-displaced

households was supplied, and hypothetical records must therefore not be presented as actual respondent evidence. A synthetic sample of 360 households was constructed solely to illustrate how a future empirical investigation could operationalize the proposed relationships.

The simulated households are divided into four financial-capability groups containing 90 observations each: low capability, emerging capability, moderate capability, and high capability. Financial capability is treated as a composite construct incorporating planning competence, emergency financial reserves, access to formal financial institutions, and capacity to avoid financially damaging coping strategies.

Table 1: Proposed Measurement Framework for Financial Capability and Recovery

Construct	Operational Meaning	Measurement	Analytical Role
Financial capability	Composite ability and opportunity to manage finances after displacement	0–100 index	Primary explanatory construct
Formal financial access	Ability to access a regulated bank, mobile-money, savings, payment, or equivalent formal account	Binary	Institutional-capability indicator
Emergency-buffer capacity	Number of months of essential household expenditure covered by readily accessible resources	Months	Liquidity indicator
Planning regularity	Frequency and consistency of budgeting and forward financial planning	1–5 scale	Behavioral indicator
High-cost emergency borrowing	Reliance on comparatively expensive emergency credit after displacement	Binary	Financial-stress outcome
Livelihood recovery	Re-establishment of sufficiently stable livelihood income within six months	Binary	Primary outcome

The framework deliberately avoids defining capability exclusively through possession of a bank account. Account ownership is valuable only when households can practically access, understand, and use the account. Similarly, knowledge scores alone cannot establish whether displaced households have sufficient opportunity to translate knowledge into protective financial action.

4.2 Proposed Household Survey and Data-Collection Procedure

A future empirical investigation should ideally use longitudinal data beginning soon after displacement and continuing through the recovery period. Households could be interviewed at baseline and again after three, six, and twelve months. Where informed consent and data-protection requirements permit, survey

responses could be combined with humanitarian cash-transfer records, mobile-money histories, livelihood-program participation, or anonymized financial transaction indicators.

Exactly five central questionnaire questions are proposed and have not been administered. Q1 would ask: “If your household experienced an unexpected financial need today, for how long could readily accessible resources cover essential expenses?” Q2 would ask: “Since displacement, have you been able to access and use a formal bank, mobile-money, savings, or payment account when needed?” Q3 would ask: “How regularly does your household prepare or revise a spending plan based on current income and essential expenses?” Q4 would ask: “Since displacement, has your household needed to use high-cost borrowing, distress asset sales, or similarly expensive financial coping strategies to meet essential needs?” Q5 would ask: “Has your household re-established a sufficiently stable source of livelihood income within six months of displacement?”

Empirical implementation should additionally collect displacement cause, displacement duration, pre-displacement income, asset losses, household composition, livelihood type, education, gender of the principal financial decision-maker where analytically justified, access to humanitarian assistance, social protection, geographic accessibility, identification-document status, mobile connectivity, insurance coverage, and repeated hazard exposure. These variables would permit the researcher to distinguish financial capability from structural differences in vulnerability.

4.3 Simulation Procedure and Statistical Strategy

A fixed random seed was used to construct 360 synthetic observations. Capability groups were assigned progressively stronger planning scores, emergency-buffer capacity, and formal financial access. Modeled high-cost emergency borrowing decreased as capability increased, while livelihood recovery increased. Random variation was retained in continuous variables so that the simulated households did not follow identical trajectories.

The analysis uses descriptive percentages and group comparisons rather than treating simulation-generated significance tests as real empirical evidence. A future field study could use logistic regression for six-month livelihood recovery, survival analysis for time to livelihood re-establishment, multilevel models for households nested within displacement locations, and longitudinal fixed-effects models where repeated observations are available.

5. Analysis

5.1 Financial Capability and Access to Post-Displacement Financial Resources

The simulated dataset shows a pronounced difference in formal financial access across capability categories. Only 38.89% of households in the low-capability group retain effective formal access, compared with 56.67% in the emerging group, 73.33% in the moderate group, and 87.78% in the high-capability group.

