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# Addressing Climate Migration

## A Review of National Policy Approaches

One of the most consequential human responses to climate change is and will continue to be the mass movement of people. Estimates of the extent of this migration vary widely, ranging from tens of millions to about 1 billion people by 2050 (Gemenne, 2011); a widely cited, mid-range estimate is 200 million (Laczko and Aghazarm, 2009). But what is clear is that, as the environmental impacts of climate change increase in scope and severity, more and more people will move to new places to preserve or enhance their lives and livelihoods. They may be reacting to rapid-onset shocks, such as extreme storms, or slow-onset and gradual stressors, such as drought or heat. As individuals, families, and entire communities facing the fallout of a changing climate decide to relocate, it will transform the human geography of the planet. Some places that are thriving population centers today could become entirely uninhabitable. Other places, though not rendered unlivable, will be unable to support the number of people that currently live there without hardship. Still other places may become *better* suited for large-scale human settlement.

The physical impacts of climate change may make some amount of human migration necessary, but how much mass movement occurs and whether it leads to mass suffering are, to a large degree, up to policymakers. Impacts on households and communities are not inevitable. Instead, decisions about economics, politics, the

natural and built environment, public services, and other issues will determine whether and how people cope with the effects of climate change (Wisner et al., 2004). In other words, policies shape populations' ability to manage the risks related to climate change; in particular, policies can influence people's exposure to climate-related hazards,

## Key Insights

- Climate change is contributing to human mobility. But because migration stems from a combination of factors, estimates of how many people will be displaced because of environmental changes by 2050 vary widely, from 25 million to about 1 billion.
- Most climate migration happens within rather than across national borders. The nation-state will be the primary entity managing climate migration and therefore will bear the most responsibility for policymaking, but multilateral organizations could play a larger role in transnational climate migration policy.
- This projected surge in migration could result in positive or negative outcomes for migrants and their host communities and countries. Government policies related to housing, jobs, health care, and other issues will play a large role in determining these outcomes.
- We established a definition of climate mobility from the existing literature and used insights from that literature to define climate mobility policy, which has lacked a widely accepted meaning.
- The reasons that states enact climate mobility policies fall into five categories: security and rule of law, rights, development, preservation of customs and cultures, and resilience. These reasons can reinforce each other but can also lead to conflicting policies. We refer to these five categories as policy frames.
- We also identified that countries are enacting climate mobility policies in five categories: mobility control, social protection, built environment and physical adaptation, government reform, and planned relocation. Although there is no single recipe for climate mobility policy, it is important for governments to consider the full set of needs of climate migrants and their host communities when making policy decisions. These five categories could serve as a menu of options for states making climate mobility policy or as a checklist of issues to not neglect.
- A climate mobility strategy can have valuable forcing functions (i.e., catalysts for change) that call attention to such issues as the human rights of migrants, national security, and the need to reinforce the resilience of precarious communities or pillars of cultural heritage. But the impact of climate change on a population is dependent on and influenced by broader policies. Thus, we do not recommend that every country have a comprehensive, national climate mobility strategy. Instead, we recommend that countries integrate climate mobility considerations into a variety of other policies and adopt climate-specific policies where necessary.

access to mitigation strategies, vulnerabilities, and ability to move safely and with dignity if necessary.

At the international level, global governance institutions, such as the United Nations Framework Convention on Climate Change, the International Organization for Migration, and the United Nations High Commissioner for Refugees, have begun to address the causes and consequences of climate migration.<sup>1</sup> These multilateral organizations have raised climate migration as an emerging global priority; committed resources and personnel to work on it; convened stakeholders; and developed frameworks, guidance, and recommendations for some of the many policy questions that arise from the issue. Examples of these efforts are the explicit mention of climate migration in the United Nations' Global Compact for Safe, Orderly and Regular Migration (United Nations General Assembly, 2018) and the 2019 United Nations Human Rights Committee decisions regarding the effects of climate change as a factor in determining migrants' rights (Le Moli, 2020).

But the center of gravity for policymaking remains with nation-states. National governments are the central actor in climate migration policy for two reasons. First, although transnational climate migration—such as migration from sub-Saharan Africa to Europe, from Latin America to the United States, and from Somalia to Kenya—is an issue, most climate migrants are expected to move within their home countries, be it from a rural area to a city, from a coastal zone inland, or from one neighborhood to another within a city (Kaczan and Orgill-Meyer, 2020; Rigaud et al., 2018). Moving elsewhere in one's own country is often the easiest route because it tends to be cheaper and avoids the legal barriers of international migration, such as visas. As suggested in the

United Nations' Guiding Principles on Internal Displacement, "National authorities have the primary duty and responsibility to provide protection and humanitarian assistance to internally displaced persons within their jurisdiction" (United Nations Office for the Coordination of Humanitarian Affairs, 2004, Principle 3).

Second, even when people do cross international boundaries because of the impacts of climate change, they remain subject to the laws and policies of sovereign nation-states. The power to decide who can and cannot enter and remain on national territory is something that states guard zealously (Andreas, 2003). As the 2018 Global Compact for Safe, Orderly and Regular Migration reaffirms, it is "the sovereign right of States to determine their national migration policy and their prerogative to govern migration within their jurisdiction, in conformity with international law" (United Nations General Assembly, 2018, para. 15). And one circumstance in which states have given up *some* control—via their commitments, under the 1951 Refugee Convention, to not send groups of people back to countries where they will face harm—does not apply to people fleeing the harms of climate change. New treaties or agreements could be developed for climate migrants, but without such treaties currently, people who move internally or across a border because of climate change are subject to the laws of their destination state.

Considering this reality, as well as previous research's focus on the normative, legal, and definitional challenges of the global governance of climate-induced migration, we provide a framework for understanding how nation-states are developing policies to respond to climate migration. This is very much a policy arena in formation. To date, states have followed diverse and divergent paths—

reflecting, in part, a variety of environmental impacts, capabilities, resources, cultures, framings, and social contracts.

In the multi-case analysis described in this paper, we explore climate migration and related policy in six countries: Bangladesh, Kiribati, Kenya, Norway, the United States, and Vanuatu. Each country has different means and faces different climate pressures. Thus, by evaluating these case studies, we identify a variety of policies and programs

that governments are undertaking to prepare for, enable, channel, assist, or prevent the climate-induced human movement that is already ongoing in some places and is expected to increase significantly in both number and geographic scope in the coming decades. We use this analysis to identify the reasons that states pursue policies related to climate migration. We also identify categories of policy responses that countries are enacting. For more details about our study approach, see the box below.

## Approach

This study relied on three research methods.

**Literature review.** We started with a broad review of the academic literature to assess linkages between climate migration and policy interventions. The literature on climate migration does not fall under a single discipline; instead, it involves contributions from both broader and more-specialized fields, such as political science, international relations, law, sociology, geography, environmental science, and disaster studies. Our review was guided by a snowball sampling approach that began by consulting subject-matter experts to identify relevant texts. We then reviewed those texts to identify other academic studies and articles on the topic.

**Discussions with experts.** In addition to reviewing the literature, we held 13 focused discussions with climate migration experts, as well as national and multilateral policymakers, to understand the state of the literature, review the roles of national government policy in particular instances, identify potential case studies and assess their relevance, discuss emerging themes, and identify ways in which this study could be useful for improving climate mobility policy.

**Country case studies.** To understand how policymakers implement climate migration policies, we reviewed the related national policies of six countries: Bangladesh, Kiribati, Kenya, Norway, the United States, and Vanuatu. We acknowledge that it is not possible to review all policies of every country, so we selected these six countries to demonstrate an array of policy approaches, as well as diversity in the severity and type of predicted climate impacts, the level of economic development, and geography. By *national policies*, we mean both the domestic policies enacted to support a population and relevant foreign policies, which a country might use to influence climate migration outside of its borders or to engage with other countries or multilateral bodies. For each case study, we collected official government policy documents, which we supplemented with secondary sources (e.g., academic publications, reports from nongovernmental organizations, and media reports). We coded documents thematically with a coding frame developed both deductively as an outcome of the literature review and inductively from our reading of the policies.

