

ENVIRONMENTAL CHANGE AND MIGRATION: WHAT WE KNOW

By Susan F. Martin

Executive Summary

Environmental change is likely to affect global migration flows in several ways. First, long-term trends such as increases in droughts or flooding may reduce livelihoods in certain areas, particularly those based on agriculture, causing residents of these areas to move elsewhere to support themselves. Second, competition for increasingly scarce resources may lead to a higher incidence of human conflict. And finally, rising sea levels and glacier melt may make coastal or low-lying areas uninhabitable. In the shorter term, the increased incidence of severe storms such as hurricanes or tornados will continue to damage or destroy livelihoods and cause temporary or sometimes permanent displacement. Taken alone, each of these factors may not necessarily cause displacement, but for individuals already in a vulnerable situation due to economic or other reasons, migration may be the only viable adaptation strategy to a changing environment.

In discussions on climate change, migration is often viewed as a negative outcome and something to be prevented. But migration, whether internal or international, can also serve as a strategy for mitigating the impact of climate change. Planned migration can ease the pressure on sensitive areas through the implementation of circular migration strategies or voluntary relocation, and diaspora populations can be a valuable source of additional capital or other resources to ease adaptation.

Some displacement, though, will be inevitable and those involved in developing climate adaptation, development, and immigration policies should prepare appropriate governance structures and policies now to prevent greater difficulties later. Governments that expect to receive climate migrants from other countries in the future should ensure that their immigration laws account for environmental displacement. Governments that are likely to feel the brunt of environmental change should consider migration itself as an adaptation strategy to climate change and engage those likely to be affected when developing their policy plans. Internationally, policymakers should work together to reduce vulnerability in other areas, such as susceptibility to conflict due to scarce resources or poor economic conditions; and governments and international organizations should ensure they have adequate capacity to prepare for and respond to disasters before they occur. Finally, international organizations and national governments should cooperate to exchange best practices, identify guiding principles, and build policy frameworks that will help governments develop effective policies.

I. Introduction

The environment is but one of the many reasons people migrate. Sometimes it induces migration on its own but more often it operates through other mechanisms — particularly the loss of livelihoods caused by environmental disruption.¹ Climate change may increase the likelihood of both internal and international migration through four pathways: increased drought and desertification, rising sea levels, more intense and frequent storms, and competition for scarce resources.²

Recognizing these potential impacts, parties to the United Nations Framework Convention on Climate Change (UNFCCC) adopted the Cancun Adaptation Framework in 2010, which called on all countries to take “measures to enhance understanding, coordination and cooperation with regard to climate change induced displacement, migration and planned relocation, where appropriate, at the national, regional and international levels.”³ International consideration of the interconnections between climate change adaptation and migration is still in its infancy. Given that most movements are likely to be within countries, much of the attention to date has focused legitimately on internal migration, and policymakers have paid particular attention to adaptation policies that reduce the need for individuals to move out of harm’s way, or alternatively, involve internal mobility as an adaptation strategy that allows households to cope with environmental changes. Nevertheless, some of those affected by environmental change may need to migrate internationally, based on appropriate admissions policies that

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potential destination countries will need to develop.

This brief considers how migration in response to climate change is likely to occur, the impact it will have on development, and how policymakers can effectively plan for environmental migration.

II. Implications of Climate Migration for Development

The mechanisms through which environmental change may affect movements of people have only recently received serious attention from researchers. Environmentalists have long used the term “environmental refugees” to describe those who

move largely as a result of environmental factors. Migration experts, however, are quick to point out that “refugee” is specifically defined

in international law to include only those who are unable or unwilling to return to their countries of origin because of a well-founded fear of persecution on the basis of race, religion, nationality, membership in a particular social group, or political opinion. Those who move because of environmental factors are unlikely to meet this international definition. Moreover, while environmental factors may be an important reason people seek to relocate, the environment is seldom the sole or even principal cause of migration. As a result, designating someone as an environmental migrant or refugee is problematic in focusing attention on only one of what is likely to be a complex array of causes that include economic, social, political, and demographic factors in addition to environmental ones.

