

EVACUATIONS AND DISASTER RISK REDUCTION IN THE CARIBBEAN



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Foreword

The Caribbean is vulnerable to a range of hazards and is experiencing increased frequency and intensity of climate change-induced hazards, forcing many – especially those residing in informal settlements and coastal zones – to evacuate as a mobility strategy to mitigate risk of harm and loss of life. During this process, the International Organization for Migration, in collaboration with regional and national governments, non-governmental organizations and other UN agencies, supports the safe and orderly evacuation, shelter and return of evacuees to their communities of origin.

Evacuations are a commonly used strategy to mitigate risk in the Caribbean, occurring in response to floods, hurricanes and other storms, landslides, volcanic eruptions and other hazards. Evacuations in the region often happen internally, but cross-border evacuations are becoming increasingly common, drawing on the regional frameworks to permit free movement of people to save lives. This report delineates the key themes in evacuation practices in different Caribbean States, providing a regional view of policies and implementation efforts. This report is based on an analysis of policies from the region and interviews with government officials and people who have experienced an evacuation, providing a unique holistic perspective on challenges and good practices in the region.

Evacuations are just one type of emergency-related mobility and just one part of broader disaster risk reduction strategies. This report focuses specifically on this critical phase because evacuations are conducted every year in the Caribbean, whether in response to hurricane season or other hazards, and effective planning and implementation of this type of mobility is key to saving lives and mitigating harm.

We are confident this study's findings and recommendations will help guide decision-making and contribute to collaboration between regional and national policymakers and partners in planning and implementing evacuation-related policies and strategies that are guided by considerations for social protection, health, education and other urgent needs of affected persons and communities.

IOM remains committed to assisting the people and governments of the Caribbean in policy and strategy areas that are essential for addressing the existing challenges for persons and communities during evacuations. Therefore, we will continue exploring avenues to effectively collaborate to facilitate safer evacuations and supporting evacuations as an adaptive strategy for risk mitigation.



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IOM Regional Director for Central America, North America and the Caribbean

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Acronyms and Abbreviations

CARICOM	Caribbean Community
CCRIF SPC	Caribbean Catastrophe Risk Insurance Facility Segregated Portfolio Company
CDEMA	Caribbean Disaster Emergency Management Agency
CSME	CARICOM Single Market and Economy
DRR	Disaster Risk Reduction
ECEU	Eastern Caribbean Economic Union
GBV	Gender-based violence
IFRC	International Federation of Red Cross and Red Crescent Societies
LGBTIQ+	Lesbian, Gay, Bisexual, Transgender, Intersex and Queer/Questioning
NCDS	Non-communicable diseases
OECS	Organisation of Eastern Caribbean States
RCC	Regional Coordinating Centre
RRM	Regional Response Mechanism
UNDRR	United Nations Office for Disaster Risk Reduction
UNFCCC	United Nations Framework Convention on Climate Change

Executive Summary

Evacuations are a strategy to minimize risks associated with various types of climate change-induced hazards in the Caribbean. This study examines evacuations as a type of mobility and assesses evacuation policies, strategies and practices from a regional perspective, drawing on information from interviews with government officials, civil society groups and people affected by evacuations. This study also draws on an analysis of policies for all Caribbean Community (CARICOM) Member States and the Dominican Republic and a region-wide survey. It is expected that findings and recommendations will help inform government officials and relevant partners during the formulation of evacuation-related strategies across the region. Ultimately, this study aims to minimize disaster risks in affected communities and support safer and more effective regional and national evacuation practices.

Although all persons are vulnerable to threats and risks of hazards, impacts vary by gender, age, disability, sexual orientation, and migrant status, which are rooted in, and reinforced by, social and economic institutions, norms and practices that contribute to these groups being disproportionately vulnerable to climate change-induced hazards. Therefore, efforts must be made to design and implement inclusive policies and strategies that cater to the diverse and evolving needs of these groups and others. It is critical to ensure that their voices and perspectives are included in all aspects of preparedness, planning, implementation and recovery to ensure that processes mitigate risk for all people.

KEY FINDINGS

EVACUATION PREPAREDNESS AND COMMUNICATION

- All States except one have national disaster risk reduction or evacuations policies, and some have multiple policies that work in conjunction.
 - Based on an analysis of the policies, 10 of these States incorporated some aspect of evacuations into their disaster risk reduction policies. Additionally, eight States have linked disaster risk reduction to their national development strategies.
- Most national disaster risk reduction policies in the Caribbean address early warning, though the degree of detail given varies by policy. The analysis identified that 14 States include a discussion of early warning in their national DRR policy. Most policies do not specifically identify which communities are most at risk of specific hazards.

