RAR

Special Report on Human Mobility and Disaster Risk in Latin America and the Caribbean

Emily Wilkinson, Armando Caroca Fernández and Adriana Quevedo

UNDRR
UN Office for Disaster Risk Reduction

1. Introduction

People have migrated throughout history in search of economic opportunity, to reunite with families, to escape poverty and conflict, and to cope with economic and environmental shocks. In the words of former United Nations Secretary-General Ban Ki-moon, migration is "an expression of the human aspiration for dignity, safety and a better future. It is part of the social fabric [and] part of our very make-up as a human family."[1] However, in an age of mobility — currently there are 272 million international migrants worldwide[2] — disasters pose particular challenges for new arrivals, who may have been displaced from their previous homes (by disaster itself in certain cases), are in irregular situations; may not speak the same language, and have other unique vulnerabilities, needs, and capacities that can be overlooked in disaster risk management.[3] The topic of new risk scenarios associated with migration is the central concern of this report, in which increasing migration flows is seen as a new risk driver.

Rapid urbanization across Latin America is the product of decades of migration from rural to urban areas that began after the Second World War to escape poverty and hardship. These influxes have combined with natural urban demographic growth to make the Americas the most urbanized region in the world, with around 80 percent of its population living in towns and cities.[4] Migration and displacement flows are becoming more complex across Latin America and the Caribbean (LAC), and people experience multiple drivers and stages of migration as they move internally and/or across borders. The multiple and complex determinants of various forms of migration (temporary, seasonal and permanent), displacement, and planned relocation are not the focus of this report, however; Instead, the authors focus on the consequences of human mobility for managing disaster risk, paying particular attention to the larger contemporary flows within the region, both internally (manifesting as internally displaced persons) and across borders. These pose important challenges for national and local government authorities across LAC, particularly those that are responsible for peripheral and hazardous informal settlements, where many migrants end up settling.

This report reviews the literature on human mobility in Latin America, how this is creating new risk scenarios in places of transit, arrival, and return of migrants and those displaced by disasters and conflict, and the challenges these risks present for national disaster risk management agencies. Increasing and more complex migration flows are changing how these agencies operate in some countries, but migrants often fall between the cracks of existing protection mechanisms and are rarely taken into account in disaster risk management frameworks and programs, even though they often face vulnerabilities above and beyond those faced by citizens of a country experiencing a crisis.[5]

1 *United Nations (2013).*
2 *United Nations, Department of Economic and Social Affairs Population Division (2019).*
3 *Hendow, M., et al. (2018).*
4 *Internal Displacement Monitoring Centre (2019).*
5 *Migrants in Countries in Crisis Initiative (2016).*

Box 1. A typology of human mobility

Migration is the movement of persons away from their place of usual residence, either across an international border or within a State.[6] It is commonly associated with an element of choice and is therefore considered to be voluntary in nature. An environmental migrant is a "person or group(s) of persons who, predominantly for reasons of sudden or progressive changes in the environment that adversely affect their lives or living conditions, are forced to leave their places of habitual residence, or choose to do so, either temporarily or permanently, and who move within or outside their country of origin or habitual residence."[7]

Displacement refers to the movement of persons who have been forced or obliged to flee or to leave their homes or places of habitual residence, in particular because of or in order to avoid the effects of armed conflict, situations of generalized violence, violations of human rights, or natural or human-made disasters.[8]

The International Organization for Migration (IOM) also has a definition for disaster displacement: the movement of persons who have been forced or obliged to leave their homes or places of habitual residence as a result of a disaster or in order to avoid the impact of an immediate and foreseeable natural hazard.[9]

Migration and displacement exist on a continuum or spectrum of mobility ranging from forced to voluntary, but in many instances, choice and coercion commingle.[10] As noted by The Nansen Initiative, "people, while not necessarily having the ability to decide in complete freedom, still possess the ability to choose between different realistic options."[11] It is important to recognize that those who migrate do not always do so completely voluntarily or in safety over the entirety of their journey.

Internally displaced persons are those persons or groups who have been forced to leave their houses or usual places of residence, either as a result of or in order to avoid the effects of armed conflict, situations of generalized violence, violations of human rights, or socio-natural disasters, and who have not crossed an internationally recognized border.[12]

Planned relocation is the organized relocation typically instigated, supervised and carried out by the State with the aim of reducing disaster risks.[13]

2. Migration and displacement: major contemporary trends

Historically, Latin America and the Caribbean have received large inflows of economic migrants, and these flows increased during the first half of the twentieth century. Since the 1960s, migration has grown within the region and to the United States of America, especially from Central America and Mexico.

Globally, most people who cross international borders remain within their region of origin, but LAC is a notable exception.[14] The Latin American and Caribbean population living in North America has increased from an estimated 10 million in 1990 to 26.6 million in 2019.[15] Likewise, the number of migrants from Latin America and the Caribbean in Europe has more than quadrupled since 1990. On the other hand, the stock of migrants from other continents living in LAC has remained at about 3 million since 1990.[16]

6 *International Organization for Migration (2019).*
7 *Ibid.*
8 *United Nations Office for the Coordination of Humanitarian Affairs (1998).*
9 *International Organization for Migration (2019).*
10 *International Organization for Migration (2009).*
11 *The Nansen Initiative (2015).*
12 *United Nations Office for the Coordination of Humanitarian Affairs (1998).*
13 *McAdam, J. and E. Ferris (2015).*
14 *Butler, D. (2017).*
15 *International Organization for Migration (2020).*
16 *International Organization for Migration (2019a).*

Migration from Mexico has remained one of the most significant cross-border migration trends globally, with around 12 million Mexicans living abroad in 2014,[17] although it has begun to slow. Between 2016 and 2017, the Mexican immigrant population in the United States shrunk by about 300,000 — from 11.6 million to 11.3 million people. Nonetheless, Mexicans are still the largest foreign-born group in the country, accounting for 25 percent of the 44.5 million immigrants as of 2017.[18]

The region also experienced several large cross-border displacements towards the end of the twentieth century that included approximately 500,000 people seeking to escape the civil war in El Salvador and similar numbers fleeing from Guatemala and Nicaragua in the 1980s and 1990s. Alongside these displacements are other types of movements and motives, with many individuals and families moving to escape poverty and political turmoil. Today, an estimated 500,000 Nicaraguans live in Costa Rica, with many having fled political turmoil since 2018.[19] Over the last 20 years, the broader Mesoamerica subregion has become a migration corridor for North America, with over 15 million people emigrating from these countries towards Canada and the United States, mostly over land[20] A so-called 'migrant caravan' began in 2018, in which thousands of migrants from El Salvador, Guatemala and Honduras made their way toward the United States-Mexico border to escape violence, flee extreme poverty and seek better economic opportunities. The Government of the United States deployed more than 7,000 officers to the border with Mexico to apprehend and deport them, and hundreds of migrants remain in Tijuana, Mexico. In 2019, a caravan of Cubans, Haitians and some Africans and Asians entered Panama from Colombia and travelled across Central America to Mexico. Mexico began detaining migrants from Central America in April 2019.[21]

Figure 1. *Migration routes from Central America to the United States*

Source: Rodriguez Aldabe, Y. (2017).

17 *Villareal, A. (2014).*
18 *Zong, J. and J. Batalova (2018).*
19 *Ariagno, V. (2020).*
20 *United Nations, Department of Economic and Social Affairs, Population Division (2017).*
21 *International Organization for Migration (2019a).*

The Caribbean has some of the highest levels of emigration in the world as a percentage of total population (Figure 2). In the Greater Antilles between 2010 and 2015, the yearly net migration rate[22] ranged from -1.3 per 1000 people in Cuba to -2.9 in Haiti and -7.0 in Jamaica.[23] Haitians in particular have a long history of migration and temporary sojourns in other countries, with more than 1 million estimated to be living in the Dominican Republic, where many work as contract workers harvesting sugar cane. Haitian emigration is larger than for neighboring Caribbean countries, but also more dispersed, with Haitians settling in the Caribbean, Europe and North America, and more recently in South America as well (Box 2).

Figure 2. *Top 20 countries of emigration in 2019 (percentage of total population)*

Source: United Nations, Department of Economic and Social Affairs, Population Division (2019).
Note: The population size used to calculate the percentage of emigrants is based on the UNDESA resident population of the country, which includes foreign-born and international migrants originally from that country.
Only countries with a combined population of more than 100,000 residents and emigrants were included in the analysis.

