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Forced displacement related to the impacts of climate change and disasters

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Abstract:

Forced displacement related to the impacts of climate change and disasters is among the greatest global protection issues today. Significant progress has been made in research development and policy responses, but this progress also highlights the amplitude of the remaining challenges. In 2020 alone, disasters drove more than 30 million internal displacements. At a time when climate change is widely recognised as a global emergency, and as the seventieth anniversary of the Geneva Convention will coincide with the publication of the 6th Assessment report of the Intergovernmental Panel on Climate Change (IPCC) and the convening of the 26th conference of the parties to the UN Framework Convention on Climate Change (COP26) in Glasgow, this paper seeks to recognise how far we have come and also how to navigate the way forward.

Introduction

When UNHCR deployed a major operation to assist the victims of the 2004 Indian Ocean tsunami, the organisation made it clear that this operation, although not formally part of its mandate, was justified by the exceptional humanitarian circumstances and the on-going presence of the organisation in the region. Sixteen years later, natural hazard-induced disasters drove more than 30 million displacements in 2020, according to figures provided by the Internal Displacement Monitoring Centre (2021). The overwhelming majority of them were displaced in Asia, mostly by hurricanes or floods, both natural hazards that will become more intense and more frequent as a result of climate change (IPCC 2012). Since the early 2000s, it has been increasingly recognised by the academic and policy-making communities alike that climate change and disasters had become major drivers of human mobility.[1] In recent years, UNHCR conducted different operations to assist people victims of disasters or of climate change impacts: to protect Rohingya refugees against monsoon floods in Bangladesh in 2017, for example, or to assist people displaced by natural hazard-induced disasters in conflict-affected countries like in Somalia in 2020. As the number of people forcibly displaced, both internally and across borders, keeps rising year after year, a significant proportion of them are and will be displaced as a result of climate change and disasters.[2] Since 2008, for example, according to data by IDMC, disasters have been annually internally displacing internally about the double or treble of people displaced by conflicts and violence.

Progress has been made both regarding research development and policy responses, but this progress also highlights the amplitude of the remaining challenges. At a time when climate change is now widely recognised as a major emergency, and as the seventieth anniversary of the Geneva Convention will coincide with the publication of the 6th Assessment report of the Intergovernmental Panel on Climate Change (IPCC) and the convening of the crucial 26th conference of the parties to the UN Framework Convention on Climate Change (COP26) in Glasgow, this paper seeks to recognise how far we have come and the way forward.

The first section highlights how environmental changes have impacted human mobility throughout history but did not trigger policy responses until climate change became a major global concern. It shows how inflated numbers and misleading terminology led to policy delays, and how this has been redressed thanks to numerous collaborations between researchers and policy-makers. The second section looks at how the different consequences of climate change and disasters impact human mobility. It shows that different impacts of climate change lead to different patterns of human mobility, and explains how climate change interacts with other drivers of migration and displacement, becoming a 'threat multiplier.' The third section reviews different policy and operational responses that have been deployed so far. These responses were developed not only at the international level, in different policy

[1] In this paper, the overarching term 'human mobility' is used to encompass displacement, migration, planned relocation, as well as situations of immobility in the context of climate change and disasters. Where appropriate, we use the term 'migration' to refer to movements that are (largely perceived to be) voluntary and the term 'displacement' to refer to those that are deemed involuntary or forced.

[2] In this paper, we refer to climate change as a subset of 'environmental change' and define the former as "a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer" (IPCC 2012: 557). In the context of this paper, we further understand 'disasters' as the potential outcome of a given population's exposure and vulnerability to a natural hazard, which can impact, amongst other things, human mobility patterns.

fora such as the international negotiations on climate change, the Nansen Initiative and the Global Compacts on Migration and Refugees, but also at the regional, national and local levels where best practices are highlighted. The report concludes with an outlook for the years ahead, with an aim to identify key challenges that remain to be addressed at different levels.

1. Context

Although recent debates on the human impacts of climate sometimes suggest that environmental changes are new drivers of human mobility, history shows that this has actually always been the case. This section reviews some historical examples of migration and displacement driven by environmental changes, and examines how this issue moved up on the ladder of the research and policy agendas as the impacts of climate change became increasingly evident.

1.1. Environmental changes as drivers of human mobility through History

History is replete with cases of migration and displacement due largely to environmental changes. Since prehistoric times, the geographical distribution of the population on the planet has been largely shaped by environmental and climatic conditions drivers. Some 40,000 years ago, Europe was settled in part thanks to its mild climate and abundant natural resources (Beniston 2004).

Significant displacement induced by environmental changes, especially disasters, also occurred in more recent history. The earthquake that destroyed the city of Lisbon in 1755 led to mass displacements, while the Dust Bowl migration that took place in the US in the 1930s is another classic example of human mobility associated with environmental events, though such events cannot be disentangled, as it is often the case, from the broader socio-economic context. Severe droughts, combined with poor agricultural techniques that depleted the soils of Oklahoma, Texas and Arkansas, left thousands of farmers with no other choice than to sell their farms and move westwards to California. After World War II, the people of Vaitupu, an island of Tuvalu, purchased the island of Kioa, in Fiji, because they were concerned about the depletion of resources on their own island. In Africa, the drying of Lake Chad has led to a significant exodus throughout the regions since the 1970s. Such examples exist on every continent throughout history.

In fact, early research on migration viewed the natural environment as a central factor for explaining population movements (Piguet 2013). In Ratzel's *Anthropogeographie* (1882), which laid out the path for the development of a migration theory, environmental changes feature prominently as major drivers of human mobility; while Ravenstein, a pioneer in migration studies, identified a few years later the paramount importance of the natural environment to movements of populations (Ravenstein 1891). Other prominent geographers of the late 19th century, such as Ellsworth Huntington or Piotr Kropotkin, wrote similar assessments. Then environmental factors came to be disregarded in later works, as if these factors had been overthrown by more powerful driving forces of migration and displacement. As noted by Piguet (2013), the story of environmental factors in migration studies is a study of disappearance and reappearance. He identifies four factors that accounted for this long 'eclipse' of environmental factors in migration studies through much of the 20th century: 'the Western idea that progress implies a decreasing impact of nature on human fate; the demise

of determinism; the rise of an economic paradigm in migration theory; and the constitution of the specific field of refugee studies around a political paradigm' (Piguet 2013: 151).

1.2. A new cause of human mobility? How the displaced became the human face of climate change

Attention was drawn again towards the role of environmental factors when worries about climate change started to grow. In its first assessment report, published in 1990, the Intergovernmental Panel on Climate Change (IPCC), a panel of scientific experts tasked by the UN to assess and synthesize the science on climate change, highlighted that "large migrations of people" could be induced by climate change (McTegart et al. 1990: 3), while the very first international conference on the Environment-Migration nexus was held in Nyon (Switzerland) in 1992, jointly sponsored by the Refugee Policy Group (Washington), the International Organisation for Migration (Geneva) and the Swiss Foreign Ministry (Bern). By then, the term 'environmental refugees' had already been used in a report commissioned by the UN Environment Program (El-Hinnawi 1985). Soon the term became widely used to refer to situations of human mobility induced by environmental changes, in spite of being a misnomer, as it does not exist in international law, even if there may be situations where people displaced in the context of disasters and climate change fulfil the refugee criteria. They were about, however, to become the human faces of climate change (Gemenne 2011a).

Until then, policy debates had turned a blind eye to environmental change as a cause of human mobility: the key drivers of mobility were assumed to be of a political or economic nature, and the environmental causes for migration and displacement were grossly ignored by scholars and policy-makers alike (Gemenne 2015).

As concerns about the impacts of climate change kept growing however, migration and displacement were often portrayed by researchers, activists and policy-makers alike as the most severe consequence of global warming for human societies. Therefore, the displaced were often depicted in public debates as the first witnesses but also the first victims of climate change, the very reason why the latter had to be avoided at all costs (Gemenne 2011a). Such a view was heavily endorsed and promoted by environmental scholars, while migration scholars were often sceptical at the idea that climate change could lead to the establishment of a new category of human mobility, as the latter was multi-causal by nature (Black 2001).

The narrative that 'environmental refugees' or 'climate refugees' were a new category of human mobility induced by climate change was dominant in public debates. Populations from low-lying small island states in particular were depicted by environmental activists as 'canaries in the mine' in relation to the effects of climate change on sea-level rise, and Pacific leaders were alerting the rest of the world about the dangers of climate change, warning that their populations could be left with no other choice than to relocate abroad (Farbotko 2010). In a way, one can say that the displaced were figuratively used as scarecrows of climate change, blowing the whistle about the danger it compounded for human societies. Dubious estimates and forecasts of 'climate refugees' were put forward in public debates, and human mobility related to climate change was widely viewed as a humanitarian disaster in the making (Gemenne 2011b).

Such a narrative, however, carried significant risks, and in particular the risk of fuelling existing prejudices against refugees and international migrants, which could in turn lead to tighter

asylum policies. In one of the early briefings to the European Commission on the subject, its High Representative for Foreign Policy, Javier Solana, recommended a reinforcement of the EU's external borders in anticipation of future refugee flows induced by climate change (European Commission 2008), largely on the basis of inflated predictions.

1.3. How public debates were shaped by early estimates and terminology

Throughout the 1990s, public debates were dominated by an alarmist narrative claiming that the world should prepare for millions of 'climate refugees' in the coming decade. This narrative geared policy debates in two directions.

