



Thinking about Tomorrow, Acting Today: The Future of Climate Mobility

IOM is committed to the principle that humane and orderly migration benefits migrants and society. As an intergovernmental organization, IOM acts with its partners in the international community to: assist in meeting the operational challenges of migration; advance understanding of migration issues; encourage social and economic development through migration; and uphold the human dignity and well-being of migrants.

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Cover photo: Due to the impacts of climate change on livelihood prospects in Guinea, some Guineans have resorted to irregular migration in hopes of finding better economic opportunities abroad. IOM is working with affected communities across the country on ways to mitigate and adapt to the impacts of climate change on their lives and livelihoods. © IOM 2022/
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Heavy rains in January 2017 caused severe flooding in communities and urban areas across Peru with several locations devastated by mudslides and falling rocks. © IOM 2017



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Maurice lost his home on Abaco Island in the Bahamas after Hurricane Dorian hit landfall in August 2019. He lost most of his belongings in the storm but was able to hold on to a few treasured items – including his son's athletic trophy. © IOM 2019/ Muse MOHAMMED



SUMMARY

The global response to climate change and human mobility is at a crossroads. In 2023, the Intergovernmental Panel on Climate Change (IPCC) noted that it is “more likely than not” that global average temperatures will surpass 1.5°C above pre-industrial levels in coming years. Combined with other, ongoing, global challenges this will put States, communities and individuals around the world under unprecedented pressure. Human mobility will be intertwined with all dimensions of the climate crisis over coming years and decades.

An extensive array of international agreements and frameworks attest to the urgency of addressing climate change and human mobility together. But a step-change is needed in the scale of action and the pace of change.

Global action on climate change and human mobility has to be proactive and forward-looking. It has to prepare for and anticipate the changes that are to come. And it has to identify in advance which groups and communities will be worst affected and are most at risk and are likely to move, or will be unable to move, over short and long-term time horizons. This information needs to reach policymakers, practitioners and donors in order to inform policies, actions and investments. And the whole process must accelerate to quickly pilot and scale-up effective action to increase the scope of options available to the individuals, households and communities affected by climate change, including the most vulnerable. There is no time to lose.

IOM is there to help: the Organization is deeply committed to working together with diverse partners to offer effective and innovative responses. This paper puts forward a menu of actions which can be implemented today, to not only address climate mobility that is already taking place but also to better prepare for and anticipate the impacts of climate change on the movement of people in the future. It highlights the breadth of opportunities which are already to hand for taking action now to prepare for tomorrow.

The actions proposed cover a three-pronged approach to tackle climate mobility comprehensively. This includes, first of all, *solutions for people to move*, promoting migration as adaptation to climate change and ensuring that those who choose to move can do so in a safe, orderly and regular manner; whilst enhancing the positive impacts of their mobility for themselves, their families and communities of origin and destination. This involves integrating more strategic and humane mobility policies into regional and national adaptation plans. Secondly, there is a set of *solutions for people on the move*, ensuring that those who have moved are provided with necessary support and assistance, including through comprehensive humanitarian programming. Finally, there are *solutions supporting people to stay* by offering options for remaining in areas of origin in a dignified manner and reducing forced displacement. These three avenues of action are interlinked, for example positive impacts of migration can be a powerful factor in enabling in situ adaptation and reducing forced displacement.

However, delivery requires greater technical capacity and sustainable resources. Existing climate funding arrangements rarely consider issues of mobility. Investors, including the private sector, need to support forward-looking and innovative solutions that will create change where it is most needed. Climate finance must have human mobility integrated throughout. As States discuss modalities to create a new fund for loss and damage, there is an historic opportunity to embed climate mobility into the mechanism from the outset and thereby to provide the much-needed impetus for climate mobility action in countries that are particularly vulnerable to the adverse effects of climate change.

Global cooperation and partnerships must continue and expand across different sectors and among diverse stakeholders, with the inclusion of migrants and local communities most vulnerable to climate change. The international community needs to come together to harness the power of migration for effective climate response and for climate resilient development before time runs out.

To be prepared for cases of forced migration during the country's bitterly cold winter, IOM organized an emergency preparedness simulation exercise in Bulgan and Sukhbaatar provinces (aimags) with Mongolia's National Emergency Management Agency (NEMA). © IOM 2018





PART 1: FUTURE THINKING ON CLIMATE MOBILITY

CLIMATE MOBILITY AT A CROSSROADS

The global response to climate change and human mobility is at a crossroads. The United Nations Secretary-General has issued a warning: “We are hurtling towards disaster, eyes wide open”.¹ In Paris in 2015, 196 parties at the United Nations Climate Change Conference agreed to pursue efforts “to limit the global temperature increase to 1.5°C above pre-industrial levels to avoid irreversible future changes to the planet”. But, in 2023, the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) has noted that it is “more likely than not” that global average temperatures will surpass 1.5°C above pre-industrial levels in coming years.² Going beyond it will bring about far more severe climate change impacts, including more frequent and severe droughts, heatwaves and rainfall.³ Combined with other global challenges from conflict to economic downturn, food insecurity and the enduring impacts of the COVID-19 pandemic, climate change is putting unprecedented pressure on States, societies and individuals around the world.

Human mobility is deeply intertwined with all of the key dimensions of climate and adaptation policy, action and implementation.⁴ Approximately 32 million people worldwide were displaced within their countries by disasters in 2022,⁵ and the direct effects of climate change, exacerbated by secondary impacts such as declining agricultural productivity, are estimated to cause the internal migration of 44 to 216 million persons by 2050 depending on the emission scenario.⁶ For many, deciding to move can be a positive adaptation strategy. The IPCC Sixth Assessment Synthesis Report (2023) states that

policy interventions can remove barriers and expand the alternatives for safe, orderly and regular migration that allows vulnerable people to adapt to climate change. Others, however, move because they have no other choice. Moving away from a disaster zone can be lifesaving. And for many more, especially those in vulnerable and socially marginalized groups, migrating will not be an option because it requires opportunities as well as economic and other resources that they simply do not have.