This pattern illustrates the “opportunity to act” dimension of financial capability. A displaced household may possess knowledge of saving, budgeting, or credit management but still experience severe constraints if it cannot receive transfers, withdraw savings, make secure payments, or establish a transaction history. The interpretation is consistent with Sherraden's distinction between financial competence and institutional opportunity.

Emergency-buffer capacity also rises substantially across the four synthetic groups. Low-capability households possess an average of only 0.48 months of essential expenditure coverage, while high-capability households average 2.30 months. The difference provides considerably more time for livelihood reconstruction before a household must adopt potentially damaging emergency responses.

Table 2: Simulated Financial and Recovery Outcomes by Household Financial Capability

Financial Capability Group	Simulation	Mean Capability Score	Livelihood Recovery Within 6 Months (%)	Formal Financial Access (%)	High-Cost Emergency Borrowing (%)	Mean Emergency Buffer (Months)	Mean Planning Score
Low capability	90	30.03	27.78	38.89	52.22	0.48	1.86
Emerging capability	90	45.63	43.33	56.67	38.89	0.81	2.74
Moderate capability	90	62.19	61.11	73.33	25.56	1.47	3.52
High capability	90	79.10	77.78	87.78	14.44	2.30	4.20

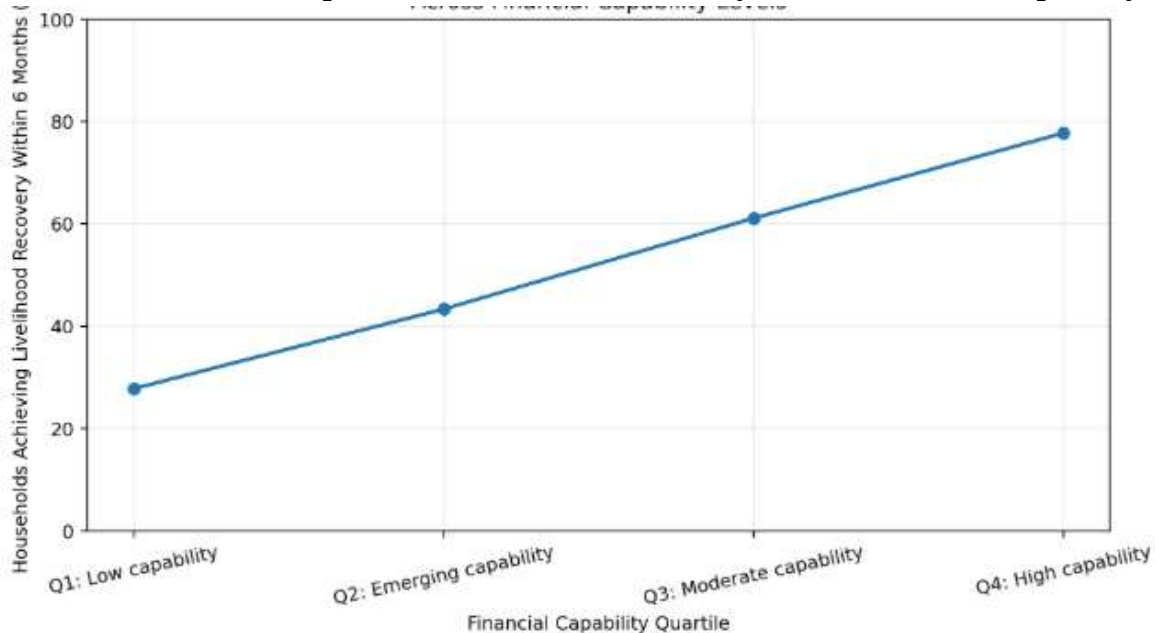
The decline in high-cost borrowing is particularly important. More than half of the low-capability synthetic households resort to expensive emergency credit, compared with only 14.44% of high-capability households. In real settings, the causal mechanism would require careful testing because households with higher pre-displacement income and wealth may simultaneously possess stronger capability and greater access to affordable finance.

