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Climate Change and Human Migration

Calvin Bryne

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Climate Change and Human Migration

Calvin Bryne*

As the impacts of climate change increase over time, adaptation efforts seeking to protect human health and dignity are becoming more vital. This article seeks to illuminate one means by which individuals will adapt to climatic impacts: migration. First, this Note explores the linkages between climate change and migration. Second, this Note gives a summary of the current approaches which governments and non-state actors are employing to support climate migrants. Finally, this Note includes brief policy recommendations for states and policymakers to consider as they work together to formulate responses to this imminent global phenomenon.

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INTRODUCTION

Globally, the number of climate migrants, or individuals relocating permanently or temporarily as a result of changing environmental circumstances, is increasing rapidly. This growing trend is primarily a result of the impacts of climate change on vulnerable communities—communities that currently have little or no alternative means of adapting to such impacts.¹ This Note addresses a number of particular conditions that may produce climate migrants and presents a number of internationally-focused legal and socio-political responses that may serve to protect those communities.

Society has excelled at promoting social and technological ingenuity, but it has generally failed to account for the external impacts and byproducts of its rapid advancement. Cumulatively, those externalities have begun to significantly affect Earth's climatological and ecological systems. In effect, the engines of social progress have begun to negatively impact many of the same interests they seek to advance including economic growth, social welfare, and human health. The authors of a twenty-year-old article titled *Human Domination of Earth's Ecosystems* characterized this tension by stating:

Human alteration of Earth is substantial and growing. Between one-third and one-half of the land surface has been transformed by human action; the carbon dioxide concentration in the atmosphere has increased by nearly 30 percent since the beginning of the Industrial Revolution; more atmospheric nitrogen is fixed by humanity than by all natural terrestrial sources combined; more than half of all accessible surface fresh water is put to use by humanity; and about one-quarter of the bird species on Earth have been driven to extinction. By these and other standards, it is clear that we live on a human-dominated planet.²

The complex relationship between humans and the environment is exemplified by the threat of global climate change. Some consequences of climate change are already occurring, while others will inevitably be felt over the coming decades. There has been insufficient progressive action with respect to the threat of climate change in large part because of a perceived absence of scientific consensus. Advocates on either side have, for a number of decades, hotly debated

1. INST. FOR THE STUDY OF DIPLOMACY, NEW CHALLENGES TO HUMAN SECURITY: ENVIRONMENTAL CHANGE AND HUMAN MOBILITY 15 (2017).

2. Peter M. Vitousek et al., *Human Domination of Earth's Ecosystems*, 277 SCIENCE 494, 494 (1997).

whether Earth's climate is changing and whether such a change—if it is indeed occurring—is anthropogenic or human-caused. This perceived dispute has inhibited the development of political momentum.

But this disagreement is largely unwarranted, as scientific consensus is nearly unanimous. Multiple peer-reviewed scientific studies have found that more than ninety-seven percent of actively publishing climate scientists believe that anthropogenic climate change is occurring.³ Not only is climate change occurring, it is becoming faster as the primary drivers of climate change⁴ increase and combine with secondary “feedback loops.”⁵

The risks of climate change are real and imminent. The 2017 World Economic Forum Report identifies extreme weather events, large-scale involuntary migration, and major natural disasters as the top three global risks in terms of likelihood.⁶ Each of these risks is directly associated with a changing climate. Through these and other impacts, climate change will directly threaten the livelihoods of hundreds of millions of people over the coming decades⁷ and will less directly impact the lives of countless others. Existing international frameworks are, in many cases, incapable of providing sufficient support to individuals. Governing bodies must begin to more seriously consider the fatal hazards that accompany climate change and develop frameworks to accommodate and support affected communities.

There are two interdependent approaches to combatting the challenges brought about by climate change: mitigation and adaptation. Mitigation describes attempts to prevent climate change from occurring, and adaptation describes efforts to adjust to its impacts. The United Nations Framework Convention on Climate Change (“UNFCCC”) acknowledges both of these methodologies as being necessary to the UNFCCC’s overall objective of avoiding the adverse impacts of climate change.⁸ The subsequent analysis is grounded in three assumptions: (1) climate change mitigation efforts are already under way, but those efforts will not produce sufficient legal regimes or real-world outcomes for several decades; (2) even if mitigation efforts are successful in the long-term, the impacts of climate

3. See generally William R.L. Anderegg et al., *Expert Credibility in Climate Change*, 107 PROC. NAT'L. ACAD. SCI. 12107 (2010); John Cook et al., *Quantifying the Consensus on Anthropogenic Global Warming in the Scientific Literature*, 8 ENVTL. RES. LETTERS 1 (2013); Peter T. Doran & Maggie Kendall Zimmerman, *Examining the Scientific Consensus on Climate Change*, 90 EOS 22 (2009); Naomi Oreskes, *Beyond the Ivory Tower: The Scientific Consensus on Climate Change*, 306 SCIENCE 1686 (2004).

4. Carbon dioxide emissions are the primary driver of climate change. Other notable drivers include methane, nitrous oxide emissions, aerosols, dust, and smoke.

5. See U.S. Glob. Change Research Program, *Executive Summary*, in 1 CLIMATE SCIENCE SPECIAL REPORT: FOURTH NATIONAL CLIMATE ASSESSMENT 10 (2017); see also *The Study of Earth as an Integrated System*, NASA GLOBAL CLIMATE CHANGE, <https://climate.nasa.gov/nasa-science/science/> [https://perma.cc/2B8F-CAG2] (last visited July 25, 2018). Feedback loops contributing to climate change include changing cloud cover and rainfall patterns, dying forests, thinning ice cover, and melting permafrost, which releases trapped methane.

6. WORLD ECON. FORUM, THE GLOBAL RISKS REPORT 2017 fig.2 (12th ed. 2017).

7. CLIMATE CHANGE, MIGRATION AND HUMAN RIGHTS 52 (Dimitra Manou et al. eds., 2017).

8. United Nations Framework Convention on Climate Change, May 9, 1992, S. Treaty Doc. 102–38, 1771 U.N.T.S. 107.

change will intensify as a result of current atmospheric greenhouse gas (“GHG”) concentrations; and (3) there will therefore be a period of time during which humans and other life on Earth will face significant challenges as a result of the effects of climate change. These premises necessitate the development of adaptation strategies to cope with the inevitable impacts of climate change.

This Note seeks to address climate adaptation. Specifically, it explores the increasing migration of peoples induced by climate change. As the Institute for the Study of Diplomacy put it in its 2017 report entitled *New Challenges to Human Security*, “Environmental changes, resulting from climate change and man-made environmental shifts as well as long-term, natural changes, increasingly affect global patterns of mobility and settlement.”⁹ According to a report published by the U.S. National Intelligence Council, over the next twenty years, “the net effects of climate change on the patterns of global human movement and statelessness could be dramatic, perhaps unprecedented. If unanticipated, they could overwhelm government infrastructure and resources, and threaten the social fabric of communities.”¹⁰ This Note explores the ways in which our changing climate will affect trends in human migration and identifies international and domestic legal responses that can help nations face this threat.

I. CLIMATE-INDUCED DRIVERS OF MIGRATION

Migration, or the “permanent or semi-permanent move by a person of at least one year that involves crossing an administrative, but not necessarily a national, border,”¹¹ is one means of adapting to climatic and environmental hardships. The International Organization for Migration (“IOM”), a leading inter-governmental organization working to address challenges associated with migration, defines environmental migrants to be:

[P]ersons or groups of persons who, for compelling reasons of sudden or progressive change in the environment that adversely affects their lives or living conditions, are obliged to leave their habitual homes, or choose to do so, either temporarily or permanently, and who move either within their country or abroad.¹²

9. INST. FOR THE STUDY OF DIPLOMACY, *supra* note 1, at 1; *see also* NAT’L INTELLIGENCE COUNCIL, IMPLICATIONS FOR US NATIONAL SECURITY OF ANTICIPATED CLIMATE CHANGE 6 (2016) (“Climate-related impacts will also contribute to increased migration, which can be particularly disruptive if, for example, demand for food and shelter outstrips the resources available to assist those in need.”).

10. NAT’L INTELLIGENCE COUNCIL, *supra* note 9, at 7.

11. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2014: IMPACTS, ADAPTATION, AND VULNERABILITY 767 (Christopher B. Field et al. eds., 2014).

12. INT’L ORG. FOR MIGRATION, DISCUSSION NOTE: MIGRATION AND THE ENVIRONMENT 1–2 (2007).

The incidence of environmental migration is increasing over time as climate change alters existing migration patterns and increases the overall volume of human migration.¹³

Many scholars have noted the effectiveness of migration as a tool to diversify livelihoods and adapt to climatic stresses.¹⁴ The UNFCCC itself has begun to address migration through its Cancun Adaptation Framework (“Cancun Accord”), described in Section III.¹⁵ This research shows that migration can serve to “improve livelihood security and reduce vulnerability to both environmental and non-environmental risks.”¹⁶

There are difficulties related to the use of migration as a means of adapting to climate change, three of which should be addressed before continuing. First, climate migration is a difficult concept to define. This is because the displacement of peoples can be—and usually is—the product of a number of interrelated factors. In 2001, in a discussion of the term “environmental refugee,” Richard Black wrote, “in a multi-dimensional world, in which people’s decisions to migrate (or stay) are influenced by a huge range of factors, an adequate definition does not seem very likely.”¹⁷ Resultantly, it can be difficult to determine causation and attribute migration directly to environmental harms, a problem that has hindered the development of scientific studies and responsive legal frameworks.¹⁸

Second, the ways various cultures and subsets of society adapt to climatic impacts will vary dramatically. Climate-induced migration does not occur as a single, uniform event—movement of people varies in terms of distance, speed, duration, and scale.¹⁹ There are differences, for instance, in the way men and women are affected by extreme weather events²⁰ and the ways in which they adapt to climate

13. LUKAS RÜTTINGER ET AL., *A NEW CLIMATE FOR PEACE: TAKING ACTION ON CLIMATE AND FRAGILITY RISKS* 26 (Meaghan Parker ed., 2015); *see also* Robin Bronen, *Forced Migration of Alaskan Indigenous Communities Due to Climate Change*, in ENVIRONMENT, FORCED MIGRATION AND SOCIAL VULNERABILITY 88 (Tamer Afifi & Jill Jager eds., 2010).

