

Climate Change-Related Human Mobility: A Factsheet

Swiss Agency for Development and Cooperation (SDC), March 2024

Introduction

Climate change-related human mobility is a multi-causal phenomenon, and climate change is rarely the only reason why people move.¹ Still, the adverse impacts of climate change and environmental degradation can impact livelihoods, food and water security, health, and housing, which compounded with other factors may compel people to move. If well-managed, migration can be a strategy for livelihood diversification and risk reduction, helping people adapt to the impacts of climate change. Addressing this challenge of climate change-related human mobility—covering any form of migration, displacement, or planned relocation related to climate change and environmental factors, whether permanent or temporary, within or across borders—is therefore a critical priority.

Climate and disaster-related mobility is already happening. There were 33 million disaster displacements recorded in 2022, for now mostly remaining internal, short-distance, and temporary (although some disasters have been linked to spikes in international migration). Slower-onset climate impacts can also trigger mobility. An estimated 216 million people could migrate internally by 2050 due to slow-onset climate impacts, although climate and development action could cut this by 80 percent.

The adverse effects of climate change threaten progress towards development, poverty reduction and economic and political stability, which are key objectives of Switzerland's international cooperation and foreign policy.² In order to manage climate change-related human mobility, the Swiss Agency for Development and Cooperation (SDC) aims to address the adverse effects of climate change on migration, invest in adaptation and resilience strategies to reduce risks of displacement and distress migration, as well as strengthen livelihood diversification through migration.

This factsheet addresses three questions: How does climate change impact human mobility; what is climate change-related human mobility; and which international processes and initiatives address climate change-related human mobility? It accompanies another document developed as part of the SDC's learning journey on environmentally induced migration, which details potential interventions on climate change-related human mobility and concrete examples from SDC programming.

How does climate change impact human mobility?

Climate change and environmental degradation are rarely the only drivers of migration and displacement. Sometimes, the link between climate change and movement can be fairly direct. For example, some floods attributed to climate change trigger immediate evacuation and displacement. In other cases, climate change intersects and multiplies with other drivers of migration, such as political, demographic, economic and social factors, local conflicts, discrimination, and marginalization. For instance, the slow onset impacts

¹ This Factsheet accompanies a separate document focused on operational engagement, which identifies specific types of interventions, key considerations, and concrete examples to address the drivers of forced displacement, support people on the move, and enable safe mobility in the context of climate change.

² Indeed, climate change and migration are two thematic priorities in Switzerland's [International Cooperation Strategy 2021-2024](#).

of climate change (such as desertification, sea level rise, and rising temperatures) can impact food and water systems, access to housing, health, and livelihoods, thereby triggering movement. For example, small-holder farmers might find their annual crop yields decreasing over time, especially if they face drought (e.g., East Africa has had four failed rainy seasons in a row since 2020). This might lead these agricultural workers to move to nearby cities, or even to other countries in the region, in search of other livelihoods.

Disasters trigger most climate change-related human mobility today. According to the Internal Displacement Monitoring Centre (IDMC), disasters triggered 32.6 million internal displacements in 2022 (more displacements than conflict). Almost all disaster displacements were due to floods (19.2 million), storms (10 million) and droughts (2.2 million).³ The majority took place in South Asia (38%), East Asia and the Pacific (31%), and Sub-Saharan Africa (23%). One major event was the mid-2022 floods in Pakistan, which displaced over eight million people within the country and caused some USD 30 million in economic damages. The floods hit as the country was grappling with economic collapse and rampant inflation, and may have helped spike an increase in irregular movement to Europe: Pakistanis were not among the top ten nationalities arriving irregularly in Europe in 2022, but jumped to fifth in the first half of 2023. Many of these migrants moved primarily because of economic reasons, but these factors were likely amplified by the floods.

Nonetheless, most disaster displacement remains internal and short-term. Global data implies that most disaster displacement is temporary.⁴ The number of new displacements recorded by IDMC each year is consistently tens of millions more than the number they record as *remaining* displaced at the end of the year. The number of *new* disaster displacements (32.6 million in 2022) dwarfs the number of people *remaining* disaster displaced (8.7 million at the end of 2022). This implies that most disaster displacement is temporary, since for example, people can often return home after floods and storms. In contrast, conflict and insecurity lead to fewer *new* displacements each year (28.3 million in 2022), but there are far more people *remaining* displaced due to conflict (7.1. million). Conflicts tend to trigger protracted displacements, while disasters do not.

