





About Climate Outreach and the Climate and Migration Coalition

<u>Climate Outreach</u> is a team of social scientists and public engagement specialists working to widen and deepen public engagement with climate change. Since our founding we have worked on the connections between climate and human migration, among several other key climate change issues.

Through our research, practical guides and training, we help organisations communicate about climate change in ways that resonate with the values of their audiences, in order to build the social mandate for climate action. We have almost 20 years of experience working with a wide range of international partners, including central, regional and local governments, international bodies, business, media, academic institutions, grant-giving foundations, charities and community groups.

Our work on the connections between climate change and human mobility has focused on working with civil society organisations to empower them to advocate for the rights and welfare of people on the move due to climate change impacts. We created the <u>Climate and Migration</u> <u>Coalition</u> to provide a platform for organisations to engage with climate-linked migration and displacement. Through partnerships, we provide training, insights and resources that build these organisations' capacity to engage with climate-linked mobility. We also engage in policy work around climate-linked mobility, focusing on advocacy on the rights and welfare of people at risk of displacement.

Project team

Author

Alex Randall, Senior Engagement Advisor, Climate Outreach / Climate and Migration Coalition

Reviewers

Noora Firaq, Deputy Chief Executive Officer, Climate Outreach Dr Gurpreet Kaur, Engagement Advisor, Climate Outreach Fahmida Miah, Project Manager, Climate Outreach

Editing & production

Léane de Laigue, Communications Lead, Climate Outreach **Elise de Laigue**, Designer, <u>Explore Communications</u>

Contents

Executive summary
When does migration become a climate change resilience strategy?
The climate change and migration nexus
Migration and climate resilience: the opportunity
Migration and climate resilience: the risks
Supporting migration for climate resilience
Conclusion
References

A group of children outside their boat school in Bangladesh. Hundreds of schools in the country have been destroyed due to floods and thousands damaged, and boat schools are a way to adapt to the changing climate. *Photo: Abir Abdullah / Climate Visuals Countdown*



Executive summary

Climate-linked migration is already a reality. Across the world people are using migration as a way of building resilience against the impacts of climate change.¹

The concept of 'migration as climate adaptation' has emerged as a way of allowing and equipping people to use migration as a way of creating climate resilience. This strategy recognises that, in some circumstances, people may move as a way to mitigate the risks and uncertainties associated with climate-related disruptions.² The concept also recognises that there are some climate change impacts that are difficult or impossible to adapt to in-situ.

Not all patterns of climate-related movement should be seen as resilience enhancing. Instances of forced displacement in the context of climate-related disasters should not be described as such. When people move in desperate or dangerous circumstances this should be viewed as survival rather than adaptation. However, there are some circumstances where migration may lead to greater resilience than the available in-situ climate change adaptation options.

This reality presents a challenge to policymakers. People are already using migration independently as a way of finding safety and enhancing their resilience to climate impacts. Usually they are using their own resources and planning migrations at a household and individual level.³ This form of resilience building is currently taking place without outside financial assistance or any other form of government support.

This paper outlines some policies and practices that would increase safety and enhance opportunities to use migration as a form of resilience building. ⁴ These include:

- Creating secure, meaningful work in likely destination locations
- Enhancing rights protection for people on the move
- Providing training that allows people to access livelihood options in new locations

Accepting this new reality requires a pivot away from security- and military-focused policies designed to restrict human movement, towards policies that facilitate movement and create safe, legal migratory options.

An overhead view of a group of fishermen in India standing in shallow water holding and pulling their fanned-out nets to catch fish. *Photo: Shibasish Saha / Climate Visuals*



When does migration become a climate change resilience strategy?

It is vital to draw clear distinctions demarcating when mobility should be considered genuinely resilience enhancing and adaptive. For migration to be a genuine resilience strategy it must be freely chosen and resilience enhancing. It's important to make clear that climate-induced displacement and forced relocations must not be seen as climate resilience strategies.



Migration can only be considered genuinely resilience enhancing when people choose to move as part of a plan to improve their lives and livelihoods in the face of climate impacts. When people see improved livelihood opportunities and reduced climate risks resulting from migration – and when that migration decision is a genuine choice – migration can start to be seen as a genuine resilience strategy.