22 *The yearly net migration rate is the difference between the number of persons entering and leaving a country during a given year per 1,000 people.*
23 *United Nations, Department of Economic and Social Affairs, Population Dynamics (2015).*

Box 2. Haitian migration in the LAC region

The IOM estimates that over 1.5 million people were displaced by the 2010 earthquake in Haiti. Most were displaced internally and ended up in temporary camps, but around 300,000 left the country, crossing into the neighboring Dominican Republic and travelling south to the Andean region and Brazil.[24]

Brazil has been a country of immigration for centuries with large numbers of immigrants arriving from Asia and Europe who assisted in building the country since the sixteenth century. Of all the countries in South America, Brazil has received the most Haitian immigrants, and an estimated 50,000 Haitians received visas and were living and working there in 2017. To combat possible human trafficking and prevent Haitians from showing up at the Brazilian border, the Government of Brazil began in 2013 to authorize between 1,000 and 2,000 permanent resident permit visas per month at the Brazilian embassy in Haiti. As a result, Haitians "came to outnumber Colombians within the Brazilian labor market," according to April Mayes, Associate Professor and Chair of the History Department at Pomona College.[25]

Ecuador has played a distinct role as the main gateway for Haitian migration towards Brazil and Peru. The introduction of a visa waiver for Haitian citizens in 2008 was a major contributing factor. Haitians displaced by the earthquake in 2010 were regularized in Ecuador, leading to a second and more substantial migration wave. Ecuador then became both a destination and transit country for those headed to Argentina, Chile, and Peru.

Peru recorded the entry of nearly 3,000 Haitian 'tourists' between 2010 and 2012, a figure that was probably underestimated by half the actual flow of migrants entering the country. The subsequent requirement of visas for Haitians to enter Peru beginning in 2012 has made migrants in transit more vulnerable to smuggling and abuse and has not yet contributed to reductions in migration flows.[26] The position of Peru sharply contrasts with that of Bolivia and Ecuador, given its active policies against smuggling.

Chile has also become a country of settlement by openly promoting contract labor migration. Within four years of the earthquake, 10,000 Haitians were granted legal status in Chile and over 1,500 have permanent residence.[27] Most live in Santiago.

Unlike previous decades, which saw gradual and regular flows of migrants across borders, intra-regional human mobility grew dramatically in the 2010s due to the displacement of more than 5.5 million Venezuelans,[28] although it is impossible to know how many people were internally displaced before crossing the border or remain inside the country. These and other major data gaps impede a clear understanding of the triggers, drivers, patterns, and impacts of the biggest migration crisis in recent Latin American history.[29]

2.2. Internal displacement

Many more people are displaced by disasters than by conflict in Latin America and the Caribbean. In 2019 alone across the Americas (including Canada and the United States), there were 1.5 million new disaster displacements and 600,000 conflict and violence displacements.[30] It is difficult to fully understand the scale and nature of protracted displacement due to the scarcity of data, but according to the Internal Displacement Monitoring Centre, most internally

24 *Weiss Fagen, P. (2013).*
25 *Terry, K. (2019).*
26 *Vasquez, T., et al. (2014).*
27 *Gobierno de Chile, Departamento de Extranjería y Migración del Ministerio del Interior y Seguridad Pública (n.d.).*
28 *Plataforma de Coordinación Interagencial para Refugiados y Migrantes de Venezuela (n.d.). The number refers to all Venezuelan migrants, refugees and asylum seekers reported by governments receiving them and may have some margin of error. It does not include irregular migrants. Accessed on 25 November 2020.*
29 *Internal Displacement Monitoring Centre (2020).*
30 *Ibid.*

displaced persons do return to their homes soon after disasters.[31] That does not mean, however, that they no longer have vulnerabilities associated with their displacement. In the United States alone, 916,000 people were displaced by storms, floods and wildfires in 2019, although many of these were in the form of pre-emptive evacuations organized by the Federal Emergency Management Agency (FEMA) and State authorities. Many struggled to rebuild their homes and by the end of 2019, 37,000 people were still displaced by disasters in the United States.[32]

One of the largest disaster displacements in the region (both internal and cross-border) in recent years was prompted by the Haiti earthquake in 2010 (Box 2). Since 2010, other major internal disaster displacements include over 295,000 new displacements in Brazil in 2019 triggered by 96 disasters (although most of these people returned home), making it one of the countries most affected by disaster displacement in the region. Most were triggered by floods and landslides, although slow-onset phenomena such as drought and coastal erosion may have resulted in other displacements.[33] During the dry season, wildfires affecting Bolivia and Brazil destroyed more than 50,000 hectares of the Amazon rainforest. No displacement figures were available, but indigenous communities would have been heavily affected by the fires.[34]

Conflict and violence are also major drivers of internal displacement in Colombia, El Salvador, Mexico, and Peru. In Colombia, more than 6 million people have been forced to leave their homes due to conflict between the Revolutionary Armed Forces of Colombia (FARC), other guerrilla groups, and the Government of Colombia, as well as violence perpetrated by paramilitary groups and drugs trafficking cartels. The peace agreement signed in 2016 between the FARC and the government does not appear to have reduced the numbers of internally displaced persons: there were 139,000 new displacements recorded in 2019, compared with 145,000 in 2018 and 139,000 in 2017.[35] Parts of the country particularly affected include the western Departments of Chocó and Nariño as well as Cordoba, Norte de Santander, and Valle del Cauca.

2.3. The influence of climate change on migration and displacement

The discussion of migration patterns and their links to climate change is a complex and politically sensitive one. Most scholars adopt a risk-centric approach, where human mobility is seen as a response to the risks associated with climate change and extreme weather (as opposed to, for example, a human rights issue). More attention is therefore paid to the conditions in a place of origin that drive people to move than to the movement itself, the destination, or those who are unable to move.[36] Demonstrating the causal relations or drivers of migration is not easy, but what is certain is that all countries in the LAC region have experienced increasing impacts from climate-related events over the last decade and this is likely to be influencing people's livelihood strategies and migration decisions. The impacts of more intense and frequent sudden-onset events, as well as more gradual events and stressors like water scarcity and sea level rise, have put particular pressure on low-income households.[37] According to the World Bank, there is an upward trend in what is referred to as internal climate migration in Latin America, South Asia and sub-Saharan Africa.[38] The same report estimates that by 2050, the number of internal climate migrants could be as high as 17 million in Latin America.

Rapid onset events that are becoming more frequent or intense due to climate change[39] are likely to be influencing migration patterns, but these links and mechanisms are multi-causal, not fully understood and only visible — and researched — when there are large-scale mass migrations following extreme weather events. On the other hand, the migration impacts of extensive risks and incremental changes, like environmental degradation and increasing drought, remain largely invisible.

---

31 *Ibid.*
32 *Ibid.*
33 *Movement in the context of slow-onset events involves complex decision-making, with multiple socioeconomic and environmental drivers and variables at play, and some degree of freedom of choice for affected persons. It is therefore difficult to distinguish displacement from other types of movements in the context of slow-onset events and processes. See International Organization for Migration (2020).*
34 *Ibid.*
35 *Ibid.*
36 *Wilkinson, E., et al. (2016).*
37 *Cantor, D.J. (2018).*
38 *Rigaud, K K., et al. (2018).*
39 *For more information, see annex to the RAR-LAC 2021: "Special Report on Climate Change and Disaster Risk in Latin America and the Caribbean."*

Central America and Mexico

A number of studies demonstrate how migration flows from Central America[40] and Mexico[41] fluctuate in response to climate variability. The food system across the region is heavily dependent on maize and bean production and long-term climate change and variability significantly affect the productivity of these crops and the livelihoods of smallholder farmers.[42] Reduced rainfall and environmental degradation in particular are influencing internal and cross-border displacement in the subregion. In rural regions of Honduras, environmental degradation combined with tropical storms contributed to the internal displacement of 3 million people between 2008 and 2017.[43] In Nicaragua, after Hurricane Mitch in 1998 the profile of those able to migrate to Costa Rica reportedly changed:[44] only those with high capability in the form of access to migrant social networks were able to move. Another study found that those belonging to agricultural households were more likely to move abroad after Hurricane Mitch, but only when no alternative guaranteed sources of income (like formal sector wages) existed and they had enough money to pay for migration costs.[45]

The 2020 hurricane season is likely to have led to a sharp increase in the number of internal and cross-border displacements in Central America. At the time of writing, Hurricane Eta has affected more than 1.8 million people and more than 37,000 are residing in shelters in Honduras; in Nicaragua, 47,000 people are currently housed in shelters and 130,000 have been impacted by the storm. The number of COVID-19 cases in shelters in both countries is increasing.[46]

South America

Intense rainfall and increasingly acute droughts are contributing to migration and displacement across South America. Internal displacement and migration within affected countries are most visible in rapid-onset disasters, regardless of whether the extreme weather event has a strong 'climate signal' — that is, can be linked to climate change — although there are examples of trans-border displacement in southern Colombia, where frequent flooding causes cross-border displacement into northern Ecuador.[47]

Slow-onset events such as desertification and drought, as well as soil erosion and other forms of environmental degradation, are increasing due to changing weather and rainfall patterns, and all are contributing to population movement in South America. This has been observed in degraded rural areas of Bolivia, Chile, Ecuador, and Peru; in the main cities of these countries (including to provincial, state, and national capitals), and abroad.[48]