First, the regular use of the expression 'climate refugees' led many experts or organisations to point out that the term was a misnomer because the 1951 Geneva Convention made no mention of environmental phenomena as a basis for international protection needs. This absence of an explicit reference to environmental factors in existing legal instruments[3] prompted many initiatives to create an international legal status for 'climate refugees': resolutions were voted in parliaments, expert groups were set up, and lawyers debated whether this new status should be created through a new convention or an amendment to the Geneva Convention (Gemenne 2015). For many activists, politicians and civil society organisations, this lack of international status was the key reason why policies were blind to the environmental drivers of human mobility, and therefore the first priority. It soon appeared that such a status in international law was not just a political no-go area, but also a response that would not meet the needs of the displaced, as most were internally displaced and therefore ineligible to an international status (McAdam 2011). In spite of this, an international status for 'climate refugees' continues to be a key demand of many prominent activists, parliamentarians and civil society organisations, such as the Parliamentary Assembly of the Council of Europe, who insist this would be the most appropriate way to protect the displaced. Others, however, argue that persons who are suddenly displaced due to climate or disasters qualify for international protection and that there is no need for a new category (UNHCR 2018)

Second, public debates were also shaped by dubious estimates and forecasts, of which the best known was probably the figure of 200 million displaced "on a semi-permanent if not permanent basis" by 2050, calculated by British environmentalist Norman Myers (1993). Though such figures were not relying on any robust methodology, they were often repeated in many press and policy reports, including from UN agencies, and had thus a lasting impact on policy debates (Gemenne 2011b). As of today, they continue to be used incorrectly with regard to understanding what exactly is being estimated, confusing internal and international mobility, cumulative and annual figures, etc. In particular, it presented displacement induced by environmental factors as a future risk, overshadowing the situation of those who were already displaced because of environmental disruptions. It was a looming disaster that had to be prevented, rather than a present reality that required policy responses. A second effect of these estimates and forecasts was that it set environmentally-induced mobility as a discrete (and new) category of migration and displacement, as if environmental drivers were not intertwined with economic and political factors. In a way, a side-effect of these early estimates, combined with a misleading terminology, was to depoliticise human mobility related to environmental changes.

[3] It should be noted, though, that the Geneva Convention provides for refugee protection on wider grounds than those explicitly mentioned in the text.

1.4. Early responses from governments and international organisations

The tsunami that shook Southeast Asia on 26 December 2004 was a turning point for many international and humanitarian organisations. For the first time, UNHCR had to deploy a major operation to provide assistance to people displaced by a disaster. In subsequent years, such humanitarian operations became increasingly frequent - by UNHCR and other organisations and governments alike - but it was not until 2009 that more structural policy responses and legal frameworks were provided.

The first of those was the Kampala Convention, a regional convention from the African Union on internal displacement, which is the world's only legally binding instrument on internal displacement and recognises explicitly the role of climate change and disasters as drivers of internal displacement. The Convention was adopted in 2009 and entered into force in 2012. Around that time, migration was increasingly recognised as an efficient adaptation strategy to climate change, rather than a failure to adapt (Black at al. 2011). The British Government had commissioned a major Foresight report on environmental changes and migration, and this finding was a key conclusion of the report, with a major policy impact. This led to migration being addressed as part of the international negotiations on climate change, and recognised as an adaptation strategy through the Cancún Adaptation Framework, which distinguished between migration, displacement and planned relocation as different forms of mobility related to adaptation - researchers played a major role in this achievement, as recounted by Warner (2011). Later on, climate-induced displacement was specifically addressed, through the creation of a specific Task Force on Displacement under the UNFCCC Warsaw International Mechanism for loss and damage, mandated under the Paris Agreement, adopted at COP21. Displacement here is recognised as a form of loss and damage resulting from the adverse effects of climate change, beyond the limits of adaptation.

Following the adoption of the Kampala convention, the Asian Development Bank launched a wide-ranging consultation process across the Asia-Pacific region, which concluded in 2012 with a series of recommendations to foster the protection of people displaced by disasters in the region, and promote greater cooperation (Asian Development Bank 2012). In Europe, the Norwegian government convened a major international conference - the Nansen Conference - on the topic in 2011, on the occasion of the 60th anniversary of the Geneva Convention, with a view to developing a series of protection principles for people displaced by climate change and disasters. The conference further led to the Nansen Initiative, a major consultation process heralded by the governments of Norway and Switzerland, which resulted in the Nansen Protection Agenda, and was subsequently succeeded by the Platform on Disaster Displacement.

2. Drivers and consequences

The relationship between climate change and human mobility is rather complex. Not only can climate change directly impact mobility outcomes (this is especially the case in the aftermath of sudden-onset events), but it can also influence and interact with other drivers of human mobility (Foresight 2011: 48). The social context also matters: factors such as poverty, marginalization and inequality exacerbate the impacts of climate change and disasters (IPCC 2014: 796; IDMC 2020a: 14), whereas access to financial and social capital can improve the

resilience of populations to climate change. For instance, in Bangladesh, microfinance institutions providing loans aimed at improving the access to irrigation and groundwater have increased the adaptive capacities of vulnerable populations to climate change and disasters (Agrawala and Carraro 2010).

Different patterns of human mobility will thus arise from climate change and disasters, depending on the nature of these events and the contextual factors of the population they affect. These different mobility outcomes will, in turn, have diverse consequences for individuals and communities – both at origin and destination – in terms of urbanization, livelihoods, and social relations.

2.1. Different environmental events, different patterns of human mobility

Climate change affects mobility outcomes in complex ways. To start, it increases populations' vulnerability to sudden-onset climate and weather-related hazards such as cyclones, hurricanes, floods and wildfires through its impact on the frequency, intensity, duration, and timing of weather and climate extremes (Seneviratne et al. 2012: 115). Despite their relevance to displacement, it is worth noting that geophysical disasters such as earthquakes and tsunamis are not usually included in climate-migration studies as they are brought about by activity below the Earth's surface, and neither their occurrence nor intensity is thus affected by climate change (at least not in the light of current evidence). On the other hand, climate change can also impact the livelihoods, health and resilience of populations in the long-run through slow-onset phenomena such as droughts, soil salinization, desertification, coastal erosion and sea-level rise.

The diverse impacts of climate change on populations give way, in turn, to different human mobility patterns, which vary in terms of their temporality (moving in a continuum ranging from *temporary* to *permanent*) (Adger et al. 2018: 30), the distance of movement (short or long, internal or international) and on where the decision to move is placed on the continuum between *forced* and *voluntary* human mobility.

Sudden-onset events mainly lead to temporary, short-distance displacement (mostly within national borders) (Piguet et al. 2011: 13), whereas slow-onset phenomena tend to lead to more permanent migration or displacement as they affect local ecosystem services and employment opportunities (OHCHR 2018: 8). Weather-related disasters mainly affect people in poorer countries and communities, who usually have no choice but to stay in the vicinity of where the disaster hit – usually moving to neighbouring villages or nearby urban centres – as they lack the resources to move further afield. In this context, "people are usually displaced temporarily to evacuation centres or other types of temporary shelter where they can find assistance, until they are able to go home or find an alternative long-term solution" (Ionesco Mokhnacheva and Gemenne 2017: 22). This was the case in the aftermath of Typhoon Haiyan, the most powerful storm ever recorded to strike land, which hit the Philippines in November 2013. According to Sherwood et al. (2015), the vast majority of displaced people returned to their homes (or where these used to be before Haiyan struck) in relatively short order, even if their homes had been completely destroyed. Slow-onset environmental changes, on the other hand, tend to create more permanent migration and displacement due to longer lasting or potentially irreversible effects on livelihoods, health and resilience. Communities whose livelihoods depend on natural resources such as farmers, fishers and pastoralists are especially

affected by such events. In the region of Saint-Louis in Senegal, climate change, together with large-scale land transactions, now forces pastoralists to cross great distances to access grazing land and water for their herds, which has made their seasonal mobility patterns increasingly permanent (Zickgraf et al. 2016: 12).

Mobility, however, cannot be represented as *either* temporary or permanent, but as moving in a continuum ranging between the two. Weather-induced disasters may lead, for example, to permanent displacement if the economy or the infrastructure of the area are badly hit in the aftermath of the event. Many poor African-American families wanting to return to New Orleans after Hurricane Katrina in 2005 were unable to do so as the destruction of the city made housing scarce and rents unaffordable (Oliver-Smith 2018). Seasonal, or circular, migration is also becoming an essential strategy to adapt to climatic variability. In Ghana, for example, where agricultural production is increasingly affected by unpredictable rainfall patterns and heatwaves, seasonal migration has become a successful adaptation strategy (Warner et al. 2012: 80-81).

Mobility also differs on where it is placed on the continuum between *forced* and *voluntary* movements, and many outcomes are in the grey, middle zone where aspects of choice and coercion coexist. A multiplicity of factors – such as the presence of financial and social capital, the willingness to take risks, access to information and migration aspirations – should all be taken into account to understand the less or more forced nature of climate-induced mobility. Planned relocation – understood as the physical movement of communities to another location where they are resettled with the support of government authorities (UNHCR 2014) – is an additional mobility outcome that further underlines the grey area that exists between forced and voluntary movements. Moreover, the consequences of sudden-onset and slow-onset events are not clear cut. Even if slow-onset events are more easily foreseen than sudden-onset disasters – and thus allow for better planning of risk mitigation and adaptation strategies – the former can still lead to forced displacement if communities are particularly vulnerable. In regions already suffering from chronic and cyclical food insecurity, for instance, slow-onset events can lead to displacement as they threaten the livelihoods of communities. In Somalia, since the end of the 2011 famine – which caused the death of around 260,000 people– recurrent drought, food insecurity and subsequent famine risk have continued to trigger displacement in the country (IDMC 2020b).