For migration to be a genuinely adaptive response it should result in improved resilience for the people who move and hopefully for the communities and households they leave behind. It should create new livelihood opportunities that are more insulated from climate impacts.⁵



Forced climate-driven displacement

It is essential to draw clear distinctions between forms of migration that are genuinely resilience enhancing versus forced displacement in the face of climate change. Actors in the debate must be clear about whether an instance of mobility is genuinely building resilience and is freely chosen or whether it is an example of forced displacement resulting from a climate-related disaster.⁶



Involuntary relocation

Many climate-vulnerable communities are rightly wary of policies that encourage mobility. Many communities have been forcibly relocated to make way for development projects, colonial expansion, wildlife reserves and nuclear weapons testing. The prospect of organised migration or relocation projects as a climate adaptation strategy understandably raises questions about power and consent.⁷ As the debate about migration, resilience and adaptation unfolds these ethical questions must be kept central, as must the voices of people on the move.

The climate change and migration nexus

Climate-induced mobility is complex. New patterns of human movement result from the interplay of various factors, including environmental stressors like extreme weather events, social vulnerabilities, political and economic conditions, and levels of community resilience.⁸ Climate change rarely acts alone in creating episodes of movement. Climate change forms one influencing factor behind an individual or community's movement rather than being the sole driving force.⁹

Understanding this relationship and its terminology is vital to understanding how migration can potentially be transformed from a last resort for survival into a genuine form of climate resilience.



Migration and displacement

Displacement usually refers to episodes of human movement where people have little or no choice about moving. Their movement is a matter of ensuring their immediate survival. Migration on the other hand usually refers to patterns of movement where people have more choice about whether they move, when they move or who they move with. Climate change holds the power to contribute to new patterns of both displacement and migration.¹⁰



Migration and displacement resulting from slow-onset events

Climate change is already altering the frequency and severity of events that unfold over months or years, such as desertification, droughts and sea level rise. These slowly unfolding events have the power to reshape patterns of human movement as people seek livelihoods that are insulated from these changes. People affected by slowonset changes may also decide to move in anticipation of worsening conditions.

Two people in Tuvalu waist deep in water, transporting coconuts by floating them along the sea shore tied together. *Photo: Rodney Dekker / Climate Visuals*





Two men load solar panels onto a small boat at Lake Turkana. Longech Village, Turkana County, Kenya.

Photo: Maurizio Di Pietro / Climate Visuals Countdown



Displacement resulting from sudden-onset events

Climate change is also altering patterns of sudden climatic events such as flash floods and tropical storms. These events – which often unfold rapidly, in the space of hours or days – have the power to drive new patterns of displacement.¹³



Seasonal and circular movement

When people move in the context of climate change they might not move permanently. People often use seasonal and circular migration – moving back and forth between several locations – as a way of coping with climate-related events.¹⁵



Cross-border and internal movement

Climate change is most likely to contribute to new patterns of internal movement. If people can find safety and security without crossing international borders they usually will. Migration always comes with costs and risks and these increase as people move further and cross borders. Some people crossing international borders may already have climate change dimensions to their movement. In the future, as climate impacts accelerate, more people may also need to cross international borders to find safety.



Household and individual decision-making

Climate-induced migration typically occurs at the individual or household level, rather than en masse. People cope with changing environmental conditions by making personal and household-level decisions to protect their families and livelihoods. ¹⁶

Migration and climate resilience: the opportunity

Many individuals and households face climate change impacts that in-situ adaptation measures may not be able to fully address. In such cases migration may offer more safety and climate resilience than staying put, and present a number of opportunities. Through migration, people potentially have the chance to enhance resilience, find more secure livelihoods and access essential services.

Migration can potentially contribute to community resilience and livelihood security in the following ways:



Diversification of livelihoods

By moving, people may be able to access livelihood opportunities that are less threatened by climate change impacts. For example, when threatened by drought, people may be able to seek non-farm work or work that is less dependent on consistent rainfall.



Access to resources

Migration may provide individuals and communities with improved access to resources. For example, moving may enable people to access agricultural land or water resources that are less susceptible to climate impacts.



Reduced exposure to risks

Migration offers the potential to move out of harm's way and reduce exposure to sudden climate-related impacts such as tropical storms or flooding. People may be able to move to locations that are less exposed to these hazards, or are better protected from them.¹⁷



Skills transfer

Migrants can bring new skills and knowledge to their destination areas, which can potentially enhance their destination's adaptive capacity. As many people may initially adopt seasonal and circular patterns of migration, newly acquired skills can also be transferred back to locations of origin as migrants return.¹⁸



A man in Bangladesh sitting on the roof of a hut in flood water, with a boat carrying women and good floating by.