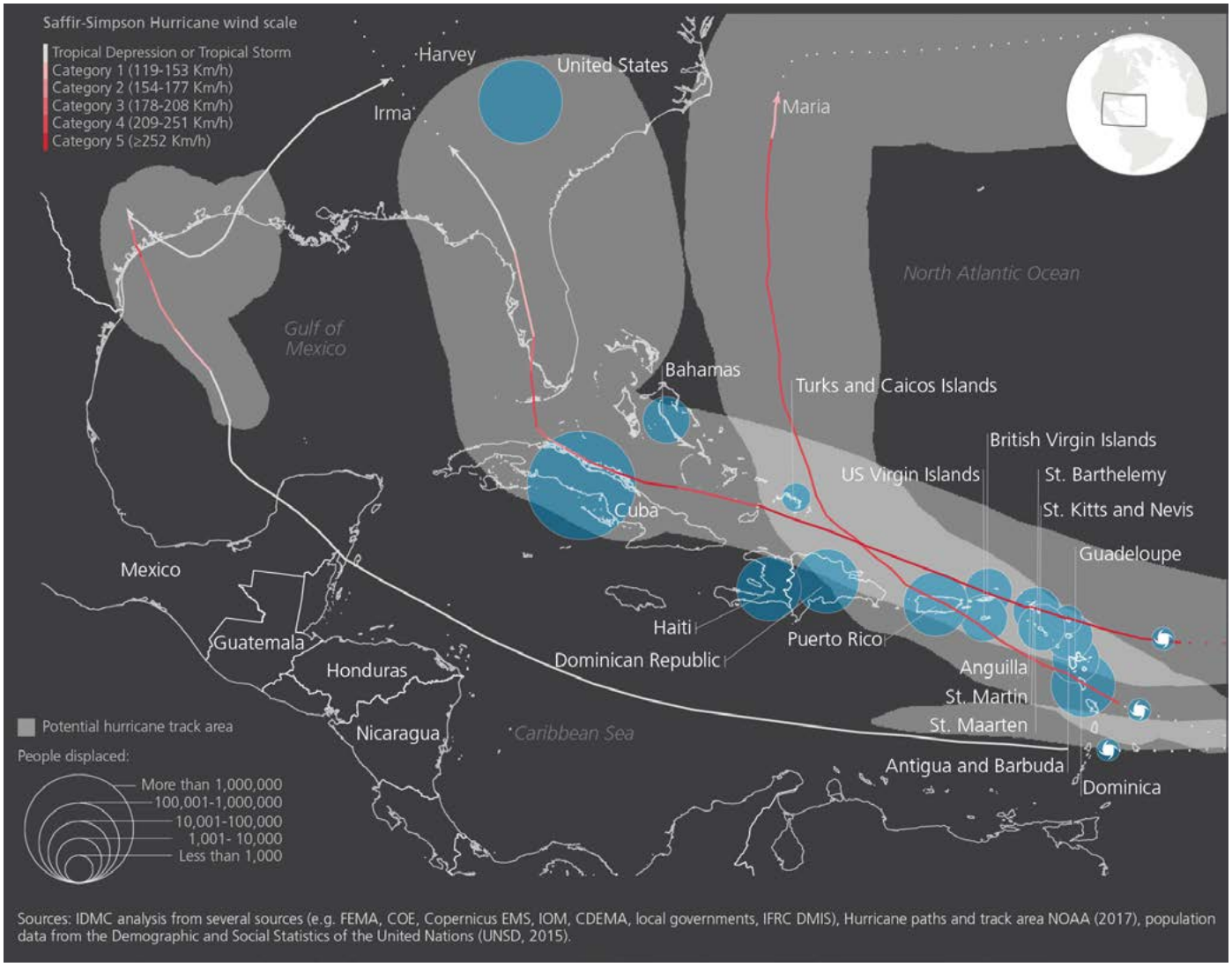
The Caribbean

Rising temperatures, extreme climate events (like storms and hurricanes) and sea level rise all contribute to disaster displacement in the Caribbean, with rural populations and women thought to be the most affected. It has been argued that there is a regional feedback loop between mobility, environmental degradation and poverty — the latter being the kick-starter of displacement, with climate events acting as stressors.[49]

In 2017, three major hurricanes (Harvey, Irma and Maria) crossed the Caribbean and displaced over 3 million people in 1 month (Figure 3).[50] It has been estimated that around 35,000 people in Dominica alone — or 45 percent of its population — were displaced by Hurricane Maria, many of whom returned although the current population is unknown. Two years later, Hurricane Dorian battered the Bahamas, prompting large numbers of displacements particularly of Haitian immigrants (see Section 4).

40 *World Food Programme et al. (2017).*
41 *Feng, S., et al. (2010) and Nawrotzki, R., et al. (2013).*
42 *Ibid.*
43 *Cantor, D.J. (2018).*
44 *Loebach, P. (2016).*
45 *Ibid.*
46 *Project Hope (2020).*
47 *Cantor, D.J. (2018).*
48 *Andersen, L., et al. (2010).*
49 *Wooding, B. and M. Morales (2014) as cited in Cantor, D.J. (2018).*
50 *Internal Displacement Monitoring Centre (2018).*

Figure 3. *People displaced by the three main storms of the 2017 Atlantic hurricane season*



Source: Internal Displacement Monitoring Centre (2018).

3. Linking human mobility and disaster risk

There is now a definable body of research linking human mobility to disasters that have occurred that focuses on specific incidences of disaster displacement, and on broader pressures from climate change and environmental degradation that render livelihoods unsustainable and contribute to people's decisions to move.[51] Relatively less attention has been paid, however, to the locations and circumstances of migration corridors and destinations in terms of their environmental fragility and other bio-physical characteristics that render them more hazardous, or to the characteristics and circumstances of migrants that make them particularly vulnerable to those hazards once moving or having moved. According to Black, et al., "people are as likely to migrate into places of environmental vulnerability as away from them — a point that has been insufficiently acknowledged."[52]

With such high levels of internal and cross-border movement, and many people moving into and through large human settlements in the coastal tropics, on inland floodplains, and on volcanic and other seismically active areas across the LAC region, it is likely that human mobility has some influence on levels of disaster risk in Latin America and the Caribbean. To better understand this, more information is needed on the conditions of migrants where they settle, the conditions under which they leave, their journeys, and their status upon arrival.

51 *Foresight (2011); Black, R., et al. (2011); de Sherbinin, A., et al. (2011); Adamo, S.B. and A. de Sherbinin (2011); and Warner, K., et al. (2009).*
52 *Black, R., et al. (2011).*

One approach to studying these relationships is by looking at how displaced and migrant populations experience disaster, as this is where vulnerability and marginalization are most clearly revealed. These social processes can be analyzed in two complementary ways. The first is the vulnerability perspective, which seeks to understand the vulnerability of different individuals and groups in terms of the impacts and challenges they face and the opportunities to reduce exposure and vulnerability to hazards following migration. The second is the disaster risk management perspective, which analyses from the viewpoint of host countries, and in particular those authorities responsible for reducing disaster risk and preparing for and responding to disasters, like national and local disaster risk management agencies along migration corridors and in places where migrant populations have settled.

3.1. The vulnerability of migrants and displaced populations

In recent years, there has been a growing interest in migrant experiences and the general vulnerability of migrants that go beyond disaster risk, as well as the need to consider migrants and their needs for protection during preparation for and response to a disaster.[53] This follows a trend in the disaster literature focusing on understanding the intersectional, relative and dynamic nature of vulnerability in relation to specific population groups, age cohorts, and ethnic, racial and gender characteristics.[54]

According to the Migrants in Countries in Crisis Initiative (MICIC) guidelines, migrants — referring to non-citizens present in a country during a conflict or natural disaster regardless of the means of or reasons for entry, immigration status, or length or reasons for their stay — face particular vulnerabilities due to a number of factors that include "language barriers, restrictions on mobility, irregular immigration status, confiscated or lost identity or travel documents, limited social networks, isolation, and attacks and discrimination … [which] hinder the ability of migrants to access protection, move out of harm's way, or otherwise ensure their own safety and well-being."[55]

Migrants and displaced populations face three moments of vulnerability. The first is related to the conditions under which they move and the reasons why people are forced or choose to migrate. Poverty, violence, unsustainable livelihoods, environmental degradation, climate change and other adverse conditions are major drivers of migration and displacement in the LAC region, and they also render people vulnerable to disasters in situ and in new locations. The second moment of vulnerability is during the migrant journey. Lack of resources, uncertainty, discrimination and violence as well as their inability to access basic services and information make migrants in transit particularly vulnerable to disasters. Those displaced by disasters or conflict will have had less time to plan their journeys, and often end up living in camps or temporary shelters with inadequate services for extended periods of time en route to their intended destination. The third moment of vulnerability is in places where migrants (particularly irregular migrants) settle, which are often informal urban settlements in hazard-prone areas[56] with poorly constructed housing and basic services and infrastructure that are either lacking or provided irregularly.[57] Migrants, refugees and individuals in the LAC region displaced by disasters, conflict, political turmoil, poverty and/or the need for greater opportunities are likely to experience administrative, cultural and sometimes even language barriers that create conditions of marginalization, hazard exposure and vulnerability.[58] At the same time, they may lack the social networks and support structures needed to manage risks and recover from disasters. These vulnerabilities, how they are experienced, and by whom (in other words which migrant groups) must be studied further.