Even though there is a broad consensus of the direct impact of environmental drivers on mobility, rarely does climate change act in isolation, and the context in which these movements occur cannot be ignored. The next section analyses the interaction of climate change and other drivers of human mobility, such as economic and environmental drivers.

2.2. How climate change interacts with other drivers of migration and displacement

Rarely, if ever, is human mobility determined by a single reason: there is always a multitude of factors behind the decision to move (or not to move). Climate change is not the exception as it interacts with and influences other drivers, which themselves affect migration and displacement. The Foresight report's conceptual framework relating to the drivers of mobility indicates that the decision to move is influenced by five categories of 'drivers': social, political, economic, environmental and demographic, often referred to as "SPEED" (Foresight 2011: 31-34). Climate change is likely to influence all of these drivers, although its influence will be more pronounced for economic and environmental ones.

Climate change significantly impacts producer prices (especially in the case of agriculture) and rural wages, both of which have been identified as economic drivers of migration and displacement (Foresight 2011). Unpredictable weather patterns and increasing temperatures increase agricultural prices and reduce rural wages as they reduce agricultural productivity. It is important to note that mobility decisions cannot be analysed at the individual level alone as they are also based on calculations made at the household level (Stark and Bloom 1985). Seasonal, temporary and even permanent migration have become – increasingly so – a strategy for income diversification[4].

Environmental drivers of migration and displacement - which include exposure to natural hazards and lack of ecosystem service provision - are impacted by climate change as the stability of, and access to, ecosystem services are affected. The availability of fresh water and food provision services are especially disturbed by climate change, which in turn affects mobility outcomes as people move to areas where access to the services is more secure. For instance, sea-level rise leads to soil salinization, which in turn lowers the productivity of agricultural land and decreases freshwater availability, affecting food security and health. This is the case of Kiribati, where the increasing threat of sea-level rise has led the President to purchase arable land in Fiji so as to help ensure food security and a place for migration (Cauchi et al. 2019). It is worth noting that the impacts of climate change on both economic and environmental drivers are, at least in part, sector-specific, affecting particularly livelihoods dependent on agriculture (Foresight 2011: 53).

In addition, climate change also interacts with the demographic drivers of migration and displacement. As population density increases, so does the pressure on agricultural land, which forces people to settle and cultivate in marginal areas. This, in turn, makes populations more vulnerable to flooding, soil erosion and desertification (Hugo 1996: 115-117). Furthermore, as rural populations continue to move to cities in coastal areas, which are largely flood-prone low elevation zones, a growing number of people will be put at risk.

It should be stressed that, as exemplified by the interactions between the demographic drivers of human mobility and climate change, the relationship between climate change and other drivers is neither *linear* nor *unidirectional.* Both climate change impacts affect, interact and reinforce social, political, economic, environmental and demographic drivers of migration and displacement.

2.3. Climate change as a threat multiplier

Even though climate change may not always directly impact other drivers of migration and displacement, it often acts as a threat multiplier", amplifying already existing challenges in contexts of social, political, demographic and economic pressure in a non-linear fashion (IPCC 2014). In this subsection, we briefly analyse how climate change can aggravate other drivers of poverty, intensify health vulnerabilities and exacerbate conflicts, further influencing human mobility.

[4] Income diversification refers not only as an increase in the number of income sources, but also as the process in which rural households increase their earnings from non-agricultural activities, and is extremely important to reduce the risk of income failure in agricultural households (Ellis 1998).

Poor people around the world – many of whom depend on agriculture and fishing for survival – will see their socio-economic situation worsen as the impacts of climate change become more evident. As agricultural activities are highly susceptible to temperature increases and changes in precipitation patterns, even minor changes in the latter and short periods of extreme heat can "push transient poor and marginalized people into chronic poverty as they lack access to credit, climate forecasts, insurance, government support, and effective response options." (IPCC 2014: 802). Sudden-onset disasters also disproportionately affect poor households as these have few assets to liquidate, which leaves them little capacity to recover and rebuild. Cyclones Idai and Keneth disproportionately affected populations already facing food insecurity as a result of droughts and storms, as well as poor communities in urban areas in Mozambique in 2019, triggering unprecedented displacement in the country – 640,000 and 45,000 displaced people respectively (IDMC 2020a: 25).

Climate change is a multiplier of existing health vulnerabilities including insufficient access to safe water, food insecurity, and limited access to health care and infectious disease control. The 2014 IPCC report highlights that climate change events such as droughts will compound stress on water resources in regions already facing significant strain from overexploitation and degradations (*high confidence*) and that heat stress and flood impacts, together with increased pest and disease damage, are also expected to reduce crop productivity (*high confidence*),[5] which will have strong adverse effects on water and food security. Furthermore, changes in the mean and variability of temperature and precipitation may change the incidence and geographic range of vector- and water-borne diseases (*medium confidence*) (IPCC 2014: 21).

Ethiopia has constantly been on global news since the 1980s due to regular acute food shortages and hunger crises, much of which are caused by drought events and rainfall variability. Although some government policies – such as the promotion of state farms and the control of agricultural produce prices during the Derg military dictatorship – are to blame for some episodes of food insecurity climatic events are often the root causes. Between 2015 and 2017, for instance, the country experienced the worst drought in recent history. The drought caused successive harvest failures and widespread livestock deaths, and affected more than ten million people. Furthermore, the 2019-2020 desert locust infestation in Ethiopia has worsened the already fragile food security situation. In the Amhara region, for example, the recent pest has caused some farms to register nearly 100 percent loss of teff, a staple crop in Ethiopia (FAO 2020).

Environmental stress can also lead to conflict over declining resources, especially in poorer regions and countries with poor institutional capacity, and if combined with existing tensions (Clark 2008). The Sahel region – sometimes dubbed `ground zero´ for climate change due to its extreme climatic conditions and highly vulnerable population – clearly exemplifies this phenomenon. Over the last 50 years, the combined effects of temperature rise, recurrent and severe droughts, increased rainfall and frequent floods have decreased the availability of natural resources and agricultural yields in the region (UNEP 2011: 8). Coupled with factors such as weak natural resource governance – including old rules and laws inherited from the colonial era and limited technical capacity for the effective management of land – population growth and food insecurity, changing climatic conditions have led to increased conflict over

[5] The IPCC uses the following qualifiers to describe the degree of certainty in key findings (expressed as a qualitative level of confidence): very low, low, medium, high, and very high.

scarce resources (such as fertile land and water) and mobility from rural to urban areas(USAID 2014: 25-28). The Lake Chad basin – located at the conjunction of Chad, Cameroon, Nigeria, and Niger has shrunk by about 90 percent since 1963 due to population growth, misuse and overuse of water for irrigation and changing climatic conditions. This massive contraction has resulted in food and water insecurity, increased poverty, and the spread of water-related diseases in the region, which has led to "heightened tensions over water access between different communities and livelihood groups resulting in both migration and increasing territorial disputes" (UNEP 2011: 61). Conflicts over access to and use of water, land and fish catches have intensified, and disputes between fishers and pastoralists, and between fishers and farmers are not uncommon. In addition, disputes between Cameroon, Chad, Niger and Nigeria over land ownership have occurred as the receding waters expose new islands.

Furthermore, migration and displacement can be triggered by the breakdown of governance structures or the emergence of violent conflict (Foresight 2011: 45), whereas conflict can increase the vulnerability of populations to climate change (Adger et al. 2014: 774). For almost 30 years, Somalia has been struggling with a combination of civil war, terrorism, and increased food insecurity, all of which have been aggravated by climate change impacts such as droughts, soil erosion and desertification. In 2019, for instance, unpredictable rainfall, followed by severe droughts resulted in significant crop and livestock production shortfalls, pushing around 2.2 million to the brink of starvation (UN News 2019), further exacerbating tensions and increasing migration and displacement. By the end of the year, 667,000 new internal displacements were recorded – for a total of 2.6 million (IDMC 2020a). Climate change impacts have exacerbated conflict in the country by both providing warlords with additional motives to trigger disputes – such as over already-scarce resources like water and land – and by pushing young people affected by famine and food insecurity with no job prospects to join the ranks of armed groups (ISS 2018). These dynamics further exemplify how interlinked are the triggers of conflict, human mobility and climate change.

2.4. Vulnerability of marginalized populations to the impacts of climate change

The same climatic event may impact populations differently. This is explained by the context in which populations live, as well as their socioeconomic and demographic characteristics, which determine their vulnerability and resilience. Poor and marginalized populations, two categories under which refugees and Internally Displaced Persons (IDPs) often fall, are particularly vulnerable to – and less able to cope with – the adverse impacts of climate change. This is also the case of rural households whose livelihoods are dependent on natural resources. Some demographic conditions can also increase the vulnerability of individuals to the impacts of climate change: women and girls, for instance, face higher risks and greater burdens from the impacts of climate change.

Poor and marginalized communities usually have the "least buffer to face even modest climate hazards" (IPCC 2014: 802). In the aftermath of sudden-onset events, for instance, poor households will be more affected than wealthier ones, decreasing their capacities to recover and affecting their long-term livelihoods and wellbeing. When Hurricane Mitch – the second-deadliest Atlantic hurricane on record – hit Honduras in 1998, affected lower-income households lost a greater percentage of their productive wealth (31%) than did wealthier households (8%) (Carter et al. 2007). Limited access to resources (both financial and non-financial) further exacerbates the impacts of climate change of deprived households as

adaptive capacities – whether *in situ* or through financing migration – are sometimes contingent on resource ownership (ibid). In the midst of climate change impacts, poorer farmers will have it more difficult than wealthier ones to adopt adaptation practices such as shifting to water-saving technology and adopting more climate resilient crop varieties. In Pakistan, for instance, Ali and Erenstein (2017) found that poorer farmers were less likely than wealthier ones to shift to drought-tolerant varieties and to new crops as these adaptation strategies require capital investments and the capacity to take risks. In addition, poor communities are much less likely to have proper local early warning systems in place to help individuals prepare for climate-related disasters.