14. *See, e.g.*, SUSAN F. MARTIN, MIGRATION POLICY INST., ENVIRONMENTAL CHANGE AND MIGRATION: WHAT WE KNOW 6 (2013); KOKO WARNER ET AL., IN SEARCH OF SHELTER: MAPPING THE EFFECTS OF CLIMATE CHANGE ON HUMAN MIGRATION AND DISPLACEMENT (2009); Craig A. Johnson, *Governing Climate Displacement: The Ethics and Politics of Human Resettlement*, 21 ENVTL. POL. 308, 310 (2012); Sabine L. Perch-Nielson et al., *Exploring the Link Between Climate Change and Migration*, 91 CLIMATIC CHANGE 375 (2008).

15. *See* Koko Warner, *Human Migration and Displacement in the Context of Adaptation to Climate Change: The Cancun Adaptation Framework and Potential for Future Action*, 30 ENV’T & PLAN. C: GOV’T & POL’Y 1061, 1065 (2012).

16. RÜTTINGER ET AL., *supra* note 13, at 29.

17. Richard Black, *Environmental Refugees: Myth or Reality?* 14 (United Nations High Comm’r for Refugees, Working Paper No. 34, 2001).

18. *See* CLIMATE CHANGE, MIGRATION AND HUMAN RIGHTS, *supra* note 7, at 119.

19. *See* INT’L ORG. FOR MIGRATION, MIGRATION, ENVIRONMENT, AND CLIMATE CHANGE: ASSESSING THE EVIDENCE 9 (Frank Laczko & Christine Aghazarm eds., 2009).

20. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *supra* note 11, at 767; RÜTTINGER ET AL., *supra* note 13, at 35; Lori M. Hunter & Emmanuel David, *Climate Change and Migration: Considering the Gender Dimensions* (Univ. of Colo. Population Ctr., Working Paper, 2009); Ursula Oswald Spring, *Gender and Environmental Security: A Huge Challenge*, in UNITED NATIONS

change more generally.²¹ Solutions must, therefore, possess the capacity to meet the varied demands of the affected communities and account for relevant political realities.

Finally, relocating people can lead to significant “cultural, social, economic, and psychological” harms²² and can implicate a panoply of human rights concerns.²³ This means that migration—especially transboundary migration—will often serve as a means of last resort for people affected by environmental hardships.²⁴ Therefore, although the term migration generally implies a certain level of agency, environmental migration is often motivated by insuperable, adverse circumstances rather than desire or individual autonomy.

Migration is certain to be driven by both natural disasters²⁵ and incremental changes, such as elevated temperatures, lack of access to resources, sea level rise, and other climate-related incidences.²⁶ There are various methods of contextualizing these drivers, including sudden-onset disasters versus slow-onset ecological transformations and direct versus indirect results of climate change. This Note will seek to use those classifications to analyze each of the key drivers of climate migration.

A. Slow-Onset Transformations

Slow-onset environmental shifts will force populations out of their existing homes over time. Migration patterns driven by incremental environmental shifts will have profound socio-political impacts over time. In a report published this year, the Institute for the Study of Diplomacy stated:

With slow-onset migration likely to become more commonplace, the challenges go well beyond the concept of humanitarian aid, or short-term disaster relief. As the US military and intelligence community, as well as global studies like the Nansen Initiative and Foresight Project, recognize, environmental migration has the potential to emerge as a fundamental security issue of the 21st century.²⁷

Despite a growing consensus regarding the urgency with which nations must address slow-onset migration, the concept of causation remains a major barrier to the implementation of responsive policies.²⁸ In contrast to extreme weather events,

EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANISATION – ENCYCLOPEDIA OF LIFE SUPPORT SYSTEM (2008), <https://www.colss.net/Sample-Chapters/C14/E1-39B-08.pdf> [<https://perma.cc/6Z4D-UG2G>].

21. See RÜTTINGER ET AL., *supra* note 13, at 27; Namrata Chindarkar, *Gender and Climate Change-Induced Migration: Proposing a Framework for Analysis*, 7 ENVTL. RES. LETTERS 1 (2012).

22. Bronen, *supra* note 13, at 91.

23. Johnson, *supra* note 14, at 312.

24. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *supra* note 11, at 767.

25. *Id.*

26. INT’L ORG. FOR MIGRATION, *supra* note 19, at 5.

27. Barbara K. Bodine, *Foreword* to INST. FOR THE STUDY OF DIPLOMACY, NEW CHALLENGES TO HUMAN SECURITY: ENVIRONMENTAL CHANGE AND HUMAN MOBILITY (2017).

28. INST. FOR THE STUDY OF DIPLOMACY, *supra* note 1, at 10.

slow-onset environmental changes are gradual. This means that migratory responses tend to occur more slowly, making it difficult to attribute migration directly to particular environmental causes. This challenge is magnified by migration-related laws, which typically require states to distinguish between environmental migrants and more traditional, economic migrants.²⁹

The four slow-onset environmental changes most likely to induce human migration are extreme heat, droughts, and resultant lack of access to subsistence, sea level rise, and thawing ice cover. The remainder of this Section will address each of these potential drivers in turn.

1. *Extreme Heat*

Global temperatures have risen steadily for as long as they have been measured.³⁰ Rising global temperatures are considered to be a slow-onset transformation because they produce both more frequent and more intense extreme heat events, as well as increased average annual temperatures.³¹ Warm regions are getting warmer, and the frequency of highly unusual and unprecedented heat events is increasing.³² This means that areas that have not historically encountered extreme heat events may begin to experience such events on a more regular basis.³³ Extreme heat is a significant humanitarian concern. Extreme heat events are a “prime driver” of mortality globally.³⁴ This holds especially true for urban populations and for those working outdoors,³⁵ as exposure to the sun can increase heat stress by an estimated two to three degrees Celsius.³⁶

Geographically, extreme heat has traditionally had the greatest impact on populations living in tropical and subtropical areas of the world.³⁷ Some specific regions, including parts of South Asia and Western Africa, are expected to experience fatal levels of heat stress—temperatures sufficient to make an area

29. Johnson, *supra* note 14, at 313.

30. See INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2013: THE PHYSICAL SCIENCE BASIS 3–29 (Thomas F. Stacker et al. eds., 2013).

31. MARIAM TRAORE CHAZALNOËL ET AL., INT’L ORG. FOR MIGRATION, EXTREME HEAT AND MIGRATION 9 (2017).

32. GLOB. FACILITY FOR DISASTER REDUCTION & RECOVERY, THE MAKING OF A RISKIER FUTURE: HOW OUR DECISIONS ARE SHAPING FUTURE DISASTER RISK 17 (2016).

33. *Id.* The United States experienced an extreme heat event in 2012, as did Australia in 2015.

34. GLOB. FACILITY FOR DISASTER REDUCTION & RECOVERY, *supra* note 32, at 18; see also Paola Michelozzi et al., *High Temperature and Hospitalizations for Cardiovascular and Respiratory Causes in 12 European Cities*, 179 AM. J. RESPIRATORY & CRITICAL CARE MED. 383 (2009); Monika Nitschke et al., *Impact of Two Recent Extreme Heat Episodes on Morbidity and Mortality in Adelaide, South Australia: A Case-Series Analysis*, 10 ENVTL. HEALTH (2011); Joacim Rocklöv et al., *Mortality Related to Temperature and Persistent Extreme Temperatures: A Study of Cause-Specific and Age-Stratified Mortality*, 68 OCCUPATIONAL & ENVTL. MED. 531 (2011); Joel Schwartz et al., *Hospital Admissions for Heart Disease: The Effects of Temperature and Humidity*, 15 EPIDEMIOLOGY 755 (2004).

35. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *supra* note 11, at 13.

36. CHAZALNOËL ET AL., *supra* note 31, at 6. This can translate to a temperature increase of up to 5.4 degrees Fahrenheit.

37. *Id.*

uninhabitable to humans—by the end of the 21st century.³⁸ Even in scenarios exploring mild global temperature increases, it is projected that thirty to sixty million people will be unable to remain in their regions of origin by the end of the century.³⁹

It is therefore likely that rising global temperatures will increase migration worldwide. As the IOM posited in its 2017 Report entitled *Extreme Heat and Migration*, “climate migration might be the direct outcome of increasing heat exposure caused by climate change, as people move to minimize the effects of rising temperatures on their health and/or to compensate for reduced productivity in the workplace.”⁴⁰

2. Droughts and Lack of Access to Food and Water

In addition to the impacts of extreme heat in various regions of the world, rising temperatures also indirectly affect populations’ stability by increasing water and food scarcity.⁴¹ Droughts and resultant lack of access to food and water are one of the drivers most likely to cause permanent, transboundary migration. Water supplies will be affected by changing rainfall patterns, changing flows in glacial-fed watercourses, salinization of aquifers—particularly those located in coastal regions—and shifting seasonal patterns.⁴² Droughts will affect many of the same regions experiencing significant temperature increases. According to a study commissioned by the U.S. Intelligence Community, some areas—including North Africa, the Middle East, and South Asia—are likely to confront water instability within the next ten years.⁴³ But droughts and lack of access to water will not be restricted to those areas experiencing extreme temperatures. They will also strain water supply systems in parts of Europe, North America, and Central America,⁴⁴ as well as most dry subtropical regions of the world.⁴⁵ Widespread lack of access to water is likely to generate significant political volatility as whole continents struggle to find the water necessary to keep their people alive.⁴⁶

In addition to affecting water access, long-term drying trends will negatively impact the viability of many environment-dependent livelihoods, including fishing, forestry, and agriculture.⁴⁷ The economic and subsistence-related threats associated

38. *Id.*; see also Eun-Soon Im et al., *Deadly Heat Waves Projected in the Densely Populated Agricultural Regions of South Asia*, 3 *SCI. ADVANCES* 1 (2017).