The situation and characteristics of thousands of Venezuelan migrants settling in other LAC countries highlight the multifaceted and dynamic nature of migrant vulnerability described above. The conditions of departure of Venezuelans, the large numbers of migrants, and the limited capacities of host and transit countries to meet their needs have created extreme levels of everyday risk. The lack of availability of medicines and medical treatment was a major driver of displacement from Venezuela,[59] but it is also proving to be a challenge when migrants cross the border into neighboring countries[60] where a lack of adequate sanitation and health facilities is rendering people more prone to illness. When not addressed, these everyday risks soon lead to intensive risks like epidemic outbreaks.

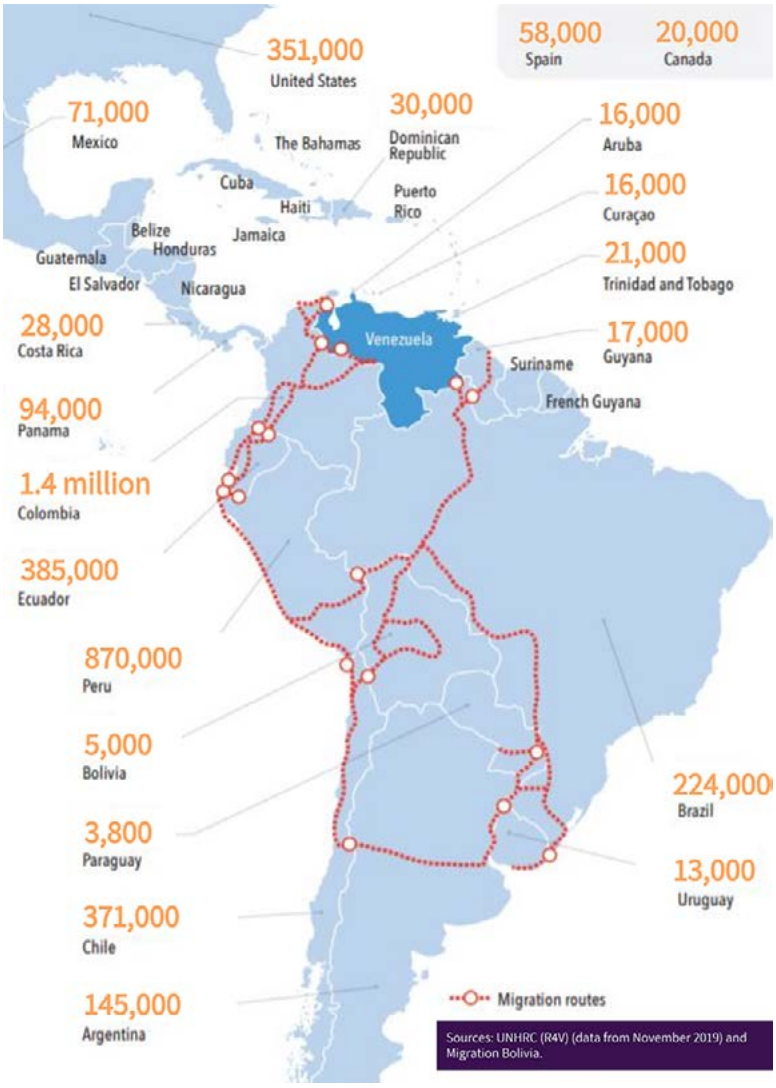
53 *Migrants in Countries in Crisis Initiative (2016) and UNISDR (2015).*
54 *Chaplin, D., et al. (2019); and Hicks, A. and R. Few (2015).*
55 *Migrants in Countries in Crisis Initiative (2016).*
56 *Zetter, R. and G. Deikun (2013).*
57 *UN-Habitat (2015) and UN-Habitat (2015a).*
58 *International Organization for Migration (2019d).*
59 *Venezuela has an 85 percent shortage of medications and its hospitals have unstable access to power and running water. See United Nations, Security Council (2019).*
60 *Doocy, S., et al. (2019).*

An assessment undertaken in the city of Cúcuta in the Colombian border State of North Santander and in the city of Bôa Vista in the Brazilian State of Roraima demonstrated an increase in infectious diseases and adverse maternal and neonatal outcomes among Venezuelans in both cities. In the former, the number of relevant public health events rose from 182 in 2015 to 865 in 2018. These cases included gender-based and intra-familiar violence, malaria, and malnutrition in children under 5 years old.[61]

The way countries in border regions have tackled this new public health challenge has varied. in Colombia, non-emergency primary health care is not available to Venezuelans. On the other hand, primary health care is available in Brazil and guaranteed by the Constitution, but the health care system is under high stress in trying to meet the increasing demand while facing shortages in medications and supplies.[62]

At the time of writing, 1.2 million Venezuelan migrants had passed through Ecuador, and 200,000 had settled there, many in Machala due to its proximity to the border crossing with Peru. The local community has described these migrants as a high-risk group (a designation also used for children, the elderly and the physically handicapped). Many of them lack social and economic capital, have little or no family or friendship networks, and possess only a limited understanding of the local environment and potential hazards. Most live in flood-prone peri-urban areas with high levels of risk, although further details are scarce as there are no official demographic data on this group.[63]

Figure 4. *Venezuelans displaced by poverty (country of residence in 2019)*



Source: World Bank (2019).

61 *Ibid.*

62 *Ibid. In 2020, with the COVID-19 crisis medical supplies were in even shorter supply, the lockdown imposed from March to late August and the lack of jobs, Colombian immigration authorities documented that more than 100,000 Venezuelans had returned to Venezuela. Many fled on foot and faced scarcity and violence at the border. These doubly displaced returning Venezuelans are highly vulnerable to disasters.*

63 *Tauzer, E., et al. (2019).*

3.2. The challenge for disaster risk management authorities and systems

The very high numbers and conditions of migrants moving internally and crossing borders in the LAC region present multiple challenges for national and local governments in relation to managing disaster risk.

Migration to urban centers from poor, rural areas in search of employment opportunities has been a prevalent trend in the region for decades. It combines in some Central American countries, Colombia and Peru with insecurity and social conflict in rural areas, which together increase the flows of socioeconomically vulnerable people to urban areas. Typically, these populations settle in hazard-prone places due to chronic issues in Latin American cities that include land speculation, lack of access to secure land ownership (sometimes combined with corruption), absence of urban planning or land use regulations, and the incapacity of the urban poor to access social housing provisions (if they exist) and bank loans.[64] In Colombia, those displaced by armed conflict have resettled in urban and rural areas across the country, including on the slopes of active volcanoes like Nevado del Ruiz, as well as on subsiding land and hillside slopes on the outskirts of Bogota. This further increases the risk of a second displacement (see Section 4).[65]

This continuous flow of migrants into cities (in addition to regular urban population demographic growth) is in fact the main reason unsafe areas are being inhabited, with climate change foreseeably increasing pressures to migrate from rural to urban settlements.[66] Thus, exceptionally high levels of risk have been created in urban areas that are already under chronic stress, with the arrival of large numbers of displaced people adding an extra layer of stress to an already fragile system.[67] Populations moving into overcrowded settlements of internally displaced persons, refugee camps, and deteriorated urban centers and informal settlements can overwhelm institutions and services that are already extended to or beyond capacity, particularly in situations of political instability or crisis. The limited resources and institutional capacities of local and national governments also mean that planned preventive resettlements of exposed populations are unlikely to occur, resulting in emergency evacuations and household-led displacements when disasters do occur.[68]

Disaster risks are systemic and complex, and this is particularly striking when there is an intense pressure on resources. The cascading effects of disasters are likely to lead to reduced quality and provision of education, sanitation, health, food and water systems and services, resulting in disease outbreaks of cholera and diarrhea and intensified competition and conflict over scarce resources.[69] These systems of complex and accumulating risks along migration corridors and in camps and urban settlements are not well understood, nor acknowledged or addressed in national disaster risk management policies and systems, as the examples presented in the next section will illustrate.

