The Vulnerability Gap: How people affected by climate change perceive their circumstances and make (risky) migration decisions

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Abstract

Climate change has disproportionate effects on the most disadvantaged communities and households, but the ways in which individuals and households respond to extreme weather events is not yet fully clear. This paper uses the adaptive preferences framework to better understand decision-making processes among individuals and households struggling to cope with the effects of extreme weather events. Drawing on 755 household surveys and 74 qualitative engagements, it argues that, as climate change limits livelihood options, individuals and households make conscious decisions to undertake risky migration. Climate limits current earnings, pushes households to sell productive assets, and erodes community infrastructure; in doing so, it constrains individual and household well-being. In response to these increasing limitations, individuals and households consciously accept the risks associated with migration journeys to access potential short- and long-term benefits. Specific groups, including women, face potentially more damaging adaptive preferences due to pre-existing structural and cultural barriers such as lower literacy and levels of documentation. While government investments to support climate adaptation are partially successful, they do not fully reach the most vulnerable populations. Government actors must develop a better understanding of the choices faced by disadvantaged households, and create flexible risk mitigation measures on long-term initiatives that are already trusted by communities. The paper concludes that adoption of the adaptive preferences framework by policymakers can improve the effectiveness of programmes designed to support climate adaptation and reduce vulnerability.

Keywords: climate change, human trafficking, vulnerability, exploitation, forced labour, Ethiopia, Philippines

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Introduction

Extreme weather events caused by climate change disproportionately affect marginalised communities.[1] They not only cause physical damage, including death, injury, and destruction of property, but also reduce longer-term economic resilience by eroding income sources.[2] Individuals and households in disadvantaged communities affected by climate change adopt a range of coping mechanisms, including risky migration and acceptance of exploitative labour.[3] The specific ways in which climate change affects the choices facing households, how households make decisions, and their subsequent vulnerability to trafficking are not yet fully understood.[4] Government and international actors have taken a range of policy and programme measures to support climate adaptation and protect the most vulnerable populations; the effectiveness of these interventions is likely to improve if individual and household decisions about risky migration are better understood.[5]

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1 D Council, G Meagher, and Leah Cabrera, *Risk and Resilience: How Weather-related Disasters Impact Economically Marginalised Communities*, Community and Economic Development Discussion Paper 2024–2, Federal Reserve Bank of Atlanta, 2024, https://doi.org/10.29338/dp2024-02; H-O Pörtner *et al.* (eds.), *Climate Change 2022 – Impacts, Adaptation and Vulnerability*, Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, Cambridge University Press, 2023, https://doi.org/10.1017/9781009325844.

2 *Ibid.*; R Newman and I Noy, 'The Global Costs of Extreme Weather that are Attributable to Climate Change', *Nature Communications*, vol. 14, issue 1, 2023, https://doi.org/10.1038/s41467-023-41888-1.

3 S Coelho, *The Climate Change–Human Trafficking Nexus*, International Organisation for Migration, 2016, https://publications.iom.int/system/files/pdf/mecc_infosheet_climate_change_nexus.pdf; S N Nazrul Islam and J Winkel, *Climate Change and Social Inequality*, Department of Economic & Social Affairs (DESA) Working Paper No. 152, October 2017, https://www.un.org/esa/desa/papers/2017/wp152_2017.pdf; S Hagan *et al.*, 'Climate Change Impacts and Mental Health in Poor Urban Coastal Communities in Ghana', *PLOS Mental Health*, vol. 2, issue 4, 2025, pp. e0000284, https://doi.org/10.1371/journal.pmen.0000284.

4 N Molinari, 'Intensifying Insecurities: The Impact of Climate Change on Vulnerability to Human Trafficking in the Indian Sundarbans', *Anti-Trafficking Review*, issue 8, 2017, pp. 50–69, https://doi.org/10.14197/atr.20121784.

5 M Mukherjee and S Fransen, 'Exploring Migration Decision Making and Agricultural Adaptation in the Context of Climate Change: A Systematic Review', *Development*

Migration scholarship presents several differing viewpoints on the relationship between climate and human trafficking. While some argue that climate factors play a critical role in migration decisions,[6] others state that the relationship between climate and migration is exaggerated.[7] Discrepancies between different academic arguments arise, in large part, from the diversity and multi-dimensionality of migration decisions: decisions to migrate consist not of a simple risk-benefit trade-off made at an individual level, but of individual, household, and community perceptions of financial, social, and other rewards both now and in the future.[8]

Climate factors affect this complex calculus, in large part, by shifting individual and household perceptions of short- and long-term risk and reward. This paper analyses the migration decisions taken by households affected by extreme weather events using an adaptive preferences framework.[9] Climate factors may create a context in which individuals and households take migration decisions

Review, vol. 179, 2024, pp. 106600, https://doi.org/10.1016/j.worlddev.2024.106600; S Marchiosio, G G Nucera, and F Negozio, *Tackling Climate Migration and Human Rights in Tandem: A Policy Agenda*, HABITABLE, 2023, retrieved 9 September 2025, https://habitableproject.org/wp-content/uploads/2024/02/HABITABLE-D6.1-WP6-POLICY-BRIEF-UNIROMA1.pdf.