IDPs and refugees – whether they live in camps or in non-camp urban or rural settings – are amongst the populations more vulnerable to the impacts of climate change. In cases where they are suddenly displaced, in an unplanned manner, they often end up in informal settlements in areas of high environmental risk (such as low-lying urban areas in mega-deltas or slums in water-insecure cities) which makes them particularly vulnerable to the impacts of climate change (Foresight 2011; ODI and UNDP 2017). Furthermore, in contexts of conflict and insecurity, coupled with climate change impacts, displacement can become cyclical. During 2019, floods in the White Nile basin triggered displacements involving IDPs displaced by conflict and refugees who were sheltering in at-risk areas and who were forced to flee for a second or even third time (IDMC 2020a: 27-28).

Nonetheless, the communities and individuals most affected by climate change are, in many cases, precisely those forced to stay, thus becoming 'trapped'. This is because migration is expensive, yet a significant proportion of populations affected by climate change lack the financial, social, or physical assets to migrate. Moreover, climate hazards have the potential to destroy assets and disrupt income generating activities, further limiting mobility opportunities (Foresight 2011: 12). (Im)mobility decisions are also influenced by migration aspirations as cultural place attachment, gender roles, conflict, and *in situ* adaptation strategies, amongst others, matter in decision making (Zickgraf 2018: 78-79). In such as the Horn of Africa, involuntary immobility is likely to become the biggest and most relevant issue when it comes to the link between environment and mobility (Mixed Migration Centre 2020).

`Trapped´ populations are at a higher risk of eventual displacement as they have no choice but to stay in places where they are more vulnerable to climate-related hazards. When Hurricane Katrina struck New Orleans in 2005, about 15% of its residents found themselves trapped in the flooded city as they had been unable to evacuate prior to the disaster, which made them more vulnerable to long-term displacement. In other situations, 'trapped' populations have to live in conditions that affect their long-term wellbeing. In Bangladesh, some communities affected by yearly floods or cyclones are unable to migrate to safer places, which forces them to live in waterlogged houses several months a year (Ionesco Mokhnacheva and Gemenne 2017).

Demographic characteristics can also play an important role in the face of climate change impacts. In many countries around the world, women and girls already face social, economic and political barriers, which further limit their adaptation capacities and increase their vulnerability to the impacts of climate change. Women's lack of access to productive resources – through unequal access to labour markets and to land and property rights (in many countries, existent laws forbid women to inherit land or other assets) – their limited involvement in decision making processes, and social norms are, to name a few, some of the

gender inequalities that limit their adaptation capacities. In the Sahel region, for example, the lack of access to financial resources such as credit or formal land holdings, makes women less able to recover from floods or poor harvests (UNEP 2011). The ability to move (as an adaptation strategy to climate change impacts) is also limited for women. In sudden-onset disasters, women are constrained in fleeing rapidly given their responsibilities for childcare (or other gender roles), which increases their mortality and injury rates. During the Indian Ocean tsunami in 2004, three to four times as many women than men died as they stayed behind to look for their children and other relatives. In addition, as swimming or climbing trees is often taught to boys in the areas hit by the tsunami, many women could not escape. This implies that women and girls will also have fewer possibilities of surviving future disasters (Oxfam 2005).

Yet, women can play a critical role as active agents in climate change adaptation and mitigation both at the household and community level. In Kenya, the Green Belt Movement – a women's rights organization initially led by Nobel Laureate Wangari Maathai – brings women together to tackle deforestation in the country. Since 1977, the organization has planted over 51 million trees, helping to protect the country's forests. In addition to addressing climate change, this initiative also has created jobs for women, allowing them to increase their income, as well as improving water and food security in the region (Green Belt Movement 2014). Furthermore, as (mostly male) off-farm seasonal migration becomes a common adaptation strategy to the impacts of climate change, women who stay behind can perform the tasks usually performed by men, which allows them to gain new skills, strengthen their financial independence and increase their decision-making power.

2.5. Consequences of climate-induced mobility

Climate-induced mobility, just like any other mobility outcome, can have either positive or negative consequences for both individuals and communities who move, but also for households who stay behind, as well as origin and destination areas. To a great extent, the consequences of climate-induced mobility are highly dependent on whether movement is foreseen or not and on the temporality of these movements.

Human mobility has the potential to positively affect socioeconomic outcomes by increasing the earning capacities of migrants and non-migrants alike. This is one of the main premises of the 'migration as adaptation' discourse (Gemenne and Blocher 2017). On the one hand, rural-urban migrants usually benefit from higher incomes and more stable jobs (than those who stay in rural areas), which can serve to close the rural-urban gap, and enhance household resilience to climate change impacts. Mobility allows for households that are highly dependent on agriculture and natural resources (thus highly vulnerable to climate change) to supplement incomes through remittances, diversify livelihoods, and act as a form of insurance (Adger et al. 2002: 365). Moreover, as they decrease the pressure on the local environment, thus reducing the threat of climate hazards, climate-induced movements can positively impact the resilience of areas of origin (Hugo 1996: 27).

As for the impacts of migration and displacement in destination areas, these are manifold. In cities with labour shortages in low-skilled sectors such as construction and transport, for example, mobility can enhance the resilience of destination areas as migrants fill these gaps, fueling the economic growth of the region (Foresight 2011). For example, the presence of non-EU migrants and refugees has filled labour shortages in the social care sector in the UK.

Migration and displacement can also increase wages for the local population. In Kenya, for instance, Alix-Garcia et al. (2018) found that an increase in the number of refugees living in the Kakuma refugee camp increased the economic activity and household consumption in areas within a 10 km distance from the camp: this positive economic effect is believed to be driven by increases in wage and agricultural employment opportunities, as well as increases in the prices of livestock induced by refugee demand.

In addition, mobility can foster the transfer of knowledge and skills both in origin and destination areas. Migrants and displaced people can generate positive impacts in home communities by remotely transferring knowledge and skills through diaspora networks, businesses, social remittances, and partnerships with international organizations, to name a few. In Ghana, for example, more than 21,000 health workers and students received training provided by Ghanian diaspora health professionals residing in Europe through the "MIDA Ghana Health" project between 2003 and 2012 (IOM 2013).

One particularity, however, of climate-induced displacement is rapid and unplanned urbanization. Sudden movements to urban areas increase the burden on service provision and infrastructure of cities, both of which are already inadequate in most urban centers in low-income nations (UN-HABITAT 2003a). Moreover, this rapid urbanization has been accompanied by a rapid growth of highly vulnerable urban communities, many of which end up living in slums and makeshift housing in urban peripheries (Satterthwaite et al. 2007). Unsurprisingly, this has led urban areas to become increasingly exposed to the impacts of climate change: sea-level rise, coastal erosion, flash flooding, heat stress, drought and increasing water scarcity are only a few of the surging threats (IPCC 2014: 551-556). For example, rapid urbanization in Dar es Salaam, the largest city in Tanzania, has increased residents' vulnerability to sea-level rise and flooding, as unplanned informal settlements expand to areas of high-environmental risk (UNEP 2018).

In the same way as other mobility outcomes, climate-induced mobility will also impact social cohesion in destination areas. Sudden pressures to accommodate incoming migrants, as well as in the labour market, can create social tensions and conflicts. Nonetheless, the negative effects of these movements can be contained through social interventions and good governance. Populations forced to move due to climate change – as any other forcibly displaced population – should be provided with basic services, included in local and national development plans and integrated into the economic, social, cultural, and political spheres of society in order to mitigate the possible adverse effects of climate-induced mobility.

Furthermore, policy responses and community building approaches are imperative to support urban adaptation and development planning, and successfully manage the physical, economic and social expansion of cities in low-and middle-income nations (IPCC 2014: 575). Urban adaptation plans should also include policies specifically focused on the welfare of migrants, such as building infrastructure and establishing protection mechanisms that cater to their particular needs, in order to better mitigate future climate change impacts.

3. Policy and operational responses

As demonstrated in previous sections, climate-induced mobility is a highly complex, multi-causal and contextual phenomenon, which cannot be reduced to a single story and, as a result,

to a single one-size-fits-all policy solution. Given the ever-increasing salience and politicization of both climate change and migration, and ever since "climate refugees" have become "the human face of climate change" (Gemenne 2011a), policymakers have been looking for ways to specifically account for what is still (erroneously) perceived as a *recent* facet of human mobility, therefore calling for the emergence of a new mobility 'category'. Indeed, rather than treating climate-induced mobility as a continuum policymakers remain in practice largely guided by the existing dichotomies between *forced* and *voluntary* and/or between *temporary* and *permanent* forms of mobility. These differentiations may be useful and necessary in certain contexts, especially to devise solutions that are adapted to specific climate mobility patterns: for instance, an emergency evacuation following an extreme disaster event mobilizes different resources and responds to different needs than a long-term planned relocation program. Yet, these distinctions can also oversimplify representations of climate mobility in the eyes of the general public, the media and policy makers, who tend to empathize more with populations fleeing an immediate threat (e.g. persecution, disasters) than with those who are perceived to have planned their move and, as a result, to see the former as more deserving than the latter. This dichotomy may reinforce the perception that displacement is more legitimate than voluntary forms of migration, and justify or expand policies of exclusion and containment towards people on the move (Crawley and Skleparis 2018), overshadowing the fact that most population movements are in fact mixed and non-linear. If the aim is to "leave no one behind" (as urged by the 2030 Sustainable Development Agenda), to work towards more inclusive and comprehensive climate mobility policies and to improve social and migratory justice at the local, national, regional and international scales, reinforcing these distinctions becomes counterintuitive.