39. CHAZALNOËL ET AL., *supra* note 31, at 8.

40. *Id.* at 9.

41. *Id.*

42. RÜTTINGER ET AL., *supra* note 13, at 17.

43. NAT’L INTELLIGENCE COUNCIL, *GLOBAL WATER SECURITY: INTELLIGENCE COMMUNITY ASSESSMENT*, at iii (2012). The recent drought in Cape Town exemplifies this imminent water shortage. Cape Town, a city of 3.78 million people—the largest city in South Africa—expected to run out of water earlier this year, leading to strict rationing. Although heavy rainfall has provided some respite, the city expects to run short of water again in 2019.

44. RÜTTINGER ET AL., *supra* note 13, at 11.

45. INST. FOR THE STUDY OF DIPLOMACY, *supra* note 1, at 4.

46. *Id.*

47. MARTIN, *supra* note 14, at 3.

with increasing drought conditions will be particularly severe in rural areas, where lack of access to subsistence can lead to widespread migration patterns.⁴⁸ The effects of water shortages are also likely to be most harmful to developing countries, where water use and access to food are intimately linked.⁴⁹ The ongoing crises in Syria, where lack of access to food and water have forced over one million people from their homes, epitomize these concerns.⁵⁰ There, lack of access to necessary resources, coupled with unremitting socio-political violence, has led to significant transboundary immigration flows into Europe.⁵¹

Lack of access to food and water is likely to be exacerbated by increasing demand and degraded land quality. On the one hand, demand for food and water is rising rapidly. Global demand for food is likely to increase roughly thirty-five percent by 2030, and global demand for water is expected to increase approximately forty percent by that same time.⁵² By 2050, total demand for water is expected to increase by fifty-five percent.⁵³ On the other hand, less and less land is fit to produce necessary quantities of food. Twenty-five percent of the earth's arable land is already degraded, leading to expected losses in production over the coming decades.⁵⁴ This scarcity is driven, at least in part, by shifting water supplies⁵⁵ and increasing temperatures.⁵⁶ Overall, climate change is predicted to significantly reduce global yields of major crops, including wheat, rice, and corn.⁵⁷

The relationship between access to food and water and human migration is varied. In many countries, drought and land degradation have been associated with increased migration outflows.⁵⁸ However, in some specific cases, those same factors have been shown to decrease overall migration, exemplifying the complex interactions between environmental harms and human movement.⁵⁹ Nevertheless, as the subsistence-related impacts of climate change become more aggravated over time, the likelihood of increased migration flows as a result of unstable access to subsistence is high.⁶⁰

48. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *supra* note 11, at 621; *see also* MARTIN, *supra* note 14, at 3.

49. NAT'L INTELLIGENCE COUNCIL, *supra* note 43, at 5–6.

50. *See* CLIMATE CHANGE, MIGRATION AND HUMAN RIGHTS, *supra* note 7, at xi, xiv n.1.

51. *Id.* at xi.

52. RÜTTINGER ET AL., *supra* note 13, at 7.

53. *Id.*

54. *Id.*

55. *Id.* at 17.

56. V. Mueller et al., *Heat Stress Increases Long-Term Human Migration in Rural Pakistan*, 4 NATURE CLIMATE CHANGE 182, 184 (2014).

57. INST. FOR THE STUDY OF DIPLOMACY, *supra* note 1, at 5; RÜTTINGER ET AL., *supra* note 13, at 10.

58. *See* INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *supra* note 11, at 769.

59. *Id.*

60. THE FOOD & AGRIC. ORG. OF THE UNITED NATIONS & EARTHSCAN, THE STATE OF THE WORLD'S LAND AND WATER RESOURCES FOR FOOD AND AGRICULTURE: MANAGING SYSTEMS AT RISK 124 (2011); INST. FOR THE STUDY OF DIPLOMACY, *supra* note 1, at 8.

3. Sea Level Rise and Inundation

Global average sea levels are steadily rising as a result of melting glaciers and thermal ocean expansion.⁶¹ The Intergovernmental Panel on Climate Change (IPCC) has estimated that average sea levels will rise roughly six to twelve inches above 1986 levels by 2050.⁶² Under these same estimates, sea level rise will not wholly submerge any country by the end of the century.⁶³ It is important to note, however, that the IPCC has drawn criticism for relying on these potentially conservative estimates,⁶⁴ and recent data indicate that Antarctic ice sheets are melting faster than previously anticipated.⁶⁵

Sea level rise is likely to have profound consequences on coastal regions of the world over the coming decades. It is expected to lead to erosion and submergence of settled land, flooding and loss of wetlands and croplands, and an increase in the salinization of coastal groundwater and aquifers.⁶⁶ According to the IPCC, “Projected sea level rise at the end of the 21st century, superimposed on extreme sea level events, presents severe coastal flooding and erosion risks for low-lying coastal areas and atoll islands.”⁶⁷

These projected environmental impacts present acute humanitarian concerns. The reasons for this are threefold. First, sea level rise will lead to increased flooding and salinization of freshwater sources.⁶⁸ Second, human pressures on coastal areas are increasing rapidly due to socio-political forces such as population growth and urbanization, increasing the number of individuals who are likely to be affected by these issues.⁶⁹ Finally, coastal areas are likely to be affected by increasingly destructive storm patterns, exacerbating existing challenges associated with sea level rise.⁷⁰ In conjunction, these forces present a serious and widespread “risk of death, injury, ill-health, or disrupted livelihoods.”⁷¹

For the reasons discussed above, sea level rise is projected to “lead to permanent displacements as coastal areas become uninhabitable.”⁷² The

61. RÜTTINGER ET AL., *supra* note 13, at 58.

62. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *supra* note 30, at 26 fig.SPM.9.

63. RÜTTINGER ET AL., *supra* note 13, at 58.

64. *See, e.g.*, Nicola Jones, *Rising Tide: Researchers Struggle to Project How Fast, How High and How Far the Oceans Will Rise*, 501 NATURE 300, 300 (2013).

65. *See, e.g.*, The IMBIE Team, *Mass Balance of the Antarctic Ice Sheet from 1992 to 2017*, 558 NATURE 219–22 (2018).

66. RÜTTINGER ET AL., *supra* note 13, at 58; *see also* INST. FOR THE STUDY OF DIPLOMACY, *supra* note 1, at 12.

67. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *supra* note 11, at 80.

68. INST. FOR THE STUDY OF DIPLOMACY, *supra* note 1, at 12. Salinization is likely to not only inhibit access to freshwater but will also limit access to irrigation water, thereby negatively impacting existing food supplies.

69. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *supra* note 11, at 17.

70. NAT'L INTELLIGENCE COUNCIL, *supra* note 43, at 2.

71. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *supra* note 11, at 13.

72. INST. FOR THE STUDY OF DIPLOMACY, *supra* note 1, at 13; INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *supra* note 11, at 770; MARTIN, *supra* note 14, at 1; RÜTTINGER ET AL., *supra* note 13, at 59.

relationship between sea level rise and migration is complicated—in some circumstances, sea level rise has been linked to decreased geographic mobility.⁷³ Furthermore, if governments undertake all possible adaptation investments, significant displacement can be mitigated.⁷⁴ However, even if states undertake mitigative efforts, experts expect significant migration to result from sea level rise.⁷⁵

Geographically, most low-lying coastal regions around the world will be directly affected by sea level rise. However, countries in Southeast Asia may be particularly vulnerable due to rapid urbanization in coastal areas and high rates of anthropogenic subsidence in those same areas.⁷⁶ From a humanitarian perspective, the status of low-lying island nations is also particularly worrisome. Some individual residents of low-lying island nations in the South Pacific are already planning around sea level rise, implementing measures that include migration to larger countries located nearby, such as Australia.⁷⁷

4. *Ice Melt*

Although melting ice caps will impact fewer total individuals than the three aforementioned climatic impacts, thawing polar ice sheets are likely to have detrimental effects on communities located within the Arctic Circle. “Climate change is causing permafrost warming and thawing in [high latitude] regions.”⁷⁸ As stated previously, this thawing is believed to be one of the major causes of global sea level rise. Combined with coastal flooding and erosion, thawing permafrost has caused a loss of land available for subsistence, leading communities to begin planning around their relocation.⁷⁹ This geomorphological shift has, thus far, disparately burdened indigenous tribes located within the Arctic Circle.⁸⁰

B. *Rapid-Onset Disasters*

Rapid-onset disasters will exacerbate the threats posed by slow-onset environmental changes. Although the extent of the relationship between rapid-onset disasters and climate change is still unclear, it is evident that climate change has, and will continue to affect the occurrence of natural disasters.⁸¹ The UN Inter-Agency Standing Committee has defined natural disasters as being “the

73. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *supra* note 11, at 770 tbl.12-3.

74. *Id.* at 770.

75. *Id.*

76. *Id.* at 382.

77. *See* CLIMATE CHANGE, MIGRATION AND HUMAN RIGHTS, *supra* note 7, at 13; RÜTTINGER ET AL., *supra* note 13, at 62.

78. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *supra* note 11, at 4.

79. *See* Bronen, *supra* note 13, at 87–98 (2010); *see also* INST. FOR THE STUDY OF DIPLOMACY, *supra* note 1, at 13.