We hope that building an understanding of what national governments have done can both provide options for other governments that will face these issues and show where gaps exist in their responses. These findings can provide policymakers with high-level options when considering the broad needs of climate migrants and their host communities and when designing their own policies.

## What Is Climate Migration?

Defining climate migration can be a challenging task but is necessary for policymakers. In the public imagination, climate migration results from catastrophic upheavals, such as rising seas flooding homes, that send desperate people fleeing for their lives. But this is only one part of a wider and more complex story. Climate-induced migration can take many forms across many geographic and time scales, reflecting a spectrum of felt urgency. In general, however, climate change is making some places less safe and amenable to live in, prompting inhabitants to move elsewhere. This is part of a longer trend in human history, in which environmental stresses have often prompted movement (Hunter, Luna, and Norton, 2015; McLeman, 2013). From prehistoric migrations, such as the one across the Bering Strait (Fagan, 2004), to more-recent events, such as the mass migration from North America's Great Plains in response to the Dust Bowl of the 1930s (McLeman and Smit, 2006), both abrupt and long-term shifts in the climate have affected human settlement and migration patterns. As climate change impacts intensify—for example, through sea level rise; drought; and more-extreme weather events, such as storms and heat waves—human mobility is once again expected to intensify (Adger et al., 2014, Chap-

ter 12; Hauer, Evans, and Mishra, 2016; Hauer et al., 2020; Masson-Delmotte et al., 2018, pp. 244–245; Rigaud et al., 2018; Robinson, Dilkina, and Moreno-Cruz, 2020).

But the relationship between climate change and migration is not straightforward. Migration in any context is a product of many interacting factors—including economic, social, political, demographic, cultural, and environmental conditions (Black et al., 2011; McLeman, 2013; UK Government Office for Science, 2011)—and climate change can affect each of those factors directly or indirectly. For instance, climate change influences long-term weather patterns, resulting in changing environmental conditions across different geographic areas. In turn, these changes can shape the viability of economic production that depends on the environment (e.g., agriculture) and the localized and broader economies that rely on those

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resources. The Sahel region offers a concrete example of this point: There, a changing climate is creating shorter rainy seasons and longer dry seasons, which is reducing grassland vegetation growth and altering the local pastoralist livelihood structures and the larger economic systems (World Bank, 2020). As livelihoods are increasingly stressed, the resources needed for people to remain in the region are growing larger than the resources needed to leave, prompting greater seasonal and permanent migration and creating an imbalance with deep equity concerns. These social and economic impacts of drought can be tempered—or exacerbated—by the natural management techniques in place and by early-warning and early-action drought response systems (Fitzgibbon and Crosskey, 2013; Mortimore, 2010).

In addition, there may be specific obstacles and facilitators of migration, such as legal frameworks, government policies, social networks, and personal and household characteristics and resources. For example, when considering migration, residents might consider the health care, education, jobs, and environmental resources that they can access at home and elsewhere, as well as the communities with which they are connected. Indeed, even drastic environmental change does not lead unequivocally to migration if households or populations do not have the resources necessary to move away from negative climate impacts (UK Government Office for Science, 2011). Alternatively, potential migrants might decide to remain where they are if they have the right resources to endure change and not just survive but thrive. People’s circumstances are what creates their vulnerability to climate-related hazards and can place them in positions of peril, but those circumstances can also give people the capacity to adapt and thrive in the face of

adversity (Wisner et al., 2004). Finally, mobility has been a common response to environmental variability throughout human history. Whether it is seasonal migration or a broader shift to adapt to a changing climate, this form of mobility is not new, even if it is becoming increasingly common and notable. Migration, in this sense, is a form of adaptation (Black et al., 2011).

As a result of this complicated relationship between climate change and migration, climate migration is very hard to quantify and differentiate from other forms of migration (Adger et al., 2014, p. 768; Boas et al., 2019, p. 902; Kelman, 2019; Mayer, 2016). These conceptual and methodological difficulties are partly what has led to the wide array of estimates of environmentally displaced migrants noted earlier, and some experts even recommend against trying to provide a count (Associated Press, 2020; Bernstein and Hay, 2020; Crepelle, 2018; Kelman, 2019; UK Government Office for Science, 2011; U.S. Census Bureau, 2021). On a more human level, many migrants whom some experts classify as climate migrants do not see themselves as such and instead classify themselves as other forms of migrants. For instance, residents of Tuvalu, a country frequently labeled as being home to some of the first climate migrants, push back against being called climate migrants. Instead, they describe their migration as linked to historic patterns derived from long-standing migration-related practices (Farbotko and Lazrus, 2012). In the box on the next page, we offer three additional examples of populations that some would classify as climate migrants and some would not.

In the literature, definitions of *climate migration* are still being developed; although this is not a new issue, it is newly studied because of its growing prevalence. Climate

### **Three Examples of U.S. Climate Migration That Illustrate the Difficulty in Defining Who Is and Is Not a Climate Migrant**

In each of the following examples, the individuals or communities involved could reasonably be classified as climate migrants. And yet, as each example shows, there are confounding factors that make it difficult to separate climate change impacts and mobility from other challenges not related to climate change.

**Sea level rise–related migration: Relocation of Isle de Jean Charles, Louisiana.** Many places in the United States, as across the world, are expected to become uninhabitable because of sea level rise directly associated with climate change. For example, residents of the Isle de Jean Charles in the Gulf Coast region of Louisiana struggled with rising sea levels for decades before efforts began to resettle the tribal community that lives there. Formal resettlement efforts are ongoing, but some of the community has already left. The media and others have described the community as the first climate migrants in the United States (see, for example, Crepelle, 2018; Davenport and Robertson, 2016). But the sea level rise in Isle de Jean Charles is not related solely to climate change. Rather, the sea level rise results from a combination of climate change and environmental degradation, such as the destruction of wetlands associated with activity by the U.S. Army Corps of Engineers and the Gulf of Mexico’s petrochemical industry, as well as a lack of investment in mitigation.

**Climate hazard–related migration: 2020 Oregon wildfires.** Climate change is increasing the intensity and frequency of many climate-related hazards, and populations that migrate after these hazards occur could be classified as climate migrants. For example, in 2020 in Oregon, 40,000 people temporarily evacuated in response to wildfires. The fires also destroyed five towns, prompting longer-term migration. Although climate change can increase the intensity of wildfires and other climate hazards, such events are also a product of natural resource management and other social structures that influence the way that the built environment is managed.

**Economic-related migration: Truckee, California’s shrinking ski season.** The city of Truckee is a winter tourism hub on the northern California side of Lake Tahoe. The ski industry contributed hundreds of thousands of jobs and nearly \$1.4 billion to California’s economy in 2009–2010 (much of that money is focused on the northern Sierra Nevada mountains around Truckee), as well as about \$82 million to nearby Nevada’s economy (Burakowski and Magnusson, 2012, Table 4). Climate changes are forecasted to decrease the number of cold days—defined as those with temperatures below 32 degrees Fahrenheit—by 80 percent by the end of the 21st century, to a total of just 20 days per year on average (McCusker and Hess, 2018). These shifts will place obvious economic pressure on Truckee and the neighboring metropolitan areas of Sacramento and Reno that could lead to economically driven migration by both seasonal and permanent residents.

migration differs from such popular terms as *climate refugee*, which calls attention to only certain forms of movement and thus neglects the complexities present when circumstances force people to stay in affected places. That term also typically misuses the legal category of *refugee*, which focuses on the threat of persecution and has an internationally agreed upon definition from the 1951 Refugee Convention (United Nations High Commissioner for Refugees, 2010).<sup>2</sup>

Although a single definition of climate migration is elusive, many scholars have focused on categories of movement that constitute the category. For example, some scholars have developed definitions that focus on the *causes* of migration. Walter Kälin (2010), for instance, identifies climate migration as migration caused by sudden-onset disasters, slow-onset environmental degradation, the submergence of small island countries because of rising sea levels, planned evacuation from high-risk areas, and unrest or armed conflict resulting from climate-induced resource shortages. Benoît Mayer (2016, pp. 15–16) suggests adding four more categories of causes or motivations to this definition: new economic opportunities created by positive

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We adopt the term *climate mobility* to describe the intersection of human movement and climate change.

impacts of climate change, development projects related to climate change mitigation, economic incentives related to action on climate change mitigation, and the influx of climate migrants to their home area.