4. Dynamic vulnerability and the reproduction of risk: experiences of migrants and internally displaced persons in disasters

This section looks at a few examples of recent disasters in Latin America and the Caribbean, which despite their limited data reveal the particular vulnerabilities of migrant populations. They are also illustrative of the lack of consideration given by government authorities to addressing the disaster risks presented by large migration flows and displacements, and the additional pressure that this places on disaster risk management agencies when responding to disasters.

64 *Lavell, A. (2016).*
65 *UNISDR (2004).*
66 *Lavell, A. (2016).*
67 *Tacoli, C., et al. 2015).*
68 *Lavell, A. (2016).*
69 *United Kingdom, Government Office for Science (2012).*

4.1. Haitian immigrants in the Bahamas affected by Hurricane Dorian (2019)

Dorian, a Category 5 Atlantic hurricane with winds reaching 295 kilometers per hour, devastated the Bahamas, caused 80 deaths, and left 70,000 people homeless and thousands more living in damaged houses covered by blue plastic tarps. The economic impact of the hurricane in the Bahamas has been estimated to be as high as $7 billion, with as much as $3 billion potentially covered by local and international insurers and reinsurers.[70] A total of 45 percent of dwellings suffered severe damage or were completely destroyed[71] and the hurricane left Abaco and parts of Grand Bahama without electricity, running water or access to banks, stores and gas stations, which forced people to migrate.[72] More than 464,000 new displacements were recorded after Hurricane Dorian, mostly to neighboring islands within the Bahamas,[73] but for Haitians and Bahamian-born nationals of Haitian origin (many of whom do not have citizenship as it is not recognized as a birthright in the Bahamas) the experience was very different.

According to the 2010 census, there are approximately 39,000 people of Haitian origin living in the Bahamas, although this number was likely to have increased by 2019. Haitians and Bahamian-born nationals of Haitian origin make up between 10 and 25 percent of the population. They were particularly affected by Hurricane Dorian, a fact that reflects their historical marginalization; Haitian households have significantly less access to water and electricity than other families, many live in poverty, and children have little or no access to education.[74] Two of the worst affected areas in Abaco, known as The Mudd and Pigeon Peas, are low-lying informal settlements that were home to 41 percent of the documented Haitians living in the Bahamas before Hurricane Dorian and approximately 20 percent of undocumented migrants.[75] These settlements were completely destroyed. Other Haitian settlements in Marsh Harbour will be cleared to reduce disaster risk as they are in low-lying areas; it remains unclear if residents will be relocated.[76]

According to the IOM, at least 340 Haitian migrant workers (most of them undocumented) have been deported since the hurricane.[77] A further 70,000 people from Abaco Island and the Bahamas have left, with almost 4,000 going to the United States.

The case of Hurricane Dorian, along with other events such as Hurricane Katrina, are examples of climate-related displacement being concentrated largely among marginalized groups.[78] These same populations have also been more affected by the COVID-19 pandemic in terms of health, employment, and education. In the United States, the Center for Disease Control and Prevention (CDC) estimates that 41 percent of all COVID-19 age-adjusted deaths involved Hispanic people. The expected percentage based on their population share – again adjusted for age and geographical distribution – was 33 percent.[79]

Figure 5. *A police officer stands guard as Haitian migrants wait to get food distributed by humanitarian organizations in Nassau, Bahamas (29 September 2019)*

Source: Ramon Espinosa/AP Photo featured in Louis, Jr., B.M. (2019).

70 Evans, S. (2019).
71 Al Jazeera (2019).
72 Beaubien, J. (2019).
73 Internal Displacement Monitoring Centre (2020).
74 Fielding, W.J., et al. (2008).
75 Moxey, C. (2008).
76 Internal Displacement Monitoring Centre (2020).
77 International Organization for Migration (2019c).
78 Arias, S. and C. Blair (2019).
79 Organisation for Economic Co-operation and Development (2020).

4.2. Displacement and 'double vulnerability' in Colombia

The case of Colombia is particularly critical, as the Venezuelan crisis[80] overlaps with an existing context of internal displacement due to the double effect of armed conflict and disasters linked to natural hazards.

For 12 consecutive years, Colombia has ranked among the countries with the highest number of internally displaced persons due to conflict. Currently, there are over 5.5 million internally displaced persons (or 1 out of every 9 Colombians), with few able to return home.[81] There are no clear figures, but many millions of those who have been internally displaced are forced to live in high-risk areas. From 2010—2011, Colombia experienced one of the most intense La Niña meteorological events in 60 years that resulted in mudslides, flooding and more than 1.5 million citizens becoming internally displaced. As many as 40 percent of these people had previously been displaced by conflict and became displaced again in a short span of time.[82]

The 2017 landslide in Mocoa caused by heavy rainfall coupled with erosion and a lack of vegetation on the surrounding slopes left more than 300 people dead, injured or missing and thousands more without their homes. Most of the internally displaced and indigenous groups living in Mocoa were left out of disaster preparation activities and their participation in rehabilitation planning has also been very limited. Some officials even maintained that these groups had no rights since they 'chose' to live in a hazard-prone area. In the aftermath of the landslide, many simply returned to the same dangerous locations, while others resettled in areas considered to be at higher risk for future landslides.[83]

People tend to become more vulnerable economically, socially and psychologically with each new displacement.[84] These processes of violent multiple displacements generate deep and enduring physical and psychological impacts among affected populations; a broad range of psychological stressors has been found in Colombian internally displaced persons, including Post-Traumatic Stress Disorder (PTSD), major depressive disorder and generalized anxiety disorder, which persists for years after settling in a new location.[85]

4.3. Hurricane Mitch (1998) in Central America

Hurricane Mitch in 1998 was one of the most powerful hurricanes ever recorded in the Atlantic basin, bringing unprecedented amounts of rainfall to Honduras and Nicaragua. While not a recent event, it is instructive because of the mass displacement generated across a number of countries and the resulting vulnerability to disasters that continues to this day.

Hurricane Mitch remains the deadliest Atlantic storm on record, with 14,600 fatalities and more than 8,058 people declared missing.[86] The total number of displacements linked to the storm in Central America was 1.98 million[87] in 7 affected countries, involving both internal and cross-border displacement.[88] The United States granted Temporary Protected Status to thousands of Hondurans and Nicaraguans immediately after the hurricane, with visa requests at its consulates increasing threefold in Honduras and by 40 percent in Nicaragua when compared with the previous year.[89] Another indication of the rise in cross-border displacement immediately after the hurricane was the 60 percent increase in the apprehension of migrants from Central America (excluding Mexico) at the United States border.[90]

Diminished economic opportunities in the months and years following the hurricane caused further movement of people who had not necessarily lost assets at the time, particularly to Costa Rica and the United States. The decision

80 *As of 2020, Colombia was host to the highest number of Venezuelans outside of Venezuela. See Plataforma de Coordinación Interagencial para Refugiados y Migrantes de Venezuela (R4V) (n.d.).*
81 *Internal Displacement Monitoring Centre (2020).*
82 *Shultz, J.M., et al. (2019).*
83 *Siddiqi, A., et al. (2019).*
84 *Internal Displacement Monitoring Centre (2020).*
85 *Schultz, J.M., et al. (2014).*
86 *Di Gregorio, L. and C.A. Pereira Soares (2017).*
87 *The Nansen Initiative (2013).*
88 *Ibid.*
89 *Delavelle, F. (2013).*
90 *McLeman, R. and L. Hunter (2010).*

to relocate to the United States was heavily influenced by prior migration patterns and the perceived successes of previous Nicaraguans migrating there, whereas the decision to move to neighbouring Costa Rica was more heavily influenced by the immediate economic needs of households.[91]

The links between displacement after Hurricane Mitch and health impacts in Nicaragua are well-researched.[92] The government failed to deliver a comprehensive response and recovery plan, leaving NGOs to try to fill the institutional gaps. Despite their efforts, makeshift shelters like schools (often run by teachers) with acute sanitary problems and a lack of food, water and waste management were common. This lack of planning[93] had a negative impact on health, especially among the more disadvantaged such as female-headed households and children, who became the "undocumented victims" of disasters.[94] In addition, the relocation to shelters increased the probability of respiratory diseases. Around 500,000 affected people had to remain in temporary shelters for several months, with no access to social services and subject to poor sanitary conditions with little likelihood of being allocated new housing. This accelerated and prompted the further internal and external migration of large numbers of men of working age in search of employment opportunities.

4.4. The vulnerability of internally displaced persons following the 2010 earthquake in Haiti (2010)

Haiti has suffered periodically from floods, droughts, severe storms, and earthquakes for as long as records have existed. However, the 2010 earthquake was the strongest documented in the country in 200 years. The immediate impacts and failed international intervention — largely due to the uncoordinated action of multiple NGOs, donors and governments in the region all keen to assist[95] — promoted internal and cross-border displacement and increased risks in new locations both within Haiti and outside of the country.