A. What Will Environmental Migration Look Like?

There are four paths in particular by which environmental change may affect migration either directly or, more likely, in combination with other factors:

- **Longer-term drying trends** — the result of changing weather patterns — will affect access to water resources and will negatively impact the sustainability of a variety of environment-related livelihoods such as agriculture, forestry, and fishing. Migration has been a common response to loss of crops and persistent unemployment during prolonged drought, as witnessed by the exodus of hundreds of thousands from the US “Dust Bowl” in the 1930s.⁴ More recent examples include the migration of large parts of the population in the Suruç region of Turkey⁵ and the Western Tlaxcala region of Mexico⁶ as a result of rain-water depletion and desertification.
- **Rising sea levels**, mostly due to glacier melt, may cause massive and repeated flooding and render coastal and low-lying areas uninhabitable in the longer term. Small island states are likely to be most affected by rising sea levels. Countries such as the Maldives, Tuvalu, and Kiribati are already considering plans to relocate their populations if the surrounding seas reach dangerous levels. The massive displacement from flooding in Pakistan in 2010 and 2011 — while caused by monsoons rather than a rise in sea levels — portends future disruption in the low-lying areas of South Asia that will be affected by rising sea levels.
- **Weather-related acute natural hazards**, such as hurricanes and cyclones, are likely to increase in scale

and frequency. Such hazards already destroy infrastructure and livelihoods and require people to relocate for shorter or longer periods.⁷ Poor people in developing countries are most at risk, and as climate change intensifies these events, increasing numbers of people are likely to feel the effects. Communities in wealthy countries are not immune to these impacts, as witnessed by the evacuation of hundreds of thousands of people in the wake of Hurricanes Katrina and Sandy in the United States.

- **Competition over natural resources** may exacerbate the pressures that contribute to conflict, in turn precipitating the movement of people. Conflict will clearly make it more difficult to address the needs of climate change-affected populations, as witnessed in Somalia during the severe drought in the Horn of Africa. Only Somalia among the drought-affected areas experienced high levels of famine and displacement.

The first two scenarios are likely to cause slow-onset migration, in which people seek new homes and livelihoods over a lengthy period of time as conditions in their home communities worsen. The third and fourth scenarios are likely to create conditions that cause large-scale displacement, often in emergency situations. Hence, depending on the specific situation, migrants from environmental change may resemble labor migrants, seeking better livelihood opportunities in a new location, or they may resemble refugees and internally displaced persons who have fled situations beyond their individual control.

Vulnerability or resilience to these situations — that is, the capability to cope or adapt to them — will determine the degree to which people are forced to migrate. In other words, the level of development achieved in affected areas will be central

to determining whether environmental changes result in displacement. Moreover, the availability of alternative livelihoods or other coping capacities in the affected area generally determines the scale and form of migration that may take place.⁸ For slow-onset events, such as intensified drought and rising sea levels — as compared to acute disasters such as severe storms or human disasters such as conflict — the urgency to migrate may be less pressing since changes to the environment occur much more slowly. But if affected populations are not able to access alternative livelihoods within a reasonable timeframe, migration may become the best or only option available, even in slow-onset situations.

Generally, the efficacy of national and international policies, institutions, and humanitarian responses influence whether people are able to cope with the aftereffects of natural hazards in a manner that allows them to recover their homes and livelihoods. Even highly destructive natural hazards will not necessarily result in humanitarian crises that cause massive displacement unless those affected suffer from poor governance, inadequate response structures, or poor economic conditions. Developing countries with a large proportion of people directly involved in agriculture, herding, and fishing are particularly sensitive to environmental changes and to natural disasters. Youth in countries with high unemployment are another group likely to migrate in the face of environmental changes that further reduce economic opportunities.

Although climate migration is often depicted as the movement of vulnerable individuals from the global South to wealthy countries in the North, many

experts believe that most migration will be internal or immediate cross-border into neighboring countries.⁹ Such migration may be particularly challenging as the receiving communities and countries will likely have few resources, legal structures, or institutional capacity to respond to the needs of the migrants.

Geographical proximity may also mean that destination areas face some of the same environmental challenges as the areas of origin (e.g. drought, desertification, and storm surges). A case in point is the cross-border movement of Ban-

gladeshis into India, a longstanding phenomenon with significant roots in environmental change.¹⁰ Much of the anticipated movement is also likely to be from rural to urban areas, and understanding better the implications for

urban planning, particularly in developing countries, will be increasingly important. Many of those leaving rural areas are likely to gravitate towards cities that may themselves be under risk of significant environmental change. In each of these cases, coordination of environmental and migration policies with broader development aims will be essential for averting the negative impacts of these movements.

B. Current Policy Responses to Climate Migration

Governments are beginning to think through how to manage the implications of the interconnections among environmental change, migration, and development. The topic is important to several sets of policymakers, including those focusing on adaptation policies, development policies, urban planning, and immigration policies.