Other scholars address the *nature* of the movement. The United Nations Framework Convention on Climate Change’s 2010 Cancun Adaptation Framework, the first international climate agreement to mention migration related to climate change, presents three categories of the nature of movement induced by climate change: displacement (when people are forced to leave because of disasters related to climate change), migration (when people leave because of the broader and slower impacts of climate change), and planned relocation (when some central authority, such as a state, makes efforts to relocate people) (United Nations Framework Convention on Climate Change, 2011, para. 14(f); see also Warner et al., 2013). In these definitional debates, Jane McAdam (2012, p. 17) points to whether the movement is voluntary or involuntary; whether the trigger is a rapid-onset disaster or a slow-onset climatic process; whether the movement is internal or international; whether there are political reasons to connect the movement to climate change; and the role of human intentionality, such as discrimination, in driving or aggravating the movement.

Rather than attempt to circumscribe precisely what climate migration includes or excludes, we follow recent scholarship (Baldwin, Fröhlich, and Rothe, 2019; Boas et al., 2019; Wiegel, Boas, and Warner, 2019) and adopt the term *climate mobility* to describe the intersection of human movement and climate change. The term’s breadth highlights the range of mobile individuals’ and populations’ many **timelines** (from temporary flight and seasonal

departure to permanent relocation), **geographies** (from just up the hill to another country altogether), and **motivations** (from desperate escape to hopeful opportunity-seeking). As noted earlier, one mobility decision is immobility, which can be a deliberate choice or can result from people being unable to move because of government policies (see next section) or a lack of resources. Climate mobility is therefore a more expansive concept than climate migration and climate displacement, which are generally understood to refer to movement that is voluntary or forced, respectively, as well as unidirectional and permanent. Using the term *climate mobility* also acknowledges that examining the related impacts requires more than examining just migration flows; equitable climate mobility policies must focus on both people with the privilege to remain behind in stressed areas and those whose lack of resources prevents them from moving. Expansiveness notwithstanding, analyzing climate mobility provides sufficient boundaries to be useful in discussing what constitutes climate mobility policy.

## What Is Climate Mobility Policy?

Just as there are many motivations for climate mobility, there are many possible outcomes for the people who move—or don't. Whether climate mobility is beneficial or harmful is largely a matter of public policy (Warner, 2010, p. 8). As a United Nations University report concludes, decisions by policymakers “will influence the extent to which the mobility of future generations improves welfare or accelerates a downward spiral of deteriorating human security in the long-term” (Warner et al., 2013, p. 8). But what is climate mobility policy? As with defining climate mobility, defining climate mobility policy is not a straightforward task.

In a broad conception, climate mobility policy remains difficult to distinguish from its neighbors migration policy, climate change policy, and environmental policy.<sup>3</sup> For instance, climate change mitigation measures affect climate mobility, but should all mitigation policies count as climate mobility policy? Likewise, because general immigration policy shapes the prospects of potential climate migrants, should overall immigration policy count? If the category of climate mobility policy is too broad, it likely will become difficult for policymakers to target appropriate responses. But if the category of climate mobility policy is too narrow, it likely will exclude some of the key drivers, obstacles, and barriers that affect climate mobility outcomes. Still, whether one is using a broad conception or a narrow conception, what gets officially labeled as climate mobility policy is often a political decision, and different perspectives may include or exclude the same policy measure.

In this paper, we define *climate mobility policy* as the official government laws, regulations, and directives designed to shape the mobility actions and outcomes of people affected by climate change. This definition includes some policies that do not explicitly adopt the terminology of climate migration, such as international development support provided to low- and middle-income states with the effect of boosting resilience, but excludes policies that are not to a reasonable degree aimed at climate mobility, such as automobile emission standards designed to reduce greenhouse gas emissions associated with climate change. Nevertheless, these excluded policies may still have an important impact on climate mobility outcomes. In the next section, we explore what climate mobility policy looks like in six countries.

## Comparing Climate Mobility Policies in Six Countries

To facilitate a broad, multi-case analysis, we chose six countries representing a diverse set of geographic regions, income levels, climate risk factors, and levels of effort in national and international climate mobility governance (Table 1). Examining countries with varying projected climate impacts and approaches to climate mobility policy can shed light on the variety of climate mobility policies that governments around the world are implementing. We kept those impacts and policy approaches in mind when we chose the six countries:

1. **Bangladesh** faces numerous severe climate impacts, including sea level rise, coastal erosion, water shortages, cyclones, and floods. These climate impacts compound already pervasive poverty, leading many analysts to see Bangladesh as a hotspot of climate mobility. In 2015, the government of Bangladesh published its National Strategy on the Management of Disaster and Climate Induced Internal Displacement (Siddiqui, Islam, and Akhter, 2015).
2. **Kenya**, where a large segment of the population depends on rain-fed agriculture, is expected to face rising temperatures and alternating periods of drought and flooding. Kenya has several policies that touch on climate migration. Notably, such policies as the 2010 National Climate Change Response Strategy and the 2013 National Climate Change Action Plan articulate how Kenya will address many aspects of climate change, including related migration (Government of Kenya, 2010; Republic of Kenya, 2013). Kenya also engages in regional and

international efforts related to climate change and migration, such as the African Union Commission's Migration Policy Framework for Africa (2018–2030) (African Union Commission, 2018), a policy framework for managing migration across Africa, including migration related to climate change.

3. **Kiribati** comprises 32 atolls in the Pacific Ocean, most of which are no higher than three meters above sea level. Rising sea levels and storms have put significant pressure on the population to move to higher ground, but the country simply does not have any higher ground. As a result, Kiribati is often seen as the poster child for international climate migration and has gained international attention with its Migration with Dignity policy, a nationwide relocation strategy (McNamara, 2015). However, many I-Kiribati reject this narrative (Farbotko and Lazrus, 2012).
4. **Norway** is projected to experience relatively mild effects from climate change (Gahre, 2011), but the country faces internal migration pressures as a result of climate change effects on reindeer-herding and other livelihoods practiced by the indigenous Saami peoples and other groups (Kelman and Næss, 2019). We chose to examine policies in Norway because it is generally a leader on climate change and international development. In 2011, Norway and Switzerland founded the Nansen Initiative, a government-led effort to provide international guidance on climate- and disaster-driven displacement. Norway also allows open travel within the European Union and other participating nations and has been taking refugees and other migrants from the Middle

TABLE 1  
Six Case Study Countries and Climate Migration Impacts

Country	Region	Income Classification	Climate Impacts That Could Potentially Shape Migration	Country Ranking on Vulnerability and Readiness to Adapt (1 = best; 182 = worst)	World Risk Index Classifications	National Climate Mobility Strategy?
Bangladesh	South Asia	Lower-middle	Sea level rise, coastal erosion, flooding, water shortage, cyclones (U.S. Agency for International Development, 2018a)	163	Very high	Yes
Kenya	Sub-Saharan Africa	Lower-middle	Extreme heat, drought, floods (U.S. Agency for International Development, 2018b)	148	High	No
Kiribati	Pacific Islands	Lower-middle	Sea level rise (McNamara, 2015)	Data unavailable to determine ranking	Very high	No
Norway	Europe	High	Warming, changing rain and snow patterns (Norwegian Ministry of Finance, 2018)	1	Very low	No
United States	North America	High	Extreme heat, flooding, drought, sea level rise (Reidmiller et al., 2017)	19	Low	No
Vanuatu	Pacific Islands	Lower-middle	Sea level rise, drought, flooding (Government of the Republic of Vanuatu, 2015)	132	Very high	Yes

SOURCES: Income classifications are from World Bank, undated; the country rankings on vulnerability and readiness to adapt are from Notre Dame Global Adaptation Initiative, undated (2019 Country Index scores); the World Risk Index classifications are from Behlert et al., 2020. The climate impacts are from the sources identified in the table.