6 F Sultana (ed.), *Confronting Climate Coloniality: Decolonising Pathways for Climate Justice*, Routledge, London, 2024; F Sultana, 'Critical Climate Justice', *The Geographical Journal*, vol. 188, issue 1, 2022, pp. 118–124, https://doi.org/10.1111/geoj.12417; R E Luft, 'Racialised Disaster Patriarchy: An Intersectional Model for Understanding Disaster Ten Years after Hurricane Katrina', *Feminist Formations*, vol. 28, issue 2, 2016, pp. 1–26, https://doi.org/10.1353/ff.2016.0023; R Hoffman, B Šedová, and K Vinke, 'Improving the Evidence Base: A Methodological Review of the Quantitative Migration Literature', *Global Environmental Change*, vol. 71, 2021, pp. 102367, https://doi.org/10.1016/j.gloenvcha.2021.102367.

7 A Parr, *Making the Important Urgent: Can Climate Migration Light up the Slow-burn Politics of the Climate Emergency?*, University of Oxford, Smith School of Enterprise and the Environment, 2022; H de Haas, *How Migration Really Works: 22 Things You Need to Know about the Most Divisive Issue in Politics*, Penguin Books, 2023; A İçduygu and H Gören, 'Exploring Temporal and Topical Dynamics of Research on Climate/Environment-Migration Nexus: A Critical Comparative Perspective', *Migration Studies*, vol. 11, issue 4, 2023, pp. 572–597, https://doi.org/10.1093/migration/mnad021.

8 S Vezzoli, L M Kureková, and K Schewel, *Researching Decisions to Stay and Migrate: A Temporal Multilevel Analysis Framework*, Working Paper No. 178/PACES Project Working Paper No. 1, International Migration Institute, 2024; J Hagen-Zanker, G Hennessey, and C Mazzilli, 'Subjective and Intangible Factors in Migration Decision Making: A Review of Side-Lined Literature', *Migration Studies*, vol. 11, issue 2, 2023, pp. 349–359, https://doi.org/10.1093/migration/mnad003.

9 S J Khader, *Adaptive Preferences and Women's Empowerment*, Oxford University Press, Oxford, 2011.

that they recognise as risky.[10] These decisions may expose individual migrants to exploitation, but they also reflect a choice made in constrained circumstances, designed to improve the household wellbeing.[11] The paper draws on quantitative and qualitative data collected from households particularly affected by climate change in Ethiopia and the Philippines; it examines their perceptions of short- and long-term risks and rewards to capture how risk assessments by would-be migrants are shifting in a heating world.

In the next section, we provide a review of climate change and its linkages to human trafficking in Ethiopia and the Philippines and the framework for the data analysis through social justice and adaptive preferences. We then outline our methodology for gathering empirical data from 755 household surveys and 72 qualitative engagements. The Findings section details how households decide to migrate, despite awareness of risks of exploitation, to make proactive decisions in circumstances with limited options. We conclude that community and national level actors need to understand the choices facing households in order to leverage existing policies and infrastructures to minimise risks.

Context

This paper examines the relationship between climate and household migration decisions in Ethiopia and the Philippines. The two countries have been selected for this research because they have some notable similarities—but also provide some interesting opportunities for contrast and comparison. In terms of similarities, climate change has resulted in more frequent extreme weather events in both countries, with a particularly strong impact on communities and small-scale farming. In addition, both countries have strong traditions of migration and benefit from international remittances. Furthermore, both have sent significant numbers of migrants to Persian Gulf countries, specifically from the communities targeted for this research—meaning that experiences in destination countries are similar. In terms of contrasts, communities in the Philippines are primarily negatively affected by sudden onset events such as typhoons, while communities in Ethiopia are primarily negatively affected by slow onset events such as droughts. Furthermore, the Philippines has a long tradition of protections for migrant

[10] Coelho; Islam and Winkel; Hagan *et al.*

[11] R Bharadwaj *et al.*, *Climate Change, Migration and Vulnerability to Trafficking*, Working Paper, International Institute for Environment and Development, 2022, retrieved 19 June 2025, https://www.preventionweb.net/publication/report-climate-change-migration-and-vulnerability-trafficking.

workers that have developed over time,[12] whereas the Ethiopian legal framework for supporting migrant workers is much more recent.[13]

Ethiopia: Climate change is a major concern for Ethiopia,[14] which is particularly affected by drought-related extreme weather events, such as heat, irregular rainfall, and floodings when the dry soil is unable to absorb rainwater. This extreme weather has become more pronounced over the last decades: since 1960, the number of unusually hot days has increased by 20% due to lack of rainfall.[15] As a predominately agrarian country, the changing and increasingly erratic weather has severe consequences for communities across Ethiopia, as farmers can no longer rely on rainfall patterns and risk losing entire yields—and with them their means to sustain a living.[16]

International migration in Ethiopia takes place primarily through four main routes: intra-regionally, to Persian Gulf countries (e.g. Saudi Arabia, Oman, the UAE), to Europe, and to southern Africa.[17] The individuals and communities targeted in our survey had strong migration links to Gulf countries. Migration takes place, in general, through personalised networks, with facilitators organising irregular journeys over land (both via foot and via vehicle) and over the Gulf of Aden.[18]

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12 A Ang and E R Tiongson, 'Philippine Migration Journey: Processes and Programs in the Migration Life Cycle', Background Paper to *World Development Report 2023: Migrants, Refugees, and Societies*, World Bank, 2023, pp. 1–19; G Battistella, 'Multi-level Policy Approach in the Governance of Labour Migration: Considerations From the Philippine Experience', *Asian Journal of Social Science*, vol. 40, issue 4, 2012, pp. 419–446, https://doi.org/10.1163/15685314-12341243; International Organization for Migration (IOM), *Migration Governance Profile: Republic of the Philippines*, IOM, 2018.