Photo: Muhammad Amdad Hossain / Climate Visuals



Remittances and resilience

Remittances are a critical aspect of resilience building. Transfers of money from migrants to their communities of origin can support resilience-building measures. For example, remittances may be invested in enhancing local agricultural resilience, such as improving irrigation or switching to drought-tolerant crops. Remittances can also help provide funding for additional community members to migrate.



Human and social capital

Remittances have the potential to build human and social capital in communities of origin. Money sent back by migrating family members can potentially be invested in improved education and healthcare. These investments potentially improve the climate resilience of households who have not moved.²⁰



Safety nets

Remittances additionally provide a financial safety net for families affected by climate change. A household that is highly dependent on income from agriculture can potentially use remittances from a migrant household member to cope with temporary income loss during drought or other climate-driven interruptions to their income.¹⁹



A great deal of commentary and policymaking on climate-linked mobility presents people on the move as a threat. News stories often inaccurately present people moving due to climate change as a security risk. Apocalyptic language is often deployed.²¹ People on the move are often presented as lacking agency. The concept of using migration to create resilience is an opportunity to positively reframe the issue. People on the move can then be seen as making decisions about their own resilience. Apocalyptic and security narratives give way to more positive stories about using migration to build climate resilience.

Migration and climate resilience: the risks

It would be naive to assume that using migration as a resilience strategy comes without risks. Understanding these is crucial to ensuring the safety and wellbeing of people on the move, and is also essential for evidence-informed policymaking on this issue.



Recurrent displacement

Just because people have moved to cope with one climate impact does not mean they are automatically safe in their new location. People could potentially move as a way of addressing one climate impact, only to be displaced from their new location by another. This means that adaptation and resilience measures in likely destination locations become increasingly important.



Gender and vulnerability

Opportunities to migrate and find work are often highly gendered. This can result in changes in the gender makeup of the household which can lead to both risks and opportunities as work and care roles are reorganised within a home. Women on the move often face heightened risks during the migration process and may encounter gender-specific risks in destination areas. Taking a gendered approach to policymaking in this space is therefore vital.²³



Legal gaps

When people cross international borders as a result of climate-related events, their legal status is poorly defined in law. If people cross an international border as a way of dealing with a climate-related event they may find themselves in legal and administrative limbo. Existing international and national legal frameworks often do not adequately address their status and rights. The ongoing process of filling these legal gaps therefore takes on a new urgency if migration is going to become a form of resilience building.²²



Cultural and linguistic protection

Climate change presents multiple risks to cultural and linguistic heritage, including through climate-induced migration and displacement. Migration can potentially erode cultural heritage and traditions and dislocate people from ancestral lands. If migration becomes an increasingly important form of resilience building, these risks may increase.



Vulnerability and exploitation

If migration increasingly becomes a climate resilience strategy, unscrupulous corporations or governments could exploit a vulnerable labour force.²⁴ In such scenarios, businesses might take advantage of migrants' precarious situations, offering low wages and poor working conditions. Labour force protection, worker organising and unions therefore become increasingly important if migration is to be used as a strategy for creating genuine climate resilience.



Responsibility

The migration-as-adaptation discourse is mainly focused on the actions of individuals and households. Advocates of the concept highlight the role of individual decision making, the power of individual remittance transfers and the power of the labour market to help people move and adapt. This brings with it a risk of making individuals responsible for their own climate resilience, while diverting the focus from the responsibilities of high-emitting governments and businesses.²⁵

Kitchen garden at M'bera refugee camp in Mauritania. Photo: Jose Cendon / EU Civil Protection and Humanitarian Aid



Supporting migration for climate resilience

Regardless of the actions of governments, people will continue to use migration to cope with climate change impacts. As we've seen, moving comes with both risks and opportunities for migrants. The potential for enhancing these opportunities and reducing risks through effective policymaking is significant. With sensitive policymaking, governments can provide support, resources and legal frameworks that make migration safer and easier. Carefully designed policies could help people move safely as a way of building climate resilience.²⁶



Creating work opportunities for mobility

Developing programmes that create employment opportunities in regions where climate-induced migrants are likely to relocate will be vital. This can involve investing in sectors that are already creating work in locations that people are likely to need to move to. It can also mean investing in sectors that are key to the transition towards zero-carbon societies.