East and sub-Saharan Africa, some of whom are leaving climate-affected regions (Parveen, 2020).

5. Across its large land mass and population, the **United States** faces a diverse array of climate change impacts, including hurricanes and flooding near the Gulf of Mexico, wildfires in the West, and sea level

rise on the coasts. Some parts of the United States will experience severe and negative consequences from climate change, while others will likely benefit from the changes. The country has few direct climate change policies but is piloting climate change relocation projects in Isle de Jean Charles, Louisi-

ana, and is working to incorporate issues of climate migration across its foreign aid programs. Furthermore, through its individual assistance and home buyout programs, the Federal Emergency Management Agency helps households relocate from high-risk to low-risk areas and recover after disaster.

6. **Vanuatu** sits on more than 80 low-lying islands in the Pacific Ocean and is exposed to many climate impacts, including sea level rise, cyclones, and droughts (Petz and Ginnetti, 2013, p. 16). Much of the country's population is expected to face migration pressure. In 2018, Vanuatu published its National Policy on Climate Change and Disaster-Induced Displacement (Government of the Republic of Vanuatu, 2018).

## Categories of Climate Mobility Policy Frames

In our analysis of the six case study countries, we identified various reasons that the countries stated for pursuing climate mobility policies. We grouped these reasons into the following five categories, which we refer to as *policy frames*:

- **Security and rule of law.** Policies that serve this goal focus on reducing the threat that climate migration poses to urban life and national security.
- **Rights.** Policies in this category are designed to mitigate impacts of climate migration that compromise the rights of climate migrants and the populations they interact with.
- **Development.** Policies in this frame focus on promoting economic, social, and political development

in light of the existing and potential impacts of climate migration on development.

- **Preservation of customs and cultures.** These policies are centered on the need to sustain the unique shared norms, values, and traditions of a group that is migrating or receiving migrants as a result of climate change.
- **Resilience.** Resilience-based policies focus on adjusting systems of governance to make them more responsive to the unpredictable changes that climate migration might bring.

Not every country that we studied sought to work within every frame. In addition, we did not attempt to make judgments about the effectiveness of these frames or the policies therein. In this section, we focus on the reasons that countries enact climate mobility policies; later in this paper, we describe the policy responses themselves in more detail.

Although the frames that we identified are conceptually distinct, multiple frames could be addressed within a single set of policy responses. For instance, the government of Kenya cited both security and development as rationales for its climate migration policies: The country's National Climate Change Response Strategy states that large influxes of climate migrants could create conflicts, affect the safety and security of Kenya's cities, and inhibit sustainable development (Government of Kenya, 2010). The climate mobility policies enacted by all of the other countries that we examined also spanned multiple policy frames. Furthermore, in all case studies, the policy frames being used reflected broader goals within the country, which suggests that addressing climate mobility is often filtered through other issues. For instance, a policy designed

to facilitate migrants' smooth integration into welcoming host communities also could be framed as an initiative to promote economic development or to reform economic immigration systems.

## Security and Rule of Law

The security and rule of law policy frame refers to policies rooted in protecting a city or country from the threat that climate migrants might pose to the stability and safety of urban life and national security. In particular, these policies consider that an influx of climate migrants to a given area might strain public services or jobs, compromise livability, increase crime, or otherwise threaten stability—what Bettini (2013) describes as “apocalyptic” narratives of “climate barbarians at the gates” (Boas et al., 2019, pp. 901–903; Eroukhmanoff, 2017; Oels, 2012; Scott, 2012; Trombetta, 2014). For instance, according to U.S. government policy documents, climate change could exacerbate disasters that could “result in increased intra- and inter-state migration and generate other negative effects on human security” (U.S. Department of Defense, 2015, p. 4). For the U.S. government, climate-driven mass migration could also present challenges for “ensuring the stability of regions abroad, creating environments ripe for terrorist activity” (White House, 2015, p. 9).

In the national security context, the exodus of a community from a given country presents a fundamental challenge to the state because of that community's departure or absence. In its National Labour Migration Policy, the government of Kiribati states that, if left unchecked, the impacts of climate change will “result in unavoidable migration from Kiribati, threatening its future existence as

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a nation” (Government of Kiribati, 2014, p. 12). This framing focuses on the threats, not the benefits, that climate mobility brings to security.

## Rights

Rights-based climate mobility policies focus on individuals and how a changing climate compromises their rights, such as those related to life, economic development, and freedom from harm. Similar to rights-based approaches for other issues (Cornwall and Nyamu-Musembi, 2004), a rights-based approach to climate mobility argues that states and communities have an obligation to provide certain basic protections. For instance, the government of Bangladesh designed its National Strategy on the

Management of Disaster and Climate Induced Internal Displacement to facilitate broader rights. The policy states that Bangladesh “recognizes that displacements have grave implications for the rights and entitlements of individuals and communities who experience displacement” and argues that a “Rights-based approach (RBA), thus, provides necessary standards for risk reducing interventions, humanitarian assistance and search for durable solutions to displacements” (Siddiqui, Islam, and Akhter, 2015, pp. 5, 10). In its National Policy on Climate Change and Disaster-Induced Displacement, Vanuatu similarly includes rights-based policies. When outlining the guiding principles of its national policy, the document describes the principle of human rights and dignity as follows:

All people have the right to safety, protection, dignity, health and well-being, freedom from discrimination of any kind, and many other rights as reflected in Vanuatu’s People’s Plan 2030. All efforts should be made to ensure these rights are extended to people affected by displacement, including internal migrants and host communities. (Government of the Republic of Vanuatu, 2018, p. 17)

In Vanuatu’s case, rights also pertain to decisionmaking authorities, as “all people affected by displacement have the right to make voluntary and informed choices about which durable solutions options are the most suitable for them, and have the right to participate meaningfully in the planning and decision-making processes” related to those solutions (p. 16).

## Development

Policies in the development category are aimed at maintaining or advancing social, political, and economic growth for migrants, host and home communities, and the countries overall. The language is often aligned with sustainable development. For instance, in its National Strategy on the Management of Disaster and Climate Induced Internal Displacement, the government of Bangladesh describes the strategy as part of

a wider umbrella incorporating the Government’s poverty reduction strategy and strategies on education, health, nutrition, population, sanitation and water supply, financial inclusion, women and gender empowerment, social inclusion of ethnic and religious minorities, environmental protection, climate change management, disaster management, social security and overall sustainable development. (Siddiqui, Islam and Akhter, 2015, p. 9)

Likewise, much as the impacts of climate mobility are cross-cutting, so too are the mitigation policies. Making a country “climate resilient,” as the government of Kenya put it in 2013’s National Climate Change Action Plan, requires wide-ranging processes that cut across sectors, including agriculture, water, energy, and infrastructure (Republic of Kenya, 2013, pp. 16, 95). As in the security and rule of law category, these types of policies consider that climate mobility could compromise previous development gains or hamper the future gains of climate migrants and host populations.

Some of our other case study countries share this sustainable development focus in their foreign affairs

efforts. In its Common Responsibility for Common Future national development policy, Norway focuses international aid on both reducing the impacts of climate change and “strengthen[ing] the capacity of host and transit countries to deal with mass migration” (Norwegian Ministry of Foreign Affairs, 2016). Norway pursues these efforts through, for example, partnerships with United Nations members and grants funded through the Norwegian Agency for Development Cooperation, part of Norway’s Ministry of Foreign Affairs. Similarly, a 2019 U.S. Government Accountability Office report on agencies that address climate change’s potential impacts on global migration found that, although the Department of State, Department of Defense, U.S. Agency for International Development, and other government agencies are involved with funding international aid aimed at mitigating these impacts, they fail to focus on the link between climate change and migration and instead view this work through a development frame (U.S. Government Accountability Office, 2019).