13 M Dank *et al.*, *Balancing Hopes and Fears: Experiences of Women Intending to Migrate to the Kingdom of Saudi Arabia under the New Ethiopian Government Scheme*, Freedom Fund, 2025.

14 World Bank, *Climate Risk Country Profile – Ethiopia*, 2021.

15 *Ibid.*

16 UN Environmental Programme, *Ethiopia Interactive Country Fiches: Climate Change,* n.d., retrieved 19 June 2025, https://dicf.unepgrid.ch/ethiopia/climate-change.

17 M Aderoh *et al.*, *A Region on the Move: East and Horn of Africa*, IOM, 2022.

18 J Busza *et al.*, 'Accidental Traffickers: Qualitative Findings on Labour Recruitment in Ethiopia', *Global Health*, vol. 19, 2023, https://doi.org/10.1186/s12992-023-01005-9; Aderoh *et al.*; L Moton *et al.*, 'Ethiopian Domestic Workers and Exploitative Labour in the Middle East: The Role of Social Networks and Gender in Migration Decisions', *Anti-Trafficking Review*, issue 24, 2025, pp. 57–76, https://doi.org/10.14197/atr.201225244.

Women take on primarily domestic work, and men often work in construction or production in the irregular economy.[19]

Philippines: Climate change is an equally severe concern for the Philippines, though due to a different set of extreme weather events: rising sea levels, rising sea temperatures, and an increase in the frequency and intensity of typhoons.[20] Today, the Philippines already have an annual average of twenty typhoons, and with climate change progressing, this number is expected to rise even further.[21] While agriculture is no longer the largest sector of the Philippines' economy, it is still a substantial sector and the one particularly prone to poverty.[22] Bad harvests and dwindling fish catches caused by climate change and related loss of marine biodiversity thus exacerbate existing economic hardship.[23]

Migration trends out of the Philippines are diverse, with primary destination countries for regular migrants including the US, Canada, Saudi Arabia, and the UAE.[24] Migration takes place, for the most part, through formal routes;

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19 M Dessiye and G Emirie, 'Living and Working as a Domestic Worker in the Middle East: The Experience of Migrant Returnees in Girana Town, North Wollo, Ethiopia', *African and Black Diaspora: An International Journal*, vol. 11, issue 1, 2018, pp. 69–86, https://doi.org/10.1080/17528631.2017.1342984; B Fernandez, *Migrant Domestic Workers: Migrant Agency and Social Change*, *Mobility and Politics*, Palgrave Macmillan, Cham, 2020; Moton *et al*., 2025; L Moton *et al*., *'They Don't Give You Accurate Information about Anything.' Pre-Migration Experiences of Ethiopian Migrant Domestic Workers*, Freedom Fund, London, 2024; Z Shewamene *et al*., 'Migrant Women's Health and Safety: Why Do Ethiopian Women Choose Irregular Migration to the Middle East for Domestic Work?', *International Journal of Environmental Research and Public Health*, vol. 19, issue 20, 2022, pp. 13085, https://doi.org/10.3390/ijerph192013085.

20 World Bank, *Climate Risk Country Profile – Philippines*, 2021.

21 H L Sapigao, 'More Intense Typhoons to Come this Century', *University of the Philippines Diliman*, 15 December 2023, https://science.upd.edu.ph/more-intense-typhoons-to-come-this-century-up-study-warns.

22 Food and Agricultural Organization of the United Nations (FAO), 'Country Profile Philippines', n.d., https://www.fao.org/countryprofiles/index/en/?iso3=PHL.

23 R D Tchonkuang, H Onyeaka, and H Nkoutchou, 'Assessing the Vulnerability of Food Supply Chains to Climate Change-induced Disruptions', *Science of the Total Environment*, vol. 920, 2024, pp. 171047, https://doi.org/10.1016/j.scitotenv.2024.171047; J E Cinner *et al*., 'Potential Impacts of Climate Change on Agriculture and Fisheries Production in 72 Tropical Coastal Communities', *Nature Communications*, vol. 13, 2022, pp. 3530, https://doi.org/10.1038/s41467-022-30991-4.

24 M M B Asis, 'The Philippines: Beyond Labor Migration, Toward Development and (Possibly) Return', *Migration Policy Institute*, 12 July 2017, https://www.migrationpolicy.org/article/philippines-beyond-labor-migration-toward-development-and-possibly-return; A D Tabuga, M L S Baiño, and A R P Vargas, *Analyzing the Characteristics of*

recruitment agents are registered with the government.[25] Where irregular migration takes place, it is often through unregistered recruitment agents.[26] However, even registered recruitment agents may link people to exploitative jobs.[27]

Adaptive Preferences as a Framework for Understanding Decision Making

Marginalised communities, households, and individuals in Ethiopia and the Philippines face a situation in which climate change and associated extreme weather events steadily erode their productivity and their asset base. In addition, climate change exacerbates existing inequalities within a society over time,[28] thus perpetuating a vicious cycle of harm. The effects of climate change on marginalised communities are so strong and so harmful that scholars have described climate change as a key vector exacerbating social inequalities and colonial injustices.[29] Therefore, the reactions of households and individuals to climate change can be analysed through lenses used to describe decision-making processes in the context of oppression and marginalisation.