Migration options for people outside of the labour market

The existing discourse around migration, adaptation and resilience focuses on the role of labour migration. However, it is vital to recognise that not everyone has the option to find paid work outside of the home. It is therefore important to consider the resilience options for people outside of the labour market who may still wish to adopt migration as a resilience strategy. Policies to enhance access to migration for older people, children and disabled people must be a key part of policymaking.



Training and education for new work opportunities

The people who most need to move as a way of creating resilience may not have the skills or experience they need to find work in the locations they hope to move to. This mismatch will likely become a barrier preventing many communities from deploying migration as a climate resilience strategy. Establishing training and education programmes that help people access work in potential destination locations will be an essential part of widening access to migration.²⁷



Understanding needs

Climate impacts vary dramatically across the world. Individual and community situations are often unique. People may not have the same migratory options open to them. There is no one-size-fits-all policy. This means that community leadership in designing policy in this space is essential. Public engagement on climate change is an obligation²⁸ and this must also extend to policy and practice around using migration to enhance resilience.



Facilitating migration

Migration always comes with costs. Many people who wish to move as a way of enhancing their climate resilience may lack the financial resources to do so. In some cases, climate change impacts may have eroded their livelihood to the point where moving becomes financially impossible. 29 The costs of transport, accommodation and establishing a life in a new location can be significant. Attempts to migrate without adequate financial resources will likely increase the risks faced by people on the move. Creating mechanisms that can provide people with financial support when they move will increase safety and widen access. Ensuring that funding is accessible to vulnerable populations, including marginalised communities and those with limited resources, will make using migration to enhance resilience more inclusive.



Boosting essential public services in destination locations

As people move they will need to access essential public services in their new locations, including healthcare, education and housing. As people begin using migration to build resilience, the provision of these services in destination locations becomes ever more important.



Increasing climate resilience in destination locations

When people move as a way of building climate resilience they may face new climate impacts at their destinations. This means in-situ climate adaptation and resilience building become increasingly important in destination locations. This can include measures such as strengthening infrastructure against extreme weather events, emergency planning and disaster risk reduction strategies.



Strengthening labour rights protection

Newly arrived migrants are vulnerable to various forms of labour force exploitation. Strengthening the protection of workers' rights is therefore a crucial element of enhancing migration as a climate resilience option. Strengthening regulations around fair pay and safety will be key. Removing barriers to workforce organising so that people can act to protect their rights and welfare will also be essential. Accelerating these measures in industry sectors that are likely to be recruiting newly arrived migrants, and in locations likely to become destinations, is a priority.

A child walks along the remaining roof beams of a house with another damaged house to the side, in India. Photo: Sujan Sarkar / Climate Visuals





Funding for planned relocation projects

While much migration will take place at an individual and household level, some communities may wish to relocate together. Where an entire community is threatened – for example by sea level rise – a planned community-wide relocation project may be preferred to individual and household migration. Some examples of planned relocation projects already exist where coastal communities are threatened by sea level rise. Such projects allow communities to stay together, preserving community social structures, languages and traditions. If these projects are to succeed they will need coordination and financial support.³⁰



Creating new legal options for cross-border migration

For most people wishing to adopt migration as a resilience strategy, moving internally will be their first choice. However, as climate impacts accelerate some people may wish to cross international borders. Some people may find that their skills are better matched to work opportunities in other countries. Some countries may face such serious climate change impacts that international migration becomes a key part of protecting their populations. The creation of new safe, legal pathways for crossing borders increases the resilience building options open to people.³¹



Protecting human rights for people on the move

As more people use migration as a climate resilience measure, improving and enforcing legal frameworks to safeguard the rights of all migrants will be essential. This includes access to basic services and protection from discrimination, exploitation and violence.



Regularising the stays of people who have already moved

Some people who have already moved internationally likely have climate change dimensions to their movement. Many people may have moved irregularly putting them at risk of deportation back to locations suffering severe climate change impacts. People who have moved irregularly are often more vulnerable to exploitation as they understandably fear contact with authorities who may be able to address their situation. Regularising the stays of people who have already moved is therefore a key way of protecting some people from the impacts of climate change.