80. Bronen, *supra* note 13, at 87; *see also* CLIMATE CHANGE, MIGRATION AND HUMAN RIGHTS, *supra* note 7, at 131.

81. GLOB. FACILITY FOR DISASTER REDUCTION & RECOVERY, *supra* note 32, at xiv.

consequences of events triggered by natural hazards that overwhelm local response capacity and seriously affect the social and economic development of a region.”⁸²

Not only will increasing temperatures increase the frequency of rapid-onset environmental disasters, but they will also increase the intensity of such events.⁸³ This means that society will have to adapt to more frequent and more damaging natural disasters as the impacts of climate change intensify over time. However, the unpredictability of rapid-onset disasters presents a particular set of challenges. In particular, climate change does not create extreme weather events; it affects their probability and scale. This lack of causal clarity has served as a powerful political barrier to the implementation of comprehensive adaptation strategies.

Since the advent of society, people have reckoned with the destructive capacity of storms. However, climate change has made weather-related hazards, such as hurricanes, cyclones, and flooding, more pronounced in a number of ways.

First, as noted above, major storms are increasing in frequency and scale.⁸⁴ As the Institute for the Study of Diplomacy put it in its recent report, “Cyclones and hurricanes—both of which are occurring more frequently, and with greater severity—destroy infrastructure and cropland, and lead to the loss of jobs.”⁸⁵

Second, the damage caused by extreme weather events is likely to be magnified by some of the slow-onset changes mentioned above—particularly sea level rise. “During the next few decades, rising sea levels and deteriorating coastal buffers will amplify the destructive power of coastal storms, including surges and heavy precipitation. At times water flows will be severe enough to overwhelm the water control infrastructures of even developed countries, including the United States.”⁸⁶

Most regions around the world will experience some level of changing weather patterns as a result of climate change.⁸⁷ Over half the earth will face an increase in flood hazards alone.⁸⁸ Unlike incremental, slow-onset environmental shifts, examples of increasingly intense storm patterns are readily apparent. In early fall of 2017, monsoon rains swept through Southern Asia, affecting over forty-one million people and killing nearly one thousand.⁸⁹ Less than one month later, three large

82. INTER-AGENCY STANDING COMM., IASC OPERATIONAL GUIDELINES ON THE PROTECTION OF PERSONS IN SITUATIONS OF NATURAL DISASTERS 8 (2006).

83. GLOB. FACILITY FOR DISASTER REDUCTION & RECOVERY, *supra* note 32, at xiv; INST. FOR THE STUDY OF DIPLOMACY, *supra* note 1, at 8; INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *supra* note 11, at 12; NAT’L INTELLIGENCE COUNCIL, *supra* note 9, at 5.

84. MARTIN, *supra* note 14, at 3; *see also* Dongling Li et al., *East Asian Winter Monsoon Variations and Their Links to Arctic Sea Ice During the Last Millennium, Inferred from Sea Surface Temperatures in the Okinawa Trough*, 33 PALEOCEANOGRAPHY & PALEOCLIMATOLOGY 61 (2018).

85. INST. FOR THE STUDY OF DIPLOMACY, *supra* note 1, at 10.

86. NAT’L INTELLIGENCE COUNCIL, *supra* note 43, at 2.

87. SÖNKE KREFT ET AL., GLOBAL CLIMATE RISK INDEX 2016: WHO SUFFERS MOST FROM EXTREME WEATHER EVENTS? WEATHER RELATED LOSS EVENTS IN 2014 AND 1995 TO 2014, at 5 (Joanne Chapman Rose et al. eds., 2015).

88. RÜTTINGER ET AL., *supra* note 13, at 11.

89. *UN Agencies Aid Millions Affected by Flooding, Landslides in South Asia*, UN NEWS (Aug. 24, 2017), <https://news.un.org/en/story/2017/08/563762-un-agencies-aid-millions-affected-flooding-landslides-south-asia> [<https://perma.cc/46RQ-SZLE>].

hurricanes swept through the Southeastern United States, causing unprecedented financial and sociological harm.⁹⁰ Both events were exacerbated by proximity to the sea, indicating the likely impacts of rising sea levels and coastal urbanization.⁹¹ Furthermore, according to recent studies, warmer temperatures made the hurricanes more likely.⁹² Climate change has similarly been linked to increasingly damaging storm events in areas all over the world.⁹³

The relationship between rapid-onset disasters and migration is complicated for two reasons. First, rapid-onset disasters more often displace people internally rather than internationally.⁹⁴ Although internal displacement may sometimes be more manageable for migrants, it presents a unique set of challenges and can therefore mandate responses that differ from those intended to react to transboundary migration. Second, migration-based reactions to extreme events are often temporary,⁹⁵ although “[w]ith increasing climate risks, displacement is more likely to involve permanent migration.”⁹⁶ Despite this unpredictability, the long-term link between rapid-onset disasters and transboundary migration is clear.⁹⁷ Disasters have displaced between 20 and 26.4 million people per year in recent years—roughly four times the amount displaced by violent conflicts—making the issue essential to address.⁹⁸ Therefore, while the multifaceted nature of extreme weather events calls for flexible and complex solutions, it should not precipitate inaction.

II. EXISTING FRAMEWORKS

Existing efforts to support communities experiencing forced migration at the hands of climate change are numerous, reflecting the complex nature of both climate change and human movement. Those responses include: (1) international

90. See ERIC S. BLAKE & DAVID A. ZELINSKY, NAT'L HURRICANE CTR., HURRICANE HARVEY (2018) (finding that Hurricane Harvey was the most significant tropical cyclone rainfall event in United States history, both in scope and peak rainfall amounts, since reliable rainfall records began around the 1880s); Emily Shuckburgh et al., *Hurricanes Harvey, Irma, and Maria: How Natural Were These 'Natural Disasters'?*, 72 WEATHER 353 (2017).

91. Stefan Rahmstorf, *Rising Hazard of Storm-Surge Flooding*, 114 PROC. NAT'L ACAD. SCI. U.S. 11806 (2017).

92. See Julia Rosen, *How an Ocean Climate Cycle Favored Harvey*, 357 SCI. 853 (2017); Shuckburgh et al., *supra* note 90.

93. KREFT ET AL., *supra* note 87, at 6.

94. See Michel Beine & Christopher Parsons, *Climatic Factors as Determinants of International Migration*, 117 SCANDINAVIAN J. ECON. 723, 726 (2015).

95. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *supra* note 11; Mueller et al., *supra* note 56, at 184.

96. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *supra* note 11, at 778 tbl.12-4; see also MARTIN, *supra* note 14, at 1.

97. See NAT'L INTELLIGENCE COUNCIL, *supra* note 9, at 7 (“Sudden extreme weather—such as from floods, droughts, and severe tropical storms—almost certainly will increase the number of displaced people, particularly in regions that are unaccustomed to or unprepared for such events.”).

98. See CLIMATE CHANGE, MIGRATION AND HUMAN RIGHTS, *supra* note 7, at xii; see also MICHILLE YONETANI ET AL., INTERNAL DISPLACEMENT MONITORING CTR., GLOBAL ESTIMATES 2015: PEOPLE DISPLACED BY DISASTERS 8 (Jeremy Lennard ed., 2015).

legal frameworks focused on environmental impacts; (2) international legal frameworks focused on immigration; (3) domestic legal actions; and (4) imposition of liability on responsible parties.

Each of the four approaches mentioned above has limitations. The first two strategies—international environmental law and international immigration law—are global, top-down solutions. Consequently, while they can help facilitate cooperation and coordination, they are fundamentally limited by state sovereignty. The third and fourth strategies—domestic planning and immigration law and cost-recovery through litigation—avoid some of the challenges faced by international legal approaches but consequently lack sufficient cohesiveness and multi-stakeholder engagement. Despite their inherent limitations, each of these approaches will play an important role in the global effort to cope with climate-induced migration and support affected individuals. If pursued with forethought and sensitivity, evidence suggests that these approaches can provide effective solutions to climate-induced migration.⁹⁹

A. International Environmental Law and the UNFCCC

Some efforts to address climate-induced migration have developed out of existing international bodies designed to address environmental challenges. These efforts have tended to spawn out of the natural relationship between climate change mitigation and adaptation to the environmental effects of climate change addressed above in Section I. The UNFCCC, which was established in 1992 and currently has 197 state parties, is the primary international body working to address climate change and the impacts of climate change, including climate-induced migration.¹⁰⁰

1. Normative Advancements

The UNFCCC explicitly calls on state parties to “facilitate adequate adaptation to climate change” and to “cooperate in preparing for adaptation to the impacts of climate change.”¹⁰¹ Following this directive, the UNFCCC has addressed adaptation in a number of capacities. Although the bodies and programs identified below generally developed independently, they often work collaboratively to address their overlapping goals.¹⁰²

99. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *supra* note 11, at 770–71.

100. *What Is the United Nations Framework Convention on Climate Change*, UNFCCC, <https://unfccc.int/process/the-convention/what-is-the-united-nations-framework-convention-on-climate-change> (last visited May 28, 2018).

101. United Nations Framework Convention on Climate Change, *supra* note 6, at art. 4(1).

102. *See, e.g.*, UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE, VIEWS ON POTENTIAL FUTURE WORK AREAS OF THE NAIROBI WORK PROGRAMME ON IMPACTS, VULNERABILITY AND ADAPTATION TO CLIMATE CHANGE (2013) (discussing the compatibility of the Nairobi Work Program with the Nansen Initiative).