Over time, slow onset impacts of climate change are predicted to lead to greater, more permanent movement. The World Bank's Groundswell Reports modelled climate and development scenarios in six regions of the world and found that if no climate action is taken (the 'pessimistic scenario',⁵ see Figure 1), there could be up to 216 million "internal climate migrants" by 2050. This model is based on slow-onset climate impacts such as shifting water availability and its impacts on crop productivity and livelihoods, or sea level rise.⁶ These movements would be most significant in the most populous regions and the regions highly vulnerable to climate change, notably Sub-Saharan Africa (85.7 million), East Asia and the Pacific

³ See Internal Displacement Monitoring Centre, [Global Report on Internal Displacement: 2023](#) (2023).

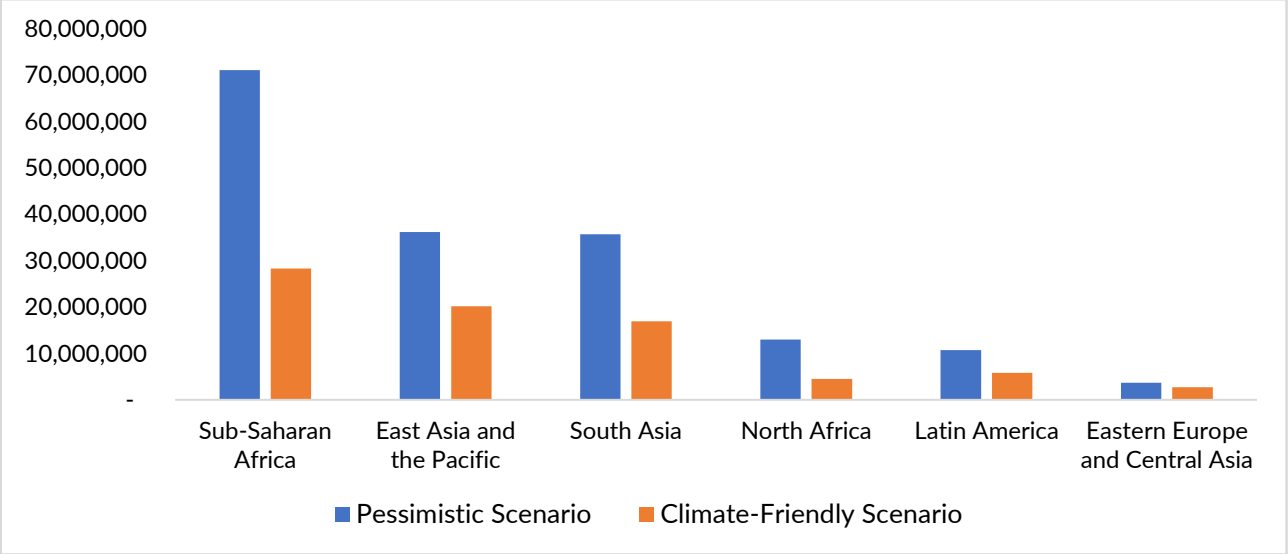
⁴ For instance, data in the two provinces hardest hit by the 2022 floods in Pakistan indicate that although the displacement was massive (up to 20 percent of the total population was displaced in five districts of Sindh Province), it was mostly temporary: In the five districts of Balochistan Province with the most displacement, 11% of people were displaced (230,000 people), and some 170,400 had returned. International Organization for Migration, "[Pakistan – Pakistan Flood Response Baseline Assessment - Balochistan Province](#)" (October 2022).

⁵ This scenario is one "in which low-income countries are characterized by high population growth, high rates of urbanization, low GDP growth, and low education levels. High emissions drive greater climate change impacts. This scenario poses high barriers to adaptation because of the slow pace of development and isolation of regional economies." Viviane Clement et al, [Groundswell Part 2: Acting on Internal Climate Migration](#) (2021)

⁶ Viviane Clement et al, [Groundswell Part 2: Acting on Internal Climate Migration](#) (2021)

(40.5 million), and South Asia (40.5 million). Some countries will be particularly hard hit: Bangladesh, with up to 19.9 million “internal climate migrants” by 2050, is modelled to account for almost half the projected number for the entire South Asia and East Asia region.