Conclusion

Making migration safer is a vital element of creating climate change resilience. Supporting people who are migrating as a way of enhancing their climate resilience may prove one of the most effective ways of helping communities cope with the most severe impacts of climate change.

Migration can offer people the chance to move to safer locations with improved livelihood opportunities. The flow of remittances this generates may also help build the climate resilience of the communities they have left.

Although using migration as a resilience strategy comes with risks, these can be reduced by measures to protect the rights of people on the move, the creation of new legal migration options and investment in public services in destination locations.

With sensitive policies and community leadership the potential of migration as a resilience strategy can be enhanced. This will not only benefit the individuals and families on the move, but will also contribute to wider resilience in the face of climate change impacts.

An Indian woman standing looking at boats beached among small water pools on a shoreline landscape dotted with trees. *Photo: Sujan Sarkar / Climate Visuals*



References

- Cissé, G., McLeman, R., Adams, H., Aldunce, P., Bowen, K., Campbell-Lendrum, D., Clayton, S., Ebi, K.L., Hess, J., Huang, C., Liu, Q., McGregor, G., Semenza, J. and Tirado. M.C. (2022) 'Health, Wellbeing and the Changing Structure of Communities', in H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, and B. Rama, (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 and New York: Cambridge University Press, pp. 1041–1170. Available via: https://doi.org/10.1017/9781009325844.009
- 2. Gemenne, F. and Blocher, J. (2017) 'How can migration serve adaptation to climate change? Challenges to fleshing out a policy ideal', *The Geographical Journal*, 183(4), pp. 336–347.
- 3. Black, R., Bennett, S.R., Thomas, S.M. and Beddington, J.R. (2011) 'Climate change: Migration as adaptation', *Nature*, 478(7370), pp. 447–449.]
- 4. Adams, H. and Adger, W.N. (2013) 'Changing places: migration and adaptation to climate change', in L. Sygna, K. O'Brien and J. Wolf, (eds.) *A changing environment for human security: Transformative approaches to research, policy and action.* London and New York: Routledge-Earthscan.
- 5. Gemenne, F. and Blocher, J. (2016) 'How can migration support adaptation? Different options to test the migration–adaptation nexus', *Migration, Environment and Climate Change: Working Paper Series*, 1. International Organization for Migration.
- 6. Vinke, K., Bergmann, J., Blocher, J., Upadhyay, H. and Hoffmann, R. (2020) 'Migration as adaptation?', *Migration Studies*, 8(4), pp. 626–634.
- 7. McAdam, J. (2014) 'Historical cross-border relocations in the Pacific: lessons for planned relocations in the context of climate change,' *The Journal of Pacific History*, 49(3), pp. 301–327.
- 8. McLeman, R. and Smit, B. (2006) 'Migration as an adaptation to climate change', *Climatic Change*, 76(1–2), pp. 31–53.
- 9. Tacoli, C. (2007) 'Migration and adaptation to climate change', *Sustainable Development Opinion*, International Institute for Environment and Development.
- 10. Warner, K., Afifi, T., Kälin, W., Leckie, S., Ferris, B., Martin, S.F. and Wrathall, D. (2013) *Changing climate, moving people: framing migration, displacement and planned relocation.* Policy Brief No. 8, United Nations University Institute for Environment and Human Security (UNU-EHS) Publication Series.
- 11. Chazalnoël, M.T. and Randall, A. (2021) 'Migration and the slow-onset impacts of climate change: Taking stock and taking action', in M. McAuliffe and A. Triandafyllidou, (eds.) *World Migration Report 2022*, Geneva: International Organization for Migration.
- 12. McLeman, R.A. and Hunter, L.M. (2010) 'Migration in the context of vulnerability and adaptation to climate change: insights from analogues', *Wiley Interdisciplinary Reviews: Climate Change*, 1(3), pp. 450–461.
- 13. Internal Displacement Monitoring Centre (2023) *Global Report on Internal Displacement (GRID) 2023:*Internal displacement and food security, IDMC. Available via: https://www.internal-displacement.org/global-report/grid2023/
- 14. Piguet, E., Pécoud, A. and De Guchteneire, P. (2011) 'Migration and climate change: An overview', *Refugee Survey Quarterly*, 30(3), pp. 1–23.
- 15. Gautam, Y. (2017) 'Seasonal migration and livelihood resilience in the face of climate change in Nepal', *Mountain Research and Development*, 37(4), pp. 436–445.
- 16. Klaiber, H.A. (2014) 'Migration and household adaptation to climate: A review of empirical research', *Energy Economics*, 46, pp. 539–547.