Households and individuals facing oppression and marginalisation experience a struggle between their limited capabilities and their capacity to act. Climate change effectively restricts capabilities and opportunities available to the most marginalised populations in three ways: first, disadvantaged groups are more exposed to extreme weather events associated with climate change; for example, they are more likely to be located in areas which are more exposed to the effects of climate change (e.g. landslides, floods, etc.). Second, they are likely to be more susceptible to the effects of climate change; for example, they are reliant on subsistence agriculture whose yields decline due to climate change. Third, they are likely to have fewer resources to cope and recover, particularly financial resources.[30] As successive weather events affect disadvantaged communities, ability to cope is eroded as earnings reduce, assets are sold, and communal infrastructure is not maintained. This can be described as offering individuals and households a steadily decreasing set of capabilities. Despite this restriction in capabilities, households

International Migration in the Philippines Using the 2018 National Migration Survey, Philippine Institute for Development Studies Discussion Paper Series, issue 40, 2021.

25 *Ibid.*

26 L H Siruno, *Agents of Human Development? The Strategies of (Irregular) Filipino Migrant Domestic Workers in the Netherlands and the United Kingdom,* Doctoral Thesis, Maastricht University, June 2025, https://doi.org/10.26481/dis.20250603ls.

27 D R Agunias, *Running in Circles: Progress and Challenges in Regulating Recruitment of Filipino and Sri Lankan Labor Migrants to Jordan*, Migration Policy Centre, 2011; Siruno.

28 Islam and Winkel.

29 Sultana, 2024; Sultana, 2022; Luft.

30 Islam and Winkel.

and individuals nonetheless have capacity to make decisions; for example, there are indications that households experiencing the effects of climate change are more likely to accept hazardous work, to migrate using risky routes as a coping strategy, and to accept situations of bonded labour.[31]

The tension between steadily reducing options and individual capacity to make decisions can be described by the concept of adaptive preferences. This framework helps to identify and analyse preferences that are shaped by oppressive circumstances, while respecting individuals' desire and need to make choices and act. There are three criteria for adaptive preferences: (1) that preferences are formed under circumstances that are not conducive to flourishing; (2) that preferences are inconsistent to basic flourishing; and (3) that preferences would not persist under other (flourishing-conducive) conditions. This paper examines the degree to which the three criteria for adaptive preferences were present in climate change-affected communities in Ethiopia and the Philippines.

Methods

This paper draws on data collected by Meraki Lab and Amador Research Services[32] for a research project commissioned by the International Organization for Migration (IOM) and funded by the United Kingdom's Home Office, aiming to explore the extent to which the impact of climate on livelihoods had effects for trafficking. The research adopted an exploratory mixed-methods approach revolving around two case studies complemented by a desk review comprising both academic and grey literature. This approach was adopted to produce a more nuanced analysis that supports pragmatic transformation.[33] Quantitative survey data provided insights into the prevalence of some specific trends and perceptions (e.g. income trends, women's literacy, or perceptions of the degree to which climate affected agricultural

[31] B Jackson, *Climate Change, Migration and Human Trafficking: Assessing the Impact of Climate Change, Migration and Human Trafficking Risks for Populations in the Bangladesh and India Sundarbans*, University of Nottingham Rights Lab, Nottingham, 2023; Bharadwaj *et al.*

[32] Meraki Labs is a women-owned research business focusing on humanitarian, migration, and displacement issues; the majority of its products are co-authored by migrants, refugees, or people from conflict-affected communities. Amador Research Services is an advisory and research consulting firm seeking to provide insights on the Philippines and its international affairs from a Philippine perspective.

[33] Bharadwaj *et al.*

productivity).[34] Qualitative approaches supported insight into more contextual factors as well as the breadth of factors included in migration decision-making.[35]

Following the desk review, quantitative data was collected in the two countries. Communities for the data collection were selected by the IOM on the basis of their vulnerability to extreme weather events as measured by changes in rainfall, incidence of typhoons and tropical storms, and crop yield. The quantitative study was conducted first, using a random sampling methodology. In total, 755 households were surveyed (195 in Ethiopia and 560 in the Philippines). Within each household, one representative was interviewed. The household selected the individual to be interviewed; the individual selected was generally the primary income earner and/or decision maker. Sample sizes were selected to ensure representative results at the community level, with a confidence level of 95% and a margin of error of between 5% (Philippines) and 10% (Ethiopia). Initial analysis of quantitative data was conducted to inform the development of qualitative tools.

Qualitative data collection took place approximately two months after quantitative data collection. Participants in the qualitative data collection were purposively sampled using a snowball sampling method; the IOM's community engagements and data from the quantitative survey were used as a starting point for sampling. Three types of qualitative data were collected. Those with experience of trafficking (either directly or as a family member of a trafficked individual) took part in in-depth interviews (IDIs); interview questions were open-ended and designed to support individuals to tell stories about their experiences. This approach helped to understand the ways in which trafficked individuals perceived the links between climate and their own experiences of trafficking. People with specific political or social knowledge—traditional elders, community political leaders, health workers, etc.—took part in key informant interviews (KIIs) which were semi-structured and designed to elicit comparable information. Focus group discussions (FGDs) took place with groups of individuals who had not necessarily experienced trafficking, but who belonged to a demographic group of specific interest. Thirty FGDs, 28 KIIs, 14 IDIs were conducted.