Figure 1: Estimated ‘Internal Climate Migration’ by 2050 in Select Regions, In Pessimistic and Climate-Friendly Modelling Scenarios



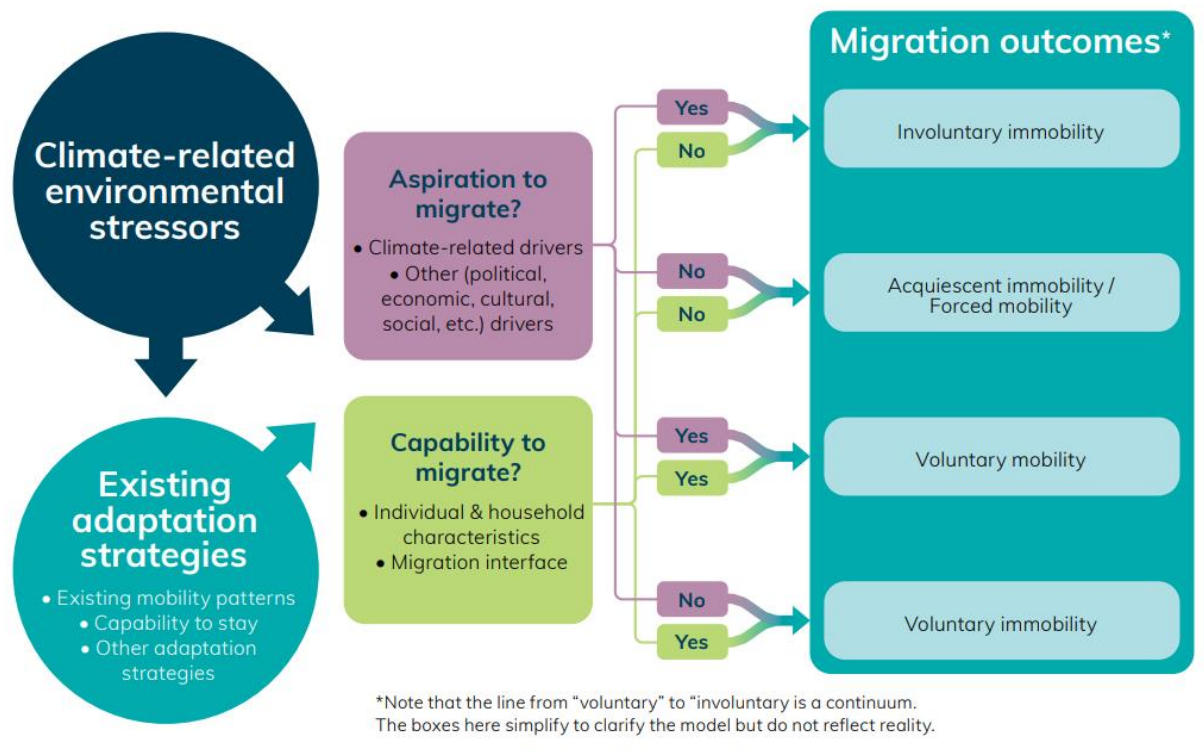
Source: MPI tabulation of data from Viviane Clement et al, [Groundswell Part 2: Acting on Internal Climate Migration](#) (2021)

There are important caveats to the evidence and modelling of climate change-related human mobility. Although estimates produced over the past decade are far more reliable than before, they typically focus on internal rather than international migration; cannot distinguish between those who move because of climate change and those who move for other reasons; and focus on the global or regional, rather than national or local levels. Thus, there are thoroughly debunked but nonetheless widely circulating estimates of 1.2 billion ‘climate migrants’ by 2050. Instead, while slow-onset climate events are likely to foster more mobility, the volume of movement is hard to predict (e.g., sea level rise may give people more time to adapt in place or to find regular, well-planned ways to move).⁷ It is particularly difficult to model international migration, since the deciding factor will likely be migration and border policies and how governments choose to manage and respond to climate change-related human mobility, which cannot be captured by scientific projections.

Finally, most climate-vulnerable or disaster-affected communities do not move. Climate events disproportionately impact marginalized groups, who may live in less resilient infrastructure, work in climate-vulnerable livelihoods, or have fewer social and economic resources to adapt and prepare. But these potentially vulnerable groups are often less likely to move. For instance, women may be less likely to evacuate before a cyclone (e.g., because of social norms against going to mixed-gender evacuation centres). Women and children may be left behind in rural villages while men move to cities as agricultural livelihoods weaken, leaving them vulnerable to security risks or forced to take up unsafe livelihoods.