We can currently distinguish three main perspectives in the overall climate-mobility policy landscape. The below-listed approaches are not mutually exclusive, nor do they necessarily address the same groups, needs or challenges. The first line of approach favours the application, where relevant and applicable, of existing protection mechanisms (and particularly of the 1951 Refugee Convention) to 'climate refugees'. A second standpoint pushes for the development of distinct and targeted instruments addressing the specific realities of climate-induced mobility (whether at the local, regional or international level) (CRIDEAU 2008). The third and last approach consists in enhancing access to pathways to regular, safe and orderly migration (through e.g. labour migration, family reunification, humanitarian protection) – and to migration as adaptation – for people whose physical safety, livelihoods and/or living environment are increasingly threatened by the adverse effects of climate change (Platform for Disaster Displacement 2018; UNFCCC 2018a).

3.1. Selected Policy Fora at the International Level

The Cancún Climate Change Adaptation Framework, adopted at the 2010 Climate Change Conference of the Parties (COP16) in Cancun, Mexico,[6] constitutes one of the first global commitments – under international climate negotiations – to improve state cooperation with regards to climate mobility. Article 14(f) specifically calls Member States to improve their

[6] The Conference of Parties (COP) is the decision-making entity of the United Nations Framework Convention on Climate Change (UNFCCC). The COP has been convened annually since 1995 and enables all States that are parties to the Convention to take decisions or adopt instruments aimed at promoting its effective implementation. The 2015 Paris Agreement, adopted during COP21 in Paris, is an example of such instruments. The COP currently constitutes one of the most important multilateral policy fora in which States can discuss and take measures related to human mobility and climate change.

efforts on adaptation by undertaking "measures to enhance understanding, coordination and cooperation with regards to climate change induced displacement, migration and planned relocation, where appropriate, at the national, regional and international levels" (UNFCCC 2010:5). Since then, a number of policy initiatives and measures have emerged on the international policy landscape that, while recognizing their non-binding dimension, reveal greater levels of effort and commitment to providing assistance and protection to people moving in the context of climate change and disasters.

One significant policy process consisted of an intergovernmental initiative known as the Nansen Initiative. Launched by Norway and Switzerland in 2012, it sought to document protection gaps and effective practices related to cross-border displacement caused by disasters and climate change through a series of regional multi-stakeholder consultations involving government officials, affected populations, international organisations, academia and civil society groups. It culminated with the endorsement by over 100 governmental delegations of the Agenda for the Protection of Cross-Border Displaced Persons in the Context of Disasters and Climate Change (The Nansen Initiative 2015), presented as "a toolbox of effective practices and approaches" (The Platform on Disaster Displacement 2018a). Examples of such effective practices include the implementation of humanitarian protection schemes that have been found to improve the protection of cross-border disaster-displaced persons (e.g. admitting and allowing them to stay in the receiving country and/or preventing their return to their country of origin at the time of a disaster) as well as the management of disaster displacement risk in the country of origin through, for instance, the implementation of disaster risk reduction measures that reduce vulnerability and build resilience, planned relocation schemes that fully respect of the rights of the relocated people, and addressing the needs of IDPs in disaster contexts through promoting inclusive response mechanisms (The Nansen Initiative 2015). As a follow-up to the Nansen Initiative, the Platform for Disaster Displacement (PDD) was launched in May 2016 during the World Humanitarian Summit, to accompany States in their implementation of the Protection Agenda. The PDD can be best understood as "a forum for dialogue, information sharing, and policy and normative development on disaster displacement" (PDD 2018a:422). Based in Geneva, the Platform's governance model is relatively simple yet comprehensive and inclusive: its steering group, composed of 17 States plus the European Union, is led by a rotating chair (representing a new Member State every 1,5 years), further supported by a Vice-Chair, the Envoy of the Chair, the PDD Secretariat and an Advisory Committee. The UNHCR and the IOM are both standing invitees to the steering group, attesting to the active collaboration between the PDD and multilateral UN-led processes active in the field of climate change and human mobility. The positive accomplishments of this State-led initiative (*inter alia*, the adoption of the Protection Agenda, the PDD's successful advocacy in favour of the integration of climate mobility issues during the process leading to the adoption of the Global Compact on Migration, as well as its continued efforts to bridge data gaps) are a testament to the fact that the search for international solutions to climate-induced mobility does not exclusively rely on the UN system, but can also mobilize alternative inter-state cooperation mechanisms that draw from on-the-ground experiences at the regional, national and sub-national levels.

A second development involved the establishment, during the 2015 COP 21 in Paris, of a Task Force on Displacement (TFD), mandated with helping UNFCCC Member States develop recommendations and "integrated approaches to avert, minimize and address displacement related to the adverse impacts of climate change". Contrarily to the PDD, the Task Force focuses on displacement *at large* and does not seek to primarily address *cross-border*

displacement.[7] It also has an advisory, rather than operational, role. Lastly, it is part of a full-fledged UN process, as it was established under the Warsaw International Mechanism (WIM) for Loss and Damage. Composed of technical experts from relevant UN agencies, humanitarian organisations and research institutions, it presented a set of recommendations to the WIM's Executive Committee (ExCom) in 2018, during COP24 in Katowice. Amongst other things, these recommendations pushed for more integrated and participatory approaches, enhanced knowledge production, strengthened preparedness, improved durable solutions, as well as increased access to regular migration pathways (UNFCCC 2018a). Their positive reception led the ExCom to extend the TFD's mandate, which now consists in providing advisory support regarding the execution of the WIM's workplan (UNFCCC 2018b). The Task Force being a relatively new mechanism, which largely depends upon the agenda of the UNFCCC process at large, its tangible impact remains somewhat limited. Some recent examples of its concrete impact in policy discussions around climate-induced mobility so far include the above-mentioned recommendations and the recent publication of a report on internal displacement in the context of the slow-onset adverse effects of climate change by the IOM, as one of its members (IOM 2020b).

The unanimous adoption of the New York Declaration for Refugees and Migrants on 19 September 2016, during the seventy-first session of the UN General Assembly, constitutes an additional milestone on the international scene. The declaration acknowledged that environmental factors could constitute potential drivers of migration alongside "poverty, underdevelopment, lack of opportunities, poor governance", further stressing that "international economic imbalances, poverty and *environmental degradation* [emphasis added by author], combined with the absence of peace and security and lack of respect for human rights, are all factors affecting international migration" (UN General Assembly 2016a). Backed by the New York Declaration, the Global Compact for Safe, Orderly and Regular Migration (GCM) and the Global Compact on Refugees (GCR) were eventually adopted in December 2018 following an extensive consultation process. The GCM lists 23 objectives aimed at managing international migration in a holistic and comprehensive manner and makes specific provisions regarding migration related to "natural disasters, the adverse effects of climate change, and environmental degradation" through its Objective 2, dedicated to finding ways to "minimize the adverse drivers and structural factors that compel people to leave their country of origin" (United Nations 2018:8-9). Although the GCM seems to favor a preventive approach, supporting adaptation *in situ* and solutions aimed at tackling the 'root causes' of migration to alleviate pressure on destination areas, Objective 5, focused on "availability and flexibility of pathways for regular migration", calls for planned relocation and visa options for people forced to migrate internationally due to slow-onset disasters, the adverse effects of climate change and environmental degradation "in cases where adaptation in or return to their country of origin is not possible" (United Nations 2018:12).

The GCR implicitly rejects the "environmental *refugee*" label – often brandished by media outlets, politicians as well as activists – while recognizing the multi-causal and complex nature of forced displacement, stating in its Paragraph 8: "while *not in themselves causes of refugee movements* [emphasis added by author], climate, environmental degradation and natural disasters increasingly interact with the drivers of refugee movements" (United Nations General Assembly 2018:2). It further stresses in its Paragraph 12 the heterogeneous and

[7] This is far from meaning that the PDD ignores issues of internal displacement. On the contrary, as mentioned in the previous paragraph, the Protection Agenda actively seeks to address the needs of IDPs in disaster contexts and to promote inclusive response mechanisms.

mixed nature of population movements – and the subsequent operational partnerships this requires in practice – noting that "in certain situations, external forced displacement may result from sudden-onset natural disasters and environmental degradation" (United Nations General Assembly 2018:3). It also calls for increased international cooperation in the field of disaster risk reduction (DRR) (Paragraph 9) as a means to address the root causes of displacement, and for the inclusion of refugees in DRR strategies (Paragraph 79).

Although the adoption of the Global Compacts marks a step towards more comprehensive and multi-dimensional approaches to human mobility at the global level, these instruments are non-binding, confirming that national sovereignty still constitutes a central parameter in migration-related policy-making and that 'soft law' remains the preferred governance option at an international scale. This also applies to the governance of climate-induced mobility which brings an additional layer of complexity to migration and asylum governance on the one hand, and to climate governance on the other hand. As two highly politicized domains embedded in complex social, economic and security interests, it proves very difficult to build international consensus around them.

