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Migration, environment and climate change: Responding via climate change adaptation policy

Third report in the "Migration, environment and climate change" series

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Migration, environment and climate change: Responding via climate change adaptation policy

Third report in the “Migration, environment and climate change” series

by

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Abstract: Migration, Environment and Climate Change: Responding via climate change adaptation policy

There is already substantial research and evidence to inform policy-makers' responses to human mobility in the context of environmental and climate change. While quantitative data on migrants are often lacking and robust prognoses regarding future numbers of "climate refugees/migrants" unlikely, there has been a marked improvement in our qualitative understanding of the challenges that affected and vulnerable communities are likely to face as the climate changes, and how migration and mobility are both supporting and undermining their efforts to adapt to the impacts of climate change.

Researchers and practitioners have also shown how the design and implementation of policy responses plays a key role in determining the scale and nature of migration in the context of climate change, including whether human mobility has positive or negative outcomes for migrants, and host and destination communities. Climate change adaptation measures can support positive responses to migration in two main ways. Firstly, they can serve to reduce the impact of environmental stressors on communities, thus minimising the pressure to migrate, averting displacement and the need for planned relocations. Secondly, they can consider and facilitate migration as an important adaptive strategy for coping with environmental and climate change.

This paper provides policymakers working in climate change adaptation policy with entry points for integrating responses to migration into their work. It offers preliminary conclusions about how they can strengthen responses to environmental migration in the context of recent developments in international climate policy and finance, as well as other international processes, such as the Global Compact for Migration, the Sustainable Development Goals, and the Platform on Disaster Displacement.

Kurzbeschreibung: Migration, Umwelt und Klimawandel: durch Anpassungspolitik auf die Herausforderungen reagieren

Es gibt bereits eine Vielzahl an Studien und Erkenntnissen, die Entscheidungstragende dabei unterstützen, politische Antworten auf die Herausforderungen von menschlicher Mobilität im Zusammenhang mit Umwelt- und Klimaveränderungen zu finden. Quantitative Daten über Migrierende sind jedoch häufig nicht zugänglich und es gibt kaum Prognosen über die zukünftige Anzahl von „Klimaflüchtenden". Das qualitative Verständnis über die Herausforderungen, denen betroffene und von den Folgen des Klimawandels gefährdete Gemeinschaften ausgesetzt sind, hat sich hingegen deutlich verbessert. Ebenso gibt es mehr Erkenntnisse darüber, wie Migration und menschliche Mobilität die Bemühungen, sich an die Folgen des Klimawandels anzupassen einerseits unterstützen und andererseits beeinträchtigen.

Sowohl Forschungsergebnisse als auch die politische Praxis zeigen, wie die Gestaltung und Umsetzung politischer Maßnahmen auf den Umfang und verschiedene Merkmale von Migrationsbewegungen im Zusammenhang mit dem Klimawandel einwirken. Das bedeutet auch, dass politische Maßnahmen beeinflussen können, ob menschliche Mobilität sich positiv oder negativ auf die Migrantinnen und Migranten und die Aufnahme- und Zielgemeinden auswirkt. Anpassungsmaßnahmen an den Klimawandel können sich auf zwei unterschiedliche Arten positiv auf die Migration auswirken. Erstens können sie dazu dienen, die Auswirkungen von Umweltstressoren auf die Gemeinden zu verringern, Lebensgrundlagen zu erhalten und so den Migrationsdruck zu reduzieren, sowie Vertreibungen und die Notwendigkeit geplanter Verlagerungen zu vermeiden. Zweitens kann Migration als Anpassungsmaßnahme als wichtiges Mittel zur Bewältigung von Umwelt- und Klimaveränderungen betrachtet werden und so Migration erleichtern.

Diese Studie bietet politischen Entscheidungstragenden im Bereich der Klimawandelanpassung Ansatzpunkte, um das Thema Migration in ihre Arbeit zu integrieren. Sie enthält erste Ergebnisse darüber, wie Reaktionen im Bereich der Umweltmigration gestärkt werden können und bezieht sich insbesondere auf die jüngsten Entwicklungen der internationalen Klimapolitik und -finanzierung sowie auf andere internationale Prozesse wie den Globalen Pakt für sichere, geordnete und reguläre Migration (Global Compact for Migration), die Ziele für nachhaltige Entwicklung (Sustainable Development Goals) und die Platform on Disaster Displacement.

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List of abbreviations

AF	Adaptation Fund
BMU	German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety
BMZ	German Federal Ministry for Economic Cooperation and Development
COP	Conference of the Parties
CSO	Civil Society Organisation
DRR	Disaster Risk Reduction
DRM	Disaster Risk Management
ECAL	Environment and Climate Adaptation Levy
FEMM	Pacific Islands Forum Economic Ministers Meeting
GCF	Green Climate Fund
GCM	The Global Compact for Safe, Orderly and Regular Migration
GEF	Global Environment Facility
GFMD	Global Forum on Migration and Development
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
HDX	Humanitarian Data Exchange
IDMC	Internal Displacement Monitoring Centre
IKI	International Climate Initiative
IMNAP	Integrating Mobility into National Adaptation Plans
IMRF	International Migration Review Forum
IOM	International Organization for Migration
LDCF	Least Developed Countries Fund
MECLEP	Migration, Environment and Climate Change: Evidence for Policy
NAP	National Adaptation Plan
NAPA	National Adaptation Programme of Action
NDC	Nationally Determined Contribution
PDD	Platform on Disaster Displacement
PIK	Potsdam Institute for Climate Impact Research
PRF	Pacific Resilience Facility
SDG	Sustainable Development Goal
TFD	Task Force on Displacement
UBA	German Environment Agency
UMIMCC	Urban Management of Internal Migration due to Climate Change
UNCCD	United Nations Convention to Combat Desertification
UNDRR	United Nations Office for Disaster Risk Reduction
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNHCR	Office of the United Nations High Commissioner for Refugees
UNU-EHS	United Nations University Institute for Environment and Human Security
WIM	Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts

Summary

The first two papers of this research project "Migration, environment and climate change" on behalf of the German Environment Agency (UBA) show that there is already substantial research and evidence to inform responses to human mobility in the context of environmental and climate change. Researchers and practitioners have shown that the design and implementation of policy responses can play a significant role in determining the scale and nature of human mobility in the context of climate change, including whether human mobility has positive or negative outcomes for migrants, and host and destination communities. In the field of climate policy, policymakers can draw on growing knowledge and experience of how all forms of human mobility can both support and undermine efforts to adapt to the impacts of climate change. Applying a human mobility lens to the design and implementation of climate-change adaptation measures can provide a more complete picture of their potential impact, and ultimately help to ensure that they protect people, communities and the environment and functioning ecosystems more effectively.

Relevant institutions and organisations at international level, as well as initiatives at regional and national level, have identified important areas for action and developed good practices, recommendations and guidance for better integrating migration and mobility into numerous policy areas. In international climate policy, migration has also received increasing political attention over the last decade. Key steps, such as the recognition of the relationships between climate change and different forms of human mobility within the UNFCCC at the Conferences of the Parties (COP) in Cancun in 2010, paved the way for the creation of a Task Force on Displacement (TFD) under the Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts (WIM) at COP21 in Paris. The first TFD workplan (2016-2018) focused on providing an up-to-date overview of the available data and the existing methodologies, policies, institutional frameworks, guidance and tools, at national, regional and international level, relevant to displacement in the context of climate change. The recommendations produced on this basis of this work were approved by the Parties at COP24 in Katowice. The TFD's mandate has been extended for a further five years.

The response paper provides policymakers working in the field of climate change adaptation with entry points for integrating responses to human mobility into their work. It also offers preliminary conclusions about how they may respond to important recent developments in international climate policy and finance, as well as new and evolving frameworks and processes in other areas relevant to human mobility and climate change.

Key findings

The authors drew four key findings from the analysis and on that basis developed a number of recommendations for policymakers and international climate finance donors with regard to better integrating human mobility into climate-change adaptation policy, programmes, projects and finance.

1. Considerable scope for integrating human mobility into climate strategies and policies

One finding from the TFD's work was that human mobility in the context of environmental and climate change was mentioned in 33 Nationally Determined Contributions (NDCs) already submitted to the UNFCCC. That just fewer than a fifth of the NDCs refer to environmental migration provides an important indication that there is still substantial scope for further integrating the challenges and benefits associated with human mobility into climate strategies and policies at national level. Further analysis of these NDCs showed that half of these countries referred to human mobility, including planned relocation, as a necessary adaptation strategy.

Fourteen of these NDCs mention existing or planned government interventions to relocate vulnerable groups or communities away from high-risk areas. Other NDCs referred to how climate-change adaptation measures may allow people to remain in situ, the risks associated with climate-change induced human mobility, security risks associated with climate-change induced human mobility, and the implications of human mobility for climate change adaptation finance, and human mobility as a potential prerequisite for or outcome of mitigation measures.

National Adaptation Plans offer a good entry point for bringing considerations related to human mobility into the NDCs and other national climate policies. The response paper reviews guidance and relevant good practices for integrating human mobility throughout the six planning and implementation stages of the NAP process: assessment, prioritising, planning, financing, implementation, and evaluation. Highlighted examples of good practice included national assessments on migration, environment and climate change, new digital tools, strengthening preparedness mechanisms, innovative financing schemes, and participatory community development work.

2. Significant co-benefits in systematically adopting a "migration lens" throughout planning, implementation and funding

Many climate-change adaptation measures are already improving conditions for migrants, origin and destination communities – for example, by increasing food, water and livelihood security as rainfall patterns become more unpredictable. However, much more can be done to more systematically adopt a "migration lens" during the planning, implementation and funding of measures, in order to increase their benefits for migrants, and home and destination communities, and the positive co-benefits for climate change adaptation projects.

An analysis of major international climate finance donors, notably of the Green Climate Fund, the Adaptation Fund, the International Climate Initiative and the Least Developed Countries Fund, showed that climate funds and financial mechanisms fund only a very small number of programmes and projects that explicitly address migration and human mobility issues. Only a few, mostly recent examples in international climate finance highlight the relationship between environmental migration and climate change as an overall priority.

Taking steps to more systematically address environmental migration within these programmes and projects, and to raise the profile of the responses to environmental migration within international climate finance funds or financial mechanisms, would contribute to the development of a more holistic approach and play an important role in offering more durable solutions to vulnerable populations.

3. Vulnerable groups and communities require additional support

Already marginalised or vulnerable groups in society are likely to require additional support and protection to cope with the slow and sudden-onset impacts of climate change. The lack of disaggregated data in many countries hinders the development of targeted policies that take into account these different groups' needs and vulnerabilities. Data disaggregated by sex and age and other relevant factors , as well as and more localised scientific data showing which areas are particularly exposed to extreme weather events and other climate change impacts, would be particularly useful in developing targeted responses for different groups. In contexts where data have yet to be improved, consultations with representatives of vulnerable groups and communities can provide important insights to improve the planning and implementation of policies, programmes and projects that concern them. Involving and empowering civil society and diaspora groups supporting countries vulnerable to climate change can also play an important role in this regard.

4. Coordinated action with other policy areas can lead to better, more integrated responses

Given the many factors that can influence people's decisions to move, understanding and addressing the links between environmental change, climate change and different forms of human mobility (displacement, migration and planned relocation) will require responses across a range of policy areas. Among them, climate policy has a vital role to play in reducing the impacts of climate change and in strengthening the resilience of migrants, and of origin, transit and destination communities. Developing more coherent and integrated responses that link climate policy with other policy areas can also lead to significant synergies and co-benefits and reduce trade-offs.

Policymakers and other stakeholders working in climate change adaptation and related fields are increasingly recognising that migration can support or undermine adaptation and long-term sustainable development. Mapping how different policies, frameworks and agendas at sub-national, national and international level impact human mobility in the context of climate change can lay the groundwork for an integrated approach across relevant policy areas, leading to improved migration and climate-change adaptation outcomes.

At international level, the processes under the Paris Agreement, the Global Compact for Safe, Orderly and Regular and Migration, the UN Sustainable Development Goals, the Platform on Disaster Displacement and others are making the connections across the migration, environment and climate change nexus and are increasing the coherence between these different frameworks and agendas. For example, there has already been some progress in strengthening the links between climate change adaptation policies and DRR/DRM, but there remains substantial scope for bringing together policies, and merging (and expanding) relevant funding streams. The analysis showed that policies dealing with climate change adaptation, migration, DRR and sustainable development can all contribute to increasing the resilience of vulnerable communities to climate change impacts.

Zusammenfassung

Die ersten beiden Teilstudien des Forschungsvorhabens „Migration, environment and climate change“ im Auftrag des Umweltbundesamtes zeigen, dass es bereits umfangreiche Forschungsarbeiten und Erkenntnisse gibt, um Antworten auf Muster menschlicher Mobilität im Zusammenhang mit Umwelt- und Klimawandel zu identifizieren. Diese Forschung verdeutlicht, dass die Konzeption und Umsetzung von Politikmaßnahmen eine bedeutende Rolle bei der Bestimmung des Umfangs und der Art der menschlichen Mobilität im Zusammenhang mit dem Klimawandel spielen kann. Dies betrifft auch die Frage, ob die menschliche Mobilität positive oder negative Auswirkungen auf die Migrierenden sowie auf Aufnahme- und Zielgesellschaften hat. Im Bereich der Klimapolitik können politische Entscheidungen auf ständig wachsende Kenntnisse und Erfahrungen darüber zurückgreifen, wie alle Formen der menschlichen Mobilität die Bemühungen zur Anpassung an die Auswirkungen des Klimawandels unterstützen und untergraben können. Wenn die Perspektive menschlicher Mobilität bei der Konzeption und Umsetzung von Anpassungsmaßnahmen an den Klimawandel eingebracht wird, kann ein umfassenderes Bild ihrer Wirkungen vermittelt und letztlich dazu beigetragen werden, dass Menschen, Bevölkerungsgruppen und die Natur besser geschützt sind.

Relevante Institutionen und Organisationen auf internationaler Ebene sowie Initiativen auf regionaler und nationaler Ebene haben wichtige Handlungsfelder identifiziert und Übersichten über gute Praktiken, Empfehlungen und Leitlinien zur besseren Einbindung von Migration und menschliche Mobilität in eine Vielzahl von Politikbereichen entwickelt. In der internationalen Klimapolitik hat das Thema Migration in den letzten zehn Jahren zudem zunehmende politische Aufmerksamkeit erfahren. Wichtige Schritte, wie die Anerkennung der Beziehungen zwischen dem Klimawandel und verschiedenen Formen der menschlichen Mobilität im Rahmen der Klimarahmenkonvention (UNFCCC) auf der Vertragsstaatenkonferenz (COP) in Cancun im Jahr 2010, haben den Weg für die Einrichtung einer Task Force on Displacement (TFD) im Rahmen des Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts (WIM) auf der COP21 in Paris geebnet. Der erste TFD-Arbeitsplan (2016-2018) konzentrierte sich darauf, einen aktuellen Überblick über die verfügbaren Daten und die bestehenden Methodologien, politischen Maßnahmen, institutionellen Rahmenbedingungen, Leitlinien und Instrumente auf nationaler, regionaler und internationaler Ebene zu geben, die für das Thema Vertreibung im Kontext des Klimawandels von Bedeutung sind. Die auf dieser Grundlage erarbeiteten Empfehlungen wurden von den Parteien auf der COP24 in Katowice verabschiedet. Das Mandat der TFD wurde um weitere fünf Jahre verlängert.

Das Response-Papier bietet politischen Entscheidungsträgerinnen und -trägern, die im Bereich der Klimawandelanpassung tätig sind, Ansatzpunkte für die Integration von Maßnahmen zu menschlicher Mobilität in ihre Arbeit. Es enthält ferner erste Schlussfolgerungen darüber, wie auf wichtige aktuelle Entwicklungen in der internationalen Klimapolitik und –finanzierung reagiert werden kann. Gleiches gilt mit Blick auf neue und sich ständig weiterentwickelnde Rahmenbedingungen und Prozesse in anderen, für die menschliche Mobilität und den Klimawandel wichtigen Bereichen.

Wichtige Erkenntnisse des Berichts

Aus der Analyse lassen sich vier Kernergebnisse ziehen und auf diesen aufbauend eine Reihe von Empfehlungen für politische Entscheidungen inklusive der internationalen Klimafinanzierung entwickeln, wie menschliche Mobilität besser in die Strategien, Programme, Projekte und Finanzierungsinstrumente zur Anpassung an den Klimawandel integriert werden kann.