An extensive array of international agreements and frameworks attest to the urgency of addressing climate change and human mobility together. Linkages between climate change and human mobility have been made in the context of the United Nations Framework Convention on Climate Change (UNFCCC), notably the Paris Agreement, and in the Sendai Framework for Disaster Risk Reduction. The main migration frameworks, such as the Global Compact for Safe, Orderly and Regular Migration, also acknowledge and address climate migration. And yet, despite the progress that these international agreements have made, and the many strong examples of policies and programmes implemented across the world addressing climate change and human mobility together, the scale of action and the pace of change have so far been insufficient. A step-change is urgently needed – there has to be a stronger determination to act without further delay. Stronger evidence-based advocacy and inclusive engagement of different groups and communities affected can help to build up the much-needed momentum.

¹ United Nations (2023).

² IPCC (2023).

³ United Nations Climate Change (n.d).

⁴ Linkages between the two phenomena have been repeatedly recognized by States. This includes explicit references in the context of UNFCCC (such as the 2010 Cancun Adaptation Framework, the 2015 Paris Agreement, the 2021 Glasgow Pact, and the ongoing work of the Task Force on Displacement under the Warsaw International Mechanism for Loss and Damage), the Sendai Framework for Disaster Risk Reduction, and the key global migration policy processes (the Global Compact for Safe, Orderly and Regular Migration and the 2022 International Migration Review Forum Progress Declaration). In recent years, the climate change and human mobility nexus has also gained increasing prominence at annual COPs. In 2022, the human mobility and climate change nexus was referred to throughout the official negotiations, high-level presidential and ministerial events, and side events. At the conclusion of the COP, several [COP27 decisions](#) included human mobility dimensions.

⁵ IDMC (2023).

⁶ World Bank (2021).

Global action on the climate change and human mobility nexus needs a new perspective. It has to be proactive and forward-looking. Over recent decades, ever-greater urgency has been placed on being able to anticipate, prepare for and respond to challenges arising in the future. The United Nations Secretary-General's report *Our Common Agenda* has issued a wake-up call to strengthen global governance for future generations. In 2024, the United Nations Summit of the Future will seek to “forge a new global consensus on readying ourselves for a future rife with risks but also opportunities”.⁷ Together with the 28th Conference of the Parties to the UNFCCC (COP) in November and December of 2023, these milestones can be a catalyst for greater use of foresight to drive action on climate mobility.

This paper makes the case for a forward-looking approach to climate mobility. It outlines why climate mobility is important now, why it will be more so

in the future and proposes a series of actions for a comprehensive response that would not only help to save lives and protect human rights and dignity, but also harness the power of migration to contribute to development. These actions should be built on evidence-based advocacy and inclusive broad-based partnerships for action. They should also have a focus on engaging and supporting the individuals and communities which are particularly vulnerable to the effects of climate change. Mobilization of investors, including the private sector, will be vital to enable forward-looking and innovative solutions that will create change where it is most needed. To inspire action, the paper closes with practical examples of effective solutions, drawing on IOM's experience of working with governments, other United Nations agencies and partners at global, regional, national and local level.

Human mobility at COP28 and beyond

COP28, taking place in November and December 2023, presents an important opportunity for the UNFCCC parties to advance on making human mobility an integral part of the global efforts to address climate change impacts. To do so, it is key that the outcomes of COP28:

1. Acknowledge that human mobility is a crucial element of climate adaptation efforts from two perspectives:
 - prevention, preparedness, risk reduction and sustainable development measures are fundamental adaptation efforts that offer people the choice to stay with dignity and in safety in their areas of origin;
 - well-managed migration, including migration pathways, can represent a positive adaptation strategy to devastating climate impacts by enabling safe and informed decisions on mobility.
2. Integrate human mobility considerations into the new fund for Loss and Damage to help address displacement and reduce negative impacts on populations.

At COP28, the United Arab Emirates Presidency aims to produce a clear plan of action to “put the world on the right track”. Human mobility should be at the centre of this plan and the solutions that are put on the table. This includes the operationalization of the new funding arrangements on loss and damage decided at COP27 to support the most vulnerable in addressing climate change related loss and damage.

The technical dialogues for the first Global Stocktake to comprehensively assess progress towards the Paris Agreement find that many creative and actionable solutions are ready to be implemented.⁸ At COP28, participants need to look forward and ask what the world should look like at the second Global Stocktake in five-years' time, and what more needs to be done on climate mobility to help achieve the desired change.

⁷ United Nations (n.d)

⁸ An advance version of the synthesis report of the technical dialogue for the first Global Stocktake was published on 8 September 2023. See United Nations Framework Convention on Climate Change (2023) for a [summary](#) and here for the [document](#).

Beyond COP 28, to keep up the momentum and advance solutions, the human mobility and climate change nexus should be on the table at other key upcoming policy discussions: the SDG Summit and the implementation of the 2030 Agenda, the new round of regional reviews of the Global Compact for Safe, Orderly and Regular Migration, the Secretary General's Action Agenda on Internal Displacement, and the Sendai Framework for Disaster Risk Reduction.

INFORMING FUTURE-ORIENTED SOLUTIONS

In many parts of the world, the future effects of climate change will be dramatic. Projections of when and where people will be exposed to climate-related hazards such as sea level rise, floods and heat stress are becoming increasingly precise, and they paint an alarming picture.

The general trajectory for human mobility is known; people are already moving in contexts of climate change and most of this climate-related mobility is currently taking place within countries.⁹ Large-scale rural to urban movements are driving rapid growth of the worlds' cities, often fueled by the detrimental impact of the changing climate on rural livelihoods. Meanwhile, there have been over 200 million internal displacements due to weather-related disasters recorded worldwide over the past decade.¹⁰ The next section provides some further figures illustrating different aspects of the climate mobility nexus.

Climate Change and Human Mobility: Key facts and figures¹¹

- Across the past decade, floods, storms, wildfire and other weather-related disasters have caused an average of 21.9 million annual displacements worldwide per year.
- In 2022, displacement from floods, storms, wildfire and other weather-related disasters rose to 31.8 million – over twice as many as were caused by conflict and violence.
- By 2030, an estimated 50 per cent of the world's population will live in coastal areas exposed to flooding, storms and tsunamis. These are expected to increase in frequency and magnitude in many regions, raising the risk of future displacement.