## Preservation of Customs and Cultures

Policies in the preservation of customs and cultures category speak to a need to sustain the unique shared norms, values, and traditions of a group. Many of these policies are tied to ideas of indigenouness and emphasize that indigenous groups have special place-based attachments and culturally specific relations to their locations that climate change is threatening. For instance, in the United States, the Department of Housing and Urban Development has funded plans to relocate residents of the Isle de Jean Charles, and a related document describes the relocation of “people of predominantly tribal ancestry” from where

they “once hunted, trapped, grazed animals and farmed” (Louisiana Office of Community Development, Disaster Recovery Unit, 2019, p. 2). The goal of this intervention is to relocate this population “while preserving their culture and values in a new place” (p. 2).

Most of the policies we identified in this category are focused on specific subgroups, but culture is sometimes viewed through a national lens, as climate change also can threaten a whole country. The idea of preserving a culture ties into the idea of a nation-state, in which a country might be seen as not just a territory with a population but a territory for a certain population. Such conceptualizations are found in Vanuatu’s National Policy on Climate Change and Disaster-Induced Displacement, which articulates that “custom, culture and community are embodied in the Constitution and underpin life, land and spirit in Vanuatu” (Government of the Republic of

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The idea of preserving a culture ties into the idea of a nation-state, in which a country might be seen as not just a territory with a population but a territory for a certain population.

Vanuatu, 2018, p. 17). Custom, in this context, is something critical to be preserved and a valuable resource, taking the form of “traditional knowledge” that could help “communities mitigate and cope with displacement-related impacts” (p. 17).

## Resilience

Resilience-based policies focus on adjusting governance structures and other systems to make them more responsive to the unpredictable changes that climate migration might bring. Perhaps more than any of the other policy frames, this one depicts the impacts of climate change and climate migration as difficult to adequately predict. In its respective policies, the government of Bangladesh describes internal displacement as a “complex phenomenon” (Siddiqui, Islam, and Akhter, 2015, p. 11); in Vanuatu, displacement could “have multiple causes,” and it might be “unclear whether movement is voluntary or involuntary” (Government of the Republic of Vanuatu, 2018, p. 10).

Given the difficulties in predicting the negative and positive effects of climate migration, the effects cannot be completely managed or prevented. They are instead something to be reacted to as climate migration unfolds, and one of the tools in that reaction is a resilience strategy, which emphasizes the need to adapt and transform in the face of shocks and stresses. The policies of countries in our case study frequently refer to resilience; for instance, Kenya’s National Climate Change Action Plan focuses on “building resilience through adaptive measures” (Republic of Kenya, 2013). Developing more-specific and more-holistic interventions that acknowledge complexity is also

important. For Bangladesh, this involves creating “more contextualized interventions” focused on specific bodies of people and operating across development and emergency response spheres. In Vanuatu policy, it is important “not to create an artificial dichotomy” between voluntary and involuntary forms of movement (Government of the Republic of Vanuatu, 2018, p. 10). In their policies, Bangladesh, Kenya, Kiribati, and Vanuatu all emphasize “holistic” approaches that cut across sectors and involve multiple stakeholders. Across the countries we reviewed, addressing climate mobility is the responsibility of a state. For instance, despite labeling climate change as a multi-stakeholder issue, the government of Vanuatu describes itself as having “the primary responsibility” to help people affected by displacement and “the core responsibility to protect and deliver essential services to its population, to enable community resilience to flourish” (Government of the Republic of Vanuatu, 2018, pp. 7, 17).

## Categories of Climate Mobility Policy Responses

To address climate mobility, national governments crafted various policy responses. We identified that most of these responses fall in one of five categories: mobility control, social protection, built environment and physical adaptation, government reform, and planned relocation.<sup>4</sup> Certain policies might fall into more than one category; for example, Kiribati’s National Labour Migration Policy could stand as an example of both mobility control and planned relocation. Similarly, some policies could be implemented to achieve a multitude of goals and thus fall into more than one of our policy frames. For instance, a policy response

in the built environment and physical adaptation category might be designed to enhance development and maintain security and rule of law. Many of these policy responses are

multi-faceted, just as the problems that they seek to address are multi-causal. Table 2 outlines each category of policy responses, its definition, and examples.

TABLE 2  
Policy Responses to Climate Change

Policy Response Category	Definition	Example
Mobility control	Policies related to the relationship of populations and territories	Kiribati's Intended Nationally Determined Contribution document states that it should aim to "reduce the vulnerability of Kiribati to increasing physical risks caused by climate change by establishing host country agreements to government-sponsored and self-sponsored emigration to resettle I-Kiribati overseas and assist the inevitable migration of the population." (Republic of Kiribati, 2015)  Schengen Area members and the European Union reform Frontex (the European Border and Coast Guard Agency) to better protect the area's borders against migration. (Meissner, 2017)
Social protection	Policies aimed at improving the well-being of climate-affected people; often related to livelihoods or public services	The government of Bangladesh states that it needs to "Create access of people from displacement hotspots to be recruited in large industrial sectors such as the Ready-made Garments and other manufacturing industries." (Siddiqui, Islam, and Akhter, 2015, p. 15)  The Adaptation Fund was established to "finance concrete adaptation projects and programmes" that help "vulnerable communities of developing countries" (including Bangladesh and Kenya) adapt to climate change. (Adaptation Fund, undated)
Built environment and physical adaptation	Policies that modify the physical environment to prepare for or respond to the impacts of climate change	Kenya's National Climate Change Response Strategy describes adaptation measures that have been proposed, including "proper planning of urban settlements which takes into consideration the expected high growth rate of urban population due to climate-induced migration from rural areas to urban centres." (Government of Kenya, 2010, p. 14)
Government reform	Policies aimed at changing the structure of the government to address climate mobility	In its National Policy on Climate Change and Disaster-Induced Displacement, Vanuatu notes that one strategic action is to "Establish a Department, Office, or similar institutional hub under the lead Ministry, with associated staff, expertise and resources to support policy implementation." (Government of the Republic of Vanuatu, 2018, p. 22)
Planned relocation	"An organised relocation, typically instigated, supervised and carried out by the state with the aim of reducing (usually extensive) weather and climate risks" (Wilkinson et al., 2016, p. 2)	Government of Bangladesh policy states, "In case return and local integration are not found to be suitable options, the displaced people should be resettled in safer places." (Siddiqui, Islam, and Akhter, 2015, p. 23)

## Mobility Control

Mobility control encompasses policies related to the territorial aspects of human life. These policies may result from a fundamental concern with controlling the relationship between populations and territory, including movement and settlement within or between nation-states (see Torpey, 1998; Turner, 2007). Some mobility control policies facilitate climate-induced mobility, and some restrict it. Each country determines its national legal regime for regulating international mobility and citizenship—that is, the laws that determine who can enter and remain in a country. Although most climate migrants move within their home country, the regulation of cross-border migration has been the central focus of many policy discussions, including in the United States and in Norway (Biermann and Boas, 2010; Docherty and Giannini, 2009; Matias, 2020; Nansen Initiative, 2015). Destination and transit countries can implement policies that ease or restrict cross-border entry. Likewise, they can grant or deny legal protections for residency. We found no explicit policies to ease in-migration by climate-affected people among the cases we studied, although some countries do have policies that achieve this goal implicitly.

In fact, we are not aware of any country that grants blanket protections solely on the grounds of climate change. New Zealand announced in 2017 that it was considering offering “an experimental humanitarian visa” to Pacific Islanders affected by climate change, but it dropped the plan the next year (Dempster and Ober, 2020). However, some countries, including the United States, have policies that provide temporary protection to foreign nationals who are already in the country when a disaster strikes the individuals’ home country (McAdam, 2012, pp. 100–103).