1. Es besteht erheblicher Spielraum für die Integration der menschlichen Mobilität in Klimastrategien und Politikmaßnahmen

Eine Erkenntnis aus der Arbeit der TFD ist, dass menschliche Mobilität im Kontext von Umwelt und Klimawandel in 33 nationalen Klimabeiträgen (NDCs) Erwähnung finden, die beim Klimasekretariat eingereicht wurden. Dass sich knapp ein Fünftel der NDCs auf Umweltmigration bezieht, ist ein wichtiger Hinweis darauf, dass es noch viel Spielraum gibt, um die mit der menschlichen Mobilität verbundenen Herausforderungen und Vorteile weiter in die Klimastrategien und -politiken auf nationaler Ebene zu integrieren. Eine weitere Analyse dieser NDCs ergab, dass die Hälfte der Länder menschliche Mobilität, einschließlich geplanter Umsiedlungen, als notwendige Anpassungsstrategie bezeichnete. Vierzehn dieser NDCs erwähnen bestehende oder geplante staatliche Maßnahmen zur Umsiedlung gefährdeter Gruppen oder Bevölkerungsgruppen außerhalb von Hochrisikogebieten. In anderen NDCs wurde darauf hingewiesen, wie Anpassungsmaßnahmen an den Klimawandel den Verbleib der Menschen vor Ort ermöglichen können. Ferner auf die Risiken, im Zusammenhang mit der durch den Klimawandel induzierten menschlichen Mobilität, auf Sicherheitsrisiken in diesem Zusammenhang und auf die Auswirkungen menschlicher Mobilität auf die Finanzierung der Anpassung an den Klimawandel sowie auf die menschliche Mobilität als mögliche Voraussetzung für oder Ergebnis von Minderungsmaßnahmen.

Die Nationalen Anpassungsplan-Prozesse bieten einen guten Ausgangspunkt, um Überlegungen zur menschlichen Mobilität in die NDCs und andere nationale Klimaschutzmaßnahmen einzubringen. Das Response Paper überprüft die Leitlinien und relevanten bewährten Verfahren für die Integration der menschlichen Mobilität in den sechs Planungs- und Umsetzungsphasen des NAP-Prozesses: Bewertung, Prioritätensetzung, Planung, Finanzierung, Durchführung und Bewertung. Herausgehobene Beispiele von bewährten Verfahren bilden nationale Bewertungen zu Migration, Umwelt und Klimawandel, neue digitale Instrumente, Stärkung von Vorsorgemaßnahmen, innovative Finanzierungssysteme und partizipatorische Entwicklungsarbeit auf der Ebene lokaler Gemeinschaften.

2. Die systematische Einführung einer spezifischen Migrationskomponente bei Planung, Durchführung und Finanzierung kann erhebliche Vorteile bieten

Viele Anpassungsmaßnahmen an den Klimawandel verbessern bereits die Bedingungen für Migrierende sowie Herkunfts- und Aufnahmegemeinschaften - zum Beispiel durch die Verbesserung der Sicherheit von Nahrung, Wasser und Lebensgrundlagen allgemein, z.B. angesichts zunehmend schwierig vorhersehbarer Niederschläge. Planung, Durchführung und Finanzierung von Maßnahmen bieten indes noch erheblichen Handlungsspielraum, um eine zielgerechte Migrationskomponente einzuführen, um ihren Nutzen für Migrierende sowie deren Heimat- und Aufnahmegemeinschaften und die positiven Zusatznutzen von Anpassungsprojekten an den Klimawandel zu erhöhen.

Eine Analyse bedeutender internationaler Klimafinanzierungsansätze, insbesondere des Green Climate Fund, des Adaptation Fund, der Internationalen Klimaschutzinitiative und des Least Developed Countries Fund, ergibt, dass Klimafonds und Finanzierungsmechanismen bislang nur eine sehr geringe Anzahl von Programmen und Projekten finanzieren, die sich explizit mit Fragen der Migration und der menschlichen Mobilität befassen. Nur wenige, meist aktuelle Beispiele der internationalen Klimafinanzierung verdeutlichen den Zusammenhang zwischen Umweltmigration und Klimawandel als übergeordnete Priorität.

Maßnahmen zur systematischeren Auseinandersetzung mit der Umweltmigration im Rahmen dieser Programme und Projekte und zur Stärkung des Profils der Maßnahmen zur Umweltmigration im Rahmen internationaler Klimafinanzfonds oder weiterer Finanzierungsmechanismen können zur Entwicklung eines ganzheitlicheren Ansatzes beitragen und eine wichtige Rolle bei der Bereitstellung nachhaltigerer Lösungen für gefährdete Bevölkerungsgruppen spielen.

3. Gefährdete Gruppen und Gemeinschaften benötigen zusätzliche Unterstützung

Bereits heute marginalisierte oder gefährdete Gruppen in der Gesellschaft benötigen aller Voraussicht nach zusätzliche Unterstützung und Schutz, um die langsamen und plötzlichen auftretenden Auswirkungen des Klimawandels zu bewältigen. Der Mangel an aufgeschlüsselten Daten in vielen Ländern behindert die Entwicklung gezielter Strategien, die den Bedürfnissen und Vulnerabilitäten dieser verschiedenen Gruppen Rechnung tragen. Nach Geschlecht und Alter aufgeschlüsselte Daten und stärker lokalisierte wissenschaftliche Daten, die zeigen, welche Gebiete besonders stark von extremen Wetterereignissen und anderen Auswirkungen des Klimawandels betroffen sind, wären besonders nützlich für die Entwicklung gezielter, auf einzelne Zielgruppen ausgerichtete Initiativen. In Bereichen, in denen die Datenbasis noch nicht verbessert wurde, können Konsultationen mit gefährdeten Gruppen und Gemeinschaften wichtige Erkenntnisse liefern, um die Planung und Durchführung von Politikmaßnahmen, Programmen und Projekten zu verbessern. Auch die Einbeziehung und Stärkung der Zivilgesellschaft und der Diasporagemeinden in den betroffenen Ländern kann in dieser Hinsicht eine wichtige Rolle spielen.

4. Koordinierte Aktionen mit anderen Politikbereichen können zu besseren, stärker aufeinander abgestimmten Maßnahmen führen

Angesichts der vielen Faktoren, die die Entscheidungen von Menschen zur Mobilität beeinflussen können, wird die Adressierung des Nexus von Umweltveränderungen, Klimawandel und verschiedener Formen der menschlichen Mobilität (Vertreibung, Migration und geplante Umsiedlung) ein integriertes Handeln einer Reihe von Politikbereichen erfordern. Unter ihnen spielt die Klimapolitik eine entscheidende Rolle bei der Minderung der Auswirkungen des Klimawandels und bei der Stärkung der Widerstandsfähigkeit von Migrierenden sowie der Herkunfts-, Transit- und Aufnahmegemeinschaften. Ganzheitliche Lösungsansätze, die die Klimapolitik mit anderen Politikbereichen verbinden, können ebenfalls zu erheblichen Synergien und Zusatznutzen führen.

In der politischen Diskussion derer, die sich mit der Anpassung an den Klimawandel und angrenzenden Bereichen befassen, wird zunehmend anerkannt, dass Migration die Anpassung und eine langfristige nachhaltige Entwicklung unterstützen oder untergraben kann. Gelingt es, die Auswirkungen unterschiedlicher Politikmaßnahmen, Handlungsrahmen und Agenden auf die menschliche Mobilität im Zusammenhang mit dem Klimawandel adäquat darzustellen – und zwar auf subnationaler, nationaler und internationaler Ebene - kann dies die Grundlage für einen integrierten Ansatz in allen relevanten Politikbereichen bilden, der zu besseren Ergebnissen bei der Adressierung von Migration und Anpassung an den Klimawandel führt.

Auf internationaler Ebene stellen vor allem die Prozesse im Rahmen des Pariser Abkommens, des Global Compact for Safe, Orderly and Regular and Migration, der UN Sustainable Development Goals, der Platform on Disaster Displacement den Nexus von Migration, Klimawandel und Umwelt her. Hier kann angesetzt werden, um die Kohärenz zwischen diesen verschiedenen Regelwerken und Agenden zu erhöhen. So hat es beispielsweise bereits einige Fortschritte bei der Stärkung der Verbindungen zwischen der Anpassungspolitik an den Klimawandel und der Minderung und Bearbeitung von Desaster-Risiken (DRR/DRM) gegeben.

Allerdings bleibt noch erheblicher Spielraum für die Zusammenführung von Maßnahmen und die Zusammenführung (und Erweiterung) relevanter Finanzmittelströme.

Die Analyse zeigt schließlich, dass Politikmaßnahmen in den Bereichen Anpassung an den Klimawandel, Migration, DRR und nachhaltige Entwicklung dazu beitragen können, die Widerstandsfähigkeit gefährdeter Gemeinschaften gegenüber den Auswirkungen des Klimawandels zu erhöhen.

1 Background

The effectiveness of governance and policy responses will be an important factor influencing the scale, nature and impact of future migration related to environmental and climate change. Over the last decade experts, organisations and institutions working on environmental migration and interrelated policy areas, including but not limited to the International Organization for Migration (IOM), the United Nations University Institute for Environment and Human Security (UNU-EHS), the United Nations Refugee Agency (UNHCR), the Internal Displacement Monitoring Centre (IDMC), the Nansen Initiative and its follow up, the Platform on Disaster Displacement (PDD) and Task Force on Displacement under Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts (WIM) and United Nations Framework Convention on Climate Change (UNFCCC), have made significant progress in developing evidence-based recommendations and guidance for responding to the challenges of mobility and migration in the context of environmental and climate change. Their work has resulted in a range of reports, policy briefs, handbooks, good practices and training materials – providing recommended responses, both in terms of how to improve the data, evidence and knowledge that decision-makers can base policy and programmes on, and in terms of how to design, implement and evaluate measures so as to ensure the most benefit to migrants and communities of origin, transit and destination. This paper aims to provide an overview of recommended responses that are relevant within the context of climate change adaptation policy and finance.

This response paper is the third of three papers prepared for the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) and the German Environment Agency (UBA) as part of the project "Environmental degradation, climate change and migration: Global review of research and forecasts". The first paper is a review of literature on the topic of environmental migration[1] and seeks to provide an up-to-date overview of key findings from the growing number of studies exploring the environment-migration nexus – including those examining how different forms of human mobility may support or undermine adaptation to environmental and climate change[2]. Drawing on the literature review, the second paper, titled "Migration, environment and climate change: Impacts", focuses on some of the key ways in which selected environmental phenomena shape human mobility, but also delves further into considerations of how other factors (e.g. political, economic, and demographic) come into play, providing insights to inform numerous policy areas, including climate change adaptation (IOM, 2019a and 2019b). Drawing on these two papers, this third paper focuses on policy implications and entry points for strengthening responses to human mobility in national and international climate change adaptation policy and finance.

[1] Environmental migration is broadly defined by IOM as follows: "Environmental migrants are persons or groups of persons who, for compelling reasons of sudden or progressive changes in the environment that adversely affect their lives or living conditions, are obliged to leave their homes or choose to do so, either temporarily or permanently, and who move either within their country or abroad." (IOM, 2007). For further information on these definitions and other key terms, please see "Background" and Chapter 4 of the Literature Review, the first report in the "Migration, environment and climate change" series (IOM 2019a).

2 For the links between human mobility and climate change adaptation, see in particular Chapter 2 of the Literature Review for relevant terminology, Section 7.3 about temporary and permanent migration patterns and Section 7.5 about how environmental migration can affect vulnerability and resilience (IOM 2019a).

2 Introduction

Many factors can influence people's decisions to move. Yet more and more research is showing that the increasingly tangible impacts of global heating, such as rising sea-levels, unpredictable rainfall patterns, and more frequent and severe extreme weather events, as well as environmental degradation in general, will increasingly force people from their homes or become a more salient factor in decisions to move. As such, there is a growing need and responsibility for governments and the international community to take action to strengthen responses to human mobility[3] in the context of environmental and climate change.

The first two papers for this research project show that there is already substantial research and evidence to inform these responses (IOM 2019a and IOM 2019b). While quantitative data on migrants are often lacking and robust prognoses regarding future numbers of "climate refugees"[4] are unlikely, there has been a marked improvement in our qualitative understanding of the challenges that communities affected by and vulnerable to environmental and climate change are facing today and are likely to face in future as the climate crisis deepens.

In the field of climate policy, policymakers can draw on growing knowledge and experience of how all forms of human mobility can both support and undermine efforts to adapt to the impacts of climate change (IOM, 2019a and 2019b). Researchers and practitioners have shown that the design and implementation of policy responses can play a significant role in determining the scale and nature of human mobility in the context of climate change, including whether human mobility has positive or negative outcomes for migrants, and host and destination communities. Applying a human mobility lens to the design and implementation of climate change adaptation measures can provide a more complete picture of their potential impact, and ultimately help to ensure that they protect people, communities and the natural world more effectively.

Based on these findings, relevant institutions and organisations at international level, as well as initiatives at regional and national level, have identified important areas for action and developed good practices, recommendations and guidance for better integrating migration and mobility into numerous policy areas. This paper provides policymakers working in the field of climate change adaptation[5] with entry points for integrating responses to migration and human mobility into their work. It also offers preliminary conclusions about how they may respond to important recent developments in international climate policy and finance, as well as new and evolving frameworks and processes in other areas relevant to human mobility and climate change.

To this end, we look at how human mobility has been taken up and considered within international climate policy frameworks to date. First, we review how human mobility has been approached within the UNFCCC and consider the recommendations of the Task Force on Displacement working under the Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts (WIM) as a galvanising mechanism for future action

[3] "Human mobility traditionally refers to the ability (capacity and freedom to move)" but is also "increasingly used to in relation to environmental and climate change as an umbrella term to describe the full range of movement types (voluntary migration, displacement, planned relocation." In this paper, we refer to human mobility in the context of environmental and climate change either as such, or by using the term "environmental migration", as defined by IOM (See footnote 1 above).

4 Although often used in the media, the term 'environmental/climate refugee' is always placed in inverted commas in this text as there is no legal grounding for it in international law. The use of the term is contested. For more information, please see Sections 3.2. and 3.3. of the first report in this series "Migration, environment and climate change: Literature Review " (IOM, 2019a).

5 Although this paper has been prepared for German policymakers, the analysis is focused on processes within the UNFCCC and other international frameworks means that our findings and recommendations are also relevant to policymakers and international climate fund donors working on the climate change adaptation in other countries.

within the UNFCCC and beyond. We then assess the status of human mobility within NDCs and in international climate finance, before reviewing guidance and good practices for integrating human mobility into National Adaptation Plans (NAPs). Given the important synergies between climate change adaptation policies and other policy areas in addressing the nexus between human mobility, environment and climate change, we then turn to look at how work being done under other international frameworks and processes in areas such as migration, disaster risk reduction/management, and sustainable development may complement these efforts. For example, an important recent development was the approval of the Global Compact for Safe, Orderly and Regular Migration (GCM) by 164 countries in December 2018. The GCM provides the first international framework for cooperation on migration issues, including migration in the context of climate and environmental change. Finally, we present key findings and next steps for policymakers in Chapter 5.

3 Responding to environmental migration within international climate policy

Over the last decade of international climate negotiations, environmental migration has increasingly received political attention[6]. The UNFCCC Cancun Adaptation Framework, adopted in 2010, took the first step towards recognising the relationships between climate change and different forms of human mobility within the Convention, by "calling on states to commit to measures to enhance understanding, coordination and cooperation with regard to climate-change-induced displacement, migration and planned relocation" (Melde et al., 2017: 1-2). In 2012 at COP18 in Doha, the Parties to the UNFCCC again stressed the need for better evidence. These key steps and others paved the way for the creation of a Task Force on Displacement under the Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts (WIM) at COP21 in Paris, and its recommendations "for integrated approaches to avert, minimize and address displacement related to the adverse impacts of climate change" were welcomed by the Parties at COP24 in Katowice (UNFCCC, 2018a).

This section examines the guidance prepared for key UNFCCC processes related to human mobility. Firstly, we examine the Task Force on Displacement's recommendations for national governments, and then analyse to what extent human mobility in the context of climate change is already addressed in their Nationally Determined Contributions (NDCs) under the Paris Agreement. We review which aspects of the migration, environment and climate change nexus countries referred to in their NDCs, and the extent to which these priorities have been translated into relevant projects on the policy and programmatic side. We then turn to international climate finance and assess the climate finance portfolios of these countries to determine how much support they are already receiving with regard to migration challenges. Finally, to provide impetus for further inclusion of human mobility in climate change adaptation policy, we examine guidance and good practices for integrating human mobility in to National Adaptation Plans (NAPs).