- Depending on future emission and demographic pathways, sea-level rise is projected to force the displacement of tens to hundreds of millions of people by 2100.
- By 2050, more than one billion people are expected to be at risk from coastal-specific climate hazards. Between 186 and 245 million people in Africa are expected to be exposed to sea-level rise by 2060 as a result of high coastal urbanization rates and climate change impacts.
- By 2100, between 50 and 75 per cent of the human population may be exposed to periods of life-threatening temperature and humidity conditions.
- Globally, at 1.5°C global warming the likelihood of extreme agricultural drought is projected to increase by at least 100 per cent over large areas of northern South America, the Mediterranean, western China and high-latitude North America and Eurasia.
- A 2°C warming is projected to increase the global population exposed to agricultural drought by 370 per cent.
- Under a 2°C warming scenario, 37 per cent of the global population will regularly experience severe heat, and more than 350 million people will be exposed to uninhabitable temperatures by 2050.¹²

Data and the difficulty of modelling the future

While there has been considerable progress in understanding the biophysical impacts of global warming across the world in coming decades, there are high uncertainties about how human mobility

⁹ IPCC (2022).

¹⁰ IDMC (2023).

¹¹ These facts and figures are drawn from: IDMC (2023); IPCC (2022); and IOM (2022c).

¹² UN-Habitat (n.d).

patterns will respond to these disruptions. Most statistical models indicate that certain climate-related factors have some effect on migration; however, there is no consensus on how strong that effect is or, in some cases, even whether the effect is positive or negative.

Climate change is projected to increase the frequency and magnitude of weather-related hazards. Without effective adaptation measures, this may lead to a higher rate of displacements in many parts of the world. Compared to exposure to climate hazards, projections of human mobility are less developed and have not yet produced consensus. For example, while the Groundswell model forecasts that global warming increases internal migration in Africa, while the African Climate Mobility Model (ACMM) forecasts the opposite. The slow-onset changes that affect human mobility in a gradual way are deeply intertwined with other processes of demographic, economic and social change.

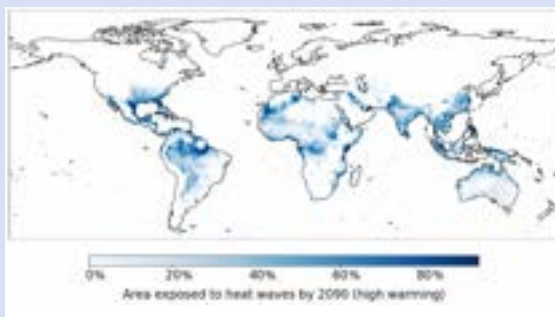
Advanced statistical techniques and higher quality mobility data can help to move towards consensus; however, fully grasping the implications of climate change and human mobility now and in the future requires a new perspective that zooms into the specific processes and dynamics of individual contexts. IOM is working to close this evidence gap through its extensive on-the-ground coverage of sudden-onset environmental events and mobility outcomes of affected communities. At the end of 2022, 31 of 95 countries with active operations of IOM's Displacement Tracking Matrix (DTM) reported collecting data on internal displacement due to natural hazards, and 30 countries reported that DTM data was used to inform environmental and climate change-related evidence and programming.

It is clear, however, that new approaches are needed for a more nuanced understanding of climate change impacts and how they relate to migration and displacement. IOM is modelling data to gain granular insights and inform action. This is outlined in more detail below.

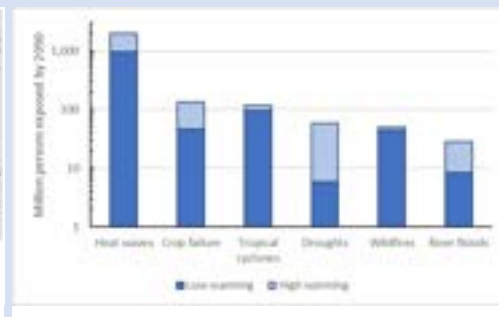
Mapping risk and vulnerability: hotspot analysis

IOM's Global Data Institute has combined future global projections of mobility-related climate hazards [1] and population densities [2] to identify most at-risk areas and populations. The data reveal strong impacts of global warming on the number of persons affected; e.g. a high- compared to a low-warming scenario more than doubles the projected human exposure to heat waves by 2090 (from c. 1 billion to c. 2 billion persons) and increases exposure to drought by around ten times (from c. 6 million to c. 60 million persons). An interactive dashboard allowing users to explore future global hotspots and human exposure to climate impacts across time and under different climatic and socioeconomic scenarios is available on IOM's [Global Migration Data Portal](#).

(a)



(b)



Projected human exposure to mobility-related climate hazards. (a) Projected land area exposed to heat waves by 2090 under a high-warming scenario (RCP6.0). **(b)** Projected number of persons exposed to different mobility-related climate hazards under a low- (RCP2.6) and high-warming (RCP6.0) scenario.

Looking beyond the numbers

More can be done to systematically think about drivers of change that will reshape human mobility, and the actions that governments and the international community more broadly should take to prepare. Over recent decades, the range of methods and data used to inform forward-looking analysis, policy and programming has significantly increased. Some approaches focus on estimating small-scale processes looking ahead in the short term.¹³ Others take a broader view over longer periods of time in order to illustrate the range of possible opportunities, challenges and responses that the future holds, and facilitate reflections on how to develop resilient governance systems.¹⁴ Underpinning all of these approaches is an awareness of past trends, drivers of change in the present and potential opportunities and challenges that will arise in the future.

Any understanding of the future and what it will bring is imperfect at best. Better data can help, but it is not a magic wand. A broad range of evidence should be used to bring a comprehensive and holistic understanding of human mobility to the climate response of the future, whilst accepting that the future is not completely predictable. Looking to the future also requires the inclusion of diverse viewpoints, with

special attention to the experiences and aspirations of migrants and the groups most vulnerable to the impact of climate change. It should be tailored to the local contexts and communities that migrants move to and from, as well as the connections between these and broader regional and global scales. Cities and small island developing States (SIDS) are at the forefront of the climate change and human mobility nexus and should be key focus points for such assessments.