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Climate adaptation strategies related to migration fall into two major categories. First, and more commonly, governments view adaptation to climate change as a way to reduce migration pressures and allow people to remain where they are by modifying agricultural practices, management of pastoral lands, infrastructure such as dykes and coastal barriers, fishing patterns, and other strategies to reduce pressures on fragile ecosystems.¹¹ Second, governments may instead view migration as an adaptation strategy itself. Additionally, some countries see migration as a way to reduce population pressures in places with fragile ecosystems; others recognize that the resettlement of some populations may be inevitable, but should be accomplished with proper planning.¹²

Moreover, migrants already living outside of vulnerable areas may be important resources to help communities adapt and respond to climate change, a perspective that is of particular interest to development-focused policymakers. Just as migrants are contributing to the broader development of their countries of origin, such strategies envision that the diaspora also may have the technical knowledge and financial resources to help communities cope with the effects of climate change.

Currently, the immigration laws of most destination countries are not conducive to receiving environmental migrants, unless they enter through existing admission categories such as employment, family reunification, or humanitarian migration.¹³ Some countries have established special policies that permit individuals whose countries have experienced natural disasters or other severe upheavals to remain at least temporarily without fear of deportation. The United States, for example, enacted legislation in 1990 to provide temporary protected status (TPS) to persons already in the country who are unable to return home

due to conflict, environmental disasters, or other temporarily hazardous situations.¹⁴ Importantly, TPS only applies to persons already in the United States at the time of the designation. It is not meant to be a mechanism to respond to an unfolding crisis in which people seek admission from outside the country. TPS has been granted to nationals of Honduras and Nicaragua following Hurricane Mitch, and migrants from El Salvador and Haiti following earthquakes.

Sweden and Finland also have included environmental migrants within their immigration policies, but neither country has used these provisions to date. A number of other countries provide exceptions to removal on an ad hoc basis for persons whose countries of origin have experienced significant disruption because of natural disasters.¹⁵ While useful in individual situations, these are not coherent or consistent frameworks for responding to acute crises.

Even less well developed are policies that address migration of persons from *slow-onset* climate changes which may destroy habitats or livelihoods in the future. For the most part, receiving countries treat movements from slow-onset climate change and other environmental hazards in the same manner as other economically motivated migration.

III. Recommendations for Policy Planning

Planning for increases in migration pressures due to environmental change is the most appropriate policy response at present. The principal policy levers fall into three areas: planning for adaptation to climate change, creating sustainable migration and development policies, and developing immigration policies in destination

countries that allow for environmental migration.

A. Planning for Adaptation to Climate Change

- **Foster adaptation alternatives that include migration.** Migration can be an effective way to manage the risks associated with climate change, when it is undertaken voluntarily and with appropriate planning. Policymakers should develop plans to help affected populations migrate in safety and dignity when migration is in their best interest. Policies should avoid situations where affected populations are forced to move (distress migration) or must move during emergency situations. Policymakers should pay special attention to providing alternatives to irregular migration through targeted temporary and circular work programs. In cases, however, where the impacts of climate change preclude return to the countries of origin, policymakers in destination countries should provide opportunities for permanent admissions.
- **Support disaster risk reduction and conflict mediation strategies.** If governments do not take action to reduce the risk of acute crises arising from natural disasters or the risk of conflict arising from competition over resources, they will only be called upon to help later when these problems are much more difficult to address. Governments should invest today in resilience-building strategies that are designed to preempt uncontrolled crisis situations, and in more effective humanitarian responses to natural hazards and conflict.

B. Creating Sustainable Migration and Development Policies

- **Involve diasporas in designing and funding adaptation strategies.** Just as scholars and practitioners have explored the important role of diasporas in promoting development,¹⁶ the role of diasporas in adaptation also requires greater attention. For example, diasporas could provide funding for reforestation projects in origin-country communities that are subject to desertification.
- **Promote dialogue and the exchange of best practices.** Governments should foster solution-oriented policy dialogues that review existing experiences and identify emerging good practices in designing alternative livelihoods, facilitating migration where appropriate, and ensuring that the relocation and resettlement of populations is accomplished in a sustainable manner that improves standards of living.
- **Engage in participatory policy planning.** Policymakers should recognize that those most affected can be effective partners in addressing climate change-induced migration, and involve them in planning processes. It is particularly important to involve affected populations in consultations about their future. In some cases this may mean site identification for relocation projects, in other instances it may mean development of alternative livelihoods or agricultural practices to ease the pressure to migrate.