[34] G O Wayessa and A Nygren, 'Mixed Methods Research in Global Development Studies: State-sponsored Resettlement Schemes in Ethiopia', *European Journal of Development Research*, vol. 35, 2023, pp. 1440–1464, https://doi.org/10.1057/s41287-023-00588-8.

[35] Jackson.

Table 1: Quantitative Data Collection

Community	Location	# Households	# Surveyed	Male-Headed	Female-headed
Ethiopia					
1	Yeka Umama Tokuma	1328	101	77	24
2	Ushane Koche	841	94	62	32
Philippines					
1	Marigondon	355	154	30	123
1	Barangay 5	573	169	34	134
2	Timbang	313	120	39	81
2	Taban	305	117	24	93

Community	Location	# FGDs	# KIIs	# IDIs
Ethiopia				
1	Yeka Umama Tokuma	6	4	2
2	Ushane Koche	6	3	2
Philippines				
1	Marigondon	5	5	2
1	Barangay 5	4	4	5
2	Timbang	5	6	2
2	Taban	4	6	1

Quantitative data analysis took place using both Excel and Stata; descriptive statistics and cross-tabulations were developed. Qualitative analysis took place using hybrid coding. KIIs, FGDs, and IDIs were first coded using a codebook based on the research questions and sub-questions. Following this, on the basis of a review of the transcripts and ongoing discussions with national researchers and research teams, a list of additional themes was developed, and coding took place to ensure that these themes were fully explored. Participatory analysis workshops took place to discuss and develop major findings; in these workshops, the full research team, including local enumerators, reviewed the quantitative and qualitative data and integrated them into findings.

The researchers designed the study to support and protect, to the degree possible, the most vulnerable populations. Research design took place with active involvement of and leadership by national researchers from the affected communities to try to address issues associated with positionality and mitigate risks associated with collecting data on behalf of international organisations. Research tools were designed in close collaboration with team members from local communities. Quantitative tools included relatively few questions on trafficking and no questions on personal experiences with trafficking; qualitative tools were designed to be semi-structured and respond to the openness of different respondents. In both Ethiopia and the Philippines, extensive role play exercises were conducted prior to data collection. These helped the research team to develop a common understanding of risks, ethical challenges, and mitigation measures. Some mitigation measures included adapting translations to account for local understandings, and developing different methods of approaching

sensitive topics. Referral mechanisms were also identified prior to data collection. Regular daily discussions about ethical challenges, issues, and approaches took place during data collection.

Findings

Households Make Migration Decisions in Conditions That Are Not Conducive to Flourishing

Our data suggests that in communities affected by climate change and frequent extreme weather events, conditions have deteriorated to the point where households are facing systemic climate-related barriers to flourishing, as defined in the adaptive preferences framework. These barriers include lower income due to shifting land productivity, erosion of infrastructure, and health issues associated with changing climate.[36] This aligns with Khader's argument that adaptive preferences are formed in conditions which are not conducive to flourishing.

Climate change increases economic hardship in both the Philippines and Ethiopia. As one Filipino woman succinctly summed it up: 'The most important effects of climate in the community is really poverty. People suffer because their sources of livelihood are damaged.' Similarly, in a focus group discussion in the Ethiopian region of Jimma, several young adults discussed how climate affected crops, pointing specifically to unseasonal rain, soil erosion, and lack of rainfall. At the end of the conversation, one young person concluded that the situation had gotten so bad that 'farmers are reluctant to return to their fields'. The specific weather events that affected hardship differed between countries: in Ethiopia drought (identified by 45% of respondents) was considered to have the greatest effect on households, whereas in the Philippines heat and typhoons (identified by 23% and 21% of respondents, respectively) were considered to have the most significant effect.

We also found that the effects of climate change on household conditions worsened steadily over time. Thirty-five per cent of household representatives interviewed in Ethiopia and 22% of those interviewed in the Philippines stated that their income had decreased within the last five years. This reduction had a significant impact: 66% of household representatives interviewed in Ethiopia and 70% of those interviewed in the Philippines stated that loss of income had either a large or a moderate effect on their wellbeing. Household representatives considered themselves to be in unsustainable conditions that did not promote flourishing; one farmer in Ethiopia described the situation as follows: 'Sometimes

[36] A I Almulhim *et al.*, 'Climate-induced Migration in the Global South: An In-depth Analysis', *NPJ Climate Action*, vol. 3, issue 47, 2024, pp. 1–12, https://doi.org/10.1038/s44168-024-00133-1; Içiduygu and Gören.

there's too much rain, and other times there's too little, which impacts crop productivity. This year, for example, our coffee production was damaged due to untimely rain, and farmers were left with nothing.' The findings of our research reinforce a body of literature showing that climate change has a disproportionate effect on poorer households, and that it has long-term effects on wealth and income inequality.[37]