Having sufficient evidence for a more nuanced analysis at community level to enable a differentiated understanding of impacts on specific groups is also important. This is needed to identify and prioritize support to the most vulnerable. For example, women and girls and young people are often especially exposed to the effects of climate change, as they tend to be disadvantaged in terms of land ownership, having a sustainable income and ability to access opportunities that could increase their resilience.¹⁵ At the same time, these groups can be mobilized to effectively promote climate action, disaster risk reduction and resilience-building, acting as powerful agents of change within their communities. Empowering them to fully participate in decision-making is crucial.¹⁶

Urbanization in the context of climate change

Around the world, more people are living in cities than ever before. In the 1950s, an estimated one third of the global population resided in urban areas. This is projected to rise to approximately two thirds by 2050.¹⁷ The majority of this growth will be in countries of the Global South. From 1975 to 2020, the city population in low-income countries grew fourfold to approximately 300 million and by 2070 it is projected to exceed 700 million, far more than in the rest of the world.¹⁸ Rural to urban migration, intertwined with the effects of climate change, has been a key driver of this growth.

Urbanization poses challenges to efforts to address climate change. Urban areas are responsible for the majority of the world's carbon emissions.¹⁹ The global urban land footprint is projected to result in average summer daytime and night-time air temperatures rising by between 0.5 °C and 0.7 °C in

¹³ For example, food security early warning systems monitor changes in indicators of food production, availability and access in order to give decision makers time to plan for and respond to potential humanitarian crises. These rely on pre-existing projections of future food security outcomes which are based on trends in consistently collected data over months and years. See also [Famine Early Warning Systems Network](#) and [FAO-WFP Hunger Hotspots](#).

¹⁴ For example, [The Global Programme on Human Mobility in the Context of Climate Change](#), implemented by GIZ, developed scenarios for climate-induced migration in the Commission of the Organisation of Eastern Caribbean States region for the year 2025, graded these according to their plausibility, and discussed how to prepare for them. They regarded political coordination in establishing and expanding capacities as a key prerequisite for improving regional resilience to climate risks.

¹⁵ Traore Chazalnoël, M., D. Ionesco and I.E. Duca (2020).

¹⁶ Against this backdrop, in 2022, UNICEF, IOM, Georgetown University and the United Nations University released [Guiding Principles for Children on the Move in the Context of Climate Change](#) to set out how States can protect and empower children on the move in the context of climate change, see: UNICEF et al. (2022).

¹⁷ UN-Habitat (2022).

¹⁸ UN-Habitat (2022), p. xviii.

¹⁹ UN-Habitat (2022), p. xxii.

general, and up to 3 °C in some locations.²⁰ The increase in extreme weather events will hit cities particularly hard. For example, people who settle in low-cost or informal settlements are more likely to be exposed to environmental hazards, such as poor water quality or risks from landslides and floods.²¹

But for many, moving to a city within their country of origin or residence will provide vital opportunities and be less costly than moving to another country. Cities have been described as “powerhouses of economic growth and catalysts for inclusion and innovation”.²² When planned and managed effectively, urbanization can be driver of development. As a result, cities need to be at the forefront of actions on human mobility and climate change.

CLIMATE MOBILITY: SOLUTIONS FOR THE FUTURE

What can be done to ensure that well-managed migration is an integral part of solutions to address the climate emergency? There are many options available to States, individuals and communities to address human mobility in the context of climate change, and a range of practical examples. But the international community needs to move quicker to pilot, replicate and scale-up effective action which contributes to increasing the scope of options available to the individuals, households and communities affected by climate change, including the most vulnerable. IOM is committed to continue supporting these efforts, working together with diverse partners to offer effective and innovative migration responses.²³

Comprehensive climate mobility solutions

Looking to the future, the following three-pronged approach²⁴ should guide the efforts to bring transformational change for societies, individuals on the move and their communities across the world:

1. **Solutions for people to move:** well-managed migration, including regular migration and labour migration pathways, can represent a positive adaptation strategy to devastating climate impacts in most vulnerable areas.
2. **Solutions for people on the move:** loss and damage²⁵ linked to disaster displacement can be reduced and addressed by anticipating and

preparing for an increase in scale, scope and frequency of disasters and including climate risks in humanitarian responses and durable solutions to end displacement.

3. **Solutions for people to stay:** promoting sustainable development measures, building community resilience and preventing and reducing disaster risks can help people adapt to climate impacts and offer them the choice to stay with dignity and in safety in their areas of origin.

Specific actions for implementing these solutions are set out in the table below titled *Harnessing the Power of Migration for a Better Future: towards Effective Action on Climate Mobility*. This is not an exhaustive list, but a menu of options to encourage governments and the broader international community to undertake action today, which prepares for and anticipates future climate mobility. Contextualization is needed to determine which of the proposed actions would be most impactful, and, when implemented, they need to be tailored to specific settings and the needs of all relevant groups and communities.

There are several cross-cutting prerequisites to putting these solutions into practice effectively and at scale. This concerns both how the solutions need to be developed and implemented, as well as the enabling factors that need to be in place to make it possible.

²⁰ Huang et al. (2019).

²¹ Adger et al. (2020).

²² UN-Habitat (2016).

²³ This draws on almost three decades of experience working on climate change, environmental degradation, disasters and human mobility in policy, research and operational activities. It spans from the first publication on this issue in 1992 to the establishment of a dedicated Migration, Environment and Climate Change (MECC) Division in 2015 and the finalization of an Institutional Strategy on Migration, Environment and Climate Change for 2021–2030.

²⁴ Building on its experience and working in partnership with multiple stakeholders, IOM has identified these three areas for action, as outlined in IOM *Institutional Strategy on Migration, Environment and Climate Change for 2021–2030*. The Strategy aims to guide joint work with a wide range of actors, including through the United Nations Network on Migration and the Warsaw International Mechanism Task Force on Displacement, and to address needs, challenges and opportunities observed on the ground.

²⁵ “Loss and damage” can be understood as the consequences of climate change that go beyond what communities and individuals can mitigate or adapt to. Qi et al. (2023). International Institute for Sustainable Development. See also Thomas, A. (2022).

Cross-cutting approaches

Three key approaches should underpin the proposed efforts to address mobility related to climate change.