[6] For an overview of human mobility in the UNFCCC process (and in national adaptation policies), please also see the mapping documents prepared under the work plan of the Task Force of Displacement. International Organization for Migration (2018f), WIM UNFCCC Mapping Human Mobility (Migration, Displacement and Planned Relocation) and Climate Change in International Processes, Policies and Legal Frameworks, available from: http://www.environmentalmigration.iom.int/iom-pdd-task-force-displacement-stakeholder-meeting. As well as: International Organization for Migration (2018g), WIM UNFCCC Mapping Human Mobility and Climate Change in Relevant National Policies and Institutional Frameworks, available from: http://www.environmentalmigration.iom.int/iom-pdd-task-force-displacement-stakeholder-meeting.

3.1 The Task Force on Displacement

The Task Force on Displacement[7] represents an important step forward in the development of the global governance of climate migration (Traore Chazalnoel and Ionesco, 2018). Called for in paragraph 49 of the Decision Text to the Paris Agreement and established as part of the workstream related to loss and damage under the WIM, the Task Force was mandated to "develop recommendations for integrated approaches to avert, minimize and address displacement related to the adverse impacts of climate change" (UNFCCC, 2015; UNFCCC, 2017). Within these recommendations, it was mandated to consider responses to both cross-border and internal displacement, and approaches at subnational, national, regional and international level, including within the UNFCCC via the Adaptation Committee and the Least Developed Countries Expert Group.

To ascertain how much progress had been made, where gaps remain, and what action is required, the Task Force's 2016-2018 work plan was focused on providing an up-to-date overview of the available data and the existing methodologies, policies, institutional frameworks, guidance and tools, both at national, regional and international level, relevant to displacement in the context of climate change. While most of this work is at least indirectly relevant for policy and decision-makers in the field of climate change adaptation, the work mandated under Activity II of the Task Force's initial work plan is particularly related to climate change adaptation policy. This included an initial overview of how climate and displacement are included in the Nationally Determined Contributions (NDCs), National Adaptation Plan processes (NAPs), national communications, and in other relevant policy agendas (IOM, 2018b) [8] [9]. Sections 3.2 and 3.4 take up this work and develop it further.

In 2018 at COP24 in Katowice, the Parties welcomed the WIM Executive Committee's decision to extend the Task Force's mandate for another five years. Going forward, the Task Force will support the Executive Committee's work in an advisory capacity and particularly activities undertaken within the strategic workstream on "enhanced cooperation and facilitation in relation to human mobility, including migration, displacement and planned relocation". It will also assist as appropriate with the implementation of its 2018 recommendations (UNFCCC, 2019a). As of August 2019, the Task Force's second work plan is under development.

3.1.1 Recommendations of the Task Force on Displacement

Within each of its mapping exercises, the Task Force identified gaps and also made more detailed recommendations for next steps. These findings were consolidated in its final report and main recommendations, which were presented within a wider report by the WIM Executive Committee and widely welcomed by the Parties at COP24 in Katowice, Poland, in December 2018. They include the recommendations to national governments and the EU (the Parties, see box below), as well as to the WIM Executive Committee, UNFCCC bodies, and other UN agencies and relevant stakeholders. In addition, the recommendations of the Task Force make reference

[7] The Task Force was comprised of 13 members representing civil society, NGOs, local government, UNDP, UNHCR, IOM, ILO, the International Federation of Red Cross and Red Crescent Societies, the Platform on Disaster Displacement, the UNFCCC Adaptation Committee, the UNFCCC Least Developed Countries Expert Group, along with members of the Executive Committee of the WIM (UNFCCC, 2017)

[8] Initially included in the work plan under Activity II.2, but finally integrated into the output for Activity I.1

[9] Other activities were "Mapping work plans of bodies/work programmes under the UNFCCC on displacement" (Activity II.1) and "Mapping of existing international/regional guidance/tools on averting, minimizing and addressing displacement and durable solutions" (Activity II.4)

to a wide range of UN bodies, as well as existing strategies and plans, suggesting building on existing efforts and alignment of UNFCCC measures with UN system-wide reforms.

3.1.1.1 The Task Force on Displacement's recommendations to national governments

As various types of migration may occur at the same time, the Task Force's recommendations go beyond displacement to refer to all forms of human mobility linked to climate change, from voluntary migration to displacement to planned relocation (Traore Chazalnoel and Ionesco, 2019c). The Task Force recommends that national governments introduce targeted new legislation, strategies and policies, but also that they apply a "climate migration" lens to other relevant areas of policy beyond migration and climate change, to consider the potential interaction with other policy objectives and their implementation. The recommendations also stress the importance of transgressing policy silos to build partnerships with relevant stakeholders, for example to enhance data collection and the sharing of information, or to improve monitoring and evaluation mechanisms (IOM, 2018b). From a climate policy perspective, the recommendations specifically highlight the importance of integrating the challenges associated with human mobility into NAPs and NDCs (see Section 3.3).

The Task Force on Displacement's main recommendations to the Parties:

- **Adopt and implement national and subnational legislation, policies, and strategies recognizing the importance of integrated approaches** to avert, minimize, and address displacement related to adverse impacts of climate change and issues around human mobility, taking into consideration human rights and other relevant international standards, and with inter-ministerial and cross-sectoral inputs, with the participation of relevant stakeholders;
- **Enhance research, data collection, risk analysis, and sharing of information**, to better map, understand and manage human mobility related to the adverse impacts of climate change, in a manner that includes the participation of communities affected and at risk of displacement related to the adverse impacts of climate change;
- **Strengthen preparedness**, including early warning systems, contingency planning, evacuation planning, and resilience building strategies and plans, and develop innovative approaches, such as forecast-based financing, to avert, minimize and address displacement related to the adverse impacts of climate change;
- **Integrate human mobility challenges and opportunities into national planning processes, including nationally determined contributions and national adaptation plans**, as appropriate, by drawing upon available tools, guidance, and good practices;
- **Protect and assist persons internally displaced in the context of climate change, and strengthen efforts to find durable solutions**, taking into account the Guiding Principles on Internal Displacement and other relevant international standards;
- **Facilitate orderly, safe, regular and responsible migration and mobility of people, by considering the needs of migrants and displaced persons, communities of origin, transit and destination**, and by enhancing opportunities for regular migration pathways, including through labour mobility, in accordance with international labour standards, in the context of climate change. "

(UNFCCC, 2018)

3.1.1.2 Financing action on the Task Force on Displacement's recommendations

Whereas some of the abovementioned recommendations are more general, others set out clear priorities with regard to financing. For example, the recommendations refer to the need to support and fund further research, preparedness mechanisms such as early warning systems (including national investment in and ownership of displacement data and risk assessments), and policy planning and implementation. As part of the financing focus, the Task Force highlights the importance of increasing access to finance and prioritizing development financing for projects addressing climate change. In its report, the Task Force states "access to funding is crucial for supporting the use and implementation of existing tools and guidance, including at regional and sub-regional levels – for example, through a dedicated funding stream on averting, minimizing and addressing displacement and durable solutions" (UNFCCC, 2018). The recommendations also draw attention to a technical paper prepared as a result of the UNFCCC Suva process[10], which is directed at innovative finance sources to address the funding gap and could be relevant for displacement. In addition, the Task Force highlights that financing could be further prioritized for projects that avert, minimize or address disaster displacement related to climate change.

3.2 Human mobility in the NDCs

Nationally Determined Contributions (NDCs) are a core climate policy in which countries communicate their ambitions for avoiding global heating and minimising its dangerous impacts to the international community.[11] The Paris Agreement foresees successive rounds of NDCs, with the Parties gradually ratcheting up the ambition of their NDC until it is sufficient to meet the goal of limiting global mean temperature rise to well below 2 degrees Celsius[12]. To date, 184 countries have submitted an NDC to the UNFCCC. Although the focus has generally been on national efforts to deliver emission reductions, most NDCs outline priorities, processes and mechanisms for both mitigation and adaptation.

The scale and nature of future human mobility in the context of climate change is therefore likely to impact and be impacted at least in part by the ambition and implementation of the NDCs, and accordingly human mobility deserves consideration within them. In the following, we examine how migration, displacement and planned resettlement have been taken up and framed in the first round of NDCs, and then consider the implications for the next round of NDCs to be submitted in 2020. We also analyse the extent to which responses to human mobility in the context of environmental and climate change are receiving support from international climate finance donors (See Section 3.3).

In the first round of NDCs, 33 of the countries that have submitted NDCs to the UNFCCC have made reference to a type of human mobility. The NDCs[13] can be grouped into six categories in terms of how they frame human mobility in the context of climate change.

[10] "COP 23 requested the Secretariat, under the guidance of the Executive Committee of the Warsaw International Mechanism for Loss and Damage (the Executive Committee) and the Chair of the Subsidiary Body for Implementation (SBI), to organize, an expert dialogue, Suva, to explore a wide range of information, inputs and views on ways for facilitating the mobilization and securing of expertise, and enhancement of support, including finance, technology and capacity-building, for averting, minimizing and addressing loss and damage associated with the adverse effects of climate change" (UNFCCC, 2019b).

[11] Of course, NDCs and NAPs form only part of country's approach to tackling the migration, environment and climate change nexus, and it is therefore important to look beyond them to also consider how initiatives stemming from other policy documents, such as national economic development plans, may address environmental and climate-change related migration.

[12] According to the 2018 Emissions Gap Report, the full implementation of the unconditional NDCs would only be sufficient to limit global mean temperature rise to about 3.2 degrees Celsius (UNEP, 2018: 10).

[13] See Annex for a table providing an overview of how the 33 countries frame migration in their NDC. The text shown here is an abridged version of the text contained in the NDCs.

The NDCs refer to:

1. Human mobility, including planned relocation[14], as a necessary adaptation strategy
2. How adaptation measures may allow people to remain in situ
3. Risks associated with climate-change induced human mobility
4. Security risks associated with climate-change induced human mobility
5. Implications of human mobility for climate change adaptation finance
6. Human mobility as a potential prerequisite for or outcome of mitigation measures.

Over half the NDCs fall within the first category, viewing some form of human mobility as necessary to adapt to climate change impacts. 14 of these 17 NDCs mention existing or planned government interventions to relocate vulnerable groups or communities away from high-risk areas. Other NDCs do not mention relocation and refer instead to adaptation as a way of allowing people to remain in situ. One NDC (Suriname) refers to the dilemma faced by countries with significant coastal infrastructure of "whether to continue investments in adaptation or relocate and rebuild economy in another part of the country not affected from the threat of the rising sea" (Government of Suriname, 2015: 3).

Good practice: Integrating human mobility into all core climate policies

The Task Force on Displacement's mapping of relevant national policies, prepared by IOM, highlights two 'champion' countries, Colombia and Togo. They are both considered a "good example of policy coherence at the national level" (UNFCCC, 2018: 13) as they have integrated human mobility considerations across all three of the types of climate change policies reviewed – National Adaptation Plans (NAPs), the Nationally Determined Contributions (NDCs) and their most recent National Communications (NCs) to the UNFCCCC. However, even though this represents an important step forwards and places these two countries ahead of others in terms of developing a coherent climate policy approach to displacement and migration, there is still scope for improvement – namely by developing and implementing specific projects or project components addressing migration and displacement issues.

[14] Whereas countries use relocation and resettlement interchangeably in their NDCs, for clarity we only refer to relocation since the term "resettlement" has negative connotations in development-related debates.

3.2.1 NDCs referring to human mobility as a necessary adaptation strategy:

The Bahamas: **The development of a comprehensive National Land Use and Management Plan also to incorporate climate change concerns and to regulate the location of future settlements and urban development. (Government of The Bahamas, 2015b: 9)**

Comoros: **Objective until 2030 to resettle/ give access to protecting facilities to the entire population that lives in vulnerable areas (Government of Comoros, 2015: 13)**

Egypt: **Migration from coastal zones due to sea level rise (Government of Egypt, 2015: 6). As part of the Adaptation Action package in the agricultural sector: development of systems, programmes, and policies to support adaptive capacity for rural communities to internal migration (Government of Egypt, 2015: 9).**

Fiji: **As part of the NAP process to guide the national adaptation efforts of the country, the forthcoming National Relocation Guidelines will provide the basis for implementing adaptation policy related to the relocation of coastal communities in response to climate hazards. (Government of Fiji, 2017: 10)**

Haiti: **Adaptation measures arising from the National Adaptation Programme of Action (NAPA) include the reduction of disasters risks in the most vulnerable areas to flooding, and the integration of internal and international migration and planned relocation of communities as an adaptation strategy. Development and implementation of Urban Planning and Sustainable Development Plans for cities affected from flooding that include displacement of population (Government of Haiti, 2015: 9-10)**

Kiribati: **Disparities between the different islands of Kiribati resulting in internal migration, displacement, and urbanisation. Adaptation projects on population and relocation should aim to reduce the vulnerability of Kiribati to increasing physical risks caused by climate change. Potential instrument: host country agreements for government-sponsored and self-sponsored emigration to resettle (Government of Kiribati, 2015)**

Maldives: **Relocation of an important port to a different island to increase the capacity and reduce the impacts of winds, etc. as contribution to adaptation (Government of Maldives, 2015: 7)**

Mexico: **Relocation of irregular human settlement in zones prone to disasters through land-use regulations as action to be taken from 2020-2030 (Government of Mexico, 2015: 7)**

Myanmar: **National circumstances: climate-driven migration because of rain-pattern variation that affect the social-economic conditions of dry regions (Government of Myanmar, 2015: 1)**

Rwanda: **Disaster risk reduction to be implemented: To reduce locally-specific hazards, relocation from high risk zones is considered as one of the strategic actions. In addition to households previously relocated from high risk zones, Rwanda will relocate additional 30,000 households by 2030 (Government of Rwanda, 2015: 12)**

Sao Tome & Principe: **Providing housing in safer areas to decrease the number of people living in vulnerable areas (Government of Sao Tome & Principe, 2015: 4)**

Senegal: **Options for adaptation in coastal areas in 2016-2035 include protection of vulnerable zones and/or displacement of people living in vulnerable areas. (Government of Senegal, 2015: 15)**

Solomon Islands: **Relocation of the provincial headquarters and town from an island to the mainland area as an adaptation strategy (Government of Solomon Islands, 2015: 12)**

Togo: **As impacts of climate change become more apparent, it is expected that the state, local governments and households will increase spending for new housing for disaster victims (Government of Togo, 2015: 6).**

Tuvalu: **Long term impacts of climate change like sea-level rise could result in the outmigration of people. However, they have a right to ensure the nation survives (Government of Tuvalu, 2015: 9)**

Venezuela: **To respond to emergencies arising from torrential rains more than 800 thousand homes have been built (Government of Venezuela, 2017: 13)**

Vietnam: **Adaptation in the period 2021-2030 should include development of infrastructure and plans for inter alia relocation of households and communities from affected areas (Government of Vietnam, 2015: 10)**

3.2.2 NDCs referring how adaptation measures may allow people to remain in situ

Chad: **To reduce migratory movements due to climate change, intercommunity grassland areas will be improved as a priority project of the NAPA (Government of Chad, 2015: 5)**

Nigeria: **"Strategies for disaster, migration and security" include: (1) Strengthen capacity to anticipate disasters and impacts on internal migration and security, and (4) Strengthen rural infrastructure and the availability of jobs to discourage out-migration. (Government of Nigeria, 2015: 21-22) "Strategies for human settlements and housing" include strengthening rural settlements in order to reduce migration. (Government of Nigeria, 2015: 21)**

Republic of Sudan: **Due to poor policy coordination in terms of land use, environmental problems have led to rural poverty and rural-urban migration (Government of Republic of Sudan, 2015: 8). Communities to be discouraged from migrating from vulnerable areas by improving access to water and achieving water security (Government of Republic of Sudan, 2015: 14)**

Sri Lanka: **Minimizing the impact of the sea level rise on coastal settlements is an objective for the urban, planning and human settlement sector (Government of Sri Lanka, 2016: 22)**

3.2.3 NDCs referring to risks associated with climate-change induced human mobility

Papua New Guinea: **Climate-induced migration identified as a specific hazard. (Government of Papua New Guinea, 2015: 7)**

Somalia: **Given that existing pastoralist and farming systems and methods are already under threat from poor land management, it is highly likely that existing climatic variability and the longer term impacts of climate change will undermine the entire agricultural sector and result in increased rural to urban migration. (Government of Somalia, 2015: 13, 21)**

St. Vincent and the Grenadines: **Evacuations in the tourism industry in case of extreme weather events. (Government of St. Vincent and the Grenadines, 2015: 8)**

3.2.4 NDCs referring to security risks associated with climate-change induced human mobility

Central African Republic**: Prepare a national transhumance management programme as part of prospective adaptation measures to sustainably manage transhumance corridors and conflicts between agriculturalists and pastoralists. (Government of Central African Republic, 2015: 10)**

Colombia: **"[…] peace processes elsewhere in the world have been associated to negative impacts on the environment, due to, among other things, migration patterns that increase pressure on natural resources in the most vulnerable areas, often resulting in increased deforestation." (Government of Colombia, 2015: 9)**

Guinea**: Conflicts over land-use may arise due to Guinea having a comparatively favourable climate in the region and it therefore becoming an important transhumance[15] destination for herds in the Sahel. (Government of Guinea, 2015: 6)**

Nigeria**: "Strategies for disaster, migration and security" include: (1) Strengthen capacity to anticipate disasters and impacts on internal migration and security and (4) Strengthen rural infrastructure and the availability of jobs to discourage out-migration. "Strategies for human settlements and housing" include strengthening rural settlements in order to reduce migration. (Government of Nigeria, 2015: 21-22)**

South Sudan**: Deadly conflicts among pastoralist communities due to reduced access to water resources. (Government of South Sudan, 2015: 2)**

3.2.5 NDCs referring to implications of human mobility for climate change adaptation finance

Mauritius**: Costs for achieving targets concerning adaptation are so high that financial support is needed to implement plans that mitigate propensity of migration (Government of Mauritius, 2015: 3)**

Suriname**: Dilemma, whether to continue investments in adaptation or relocate and rebuild economy in another part of the country not affected from the threat of the rising sea (Government of Suriname, 2015: 3)**

3.2.6 NDCs making reference to human mobility in relation to mitigation measures

[15] The concept of transhumance refers to a specific type of circular migration whereby pastoralists move their livestock seasonally between fixed summer and winter pastures.