Last but not least, the establishment in October 2019 of a High-Level Panel on Internal Displacement by the UN Secretary General has recently provided a new and relevant avenue for intergovernmental collaboration in the search for durable solutions to protracted (internal) displacement. Comprised of eight members and supported by a Secretariat and an Expert Advisory Group, the Panel has been tasked with submitting recommendations to UN Member States in this regard, with an entire workstream dedicated to achieving durable solutions for persons displaced in the context of disasters and the adverse effects of climate change. Its mandate having been extended for another year in August 2020, it is clear that the work of this Panel will further contribute to prior, above-mentioned, global intergovernmental efforts aimed at strengthening awareness and action on the linkages between human mobility, disasters and climate change.

3.2. Best practices at the national, regional and local levels

Identifying best practices applied to climate-induced human mobility can prove challenging as this phenomenon is highly context-dependent: what 'works' in one particular context will be tied to its inherent specificities and be shaped by the interactions between distinct sets of hazards and vulnerabilities. 'Successes' may therefore differ according to a given situation and a given population. Although providing an exhaustive list of best practices at multiple governance levels goes beyond the scope of this paper, it is possible to pinpoint particularly promising initiatives which could, to a certain extent, be applied in (similar) contexts.

It may seem easier to identify best practices relating to climate-induced mobility at the regional, national and local levels due to the fact that this phenomenon largely takes place internally (According to the IDMC's latest global report (2020a), 5,1 million people were internally displaced as a result of disasters by the end of 2019, including over a million in Afghanistan), but also between bordering states or within the same region: Intra-regional mobility in West Africa being a case in point, where migrants from the semi-arid Sahel zone have long been moving (either seasonally or permanently) to economically stable coastal cities in Senegal, Côte d'Ivoire, Benin or Ghana as a way to adapt to environmental changes in their region of origin. In spite of this, one recent development with potential positive international repercussions stands out. Indeed, a landmark ruling, issued by the United Nations Human Rights Committee (UNHRC) on 20 January 2020, established that returning people to countries

where their lives could be threatened by climate change may violate their human rights and be unlawful, reiterating States' *non-refoulement* obligations under international law. The case in question was brought to court by Ioane Teitiota, a citizen of Kiribati, who had requested asylum in New Zealand in 2010 on the grounds that climate change posed a threat to his life and that of his family's. His claim was eventually rejected, and he was deported in 2015. Although the UNHRC found that Teitiota's claim was unfounded because his life was not directly at risk *yet*, this ruling may open the door to international protection for those whose lives are (found to be) threatened by climate change and could therefore be seen as a potential "game-changer" (Su 2020).

Turning to the national level, an example of effective practice - put forward by the Nansen Initiative's Protection Agenda (see 3.1. above) - consists in countries implementing 'humanitarian protection measures' resulting either in admitting cross-border disaster displaced persons into their territory, allowing them to stay in their territory and/or in preventing their return to their place of origin. The Protection Agenda includes a (non-exhaustive) list of 53 countries that had implemented such measures (Nansen Initiative 2015:50), which can include "regular migration categories, free movement of persons agreements, pastoralist transhumance arrangements (...) human rights, (...) refugee law" (PDD 2018a:422), allowing the mobilization of solutions that are adapted to concrete needs and realities on the ground.

From the perspective of *countries of destination* in the 'Global North', the cases of Finland and Sweden are often presented as best practices. While The Finnish Aliens Act added a new category of humanitarian protection granting residence in the event of an environmental catastrophe in the country of origin, Sweden created in 2014 a new protection category known as "other protection needs" offering a resident permit to those in need of environmental protection (Hush 2017). Both countries have however repealed this protection mechanism in the context of the so-called 2016 'migration crisis', revealing that migration-related political processes are in reality highly vulnerable to short-term shocks, even in policy contexts that are widely portrayed as progressive or human-rights oriented.

Looking more specifically at migrants' *countries of origin*, and the frameworks that look at development and climate adaptation solutions at the national level, another good practice consists in integrating migration considerations into national adaptation planning (Warner et al. 2014; 2015), especially when migration is viewed as a potential adaptation strategy or "triple win" that can benefit migrants, their communities of origin and their communities of destination (Gemenne and Blocher 2017). National Adaptation Plans (NAPs) have been introduced as an outcome of the 2010 Cancun Adaptation Framework and complement medium-term National Adaptation Programmes for Action (NAPAs), which had been prepared and implemented since 2001 with support by the Least Developed Country Fund (LDCF). Except for a few exceptions, mobility issues are still largely portrayed negatively in most NAPAs and NAPs, presented as an outcome of climate change that should simply be avoided (Ionesco, Mokhnacheva and Gemenne 2017, 118). Some countries have however successfully integrated the more positive notion of migration as a potential *adaptation strategy* to climate change. Ethiopia's NAPA identified "temporary and permanent migration in search of employment" as a potential coping mechanism to climate variability and extremes (Government of Ethiopia, 2007:5) while its recently-adopted NAP presents "voluntary resettlement and migration" under one of its 18 adaptations options, which is focused on "building social protection and livelihood options of vulnerable people" (Government of

Ethiopia 2019:58). The text however remains quite vague on how this will be done in practice, explaining that the approach of each adaptation option will be consolidated throughout the planning and implementation phases of the NAP.

Another example of often-cited good practice is that of the Southern Pacific atoll of Kiribati, which future conditions of existence are directly threatened by the effects of sea-level rise. The government of Kiribati has indeed introduced a 'migration with dignity' policy as part of its long-term nation-wide relocation strategy (McNamara 2015). This two-fold policy seeks to create migration opportunities for those willing to migrate (based on cross-border labour arrangements with Australia and New-Zealand) and to enhance the educational and vocational skills of its inhabitants in order to improve their capacity to adapt to their future places of residence. This approach has the advantage of restoring a sense of agency among at-risk populations, upending the widespread media and policy narratives that portray them as helpless victims. The success of this preventive programme will however depend on its capacity to reach and ensure consultation with and full participation of local populations, so as to give everyone a chance to access this opportunity to relocate willingly. Another major challenge to effective planned relocation is its extremely high cost, showing that financial considerations are key to offer truly ambitious and far-reaching preemptive mechanisms in the face of climate change and disasters.

At a more regional level, a few initiatives can be noted, the Kampala Convention being among the most noteworthy of them. Adopted by the African Union in 2009, it is the first legally binding instrument that requires (AU) Member States to protect and assist Internally Displaced Persons, including those displaced due to climate change and environmental events. In Latin America, the 1984 Cartagena Declaration on Refugees constitutes a similar landmark regional instrument, having broadened the refugee definition to include "persons who have fled their country because their lives, safety or freedom have been threatened by (...) other circumstances which have seriously disturbed public order" (UNHCR 1994:36). More recently, the eight countries of the Intergovernmental Authority on Development endorsed on 26 February 2020 the IGAD Free Movement Protocol (IGAD 2020), paving the way for enhanced protection of people affected by disasters and climate change in East and the Horn of Africa, where climate and environmental changes often act as a threat multiplier for conflict and poverty. The protocol "facilitates entry and lawful stay for those who have been displaced. It also allows those at risk of displacement to move preemptively as a way of avoiding, or mitigating, the impacts of a disaster" (Wood 2020). It further allows IGAD nationals to cross IGAD borders "in anticipation of, during or in the aftermath of a disaster" and "to remain in another country as long as return to their country of origin 'is not possible or reasonable'" (Wood 2020). Although it is still too early to provide an assessment of how it has been applied so far, this crucial instrument could already serve as an example for other African sub-regions, such as West Africa and East Africa, where the Economic Community of West African States (ECOWAS) and the East African Community (EAC) have respectively put in place free movement agreements but have yet to incorporate clear provisions for climate and disaster-affected populations. It is however important to stress that the mere ratification of instruments such as the ones mentioned above will fail to have real meaning and efficacy for preventing new displacements and meeting the specific needs of those who do become displaced if they are not accompanied by ambitious and proactive implementation measures. For instance, although some good practices can be identified within some of the Kampala Convention's Signatory Countries - such as in Burkina Faso and Mali, where disaster management units are directly involved in the planning, management and monitoring of IDP

protection and assistance activities (ICRC 2016) - such cases remain limited. This shows that any protection mechanism is only as strong as its implementation: in practice, challenges may remain for a number of reasons, including capacity gaps, competing political and funding priorities and a lack of accountability mechanisms.

3.3. Policy coherence in global policy arenas

The Global Compact for Safe, Orderly and Regular Migration has recently given further impetus to previous calls from non-policy makers, including scholars and practitioners, to approach climate-induced mobility in a holistic and more integrated manner, as it is neither solely a 'human mobility' matter nor a 'climate' one. Policy coherence consists in ensuring that policies work in harmony both *horizontally* (across different policy domains) and *vertically* (across different policy levels, e.g. global, national, local), particularly through increased international and regional cooperation and global partnerships, and is a stated objective of the recently adopted GCM. Indeed, Objective 23 specifically calls for the enhanced implementation of the 2030 Agenda for Sustainable Development in countries where certain structural factors (including climate change and disasters) are deemed to lead to *irregular* migration (United Nations 2018). This entails "appropriate cooperation frameworks, innovative partnerships and the involvement of all relevant stakeholders, while upholding national ownership and shared responsibility" (United Nations 2018:31).

Apart from ensuring greater cohesion with the Sustainable Development Goals (SDGs), global migration/asylum and climate adaptation and mitigation efforts and policies need to speak to and incorporate global frameworks that are relevant to climate-induced migration and displacement, such as the 2015-2030 Sendai Framework for Disaster Risk Reduction (adopted in 2015 by 187 UN Member States during the Third UN World Conference on Disaster Risk Reduction), the New Urban Agenda (adopted during the 2016 Habitat III Conference in Quito), and the Agenda for Humanity (a five-point plan presented to over 9,000 stakeholders (representing, *inter alia*, UN Member States, NGOs, the private sector and academia) by former Secretary-General Ban Ki Moon during the 2016 World Humanitarian Summit in Istanbul). Climate change, sustainable development, disaster risk reduction, urban development and humanitarian considerations are deeply interconnected and, as such, often contribute to shaping vulnerability and mobility patterns.