One notable development occurred in 2001 with the establishment of the Least Developed Countries (“LDC”) Work Programme.¹⁰³ Among other actions, the LDC Work Programme called on states to create National Adaptation Programmes of Action (“NAPAs”).¹⁰⁴ NAPAs are designed to facilitate and foster support for the adaptive efforts of LDCs.¹⁰⁵

Further, the UNFCCC established the Nairobi Work Programme (“NWP”) in 2005.¹⁰⁶ The objective of the NWP is “to assist all Parties, in particular developing countries, including the least developed countries and small island developing States, to improve their understanding and assessment of impacts, vulnerability and adaptation, and to make informed decisions on practical adaptation actions and measures to respond to climate change.”¹⁰⁷ “Climate change induced displacement, migration and planned relocation” has been identified as a future work area for the NWP.¹⁰⁸

More recently, the UNFCCC developed the Cancun Accord.¹⁰⁹ The Cancun Accord acknowledges “that adaptation is a challenge faced by all Parties, and that enhanced action and international cooperation on adaptation are urgently required to enable and support the implementation of adaptation actions aimed at reducing vulnerability and building resilience.”¹¹⁰ The Cancun Accord further acknowledges climate-induced migration explicitly, inviting all parties to undertake “[m]easures 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.”¹¹¹ To address adaptation, the Cancun Accord established a process for LDCs to implement National Adaptation Plans—“building upon their experience preparing and implementing [NAPAs].”¹¹²

2. Funding Mechanisms

Most funding mechanisms under the UNFCCC are designed to minimize contributions to climate change by limiting emissions of greenhouse gases. However, some UNFCCC funding is dedicated to addressing the impacts of climate

103. See UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE, REPORT OF THE CONFERENCE OF THE PARTIES ON ITS SEVENTH SESSION, HELD AT MARRAKESH FROM 29 OCTOBER TO 10 NOVEMBER 2001, add. vol. IV, at 14 (2001).

104. *Id.* at 6.

105. See *id.* at 8.

106. See UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE, FIVE-YEAR PROGRAMME OF WORK OF THE SUBSIDIARY BODY FOR SCIENTIFIC AND TECHNOLOGICAL ADVICE ON IMPACTS, VULNERABILITY AND ADAPTATION TO CLIMATE CHANGE, add. 5–9 (2005).

107. *Id.* at 7.

108. See UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE, *supra* note 102, at 33–34.

109. See United Nations Framework Convention on Climate Change, *The Cancun Agreements: Outcome of the Work of the Ad Hoc Working Group on Long-Term Cooperative Action Under the Convention*, Decision 1/CP.16, FCCC/CP/2010/7/Add.1 (Mar. 15, 2011).

110. *Id.* at para. 11.

111. *Id.* at para. 14(f).

112. *Id.* at para. 15.

change through adaptation. The Global Environmental Facility (GEF), for example, the largest UN funding mechanism, operates multiple smaller funds that could support climate migrants. For example, the GEF manages the Special Climate Change Fund, which includes among its goals the allocation resources to support adaptation efforts.¹¹³ Similarly, the LDC Fund, developed to provide funding for the LDC Work Programme described above, is operated by the GEF.¹¹⁴ As previously stated, the LDC Work Programme possesses the potential to support LDC's adaptation efforts by assisting in the development of NAPAs.¹¹⁵

The UNFCCC also has the potential to address climate-related displacement and migration through its Adaptation Fund, adopted by the UNFCCC Council of Parties in 2001.¹¹⁶ Financed by private donors, and by proceeds from the UNFCCC's Clean Development Mechanism, the Adaptation Fund has provided funding to support resilience-building projects all around the world.¹¹⁷ However, to date, the Adaptation Fund has not extended funding to migration-related projects.¹¹⁸

The final environmental mechanism under the UNFCCC with broad potential to assist in adaptation efforts is the Green Climate Fund ("GCF").¹¹⁹ The GCF, established in the Cancun Accord, is a financial mechanism designed with the sole purpose of addressing climate change.¹²⁰ According to the Cancun Accord, "a significant share of new multilateral funding for adaptation should flow through the [GCF]."¹²¹

The GCF has already spurred the global community to commit to "mobiliz[ing]" \$100 billion per year by 2020.¹²² This mobilization effort includes contributions from both governments, as well as non-governmental organizations and corporations.¹²³ As of November 15, 2017, nations have pledged over ten

113. See United Nations Framework Convention on Climate Change, *Funding Under the Convention*, Decision 7/CP.7 para. 2, FCCC/CP/2001/13/Add.1 (Nov. 10, 2001).

114. See United Nations Framework Convention on Climate Change, *Guidance to an Entity Entrusted with the Operation of the Financial Mechanism of the Convention, for the Operation of the Least Developed Countries Fund*, Decision 27/CP.7 para. 2, FCCC/CP/2001/13/Add.4 (Jan. 21, 2002).

115. See United Nations Framework Convention on Climate Change Dec. 29/CP.7, U.N. Doc. FCCC/CP/2001/13/Add.4 (Jan. 21, 2002); UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE, *supra* note 103.

116. See United Nations Framework Convention on Climate Change Dec. 10/CP.7, U.N. Doc. FCCC/CP/2001/13/Add.4, ¶ 1 (Nov. 10, 2001).

117. See *Projects & Programmes*, ADAPTATION FUND, <https://www.adaptation-fund.org/projects-programmes/> [<https://perma.cc/ER2G-G238>] (last visited July 25, 2018).

118. *Id.*

119. See GREEN CLIMATE FUND, GOVERNING INSTRUMENT FOR THE GREEN CLIMATE FUND 3 (2011).

120. United Nations Framework Convention on Climate Change Dec. 1/CP.16, U.N. Doc. FCCC/CP/2010/7/Add.1, ¶ 100 (Mar. 15, 2011).

121. *Id.* ¶ 100.

122. *How We Work: Resource Mobilization*, GREEN CLIMATE FUND, <http://www.greenclimate.fund/how-we-work/resource-mobilization> [<https://perma.cc/T88Y-C5FQ>] (last visited July 25, 2018).

123. RÜTTINGER ET AL., A NEW CLIMATE FOR PEACE: TAKING ACTION ON CLIMATE AND FRAGILITY RISKS 86 (2015).

billion dollars to the fund.¹²⁴ Donor contributions to climate finance measures such as the GFC are expected to increase substantially in the coming years as funding projects continue to gain momentum.¹²⁵

The adaptation-related goals of the GCF are to increase the resilience of health, food, and water security; livelihoods of people and communities; ecosystems and ecosystem services; and infrastructure and the built environment.¹²⁶ These first two goals could be served by addressing climate-induced migration. Like the Adaptation Fund, to date, many of the GCF's approved projects relate to issues identified as drivers of migration, but none address migration specifically.¹²⁷ However, the GCF may be the more promising of the two funding mechanisms to address climate-induced migration, due to its magnitude and potential for flexible application.

B. International Immigration Law

Although some advocates argue that the UNFCCC should do more to assist those individuals who will inevitably be displaced by climatic impacts,¹²⁸ critics argue that environmental migration would be better addressed through immigration-focused frameworks.¹²⁹ Advocates of the immigration approach tend to focus on the ability of immigration law to play a more case-specific role, assessing the needs and concerns of the particular individuals affected.¹³⁰

One major challenge in addressing environmental migration through immigration-focused frameworks is the multi-causal nature of migration. While the environment may be the central cause of human movement in many cases, there are often other contributory factors.¹³¹ These multiple, concurrent causes make it difficult to distinguish environmental migrants from migrants more generally.

124. GREEN CLIMATE FUND, STATUS OF PLEDGES AND CONTRIBUTIONS MADE TO THE GREEN CLIMATE FUND (2018), https://www.greenclimate.fund/documents/20182/24868/Status_of_Pledges.pdf [<https://perma.cc/H2BZ-ZHHB>]. It is of note that this figure includes a \$3 billion pledge from the United States, of which the United States has transferred only \$1 billion. Given the current federal government's stance on climate change, there is legitimate doubt as to whether the United States will transfer the remaining \$2 billion. This deficiency could reduce the GCF's overall pledge status by roughly 20 percent.

125. RÜTTINGER ET AL., *supra* note 123.

126. GREEN CLIMATE FUND, INTRODUCTION TO THE GREEN CLIMATE FUND REQUEST FOR PROPOSALS TO MOBILIZE FUNDS AT SCALE, https://www.greenclimate.fund/documents/20182/730867/Introduction_to_the_GCF_Request_for_Proposals.pdf [<https://perma.cc/V9MH-VFAG>].

127. *See Projects + Programmes*, GREEN CLIMATE FUND, <http://www.greenclimate.fund/what-we-do/projects-programmes> [<https://perma.cc/NX3Y-QHVZ>] (last visited July 25, 2018).

128. *See, e.g.*, Christine Gibb & James Ford, *Should the United Nations Framework Convention on Climate Change Recognize Climate Migrants?*, 2012 ENVTL. RES. LETTERS 1, 7.

129. Benoit Mayer, *Critical Perspective on the Identification of 'Environmental Refugees' as a Category of Human Rights Concern*, in CLIMATE CHANGE, MIGRATION AND HUMAN RIGHTS 28, 33 (Dimitra Manou et al. eds., 2017).

130. *See id.*

131. SUSAN F. MARTIN, ENVIRONMENTAL CHANGE AND MIGRATION: WHAT WE KNOW 2 (2013).

According to the IPCC, the “multiple drivers of migration (economic, social, political, demographic, and environmental) and the complex interactions that mediate migratory decision making by individuals or households, establishment of a relation between climate change and intra-rural and rural-to-urban migration, observed or projected, remains a major challenge” to the development of normative frameworks.¹³²

Similarly, another challenge lies in distinguishing between forced and voluntary migration. Normative frameworks understandably tend to draw a line between those who exercise agency in their choice to migrate and those who migrate as a result of forces outside their control.¹³³ Critics argue that the line drawn between forced and voluntary migration oversimplifies a complex array of issues.¹³⁴ Nonetheless, the international community has frequently afforded greater protections to those who are deemed to have migrated out of sheer necessity.