In both Ethiopia and the Philippines, women were less likely to flourish—as defined in the adaptive preferences framework—compared to men and were identified in the quantitative survey as among the top three groups considered vulnerable to weather issues. This vulnerability was underpinned by systemic barriers. In Ethiopia, for instance, 41% of women had no education at all compared to 22% of men; 10% of women had no form of documentation, compared to only 1% of men; 23% of women stated that they did not know their household income, compared to only 8% of men. In the Philippines, another group identified as particularly disadvantaged was elderly people. Fourteen per cent of respondents to the quantitative survey in the Philippines identified elderly people as those whose wellbeing would suffer in the event of poor weather; elderly people were the group identified by the greatest number of survey respondents as vulnerable to extreme weather. They were also identified as one of the groups most likely to be affected by reduction in livelihood options and income levels (by 12% of respondents). The differential effects of climate on specific vulnerable groups such as women and elderly people identified in this study have also been widely discussed in broader literature.[38]

Governments in both Ethiopia and the Philippines made efforts to support communities affected by climate change, with varying levels of success. Infrastructure investment provides an example of some of the potential pitfalls of these efforts. While both governments made investments in infrastructure,

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[37] B A Jafino *et al.*, *Revised Estimates of the Impact of Climate Change on Extreme Poverty by 2030*, COVID-19 (Coronavirus) | Policy Research Working Paper No. WPS 9417, World Bank, September 2020, http://documents.worldbank.org/curated/en/706751601388457990; S Cevik and J T Jalles, 'For Whom the Bell Tolls: Climate Change and Income Inequality', *Energy Policy*, vol. 174, 2023, pp. 113475, https://doi.org/10.1016/j.enpol.2023.113475; M Pardy, C Riom, and R Hoffmann, *Climate Impacts on Material Wealth Inequality: Global Evidence from a Subnational Dataset*, Geography and Environment Discussion Paper Series No. 48, London School of Economics and Political Science, September 2024, https://eprints.lse.ac.uk/125447/1/DPS_48_pardy_et_al.pdf.

[38] Pörtner *et al.*; G Anjum and M Aziz, 'Climate Change and Gendered Vulnerability: A Systematic Review of Women's Health', *Women's Health*, vol. 21, 2025, http://doi.org/10.1177/17455057251323645; M Prina *et al.*, 'Climate Change and Healthy Ageing: An Assessment of the Impact of Climate Hazards on Older People', *Journal of Global Health*, vol. 14, 2024, pp. 04101, https://doi.org/10.7189/jogh.14.04101.

37% of respondents in Ethiopia and 48% in the Philippines found the quality of infrastructure intermediate or poor. There were notable differences in perceptions of the sufficiency of infrastructure for different groups and especially for the most disadvantaged populations. For example, women are particularly disadvantaged and particularly at risk from extreme weather events, but they did not necessarily benefit from public infrastructure projects. In Ethiopia, 14% of women found the quality of infrastructure poor, compared to only 6% of men; this was in part because women had different requirements compared to men. For example, if a newly constructed road was badly lit, then men could still use the road with minimal safety concerns, but women were unwilling to use it in the evening and at night due to concerns about their physical safety. Government investments thus were made, but did not necessarily benefit those who were in the worst conditions.

Risky Migration Decisions Are Likely to Be Inconsistent with Flourishing

In contexts where opportunities are limited and steadily decreasing, individuals and households make active decisions about migration in order to exercise some control over their futures. They understand that the individual who migrates is at risk of exploitation but still choose this course of action as a response to limited options. Migration decisions are taken to express individual and household capacity, but they expose the migrant to risk and are thus inconsistent with a person's basic flourishing, as per Khadar's framework.

Individuals and households who experienced climate change and extreme weather events perceived that migration offered them a strong possibility of short- and long-term returns. Forty-three per cent of households in Ethiopia and 33% in the Philippines identified economic factors as their primary reason for wanting to migrate. Migration offered not only short-term gains, but also long-term possibilities to invest and build resilience. For example, in the Philippines, remittances were used in part to rebuild houses out of concrete to be better protected against extreme rain. Similarly, in Ethiopia, households invested remittances into irrigation systems to better withstand extreme heat and drought. In both countries, remittances were also used to invest in still more income diversification measures, for example, to set up variety/convenience stores in the Philippines and cafés in Ethiopia. In some cases, remittances were invested in household health, which represents both a social and an economic asset. One elderly community member in the Philippines described his family's migration decision as follows: 'The purpose in [migrating] was that if or when a member of the family gets sick, they can have the financial capacity to pay for hospital bills, etc.' Remittances were not always used to build productive assets—in both countries, research teams and interviewees mentioned that remittances were often used both to meet immediate household consumption needs and to pay for extraordinary costs such as weddings and funerals. However, where remittances were invested, the resulting assets helped to further mitigate against climate change.

To access these short- and long-term benefits, households and individuals needed to also accept the possibility of risk—including the risk of exploitation. The chances that labour migration would involve exploitation were well understood by communities in both countries. In the quantitative survey, 41% of respondents in Ethiopia stated that migrants frequently faced an exploitative situation along the route, and 39% that migrants frequently faced exploitation in destination countries. Fourteen per cent of participants from the Philippines stated that migrants frequently faced an exploitative situation (e.g. withholding of passports, denial of salary, or physical and sexualised abuse) in destination countries. In the qualitative data, some returnees described exploitative situations they had lived through in destination countries. Community members who had not migrated were also aware of the potential for exploitation, and of which migrants are more subject to exploitation, with one community leader in Ethiopia describing the situation as follows: 'Of course, if they migrate to become housemaids, they will be exploited. It is expected that they will be exploited...and if they go abroad illegally, they will be heavily exploited.' There is a body of evidence explaining the ways in which climate contributes to distress migration; climate exacerbates poverty and food insecurity, and in these contexts individuals and households are more willing to accept both current and future risk.[39]

The risks of irregular migration were heightened by structural factors which climate change-affected households and communities faced. Visa regulations of member countries of the Organisation for Economic Co-operation and Development (OECD)[40] render it difficult, if not impossible, for smallholder farmers of countries such as Ethiopia and the Philippines to migrate through regular routes—and would require passports in the first place. Legal hurdles, fees, and bribes involved in obtaining international travel documents can be a barrier for low-income citizens, even before the problem of obtaining a visa begins.[41] Among the individuals we sampled, no one in Ethiopia and only 3% in the Philippines had a passport.