- 17. Warner, K., Afifi, T., Henry, K., Rawe, T., Smith, C. and De Sherbinin, A. (2012) *Where the Rain Falls:* Climate change, food and livelihood security, and migration, Global Policy Report of the Where the Rain Falls Project. Bonn: CARE France and United Nations University Institute for Environment and Human Security (UNU-EHS).
- 18. Maria Hagan, J. and Wassink, J. (2016) 'New skills, new jobs: Return migration, skill transfers, and business formation in Mexico', *Social Problems*, 63(4), pp. 513–533.
- 19. Sodokin, K. and Nyatefe, V. (2021) 'Cash transfers, climate shocks vulnerability and households' resilience in Togo', *Discover Sustainability*, 2(3), pp. 1–25.
- 20. Entzinger, H. and Scholten, P. (2022) 'The role of migration in enhancing resilience to climate change: How non-financial remittances through domestic migration corridors make the Vietnamese Mekong River Delta more resilient', *Migration Studies*, 10(1), pp. 24–40.
- 21. 350.org, Climate and Migration Coalition, Climate Justice Collaborative at the National Partnership for New Americans, Climate Justice Coalition, Common Defense, Friends of the Earth USA, International Refugee Assistance Project, Joint Council for the Welfare of Immigrants, Migrants Organise, and Pacific Island Students Fighting Climate Change (2023) Connecting Climate Justice & Migrant Justice: A Guide to Countering Dangerous Narratives. The Joint Council for the Welfare of Immigrants (JCWI). Available via: https://www.jcwi.org.uk/communicating-migrant-justice-a-guide-to-countering-dangerous-narratives
- 22. Kälin, W. and Schrepfer, N. (2012) *Protecting People Crossing Borders in the Context of Climate Change Normative Gaps and Possible Approaches*, Legal and Protection Policy Research Series, 24, PPLA/2012/01. Division of International Protection, United Nations High Commissioner for Refugees (UNHCR).
- 23. Chindarkar, N. (2012) 'Gender and climate change-induced migration: proposing a framework for analysis', *Environmental Research Letters*, 7(2), p. 025601.
- 24. Bettini, G. (2014) 'Climate migration as an adaptation strategy: de-securitizing climate-induced migration or making the unruly governable?', *Critical Studies on Security*, 2(2), pp. 180–195.
- 25. Baldwin, A. and Fornalé, E. (2017) 'Adaptive migration: pluralising the debate on climate change and migration', *The Geographical Journal*, 183(4), pp. 322–328.
- 26. Adger, W.N., Crépin, A.S., Folke, C., Ospina, D., Chapin III, F.S., Segerson, K., Seto, K.C., Anderies, J.M., Barrett, S., Bennett, E.M., Daily, G., Elmqvist, T., Fischer, J., Kautsky, N., Levin, S.A., Shogren, J.F., van den Bergh, J., Walker, B. and Wilen, J. (2020) 'Urbanization, migration, and adaptation to climate change', *One Earth*, 3(4), pp. 396–399.
- 27. Gençsü, I., Grayson, A., Mason, N. and Foresti, M. (2020) *Migration and skills for the low-carbon transition*, Working paper 584, Overseas Development Institute.
- 28. Magniez-Pouget, S., Straathof, T. and Bonomini, G. (2022) *Is ACE a legal obligation? A review of States' obligations under international, regional and national legal frameworks.* Oxford: Climate Outreach.
- 29. Benveniste, H., Oppenheimer, M. and Fleurbaey, M. (2022) 'Climate change increases resource-constrained international immobility', *Nature Climate Change*, 12(7), pp. 634–641.
- 30. Ferris, E. and Weerasinghe, S. (2020) 'Promoting human security: Planned relocation as a protection tool in a time of climate change', *Journal on Migration and Human Security*, 8(2), pp. 134–149.
- 31. McLeman, R. (2019) 'International migration and climate adaptation in an era of hardening borders', *Nature Climate Change*, 9(12), pp. 911–918.