C. Developing New Immigration Policies

- **Identify guiding principles, effective practices, and institutional**

frameworks to help governments develop appropriate laws, policies, and programs. Current laws, policies, and institutional arrangements are inadequate to deal with complex movements of people in the context of humanitarian crises. Climate change is expected to exacerbate these situations. Of particular concern is the possibility that large numbers of people may be rendered stateless if rising sea levels inundate island countries and low-lying, densely populated delta areas. Policymakers need guiding principles to shape their thinking about how to manage potential larger-scale relocation in the future.

It is particularly important to strengthen local systems for disaster response in hostile and difficult political and security environments where close cooperation between affected populations and central state institutions may not be possible.

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IV. Obstacles to Planning for Climate Migration

The absence of political will to respond to the challenges of climate change is the principal barrier to achieving these policy goals. There has been much progress in raising the level of visibility of environmental change as a current and potential factor in causing migration, displacement, and relocation. However, governments often do not perceive that the issue requires immediate attention. It is only recently that the overall issue of adaptation has become an area of serious policy attention; not surprisingly, the focus on a specific aspect of adaptation — migration, displacement, and relocation — has been even slower to gain salience in

policy discussions.

The lack of credible data — both current estimates and projections — of the number or characteristics of persons who are likely to migrate principally as a result of environmental change is a major hindrance to policy planning.¹⁷ Estimates often assume that everyone in a given area affected by climate change will be similarly driven to migrate even though other factors, including resilience and vulnerability, are likely to determine actual migration patterns. Many of the estimates that have been published conflate different forms of movement: internal, cross-border, and longer-distance inter-

national movements, and temporary and permanent relocation. Nor do they provide information about the gender, age, or socioeconomic characteristics of those who are likely to migrate in each of these categories. There is little information about the

likely migration corridors — that is, projecting from where and to where people will migrate. New research is therefore required that provides better projections of the actual impact of environmental change on migration patterns.

V. The Way Forward: Coordinating to Achieve Better Outcomes

Environmental change and migration are two global issues that cannot be readily addressed by national actors alone, given their scale and complexity. At the international level, an array of institutions addresses these issues. On the environmental side, this includes the UNFCCC, which

has established several mechanisms to support adaptation. On the migration side, it includes the Global Migration Group, an interagency group consisting of the heads of several international organizations. Increasingly, an array of international and nongovernmental organizations with interest in migration have been participating in the Conferences of Parties to the UNFCCC and holding side events highlighting new research in this area. They bring needed expertise and information, and advocate for further action.

However, national adaptation plans remain the principal path through which the least developed countries formulate strategies to address the impact of climate change, including those related to human mobility. While the UNFCCC and surrounding processes show some progress in framing the issues of displacement related to climate change, the path toward coordinated migration policies to address environmentally induced movements is much less clear. National governments retain the authority to determine their own admissions policies, and efforts at multilateral coordination have met with mixed success.

The International Organization for Migration (IOM) has generated discussion among governments on the migration ramifications of climate change, in the context of the 2011 International Dialogue on Migration. The Global Forum on Migration and Development held a roundtable on environmental change and migration during the 2010 session in Puerto Vallarta, Mexico, which took place shortly before the Cancun UNFCCC discussions. Efforts by the UN High

Commissioner for Refugees (UNHCR) to place issues relating to climate change and displacement on the agenda of UNHCR's 60th anniversary celebration, however, were largely rebuffed by the member governments, largely because of concerns that the organization would over-reach its mandate and financial resources if it took on this issue. Several governments, led by Norway and Switzerland, nevertheless pledged to support the Nansen Initiative on Disaster-Induced Cross-Border Displacement, a state-led process to identify mechanisms to enhance the protection of those displaced by environmental factors.

As understanding of the various ways that environmental change affects migration

patterns increases, national governments and international bodies need to act together to ensure migration — both as a result of environmental change and as an adaptation strategy itself — is

adequately incorporated into their planning. National governments should account for environmental migration in their immigration policies and engage with affected communities, including members of their diasporas, when creating policy plans. Communities that are otherwise vulnerable because of extreme poverty, discrimination, or other factors must see those issues addressed in concert with environmental degradation. Engaging in a collaborative planning process involving the sharing of best practices and the development of guiding principles for policymaking in this area can help governments more effectively prepare for the impact of environmental change on migration.

National governments should account for environmental migration in their immigration policies and engage with affected communities.