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[39] B Castro, 'Becoming a Climate Migrant: Climate Change and Sequential Migration Decision-Making', *Social Problems*, 2025, pp. spaf027, https://doi.org/10.1093/socpro/spaf027; S Mugambiwa and P Sibanda, 'Climate Change, Migration, and Displacement: Advancing a Risk-Informed Approach for Sustainable Solutions', *International Journal of Population Studies*, vol. 11, issue 4, 2025, pp. 7–14, https://doi.org/10.36922/ijps.5165.

[40] S Mau *et al.*, 'The Global Mobility Divide: How Visa Policies Have Evolved over Time', *Journal of Ethnic and Migration Studies*, vol. 41, issue 8, 2015, pp. 1192–1213, https://doi.org/10.1080/1369183X.2015.1005007.

[41] B N Lawrance and J Stevens, *Citizenship in Question: Evidentiary Birthright and Statelessness*, Duke University Press, Durham, 2017; B Manby, *Struggle for Citizenship in Africa*, Zed Books, London, 2009.

Left with dubious options, people tended to rely on close contacts for information to make their migration decisions; 40% of respondents in the quantitative survey stated they relied on family and friends, and 14% stated they relied on social media. In the Philippines, respondents selected recruitment agents that were recommended by family contacts and networks; in Ethiopia, family contacts often put migrants in touch with smugglers. Given these circumstances—urgent need for a solution to economic hardship, legal hurdles to regular migration routes, lack of documentation, and proximity to smugglers or traffickers—those hit by extreme climate events have little options but to migrate internationally through irregular routes. They undertake these journeys despite strong awareness of the chances of exploitation along the route or in the destination.

In this context, where migration is likely to be risky, household gender dynamics can specifically expose women to harm and exploitation. In the Philippines, qualitative data indicates that cultural norms dictate that men take responsibility for farming, fishing, and household assets. As such, after a destructive weather event, it is more likely for a man to look after the remnants of the household and farmland, and for a woman to migrate to earn money to rebuild. Often migration takes place to the Persian Gulf due to demand for domestic workers. Respondents noted that societal expectations often discourage women from being assertive or outspoken, potentially leading to a higher tolerance for difficult situations. In contrast, men were perceived as more likely to actively resist or report abusive conditions. These findings generally support other literature showing that climate and migration can reinforce gender norms.[42]

Government actors have taken measures to try to reduce the risk to individuals who migrate. In the Philippines, these measures have been perceived as effective both by the international community and a proportion of Filipino migrants.[43] The migration management system in the Philippines includes not only a legal and policy framework, but also the installation of Overseas Filipino Workers (OFW)

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42 N Sultana, J Sarkar, and M Meurs, 'Climate Change Induced Migration: A Gendered Conceptual Framework', *Migration and Diversity*, vol. 3, no. 2, 2024, pp. 215–233, https://doi.org/10.33182/md.v3i2.3177; I Boas, N De Pater, and B T Furlong, 'Moving Beyond Stereotypes: The Role of Gender in the Environmental Change and Human Mobility Nexus', *Climate and Development*, vol. 15, issue 1, 2023, pp. 1–9, https://doi.org/10.1080/17565529.2022.2032565.

43 A C Orbeta Jr and M R M Abrigo, 'Managing International Labor Migration: The Philippine Experience', *Philippine Journal of Development*, vol. 38, no. 1–2, 2013; T D Ballesteros *et al.*, 'Assessing the Effectiveness of Employment Policies for Filipino Migrant Workers', *International Journal of Law and Public Policy*, vol. 7, no. 1, 2025, pp. 31–38, https://doi.org/10.36079/lamintang.ijlapp-0701.806; J Debonneville, 'An Organizational Approach to the Philippine Migration Industry: Recruiting, Matching and Tailoring Migrant Domestic Workers', *Comparative Migration Studies*, vol. 9, 2021, https://doi.org/10.1186/s40878-020-00220-2.

helpdesk offices throughout the country, the establishment of Regional Offices of the Department of Migrant Workers, and the rollout of pre-departure orientation sessions and pre-employment orientation seminars for workers. Almost all the returnee or migrant participants in the qualitative data collection had participated in pre-departure briefing sessions, and most knew how to contact the Overseas Workers Welfare Administration during their migration. The existing system, trust in the system by workers going abroad, and the clear examples of workers using information from this system to escape exploitative situations show that in the Philippines, migration governance at least partially mitigates risks. The migration management system in Ethiopia is more recent and has been subject to more changes; as such, interviewees were less aware of government policies and systems.

Would Risky Migration Persist Under Other Circumstances?