China**: Promotion of the development of hydro power under consideration of ecological and environmental protection as well as inhabitant relocation (Government of China, 2015: 7)**

Tunisia**: Impact of mitigation on sustainable development is inter alia the population stabilization and prevention of rural depopulation (Government of Tunisia, 2015: 14)**

3.3 Environmental migration and climate finance

Although interest in and research on human mobility in the context of environmental and climate change has increased in recent years, with the number of publications and case studies on environmental and climate change migration rising significantly (IOM, 2018a), this heightened attention and the advancement of knowledge have only slowly been translated into projects and programmes to address the impact of migration on adaptation to climate change and vice-versa. This trend is also reflected in the funding portfolios of bilateral, multilateral and international donors, with increased funding for research and improving the evidence-base for policymaking in this area, but still comparatively small amounts of climate finance flowing towards projects that specifically aim to address the migration, environment and climate-change nexus. The reasons for this may be manifold, for example marginalised groups' lack of access to the respective funds or a lack of guidance on how to integrate the relevance of human mobility into a funding proposal. Another obstacle may be that funds have specific funding objectives with certain funding guidelines. An update to these funding guidelines would therefore be required to broaden its scope to include a human mobility perspective.[16]

As has become clear in Section 3.2, a number of countries have already made reference to migration in their first NDCs and have provided indications as to how they will respond to these challenges. The ways that they have framed the challenges related to human mobility offer several entry points for funding responses to this nexus within financing streams supporting NDC implementation. This section examines the extent to which major climate finance donors at international level and in Germany are explicitly addressing migration-related issues within their climate change adaptation projects. A review of existing climate finance initiatives has shown that there are only a few projects and initiatives that highlight migration in their project title or as a main focus.

Good practice: Pacific Resilience Facility

The Pacific Resilience Facility (PRF) is an investment fund providing support to the public and private sectors, as well as communities, to recover after disasters, and thereby to reduce disaster displacement. The PRF was introduced in 2018 at the Pacific Islands Forum Economic Ministers Meeting (FEMM), a standing meeting of the Pacific Islands Forum. The facility aims to strengthen the financial resilience of Pacific island countries against natural hazard risks in the region by enhancing strategic partnerships with donors and development partners, facilitating financial assistance for resilient development, and supporting capacity building of disaster risk budgeting and financing (Paul, 2018). Its primary source of funding is likely to be additional development funds. The PRF is guided by four key principles, namely (1) regional ownership, (2) affordable and contextualised financing, (3) additionality and complementarity, and (4) investment in preparedness. Its council consists of members from all member states, key development partners, a private sector representative, and a civil society representative. The board of PRF is set to have

[16] Under the new work plan of the Task Force on Displacement, IOM has been mandated to produce a guidance note on integrating migration in project development for climate funding mechanisms, including the GCF.

five members and provide medium-term strategic oversight to the PRF among others. However, since the PRF concept has not been approved by the FEMM, the details of its governance structure and funding have not yet been finalised.

3.3.1 Projects funded by international climate finance donors

Within international climate finance, there are still only a few examples of projects prominently addressing topics of migration and displacement. For example, the Adaptation Fund has approved two projects in this context (plus one in the pipeline), and the Green Climate Fund (GCF) is also financing two projects with human mobility as a focus. In addition, the GCF, the Adaptation Fund and the Least Developing Countries Fund (LDCF) have a number of climate change adaptation projects that can play a role in implementing the recommendations of the Task Force on Displacement and the recommended responses outlined in Section 3.4 below.

3.3.1.1 Green Climate Fund

The Green Climate Fund has only funded two projects to date with an explicitly stated link to the migration-adaptation nexus.

One project, approved in March 2018 and being implemented by the Asian Development Bank, is funding the construction of eco-districts with low-cost social housing in Ulaanbaatar, Mongolia. As the climate changes, rural communities are increasingly losing their livestock to extremely cold winters. The eco-districts provide a more sustainable alternative form of housing for rural-urban migrants, compared to the unplanned settlements with traditional "ger" dwellings that they have lived in on the edge of the capital until now. The widespread use of coal for heating and cooking in these areas creates significant amounts of air pollution as well as emissions (GCF, 2018a).

In 2016, the GCF also approved a seven-year UNDP project to support a coastal adaptation project in the Pacific small island nation of Tuvalu, where in 2015 45 percent of the population was displaced by Cyclone Pam. The country is one of the most vulnerable in the world to climate change, facing more frequent and severe cyclones as well as coastal erosion and salination due to sea-level rise according to the country's NDC. The project aims to put in place coastal protection measures, including eco-system initiatives, beach nourishment, concrete and rock revetments, and sea walls lasting 40 years (GCF, 2018b).

Whereas the project in Tuvalu addresses the specific needs outlined in the country's NDC regarding environmental migration, the project in Mongolia addressed a migration-related issue that was not explicitly referred to in the country's NDC. The potential benefits outlined in the proposal for Mongolia resonate well with the co-benefits approach (e.g. health) promoted by the GCF and can also be considered to serve the countries' adaptation needs more generally.

GCF co-benefits analysis

As part of its proposal requirements, the GCF asks submitting parties to outline the co-benefits that the proposed project may have. Relevant co-benefits in the context of human mobility could fall within two categories: either within sustainable development benefits or by benefiting and strengthening the protection of vulnerable groups, as part of the fulfilment of project recipients' needs:

Sustainable development benefits:

- *Economic co-benefits:* e.g. total number of jobs created

- *Social co-benefits:* e.g. improved access to education, improved regulation or cultural preservation, improved health and safety

- *Environmental co-benefits:* e.g. improved air and/or water quality, improved soil quality, improved biodiversity and ecosystem services

- *Gender-sensitive development impact:* e.g. proportion of men and women in jobs created, achievement of greater, more effective, sustainable, and equitable climate change results; improvement of equally women and men's resilience to and ability to address climate change.

Recipients' needs:

- *Vulnerability of the country and beneficiary groups*: e.g. how the scale and intensity of exposure to climate risks for the beneficiary country and groups are addressed, which could include the exposure of people, social or economic assets or capital to risks derived from climate change.

(GCF, n.d.: 9-10)

3.3.1.2 The Adaptation Fund

The Adaptation Fund finances a variety of projects in the area of disaster risk reduction and in areas that strengthen resilience in general, but has only explicitly referred to migration in a few projects. Nonetheless, in many of the projects that promote adaptation to slow-onset climate change phenomena, there may be opportunities to add relevant project components – for example, by including measures that address the needs of marginalised groups.

Specific examples of projects that make reference to migration:

As part of the portfolio of the Adaptation Fund, the Federated States of Micronesia successfully applied for financing for a planned relocation project that aims to enhance the climate change resilience of vulnerable island communities. As described in the project proposal, the overall goal of the project is "to build social, ecological and economic resilience of the target island communities". This also includes reducing "their vulnerabilities to extreme drought, sea-level rise and other climate risks through water resource management, coastal resource and development planning, and… promoting gender sensitivity and ecologically sound climate resilient livelihoods". The project's key objectives include preparing the necessary institutional and regulatory frameworks and "strengthening water and livelihood security measures to help six outer atoll islands adapt to impacts of climate change related to water, health and sanitation". The relocation component aims to provide communities with climate resilient infrastructure to help relocate from high-risk coastal inundation sites ("Kosrae Inland Road Relocation Initiative"). The implementation will be guided by local knowledge produced on climate change adaptation and serve to improve knowledge about the kinds of interventions that work in island environments, such as FSM (Adaptation Fund, 2019a).

A second example is a project that ran from 2012 to 2018 in Samoa. It aimed to reduce coastal communities' vulnerability to the adverse impacts of climate change and increase their adaptive capacity to respond to climate change impacts at local and sub-national level. The project was comprised of three components, with the first focused on "community engagement in coastal vulnerability assessment, adaptation planning and awareness". This had numerous outputs, including the formulation of "village hazard zone relocation plans" that took climate risks into account for at least 15 villages, and the provision of training to relevant stakeholders in a further 139 villages on how to integrate climate risks into coastal infrastructure management plans and the relocation planning process. The third component on "institutional strengthening to support climate resilient coastal management policy frameworks" also comprised the preparation of a village hazard zone relocation handbook" to help guide similar processes in future (UNDP, 2018).

Finally, the Adaptation Fund's active project pipeline also comprises a project proposal on increasing the resilience of displaced persons to climate-change-related water challenges in urban host settlements (Lebanon and Jordan) (Adaptation Fund, 2019b).

3.3.1.3 Least Developed Countries Fund – LDCF

An initial search of the project database hosted by the Global Environment Facility (GEF) as a financial instrument for implementing the LDCF did not reveal any projects with direct references to migration or displacement. However, as the main instrument to implement the projects prioritised in the National Adaptation Programmes of Action (NAPAs), there are many approaches directed towards protecting rural livelihoods or strengthening resilience in sectors such as food and water.

3.3.1.4 Preliminary insights

An initial review of the climate finance being received by the 33 countries that have referred to human mobility in their NDCs revealed the following:

- Venezuela is the only country that has not implemented any projects under any of the four funds (GCF, AF, IKI, LDCF)
- In Somalia and the Central African Republic only the LDCF is funding projects
- Rwanda, Togo and Solomon Islands are very well-funded, with various projects being financed by all four of the funds
- Further countries with various projects (under three of the funds) are Egypt, Guinea, Senegal, Myanmar, Fiji, Maldives, Papua New Guinea, Colombia and Haiti.
- In the Bahamas and Suriname, the GCF is funding a mitigation project, but other projects with an adaptation focus are not being funded.

3.3.2 Projects funded by German donors

3.3.2.1 International Climate Initiative (IKI)

Environmental migration is not a focus for the International Climate Initiative by the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) at present. To date, only two projects have specified explicit links to migration. In both cases, the project provided some information about migration risks as part of a broader project to improve the knowledge base available to decision-makers about climate change and adaptation measures.

In the first project, running from 2008 to 2011, the IKI funded the development of the *Climate Impacts: Global and Regional Adaptation Support Platform* (CI: GRASP) that provided decision-makers in emerging economies and developing countries with an open and interactive tool for bringing together data about the potential meteorological and socio-economic impacts of climate change, as well as existing adaptation measures. For certain countries – Brazil, Chile, China, India, Indonesia, Peru, Philippines, South Africa and Tunisia – the platform offered additional maps with more localised information on "migration risks", as well as land loss, economic impacts and agricultural yields (IKI, 2018a).

More recently, in January 2018, the IKI began funding a three-year project by the Potsdam Institute for Climate Impact Research (PIK) to provide decision-makers in India, Peru and

Tanzania with seasonal forecasts showing how changing rainfall patterns and other climate phenomena might affect water availability and agricultural production. One module will analyse how increased water scarcity, reduced crop yields and other impacts on agricultural livelihoods might amplify the potential for conflict and alter migration patterns in each country (PIK, 2018).

3.3.2.2 Other approaches by German Development Cooperation

In 2017, GIZ[17] launched the Global Programme "Sustainable Management of Human Mobility in the Context of Climate Change", a project commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ). The programme aims to identify and address knowledge gaps concerning climate-induced human mobility, in cooperation with national governments, researchers, and climate and migration organisations from the Pacific, Caribbean and Philippines working in the field of climate change and human mobility. The programme has put the focus on atoll and island states, as they are and will continue to be particularly hard hit by the impacts of climate change. As of August 2019, the programme is still ongoing and is showing the potential for policymakers in different fields to develop integrated responses to human mobility in the context of climate change. For example, the funds for the programme have been made available by the BMZ division for migration and displacement, but it is a division responsible for climate change that is implementing the programme (GIZ, 2019).

In addition, another GIZ project "Urban Management of Internal Migration due to Climate Change (UMIMCC)", running from 2018 to 2022, will focus on improving the living conditions of internal climate migrants in the certain settlement in two Bangladeshi cities, Rajshahi and Khulna. Although there are a particularly high proportion of climate migrants in these two divisional capital cities, there had been no needs-oriented measures undertaken to improve their living conditions. To improve the migrants' poor living conditions, the project operated in three areas:

1. Promoting information and knowledge sharing regarding climate-related migration and support of the needs of climate migrants;
2. Planning and implementing labour intensive work to ensure urban basic services;
3. Developing vocational training programmes.

The project took an integrated approach by providing the inhabitants with improved urban infrastructure, vocational trainings and opportunities for temporary employment. GIZ carried out the project as part of the special initiative "Tackling the Root Causes of Displacement – Reintegrating Refugees" on behalf of the BMZ (GIZ, n.d.).

The Bangladeshi NGO Dhaka Ahsania Mission has assessed the project and found that the living conditions of climate migrants living in slums in the two selected cities improved in terms of sanitary facilities, drinking water, infrastructure, safety for women and possibility to work (DAM, n.d.).

3.4 Integrating human mobility into National Adaptation Plans

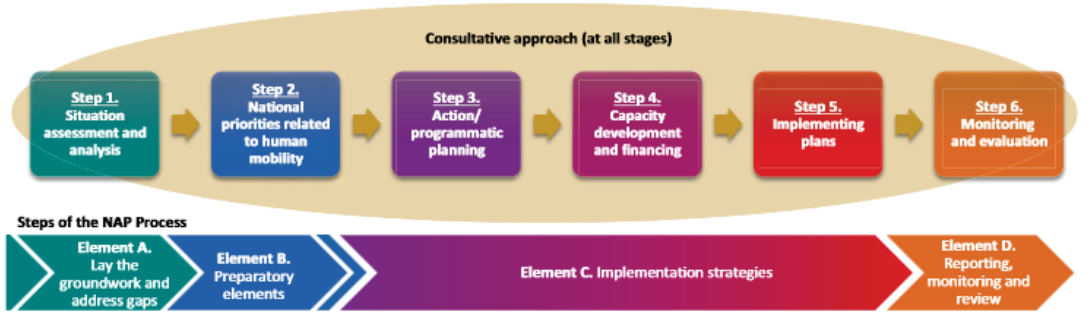
The National Adaptation Plan (NAP) process was established in 2010 under the Cancun Adaptation Framework and serves as an important tool for "identifying medium and long-term adaptation needs and developing and implementing strategies and programmes to address those needs" (UNFCCC, n.d.). As of August 2019, 13 countries had submitted NAPs to the

[17] Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH works in a wide variety of areas, including economic development and employment promotion, energy and the environment, and peace and security. Its main commissioning party is the German Federal Ministry for Economic Cooperation and Development (BMZ) (GIZ 2018).

UNFCCC, and around 80 more were in the process of developing them (NAPEXPO, 2019). National Adaptation Plans can support positive responses to migration in two main ways. Firstly, they can include measures to reduce the impact of environmental stressors on communities, thus minimising the pressure to migrate, averting displacement, and the need for planned relocations. Secondly, they can consider and facilitate migration as an important adaptive strategy for coping with environmental and climate change (Warner and Afifi, 2014: 18).