1. Normative Advancements

There is no single body with a universally recognized mandate for the development and implementation of immigration law. This is in large part due to far-reaching state sovereignty in the area. However, some international institutions have undertaken significant work to develop and apply international immigration law, including work related to environmental migration. Many of these efforts have sought to advance a human rights-based approach to supporting environmental migrants.¹³⁵

The IOM is the most prominent non-governmental organization dealing with migrants.¹³⁶ Independent from the UN, the IOM was initially developed as a service organization, but as its membership has grown, its focus has shifted to the progressive development of normative standards.¹³⁷ Beginning as early as 1992, the IOM has dedicated significant effort to exploring the relationship between the

132. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2014: IMPACTS, ADAPTATION, AND VULNERABILITY PART A: GLOBAL AND SECTORAL ASPECTS 617 (Christopher B. Field et al. eds., 2014) [hereinafter IPCC ADAPTATION 2014]; see also INST. FOR THE STUDY OF DIPLOMACY, NEW CHALLENGES TO HUMAN SECURITY: ENVIRONMENTAL CHANGE AND HUMAN MOBILITY 6 (2017); MARTIN, *supra* note 131; Elizabeth Ferris, *Governance and Climate Change-Induced Mobility: International and Regional Frameworks*, in CLIMATE CHANGE, MIGRATION AND HUMAN RIGHTS 11, 13–14 (Dimitra Manou et al. eds., 2017).

133. See Craig A. Johnson, *Governing Climate Displacement: The Ethics and Politics of Human Resettlement*, 21 ENVTL. POL. 308, 313 (2012); Mayer, *supra* note 129, at 30, 39; see also STEPHEN H. LEGOMSKY ET AL., IMMIGRATION AND REFUGEE LAW AND POLICY 898 (6th ed. 2015) (discussing the distinction between refugees and “economic migrants”).

134. See BENOÎT MAYER, THE CONCEPT OF CLIMATE MIGRATION: ADVOCACY AND ITS PROSPECTS 102 (2016).

135. *Id.* at 100–01.

136. Ferris, *supra* note 132, at 21; Susan Martin, *Climate Change, Migration, and Governance*, 16 GLOBAL GOVERNANCE 397, 407 (2010).

137. Ferris, *supra* note 132. The IOM currently has 166 member states.

environment and migration.¹³⁸ Included in these efforts has been the publication of works addressing climate-induced migration.¹³⁹

In 2015, the IOM adopted the Migration Governance Framework, designed to facilitate “orderly, safe, regular and responsible migration and mobility of people through planned and well-managed migration policies.”¹⁴⁰ Acknowledging the challenges inherent to the development of immigration policy,¹⁴¹ the Migration Governance Framework calls on states to use a “whole-of-government approach” to formulate their policies.¹⁴² This approach relies on the collection of reliable data, including information elucidating the relationship between “environmental degradation, climate change and crises,” and migration.¹⁴³ This call for states to acknowledge and better understand the multi-causal nature of immigration, including migration caused by environmental shifts, could be a promising starting point for the development of a global framework designed to address climate-induced migration.¹⁴⁴

In addition to the IOM, there are a number of UN bodies that address migration. Among these, the International Labour Organization (ILO) is probably the most significant. The ILO collects global data on the intersection between labor and migration, and present forward-looking policies based on the information they receive.¹⁴⁵ The ILO has also sponsored multiple conventions designed to protect the rights of migrants.¹⁴⁶ Of the treaties focused on migration, the most relevant to the issue of climate-induced migration is the *International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families*.¹⁴⁷ The convention affirms the human rights of migrant workers, including the right to leave their state of origin¹⁴⁸ and the right to liberty and security of person.¹⁴⁹ Although these

138. Martin, *supra* note 136, at 408.

139. See, e.g., INT'L ORG. FOR MIGRATION, MIGRATION, ENVIRONMENT AND CLIMATE CHANGE: ASSESSING THE EVIDENCE (Frank Laczko & Christine Aghazarm eds., 2009).

140. See INT'L ORG. FOR MIGRATION, C/106/40, MIGRATION GOVERNANCE FRAMEWORK 1 (2015).

141. *Id.* ¶ 13.

142. *Id.* ¶ 12.

143. *Id.*

144. See Ferris, *supra* note 132, at 21.

145. See *Labour Migration*, INT'L LABOUR ORG., <http://www.ilo.org/global/topics/labour-migration/lang-en/index.htm> [<https://perma.cc/JP7E-5AZR>] (last visited July 25, 2018).

146. See, e.g., INT'L LABOUR ORG., MIGRATION FOR EMPLOYMENT CONVENTION (REVISED), 1949 (NO. 97) (1949); INT'L LABOUR ORG., CONVENTION CONCERNING MIGRATIONS IN ABUSIVE CONDITIONS AND THE PROMOTION OF EQUALITY OF OPPORTUNITY AND TREATMENT OF MIGRANT WORKERS, 1975 (NO. 143) (1978).

147. G.A. Res 45/158, International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families (Dec. 18, 1990).

148. *Id.* at art. 8.

149. *Id.* at art. 16. The right to liberty and security of person includes the right to effective protection by the State against violence, physical injury, threats, and intimidation, and the right to be free of arbitrary arrest and unlawful imprisonment.

conventions hold some promise in their potential application to environmental migrants, their limited membership inhibits their usefulness.¹⁵⁰

The Global Migration Group (“GMG”) was established in 2003 to coordinate the work of these, and other, organizations grappling with human migration. The GMG brings together heads of twenty-two such organizations on a regular basis.¹⁵¹ In 2011, the GMG “call[ed] on the international community to recognize that migration and displacement induced by environmental degradation and climate change require urgent action.”¹⁵² Similar to the IOM’s Migration Governance Framework, the GMG’s statement could provide a solid foundation upon which to begin addressing this issue more comprehensively.¹⁵³

Finally, the Nansen Initiative and its follow-up program, the Platform on Disaster Displacement, have helped address migration resulting from natural disasters. Adopted in 2015 by over 100 states, the Agenda for the Protection of Cross-Border Displaced Persons in the Context of Disasters and Climate Change (“Agenda”) seeks to address climate-induced migration.¹⁵⁴ Although the Agenda focuses primarily on migration-based responses, it takes a multidimensional approach, seeking to both mitigate risks and provide adequate responses when migration does occur.¹⁵⁵

2. *The Refugee Analogy*

The forced nature of climate-induced migration led many early scholars to consider the issue in terms of refugee status, coining the term “environmental refugee” as early as 1990.¹⁵⁶ The conceptual value of this characterization is readily apparent. If refugee-related frameworks are designed to assist those individuals experiencing forced migration through principles such as non-refoulement,¹⁵⁷ then environmental migrants should be protected under those same principles.¹⁵⁸ The United Nations High Commissioner for Refugees (“UNHCR”) has explicitly drawn

150. Martin, *supra* note 136, at 404.

151. *See About*, GLOBAL MIGRATION GROUP, <http://www.globalmigrationgroup.org/what-is-the-gmg> [<https://perma.cc/KGN6-NZ43>] (last visited July 25, 2018).

152. GLOB. MIGRATION GRP., STATEMENT OF THE GLOBAL MIGRATION GROUP ON THE IMPACT OF CLIMATE CHANGE ON MIGRATION (2011), http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/SHS/pdf/GMG_statement.pdf [<https://perma.cc/M2ZL-JPFC>].

153. *See id.* The GMG statement touches on many relevant topics, including the need to collect more data, the need to protect the world’s most vulnerable communities, and benefits of taking a gender-sensitive, human rights-based approach to the issue.

154. THE NANSEN INITIATIVE, 1 AGENDA FOR THE PROTECTION OF CROSS-BORDER DISPLACED PERSONS IN THE CONTEXT OF DISASTERS AND CLIMATE CHANGE (2015).

155. *See id.* at 8–9.

156. *See* Martin, *supra* note 136, at 397.

157. G.A. Res. 429 (V), 1951 Convention Relating to the Status of Refugees art. 33 (July 28, 1951).

158. MAYER, *supra* note 134, at 1–2.

this parallel in past publications.¹⁵⁹ But while this characterization may help to demonstrate the urgency of the issue, many barriers limit its usefulness.

First, the term refugee represents a rigidly defined concept, which has not been read to encompass environmental migrants. The term is codified in the 1951 Refugee Convention (“the Convention”).¹⁶⁰ The Convention has 145 state parties and is considered to be the primary source of international refugee law. Second, unlike international immigration law where no single body has been tasked with the development and implementation of the law, the UNHCR is recognized as the institution responsible for implementing international refugee law and policy.¹⁶¹ This consolidation has led to further definitional rigidity. Finally, although state parties hold obligations under the Convention, they have defined the term restrictively to limit individual responsibility under the Convention.

The Convention defines a refugee to be someone who, “owing to well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country.”¹⁶² The provision can be further subdivided, but for this analysis it is most helpful to split the definition into three parts: first, the individual must have a well-founded fear of persecution; second, the individual must be outside her country of origin; and third, the individual must be unwilling or unable to avail herself of the protection of her home country.

The first requirement—that individuals possess a well-founded fear of persecution¹⁶³—presents the most significant challenge for environmental migrants seeking refugee status. This is because, although the Convention does not define the term, “persecution” has been read to require the individual to face an infliction of harm at the hands of another person.¹⁶⁴ In addition, states typically require this infliction of harm to be reasonably specific to the individual in question. “Generally harsh conditions shared by many other persons [do] not amount to persecution.”¹⁶⁵ Although some parties may be responsible for climate change—a concept discussed further in Section III.d below, the resultant harms are, by and large, too broad to fit into this restrictive definition of persecution.