The UNDRR-led Sendai Framework includes several mentions to disaster-related displacement, recognizing for instance the need to apply the 'build back better'[8] principle - used in post-disaster recovery to refer to the reconstruction of physical infrastructure as well as of more resilient societal systems - to temporary settlements for disaster-displaced persons. It also calls for regular disaster preparedness, response and recovery exercises (e.g. drills, training and area-based support systems) to respond to disasters and related displacement (UNDRR 2015). More generally, the UNDRR defines "disaster-affected populations" as those "who were *evacuated, displaced, relocated* [emphasis added by author] or have suffered direct damage to their livelihoods, economic, physical, social, cultural and environmental assets" (UNDRR 2020). This means that the SFDRR's Target B aiming to "substantially reduce the number of *affected* [emphasis added by author] people globally by

[8] The 'build back better' principle refers to "the use of the recovery, rehabilitation and reconstruction phases after a disaster to increase the resilience of nations and communities through integrating disaster risk reduction measures into the restoration of physical infrastructure and societal systems, and into the revitalization of livelihoods, economies, and the environment" (United Nations General Assembly 2016b).

2030 (...)" (UNDRR 2015) speaks directly to issues of displacement. Target E aimed to "increase the number of countries with national and local disaster risk reduction strategies" may also be relevant as it can be linked to efforts to mainstream displacement and other forms of human mobility considerations into such strategies (PDD 2018b).

The New Urban Agenda further recognizes the interactions between international migration, development and human rights in a changing climate, and includes a commitment "to ensuring safe, orderly and regular migration through planned and well-managed migration policies, and to supporting local authorities in establishing frameworks that enable the positive contribution of migrants to cities and strengthened urban-rural linkages" (United Nations 2017:11). Its particularity lies in its emphasis on the crucial role of cities (and local policies) in addressing human mobility in the context of climate change. Transformative climate action at the city-level is indeed key to address the vulnerability of urban migrant communities (including IDPs and refugees) and to support their inclusion in cities in the context of a changing climate and increased disaster risk (Gemenne et al. 2020). Similarly, albeit with a more international focus, the Agenda for Humanity specifically urged 'States and the international community [to] prepare for cross-border displacement owing to disasters and climate change" and "States [to] provide more legal pathways for migration and provide humanitarian visas and protection for those who do not fall under the 1951 Convention relating to the Status of refugees" as ways to operationalize its call to "Leave No One Behind" (Agenda for Humanity 2017:8). Although the implementation of this plan has officially ended in 2019, it has since transitioned into an online archive and remains of high relevance to devise policies that take into account the humanitarian aspects of climate-induced mobility.

These three frameworks, which have all emerged around a similar time, confirm that human mobility and climate change have become key policy objects across the Sustainable Development Agenda. Yet, mentions to the manner in which these two phenomena interact remain scarce as well as poorly conceptualized and operationalized within these global policy *fora*. Numerous challenges stand in the way of bridging the gap between policies across multiple policy levels and domains and, by extension, of implementing more integrated policies in practice. A disproportionate focus on 'root causes' and 'push factors' of human mobility - and, therefore, on solutions solely identified at the scale of areas of origin - impedes efforts towards a more balanced and integrated multilateral response. We can indeed observe a geographical injustice when it comes to climate change, whereby the countries that are the least responsible for global greenhouse gas emissions are in practice the most affected by the effects of climate change, and vice versa. In spite of this, many policy-makers in unaffected (or relatively unaffected) areas – who remain largely influenced by narratives that frame climate-induced mobility as a security threat – would rather favour adaptation measures *in situ*, alleviating migration pressure 'at the source' than taking a political risk by supporting measures that would be seen as promoting migration. Yet, climate-related mobility is a complex and multifaceted phenomenon, which implies shared responsibility between areas of origin and destination: greater accountability and solidarity is therefore needed on the part of countries of destination and host communities alike. This includes acknowledging the fact that developed countries - and in particular key global greenhouse gas emitters from the 'Global North' - have an increasing part to play in taking in people displaced by or moving in the context of climate change (be it through humanitarian protection mechanisms or widened access to complementary migration pathways).

There is no doubt that future climate-induced mobility will be shaped by the policies put in place to address it. In particular, “whether or not [climate] mobility becomes a political or humanitarian problem depends on the policy choices by home, host and transit states and involved organizations, not on the mobility itself” (Boas et al. 2019). Two-pronged policy approaches that seek to minimize displacement while facilitating migration as an adaptive force are therefore needed in order to craft truly cohesive and comprehensive policies at all levels (sub-national, national, regional, international) and across multiple relevant domains, spanning migration/asylum, climate and development, but also disaster risk reduction and urban development (Zickgraf 2019).

4. Future outlook

General discussions – and particularly media coverage – on human mobility related to climate change and disasters tend to emphasize the future threat of mobility, and specifically of forced displacement, in response to climate change. In particular, estimates of the number of people who will in the future be forced to flee their homes have been repeatedly called upon to attest to the importance of the issue. These numbers have ranged greatly from 25 million to a shocking 1 billion predicted to move by the year 2050 (Lazcko, F. & Aghazarm 2009; Gemenne 2011b). Perhaps the most cited of these, Myers warned that as many as 200 million people could be displaced, “overtaken by sea-level rise and coastal flooding, by disruption of monsoon systems and other rainfall regimes, and by droughts of unprecedented severity and duration” (Myers 2002). As explained in the first section, through wide-spread repetition, this highly speculative figure is often taken for fact (Zickgraf 2020). The reliability of these figures has repeatedly been critiqued since the early 1990s for opaque methodologies, deterministic assumptions on which they are based, and their lack of scientific rigour, presenting guestimates rather than hard scientific knowledge (Gemenne 2011b).

In recent years, scholars have responded by diligently working to innovate and improve modelling techniques, leading to somewhat more credible ranges of movement, albeit for more specific types of movement in limited geographies rather than seeking a singular global estimate. For example, using gravitational models, the 2018 World Bank report, Groundswell, estimated that in three world regions, Sub-Saharan Africa, South America, and South Asia, between 31 and 143 million climate migrants may move within their countries (i.e. it does not include or seek to quantify international population movements) (Rigaud et al. 2018). Still, the 2019 IPCC Special Report on Oceans and Cryosphere noted that while there is high agreement that climate change has the potential to drastically alter the size and direction of mobility, there is low confidence in quantitative projections of migration, particularly in relation to sea-level rise (IPCC 2019). Efforts continue to be plagued by challenges of who to count, how to address mixed-migration flows, and, in particular, how to quantify mobility in response to more gradual, slow-onset changes. As of yet, "no model currently accounts for all push and pull factors influencing migration decisions" (IPCC 2019: 396).

Scholars have levied criticism at the overemphasis on the future conditional when it comes to the impacts of climate change on human mobility for neglecting the fact that people are already on the move. For example, Baldwin et al. (2014) noted that the field is dominated by 'futurologies', that is to say, what will happen in terms of human mobility in the future if nothing, or not enough, is done to prevent further climatic change. While the emphasis on future quantifications may certainly have blinded us to the actual contemporary realities, it

remains true that the way the global population landscape takes shape in the future does depend to a great extent on political and institutional strategies.

But what exactly should institutions be preparing for? Here, it is of great import that governments, institutions, and organizations do not merely consider and prepare for the scale of human mobility. By focusing on how many, we may have lost other critical questions: Where? How? Why? Who? In this sense, the evolution of future dynamics must be considered, not just future numbers. Although many qualitative challenges could be discussed, rather than providing a comprehensive assessment we identify some key points to consider.

4.1. Preparing for internal mobility

Empirical evidence on contemporary human mobility dynamics suggests that most population movements that respond to climatic changes and disasters remain within the boundaries of nation-states, despite the fact that most discourses, particularly in industrialised countries of the Global North, repeatedly focus on the 'threat' of international in-migration from developing countries in the Global South (McLeman and Gemenne 2018). While international mobility may indeed result in the future owing to the increasing severity of climate impacts, this is most likely to occur between neighbouring countries, for example in the case of cross-border displacement in regions that have relatively porous borders or free movement protocols. For this reason, continuing the work of initiatives such as the Platform on Disaster Displacement will be paramount to preparing for and responding to intra-regional forced displacement. Yet, internal mobility is likely to continue to be the primary geopolitical pattern of human mobility, whether that takes the form of internal displacement or more relatively preemptive and proactive forms of migration. As such, governments and institutions should direct a great deal of attention (although by no means exclusive) to how and where people will move within national boundaries, in order to know how they can be best assisted. No singular trajectory occurs, we will continue to see rural to rural, urban to urban, and urban to rural movements, alongside the most commonly discussed rural to urban flows, whereby rural natural-resource dependent populations will struggle to sustain their livelihoods in situ and move to urban areas seeking better opportunities. Preparing for a multitude of co-existing patterns is, therefore, essential. That being said, urban spaces may be particularly hard hit. The volume of incoming flows (which may also be international), will present significant challenges across a number of arenas: urban planning and infrastructure, social services provision, health services, etc. But again, the qualitative dynamics of these movements also represent a potential challenge. Many migrants and displaced people wind up in informal settlements and in precarious conditions within cities, which may limit the potential for migration to be a successful adaptation strategy when these people are marginalized socially and economically. When newcomers come from diverse cultural, ethnic and religious backgrounds, local reception and integration policies and programmes will have a major impact on social cohesion within cities.