Sending countries (i.e., the countries being departed) can also craft policies that affect mobility, particularly by negotiating with other countries to secure visas to facilitate legal emigration by citizens harmed by climate change.<sup>5</sup> Kiribati’s National Labour Migration Policy, for example, states that it “aim[s] to reduce the vulnerability of Kiribati to increasing physical risks caused by climate change by establishing host country agreements to government-sponsored and self-sponsored emigration to resettle I-Kiribati overseas and assist the inevitable migration of the population” (Republic of Kiribati, 2015, p. 19). To facilitate possible international resettlement, the government of Kiribati also purchased 6,000 acres of land in Fiji that could serve as a future home for I-Kiribati (McNamara et al., 2018, p. 114). Sending countries could also set policies to restrict exit, although none of the countries we studied have done so.

Furthermore, countries can establish legal regimes that ease or restrict internal migration. Although most countries allow citizens and legal residents to live anywhere within their borders, other countries enact laws to limit internal movement and settlement, particularly movement from climate-affected rural areas to cities. National governments can also enact land-use policies—for example, by restricting or prohibiting settlement in “unprotected or highly vulnerable areas” (Siddiqui, Islam, and Akhter, 2015, p. 17). Such policies can discourage or forbid future development in uninhabited areas or can encourage or require current residents of vulnerable areas to move elsewhere. One element of the United States’ Hazard Mitigation Grant Program falls in this category: Through this program, the government can buy an individual’s property (e.g., coastal land that is prone to damage from hurricanes) and then

designate the land for non-settlement in perpetuity (Federal Emergency Management Agency, 2021). At the same time, governments can use their control over mobility to protect populations from capricious mobility policies. Bangladesh’s National Strategy on the Management of Disaster and Climate Induced Internal Displacement, for example, “prohibit[s] the arbitrary displacement of people from their home or place of habitual residence when evacuation plans are prepared, unless justified by compelling and overriding public interests” (Siddiqui, Islam, and Akhter, 2015, p. 17).

## Social Protection

Social protection policies provide benefits and services to support the welfare of people who are adversely affected by climate change and who may migrate (Organisation for Economic Co-operation and Development, 2007).<sup>6</sup> In our six case study countries, social protection policies broadly fall into two subcategories: (1) labor market and livelihood policies, which are directed at people’s ability to earn an income, and (2) service provision policies, which encompass most other government-provided social protections, such as education and health care. These policies might be designed to help a country’s own citizens or non-citizens (as part of foreign assistance to other countries), or they might be enacted in response to an acute climate change-related shock (as part of disaster or humanitarian assistance) or an ongoing stressor (as part of broader developmental activities).

Labor market or livelihood policies are frequently used by states to enhance the well-being of climate-affected people where they currently live and thus to reduce the need for migration. When a person’s livelihood has been

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or could be harmed by climate change, such policies promote alternative sources of income. For example, in its National Strategy on the Management of Disaster and Climate Induced Internal Displacement, Bangladesh promotes “livelihood diversification” among climate-affected agricultural workers and encourages crop insurance and “off-farm livelihoods and better access to social security” in order to “increase the resilience of the people vulnerable to displacement” (Siddiqui, Islam, and Akhter, 2015, pp. 14–15).

Livelihood policies can also encourage climate-vulnerable people to seek new livelihoods away from their current homes. Some countries in our case study implement policies to support such mobility and prepare citizens for and connect them to short-term and long-term

jobs found elsewhere. Bangladesh seeks to “facilitate skills trainings” for climate-affected households to help them meet “the needs of [the] international and national labour market” (Siddiqui, Islam, and Akhter, 2015, p. 15). As one example, the government, in partnership with the private sector, seeks to “create access of people from displacement hotspots to be recruited in large industrial sectors such as the Ready-made Garments (RMG) and other manufacturing industries” based in urban areas of Bangladesh (Siddiqui, Islam, and Akhter, 2015, p. 15). Small island states, however, have limited domestic options and focus more on international labor migration. In its National Labour Migration Policy, Kiribati emphasized training to help citizens “take up skilled labour migration opportunities in response to climate change threats to livelihoods at home” (Government of Kiribati, 2014, p. 8). Vanuatu’s National Policy on Climate Change and Disaster-Induced Displacement likewise seeks “to facilitate safe, well-managed international labour migration as a livelihood and adaptation option” (Government of the Republic of Vanuatu, 2018, p. 42).

The ability to earn an income away from home not only benefits the migrant but also often provides an income source, in the form of remittances, for the rest of the migrant’s household who stayed behind (de Haas, 2010). Several countries explicitly root their labor mobility policies in this dual benefit for both the individual and the household. Vanuatu’s previously mentioned international labor migration policy is designed “to assist some families . . . to diversify their incomes through international remittances” (Government of the Republic of Vanuatu, 2018, p. 42). And Bangladesh “recognize[s] income diversification through remittances as an important element of the

adaptation to climate change (Siddiqui, Islam, and Akhter, 2015, p. 15).” These activities might also occur within a country; for instance, urban residents in Bangladesh might send money to their families in rural areas.

Service provision policies, which cover targeted government benefits not specifically directed at income support, can also be designed to help people remain in their homes (or discourage them from leaving) or to enhance their mobility. The provision of services, such as health care services and social assistance programs, can increase the resilience of populations living in climate-affected areas, which may reduce their need to migrate. But the state can also use service provision policies to limit mobility options—for instance, by restricting access to schools, health care, and other public services outside of a person’s hometown or region. In the United States, the National Flood Insurance Program incentivizes homeowners to rebuild their homes rather than move outside a flood zone. The federal program does provide direct financial assistance to homeowners, but it is for home elevations, not relocation (Moore, 2017).<sup>7</sup>

Alternatively, a state can promote mobility by making social protections portable and thus allowing people to access them wherever in the country they reside (Rigaud et al., 2018, p 184; Levitt et al., 2017).<sup>8</sup> For instance, in Bangladesh, school-aged children displaced by climate are explicitly “ensure[d] the rights to education” and cannot “be denied access to a school on the grounds that they have no school records” (Siddiqui, Islam, and Akhter, 2015, p. 20). States can also prepare to accommodate future migration by ensuring that their service capacities in likely destination areas are sufficient for projected future populations.

Lastly, states prepare for climate mobilities by planning for and providing social services for people during their displacement. Humanitarian assistance during and after disasters is a prominent example of social services during climate-related evacuations. For one type of temporary migrant—evacuees—Bangladesh mentions many services, such as “access to adequate housing and shelter” and “the security and safety of the persons in displacements,” including, if needed, “special measures (e.g., 24 hour hotline numbers, special police patrols)” (Siddiqui, Islam, and Akhter, 2015, pp. 19–20). This is a domain in which donor countries, such as the United States and Norway, could use foreign aid to shape climate mobility policy. Both countries provide significant humanitarian assistance, some of which goes to help communities after climate-induced disasters, but we found no evidence of policies that direct funds specifically to climate migrants (U.S. Government Accountability Office, 2019, p. 29).<sup>9</sup>

## Built Environment and Physical Adaptation

This category of policy responses focuses on modifying the built and physical environment to prepare for or respond to the impacts of climate change on mobility. The policies in this group are aimed at public or collective goods that affect a community or region. State-led adaptation measures that are aimed at individuals or households, such as government support to raise a private home via stilts, fall under social protection policies, although they are closely related.