5.2 Financial Capability and Six-Month Livelihood Recovery

The primary modeled outcome shows a clear upward gradient. Six-month livelihood recovery is 27.78% in the low-capability group, 43.33% among emerging-capability households, 61.11% in the moderate group, and 77.78% among high-capability households.

Graph 1 presents this progression directly.

Graph 1: Simulated Post-Displacement Livelihood Recovery Across Financial Capability Levels



The graph shows a 50-percentage-point difference between the lowest and highest capability categories. This difference is not an empirical effect size. It represents a theoretically structured pattern designed to demonstrate the type of association that subsequent field research should test.

The gradient is nevertheless substantively plausible because financial capability may influence several stages of recovery simultaneously. Households with accessible reserves can finance transportation, deposits, tools, inventory, communications, licensing, or other livelihood-restart costs. Formal accounts may allow receipt of remittances and cash transfers, while regular planning may help households distinguish temporary emergency expenditure from spending required to rebuild income-generating capacity.

5.3 High-Cost Coping and the Risk of Prolonged Financial Vulnerability

The simulated results suggest that weaker capability may create a reinforcing cycle of vulnerability. Households with minimal financial buffers are more likely to borrow under emergency conditions. Repayment obligations then compete with expenditure required for livelihood restoration, potentially extending the period of dependence on assistance or unstable employment.

Disaster-resilience research provides a broader theoretical rationale for this interpretation. Hallegatte and colleagues emphasize that poor households can experience disproportionate welfare effects from disasters because limited savings, insurance, financial inclusion, and social protection weaken their capacity to smooth consumption and recover from losses.

The analysis therefore suggests that capability should be assessed both before and after displacement. Pre-displacement capability influences preparedness, while post-displacement capability can deteriorate when documentation, institutions, savings, communications, and social networks are disrupted. Financial capability should consequently be viewed as dynamic rather than as a permanent household trait.

6. Discussion

6.1 Financial Capability Must Extend Beyond Financial Literacy

The principal theoretical contribution of the study is the application of a capability perspective to climate displacement. Financial-literacy interventions commonly focus on knowledge concerning budgeting, saving, interest, borrowing, and financial risk. Such knowledge remains valuable, but displacement can create conditions in which households understand appropriate financial behavior yet lack the resources or institutional opportunities necessary to practice it.

Sherraden's distinction between ability and opportunity becomes especially important in this context. A household may know that emergency saving is desirable while having lost income and assets. It may understand the advantages of formal credit while being unable to document residence or employment. It may know how to use digital payments while having no device, electricity, connectivity, or access credentials. Financial capability must therefore include the functioning environment in which decisions are made.

This perspective also avoids placing disproportionate responsibility on displaced households themselves. Financial vulnerability following a cyclone, flood, drought-related livelihood collapse, or other climate-linked event cannot credibly be interpreted as a simple failure of budgeting. Individual financial behavior operates within structural constraints involving income opportunities, service availability, housing markets, public assistance, infrastructure, and disaster exposure.

6.2 Financial Inclusion as Recovery Infrastructure

The second major implication is that formal financial access should be treated as part of displacement-recovery infrastructure. Bank and mobile-money accounts can potentially provide mechanisms for receiving humanitarian cash, government transfers, remittances, wages, insurance payouts, or emergency credit without requiring households to remain physically close to a pre-displacement financial institution. World Bank financial-inclusion work similarly emphasizes the role of accounts in saving, payments, borrowing, and managing economic emergencies.

Accessibility, however, should not be confused with nominal account ownership. A dormant account that cannot be reached because of lost identification, changed telephone numbers, unavailable network coverage, authentication failure, or geographic distance provides limited resilience. Post-displacement programs should therefore consider continuity of financial identity, portability of accounts, secure recovery of credentials, and multiple mechanisms for accessing assistance.