4.2. Preparing for urban displacement

Studies often focus on displacement and migration from rural areas, but recent works emphasize that urban displacement is and will become a massive policy concern. When people arrive in cities that are unprepared for in-migration, their marginalization increases a number of socio-economic risks, but it also increases disaster displacement risk after arrival by exposing them to new disaster displacement risks. The assumption that people move from

environmentally fragile areas to environmentally secure ones neglects the multi-causality of mobility, in that people do not leave only for environmental reasons, nor do they choose destinations only for their environmental benefits. Some may prioritize the availability of economic and educational opportunities, for example, over the state of the natural environment. Others may move into areas where they are unfamiliar with how to cope with new types of hazards (e.g. moving from a drought area to a flood-risk area) or uninformed/unaware about the local environmental risk. Displacement risk may then increase. For example, Warn and Adamo (2014) notes that migrants from the northeast of Brazil living in Rio de Janeiro may build precarious residences on slopes above the favelas because they have no prior personal experience of mudslides. However, it is not just a concern for incoming populations. Mismanaged and/or unplanned urban growth and unregulated construction in hazard-prone areas increase disaster displacement risk in densely populated informal settlements on floodplains, steep hillsides and coastlines exposed to cyclones (IDMC 2018). Climate change and the mismanagement of natural resources threaten to cause massive displacement of urban populations when cities are not generally prepared for disasters. For this reason (and others), while we often focus on national or international preparedness and responses, local level actors are crucial players in shaping what the future of human mobility will look like. As noted by other scholars on urban displacement broadly, "humanitarian actors can no longer liaise only with national governments; they must also develop urgently closer working relationships with mayors and municipal authorities, service providers, urban police forces, and, most importantly, the representatives of both displaced and resident communities." (Crisp et al. 2012)

4.3. Preparing for statelessness

Preparing for internal mobility and urban displacement does not mean overlooking the very real challenges of international movements. As there is no single way in which climate change and disasters affect human mobility dynamics, there can be no one solution. One of the biggest political questions that governments and institutions will be confronted with is how to address climate change-induced risks of statelessness. While the exact figure of the world's stateless people remains unknown, in May of 2020, some 3.9 million stateless people appeared in the reporting of 78 countries, but the UNHCR notes that the true number is likely to be far greater (UNHCR 2020c). Climate change introduces new legal and political questions into the equation. The threat of sea-level rise to small island states that may in a physical sense cease to exist creating mass statelessness is an oft-called upon dramatic example. However, these territories may lose their populations long before the physical land disappears (UNHCR 2009). Responding to 'disappearing' states could take a number of forms, each with their own benefits and challenges, such as transitional dual nationality, step-wise, incremental international relocation (e.g. through similar programmes to Kiribati's Migration with Dignity or bilateral agreements), to self-governance in association with another state (McAdam 2010).

4.4. Preparing for immobility

While the evolving dynamics of movement is something that must be addressed, it is far from the only challenge to institutions. Attention the (quantitative) scale of future mobility related to climate change and disasters tend to assume that the magnitude of human mobility correlates to the magnitude of climate impacts, i.e. that as climate impacts increase, so too will population movements. The critical flaw in this assumption is that empirical evidence suggests that people may be immobilized in the face of climate change, creating 'trapped

populations', those people who need to move, desire to move, and yet lack the ability to do so (Foresight 2011, Black and Collyer 2014). Migration requires resources of varying kinds – financial, human, physical, and social capital – and climate change can have devastating effects on people's ability to migrate by eroding those resources. Thus, while the main policy concern thus far has been how to minimize forced displacement, immobility will become a significant policy issue, especially when it is not acknowledged as such: "People who are trapped may become more prone to humanitarian emergencies and possibly even displacement if their situation worsens, or if extreme events occur. In such cases, human survival may depend upon unplanned and problematic displacement" (Foresight 2011: 16). Possible solutions include organized or assisted relocation of individual households, partial or entire communities. Relocation efforts are expensive, take time and extensive resources to design and implement, but when done well and with the interests of those affected at their heart, can provide a means of preventing recurrent or protracted displacement. Programmes that invest in skills training in communities of origin can also help facilitate preemptive, voluntary migration as a long-term adaptation strategy, e.g. Migration with Dignity in Kiribati.

4.5. Preparing comprehensive approaches

Future human mobility – covering the spectrum of migration and displacement – that is driven by the impacts of climate change will largely come down to the mitigation and adaptation measures taken regarding climate change, but also comprehensive measures across a number of policy domains and at all levels of governance. To that end, developing cohesive multi-scalar and multilateral strategies that target the many forms of human mobility (including immobility) and their diverse outcomes is essential. Actors that transcend any singular policy arena in this regard are vital, such as the Platform on Disaster Displacement, the International Organisation for Migration, and UNHCR. Elevating humanitarian considerations (rather than utilitarian or securitarian), including those that take a climate justice approach[9] (Robinson as cited in UN, 2019), may inform more protection-oriented responses, ad hoc and ex post. The importance of enabling self-determination, enabling the choice of whether to go or to stay and how to do so, cannot be understated. Addressing, minimizing, and averting displacement will require in certain contexts facilitating preemptive migration, both at the individual and household levels and through planned relocation that relies heavily on consultation and the participation of affected communities throughout the policy process. One important step in this direction in the East and Horn of Africa is the recently endorsed Free Movement of Persons (FMP) by the Intergovernmental Authority on Development (IGAD), which by ensuring free movement across member states may be a vital positive move to secure the livelihoods of 43 percent of Africans who depend on informal cross border trade, for natural resource-dependent households, including pastoralists moving within and beyond the region's borders (IOM 2020a).

Institutional architecture and mechanisms must be adapted to facilitate multi-directional governance, whereby international negotiations and compacts affect national and local implementation, but also vice versa through bottom-up governance mechanisms. To be sure, there is no silver bullet solution to 'solve' human mobility issues related to climate change, but rather institutions with influence and/or interest should be able to choose from an array

[9] According to Mary Robinson, climate justice "insists on a shift from a discourse on greenhouse gases and melting ice caps into a civil rights movement with the people and communities most vulnerable to climate impacts at its heart," https://www.un.org/sustainabledevelopment/blog/2019/05/climate-justice/

of options such as adapting existing protection mechanisms (e.g. Guiding Principles on Internal Displacement) and migration channels (e.g. bilateral mobility agreements, humanitarian visas), and strategies may combine in order to facilitate adaptive and beneficial migration, while seeking to limit forced displacement and adverse consequences of migration.

Conclusion

Since the late 2000s, mobility related to climate change and disasters has attracted increased attention in public and policy debates. Inflated figures and projections continue to dominate these debates, often at the expense of the empirical realities of these mobility patterns. Climate change and disasters remain often presented as giving ground to a new category of mobility, which misrepresents the deep interactions and influences of environmental factors with other drivers of mobility.

In a context of gradual impacts of climate change, displacement is often a survival response, while migration can be an adaptation strategy. Both migrants and displaced people however should be considered as agents with capacities and resilience, but also potential needs for external assistance and protection. On the other hand, voluntary, informed and dignified migration may provide an important option to adapt and enable resilience to climate and environmental changes.

The ever-increasing salience and politicization of both climate change and migration in public debates has progressively led to the formulation of policy solutions that seek to address a variety of climate mobility patterns and protection needs faced by people threatened by the adverse effects of climate change. Such instruments have emerged at multiple levels (whether international, regional, national or sub-national) interact with multiple policy domains (migration and adaptation primarily, but also sustainable development, disaster risk reduction and humanitarian action, amongst others). The governance of climate-induced mobility is therefore highly complex and calls for greater policy coherence**.** At the international level, a number of processes have demonstrated such commitment towards more comprehensive and multi-dimensional approaches to human mobility. This is the case of the Nansen Initiative's Agenda for the Protection of Cross-Border Displaced Persons in the Context of Disasters and Climate Change, endorsed in 2015, which paved the way for the establishment of the Platform on Disaster Displacement one year later; and of the creation in 2015, within the UNFCCC climate negotiations, of a Task Force on Displacement, mandated with helping Member States develop recommendations and "integrated approaches to avert, minimize and address displacement related to the adverse impacts of climate change". The adoption of the Global Compact for Safe, Orderly and Regular Migration and of the Global Compact on Refugees in December 2018 marks another important milestone. Climate-induced mobility being highly context-dependent, policy advances at the regional, national and sub-national levels are equally important. Instruments that have sought to increase the protection of people moving in the context of climate change and disasters at the regional level include the 1984 Cartagena Declaration on Refugees, the AU Kampala Convention and the 2020 IGAD Free Movement Protocol. Good practices at the national level include the implementation of humanitarian protection measures resulting either in admitting cross-border disaster displaced persons into their territory, allowing them to stay in their territory and/or in preventing their return to their place of origin, as well as the integration of migration considerations into national adaptation plans.

In the future, such policy frameworks will need to be reinforced, but also expanded to address new challenges. Internal mobility and urban displacement are expected to increase significantly, which will bring upon new challenges for cities, especially in the global South. More attention will also need to be given to immobility: people with limited freedom of movement, or the ability, resources and support needed to move out of harm's way, will be equally or even more vulnerable than those who have to relocate. As such relocation processes will be increasingly organised by governments, developing protection frameworks is a crucial task ahead, for which UNHCR can play a pivotal role, in collaboration with other international organisations, national and local authorities, and civil society. The patterns and amplitude of mobility related to climate change and disasters will also depend, to a great extent, on the legal and policy frameworks that will be designed and implemented in the coming years.

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