More than 220,000 died in the earthquake and hundreds of thousands of Haitians lost their homes. The total economic loss was equivalent to 100 percent of GDP, putting pressure on an already fragile domestic economy. There was large-scale internal displacement, which at its peak saw 1.5 million internally displaced persons relocating mostly to 1,555 camps, while approximately 630,000 of them sheltered with families.[96] The camps quickly faced serious problems of inadequate sanitation and security. Even though overall health impacts on the internally displaced have been difficult to capture and measure, studies show that infant and child mortality in the camps were higher than child mortality rates among internally displaced persons living in non-camp households.[97] This occurred despite the fact that households living in camps had better access to food, water, bed net use, mosquito spraying, and vaccines, whereas households of displaced people outside of the camps might have been self-selected or self-insured.[98] Across Haiti, people were found to be suffering from PTSD and depression a year after the event. Those more at risk to suffer these mental health impacts were young people, the elderly, women, the unemployed and those with low levels of education.[99] In addition, internally displaced women were disproportionately at risk from violence and abuse: a survey conducted between 2011 and 2013 found that women suffering from gender-based violence increased from 71.2 percent before the earthquake to 75 percent afterwards, and that abused women had significantly more mental and physical health problems after the earthquake than non-abused women.[100]

When the camps began to close – made possible by a cash transfer system set up by humanitarian agencies — vulnerabilities remained, with most internally displaced persons seeking livelihood options in Port-au-Prince and resettling in informal peri-urban settlements prone to flooding.[101] Other Haitians left Haiti as a direct result of the earthquake or in the months and years that followed due to a lack of employment and housing. The average number of Haitians leaving the country exceeded 30,000 during the four years that followed Hurricane Mitch. Many went to Canada, where the numbers of Haitian immigrants tripled between 2010 and 2014, and to the United States, which

91 Funkhouser, E. (2009).
92 Loebach, P. and K. Korinek (2019).
93 Major difficulties arose in recovery efforts after Hurricane Mitch that included: no clear criteria to decide on beneficiaries or temporary versus permanent housing solutions, lack of suitable and uncontested land for resettlement, slow and unclear procedures to evaluate projects and the issuance of environmental permits, unsuitable or substandard planning and construction regulations, little or no experience amongst international NGOs of working in the country and the housing sector, and competition for donor resources. See Loebach, P. and K. Korinek (2019).
94 Cutter, S.L. (2017) as cited in Loebach, P. and K. Korinek (2019).
95 Di Gregorio, L. and C.A. Pereira Soares (2017).
96 Bradley, M., et al. (2017).
97 Chen, B., et al. (2016).
98 Chen, B. (2016).
99 Cenat, J.M. and D. Derivois (2014).
100 Campbell, D., et al. (2016).
101 Sherwood, A., et al. (2018).

received up to 24,000 Haitians.[102] Other Haitians crossed the border into the Dominican Republic in search of work, where their undocumented status has left them vulnerable to widespread discrimination and human rights abuses; they lack access to education, legal and dignified work, social security benefits, and the justice system.[103]

Where traditional migration paths were blocked, Haitian migrants sought other destinations like Brazil and Senegal.[104] By April 2012, approximately 6,500 Haitians affected by the earthquake had relocated to Brazil, making it the third most important country of destination for Haitians today. The government created a special migratory protection regime for Haitians by applying the existing legal right of "permanent residence for humanitarian reasons", which provides a special residence permit that includes the right to work.[105] The search for alternative destinations and overall recognition of the multidimensional nature of migration has paved the way for the legalization of Haitian migrants in several countries in South America.[106]

Regularization will go some way towards reducing the vulnerability of migrants, especially with regard to accessing basic services, and it is therefore an approach to reducing disaster risk in the context of mass migration. Absent a broader set of disaster risk management measures, however, Haitians living in hazard-prone settlements in Brazil, Nicaraguans in Costa Rica, and internally displaced persons in Colombia will continue to face particularly high levels of risk and lack the resources needed to reduce it.

5. Addressing vulnerabilities of migrant populations through disaster risk management

The large flows of migrants and mass displacements seen in the LAC region in recent decades, the dynamic vulnerabilities that these migrants and internally displaced peaple face, and the significant disaster risks created by these mass movements pose challenges for disaster risk management agencies and institutional arrangements. These challenges include responding adequately to humanitarian crises that involve migrants, addressing risks in informal settlements with a constant flow of new arrivals displaced by disaster and conflict, and prospective risk management – that is, avoiding risk creation in the future when migration flows and destinations are uncertain. Ignoring these challenges is not an option and addressing them will require a reconfiguration of disaster risk management institutions. To date, there is very little experience in incorporating migrants into national and local disaster risk management policy and planning processes.[107]

At the international level, the Sendai Framework for Disaster Risk Reduction 2015—2030 (Sendai Framework) has been adopted by 187 UN Member States and recognizes that the engagement and participation of migrants are crucial for effectively building the resilience of communities and societies of origin and destination. Three provisions explicitly articulate this notion:[108]

- Paragraph 7: Governments should engage with relevant stakeholders, including […] migrants […] in the design and implementation of policies, plans and standards.
- Paragraph 27(h): Empower local authorities, as appropriate, through regulatory and financial means to work and coordinate with […] migrants in disaster risk management the local level.
- Paragraph 36(a)(vi): Migrants contribute to the resilience of communities and societies, and their knowledge, skills and capacities can be useful in the design and implementation of disaster risk reduction.

There is also recognition in the Sendai Framework of the need to strengthen the resilience of host communities. Priority 3, which calls for investment in disaster risk reduction to increase resilience, encourages "… the adoption of policies and programs addressing disaster-induced human mobility to strengthen the resilience of affected people and that of host communities, in accordance with national laws and circumstances."[109]

102 Audebert, C. (2017).
103 Kristensen, K. and B. Wooding (2013).
104 Weiss Fagen, P. (2013).
105 Pacifico, A.P., et al. (2015).
106 Audebert, C. (2017).
107 Méndez, J.C. (2020).
108 UNISDR (2015).
109 Ibid.

There is no international legal mechanism for implementing the Sendai Framework, but there is a reporting framework, and many tools and guidance documents have been produced in support of its different pillars. To help countries address some of the disaster risks associated with migration and displacement in host countries, the MICIC was launched in May 2014 at the Global Forum on Migration and Development (GFMD) in Stockholm. It focuses on the needs of the migrants themselves "in countries experiencing conflicts or disasters."[110] The MICIC notes that when countries experience such crises "migrants may not be accounted for in response mechanisms and may need specific support to find safety and rebuild their lives."[111] The initiative examines the roles and responsibilities of States, civil society, international organizations, the private sector, and migrants before, during, and after a crisis and has produced 10 Principles to guide actions to protect migrants focused on data collection, inclusion, communication, coordination, direct assistance and rights in emergency preparedness and response.[112] The focus of the MICIC is more on supporting migrants affected by disaster than addressing vulnerabilities, but it is nonetheless an important starting point.

Some governments in the LAC region are beginning to take note of the challenges that large migration and displacement flows present to efforts to manage disaster risk in their territories and have taken some small steps towards incorporating migrants into existing disaster risk management activities — albeit in a reactive rather than a planned and strategic way.

Since 2016, Costa Rica has seen a sharp increase in the number of migrants arriving from Africa, Asia, and the Caribbean, and transiting through on their way north to the United States. This transitory migration and the associated humanitarian crisis have promoted Costa Rica and neighboring Panama to take extraordinary measures. As Hurricane Otto approached the Atlantic coast of Costa Rica in 2016, the IOM coordinated efforts with migration and foreign relations authorities and the National Commission for Risk Prevention and Attention to Emergencies to help move migrants to safe shelters from camps on the border with Nicaragua.[113] The National Commission has also been designated the agency responsible for providing humanitarian assistance to migrants in transit.[114] This assistance is not linked to a "natural" hazard, nor to the risks associated with a natural hazard, but with a "crisis" produced by migration related to the unmet needs of migrant populations.[115] This is a new type of disaster for disaster risk management agencies to deal with, and so far the attention has been focused on humanitarian response and not on preventative measures.

Similarly, in Colombia, the National Unit for Disaster Risk Management (or UNGRD by its initials in Spanish) has had to pivot its emergency response activities to assist the large numbers of vulnerable Venezuelans along the Colombian side of the shared border. UNGRD is also managing the registration of Venezuelan migrants and will have critical census information that could be used to plan further support for this group, including risk reduction activities.[116]

The pressure that human mobility places on disaster risk management systems are gaining attention, particularly in those countries most affected by very large recent cross-border migration flows — but concepts, frameworks and policy instruments to respond to these changing dynamics have yet to catch up. The complex, dynamic, and differential nature of migrants' vulnerabilities and the mechanisms through which mass movements of people reproduce existing risks and generate new ones in different locations must be better understood.