First of all, all three sets of proposed solutions need to draw on **forward-looking analysis** of quality data to inform decision-making. Early warning mechanisms bringing together contextual and trend data from diverse sources can contribute to faster delivery of disaster response. Scenarios of long-term future transformations can enable governments to make sense of the potential implications of climate change and reflect on their options for action. These insights need to be connected to decision-making and delivery of solutions on the ground.

Secondly, **broad-based partnerships** are another prerequisite for the success of the proposed solutions. Their development and operationalization require bringing together public and private sectors, and stakeholders with expertise in a range of thematic areas in the migration, climate as well as humanitarian, development and peace sectors, and different levels from local to global.

Direct involvement of the affected communities is also essential and should ensure the inclusion of diverse groups, including the most vulnerable. This is needed for the third key approach applicable to all climate mobility solutions – **targeted approaches tailored to the needs and aspirations of the most vulnerable** groups and communities. Ensuring that no one is left behind requires paying particular attention to the groups that have limited adaptive capacity, including fewer options to move in a safe manner. This includes women, youth, children, the elderly, persons with disabilities and marginalized groups.

Key enabling factors

The breadth of options is clear. It is time to move to action, but doing so requires sustainable resources both in terms of institutional capacities and funding. Skills in early warning, foresight and strategic planning, expertise in different facets of climate mobility as well

as the structures and processes to link these skills and knowledge to policy and action are paramount. More broadly, there is a need to consider how well the policies and systems governments have in place enable them to address not only the current but also emerging issues. The Migration Governance Indicators (MGI)²⁶ is a tool to help governments take stock of and identify areas of improvement in their migration governance systems, including institutional structures and approaches for addressing climate change and human mobility. The data collected shows significant gaps in crisis response mechanisms and the inclusion of climate mobility in strategic and contingency planning. For example, two thirds of the countries that have completed the MGI process lack a strategy with specific measures to assist migrants before, during and post crisis in the country, which is key to addressing the impact of climate change.

Given the importance of multi-stakeholder engagement at different levels, capacity development efforts need to target not only governments, but also other key players. This as well as the development and implementation of forward-looking actions requires sustainable and predictable funding. Mobilizing investors to ensure funds are available enable innovation and stretch across short, medium and long-term time horizons is essential.

Climate finance is key to scale-up activities that address different facets of the climate mobility nexus. Yet, existing climate funding arrangements rarely consider issues of mobility, leaving gaps in the current climate finance architecture. Mobility needs to be better incorporated into climate funding considerations to ensure investments meet their intended outcomes. Existing funding mechanisms not only fail to address climate mobility *per se*, they also do not usually consider mobility implications of climate actions. In some cases, these may lead to adverse outcomes. For example, investing in climate-resilient infrastructure may attract migrant workers to places where they are vulnerable to climate change or disasters.²⁷ It is important to devise approaches that consider how human mobility interacts with

²⁶ The MGI programme is a tool that was developed in 2016 by IOM. It supports governments to take stock of the comprehensiveness of their migration policies and to identify gaps and areas that could be strengthened. Since its inception, national governments and local jurisdictions in over 100 countries have participated in the process. The indicator framework contains a number of indicators related to climate change and disaster risk reduction. Eighty-four countries were surveyed for the publication [Migration Governance Indicators Data and the Global Compact for Safe, Orderly and Regular Migration: A Baseline Report](#) (IOM, 2022c). Only 20 per cent of these countries had strategies in place to address migration linked to environmental degradation and climate change; 43 per cent had a contingency plan to manage large-scale population movements in times of crisis, and 33 per cent had a disaster risk reduction strategy with provisions for preventing and addressing the displacement impacts of disasters.

²⁷ Huang, L. (2022).

local contexts, as well as technical and financial tools to inform and support large-scale investments. This would contribute to impactful investments based on a more comprehensive understanding of risks and calculations of potential financial returns.²⁸ At the same time, there is a need for funding to address climate mobility specifically, to support the three pronged solutions approach outlined above. This includes support to build community resilience and enhance infrastructure to facilitate adaptation in places of climate displacement, so people have a choice to stay in dignity and safety in their areas of origin. It also involves supporting operational responses, such as early warning systems.

Supporting well-managed migration is also key, by, for instance opening regular migration pathways be

it by planning the relocation of populations at risk or creating labour migration opportunities to help people to adapt to climate impacts and reduce the likelihood of displacement in climate hotspots.

As States discuss modalities to create a new fund for loss and damage,²⁹ countries negotiating the implementation of the Paris Climate Agreement have an historic opportunity to (i) embed climate mobility issues from the outset in funding arrangements for loss and damage and (ii) ensure that existing climate funding mechanisms support mobility programming moving forward.

This opportunity is not to be missed – it is essential that the human mobility is included in the modalities of the new fund.

Youth and climate mobility for future generations

The largest youth generation in history will transition to adulthood facing the global climate crisis of tomorrow. It is reshaping the trajectory of their future and the opportunities they will be able to seize. But young people also represent an immense source of energy, innovation and inspiration for the future. They are powerful agents of change when it comes to promoting climate action, disaster risk reduction and resilience-building. From Greta Thunberg's Fridays for Future school strike to the UN-Secretary General's Youth Advisory Group on Climate Change, young people around the globe are demanding that their opinions are heard, and that real environmental change is enacted.³⁰

In the context of climate and environmental change, migration can amplify challenges faced by youth, such as family separation and dangers linked to migration through irregular channels. However, migration can also offer new opportunities, such as access to new work, educational prospects and can be a vital rite of passage for the transition from childhood to adulthood. **For youth to reach their full potential, migration must be a choice.**³¹ More access needs to be given to youth to participate in policy discussions and decision-making bodies³² that will impact their future over coming decades.

²⁸ Huang et al. (2022).

²⁹ COP27 Decision 2/CP.27 on a new fund and new funding arrangements for responding to loss and damage associated with the adverse effects of climate change, highlights the need for parties to "consider the gaps within the current funding landscape, including the types of gap, such as relating to speed, eligibility, adequacy and access to finance, noting that these may vary depending on the challenge, such as climate-related emergencies, sea level rise, displacement, relocation, migration, insufficient climate information and data, or the need for climate-resilient reconstruction and recovery."

³⁰ Sangster, S. (2021).