Relevant institutions and organisations at international level, including the United Nations University Institute for Environment and Human Security (UNU-EHS), IOM, UNHCR, PDD and IDMC, as well as initiatives at regional and national level, have identified key action areas and developed recommendations, guidance and good practices for integrating human mobility into climate change adaptation policies, so as to improve their outcomes for migrants, as well as their home and destination communities (Leighton et al., 2011; Warner, 2010, 2011 and 2012; Warner et al., 2013; Warner et al., 2015a and b). This has included guidance for integrating human mobility into National Adaptation Plans (NAPs). The policy brief "Integrating human mobility issues within National Adaptation Plans" prepared by UNU-EHS, IOM and the Nansen Initiative (Warner et al., 2014) built on previous guidelines for integrating migration into development planning (Global Migration Group, 2010) to show how human mobility can be integrated throughout the six planning and implementation stages of the NAP process.

Figure 1: Comparing the Integrating Mobility into National Adaptation Plans (IMNAP) steps with the UNFCCC's NAP process



Source: IOM, 2016c based on:

1. An adaptation of the stages of development planning from the *Global Migration Group Handbook on Mainstreaming Migration into Development Planning* (2010), p. 21.
2. UNFCCC LDC Expert Group National Adaptation Plans. Technical guidelines for the national adaptation process (Bonn, UNFCCC Secretariat, 2012).

(Melde, Laczko and Gemenne, 2017: 88)

The following provides an overview of the guidance for the six stages (Warner et al. 2014), including links to the Task Force on Displacement's recommendations. Relevant examples of good practice are included, several of which were developed as part of the "Migration, Environment and Climate Change: Evidence for Policy" (MECLEP) project. This large-scale multi-country study conducted by a consortium led by IOM and financed by the European Union, addressed the crucial need for more empirical evidence on how migration, displacement, and relocation can support or hinder adaptation to environmental and climate change in different regional contexts. Finally, Section 3.4.7 examines the importance of taking an inclusive approach throughout all six stages.

3.4.1 Stage 1: Assessing and analysing the situation

Informed, evidence-based responses rely on the availability of and access to data about environmental and climate-change related risks, impacts and vulnerabilities, as well as information about migration and population dynamics. For example, vulnerable countries require scientific data to determine which areas are particularly exposed to extreme weather events and other climate change impacts, such as sea-level rise, which areas people are moving to, and which areas are safe to relocate displaced persons to. The Task Force on Displacement called for further initiatives to improve data collection, build on existing research and share information, as these provide the basis for risk analysis and assessments on the nexus between human mobility and environmental and climate change.

Good practice: Digitisation and new information technologies

Digitalisation and new information technologies are helping government institutions, UN organisations, NGOs and development agencies to gather and improve access to data about human mobility in the context of climate change. A wide range of digital tools are already being applied, including:

- The Migration Data Portal[18], an online hub for all available, public data sets related to migration. The portal also includes a page focussing on data related to migration and environment.
- The IOM Environmental Migration Portal[19] is an online platform bringing together the latest news, research and resources related to people on the move in a changing climate.
- The IOM[20] platform, which visualizes Displacement Tracking Matrix (DTM) migration flow data. "The DTM is a system designed to track and monitor displacement and population mobility, provide critical information to decision-makers and responders during crises, and contribute to better understandings of population flows" (IOM 2019c)
- The **Hot OpenStreetMap Tasking Manager**[21] is an open source tool that aims to speed up the process of mapping key data in an emergency or other humanitarian mapping scenario. The tool allows the distribution of tasks to many individuals, as well as the monitoring of overall progress (Humanitarian OpenStreetMap Team 2019).
- The Humanitarian Data Exchange Platform HDX[22] managed by the United Nations Office for the Coordination of Humanitarian Affairs (UN OCHA) allows users easily to find, share and use humanitarian data.

However, digitalisation also presents a number of challenges. For example, natural hazards may damage digital infrastructure, meaning offline back-up solutions remain necessary. Further, digital tools may create new inequalities and conflicts of interest. In this context, the Principles for Digital

[18] See: https://migrationdataportal.org

[19] See: https://environmentalmigration.iom.int/iom-and-migration-environment-and-climate-change-mecc

[20] See: https://migration.iom.int/europe?type=arrival

[21] See: https://tasks.hotosm.org/about

[22] See: https://data.humdata.org/dataset

Development[23] provide good guidance for developing digital approaches to human mobility in the context of climate change.

The links between climate change impacts and human mobility, and their interaction with other factors that influence migration decisions and flows (e.g. socio-economic conditions) vary widely according to country and context. Developing integrated responses to climate change and human mobility requires, as far as possible, country-specific information from across multiple policy areas. A useful first step when developing such responses can therefore be the preparation of national and sub-national risk assessments on migration, environment and climate change that bring together relevant national data and analysis from across different policy fields. These assessments can also lay the groundwork for greater cooperation between policymakers across government by outlining the relevant legal and policy frameworks and plans at national or sub-national level, and the potential synergies between them. For example, beyond climate and migration policies, these may include disaster risk reduction or management policies, or development or resilience plans (Warner et al., 2014).

Good practice: National assessments on migration, environment and climate change

National assessments on migration, environment and climate change provide policymakers with a systematic overview of the latest data and knowledge relating to environment and migration in their country, and a benchmark for evaluating future progress. They provide the basis for policy-making and are a useful tool for increasing policy coherence. They also enable decision-makers to more systematically weigh up the benefits and negative impacts of responses to migration and displacement. A model for these types of assessments was developed as part of the project "Migration, Environment and Climate Change: Evidence for Policy" (MECLEP), a large-scale multi-country study conducted by a consortium led by IOM and financed by the European Union, and have since been replicated at low-cost for other countries, including Namibia and Madagascar (Melde et al., 2017: 89-90; IOM, n.d.).

Another best practice explored during the MECLEP project was the creation of **working groups comprised of policymakers, academics and civil society** to guide the preparation of these national assessments and inform broader climate change adaptation policy processes. (Melde et al., 2017: 89-90).

Good practice: Lake Chad climate-fragility risk assessment

When crises or conflicts span several countries, a regional assessment of climate-fragility risks can provide a more complete picture of how climate and conflict dynamics can undermine food, water and livelihood security, and drive displacement both internally and across borders. As climate impacts become more acute, such assessments are likely to become an essential resource for those looking to plan and implement risk-informed responses to complex crises in fragile regions.

Commissioned by the G7 and published in 2019, "Shoring up stability: Addressing Climate & Fragility Risks in the Lake Chad Region" was the first ever climate and fragility assessment of a specific region[24]. "The assessment draws on long-term hydrological data from the Lake Chad basin and brand new analysis of 20 years of satellite observations. It also builds on more than 200 interviews with community members, including past and present members of armed groups, experts and officials from Cameroon, Chad, Niger and Nigeria." The report offers entry points and

[23] See: https://digitalprinciples.org/

[24] For more information, see shoring-up-stabilty.org.

guidance for addressing climate-fragility risks in the Lake Chad region and beyond. With regard to human mobility, the report found that in the Lake Chad basin "the adaptive capacity of communities is simultaneously undermined by climate change and conflict. The displacement of people, restricted movement and weakened social cohesion weaken adaptive capacity" (Vivekananda et al., 2019).

3.4.2 Stage 2: Defining national priorities related to human mobility

National assessments of migration, environment and climate indicate to policymakers which are the most important challenges their country faces in relation to human mobility and climate change. The next step is identifying priorities for action for developing the "integrated responses" called for by the Task Force on Displacement, and to ensure that these priorities are clearly communicated in the NAPs, so as to focus financing and capacity building. In addition to thematic priorities for climate change adaptation, it may also be important to identify institutional mechanisms for improving the coordination and coherence in policymaking across government – for example, the creation of a focal point or inter-ministerial working group on climate change and human mobility.

Good practice: Strengthening preparedness

Prioritising and investing in preparedness mechanisms offers significant potential for saving lives, reducing displacement and minimising damage when disasters do strike, and is also more cost-effective than response and reconstruction. However, it has been calculated that between 1991 and 2010 just 0.4 percent of international aid was spent on disaster risk reduction – $13.5 billion, compared to $23.3 billion spent on reconstruction and rehabilitation and $69.9 billion spent on response (Kellett and Caravani, 2013).

In its recommendations, the Task Force on Displacement highlighted the importance of investing in "early warning systems, contingency planning, evacuation plans, and resilience building strategies and plans" (UNFCCC, 2018). While climate change adaptation and sustainable development measures are strongly linked to the latter, the former have conventionally fallen within the purview of disaster risk reduction agencies. A comprehensive approach to strengthening preparedness therefore requires coordination and coherence between policymakers, practitioners and investors in these three areas.

The 2019 UNDRR report "Words into Action: Developing national risk reduction strategies" notes that the formulation and implementation of national adaptation plans provides an excellent framework for the practical integration of climate change adaptation, DRR and sustainable development across various government sectors and levels, and highlights the importance of "joint decision-making processes, tools, metrics and strategies".

The report examines the four priorities for action in national and local DRR strategies outlined the Sendai Framework[25], which each offer clear entry points for the NAP process and coordination with climate change adaptation policy communities:

[25] The Sendai Framework for Disaster Risk Reduction 2015-2030 (Sendai Framework) is one of the three major components of the post-2015 development agenda, along with the Paris Agreement and Agenda 2030 for Sustainable Development. Endorsed by the UN General Assembly in 2015, it aims at "The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries" (UNDRR n.d.).

"**Priority 1 - Understanding disaster risk**: Policies and practices for disaster risk management should be based on an understanding of disaster risk in all its dimensions of vulnerability, capacity, exposure of persons and assets, hazard characteristics and the environment.

Priority 2 - Strengthening disaster risk governance to manage disaster risk: Strategies should ensure mainstreaming and integration of disaster risk reduction within and across all sectors.

Priority 3 - Investing in disaster risk reduction for resilience: Strategies should promote allocation of the necessary resources at all levels of administration for the development and the implementation of DRR strategies in all relevant sectors.

Priority 4 - Enhancing disaster preparedness for effective response and to "Build Back Better" in recovery, rehabilitation and reconstruction: Strategies should strengthen disaster preparedness for response and integrate DRR, response preparedness and development measures to make countries and communities more resilient to disasters." (UNDRR, 2019)

See also Section 1.2 "Public policies on disaster preparedness" of the second report in this series "Migration, environment and climate change: Impacts" (IOM, 2019b)

3.4.3 Stage 3: Planning action and programmes

Human mobility in the context of climate change may be addressed via two broad types of policies, programmes and activities: Firstly, those aiming to avert displacement by minimising disaster risks and strengthen the resilience of communities to climate change impacts, and secondly, those that aim to facilitate migration as adaptation strategy (e.g. via labour migration programmes). Plans and programmes may have an impact on human mobility, even if migration, displacement or relocation are not explicitly mentioned within their aims or assessment criteria. This may be the case if they help people help to lead a successful life before or after they have migrated by addressing basic needs, such as decent, sustainable work, shelter, peace, food and water security. For example, climate change adaptation projects that strengthen livelihood security can reduce the pressures to migrate and seek work elsewhere. Adopting a "human mobility lens" and systematically considering these potential impacts and co-benefits for human mobility during the planning process is likely to provide a more complete picture of a measure's potential positive and negative effects, and thereby improve operational outcomes.

Good practice: Systematically factoring in the positive role of migration in adaptation

Research conducted in six countries (Dominican Republic, Haiti, Kenya, Mauritius, Papua New Guinea and Viet Nam) during the MECLEP project showed that the countries had already made reference to migration, displacement and planned relocation in climate change adaptation policies and programmes, but that these references often concentrated on negative effects – for instance through displacement. By contrast, surveys of migrants in the six countries showed that they largely viewed migration as having beneficial outcomes. The research team thus recommended that policymakers focus on "decreasing potential 'maladaptive' outcomes" that serve to increase vulnerability, and particularly in national policies more systematically factor in the positive role that internal migration plays in adapting to the impacts of climate change (Melde et al., 2017: 87).

3.4.4 Stage 4: Developing and financing capacity

In this stage, it is important to build capacity for and to scope out the available financing for implementing the migratory aspects of the NAP. Strong implementation of the NAP is likely to require capacity-building initiatives at all levels of government, including local government level

to ensure that the priorities from national adaptation plans are translated into local climate action plans. Participatory planning and decision-making formats can help to identify how human mobility may support or undermine local climate change adaptation efforts in a particular place (See Section 3.2.7). See also Section 3.3 for how climate finance can strengthen responses to human mobility in the context of climate change.

Good practice: IOM's Training manual on migration, environment and climate change

Training workshops and manuals for policymakers and other relevant local stakeholders are important to increase local knowledge and capacities for understanding and responding to the migration–environment nexus. As part of the MECLEP project, IOM developed and tested a training manual on migration, environment and climate change, available in five languages[26], which also can be used in other countries (Melde et al., 2017: 89-90).

Good practice: Environment and Climate Adaptation Levy (ECAL) in Fiji

To protect the environment and help fund climate change adaptation and mitigation measures, Fiji introduced an innovative financing tool: the Environment and Climate Adaptation Levy (ECAL). It is a fusion of taxes on prescribed services, items and income – for example, a charge on plastic bags and a tourist tax. Since it was introduced in the 2017/2018 financial year, the ECAL has collected FJ $270.2 million (€111.1 million), and this has mainly been used to finance over 100 climate change and environmental conservation projects. The bulk of ECAL funds have been utilized for adaptation (92%). Infrastructure development accounts for the largest share (65%), followed by water management (19%). The remaining 16% is divided between eight thematic areas like energy conservation, agricultural development and sustainable resource management. In the future, a certain percentage of ECAL will also be allocated to the Climate Change Relocation Trust Fund, which helps low-lying coastal communities to relocate to higher ground (Government of Fiji, 2019).

3.4.5 Stage 5: Implementing plans

The conditions for the successful implementation of NAP-related projects and programmes are likely to be context specific. Warner et al. (2014) therefore stress the importance of "operational and institutional channels with clear objectives, beneficiaries, roles and timelines". They note sudden-onset disasters and slow-onset climate change impacts are subject to different timelines and therefore require different approaches. In the case of sudden-onset events like hurricanes or storm surges, "sequenced timelines, concrete deliverables and emergency plans" are required to quickly move people out of danger. By contrast, the success of planned relocations relies on detailed understanding of land relations and the dynamics within communities of origin and destination.

Good practice: People's Survival Fund, Philippines

The Philippines is one of the countries most affected by climate change (Eckstein et al. 2018: 8). To address its high vulnerability to the impacts of global heating, in 2012 the Philippine government created the Peoples Survival Fund (PSF) to support local government units and local and community organisations to implement climate change adaptation projects. Following the Republic Act 10174, the government of the Philippines guarantees at least a billion Philippine pesos (€ 17.1 million) for the PSF from the national budget each year. The fund is managed by the

[26] English, French, Spanish, Russian and Azerbaijani. https://environmentalmigration.iom.int/training-manual

nine-member People's Survival Fund Board that oversees the fund's work. In general, the fund is mainly intended to support adaptation activities at local level, including for the formulation and implementation of local climate action plans and accompanying activities. These may include water resource management, agriculture and fisheries, land management, and health. However, the fund has also been used to establish regional centres and strengthen capacity building and information networks supporting adaptation initiatives and projects. The PSF also serves as risk insurance in the agricultural sector, and has been used to help set up early warning systems and preventive measures for strengthening planning, preparedness and management of climate change impacts like floods and droughts (Government of Philippines n.d.). Human mobility and settlements are also being integrated into local climate change action planning, following updates to the National Climate Change Action Plan (NCCAP) to also include human settlements under the "human security" priority theme.

3.4.6 Stage 6: Monitoring and evaluation

The national and sub-national assessments on migration, environment and climate change in the first two steps should provide benchmarks for subsequent monitoring to understand whether the measures undertaken are supporting or undermining adaptation. For example, the national assessment conducted for Namibia during the MECLEP project identified data, knowledge, policy and institutional gaps that could be translated into indicators or benchmarks for progress in subsequent monitoring and evaluations. These included the preparation of a vulnerability mapping of the communities most at risk, a review of relevant policies, the mainstreaming of climate change adaptation in strategies at national and regional level, and improvements in shelter provision for displaced communities.

3.4.7 Taking an inclusive approach and prioritizing vulnerable groups

Taking an inclusive, rights-based approach and consulting people from different communities and groups in high-risk areas to understand their specific needs and concerns can significantly improve the outcomes of projects and programmes addressing the migration, environment and climate-change nexus. Involving and empowering civil society and diaspora groups in affected countries may also play an important role. As shown in Figure 1, a consultative approach throughout all six stages of NAP planning and implementation can support in this regard. As disaggregated data (for example, by migratory status, sex or age) are usually not available, it may otherwise be difficult to gain insights into the vulnerability, resilience and needs of specific sub-groups, including migrants. The use of participatory formats throughout the various planning and implementation stages can provide a fuller understanding of communities' specific vulnerabilities and support the development of more targeted measures to increase resilience before environmental stressors become acute (Warner et al., 2014).