This report highlights some of the trends and concerns regarding disaster risk creation related to large population movements in Latin America and the Caribbean, but this is a relatively new topic of interest for the disaster risk management community and one that has not been well explored in UNDRR Global Assessment Reports on Disaster Risk Reduction to date. The challenges of managing disaster risks are significant — particularly at the local level when the population is changing and new arrivals and those in transit have limited awareness of the hazard context and previous efforts to communicate risk. These dynamics must be fully recognized and local disaster risk management agencies supported to not only respond and assist migrants in crisis but include them in compensatory and prospective risk reduction measures.

110 *Migrants in Countries in Crisis Initiative (2016).*
111 *Ibid.*
112 *Ibid.*
113 *International Organization for Migration (2019b).*
114 *Méndez, J.C. (2020).*
115 *Ibid.*
116 *Colombia, National Unit for Disaster Risk Management, National System for Disaster Risk Management (2019).*

References

Adamo, Suzana Beatriz and Alex de Sherbinin (2011). The impact of climate change on the spatial distribution of populations and migration. *In Population Distribution, Urbanization, Internal Migration and Development: An International Perspective.* New York: United Nations Department of Economic and Social Affairs, Population Division.

Al Jazeera (2019). Bahamas reports 'total devastation' in wake of Hurricane Dorian, 4 September.

Andersen, Lykke, Lotte Lund and Dorte Verner (2010). Migration and Climate Change. In *Reducing Poverty, Protecting Livelihoods, and Building Assets in a Changing Climate: Social Implications of Climate Change for Latin America and the Caribbean,* Dorte Verner, ed. Washington D.C.: World Bank.

Ariagno, Victoria (2020). La situación migratoria que enfrenta Costa Rica, 10 February. Centro para la Apertura y el Desarrollo de America Latina (CADAL). Available at https://www.cadal.org/publicaciones/articulos/?id=12603.

Arias, Sabrina and Christopher Blair (2019). *Changing Tides: Public Attitudes on Climate Change and Climate Migration*. Philadelphia: Kleinman Centre for Energy Policy, University of Pennsylvania.

Audebert, Cedric (2017). The recent geodynamics of Haitian migration in the Americas: refugees or economic migrants? *Revista Brasileira De Estudos De População,* vol. 34, No. 1.

Beaubien, Jason (2019). Little Miracles, Huge Problems: The Bahamas a Month After Dorian. *National Public Radio,* 15 October.

Black, Richard et al. (2011). Migration as adaptation. *Nature,* vol. 478, No. 7370.

Bradley, Megan et al. (2017). Researching the Resolution of Post-Disaster Displacement: Reflections from Haiti and the Philippines. *Journal of Refugee Studies*, vol. 30, No. 3.

Butler, Declan (2017). What the Numbers Say About Refugees. *Nature,* vol. 543, No. 7643.

Campbell, Doris W. et al. (2016). Violence and abuse of internally displaced women survivors of the 2010 Haiti earthquake. *International Journal of Public Health,* vol. 61, No. 8.

Cantor, David James (2018). *Cross-border displacement, climate change and disasters: Latin America and the Caribbean — Study prepared for UNHCR and PDD at request of governments participating in the 2014 Brazil Declaration and Plan of Action.* Geneva, Switzerland: Platform on Disaster Displacement and UNHCR.

Cénat, Jude Mary and Daniel Derivois (2014). Assessment of prevalence and determinants of posttraumatic stress disorder and depression symptoms in adults survivors of earthquake in Haiti after 30 months. *Journal of Affective Disorders,* vol. 159C.

Chaplin, Daniel, John Twigg and Emma Lovell (2019). Intersectional approaches to vulnerability reduction and resilience-building. *Resilience Intel,* No. 12. London, United Kingdom: Overseas Development Institute.

Chen, Bradley, Timothy J. Halliday and Victoria Y. Fan (2016). The impact of internal displacement on child mortality in post-earthquake Haiti: a difference-in-differences analysis. I*nternational Journal for Equity in Health,* vol. 15, No. 114.

Colombia, National Unit for Disaster Risk Management, National System for Disaster Risk Management (2019). Información Registro Administrativo de Migrantes Venezolanos (RAMV). Accessed on 11 November 2020. Available at http://portal.gestiondelriesgo.gov.co/Paginas/Slide_home/Informacion-Registro-Administrativo-de-Migrantes-Venezolanos-RAMV.aspx.

Delavelle, Fanny (2013). *Climate Induced Migration and Displacement in Mesoamerica.* Discussion Paper. Geneva, Switzerland: The Nansen Initiative.

de Sherbinin, Alex, Koko Warner and Charles Ehrhart (2011). Casualties of Climate Change. *Scientific American,* vol. 304, No. 1.

Di Gregorio, Leandro and Carlos Alberto Pereira Soares (2017). Post-disaster housing recovery guidelines for development countries based on experiences in the American continent. *International Journal of Disaster Risk Reduction,* vol. 24.

Doocy, Shannon et al. (2019). Venezuelan Migration and the Border Health Crisis in Colombia and Brazil. *Journal on Migration and Human Security,* vol. 7, No. 3.

Evans, Steve (2019). Bahamas insurers could pay $1.5bn hurricane Dorian claims. *Artemis,* 4 November.

Feng, Shuaizhang, Alan B. Krueger and Michael Oppenheimer (2010). Linkages among climate change, crop yields and Mexico–US cross-border migration. P*roceedings of the National Academy of Sciences of the United States of America,* vol. 107, No. 32.

Fielding, William J. et al. (2008). The Stigma of Being "Haitian" in The Bahamas. *The College of the Bahamas Research Journal,* vol. 14.

Foresight (2011). *Migration and Global Environmental Change: Future Challenges and Opportunities* — Final Project Report. London, United Kingdom: The Government Office for Science.

Funkhouser, Edward (2009). The Choice of Migration Destination: A Longitudinal Approach Using Pre Migration Outcomes. *Review of Development Economics,* vol. 13, No. 4.

Giunti, Sara (2017). Migration as coping strategy for natural shock recovery: Evidence from Hurricane Mitch in Nicaragua. University of Trento.

Gobierno de Chile, Departamento de Extranjería y Migración del Ministerio del Interior y Seguridad Pública (n.d.). Migraciones en Chile (2016) and Migración en Chile 2005—2014. Available at https://www.extranjeria.gob.cl/estadisticas-migratorias/.

Hendow, Maegan et al. (2018). *Resilience in the Face of Adversity: A Comparative Study of Migrants in Crisis Situations. Migrant Countries in Crisis Comparative Report.* International Centre for Migration Policy Development (ICMPD). Available at https://micicinitiative.iom.int/sites/g/files/tmzbdl1426/files/documents/comparative-study_on_migrants_in_crisis_situations_en.pdf.

Hicks, Anna and Roger Few (2015). Trajectories of social vulnerability during the Soufrière Hills volcanic crisis. *Journal of Applied Volcanology*, vol. 4, No. 10.

Internal Displacement Monitoring Centre (2018). GRID 2018 Spotlight: The Atlantic hurricane season and the importance of resilience. *In GRID 2018: Global Report on Internal Displacement.*

_____ (2019). *GRID 2019: Global Report on Internal Displacement*. Geneva, Switzerland: Internal Displacement Monitoring Centre.

_____ (2020). *GRID 2020: Global Report on Internal Displacement*. Geneva, Switzerland: Internal Displacement Monitoring Centre.

International Organization for Migration (2009). *Migration, Environment and Climate Change: Assessing the Evidence.* Geneva, Switzerland: International Organization for Migration. Available at https://publications.iom.int/system/files/pdf/migration_and_environment.pdf.

_____ (2019). Glossary on Migration. International Migration Law, No. 34. Geneva, Switzerland: International Organization for Migration.

_____ (2019a). World Migration Report 2020. *World Migration Report 2020.* Geneva.

_____ (2019b). *La Población Migrante en la Reducción de Riesgo y Atención de Emergencias en América Latina Central.* San José, Costa Rica: Organización Internacional para las Migraciones.

_____ (2019c). IOM Tracks Repatriations of Haitian Migrants from The Bahamas, 15 November.

_____ (2019d). *Extraregional Migration in the Americas: Profiles, Experiences and Needs.* San José, Costa Rica: IOM Regional Office for Central America, North America and the Caribbean.

_____ (2020). *Internal displacement in the context of the slow-onset adverse effects of climate change: Submission by the International Organization for Migration to the Special Rapporteur on the Human Rights of Internally Displaced Persons.* Geneva.

Kristensen, Kåre and Bridget Wooding (2013). *Haiti/Dominican Republic: upholding the rights of immigrants and their descendants.* Norwegian Peacebuilding Resource Centre.

Lavell, Allan (2016). *Colombia, Peru & Mexico: Closure Report 4/4.* The Development Planning Unit at University College London and the Latin American Faculty of Social Sciences.