³¹ In past years, young people from all over the globe made it clear that migration was at the core of their future concerns. At COP27, they released a [COP27 Global Youth Statement](#) that makes multiple references to migration, and adopted the first [African Youth Declaration on Climate Mobility](#). At COP28, Parties should continue leveraging this formidable force to support the development of approaches on human mobility that positively impact the youth of today and tomorrow.

³² For instance, one of the major recent policy advances on human mobility and climate change, supported by IOM, the 2022 [Kampala Declaration on Migration, Environment and Climate Change](#), also integrated youth messages.

HARNESSING MIGRATION FOR A BETTER FUTURE: TOWARDS EFFECTIVE ACTION ON CLIMATE MOBILITY

Cross-cutting approaches



1. Solutions for people to move



2. Solutions for people on the move



3. Solutions for people to stay

Broad-based partnerships
Evidence-based policymaking and action
Targeted approaches and focus on the most vulnerable

Actions

- ▶ Develop estimates of population exposure to slow onset climate effects, such as rising sea levels, to inform comprehensive frameworks for planned relocation
- ▶ Undertake surveys to understand which individuals, groups and communities would consider mobility as a form of adaptation to future climate change
- ▶ Integrate climate-related human mobility in national climate change and development policies, plans and programming
- ▶ In disaster situations, regularize migrants who are in an irregular situation, in line with national laws
- ▶ Develop, implement and scale up targeted skills training in affected communities for better future outcomes
- ▶ Develop and implement regional transhumance frameworks to create long-term structures allowing people to move in the future, while facilitating livelihoods
- ▶ Develop city growth and development strategic planning mechanisms which prepare for expansion driven by future internal and international mobility
- ▶ Employ long-term strategic foresight to unpack how regional free movement protocols and frameworks contribute to climate change adaptation

- ▶ Integrate migration into early warning mechanisms relating to disasters, extreme weather and food insecurity
- ▶ Invest in multisectoral and multidisciplinary data and evidence mechanisms to trace the drivers of crises and displacement and their impact on vulnerable groups
- ▶ Develop inter-agency and multi-partner working groups linking evidence to humanitarian planning and action
- ▶ Integrate climate risks into humanitarian response and related policies, plans and programming
- ▶ Collaborate with relevant stakeholders at local, national and regional levels for policy coherence
- ▶ Establish non-return policies for migrants, to be activated when their countries are experiencing disasters
- ▶ Prepare mechanisms to grant, expedite, or waive visas and other entry requirements in situations of future disasters
- ▶ Ensure protection and assistance for disaster displaced persons, when needed, and promote durable solutions

- ▶ Produce risk assessments and analysis related to human mobility and future climate change
- ▶ Strengthen local disaster risk reduction capacities to prevent and respond to future crises
- ▶ Undertake systematic evidence collection and horizon scanning to assess trends in vulnerability and need in climate change affected locations
- ▶ Facilitate participation of migrants, displaced person, diasporas and communities in all climate action
- ▶ Identify opportunities to enable diasporas to contribute to climate action, such as through green diaspora bonds, skills exchanges and capacity-building
- ▶ Facilitate the reintegration of returning migrants via “green reintegration” packages
- ▶ Develop climate resilient infrastructure in the face of natural hazards or in post-crisis reconstruction
- ▶ Build scenarios of impacts of climate change on mobile and immobile populations and use them to inform long-term planning of resilient governance systems
- ▶ Develop sustainable climate livelihoods for at risk populations

Foundational elements



Technical capacity



Sustainable resourcing

The Jon Knes village is known as the “floating village”. They rely largely on fishing as their main source of income which has been getting more difficult over the past several years. It's becoming harder to catch quality fish due to climate change. © IOM 2016/ Muse MOHAMMED





PART 2: CLIMATE MOBILITY SOLUTIONS IN PRACTICE

SPOTLIGHT ON ACTION

This section is structured around the three-pronged approach to addressing climate change and human mobility outlined above. It provides a range of practical examples to illustrate the actions to take them forward. While these examples show interventions developed in response to context-specific needs, they may inspire policymakers in other geographic settings who seek to identify and replicate good practices. A forward-looking perspective can help to determine where, when, how and for whom these solutions can be replicated and scaled-up to amplify their impact and accelerate local action on a global scale.

1. Solutions for people to move

Labour migration in support of climate change adaptation

Enhancing the ability of affected communities to access labour mobility schemes and pre-departure orientation on safe migration initiatives can provide a much-needed lifeline and enhance livelihoods. In Haiti, seasonal labour migration has been associated with lower vulnerability and increased resilience of migrants' households to adapt to the effects of climate change.³³ Initiatives such as the Pacific Climate Change Migration and Human Security (PCCMHS) programme help increase the capacity of governmental and non-governmental stakeholders to promote labour mobility as a safe, regular and inclusive adaptation response. In the Pacific, providing opportunities for regular migration in line with the demographic trends and the changing global labour market will be critical. Investing in skills development and skills recognition will help to realistically meet future labour shortages and spur economic development.

Forward-looking action for small island developing States

Small island developing States (SIDS) are acutely exposed to climate change and face particularly severe financial, social, and existential threats related to climate change. Sudden disasters such as cyclones and slow-onset hazards including rising sea level and the salination of agricultural land pose a severe challenge to all aspects of life on SIDS, including livelihoods, housing, health, culture, heritage and identity.

However, SIDS are also at the forefront of the response to climate change, by establishing innovative and sustainable solutions which go beyond mitigation. Mobility has already become a key survival strategy, with large movements of communities on the horizon if action is not taken. Mobility provides various opportunities to adapt to climate change. Planned resettlement could enable communities to start anew in safer locations without losing their social networks and unique cultures and traditions, but this is a last resort.³⁴ Several hundred planned relocation exercises are underway across the world,³⁵ with most taking place over short distances (less than two kilometres) and more than half involving indigenous populations. Countries like Fiji³⁶ and Solomon Islands³⁷ have already developed policy frameworks that govern relocation efforts at the

³³ IOM (2017).

³⁴ Nazarova, Y. (n.d).

³⁵ A recent review identifies over 300 planned relocations in 60 countries across the world, with half of those cases in Asia. See Bower and Weerasinghe (2021).