ENDNOTES

- 1 Richard Black et al., “The Effect of Environmental Change on Human Migration,” *Global Environmental Change* 21 (2011): S3–S11; Foresight, *Migration and Global Environmental Change: Future Challenges and Opportunities* (London: The Government Office for Science, 2011), www.bis.gov.uk/assets/foresight/docs/migration/11-1116-migration-and-global-environmental-change.pdf; Gregory White, *Climate Change and Migration: Security and Borders in a Warming World* (Oxford: Oxford University Press, 2011).
- 2 Susan F. Martin, “Environmental Change and Migration: Legal and Political Frameworks,” *Environment and Planning C: Government and Policy* 30, no. 6 (2012): 1045–60.
- 3 United Nations Framework on Climate Change, “Report of the Conference of the Parties on its Sixteenth Session, Held in Cancun from 29 November to 10 December 2010,” FCCC/CP/2010/7/Add.1 (March 15, 2011): 5, <http://unfccc.int/resource/docs/2010/cop16/eng/07a01.pdf>.
- 4 James N. Gregory, *American Exodus: The Dust Bowl Migration and Okie Culture in California* (Oxford: Oxford University Press, 1991).
- 5 Zeynep Kadirbeyoglu, “In the Land of Ostriches: Developmentalism, Environmental Degradation, and Forced Migration in Turkey,” in *Environment, Forced Migration and Social Vulnerability*, eds. Tamer Afifi and Jill Jäger (Berlin: Springer, 2010).
- 6 Stefan Alscher, “Environmental Factors in Mexican Migration: The Cases of Chiapas and Tlaxcala” in *Environment, Forced Migration and Social Vulnerability*, eds. Tamer Afifi and Jill Jäger (Berlin: Springer, 2010).
- 7 International Federation of Red Cross (IFRC) and Red Crescent Societies, *World Disasters Report: Focus on Hunger and Malnutrition* (Geneva: IFRC, 2011), www.ifrc.org/PageFiles/89755/Photos/wdr.pdf. 8 Black et al., “The Effect of Environmental Change on Human Migration.”
- 9 For review of literature on current destinations of environmental migrants, see Allan M. Findlay, “Migrant Destinations in an Era of Environmental Change,” *Global Environmental Change* 21 (2011): S50–S58.
- 10 Sarfaraz Alam, “Environmentally Induced Migration from Bangladesh to India” *Strategic Analysis* 27, no. 3 (2003): 422–38.
- 11 Susan F. Martin, “Climate Change, Migration, and Adaptation,” (paper prepared for the Transatlantic Study Team on Climate-Induced Migration, German Marshall Fund of the United States, Washington, DC, June 2010), www.ehs.unu.edu/file/get/7106.
- 12 Martin, “Climate Change, Migration, and Adaptation.”
- 13 Martin, “Environmental Change and Migration: Legal and Political Frameworks.”
- 14 *Immigration and Nationality Act of 1952*, Act 244: Temporary Protected Status, codified at *U.S. Code* 8, § 1254.
- 15 Sweden includes within its asylum system persons who do not qualify for refugee status, but have a need for protection. Similarly, in the *Finnish Aliens Act*, “aliens residing in the country are issued with a residence permit on the basis of a need for protection if . . . they cannot return because of an armed conflict or environmental disaster.”
- 16 For example, see Dovelyn Rannveig Agunias and Kathleen Newland, *Developing a Road Map for Engaging Diasporas in Development: A Handbook for Policymakers and Practitioners in Home and Host Countries* (Washington, DC: Migration Policy Institute, 2012), www.migrationpolicy.org/pubs/thediasporahandbook.pdf.
- 17 François Gemene, “Why the Numbers Don’t Add Up: A Review of Estimates and Predictions of People Displaced by Environmental Changes,” *Global Environmental Change* 21 (2011): S41–S49.

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About the Author



Susan F. Martin is the Donald G. Herzberg Professor of International Migration and serves as the Director of the Institute for the Study of International Migration in the School of Foreign Service at Georgetown University.

Previously, Dr. Martin served as the Executive Director of the US Commission on Immigration Reform, established by legislation to advise Congress and the president on US immigration and refugee policy, and as Director of Research and Programs at the Refugee Policy Group.

She is the author of “Climate Change, Migration and Governance,” in *Global Governance*; “Managing Environmentally Induced Migration,” in Frank Laczko and Christine Aghazarm, eds., *Migration, Environment and Climate Change: Assessing the Evidence*; “Climate Change, Migration and Development” in Irena Omelaniuk, ed., *Global Perspectives on Migration and Development*; and “Environmental Change and Migration: Legal and Political Frameworks” in *Environment and Planning C: Government and Policy*.

She chairs the KNOMAD work group on environmental change and migration, composed of experts and policymakers from the migration, environmental, and humanitarian communities.

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