Digital finance can improve portability, but it can also create new exclusions if assistance presumes device ownership, digital literacy, uninterrupted connectivity, or control over a registered telephone number. Financial inclusion strategies should consequently preserve alternative channels for households who cannot immediately use digital services.

6.3 Implications for Climate Adaptation, Humanitarian Assistance, and Social Protection

Climate adaptation and financial-capability policies are frequently developed in separate institutional domains, yet the present framework suggests substantial overlap. Financial capability can influence whether households prepare for anticipated hazards, preserve liquid savings, insure assets where

appropriate products exist, receive early cash support, manage relocation expenditure, and restart livelihoods after displacement.

Hallegatte and colleagues argue for resilience strategies that combine financial inclusion with insurance, social protection, adaptive safety nets, and broader disaster-risk management. This combination is particularly relevant for climate-displaced households because financial education cannot substitute for timely income support where households have lost their principal livelihood.

Humanitarian programs should therefore consider financial-capability restoration as part of recovery rather than as an optional educational activity delivered after emergency needs are met. Appropriate interventions may include assistance with financial-document recovery, safe access to cash transfers, low-cost transaction accounts, mechanisms for rebuilding emergency reserves, debt counseling, transparent responsible credit, livelihood grants, and referral to social-protection systems.

At the policy level, the objective should be to prevent displacement from converting a temporary livelihood interruption into long-term financial exclusion. Recovery systems that preserve access to payments, savings, identification, insurance, credit, and social protection can increase the range of choices available to households. That expanded choice is central to the capability approach adopted in this study.

7. Conclusion

Climate-related displacement can expose households to a combination of income loss, asset disruption, relocation expenditure, weakened social networks, and reduced access to financial institutions. These pressures make household financial capability an important but underdeveloped dimension of climate-resilience research. The central argument of this study is that financial capability should not be reduced to financial literacy. Effective capability requires both the ability to make informed financial decisions and a practical opportunity to act on those decisions.

The simulation-based analysis demonstrates how this proposition could be tested empirically. Across 360 synthetic household observations, stronger capability is associated with progressively higher six-month livelihood recovery, greater formal financial access, larger emergency buffers, more regular planning, and lower reliance on high-cost emergency borrowing. Six-month livelihood recovery increases from 27.78% in the low-capability group to 77.78% in the high-capability group, while high-cost emergency borrowing falls from 52.22% to 14.44%. These differences are methodological illustrations rather than observed population estimates.

Future research should validate the framework through longitudinal studies of households displaced by floods, cyclones, coastal hazards, drought-related livelihood deterioration, and other clearly specified climate-linked processes. Researchers should distinguish temporary evacuation from prolonged displacement and should avoid assuming that all disaster displacement is directly attributable to anthropogenic climate change. Data collection should incorporate pre-displacement resources, asset losses, humanitarian assistance, financial inclusion, livelihood characteristics, household composition, repeated exposure, and local labor-market conditions.

The broader policy implication is that climate resilience requires financial systems capable of moving with people. Households should not lose access to their economic identity merely because they have been forced to leave a place. Portable and secure financial access, emergency liquidity, responsible



credit, adaptive social protection, timely cash assistance, and opportunities to restore livelihoods can help transform financial knowledge into genuine capacity for recovery. Financial capability should therefore be treated as one component of an integrated climate-displacement response rather than as an isolated educational intervention.