In both the Philippines and Ethiopia, there is a long history of internal and international migration. In the Philippines, large-scale international migration has taken place over many years, with male workers migrating to Gulf countries in the 1970s, women migrating as domestic workers since the 1980s, and, more recently, as specialised migrants, including healthcare workers and technical professionals. Internal migration flows have taken place to Manila, the capital city, as well as major urban centres, for decades. In Ethiopia, large scale international migration is more recent; movement to Gulf countries forms one of the largest routes, as does movement to southern African countries. Internal migration again takes place towards urban areas, as job opportunities are concentrated in these locations.

The historic prevalence of substantial migration flows in both countries leads to the question: Would risky migration take place in the absence of climate change? Would this preference persist under flourishing-conducive conditions? In both Ethiopia and the Philippines, our qualitative data suggests that at least some individuals are driven to migration because of circumstances directly resulting from climate change. One returnee in the Philippines described her migration decision as being caused by the confluence of two factors: first, declining agricultural productivity had reduced her household's savings and asset base, and second, a typhoon destroyed her family's house. She stated very clearly that if her family had adequate savings, she would not have migrated and, subsequently, experienced exploitation. Similarly, a government official in Ethiopia described the situation facing households as follows: 'If a farmer loses everything he worked for in one night of heavy rain,…the only option he has is to ask for refuge in the nearby cities or to migrate internationally.'

In the absence of climate change, other households might choose to migrate—but do so using safer, less risky paths. In both countries, respondents preferred internal to international migration. In Ethiopia, household desire to migrate internally was ranked as high or very high by 49% of respondents, significantly higher than household desire to migrate internationally (33%); similar responses

were observed in the Philippines. A returnee in the Philippines described her decision to pursue international, rather than internal, migration as driven by need: following a disaster, her household needed to make as much money as possible, and salaries were higher internationally compared to within the Philippines.

The decision to migrate, and the decision about where to migrate, thus was formed substantially by climate change: in the absence of extreme weather events, a proportion of the individuals and households we spoke to would have made different choices; while some may still have chosen to migrate, they may have chosen safer paths, such as internal migration, or they may have invested more time and effort in overcoming the legal hurdles and saving money for fees to pursue regular migration. As such, the nature of the risks accepted by migrants differed substantially because of climate factors; as climate changed, migrants and their families became steadily more willing to accept risk to access the gains associated with migration.

Discussion and Conclusion

Our findings illustrate that households affected by climate change in both Ethiopia and the Philippines adapt their preferences to their context. They acknowledge their restrictive and worsening conditions, and their migration decisions are made to achieve short- and long-term improvements for themselves and their families. These migration decisions reflect a trade-off between the acknowledged risk of exploitation and the reward of both immediate earnings and an increased household asset base. The findings also demonstrate that government efforts to reduce risk are only partially successful; while they do address some needs, they are often not sufficiently tailored to local contexts or to the needs of the most disadvantaged populations. Climate change thus shapes the life plans and trajectories of disadvantaged households, and government efforts to address their vulnerabilities lag behind. Individual and household decisions to engage in risky migration and accept the risk of exploitation can thus be described as adaptive preferences: preferences that are adopted to account for past experience of climate change, and due to the expectation of future harms associated with extreme weather events. Government efforts to safeguard vulnerable populations have not kept pace with changes in individual and household decision making.

The findings also illustrate that within communities affected by climate change, specific groups are making more extensive use of adaptive preferences. Women face structural disadvantages; they are less likely to be literate, to have documentation, and even to be aware of household finances. They are therefore more exposed to exploitation in the course of their migration. This finding aligns with and deepens analysis of the effects of climate change on women; researchers have found that climate change increases women's vulnerability and that women select adaptation strategies that are rational but are made in circumstances that

may result in further long-term harm.[44]

Our research therefore suggests that an adaptive preferences framework captures best the decisions made by households and individuals affected by climate change, and that adoption of such a framework by policy actors would help to achieve more effective, flexible, and rapid outcomes. This framework provides a tool for analysing the trade-offs facing households and individuals, understanding the ways in which disadvantaged households perceive their own capacity to act, and examining the perceived extent of deprivation caused by climate change. This is important because government actors have put measures in place to support households and communities to adapt, but these initiatives have had mixed results. For example, migration management has been a long-standing priority in the Philippines, and some initiatives such as pre-departure briefings (which involved both national and community actors) clearly led to more resilience against exploitation. However, other government initiatives—notably infrastructure projects—have had less success. Governments in both Ethiopia and the Philippines have constructed infrastructure to mitigate the effects of climate change, but in the Philippines this infrastructure was seen as inappropriate, and in Ethiopia structurally disadvantaged groups such as women did not have equitable access to it.

At a policy level, this paper recommends that governments develop adaptable policies that are designed for the local level. International policies to address climate change are often targeted at the regional or national level, due to the scope of the challenge. However, the climate-migration-trafficking chain is extremely sensitive to local factors. As such, policies need to be adaptable, not only to the national level, but also to the local level. This paper also indicates that resilience measures should be built on pre-existing large-scale systems; existing government investments and strong community trust form the foundations for effective risk mitigation. Finally, this paper recommends that gender is mainstreamed into measures to respond to climate change.

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[44] Anjum and Aziz; E Alonso-Epelde, X García-Muros, and M González-Eguino, 'Climate Action from a Gender Perspective: A Systematic Review of the Impact of Climate Policies on Inequality', *Energy Research & Social Science*, vol. 112, 2024, pp. 103511, https://doi.org/10.1016/j.erss.2024.103511.

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