⁷ Much of this movement will be internal and rural-urban, making it difficult but critical to consider climate mobility within urbanization modelling and planning, both the anticipate climate-related movement to cities and to prepare for the impacts of climate change on urban migrant and host communities.

Figure 2: Drivers of Mobility (and Immobility)



Source: Mixed Migration Centre, *Climate change, environmental stressors, and mixed migration: Insights and key messages drawn from a decade of MMC research and 4Mi data collection* (December 2022).

While vulnerable groups may therefore be ‘involuntarily immobile,’ or unable to leave despite wanting to, frontline communities may also *choose* to stay despite adverse impacts of climate change. These ‘voluntarily immobile’ people often have spiritual, familial, or religious ties to their communities of origin. For instance, coastal communities in low-lying atoll states in the Pacific frequently object to calls for them to move, instead wanting more support to adapt in place. Thus, the goal becomes empowering communities impacted by climate change to have the resources and capabilities to either chose to move or to stay.⁸

What is climate change-related human mobility?

There are three basic types of climate change-related human mobility: “i) displacement - understood as the primarily forced movement of persons, ii) migration - primarily voluntary movement of persons, and iii) planned relocation - planned process of settling persons or groups of persons to a new location”⁹ (see Table 1). Importantly, there is no bright line distinguishing these forms of mobility, especially since migration can still be forced or voluntary, so the terminology commonly used is ‘climate change-related human mobility’ or sometimes just ‘climate mobility’ for short, used as an umbrella term to encompass all three forms of mobility. Some forms of mobility can be easily identified and bounded, such as situations

⁸ Caroline Zickgraf, “[Where Are All the Climate Migrants? Explaining Immobility amid Environmental Change](#),” (October 2023).

⁹ Platform on Disaster Displacement, [Leaflet](#) (2019).

of disaster displacement or a planned relocation project, but often the slow-onset impacts of climate change interact with livelihoods to trigger migration and displacement in less direct and measurable ways.

Table 1: Three Types of Mobility

	Displacement	Migration	Planned relocation (or managed retreat)
Definition	“The situation of people who are forced to leave their homes as a result or in order to avoid the impact of a hazard” ¹⁰	“The movement of a person or a group of persons, either across an international border, or within a State.” ¹¹	“A planned process in which persons or groups of persons move or are assisted to move away from their homes or places of temporary residence, are settled in a new location, and provided with the conditions for rebuilding their lives.” ¹²
Duration	Usually temporary with a possibility of extension, repetition, or permanence	Temporary or permanent	Intended to be long-term or permanent
Scale	Internal or international	Internal or international	Usually internal (although not always)

While much focus on climate change-related human mobility is on forced displacement, mobility can also be a tool to strengthen resilience to climate change. Migration can reduce vulnerabilities and offer a risk reduction and coping mechanism to avoid and minimize adverse climate impacts. It can be a strategy for households to diversify their livelihoods, as well as to create opportunities for remittance sending, which can serve as a key financial lifeline for those who stayed behind, allowing them to invest in climate adaptation and resilience and empowering them to remain in place if they wish. Migration can also reduce peoples’ exposure to climate change, helping them move to safer destinations, thus relieving pressures on climate-vulnerable communities of origin (and if well-managed, also meet development and climate action needs in communities of destination). The key, as acknowledged in the 6th Intergovernmental Panel on Climate Change Assessment Report, is to ensure this migration is safe and adaptive, rather than forced.

The term ‘climate refugees’ is prominent in the media and advocacy community to refer to those forced to leave their homes by climate factors (whether within or across borders). However, the term has no legal significance, has not been adopted by the UN High Commissioner for Refugees, and is not the consensus terminology within international refugee law. There is no legal definition of a climate refugee within the existing 1951 Refugee Convention, and being displaced by climate change impacts itself is not

¹⁰ Deutsche Gesellschaft für Internationale Zusammenarbeit et al., [Implementing the Task Force on Displacement Recommendations through Loss and Damage Policy and Practice: A contribution to loss and damage discussions from a human mobility perspective](#) (2023)

¹¹ International Organization for Migration, “[Key Migration Terms](#)”

¹² Brookings, Georgetown University and UNHCR, “[Guidance on Planned Relocation within National Borders: To Protect People from Impacts of Disasters and Environmental Change, Including Climate Change](#)” (2015).

direct or sufficient grounds for refugee protection. There are some protections available under the 1998 Guiding Principles on Internal Displacement¹³, which do recognize natural and human-made disasters as reasons for displacement and provide a protection framework for IDPs, but these are non-binding and only refer to internal displacement, so they leave a legal gap and do not address those who cross borders. A noteworthy exception is the African Union’s legally binding Kampala Convention, which guarantees rights for those displaced by natural disasters. The Cartagena Declaration on Refugees, a non-binding legal instrument in Latin America, includes as refugees those fleeing events “which have seriously disturbed public order,” of which climate events could be included—in both agreements, operationalizing them at the national level has proven difficult.