The countries that we examined are pursuing a variety of policies that fall into the built environment and physical adaptation category. Such policies can have major effects

on mobility in three ways. First, a country can make physical changes that make it easier for populations to remain in or return to climate-affected areas. These policies and proposals target many forms of protection (i.e., reducing climate hazards) and accommodation (i.e., “increasing capacity to cope with the hazard”; Hauer et al., 2020, p. 31), such as building coastal protection structures in Kiribati and repairing flood embankments and improving drainage systems in Bangladesh (Government of Kiribati, 2014; Siddiqui, Islam, and Akhter, 2015). In addition, in Kenya, improving water supplies in dryland regions improves resilience to drought, which can reduce drought-related migration (Eriksen and Lind, 2009). Second, a country can decide not to build or repair infrastructure or to pursue physical adaptation, thus making it more difficult for people to live in a climate-affected region and likely increasing out-migration. For example, in the United States, the failure to improve roads, protect physical infrastructure, and maintain environmental protections around Isle de Jean Charles has contributed to the area’s unsuit-

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A country can make physical changes that make it easier for populations to remain in or return to climate-affected areas.

ability for settlement (Crepelle, 2018). Third, governments can craft policies to prepare the built environment in regions that are expected to receive migrants. Kenya, for instance, calls for “proper planning of urban settlements which takes into consideration the expected high growth rate of urban population due to climate-induced migration from rural areas to urban centres” (Government of Kenya, 2010, p. 14). This will require urban planners and real-estate industry players to accordingly implement proper and adequate housing structures, waste disposal, and piped water infrastructure. And Vanuatu conducts infrastructure planning “through a displacement lens” to respond to the needs of “people moving to new locations through planned relocation, where infrastructure in new locations may be minimal” (Government of the Republic of Vanuatu, 2018, p. 40).

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Countries can direct their governing institutions to focus on collecting data about climate mobility so that policymakers can make better decisions.

## Government Reform

Government reform policies entail adjusting state institutions to prepare for or react to climate-related migration. Several of the countries that we studied made changes to their national bureaucracies in response to the issue. Vanuatu, for example, has made plans to strengthen its capacity to address climate mobility and “to provide protections for people at each stage of the displacement cycle” (Government of the Republic of Vanuatu, 2018, p. 7). This process includes clarifying the responsibilities of each relevant ministry and agency; identifying a “lead ministry to implement this policy and act as [a] focal point for all matters relating to displacement, internal migration and relocation”; and establishing “a Department, Office, or similar institutional hub under the lead Ministry, with associated staff, expertise and resources to support policy implementation” (p. 22). Yet, at the same time that aspects of its climate mobility policy are assigned to particular offices, Vanuatu is seeking to “integrate human mobility matters” across a wide variety of policy areas, particularly “climate, disaster, environment, health, education, land, housing, infrastructure planning, food and livelihoods security” (p. 18). In addition, countries can direct their governing institutions to focus on collecting data about climate mobility so that policymakers can make better decisions. Bangladesh, for instance, has directed the national census and other national surveys to ask “displacement/migration questions” and to collect data on the issue using other mechanisms (Siddiqui, Islam, and Akhter, 2015, p. 13). Finally, the very act of developing a national strategy on climate mobilities is a significant government action. Of our case study countries, Bangladesh and Vanuatu have published strategy documents (Siddiqui, Islam, and Akhter,

2015; Government of the Republic of Vanuatu, 2018); Kiribati has a developed strategy (Government of Kiribati, 2014), but it is not published in one place; and Kenya, the United States, and Norway have not developed a national strategy on the issue.

Examples also exist of cross-state cooperation on climate migration across national borders. These approaches are often set up as organizations or compacts providing non-binding guidance, which provides a way to foster cooperation while accommodating the zealous guard that states keep over their right to decide who crosses their borders (Martin, 2016). Two such state-led organizations, the Nansen Initiative and the Migrants in Countries in Crisis Initiative, follow this approach. The former, formed by Norway in partnership with Switzerland and steered by a committee that includes Bangladesh and Kenya, describes itself as a “bottom-up, state-led consultative process” focusing on addressing “the challenges of cross-border displacement in the context . . . of climate change” (Nansen Initiative, 2017). The organization works toward building consensus and not developing new legal protections or processes. Similarly, the Migrants in Countries in Crisis Initiative, which employs “non-binding and voluntary” guidelines, was formed by the United States and the Philippines as a state-led effort to address migration resulting from such crises as disasters caused by natural hazards (Migrants in Countries in Crisis, undated).

In addition to these consultative efforts, organizations administered by the Adaptation Fund—established in 2010 under the United Nations’ Kyoto Protocol (Adaptation Fund, undated)—and similar groups are examples of state-funded efforts to address climate migration as an issue of internal displacement. The Adaptation Fund typically

finances projects conducted by states or nongovernmental entities. Its website lists projects with state participants in Bangladesh (Adaptation Fund, 2019) and Kenya (Adaptation Fund, 2014), among others.

## Planned Relocation

*Planned relocation* refers to “an organised relocation, typically instigated, supervised and carried out by the state with the aim of reducing (usually extensive) weather and climate risks” (Wilkinson et al., 2016, p. 2). (For a more extensive discussion of terminology, see McAdam and Ferris, 2015.) Policies in this category are for moving an entire community—often, but not always, to the same location. If the community does not move as one to a new site, the policy is called *managed retreat*. Planned relocation includes elements of many of the other policy response categories (particularly mobility control and social protection) but merits discussion as its own category because it is generally a package deal. Furthermore, it stands as a central way that many policymakers think about addressing climate mobility. For instance, a 2020 U.S. government report limits the term *climate migration* to mean only planned relocation and managed retreat (U.S. General Accountability Office, 2020, pp. 1–2).

Carrying out a planned relocation policy is generally “an option of last resort” in the countries that we studied (Government of the Republic of Vanuatu, 2018, p. 7). It is costly and can be harmful to the affected communities, so it is to be avoided if possible. Indeed, studies of planned relocation in other contexts—such as Mozambique (Arnall et al., 2013) and Sierra Leone (Clark-Ginsberg, Blake, and Patel, 2020)—point to the difficulty of relocating in ways

that are beneficial to the population being relocated and that do not undermine that population (Hino, Field, and Mach, 2017). In some cases, however, relocation is seen as necessary to protect communities that are at risk of disappearing or that “constantly remain vulnerable to recurrent displacement” (Siddiqui, Islam, and Akhter, 2015, p. 11).

## Conclusions and Policy Implications

In this paper, we set out to analyze the variety of policy responses that countries have proposed or implemented to address climate mobility, as well as the reasons for pursuing those policies (i.e., policy frames). We identified five categories of policy responses—mobility control, social protection, built environment and physical adaptation, government reform, and planned relocation—that have been used in pursuit of five categories of policy frames—security and rule of law, rights, development, preservation of customs and cultures, and resilience. These findings can provide policymakers with a high-level menu from which to design their own policies.

In this section, we present our conclusions and policy implications from the case study analysis.

### There Is No Recipe for Climate Mobility Policy

In our review of these policies, we did not find a particular recipe that governments can use to develop their national-level climate mobility policy. Instead, it is important for governments to consider the broad needs of climate migrants and their host communities when

making policy decisions. Additionally, policymakers must focus on policies that bring humane and just outcomes for those facing climate mobility pressures. In some cases, climate change is threatening livelihoods, so a livelihood-focused climate mobility policy is important. In other cases, climate change touches on health, security, and other issues, drawing focus toward those areas. Likewise, planned relocation and government reform policies might be useful interventions across numerous contexts, but the specifics of those interventions will vary, and ensuring that migrants are protected and not further marginalized is essential. This is because the needs of climate migrants and their host communities differ based on the unique context in which they reside, which shapes their exposure and vulnerability to climate change-related hazards, as well as their capacity to adapt and thrive when facing adversity. Similarly, the governance structures needed to support these populations also vary; for instance, some countries’ disaster management departments are housed in their own ministry or agency (e.g., Bangladesh), while others are incorporated broadly into multiple departments (e.g., United States).

Thus, we do not recommend that every country have a national climate mobility policy or strategy. To be sure, a climate mobility strategy can have valuable forcing functions (i.e., catalysts for change) that call attention to other issues and ensure that they are addressed in a comprehensive way. But the impact of climate change on a population is not just a self-contained issue; rather, the impact is dependent on and influenced by broader policies. In some cases, it may be better to ensure that climate migration is not considered through a stand-alone strategy—which could potentially silo climate migration and decouple it

from broader concerns—but rather is addressed as part of other existing strategies and policy concerns.