³⁶ The Fijian Government has developed [Planned Relocation Guidelines: A framework to undertake climate change related relocation](#) (Ministry of Economy, Republic of Fiji, 2018).

³⁷ For more information see <https://solomons.gov.sb/planned-relocation-guidelines-handed-over-to-government/>.

national level. Remittances and diaspora finance can also be mobilized to fund infrastructure work which is resilient to rising sea levels. Across the Caribbean and the Pacific, governments, development partners and the United Nations are pioneering initiatives to address climate disasters and mobility which serves to avoid worst case scenarios particularly for vulnerable groups.³⁸ In all cases, the community's ownership of the decision-making process (whether, when and where to relocate) leads to better outcomes.

Regular migration pathways for the climate vulnerable

Developing policy options that allow the most vulnerable to access regular migration pathways is key to providing protection and assistance to those most impacted by climate impacts. A range of measures such as humanitarian visas can provide safe and regular pathways to those already on the move. For instance, the Brazilian Government developed humanitarian visas allowing the entry and stay on humanitarian grounds of Haitians³⁹ whilst the Temporary Protected Status (TPS) policy of the United States has allowed people to stay in the United States if their origin country was experiencing a disaster.⁴⁰ The Government of Chile instituted new migration policies in 2018, including the establishment of new visa categories. These changes provided better access to regular migration pathways to migrants originating from environmentally fragile areas such as Haiti.⁴¹ Such cases, however, remain an exception rather than the rule.⁴² Looking ahead, stronger analysis of lessons learned from current policy developments will be key to inform future policy thinking.

2. Solutions for people on the move

Improving migrant health in contexts of climate change

Climate change is expected to aggravate climate-related health hazards and fatalities due to malnutrition, such as increased propagation of vector-borne diseases like malaria and dengue and heat stress. For instance, air pollution is a pressing public health issue in the big cities of Kyrgyzstan and its impacts are exacerbated by the effects of climate change.⁴³ The capital, Bishkek, is the largest national hub for internal and international migrants and has repeatedly ranked as one of the most polluted cities in the world. Work is underway in migrant settlements to assess the impact of air quality on migrant health (including the differentiated impacts on women, men and children) and to support communities-led projects that address air pollution through green initiatives.

In the Brazilian Amazon, climate change and deforestation have led to increased migration of Indigenous groups. The area is often a transit point for incoming migrants from other countries in Latin America. Efforts aligned with the One Health⁴⁴ approach help to strengthen community resilience in border municipalities, including of indigenous people. This is achieved through generating new data and evidence, increasing awareness of prevention measures and of treatment options and providing training, equipment and supplies to identify and treat climate-related health hazards. These initiatives all have the potential to reduce the specific health and climate vulnerabilities experienced by people on the move and encourage migrant-inclusive action at the local level.

³⁸ <https://sdgs.un.org/events/human-mobility-partnerships-SIDS>.

³⁹ IOM (2018).

⁴⁰ For more information, see www.uscis.gov/humanitarian/temporary-protected-status.

⁴¹ In Haiti, IOM runs a visa processing centre that provides administrative support services to assist Haitians wishing to join their families in Chile through the Family Reunification Visa. For more information, see www.iom.int/news/iom-supports-new-legal-pathway-haitians-chile.

⁴² Of the 84 countries who have undertaken the Migration Governance Indicators assessment between 2016 and 2022, less than half have specific provisions in their immigration procedures for migrants from a country of origin experiencing a crisis. See IOM (2022d).

⁴³ IOM (2022b).

⁴⁴ One Health is an approach to designing and implementing programmes, policies, legislation and research in which multiple sectors communicate and work together to achieve better public health outcomes. The [One Health approach](#) is critical to addressing health threats in the animal-human-environment interface.

Anticipatory action to reduce conflicts over natural resources

Insecurity and climate variability have led to shifts in seasonal pastoralist movements in various areas of the world, notably in West and Central Africa. In Mali, Burkina Faso and the Niger, the increasing unpredictability of international herder movements due to climate variations has led to recurrent local conflicts with sedentary farming communities. In this region, IOM's Transhumance Tracking Tool⁴⁵ provides an early warning system by facilitating the collection and sharing of data on key issues, such as conflicts over water resources and grazing lands. In Kenya, ongoing activities promote social cohesion among communities to prevent resource-based conflict.⁴⁶ Looking ahead, national but also transnational responses to anticipate and address local conflicts linked to dwindling resources will be key in regions where the adverse climate impacts destabilize communities.

Regional cooperation galvanizing climate mobility action

The 2022 Kampala Ministerial Declaration on Migration, Environment and Climate Change represents a commitment from nations across the East and Horn of Africa to act together at the regional level, as well as the national level, not only to respond to the harsh impacts of climate change on human mobility, but also to leverage the opportunities that human mobility brings. The Declaration is the first Member State-led, comprehensive and action-oriented framework to address climate-induced mobility in practical and effective ways. It presents a series of commitments to strengthen climate resilience at the community level, harness the socioeconomic benefits of remittances and trade and develop comprehensive urban plans that include mobile populations.⁴⁷ Originally signed and agreed upon by 15 African States, at the Africa Climate Summit in September 2023 the scope of the Declaration was expanded to the whole Continent. The number of signatories has increased to 32 and continues growing.

In the Pacific, the development of a regional framework is currently under way, with the ambition to secure its endorsement at the Pacific Island Forum Leaders Meeting at the end of 2023. Looking ahead, other areas, such as the Eastern Caribbean, are engaging in regional discussions that have the potential to strengthen the policies and programmes that address climate mobility at the national and regional levels.

3. Solutions for people to stay

Community engagement to provide a choice to remain

National and local authorities have a pivotal role to play in the design and implementation of measures that help prevent and prepare for crises. Community-based disaster risk management (CBDRM) initiatives can be used to empower local actors to develop a disaster management action plan. In countries such as the Marshall Islands and Papua New Guinea, disaster risk reduction planning involved intensive community engagement. It relied on existing indigenous and traditional knowledge and practices. In Burundi⁴⁸ and Timor-Leste,⁴⁹ community engagement has been instrumental in reducing risks for settlements and housing linked to natural hazards. Looking ahead, efforts to systematically include climate and environmental dimensions in national and local frameworks that plan for, reduce and respond to disaster displacement will be key to ensuring that people and communities have the choice to remain in dignity and safety in environmentally fragile areas.