References

1. Black, R., Bennett, S. R. G., Thomas, S. M., & Beddington, J. R. (2011). Migration as adaptation. *Nature*, 478, 447–449.
2. Adger, W. N., Arnell, N. W., & Tompkins, E. L. (2005). Successful adaptation to climate change across scales. *Global Environmental Change*, 15(2), 77–86.
3. McLeman, R., & Smit, B. (2006). Migration as an adaptation to climate change. *Climatic Change*, 76, 31–53.
4. Foresight. (2011). *Migration and Global Environmental Change: Future Challenges and Opportunities*. Government Office for Science, London.
5. Tacoli, C. (2009). Crisis or adaptation? Migration and climate change in a context of high mobility. *Environment and Urbanization*, 21(2), 513–525.
6. Cattaneo, C., Beine, M., Fröhlich, C. J., Kniveton, D., Martinez-Zarzoso, I., Mastrorillo, M., Millock, K., Piguet, E., & Schraven, B. (2019). Human migration in the era of climate change. *Review of Environmental Economics and Policy*, 13(2), 189–206.
7. Black, R., Arnell, N. W., Adger, W. N., Thomas, D., & Geddes, A. (2013). Migration, immobility and displacement outcomes following extreme events. *Environmental Science & Policy*, 27, S32–S43.
8. Nawrotzki, R. J., Riosmena, F., & Hunter, L. M. (2013). Do rainfall deficits predict U.S.-bound migration from rural Mexico? Evidence from the Mexican Census. *Population and Environment*, 34, 347–374.
9. Gray, C., & Mueller, V. (2012). Natural disasters and population mobility in Bangladesh. *Proceedings of the National Academy of Sciences*, 109(16), 6000–6005.
10. Warner, K., Afifi, T., Henry, K., Rawe, T., Smith, C., & de Sherbinin, A. (2012). *Where the Rain Falls: Climate Change, Food and Livelihood Security, and Migration*. United Nations University.
11. Ahsan, M. N., & Warner, J. (2014). The socioeconomic vulnerability of disaster-affected people in coastal Bangladesh. *Natural Hazards*, 71, 181–204.
12. Etzold, B., Ahmed, A. U., Hassan, S. R., & Neelormi, S. (2014). Clouds gather in the sky, but no rain falls: Vulnerability to rainfall variability and food insecurity in coastal Bangladesh and migration as a coping strategy. *Climate and Development*, 6(2), 105–118.
13. Melde, S. (2015). *The State of Environmental Migration 2014: A Review of 2014*. International Organization for Migration.
14. Cissé, M., & Barrett, C. B. (2018). Estimating the effects of climate change on household income and migration decisions. *World Development*.
15. Banerjee, O., et al. (2020). Climate risk, vulnerability and resilience: Supporting livelihood of smallholders in semiarid India. *Land Use Policy*, 97, 104729. The study specifically identifies borrowing capacity and liquidity as important components of household resilience.



16. Maharjan, A., et al. (2020). Migration and household adaptation in climate-sensitive hotspots in South Asia. *Current Climate Change Reports*, 6, 1–14. The research covers Nepal, India, Bangladesh and Pakistan and links migration, remittances, credit access and household livelihood resilience.
17. Khandker, S. R., & Mahmud, W. (2012). *Poverty and Income Shocks in Rural Bangladesh*. World Bank.
18. Bharadwaj, P., Gibson, J., & Richaud, A. (2022). Coping with shocks: How self-help groups impact food security and seasonal migration. *World Development*, 155, 105892. The study finds that SHGs provide robust credit during weather shocks and help households manage income shocks through credit and migration.
19. Hossain, B., Shi, G., Ajiang, C., Sarker, M. N. I., Sohel, M. S., Sun, Z., & Yang, Q. (2022). Climate change induced human displacement in Bangladesh: Implications on the livelihood of displaced riverine island dwellers and their adaptation strategies. *Frontiers in Psychology*, 13, 964648.
20. Bharadwaj, R., Raj, N., Karthikeyan, N., Shanker, R., Topno, J., & Kaur, D. (2022). *Social Protection and Informal Job Market Reform for Tackling Climate Migration Nexus*. International Institute for Environment and Development (IIED). The study examines climate impacts, social protection, financial vulnerability and distress migration in India.