Important considerations in this context include:

- **People at risk of being displaced by natural hazards** can benefit from the development and maintenance of early warning systems, mainstreaming and financing disaster risk reduction within development policies, and DRR policies and programmes that consider both communities of origin and destination (Melde et al., 2017: 93).
- **Communities where livelihoods are highly dependent on ecosystem services** are especially vulnerable, particularly if they lack access to state services or have high illiteracy rates (See for example: Milan and Ruano, 2014).

- **Trapped populations**, and particularly poorer groups that are more exposed to hazards, will require additional support. Governments should therefore channel more financing into programmes and policies that increase the resilience of these vulnerable communities in areas of origin and destination. (Melde et al., 2017: 93).
- **Planned relocations to move people to safer locations** away from hazards should take a "locally driven and rights-based" approach and involve a consultation with affected populations to determine, for example, how to best establish sustainable livelihoods in their new communities. Guidance and numerous examples of best practices already exist to accompany policymakers, communities and other stakeholders though this process (see for example: Georgetown University, UNHCR and IOM, 2017).
- **Marginalised or vulnerable groups** also require additional protection and support. They may include certain demographic groups, such as children and older people, marginalised ethnic or religious groups, people living with disabilities, people living in poverty or other vulnerable groups in society that lack the social or financial capital to cope with natural hazards or long-term livelihood, food or water insecurity.
- **Gender** considerations are also important, given that environmental stressors and migration affect women and men differently. Policy responses will therefore have the maximum benefit if they adopt a "gender lens" and consider how hazards and migration may reflect the specific needs, roles and vulnerabilities of men, women, boys and girls.

Good practice: Participatory community development applying a 'translocal' perspective

In and out migration can amplify the positive impact of climate change adaptation projects, alongside community development projects in general. Thus, applying a "translocal" perspective – one that emphasises community members' mobility and connectedness – when designing and implementing projects can have significant benefits.

To gain further insights into this kind of approach, practitioners can refer to the *Guidebook for Integrating Migration and Translocality into Community-Based Adaptation* (TransRe, 2018). It proposes a variety of participatory activities that practitioners can work through with communities to understand and analyse migration patterns relevant to their area and therefore to understand how they do or could contribute to climate change adaptation and community development projects.

The guide also proposes activities to identify the benefits of migration, such as financial and social remittances, and ways to reduce any negative effects caused, for example, by the separation of families.

The TransRe team tested all the approaches outlined in the guide in different communities in Thailand, and devised their approach based on existing research and a number of other handbooks for practitioners working in the field of climate change adaptation, remittances and development.

3.5 Preliminary insights regarding the status of international climate policy responses

The analysis of NDCs that already refer to environmental migration and of programmes and projects that address this issue showed that increased awareness of the interlinkages between environmental migration and climate change is already affecting priorities for action in climate change policy. Although this often still happens at a general level (i.e. by referring to the issue as an overall challenge to be addressed), some countries have placed a clear focus on relocating vulnerable populations to areas less exposed to hazards.

Countries mentioning migration either in general or as a priority issue in their NDCs have not yet necessarily matched these priorities with specific programme and projects. There are only a few, mostly recent examples in their international climate finance portfolios that highlight the relationship between environmental migration and climate change as an overall priority. These projects are mainly in the early phases of implementation. However, a first assessment of their overall progress could offer valuable insights, not least to inform the next generation of updated or expanded NDCs.

The review of the climate change adaptation approaches currently supported by international climate finance reveals that there are already projects being implemented that address key issues highly relevant to the overall context of environmental migration, e.g. strengthening livelihood security or support population groups most vulnerable to climate change impacts.

NAPs provide a useful framework for developing more integrated responses to the nexus between human mobility and environmental and climate change. The process of assessing the challenges and co-benefits of migration for climate change adaptation in a particular national context can provide policymakers with a more complete picture of both relevant climate risks and potential project or programme impacts, thus improving adaptation programme and project outcomes.

However, at this point, it is also important to note that NDCs and NAPs form only part of country's approach to tackling the migration, environment and climate change nexus. It is therefore important to look beyond them and consider how initiatives stemming from other policy documents, such as national economic development plans, may frame and address environmental and climate-change related migration.

4 Responding to environmental migration beyond climate policy

So far, this report has offered some insights into the entry points for addressing human mobility in the context of environmental and climate change under the Paris Agreement, including within the NDCs, climate adaptation finance and NAPs. However, given the range of other factors that shape different forms of human mobility related to environment and climate change, and other policy areas that impact on climate change adaptation, it is also important to consider other policy processes and frameworks.

In recent years, there have been important developments at international level in fields related to human mobility in the context of environmental and climate change. Many new frameworks and processes have been established, both within the UN system and beyond, and these present new opportunities for developing more targeted, integrated responses to help vulnerable communities, migrants, and their home and destination communities. Mapping the synergies between these emerging processes and identifying potential channels and entry points for cooperation in this evolving context in an ongoing challenge for policymakers in all areas.

As a comprehensive analysis of all the international frameworks and processes relevant to environmental migration is beyond the scope of this paper, this chapter aims to provide an overview of the current landscape, drawing on the recent mapping exercises undertaken on behalf of the Task Force on Displacement (IOM, 2018c). We then turn to three important frameworks at international level in more detail. First, to the Global Compact for Safe, Orderly and Regular Migration and the Platform for Disaster Displacement, which both directly target human mobility in the context of environmental and climate change, and then to the 2030 Agenda for Sustainable Development, to show the entry points for addressing human mobility in the context of environmental and climate change within its broad, cross-cutting agenda.

4.1 Frameworks of relevance for responding to environmental migration beyond climate policy

Beyond climate policy, there are entry points for responding to environmental migration within a range of other agendas and frameworks. In recent years, several mapping exercises have been undertaken to enable policymakers to better understand how different processes and policies may relate to human mobility in the context of environmental and climate change (see for example Ionesco, Mokhnacheva and Gemenne, 2017). Decision-makers can now avail of a range of publications providing general tools and guidance at international level on a range of key issues. Guidance is also increasingly becoming available at regional level, reflecting the need for tools that take into account local context, but this is still comparatively limited (UNHCR 2018: 45). Over 200 such publications were mapped and analysed in 2018 under the work plan of the Task Force on Displacement[27]. Decision-makers looking for a comprehensive overview of relevant policy areas can refer to the report "Mapping Human Mobility (Migration, Displacement and Planned Relocation) and Climate Change in International Processes" prepared by IOM. The processes analysed in the report are shown in Figure 2 below (IOM 2018c).

[27] See the output of Activity II.4 of the Task Force on Displacement's work plan "Mapping of existing international and regional guidance and tools on averting, minimizing, addressing and facilitating durable solutions to displacement related to the adverse impacts of climate change" (UNHCR 2018). This mapping exercise only covered guidance and tools of international and regional organisations, with other documents provided by academia and CSOs not included although they could also be useful for policymakers.

These different frameworks address different aspects of the migration, environment and climate-change nexus.

Sudden and slow-onset climate change impacts

Processes in the area of disaster risk reduction and humanitarian aid (e.g. the Sendai Agreement and the Grand Bargain) provide responses for assisting people displaced due to sudden-onset natural hazards, while others are more relevant to migration in the context of slow-onset changes to the climate and aim to strengthen the resilience of communities to changing rainfall patterns and sea-level rise. For example, environmental processes, such as the United Nations Convention to Combat Desertification (UNCCD) and global ocean policy, aim to protect the ecosystems underpinning livelihoods, such as fishing and farming. Other processes are more cross-cutting and aim to strengthen resilience and the agency of migrants, home and destination communities in the context of slow and sudden onset climate change impacts – for example, the processes within the sustainable development, migration and human-rights agendas.

Internal and cross-border migration

Given that many of the international processes relying on national plans and processes for their implementation (e.g. NDCs and NAPs), some processes are focused on building consensus around common approaches for protecting people displaced or migrating across international borders (e.g. Global Compact for Migration (GCM) and the Platform on Disaster Displacement (PDD)).

Short-term and long-term responses

Actions in many policy areas can serve to strengthen the resilience of vulnerable communities, but policy areas may be focused on particular timeframes. For example, although there have been moves towards more comprehensive disaster risk management approaches under the Sendai Framework, disaster risk reduction measures are still mainly aimed at reducing damage and loss of life immediately after a disaster strikes. Humanitarian aid responses are also generally conceived as short-term measures (even if there are numerous examples of them stretching over many years). By contrast, environmental and sustainable development frameworks are planned with longer timeframes in mind and aim to build long-term resilience to environmental, climate and fragility risks.

Figure 2: Selected international processes relevant to human mobility in the context of environmental and climate change

Migration, displacement and planned relocation	• The New York Declaration for Refugees and Migrants • The Global Compact for Safe, Orderly and Regular Migration (GCM) • The International Organization for Migration (IOM) • The Global Compact on Refugees (GCR) • The United Nations High Commissioner for Refugees (UNHCR) • Global Forum on Migration and Development (GFMD) • Nansen Initiative Agenda for the Protection of Persons Displaced Across Borders in the Context of Disasters and Climate Change and the Platform on Disaster Displacement (PDD) • Migrants in Countries in Crises (MICIC) Guidelines
Environment	• United Nations Framework Convention on Climate Change (UNFCCC) • United Nations Convention to Combat Desertification (UNCCD) • United Nations Environment Assembly (UNEA) and UN Environment (UNEP) • Global Ocean Policy • Convention on Biological Diversity (CBD) • Convention on Wetlands (Ramsar Convention) • Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention) • Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (Aarhus Convention)
Sustainable development	• Small Island Developing States (SIDS) Accelerated Modalities of Action (SAMOA) Pathway • The New Urban Agenda • 2030 Agenda for Sustainable Development • Green Climate Fund (GCF)
Disaster management and humanitarian action	• Sendai Framework for Disaster Risk Reduction (DRR) • Agenda for Humanity • The Grand Bargain
Human rights and international labour standards	• Human Rights Council (HRC) and the Office of the High Commissioner for Human Rights (OHCHR) • The International Labour Organization (ILO) • International Law Commission Draft Articles on the Protection of Persons in the Event of Disasters • United Nations Declaration on the Rights of Indigenous Peoples • Geneva Pledge for Human Rights in Climate Action

Source: Own representation, based on IOM 2018c.

UN and non-UN responses

Many of initiatives relevant to environmental migration are formal conventions, frameworks and institutions within the UN architecture; others are not but have played an important role in raising the profile of issues related to environmental migration within the UN system. For example, the Global Forum for Development and Migration (GFMD) serves as a more informal setting for international dialogue on migration outside of the UN. It provides a space for state representatives to exchange with each other and civil society on more controversial issues outside UN processes, such as the formal negotiations surrounding the New York Declaration and the Global Compacts. The Nansen Initiative and the Platform for Disaster Displacement are also examples of a process outside the UN architecture that has allowed groups of countries to show leadership on an issue (in this case, cross-border protection for people displaced in the context of disasters and climate change) before the international community was ready to formalise action within the UN system.

4.2 The Global Compact for Migration and international migration governance

Building on the work of the IOM's Governing Bodies[28] and the New York Declaration for Refugees and Migrants[29], the Global Compact for Safe, Orderly and Regular Migration – usually referred to as the Global Compact for Migration (GCM) – was adopted at an intergovernmental conference organised under the auspices of the UN General Assembly in Marrakesh, Morocco on 10 and 11 December 2018 (UN, 2018). The GCM is significant because it provides a framework for international cooperation to protect migrants who are not covered by the binding provisions of the 1951 Refugee Convention, which only applies to people fleeing persecution "because of his or her race, religion, nationality, membership of a particular social group or political opinion" (UNHCR 2011). The GCM represents a major step forward in the international governance of migration. It reflects the state of the art on the wide spectrum of issues impacting migration in the 21st century, including environmental and climate change, and will serve as an important tool for improving policy coherence and coordination around migration issues going forwards.

The GCM is a non-binding document setting out 23 objectives for achieving safe, orderly and regular migration at every stage of the migration cycle. Each objective is accompanied by a commitment and relevant actions that UN Member States can draw upon in order to achieve the GCM objectives, based on relevant policy instruments and good practices. Similar to the Paris Agreement, implementation of the GCM is a state-led process, with Article 53 inviting states to "develop, as soon as practicable, ambitious national responses for the implementation of the Global Compact, and to conduct regular and inclusive reviews of progress at the national level,

[28] Important advancements that were made by governments on the topic of migration, environment and climate change under international migration policy processes that took place prior to the New York Declaration and the GCM. These include discussions and commitments made on this topic at the level of IOM's Governing Bodies, and as part of the International Dialogue on Migration, which have both contributed to policy and practice exchange on this topic since 2007.

[29] The scope for the GCM was outlined in September 2016, when 193 countries discussed refugees and migration for the first time at the global level in the General Assembly, resulting in the New York Declaration for Refugees and Migrants. In adopting the declaration, the international community recognised the need for a comprehensive approach to human mobility, acknowledging that "poverty, underdevelopment, lack of opportunities, poor governance and environmental factors are among the drivers of migration" (UN GA, 2016: 23).

such as through the voluntary elaboration and use of a national implementation plan" (UN, 2018: 34).[30]

Article 49 of the GCM also stipulates that the International Migration Review Forum (IMRF) will "serve as the primary intergovernmental global platform for Member States to discuss and share progress on the implementation of all aspects of the GCM, including as it relates to the 2030 Agenda for Sustainable Development". The IMRF is the successor to the High-level Dialogue on International Migration and Development, and in July 2019 the UN General Assembly adopted a resolution setting out the format and organisational aspects of the IMRF. This states that the IMRF will bring together representatives of the "highest political level, including heads of state and government" and "ensure the effective participation of all relevant stakeholders", including non-governmental organisations, academic, scientific, and knowledge-based institutions, the private sector, trade unions, faith-based, migrant and youth organisations, and diaspora communities. The first forum is planned for the first half of 2022, and the IMRF is then due to take place every four years. The resolution also acknowledged the important role the Global Forum on Migration and Development (GFMD) played in building consensus in the negotiations on the GCM and linking the different multilateral processes within the UN. It therefore called on the GFMD to provide "a space for informal exchanges on the implementation of the Global Compact, and report the findings, best practices and innovative approach to the IMRF" (UN GA 2019).

The GCM reflects the latest research findings and policy recommendations on migration in the context of environmental and climate change. It "anchors environmental and climatic dimensions in the international migration governance agenda. It offers a space to fully acknowledge the importance of climatic and environmental drivers, the multi-causality of migration and the impacts of migration on the environment" (IOM, 2018e). Clauses specifically relating to "natural disasters, the adverse effects of climate change, and environmental degradation" can be found under Objective 2 to "Minimize the adverse drivers and structural factors that compel people to leave their country of origin", under Objective 5 "Enhance availability and flexibility of pathways for regular migration" and under Objective 7 "Address and reduce vulnerabilities in migration". These clauses were some of the most controversial in the negotiation process but were kept in the final draft. They call on countries to respond to environmental and climate change in the following ways:

Global Compact for Migration: Actions relevant to natural disasters, the adverse effects of climate change, and environmental degradation

OBJECTIVE 2: Minimise the adverse drivers and structural factors that compel people to leave their country of origin

"h) **Strengthen joint analysis and sharing of information to better map, understand, predict and address migration movements**, 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, while ensuring the effective respect, protection and fulfilment of the human rights of all migrants

[30] Progress towards implementing the objectives, including in relation to the 2030 Agenda and Sustainable Development Goal 10.7, will be undertaken every four years at the International Migration Review Forum[30], with the first due to take place in 2022. In between, implementation will also be reviewed within relevant sub-regional and regional processes, bodies and organisations.

i) **Develop adaptation and resilience strategies to sudden-onset and slow-onset natural disasters**, the adverse effects of climate change, and environmental degradation, such as desertification, land degradation, drought and sea level rise, taking into account the potential implications on migration, while recognizing that adaptation in the country of origin is a priority

j) **Integrate displacement considerations into disaster preparedness strategies and promote cooperation with neighbouring and other relevant countries** to prepare for early warning, contingency planning, stockpiling, coordination mechanisms, evacuation planning, reception and assistance arrangements, and public information

k) **Harmonize and develop approaches and mechanisms at sub-regional and regional levels to address the vulnerabilities of persons affected by sudden-onset and slow-onset natural disasters**, by ensuring they have access to humanitarian assistance that meets their essential needs with full respect for their rights wherever they are, and by promoting sustainable outcomes that increase resilience and self-reliance, taking into account the capacities of all countries involved

l) **Develop coherent approaches to address the challenges of migration movements in the context of sudden-onset and slow-onset natural disasters**, including by taking into consideration relevant recommendations from State-led consultative processes, such as the Agenda for the Protection of Cross-Border Displaced Persons in the Context of Disasters and Climate Change, and the Platform on Disaster Displacement."