Diaspora engagement for stronger resilience and climate adaptation

Diaspora groups can be key to mobilizing knowledge and resources for climate change mitigation and adaptation efforts in their countries of residence and origin. Their contribution, for example through remittances, direct investment, philanthropy and skills transfer, is widely recognized.⁵⁰ Diasporas play an important stabilizing role when communities back home are hit by disasters and experience displacement. In 2022, millions of Bangladeshis living in the north-eastern districts of the country faced the

⁴⁵ Jusselme, D. (2020).

⁴⁶ For more information see www.iom.int/project/kenya-enhancing-peace-through-prevention-natural-resource-based-conflicts-northwestern-kenya.

⁴⁷ IOM (2023).

⁴⁸ IOM (2022a).

⁴⁹ IOM (2021).

⁵⁰ For more information see <https://unitedkingdom.iom.int/diaspora-climate-action>.



Children fetch water from a borehole in Ladan, an informal settlement hosting nearly 3,000 displaced persons in Doolow. Most people living in Ladan have been displaced due to drought. © IOM 2022/Claudia Rosel BARRIOS

most catastrophic floods in history. In response, the British Bangladeshi diaspora mobilized philanthropic funds and channelled them towards the affected communities. An innovative partnership between the British High Commission and a Bangladeshi NGO raised £500,000 for investment in post-flood recovery, including the restoration of local infrastructures. Diaspora groups helped local communities resume school and health services, thereby enhancing the social protection of the most vulnerable people in flood-affected regions.

Looking ahead, a range of innovative measures should be explored to enable diaspora members to contribute to the climate response on their countries of origin. Green diaspora bonds could be a way to rapidly mobilize funds for infrastructure projects that increase resilience of communities to climate change effects and support adaptation. To address lack of capacity, experts with experience in climate action and related industrial and technological sectors in their countries of residence should be offered opportunities to return and carry out capacity-building of local actors.⁵¹

Green transition for local communities and returnees

In Senegal,⁵² IOM has been supporting local communities and returnees to develop skills and businesses which contribute to climate adaptation and the green transition. This includes trainings which have helped returning migrants acquire knowledge of agroecology and agroforestry methods, supporting more sustainable reintegration into the community. IOM has also supported small community entrepreneurs including returning migrants, potential migrants and their families with a focus on green jobs and environmentally sustainable agricultural approaches in three communities. In such contexts, local action can promote community, nature-based initiatives that have the potential to minimize irregular migration and displacement in the context of disasters, environmental degradation and climate change.

⁵¹ Huckstep and Clemens (2023).

⁵² The project Implementing Global Policies on Environmental Migration and Disaster Displacement in West Africa supported States in the region in their efforts to minimize displacement and facilitate regular migration in the context of disasters, climate change and environmental degradation.



ACTING NOW FOR THE FUTURE WE WANT

As the effects of climate change intensify and overlap with other global crises, from pandemics and conflict to economic downturns and food insecurity, the world finds itself at a crossroads. If global average temperatures surpass 1.5°C above pre-industrial levels in coming years,⁵³ climate change impacts will put unprecedented pressure on States, societies and individuals around the world. Global patterns of human mobility will be shaped by, and themselves play a part in shaping, the future climate. Human mobility must be a core part of the equation to address the implications of and design responses to climate change. And the world should be better prepared for and take action to shape the climate mobility of tomorrow. For this to work, there needs to be a systemic shift in perspective to a focus on the future, both in the short and long term.

It is particularly urgent to advance solutions to identify, support and protect the most vulnerable – those who will be most severely affected unless necessary steps are taken today. These steps include accelerating adaptation measures and building the resilience of vulnerable communities, coupled with wider efforts to reduce inequalities. Human mobility needs to be part of these responses at all levels, from local to global. To start making positive change now, States and the international community at large should consider taking forward the solutions set out in this paper as part of the wider climate action.

There are solid foundations in place, from the major international frameworks on sustainable development, climate change, disaster risk reduction and migration to the practical examples of policies and programmes being implemented in diverse contexts across the world. Stronger cross-sectoral partnerships, rooted in an HDPN approach, need to be built to ensure systematic synergies among these and other relevant sectors for better evidence, forward-looking analysis, sound decision-making, and comprehensive, impactful and future-oriented action. IOM is fully committed to continue supporting these efforts, working jointly with different stakeholders, including those directly affected.

However, accelerated and scaled action on climate change and human mobility will not materialize without predictable and sustainable funding. Much progress can be achieved by ensuring that climate adaptation funding, including the new fund for loss and damage, can be used to advance solutions for climate mobility. This needs to go hand-in-hand with efforts to mobilize investors, including the private sector, to support such actions, built around the recognition of the far-reaching benefits for all of effective climate change adaptation and well-managed migration.

Keeping climate mobility on top of policy agendas and raising public awareness of both the costs of inaction and the benefits that forward-looking urgent action on climate change and migration can bring will remain critical. The UNFCCC process and its annual COP events, as the central fora for framing the international discourse and driving cooperation on solutions to climate change, are a key space for these efforts. Policy processes addressing migration and mobility are also essential for advancing on this issue: the next round of regional reviews of the Global Compact for Safe, Orderly and Regular Migration, and the implementation of the Secretary General's Action Agenda on Internal Displacement provide important opportunities to make progress.

The high stakes for the world at large mean that the upcoming SDG Summit needs to tackle climate change and mobility as part of the collective drive for sustainable development. Informed by these major global processes as well as discussions taking place at different levels, the United Nations Summit of the Future will provide space for joint reflection about the future, in particular the risks and the opportunities. Climate mobility is a reality today and is already shaping the lives of individuals and societies. The international community needs to come together to act on climate mobility today, to take advantage of the remaining opportunities to achieve a better future for all.

⁵³ IPCC (2022).

A local counsellor and women from a coastal village pose where their crops and homes used to be around 10 years ago prior to losing it to coastal erosion. © IOM 2016 / Muse MOHAMMED





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