## Climate Mobility Policies Should Address a Broad Set of Issues

Our research indicates that countries should take a broad, holistic, and integrated approach to climate mobility policy and blend climate mobility considerations into a variety of other policies. Most climate migration will happen within country borders, but the actions within those borders can also destabilize a country, creating considerations for national security. Thus, climate mobility is also a matter of foreign policy, immigration policy, and foreign assistance. Thus, our research suggests moving beyond the narrow focus of managed retreat and other forms of mobility control and toward broadened policies related to social protection, the built environment, and security that can be used collectively to foster safety and well-being for climate migrants and their host communities.

More specifically, cross-border and managed retreat policies address only part of the larger challenge of climate migration. For one, they neglect many of the other needs of people who are mobile because of climate change. By privileging asylum and housing, for example, these discussions ignore other vital policy realms, such as health, education, jobs, and long-term planning. Moreover, because most people are expected to migrate within the borders of their own country, these debates focus on policies that likely apply to only a small portion of climate-affected people. And within-country migrants often will relocate with no or minimal support from their government. In the United

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Our research suggests moving beyond the narrow focus of managed retreat and other forms of mobility control and toward broadened policies related to social protection, the built environment, and security.

States, for instance, most movement is not expected to be managed or planned by the government.

Nevertheless, countries still need to revisit policies related to managing cross-border climate migration. For instance, the current asylum system for people displaced by conflict and persecution is barely functioning as imagined. Few of the 80 million refugees and internally displaced persons fleeing conflict or persecution find durable solutions today (United Nations High Commissioner for Refugees, 2019), and the global asylum regime does not include protection for people seeking to flee the harms of climate change. The potentially millions of upcoming climate migrants may be migrating at a time when many countries

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If the human effects of climate change are as severe as the models predict, in the coming decades, climate migration will not be just an isolated policy problem; it will be an overarching condition that is intertwined with all aspects of public policy.

are experiencing a backlash to immigration in general and to asylum-seekers in particular (McLeman, 2019).

These realities mean that, in order to help the growing number of people affected by climate change who move, want to move but cannot, and should move but will not, the policy conversation should be much wider (e.g., social issues). In fact, the policy discussions should be wider than the climate mobility policies that we outline in this paper. That is because the sources of both climatic hazards and vulnerability to those hazards runs far deeper than the immediate sources of climate mobility. Policies of all sorts—from taxation and trade to urban planning and family planning—increase or decrease people’s vulnerability to climate change and help determine whether mobility will be adaptive or maladaptive. The issues at the intersection of climate change and mobility are vast. If the human effects of climate change are as severe as the models predict, in the coming decades, climate migration will not be just an isolated policy problem; it will be an overarching condition that is intertwined with all aspects of public policy.

### **More Local and International Forms of Governance Might Be Necessary**

In this analysis, we deliberately focused on the policies of national governments because most climate-induced movement is expected to be domestic and because nation-states are the primary governance institution in the world. But climate mobility policymaking happens at other levels of governance as well. At the international level, climate mobility is now a topic on the international climate policy agenda; for instance, the United Nations Framework Convention on Climate Change established a dedicated Task Force on Displacement at the ’s 21st meeting of the Conference of the Parties. And the topic is on the agenda of the global institutions that focus on migration, such as the United Nations High Commissioner for Refugees, the International Organization for Migration, and the Platform on Disaster Displacement. At the subnational level, provinces, cities, and towns are crafting policies in response to current and projected climate mobility in their jurisdictions. In fact, the local level is where the rubber really

meets the road on many of the issues that matter and where the effects are felt of policy decisions that result in housing built in floodplains, schools with too many or too few students, crops that fail too many years in a row, and other problems. Many cities are forced to address these emerging crises, to varying degrees of success. For example, the government of Houston, Texas, helped migrants from New Orleans settle there following Hurricane Katrina in 2005 (Brodie et al., 2006) but failed to manage land in ways that prevented catastrophic flooding after Hurricane Harvey in 2017 (Zhang et al., 2018).

### **Developing Sound Policy Requires Additional Research**

The multiple institutional layers of climate mobility policy raise crucial questions for future research. First, it is important to understand the variety of policies that have been tried around the world at all levels. Painting a more complete picture of these policies would require examining

the national-level policies of more countries and collecting additional data on the breadth of policies tried at the international and the subnational levels. Second, once we can describe the variety of policies, we should ask which policies work and which policies fail in achieving their goals. It is important not only to understand what has been tried but to evaluate what has been successful. Third, although nation-states are the major policymaking institution around the world today, climate mobility concerns challenge whether they should be. If climate mobility becomes the norm rather than the exception, can other types of institutions lead policy and coordination? For instance, can there be expanded roles for cities on the frontline or for other institutions, such as multinational unions, transnational consortia of local governments, and expanded multi-lateral institutions? The challenges that the global population faces from climate mobility are potentially profound, and this calls for not just better policies but, perhaps, a wider variety of policymaking institutions involved.

## Notes

<sup>1</sup> In this paper, we use *climate migration* to refer to the migration that results from the impacts of climate change. The International Organization for Migration defines the term as “the movement of a person or groups of persons who, predominantly for reasons of sudden or progressive change in the environment due to climate change, are obliged to leave their habitual place of residence, or choose to do so, either temporarily or permanently, within a State or across an international border” (International Organization for Migration, 2019, p. 31). Later in this paper, we offer more detail on our definition of this and related terms.

<sup>2</sup> There is currently no legal category of *climate refugee* in international treaties. See McAdam, 2012.

<sup>3</sup> Migration policy scholars themselves have “little consensus over the conceptually essential elements” of migration policy (Gest et al., 2014, p. 262).

<sup>4</sup> Existing typologies of policy responses tend to focus on the type of mobility that a policy seeks to address (e.g., policies for migration versus policies for displacement). Yet, in practice, it is difficult and perhaps impossible to tell different types of mobility apart. As a United Nations High Commissioner for Refugees publication notes, “voluntary and

forced movements often cannot be clearly distinguished in real life but rather constitute two poles of a continuum, with a particularly grey area in the middle, where elements of choice and coercion mingle” (Kälin, 2012, p. 95). By focusing on the type of policy intervention rather than the type of mobility, our typology avoids such confusion.

<sup>5</sup> In this section, we are focusing only on legal and diplomatic efforts to ease restrictions on travel and movement. These efforts are related to, but distinct from, policies that prepare citizens to live and work abroad, which we discuss in the next section.

<sup>6</sup> This statement draws on the Organisation for Economic Co-operation and Development (2007, Section 2)’s definition of the social protection domain.

<sup>7</sup> “This rebuilding cycle,” a Natural Resources Defense Council report concludes, “can trap people in a costly and dangerous situation and waste billions of dollars in the process” (Moore, 2017, p. 4; see also pp. 2, 8).

<sup>8</sup> Some states even provide social protections to their citizens living abroad, though we have not seen this applied specifically to climate migration. See Levitt et al., 2017.

<sup>9</sup> For instance, United States Government Accountability Office, 2019.

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## About This Perspective

One of the most consequential human responses to climate change is and will continue to be the mass movement of people. As the environmental impacts of climate change increase in scope and severity, more and more people will move to new places to preserve or enhance their lives and livelihoods. In this paper, RAND researchers provide a framework for understanding how nation-states are developing policies to respond to climate migration and mobility. They review related policies in Bangladesh, Kiribati, Kenya, Norway, the United States, and Vanuatu. These findings can provide policymakers with high-level options when considering the broad needs of climate migrants and their host communities and when designing their own policies.

This Perspective is part of a fiscal year 2020–2021 project titled Conceptualizing Climate Change Migration. It will be of interest to policymakers and researchers engaged in developing national-level policy related to climate migration and mobility.

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