OBJECTIVE 5: Enhance availability and flexibility of pathways for regular migration

"g) **Develop or build on existing national and regional practices for admission and stay of appropriate duration based on compassionate, humanitarian or other considerations for migrants compelled to leave their countries of origin, due to sudden-onset natural disasters** and other precarious situations, such as by providing humanitarian visas, private sponsorships, access to education for children, and temporary work permits, while adaptation in or return to their country of origin is not possible

h) **Cooperate to identify, develop and strengthen solutions for migrants compelled to leave their countries of origin due to slow-onset natural disasters, the adverse effects of climate change, and environmental degradation**, such as desertification, land degradation, drought and sea level rise, including by devising planned relocation and visa options, in cases where adaptation in or return to their country of origin is not possible:"

OBJECTIVE 7: Address and reduce vulnerabilities in migration

"j) Apply specific support measures to ensure that migrants caught up in situations of crisis in countries of transit and destination have access to consular protection and humanitarian assistance, including by facilitating cross-border and broader international cooperation, as well as by **taking migrant populations into account in crisis preparedness, emergency response and post-crisis action."**

(UN, 2018)

Other objectives that are relevant to improving responses to environmental migration are Objective 1 (Collect and utilize accurate and disaggregated data as a basis for evidence-based policies), Objective 17 (Eliminate all forms of discrimination and promote evidence-based public discourse to shape perceptions of migration) and Objective 19 (Create conditions for migrants and diasporas to fully contribute to sustainable development in all countries).

4.3 The Nansen Initiative and the Platform on Disaster Displacement (PDD)

Those displaced by disasters within their own country are already entitled to protection under national laws and international human rights law, and soft law instruments are also in place, such as the UN Guiding Principles on Internal Displacement and some regional instruments. However, there has been a need for greater protection of people displaced across borders, who are not covered by international refugee law (the 1951 Refugee Convention). Launched by Norway and Switzerland in 2011 with the aim of coordinating a more coherent response to the protection of people displaced across borders by disasters and climate change, the Nansen Initiative was "a bottom-up, state-led consultative process with multi-stakeholder involvement" that aimed to build international consensus around the Agenda for the Protection of Cross-Border Displaced Persons in the Context of Disasters and Climate Change (hereinafter Protection Agenda), which was finally endorsed by 109 governmental delegations during a Global Consultation in October 2015 (Nansen Initiative, n.d.).

The follow up to the Nansen Initiative, the Platform on Disaster Displacement (PDD) is a state-led process to address the protection needs of people displaced across borders in the context of disasters and climate change by implementing the recommendations in the Nansen Initiative Protection Agenda. From July 2019 to December 2020, the PDD is being chaired by France, succeeding Bangladesh and preceding Fiji, which will take over for 18 months from January 2021. Germany was the first chair of the PDD from July 2016 to December 2017, and the German Federal Foreign Office is funding several initiatives under the different strategic priorities of the work plan. These include funding "a mapping and scoping study on disaster displacement data collection approaches and partnerships at the global level" (Under Activity 1.2: Existing and relevant data collection and information systems mapped and reviewed) and ongoing forecast-based financing pilot projects in Peru, Bangladesh, Mozambique, as well as projects in other countries including Vietnam and the Philippines (2016-2019, under Activity 1.5: Displacement risk mapping and forecasting models further developed and applied).

However, the work plan outlines a number of initiatives that require a country champion within the PDD steering committee and various activities that could potentially be financed in the context of climate change adaptation finance streams. An overview of initiatives still requiring champions and funding can be found in the September 2018 update to the PDD work plan[31].

4.4 The 2030 Agenda for Sustainable Development

Adopted by the United Nations General Assembly in 2015, the 2030 Agenda for Sustainable Development features 17 Sustainable Development Goals (SDGs) and 169 targets related to them (UN, 2015). The goals cover different areas of sustainable development and range from poverty, health and education to gender equality, clean energy and climate action. Migration does not constitute one of the 17 main goals. However, target 10.7 under SDG 10 (reducing inequality within and among countries) is focused on facilitating "orderly, safe, regular and responsible migration and mobility of people, including through the implementation of planned

[31] The 2016-2019 work plan is available here: https://disasterdisplacement.org/wp-content/uploads/2018/10/PDD-Work plan.pdf

and well-managed migration policies" (SDG 10.7). Action on achieving this target is closely linked with the Global Compact for Migration (See Section 4.2).

There is also considerable scope for minimising displacement and supporting positive migration patterns as part of action on other SDGs. There are references to migration in the SDGs on gender equality, decent work and economic growth, education, reduced inequalities, peace and justice, and partnerships to implement the goals – for example, on issues such as student mobility, human trafficking, labour migration, and overarching migration governance. However, challenges persist in dealing with migration, and particularly environmental migration, within the 2030 Agenda, as the links to migration are not made explicit in a number of areas: "Not all development issues in the 2030 Agenda make direct reference to migration; for example, migrants are not mentioned in climate change targets and diaspora are not mentioned in partnerships for development targets" (IOM, 2018d: 21).

As demonstrated in the IOM *Practitioners Guide "Migration and the 2030 Agenda*", there are numerous entry points for connecting migration to other SDGs to inform the discourse and create room for cross-sectoral policies. For example, with regard to Goal 13 on Climate Action, there are three main entry points for responding to migration:

- Including migrants in all targets relating to disaster risk reduction and management,
- Recognizing migration as a potential climate change adaptation (CCA) strategy, and
- Raising awareness about climate change and the intrinsically linked mobility dimension

Actions undertaken within the scope of other SDGs also contribute to reducing vulnerability and strengthening resilience to climate change and environmental impacts, and therefore to mitigating the role of environmental stressors in migration decisions and outcomes. Achieving the goals to protect life below water (SDG 14) and life on land (SDG 15) are crucial to preserving the functioning ecosystems that increase the chances that people will be able to lead dignified lives in-situ, as well as reducing environmental drivers of conflict. For example, action on Goal 15.3 to "combat desertification and restore degraded land and soil" is crucial to safeguarding food security and the security of rural livelihoods. Further, actions to reduce poverty (SDG 1), to increase food security and promote sustainable, drought-resilient agriculture (SDG 2), to reduce water scarcity (SDG 6), and to improve development planning and disaster management in cities and settlements (SDG 11) may also reduce the pressures on vulnerable communities to migrate (IOM, 2018d).

Follow-up and review of action towards achieving the Agenda 2030 takes place each year at the High-Level Political Forum on Sustainable Development (HLPF), with each forum focusing on a different subset of the SDGs. With regard to migration, there have been calls to establish common monitoring and reporting processes based on quantifiable indicators and criteria to evaluate progress towards the overlapping objectives of the Agenda 2030 and the Global Compact for Migration. In this regard, it will also be important to clarify the different roles and responsibilities of relevant institutions. For example, the IMRF and GFMD can play an important role in defining how migration can support action on the SDGs and how the SDGs can improve migration outcomes – and therefore in building consensus for political action on migration at the HLPF (Braunsdorf, 2019).

4.5 Preliminary insights on integrating climate change adaptation and other relevant policy areas

Climate change adaptation, migration, DRR, and sustainable development policies can all contribute to increasing the resilience of vulnerable communities to climate change impacts, and there are significant advantages to better integrating these policy areas to develop more comprehensive responses to climate change risks. As shown in above in Section 3.4, within climate change adaptation policy, National Adaptation Plans (NAPs) provide a framework for setting priorities for adaptation that chime with internationally agreed priorities (for example, priorities set out in the Global Compact for Migration, the Nansen Initiative Protection Agenda or the Sustainable Development Goals). They therefore offer a basis for greater collaboration at all levels of government across these policy areas during the planning and implementation of NAPs. Joint decision-making processes, tools, metrics and strategies can support this process (UNFCCC, 2017). Further, within international climate policy and the UNFCCC, the Task Force on Displacement can provide impetus and opportunities for climate policymakers and experts to work in closer cooperation with experts and policymakers from these other policy areas – especially with migration policymakers and experts.

5 Conclusions and next steps

Although data collection and analysis can still be improved, policymakers can already draw on sound research findings, guidance and best practices to develop responses to human mobility in the context of environmental and climate change in many policy areas, including climate change adaptation.

Policies in the areas of climate (NDCs and NAPs), environment and development are conceived at national level. However, the international community has a "common but differentiated responsibility" (UNFCCC, 1992) to support (developing) countries in planning and implementing relevant programmes, projects and activities such as climate change adaptation programmes, including those that can play a role in averting, minimising and addressing displacement related to environmental and climate change.

In the first two papers of this series, we provided an overview of the key ways in which selected environmental change phenomena shape human mobility, as well as how other political, economic, and demographic factors can affect decisions to migrate. These first papers showed that the multiple factors usually at play in decisions to flee or migrate from home require a wide range of measures to respond to human mobility in the context of climate change. These include climate change adaptation measures, which have the potential to enable people to remain in-situ, or improve conditions for migrants, and their home, transit and destination communities. The spectrum ranges from measures that increase resilience based on protection principles, providing opportunities to remain and making mobility just one among several adaptation options, to planned relocations, as a measure of last resort in cases where land has become irreversibly degraded or inundated.

In this paper, we focused on processes related to international climate policy and particularly the policy area of climate change adaptation. We reviewed major international processes under UNFCCC and related to the implementation of the Paris Agreement, as well as international climate finance portfolios. This paper found that decision-makers are increasingly addressing human mobility in the context of environmental and climate change as part of international climate policy, but there are still a number of open questions and a lack of (financial) resources for designing and implementing appropriate policies, programmes and projects. In the following, we summarise the main findings from the analysis above and outline potential steps and entry points for policymakers to strengthen responses to human mobility in the context of environmental and climate change.

Key finding 1: There is still substantial scope for further integrating the challenges and benefits associated with human mobility into climate strategies and policies at national level. National Adaptation Plans offer a good entry point for bringing considerations related to human mobility into the NDCs and other national climate policies (*Strategy and policy level*).

Although the links between environmental and climate change and human mobility are receiving increasing attention in UNFCCC processes, there is still substantial scope for governments to go further in adopting a "migration lens" in key climate policy documents. Human mobility in the context of environmental and climate change was mentioned in just 33 of the 184 NDCs submitted to date under the Paris Agreement. Many countries where environmental degradation and climate change are likely to place significant pressure on people to leave their homes, such as Bangladesh and many small island developing countries, did not mention displacement, migration or planned relocation in their first NDCs.

Of the countries that did address human mobility in their NDC, almost all countries made reference to human mobility in the context of climate risks and adaptation to them. The analysis showed that over half referred to human mobility, including planned relocation, as a necessary adaptation strategy in the face of increasing climate risks. Conversely, there were five countries that pointed to the potential for climate change adaptation to allow people to remain in-situ in their NDCs.

National Adaptation Plans therefore provide a clear entry point for bringing greater consideration to migration, displacement and planned relocation in the NDCs and other national climate policies. They provide a useful framework for developing more integrated responses to the nexus between human mobility and environmental and climate change and adopting a "migration lens" in their development and implementation can help to strengthen responses and positive outcomes. The process of assessing the challenges and co-benefits of migration for climate change adaptation in a particular national context can provide policymakers with a more complete picture of both relevant climate risks and potential project or programme impacts, thus improving adaptation programme and project outcomes.

However, at this point, it is also important to note that NDCs and NAPs form only part of a country's approach to tackling the migration, environment and climate change nexus. It is therefore important to look beyond them and consider how initiatives stemming from other policy documents, such as national economic development plans, may frame and address environmental and climate-change related migration. The plans and measures that national governments and others prepare to implement the Global Compact for Migration (GCM) and the Sustainable Development Goals (SDGs) also play an important in this regard.

Next steps for policymakers:

- **Provide technical and financial assistance for preparing and updating national assessments** on environment, climate change and migration. These can provide countries with the information required to meaningfully include human mobility in their NAPs and the next round of NDCs.
- **Develop further guidance and good practices for integrating considerations and actions** related to human mobility into National Adaptation Plans.
- **Expand support and funding for increasing capacities at local level.** Helping localauthorities, as well as other key stakeholders at local level, to better understand and evaluate the nexus in their particular context, and on that basis develop appropriate responses, strengthens the implementation of policies and strategies at national level.
- **Further develop regional mechanisms** to increase freedom of movement, ensure mutual aid in the event of disasters, and raise finance for climate change adaptation and DRM. Such mechanisms can complement national activities and strengthen resilience if they are designed in dialogue with national policymakers, taking into account potential synergies and trade-offs between different governance levels and policy areas
- **Create or strengthen focal points for migration, environment and climate change** within relevant government ministries or institutions, as an important first step towards creating the strategic basis for formulating dedicated projects and programmes.

Key finding 2: Many climate change adaptation projects are already improving conditions for migrants, home and destination communities – for example, by increasing food, water and livelihood security as rainfall patterns become more unpredictable. However, there is still significant scope to more systematically adopt a "migration lens" in project planning, implementation and funding to increase their benefits to migrants, and home and destination communities, and the positive co-benefits for climate change adaptation projects. (*Programming level I*)

A critical barrier to action is that many vulnerable countries do not have the resources and capacities to develop and implement long-term approaches to tackling the migration, environment, and climate change nexus. Our analysis of climate funds and financial mechanisms showed that only a very small number of the programmes and projects they funded explicitly address migration and human mobility issues. Greater efforts are therefore needed to ensure that responses to human mobility and climate change are supported by climate change adaptation financing streams.

The analysis also showed that international climate funds were not yet funding programmes or projects related to environmental migration in the 33 countries that mentioned environmental migration as a concern or priority in their NDC. Only a few, mostly recent examples in these countries' international climate finance portfolios (notably of the Green Climate Fund, the Adaptation Fund, the International Climate Initiative and the Least Developed Countries Fund) highlight the relationship between environmental migration and climate change as an overall priority. This was also the case in the area of disaster risk reduction and management in those countries.

This notwithstanding, international climate funds or financial mechanisms are funding many climate change adaptation projects that address issues highly relevant to the migration, environment and climate-change nexus, including projects strengthening food, water and livelihood security. As a result, adaptation policies may help to increase the chances of remaining in situ and this should be considered as important co-benefits of adaptation policies - and highlighted in funding applications.

Taking steps to more systematically address environmental migration within these programmes and projects, and to raise the profile of the responses to environmental migration within international climate finance funds or financial mechanisms, would contribute to the development of a more holistic approach and play an important role in offering more durable solutions to vulnerable populations.

Next steps for policymakers:

- **Encourage climate change adaptation projects to formulate distinct project elements related to migration**. These may aim to provide better analysis and/or better responses to the nexus between environmental migration and climate change adaptation in specific contexts.
- **Address the funding gap for measures that strengthen communities' preparedness to face the sudden and slow-onset impacts of environmental degradation and climate change**. These measures may include early warning systems, contingency planning and evacuation plans.

- **Increase access to finance and prioritise development finance for climate change adaptation**, including projects and programmes that respond to migration or displacement in the context of environmental and climate change. In cases where communities are highly vulnerable to the impacts of climate change, this may include, as a last resort, relocating people to safer areas.
- **Review and update the funding and investment criteria of climate funds and financial mechanisms**, such as the Green Climate Fund or the International Climate Initiative (IKI), with the environment – climate-change - migration nexus in mind.
- **Create dedicated funding streams** for averting, minimising and addressing human mobility in the context of the adverse impacts of environmental and climate change. This could offer valuable entry points for offering concrete guidance to climate finance activities on how to address migration in climate change adaptation projects.
- **Commission interim assessments of ongoing programme and project activities** related to environmental migration and climate change, as these can provide other countries facing similar challenges with valuable insights to inform the development of their climate finance portfolios. Preliminary insights need to be communicated carefully, but they can be used to communicate good practices, lessons learned and outline specific co-benefits in this area that can serve as input for proposals in the realm of climate change adaptation.

Key finding 3: Already marginalised or vulnerable groups in society are likely to require additional support and protection to cope with the slow and sudden-onset impacts of climate change. The lack of disaggregated data in many countries hinders the development of targeted policies that take into account these different groups' needs and vulnerabilities. In contexts where data has yet to be improved, consultations with representatives of vulnerable groups and communities can provide important insights to improve the planning and implementation of policies, programmes and projects that concern them. (*Programming level II*)

Groups requiring additional support may include certain demographic groups, such as children and older people, marginalised ethnic or religious groups, people living with disabilities, people living in poverty or other vulnerable groups in society that lack the social or financial capital to cope with natural hazards or with long-term livelihood, food or water insecurity. Communities that are highly dependent on ecosystem services may be especially vulnerable, particularly if they lack access to state services or have high illiteracy rates.