The second requirement—that an individual is outside her state of origin—can also present a challenge for some environmental migrants seeking refugee status. More often than not, environmental migrants are not displaced across state

159. See, e.g., UNITED NATIONS HIGH COMM’R FOR REFUGEES, REFUGEE OPERATIONS AND ENVIRONMENTAL MANAGEMENT: KEY PRINCIPLES FOR DECISION-MAKING (1998).

160. See G.A. Res. 429 (V), *supra* note 157, at art. 1.

161. Ferris, *supra* note 132, at 21.

162. See G.A. Res. 429 (V), *supra* note 157, at art. 1.

163. The right to be free of persecution can also be found in G.A. Res. 217 (III) A, Universal Declaration of Human Rights art. 14(1) (Dec. 10, 1948).

164. See *generally* Matter of Acosta, 19 I. & N. Dec. 211 (BIA 1985).

165. *Id.* at 222.

borders.¹⁶⁶ Refugee status offers no protections to these internal migrants.¹⁶⁷ Section III.b.iii below further describes the protections available to internal migrants.

Furthermore, even if the refugee definition were to be expanded, legitimate political barriers would limit the effectuation of a more liberal refugee framework. Refugee concerns are fraught all around the world, and the existing structure has only persisted based on states' ability to parse the already complicated definition explained above.¹⁶⁸ The difficulties inherent in defining environmental refugees, therefore, make the expansion of the Convention unlikely.

3. Internal Migration

Another central challenge in assessing climate-induced displacement through the lens of immigration law is the distinction between internal and transboundary migration. International norms related to immigration law tend to focus primarily on cross-border migration, despite the fact that the majority of environmental migration is internal.¹⁶⁹ "For the most part, there are no systems of global governance that address internal migration, which is an internal matter of state sovereignty."¹⁷⁰ The international community is now beginning to address this normative gap and support individuals forced to migrate within the borders of their origin country. Like the discussion on normative advancements in immigration law above, these developments have tended to link a human rights-focused approach with the issue of environmental migration.

In 1998, the UN Office of the High Commissioner for Human Rights (OHCHR) published the Guiding Principles on Internal Displacement.¹⁷¹ The guiding principles codified the foundational rights to be afforded to internal migrants. Reflecting many of these same principles, the African Union adopted the Convention for the Protection and Assistance of Internally Displaced Persons in Africa (Kampala Convention) in 2009.¹⁷² The Kampala Convention, which

166. INST. FOR THE STUDY OF DIPLOMACY, NEW CHALLENGES TO HUMAN SECURITY: ENVIRONMENTAL CHANGE AND HUMAN MOBILITY 16 (2017); MARTIN, *supra* note 131, at 4; Martin, *supra* note 136, at 400.

167. Mayer, *supra* note 129, at 39.

168. Mayer, *supra* note 129, at 33; *see also* IPCC ADAPTATION 2014, *supra* note 132, at 771; LEGOMSKY ET AL., *supra* note 133, at 898.

169. INST. FOR THE STUDY OF DIPLOMACY, *supra* note 166, at 16 (2017); MARTIN, *supra* note 131, at 4; KATHLEEN NEWLAND, CLIMATE CHANGE AND MIGRATION DYNAMICS 10 (2011); Martin, *supra* note 136, at 400.

170. Martin, *supra* note 136, at 402.

171. Francis M. Deng (Representative of the Sec'y-Gen.), *Human Rights, Mass Exoduses, and Displaced Persons, Guiding Principles on Internal Displacement*, U.N. Doc. E/CN.4/1998/53/Add.2 (Feb. 11, 1998).

172. AFRICAN UNION, AFRICAN UNION CONVENTION FOR THE PROTECTION AND ASSISTANCE OF INTERNALLY DISPLACED PERSONS IN AFRICA (KAMPALA CONVENTION) (2009), https://au.int/sites/default/files/treaties/7796-treaty-0039_-_kampala_convention_african_union_convention_for_the_protection_and_assistance_of_internally_displaced_persons_in_africa_e.pdf [<https://perma.cc/H4MH-QR9W>].

represents an attempt to take a regional approach to migration, calls on state parties to “take measures to protect and assist persons who have been internally displaced due to natural or human-made disasters, including climate change.”¹⁷³

Finally, in 2013 a number of states came together to develop the Peninsula Principles, “a comprehensive normative framework, based on principles of international law, human rights obligations and good practice, within which the rights of climate displaced persons can be addressed.”¹⁷⁴ The Peninsula Principles call on states to implement a number of measures, including the provision of support and assistance to individuals experiencing displacement,¹⁷⁵ the provision of housing,¹⁷⁶ and the development of a framework to return individuals to their original homes when possible.¹⁷⁷

C. Domestic Legal Responses

Although this Note is concerned primarily with international legal responses to climate-induced migration, the majority of adaptation measures and developments in the field of immigration law occur at the domestic level. This Section will therefore briefly address some of the expectations of states with respect to environmental migrants.

1. Adaptation

The normative frameworks described above are designed, in large part, to solicit action at the state level. Therefore, while calls for states to act cooperatively are common,¹⁷⁸ states will ultimately be responsible for enacting measures designed to facilitate climate adaptation.¹⁷⁹

Understandably, this state-centric response puts significant strain on developing countries, whose populations are most vulnerable to the impacts of climate change.¹⁸⁰ This disparate impact highlights the particular need for developing countries to assume responsibility for their National Adaptation Plans, so as to prevent harms insofar as is possible and to be able to enlist the support of the international community when harms do occur.¹⁸¹ Further, the burden on

173. *Id.* at art. 5(4).

174. *See* DISPLACEMENT SOLS., PENINSULA PRINCIPLES ON CLIMATE DISPLACEMENT WITHIN STATES, at princ. 1(a) (2013), <http://displacementsolutions.org/wp-content/uploads/2014/12/Peninsula-Principles.pdf> [<https://perma.cc/G3ZB-5XR7>].

175. *Id.* at princ. 14.

176. *Id.* at princ. 15.

177. *Id.* at princ. 17.

178. *See id.* at princ. 8.

179. *See* MARTIN, *supra* note 131, at 8.

180. *Id.* at 3.

181. *See* United Nations Framework Convention on Climate Change, *Report of the Conference of the Parties on Its Twenty-Second Session, Held in Marrakech from 7 to 18 November 2016*, U.N. Doc. FCCC/CP/2016/10/Add.1 [hereinafter UNFCCC, *Twenty-Second Session Report*]; United Nations Framework Convention on Climate Change, *Report of the Conference of the Parties on its Twenty-First Session, Held in Paris from 30 November to 13 December 2015*, U.N. Doc. FCCC/CP/2015/10/

developing countries highlights the importance of the funding mechanisms explored above as a means of supporting states' proactive efforts to adapt in the near-term.¹⁸²

2. *Immigration Law*

Immigration-focused responses to environmental migration are almost entirely dependent on states' domestic immigration laws. Currently, this emphasis on domestic law and policy can present a major challenge for climate migrants. This is because “[a]t the national level, immigration laws of most destination countries are not conducive to receiving large numbers of environmental migrants, unless they enter through already existing admission categories.”¹⁸³ Stated differently, for climate migrants to be accepted into a receiving country, they must pursue one of the traditional channels of migration. Such channels tend to focus on economic and familial factors and are often unresponsive to human rights concerns. Therefore, absent the development of laxer immigration laws pursuant to states' sovereign decision-making, there are few channels specifically available to environmental migrants.

A few countries have carved out minor exceptions in their immigration laws for persons suffering environmental harms. The United States, for example, has allowed for some individuals to be granted “Temporary Protected Status” (“TPS”) for a period of time when such individuals have been affected by a natural disaster.¹⁸⁴ The central weakness of TPS for climate migrants is that the protection is, by definition, temporary.¹⁸⁵ It is also completely discretionary in its application.¹⁸⁶ Therefore, while TPS can offer a form of respite for individuals in dire circumstances, it does not represent a long-term solution to climate-induced migration. This problem is exemplified by the U.S. Secretary of Homeland Security's recent move to terminate the TPS status of individuals from certain countries.¹⁸⁷ Sweden and Finland have enacted similar laws to the TPS,¹⁸⁸ and a number of countries have provided exceptions to their removal procedures in extraordinary cases related to natural disasters.¹⁸⁹ However, all of these state responses are discretionary and not designed to provide long-term support to environmental migrants.

Add.2; G.A. Dec. 3/CP.20, U.N. Doc. FCCC/CP/2014/10/Add.2 (Dec. 12, 2014); *see also* Martin, *supra* note 136, at 401 (discussing NAPAs, before the adoption of the Cancun Accord).

182. *See* UNFCCC, *Twenty-Second Session Report*, *supra* note 181, at para. 10.

183. Martin, *supra* note 136, at 405.

184. 8 U.S.C. § 1254a(b)(1)(B)(i) (2012).

185. *Id.* at § 1254a(a)(1)(A); *see also* LEGOMSKY ET AL., *supra* note 133, at 1140.

186. 8 U.S.C. § 1254a(a)(1)(A).

187. *See Temporary Protected Status*, U.S. CITIZENSHIP & IMMIGR. SERVICES, <https://www.uscis.gov/humanitarian/temporary-protected-status> [<https://web.archive.org/web/20180724065849/https://www.uscis.gov/humanitarian/temporary-protected-status>] (last visited July 24, 2018).

188. *See* MARTIN, *supra* note 131, at 5.

189. Martin, *supra* note 136, at 407.

D. Liability and Climate-Related Litigation

There is an increasing effort internationally to provide support to individuals suffering climate-related hardships by imposing liability on actors responsible for contributing to the harms of climate change. Although this approach is constrained by sovereign states' willingness to impose liability upon their citizens, states are showing an increasing willingness to impose such liability in some circumstances.