Loebach, Peter (2016). Household migration as a livelihood adaptation in response to a natural disaster: Nicaragua and Hurricane Mitch. *Population and Environment,* vol. 38, No. 2 (December).

Loebach, Peter and Kim Korine (2019). Disaster vulnerability, displacement, and infectious disease: Nicaragua and Hurricane Mitch. *Population and Environment,* vol. 40, No. 4.

Louis, Jr., Bertin M. (2019). Haitian migrants face deportation and stigma in hurricane-ravaged Bahamas. *The Conversation,* 3 December.

McAdam, Jane and Elizabeth Ferris (2015). Planned Relocations in the Context of Climate Change: Unpacking the Legal and Conceptual Issues. *Cambridge Journal of International and Comparative Law,* vol. 4, No. 1.

McLeman, Robert A. and Lori M. Hunter (2010). Migration in the context of vulnerability and adaptation to climate change: insights from analogues. *WIREs Climate Change,* vol. 1, No. 3.

Méndez, Juan Carlos (2020). *La configuración de la institucionalidad en materia de gestión de riesgo de desastres y atención de emergencias a partir de los nuevos flujos migratorios en tránsito por Centroamérica: el caso de Costa Rica y Panamá 2015—2019.* Unpublished thesis.

Migrants in Countries in Crisis Initiative (2016). *Guidelines to Protect Migrants in Countries Experiencing Conflict or Natural Disaster.* Migrants in Countries in Crisis Initiative. Available at https://micicinitiative.iom.int/sites/g/files/tmzbdl1426/files/micic_guidelines_english_web_13_09_2016-2.pdf.

Moxey, Cherita (2008). *Abaco Shanty Town Assessment Report, 2018.* Shanty Town Task Force, Ministry of Labour, Government of the Bahamas.

Nansen Initiative, The (2013). Disasters and cross-border displacement in Central America: emerging needs, new responses. Background Paper prepared for the Central American Regional Consultation. San José, December.

_____ (2015). *Agenda for the Protection of Cross-border Displaced Persons in the Context of Disasters and Climate Change.* Vol. 1.

Nawrotzki, Rafael J., Fernando Riosmena and Lori M. Hunter (2013). Do Rainfall Deficits Predict U.S.-Bound Migration from Rural Mexico? Evidence from the Mexican Census. *Population Research and Policy Review,* vol. 32, No. 1.

Organisation for Economic Co-operation and Development (2020). *What is the impact of the COVID-19 pandemic on immigrants and their children?* 19 October.

Pacifico, Andrea Pacheco et al. (2015). The migration of Haitians within Latin America: significance for Brazilian law and policy on asylum and migration. *In A Liberal Tide? Immigration and Asylum Law and Policy in Latin America,* David James Cantor, Luisa Feline Freier and Jean-Pierre Gauci, eds. London, United Kingdom: Institute of Latin American Studies, School of Advanced Study, University of London.

Plataforma de Coordinación Interagencial para Refugiados y Migrantes de Venezuela (R4V) (n.d.). Available at https://r4v.info/es/situations/platform.

Project Hope (2020). Hurricane Eta: Situation Report #1. 10 November. Available at https://reliefweb.int/report/honduras/hurricane-eta-situation-report-1.

Rigaud, Kanta Kumari et al. (2018). *Groundswell: Preparing for Internal Climate Migration.* Washington, D.C.: World Bank.

Rodriguez Aldabe, Yosu (2017). *Potenciar la resiliencia de las ciudades y sus territorios de pertenencia en el marco de los acuerdos sobre cambio climático y de la Nueva Agenda Urbana.* Santiago, Chile: United Nations, Economic Commission for Latin America and the Caribbean. LC/TS.2018/91.

Sherwood, Angela, Laura Smits and Anna Konotchick (2018). Port-au-Prince: Haiti's Disaster Urbanism – The Emerging City of Canaan. *In The Routledge Handbook on Informal Urbanization,* Roberto Rocco and Jan van Ballegooijen, eds. Routledge.

Shultz, James M. et al. (2014). Internally Displaced "Victims of Armed Conflict" in Colombia: The Trajectory and Trauma Signature of Forced Migration. *Current Psychiatry Reports,* vol. 16, No. 475.

_____ (2019). Public Health and Mental Health Implications of Environmentally Induced Forced Migration. *Disaster Medicine and Public Health Preparedness,* vol. 13, No. 2.

Siddiqi, Ayesha, Katie Peters and Julia Zulver (2019). *'Doble afectación': Living with disasters and conflict in Colombia.* London, United Kingdom: Overseas Development Institute.

Tacoli, Cecilia, Gordon McGranahan and David Satterthwaite (2015). *Urbanization, rural-urban migration and urban poverty.* IIED Working Paper, March 2015. London, United Kingdom: International Institute for Environment and Development.

Tauzer, Erica et al. (2019). A participatory community case study of peri-urban coastal flood vulnerability in southern Ecuador. *PLOS ONE,* vol. 14, No. 10.

Terry, Kyilah (2019). New Haitian migration patterns end in displacement. UCLA Center for India and South Asia, 17 April. Accessed on 29 September 2020.

UN-Habitat (2015). Informal settlements. Habitat III Issue Paper No. 22. United Nations publication.

_____ (2015a). *Migration and refugees in urban areas.* Habitat III Issue Paper No. 2. United Nations publication.

UNISDR (2004). *Living with risk: a global review of disaster reduction initiatives.* United Nations publication.

_____ (2015). *Sendai Framework for Disaster Risk Reduction 2015-2030.* Third United Nations World Conference on Disaster Risk Reduction, Sendai, Japan, 14—18 March 2015.

United Kingdom, Government Office for Science (2012). *Reducing Risks of Future Disasters: Priorities for Decision Makers — Final Project Report.* Foresight. Available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/286476/12-1289-reducing-risks-of-future-disasters-report.pdf.

United Nations (2013). Secretary-General's remarks to High-Level Dialogue on International Migration and Development, 3 October.

United Nations, Department of Economic and Social Affairs, Population Division (2017). *International Migration Report 2017: Highlights.* United Nations publication. ST/ESA/SER.A/404.

_____ (2019). International migrant stock 2019. Available at https://www.un.org/en/development/desa/population/migration/data/estimates2/estimates19.asp.

United Nations, Department of Economic and Social Affairs, Population Dynamics (2015). World Population Prospects: the 2015 revision. Available at https://esa.un.org/unpd/wpp/DataQuery/. Accessed on March 4, 2020.

United Nations Office for the Coordination of Humanitarian Affairs (1998). *Guiding Principles on Internal Displacement.* United Nations publication.

United Nations, Security Council (2019). Letter dated 25 April 2019 from the Permanent Representative of Germany to the United Nations addressed to the President of the Security Council. 30 April. S/2019/345, see Annex.

Vasquez, Tania, Erika Busse and Lorena Izaguirre (2014). La migración haitiana en Perú y su tránsito hacia Brasil. *In La migración haitiana hacia Brasil: Características, oportunidades y desafíos.* Cuadernos Migratorios No. 6. Buenos Aires: Organización Internacional para las Migraciones.

Villareal, Andrés (2014). Explaining the Decline in Mexico-US Migration: The Effect of the Great Recession. *Demography,* vol. 51, No. 6.

Warner, Koko et al. (2009). *In Search of Shelter: Mapping the Effects of Climate Change on Human Migration and Displacement.* Cooperative for Assistance and Relief Everywhere (CARE), United Nations University and CIESIN—Columbia University.

Weiss Fagen, Patricia (2013). *Receiving Haitian Migrants in the Context of the 2010 Earthquake: Discussion Paper.* The Nansen Initiative. Available at https://disasterdisplacement.org/wp-content/uploads/2015/03/DP_Receiving_Haitian_Migrants_in_the_Context_of_the_2010_earthquake.pdf.

Wilkinson, Emily et al. (2016). Climate-induced migration and displacement: closing the policy gap. ODI Briefing Paper. London, United Kingdom: Overseas Development Institute.

World Bank (2019). *Beyond Borders: A look at the Venezuelan Exodus.* Available at https://documents1.worldbank.org/curated/en/864341554879205879/pdf/Beyond-Borders-A-Look-at-the-Venezuelan-Exodus.pdf.

World Food Programme and others (2017). *Food Security and Emigration: Why People Flee and the Impact on Family Members Left behind in El Salvador, Guatemala and Honduras—Research Report.* United Nations publication.

Zetter, Roger and George Deikun (2013). A new strategy for meeting humanitarian challenges in urban areas. *Forced Migration Review,* vol. 38.

Zong, Jie and Jeanne Batalova (2018). Mexican Immigrants in the United States in 2017. *Migration Information Source,* 11 October.

RAR

UNDRR
UN Office for Disaster Risk Reduction