Although data challenges related to environmental migration and climate change have been discussed for over a decade, there are still significant gaps to fill – especially in terms of the disaggregated and historical (longitudinal) data that is required to inform long-term policy formulation. The lack of statistics that are disaggregated by sex and age is a particular concern since this limits understanding of the vulnerability, resilience and needs of specific sub-groups. There is also a need for more localised scientific data showing which areas are particularly exposed to extreme weather events and other climate change impacts, such as sea-level rise, which areas people are moving to, and which areas are safe to relocate displaced persons to. Such information is crucial in order to improve response strategies and provide effective, targeted support and assistance to affected populations.

In contexts where data is lacking, or in the case of more complex situations, such as the planned relocation of entire communities, taking an inclusive, rights-based approach and consulting with people from communities in high-risk areas to understand their needs and concerns can significantly improve the outcomes of projects and programmes. Involving and empowering civil society and diaspora groups in affected countries can also play an important role in this regard.

Next steps for policymakers:

- **Support and fund initiatives to improve data collection, build on existing research and share data and findings**. Initiatives to digitalise and harness big data are opening up new opportunities and challenges in this regard.
- **Invest in climate and fragility risk analyses and assessments** on the nexus between environmental and climate change and human mobility at regional, national and sub-national level, including a specific focus on the impacts on vulnerable groups.
- When devising projects and programmes, **plan additional time and funding to allow for consultations with affected or vulnerable groups**. Consult guidance on bringing a migration lens to participatory community work in developing/vulnerable countries.

Key finding 4: Beyond climate policy, there are entry points for addressing the migration-environment-climate change nexus in many other areas of policy. Mapping how different policies, frameworks and agendas at sub-national, national and international level impact human mobility in the context of climate change can lay the groundwork for an integrated approach across relevant policy areas, leading to improved migration and climate change adaptation outcomes. (*Coherence and coordination dimension)*

Given the many factors that can influence people's decisions to move, understanding and addressing the links between environmental change, climate change and different forms of human mobility (displacement, migration and planned relocation) will require responses across a range of policy areas. Among them, climate policy has a vital role to play in reducing the impacts of climate change and in strengthening the resilience of migrants, and of origin, transit and destination communities. Integrated responses that link climate policy with other policy areas can also lead to significant synergies and co-benefits.

Policymakers and other stakeholders working in climate change adaptation and related fields are increasingly recognising that migration can support or undermine adaptation and long-term sustainable development. At international level, the processes under the Paris Agreement, the Global Compact on the Migration, the Sustainable Development Goals, the Platform on Displacement and others are making the connections across the migration-climate change-environment nexus and increasing the coherence between these different frameworks and agendas. For example, there has already been some progress in strengthening the links between climate change adaptation policies and DRR/DRM, but there remains substantial scope for bringing together policies, and merging (and expanding) relevant funding streams.

Next steps for policymakers:

- Ensure that national assessments analysing the migration, environment and climate-change nexus also **map relevant institutions, legal and policy frameworks and plans across different policy areas at national or sub-national level.** This can serve to identify potential focal points or mechanisms for strengthening cooperation between different

branches of government, such as interministerial working groups or the merging of funding (and expansion) of relevant streams. It can also help to clarify where potential synergies and trade-offs between different policies and areas of responsibility within the government may lie.

- **Continue to support the work of the Task Force on Displacement under the Warsaw International Mechanism**. This TFD has served as a focal point at international level within the UNFCCC to bring together climate change adaptation specialists with experts from other relevant policy areas, such as migration policy and disaster risk reduction and management.
- **UN entities can coordinate relevant policies and activities in the environmental and development sector** to achieve important synergies across the nexus between climate change, the environment and migration to avert, minimise and address displacement.

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Appendix

Table 1: Regional table: Africa

Country	Document	Proposed Measure (1)	Proposed Measure (2)	Sudden-onset natural disasters	Slow-onset effects
Central African Republic	NDC	Prospective adaptation measures: National transhumance management programme (Government of Central African Republic, 2015: 10-11)		X	X
Chad	NDC	National priorities in terms of adaptation to climate change: priority target zones […] are especially vulnerable to the effects of climate change and, in part, to the arrival of displaced populations (Government of Chad, 2015: 4)	Current and planned initiatives to support adaptation: Improvement of intercommunity grassland areas, in order to reduce migratory movements due to climate change (Government of Chad, 2015: 5)		X
Comoros	NDC	Objective 2030: 100% of the population in vulnerable areas is displaced or has access to protecting facilities. (Government of Comoros 2015: 13)		X	X
Egypt	NDC	Adaptation related to coastal zones: sea level rise and the overflow of low-level land significant challenge, which is the migration of people from the affected areas to other areas. (Government of Egypt, 2015: 6)	Adaptation Action package in the agricultural sector: develop systems, programs and policies to protect rural community and support its adaptive capacity to the expected trend in […] internal migration due to climate change. (Government of Egypt, 2015: 9)	X	X
Guinea	NDC	Impacts of Climate Change: […] Guinea should still continue to enjoy more favourable climatic conditions than its neighbours to the north and could become a more important transhumance destination for Sahelian	Support the adaptation efforts of rural communities […]: Better management of pastoralism, especially transnational pastoralism, so as to limit degradation of grazing and soil and reduce the risks of usage		X

Country	Document	Proposed Measure (1)	Proposed Measure (2)	Sudden-onset natural disasters	Slow-onset effects
		herds than it is now, resulting in serious conflicts over land use. (Government of Guinea, 2015: 6)	conflicts (Government of Guinea, 2015: 8)		
Mau-ritius	NDC	[…] costs of such adaptation measures are so exorbitant that Mauritius can only achieve its targets if financial support […] is made available to enable it to implement the plans to protect life and property and mitigate any propensity of migration of its population. (Government of Mauritius, 2015: 3)		X	X
Nigeria	NDC	Strategies for disaster, migration and security: (1) Strengthen capacity to anticipate disasters and impacts on internal migration and security (4) Strengthen rural infrastructure and the availability of jobs to discourage out-migration. (Government of Nigeria, 2015: 21-22)	Strategies for human settlements and housing: Strengthen rural settlements in order to reduce migration. (Government of Nigeria, 2015: 21)	X	X
Rwanda	NDC	Adaptation Contribution: In order to reduce locally-specific hazards, relocation from high risk zones is considered as one of the strategic actions. In addition to households previously relocated from high risk zones, Rwanda will relocate additional 30 000 households by 2030. (Government of Rwanda, 2015: 12)		X	X
Sao Tome & Principe	NDC	Adaptation Contribution: Reduce the number of people living in vulnerable areas at risk, by providing housing in safer areas.		X	X

Country	Document	Proposed Measure (1)	Proposed Measure (2)	Sudden-onset natural disasters	Slow-onset effects
		(Government of Sao Tome & Principe, 2015: 4)			
Senegal	NDC	Protection of vulnerable areas and / or displacement of vulnerable populations *(own translation, original in French)* (Government of Senegal, 2015: 15)			X
Somalia	NDC	Project Profile 1: Adoption of Sustainable Land Management to Build Resilient Rural Livelihoods and Enable National Food Security: With existing pastoralist and farming systems and methods already under threat from poor land management, it was universally felt that existing climatic variability and longer term impacts of CC would inevitably undermine the entire sector and result in increased rural to urban migration. (Government of Somalia, 2015: 13)	Project Profile 3: Adaptation by Reducing Risks among Vulnerable Populations from Natural Disasters: Specific issues raised during consultations include the potential for increases in injury and death as a result of drought, increase in incidence of conflict over diminishing natural resources such as water and grazing land, significant migration and displacement of people, and loss of primary assets such as livestock. (Government of Somalia, 2015: 21)	X	X
South Sudan	INDC	National Circumstances: Reduced access to water resources -> resulted in deadly conflicts among the pastoralist communities that have claimed many lives. (Government of South Sudan, 2015: 2)	Actions to reduce vulnerability of the population to climate induced hazards: Create buffer zones and relocate vulnerable communities away from flood-prone areas. (Government of South Sudan, 2015: 5)	X	X
Republic of Sudan	NDC	Intended Adaptation Contributions related to Water: Establishment and rehabilitation of hand pumps and construction of water-networks in rural areas for provisions of drinking-water and achieving water security in order to discourage communities' migration from vulnerable areas.	BAU scenario: Poor policy coordination in terms of land use has led to serious environmental problems such as overgrazing, over cultivation and reduced land productivity which in turn have led to rural poverty, and rural-urban migration patterns that cannot be sustained in the	X	X

Country	Document	Proposed Measure (1)	Proposed Measure (2)	Sudden-onset natural disasters	Slow-onset effects
		(Government of Republic of Sudan, 2015: 14)	long-term. (Government of Republic of Sudan, 2015: 8)		
Togo	NDC	Impacts of Climate Change: […] Human settlements (buildings and cities) and health: an increase in State, local government and household spending to build new housing and socioeconomic infrastructure and to rehouse disaster victims, massive rural exodus, the spread of illnesses […] will entail additional expenses, lead to famine and aggravate food insecurity (Government of Togo, 2015: 6)			X
Tunisia	NDC	Sustainable development impacts of mitigation: Forestry and other land usages […] Population stabilization and prevention of rural depopulation. (Government of Tunisia, 2015: 14)		X	X

Table 2: Regional table: Asia-Pacific and Oceania

Country	Source	Proposed Measure (1)	Proposed Measure (2)	Sudden-onset natural disasters	Slow-onset effects
China	NDC	Policies and measures to implement enhanced actions on climate change: Building Low-Carbon Energy System: To proactively promote the development of hydro power, on the premise of ecological and environmental protection and inhabitant resettlement. (Government of China, 2015: 7)		X	X

Country	Source	Proposed Measure (1)	Proposed Measure (2)	Sudden-onset natural disasters	Slow-onset effects
Fiji	NDC, NAP	The planting of mangroves, construction of seawalls and the relocation of communities to higher grounds are part of ongoing adaptation initiatives *The forthcoming National Relocation Guidelines will provide the basis for implementing adaptation policy related to the relocation of coastal communities in response to climate hazards." (NAP) (Government of Fiji, 2017: 10)*	Long term (over 5 years): Capacity building provided to communities for which vulnerability assessments have indicated that relocation is the long term adaptation strategy to minimise risks due to anticipated impacts of climate change. *(Government of Fiji, 2015: 10)*	X	X
India	NDC	Disaster management: […] Strategies include […]improved access and evacuation (Government of India, 2015: 24)		X	X
Kiribati	NDC	Issues and challenges: […] Approximately 47% of the population lives in South Tarawa, and this is a magnet for internal migration from the outer islands. (Government of Kiribati, 2015: 4) ---------- The following factors are contributing to the nation's vulnerability to climate change and disaster risks, which apply across the various sectors: […] disparities between the different islands of Kiribati (resulting in internal migration, displacement, and urbanisation). (Government of Kiribati, 2015: 15)	Summary of potential climate change impacts on populations, key sectors and ecosystems: […] Increase in sea surface temperature leads to migration of coastal fishery which affects food security and livelihoods. (Government of Kiribati, 2015: 16) ---------- Action to strengthen Kiribati's capability to meet the challenge of CC: […] Population and resettlement –aim to reduce the vulnerability of Kiribati to increasing physical risks caused by CC by establishing host country agreements to government-sponsored and self-sponsored emigration to resettle I-Kiribati overseas and assist the inevitable migration of the population […] as and when this eventually arrives.	X	X

Country	Source	Proposed Measure (1)	Proposed Measure (2)	Sudden-onset natural disasters	Slow-onset effects
			(Government of Kiribati, 2015: 19)		
Maldives	NDC	Adaptation Contribution: Relocation of the important Malé Commercial Port due to winds etc. (Government of Maldives, 2015: 7)		X	X
Myan-mar	NDC	National Circumstances: Observed changes in the last decades include rain patterns variations that are causing climate-driven migration that affect, for instance, the socio-economic conditions of dry regions due to increased occurrences of drought (Government of Myanmar, 2015: 1)		X	X
Papua New Guinea	NDC	Adaptation: Climate Induced Migration is a specific hazards identified by the GoPNG. (Government of Papua New Guinea, 2015: 7)		X	X
Solomon Islands	NDC	Adaptation: Current climate, projected CC and related assumptions: The plan to relocate the provincial headquarters and town […] is also a good adaptation strategy that needs to be complemented with an Integrated Water Resource Management strategy and programme. (Government of Solomon Islands, 2015: 12)		X	X
Sri Lanka	NDC	The NDCs of Urban, City Planning and Human Settlement Sector: (6) minimize the impact of sea level rise on coastal settlements and infrastructure. (Government of Sri Lanka, 2016: 22)		X	X

Country	Source	Proposed Measure (1)	Proposed Measure (2)	Sudden-onset natural disasters	Slow-onset effects
Tuvalu	NDC	While longer term impacts such as sea level rise could result in the unavoidable out-migration of some of her people, they have a right to pursue any and all means to ensure their nation survives and the legacy remains, with future generations living productive lives on these islands. (Government of Tuvalu, 2015: 9)			X
Vietnam	NDC	Climate change adaptation in the period 2021 –2030: […] Develop infrastructure and make plans for residential areas; relocate and resettle households and communities from areas affected frequently by, storm surges, floods, riverbank and shoreline erosion, or areas at risk of flash floods and landslides. (Government of Vietnam, 2015: 10)		X	X

Table 3: Regional table: Latin America

Country	Source	Proposed Measure (1)	Proposed Measure (2)	Sudden-onset natural disasters	Slow-onset effects
Bahamas	NDC	Adaptation Option on Human Settlement: Relocation of communities from the shoreline. This has already proven effective. (Government of The Bahamas, 2015a: 5)	NDC from NDC registry Portal: development of a comprehensive National Land Use and Management Plan, which inter alia, incorporates Climate Change concerns and regulates the location of future settlements and urban development [...] as an adaptation option for Human Settlement, including housing, design of critical infrastructure, roads, bridges, air and sea		X

Country	Source	Proposed Measure (1)	Proposed Measure (2)	Sudden-onset natural disasters	Slow-onset effects
			ports. (Government of The Bahamas, 2015b: 9)		
Colom-bia	NDC, NAP	[…] peace processes elsewhere in the world have been associated to negative impacts on the environment, due to, among other things, migration patterns that increase pressure on natural resources in the most vulnerable areas, often resulting in increased deforestation. (Government of Colombia, 2015: 9)	*NAP: Migration forced by floods and displacement, towards habitable zones (Government of Colombia, 2018)*	X	X
Haiti	NDC	Adaptation results arising from the NAPA: Coastal Areas: (3) Reduced risk of disasters in areas most vulnerable to flooding, and integration of migration (internal and international) and planned relocation of communities as an adaptation strategy. (5) Cost-benefit studies of relocation and planned relocation of communities *(own translation, original in French)* (Government of Haiti, 2015: 9-10)	Adaptation results arising from the NAPA: Education: Production, communication and dissemination of knowledge related to climate change, including migration. Human establishments: Development and implementation of Urban Planning and Sustainable Development Plans for cities at risk of flooding, including the internal movements and displacements of the population and the reduction of risk of disasters in the most vulnerable areas *(own translation, original in French)* (Government of Haiti, 2015: 11)		X
Mexico	NDC	Adaptation to climate change for the social sector: Relocate irregular human settlements in zones prone to disasters through land use regulations. (Government of Mexico, 2015: 7)		X	X

Country	Source	Proposed Measure (1)	Proposed Measure (2)	Sudden-onset natural disasters	Slow-onset effects
St. Vincent and the Grena-dines	NDC	Extreme weather events as a result of climate change will affect tourism industry through inter alia evacuations. (Government of St. Vincent and the Grenadines, 2015: 8)		X	X
Suri-name	NDC	National Context: recognizing the vulnerability of the coast and ever increasing impacts on a significant percentage of the population, Suriname's dilemma is whether to continue to invest heavily in adaptation or relocate and rebuild its entire economy away from the threat of the rising sea. (Government of Surinam, 2015: 3)		X	X
Venezu-ela	NDC	Great Housing Mission Venezuela: response of emergency generated by torrential rains that affected inhabitants of poorest areas. More than 800 thousands homes have been built and more are planned. Response to L&D *(own translation, original in Spanish)* (Government of Venezuela, 2017: 13)		X	X