The benefits of imposing liability are evident. Not only would such a framework allow aggrieved parties to be compensated for the climatic harms they face—allowing them to better adapt to those harms—but it would also prevent actors from contributing to those harms. It is this promise that has led international bodies to encourage states to provide a platform for such cases.¹⁹⁰ An important development in this regard was the adoption of the Warsaw Mechanism for Loss and Damage.¹⁹¹ Building on the Warsaw Mechanism, Article 8 of the Paris Agreement, states “Parties recognize the importance of averting, minimizing and addressing loss and damage associated with the adverse effects of climate change, including extreme weather events and slow onset events, and the role of sustainable development in reducing the risk of loss and damage.”¹⁹² While these efforts are generally limited to the collection of data regarding loss and damage associated with climate change, they may provide foundational support for cases brought in states' courts. There is also hope that publicly naming bad actors may provide a further disincentive from contributing to climate change.¹⁹³

Although the results of litigation focused on mitigating the impacts of climate change have been mixed,¹⁹⁴ some such efforts have shown promise.¹⁹⁵ The legal principles underlying such cases include the precautionary principle, the principle of intergenerational equity, and the public trust doctrine.¹⁹⁶

Adaptation-focused litigation has also been effective in a few limited circumstances. In *Ashgar Leghari v. Federation of Pakistan*, for example, a Pakistani

190. See, e.g., AFRICAN UNION, *supra* note 172, at art. 12; DISPLACEMENT SOLS., *supra* note 174, at princs. 12, 16.

191. United Nations Framework Convention on Climate Change, *Report of the Conference of the Parties on Its Nineteenth Session, Held in Warsaw from 11 to 23 November 2013*, U.N. Doc. FCCC/CP/2013/10/Add.119.

192. United Nations Framework Convention on Climate Change, *Report of the Conference of the Parties on its Twenty-First Session, Held in Paris from 30 November to 13 December 2015*, U.N. Doc. FCCC/CP/2015/10/Add.2, Annex: Paris Agreement, Article 8.

193. See Anja Mühr, *Climate Change, Migration and Human Rights*, in CLIMATE CHANGE, MIGRATION AND HUMAN RIGHTS 46 (Dimitra Manou et al. eds., 2017).

194. See, e.g., *Am. Elec. Power Co., Inc. v. Connecticut*, 564 U.S. 410 (2011).

195. See, e.g., *Urgenda Found. v. Neth.*, HA ZA 13-1396, 30 (Hague District Ct. 2015) (Neth). Similar cases have been brought in Norway (*Greenpeace Nordic Association v. Ministry of Petroleum and Energy*), Sweden (*PUSH Sweden v. Government of Sweden*), and Pakistan (*Ali v. Federation of Pakistan*). For a complete database of such cases, see CLIMATE CHANGE LITIGATION DATABASES, <http://climatecasechart.com/> [<https://perma.cc/S9ZR-MCB7>] (last visited July 25, 2018).

196. *Urgenda*, HA ZA 13-1396, 30; see also Mary Christina Wood & Dan Galpern, *Atmospheric Recovery Litigation: Making the Fossil Fuel Industry Pay to Restore a Viable Climate System*, 45 LEWIS & CLARK ENVTL. L. REV. 259 (2015).

farmer sued his government for failing to comply with Pakistan's Climate Change Policy.¹⁹⁷ The court found in favor of Leghari, holding that Pakistan is "a victim of climate change and requires immediate remedial adaptation measures to cope with the disruptive climatic patterns."¹⁹⁸ Similarly, in *Lliuya v. RWE AG*, a Peruvian farmer brought suit against Germany's largest electricity producer in German courts, alleging that glaciers above his hometown of Huaraz were melting as a result of climate change, making the area uninhabitable.¹⁹⁹ Lliuya alleged that RWE AG, the electricity producer, was partially responsible for that harm.²⁰⁰ The German Regional Court initially dismissed the claim on the grounds of inadequate causation and insufficient specificity.²⁰¹ However, on November 30, 2017, the appeals court recognized the claim as admissible and moved it into the evidentiary stage.²⁰²

Despite these successes, litigation focused on adapting to the impacts of climate change is less promising than mitigation-focused litigation for two reasons. First, some of the primary legal principles used to argue for mitigation do not apply to adaptation. The precautionary principle, for instance, says that "[w]here there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation."²⁰³ This principle directly supports mitigation efforts, which seek to prevent environmental harms, but does little to buoy arguments related to adaptation. Arguments related to intergenerational equity and public trust responsibilities encounter similar hurdles. Both of those principles seek to motivate the preservation of property and resources held in common, but adaptation-focused cases necessarily acknowledge the prior loss of those resources.

Second, it can be more difficult to prove causation in cases related to adaptation than in cases focused on mitigation because the remedies sought are more case-specific. Mitigation-focused lawsuits require a plaintiff to show that the defendant's actions are contributing to climate change. In contrast, adaptation-focused cases require that a plaintiff meet the additional hurdle of proving that climate change is the specific cause of her harms. The plaintiff's difficulty in establishing causation was the basis for the original dismissal of *Lliuya*.²⁰⁴

197. See Ashgar Leghari v. Fed'n of Pakistan, (2015) W.P. No. 25501/2015 (Pak.).

198. *Id.*

199. See Landgericht [LG] [Essen Regional Court] Dec. 12 2016, *Lliuya v. RWE AG*, 2 O 285/15 (Ger.).

200. *Id.*

201. *Id.*

202. See Press Release for *Lliuya v. RWE AG* (Nov. 30, 2017), http://blogs2.law.columbia.edu/climate-change-litigation/wp-content/uploads/sites/16/non-us-case-documents/2017/20171130_Case-No.-2-O-28515-Essen-Regional-Court_press-release.pdf [<https://perma.cc/7PNV-WZ8P>].

203. United Nations on Environment and Development, *Rio Declaration on Environment and Development*, at princ. 15, U.N. Doc. A/CONF.151/26 (Aug. 12, 1992).

204. *Lliuya*, 2 O 285/15.

In sum, climate change-related litigation has become much more common in recent years, particularly following the signing of the Paris Agreement.²⁰⁵ But while some of these cases have been successful, the effectiveness of such suits as a legitimate tool to protect climate migrants is still unclear.

III. RECOMMENDATIONS

Ultimately, the goal of this report is not to provide a qualitative analysis of the existing adaptation methods but rather to provide a birds-eye synopsis of the state of climate-induced migration. Therefore, this final section looks beyond specific approaches to provide recommendations that apply to the field as a whole.

A. Framing

An important consideration in all advocacy, but particularly in efforts to advance the rights of the disenfranchised, is to be aware of the way issues are framed. The term “climate-induced migration,” for instance, avoids the conceptual difficulties associated with the term “refugee.”²⁰⁶ But the importance of conscious framing extends beyond semantic considerations. With regards to climate-induced migration, it will be particularly important to push back against narratives that paint migrants as a blight, a source of fear, or even an “issue” that needs to be dealt with. Immigrants are humans. And fundamental to a belief in human rights is the idea that all humans deserve a baseline standard of well-being.

Moreover, there are pragmatic considerations that, if emphasized, can spur states to take progressive action with respect to climate-induced migration. In particular, the financial and institutional interests—not just the humanitarian interests—of all states stand to benefit from increased participation in the global efforts to accommodate climate migrants.²⁰⁷

B. Information-Gathering

The collection of more comprehensive data, which can, in turn, support a more informed understanding regarding both the impacts of climate change and migration trends is crucial. “[W]ithout such basic information as how many people are likely to move, from where to where, and for how long, developing an appropriate policy framework is exceedingly difficult.”²⁰⁸ The importance of data

205. See UNITED NATIONS ENVIRONMENT PROGRAMME, THE STATUS OF CLIMATE CHANGE LITIGATION: A GLOBAL REVIEW 8 (2017).

206. Ferris, *supra* note 132, at 23.

207. See MAYER, *supra* note 134, at 4–45; NAT'L INTELLIGENCE COUNCIL, IMPLICATIONS FOR US NATIONAL SECURITY OF ANTICIPATED CLIMATE CHANGE (2016).

208. Martin, *supra* note 136, at 398; see also RÜTTINGER ET AL., *supra* note 123, at 26 (“Understanding where and when receiving communities are able to absorb people is key to managing the tensions that may emerge.”).

collection is emphasized in most international agreements and remains as important as ever.²⁰⁹

C. Cultural Awareness

Finally, it is important to remember that while migration can serve as a solution to cope with the effects of climate change, it is the product of dire circumstances.²¹⁰ Therefore, even when relocations are feasible, they can be accompanied by significant cultural loss, psychological stress, and community dislocation.²¹¹ After weighing these factors, some communities have elected not to move, even as their homes become uninhabitable.²¹² Similarly, small island nations have been recalcitrant with regards to planned relocation efforts because of concerns related to the future scope of their sovereignty.²¹³ Some international mechanisms have sought to accommodate these communities by seeking to provide additional support to indigenous peoples and by calling for consent with regards to planned relocation.²¹⁴ But most importantly, the global community should affirmatively seek to incorporate the voices of those most likely to be affected by climate change into the dialogue as soon as possible. Ultimately, for any solution to be adequate, it must be understood and supported by the community it purports to serve.²¹⁵

209. See, e.g., THE NANSEN INITIATIVE, *supra* note 154, at 44; United Nations Framework Convention on Climate Change Dec. 1/CP.16, *supra* note 120, ¶ 14(h).

210. See IPCC ADAPTATION 2014, *supra* note 132, at 767; Mihr, *supra* note 193, at 57.

211. See IPCC ADAPTATION 2014, *supra* note 132, at 770.

212. *Id.* at 770.

213. *Id.* at 771.

214. See, e.g., Deng, *supra* note 171, at princ. 9; DISPLACEMENT SOLS., *supra* note 174, at princ. 6(b), 10.

215. See MARTIN, *supra* note 131, at 6.