Which international processes and initiatives address climate change-related human mobility?

The connection between climate change and mobility is a rapidly growing policy priority. For instance, climate mobility is the focus of the 2023/4 Global Forum on Migration and Development and is increasingly featured in the annual Conference of Parties (COPs) of the UN Framework Convention on Climate Change (see Box 1). A range of international actors now also work on climate change-related human mobility,¹⁴ and several countries have joined the state-led Platform on Disaster Displacement (PDD, successor to the Nansen Initiative) to advance a toolkit to respond to situations where people are displaced across borders in the context of disasters and climate change. There is no single forum focused on climate change-related mobility—and such a forum is unlikely to emerge since these issues are so cross-cutting—meaning international dialogue on this issue is integrated across a range of climate change and migration processes. Still, there is growing momentum within international forums to address the issue.

Box 1: A Timeline of Climate Change-related Human Mobility in the Global Processes and Agreements

Climate change-related human mobility emerged on the policy agenda over the course of a decade:

- **December 2010 – UNFCCC Cancun Adaptation Framework:** Called on countries to take “measures to enhance understanding, coordination and cooperation with regard to climate induced displacement, migration, and planned relocation.”
- **October 2012 – Launch of the Nansen Initiative:** Aimed to build consensus among States on key principles and elements to protect people displaced across borders in the context of disasters caused by natural hazards, including those linked to climate change.
- **March 2015 – Adoption of Sendai Framework for Disaster Risk Reduction:** Outlined “targets and priorities for action to prevent and reduce disaster risks,” including those linked to displacement.
- **October 2015 – Endorsement of Nansen Initiative Agenda for the Protection of Cross-Border Displaced Persons in the Context of Disasters and Climate Change:** Presents “a comprehensive approach to disaster displacement that primarily focuses on protecting cross-border disaster-displaced persons [...] [and introduces] measures to manage disaster displacement risks in the country of origin.”

¹³ [UN Guiding Principles on Internal Displacement](#) (2004)

¹⁴ For instance, IOM, UNHCR, ILO, OHCHR, UNDP, UNDRR, UNICEF, UNEP, UN Women, FAO, and the World Bank, among others, have begun activities that focus on climate change-related human mobility.

- **December 2015 – Establishment of the UNFCCC Task Force on Displacement, COP21:** Within the Warsaw International Mechanism for Loss and Damage, the TFD aims to develop recommendations for integrated approaches to avert, minimize and address displacement related to the adverse impacts of climate change.
- **March 2016 – Launch of the Platform on Disaster Displacement:** Successor to the Nansen Initiative, brings together states committed to supporting the implementation of the Protection Agenda.
- **December 2018 – UNFCCC decision adopts recommendations of Task Force on Displacement, COP 24:** Adoption of a set of recommendations to, among others, “facilitate orderly, safe, regular and responsible migration and mobility [. . .] in the context of climate change.”
- **December 2018 – Adoption of Global Compact Migration:** Recognizes the need to “[s]trengthen joint analysis and sharing of information to better map, understand, predict, and address migrations, such as those that may result from sudden-onset and slow-onset natural disasters, the adverse effects of climate change, environmental degradation, as well as other precarious situations.”
- **February 2022 – IPCC 6th Assessment Report reaches conclusions on migration and displacements:** Recognizes that climate hazards act as direct and indirect drivers of migration and displacement, and that “properly supported and where levels of agency and assets are high, migration as an adaptation to climate change can reduce exposure and socioeconomic vulnerability.”
- **November 2023 – UNFCCC Operationalization of the New Funding Arrangements, including a Fund, for Responding to Loss and Damage, COP28:** Decides to operationalise new funding arrangements for developing countries particularly vulnerable to the adverse effects of climate change that cover challenges such as “displacement, relocation, migration.”