- Respondents in the survey conducted for this study expressed concern about the level of preparedness in their communities, with 84 per cent noting that they feel their community is not at all prepared or somewhat prepared for a disaster.
- While some States relay their evacuation messages in multiple languages, it is important to assess which languages are needed in each country context to ensure that messages are accessible to migrant communities.
- National disaster risk reduction documents in many States identify the need for detailed hazard mapping and vulnerability assessments to better understand which geographical areas and communities are at risk from which hazards.
- Provisions specific to gender, age, disability, sexual orientation and gender identity or migration status are largely not integrated into national evacuation-related policies. Notable exceptions are Barbados, the Commonwealth of Dominica, Grenada and the Republic of Haiti.
 - While many national disaster risk reduction and evacuation policies specifically refer to the needs of older persons and disabled persons, fewer refer to gendered needs or the needs of migrant populations. No policies in the region specifically address the needs of LGBTQ+ persons.
- Interview participants in some countries discussed a lack of information about evacuation procedures and how to access resources. Providing training can help communities be better prepared in the event of an evacuation.
- There is a need to strengthen communication systems to provide real-time information and status updates related to access to shelters, health services, and other essential aid.

COORDINATION OF EVACUATIONS

- The Caribbean Disaster Emergency Management Agency (CDEMA) is a key actor in supporting evacuations across the region.
- CDEMA mobilizes and coordinates disaster relief, gathers and provides reliable and comprehensive information on disasters that can inform evacuations and encourages the adoption of disaster risk reduction policies throughout the region.
- The private sector, including cruise lines, has often played an important role in helping to evacuate affected persons and to supply assistance.

- States in the Caribbean often share a similar evacuation management structure, comprising National Emergency Advisory Committees, National Emergency Operations bodies, a government-led cluster coordination system and provincial or district committees.
- Most States have established frameworks for national and sub-national collaboration during evacuations. However, some of these frameworks lack detail or explicit connection to other relevant national policies or frameworks that would support implementation.

PHYSICAL EVACUATIONS

- Given the geographies of Caribbean States, evacuations take place via the air, water, and land.
- The COVID-19 pandemic posed significant challenges for conducting evacuations safely and for implementing needed health and hygiene processes.
- Some States conducted evacuations in response to the COVID-19 pandemic.
- In response to the 2021 volcanic eruption in Saint Vincent and the Grenadines, the Caribbean Public Health Agency (CARPHA) created a set of protocols to help guide evacuation hygiene and health provisions.
- Caribbean States have implemented cross-border evacuations multiple times, drawing on existing regional agreements and bilateral agreements to move people as safely as possible.
- Many of these evacuations have relied on the provisions of the Organisation of Eastern Caribbean States (OECS) Eastern Caribbean Economic Union (ECEU) of the CARICOM Single Market and Economy (CSME). Some relied on bilateral agreements between States.
- There is no regional policy or strategy guiding cross-border evacuations in the Caribbean. Instead, ad hoc and bilateral agreements serve as guidance tools.
- States sometimes lack the capacity to enforce evacuation orders and prevent people from staying in or returning to areas mandated for evacuation

SUPPORT DURING THE EVACUATION

- Although many evacuees stay with family members, friends, or in private accommodation during evacuations, shelters often do not have the capacity to host all people in need of a safe place to stay.
- Meeting the needs of people of all genders, members of the LGBTIQ+ population, disabled people, older people, children and youth and migrants is a significant challenge. Meeting these needs requires financial and human capacity that may be especially strained during a disaster.

- States work with partners to provide health services, relief and essential supplies and access to education while populations are evacuated.

RETURNING HOME

- Governments play a vital role in determining when evacuees may return safely to their communities. This process could be swift or protracted and may hinge not only on the magnitude and impact of the disaster, but also on the capacity of States and partners to put systems in place to mitigate existing and future risks in affected communities.
- Many governments deploy resources to support the reopening of local business and facilitate economic growth following an evacuation.
- Many States continue to work closely with strategic partners to “build back better,” including a focus on more resilient housing and community resources.
- States work with partners to mobilize both technical and financial resources to help evacuees return to their original communities and put in place initiatives to support economic recovery and livelihood opportunities.
- Rebuilding is a long-term process, and governments often lack the financial capacity to fund recovery efforts for as long as they are needed.

RECOMMENDATIONS

REGIONAL

- CDEMA, with support from IOM, has identified a need to develop a comprehensive regional strategy that guides regional cross-border evacuations.
- Build protections and arrangements specifically related to disaster-related migration within the CARICOM Single Market and Economy and Eastern Caribbean Economic Union agreements to facilitate evacuations and support States and affected communities.
- Facilitate multilateral communication between emergency management agencies during times of crisis to support regional solutions rather than reliance only on bilateral agreements.
- Facilitate communication and standard operating procedures between consulates in the region, which can provide information and emergency assistance.

NATIONAL

- Update national disaster risk reduction and evacuation policies to integrate disaster risk reduction and national development strategies and to facilitate interministerial coordination in times of emergencies.
- Conduct hazard mapping and vulnerability assessments to understand which geographical areas and communities are at risk from specific hazards. These assessments should include a mapping of the distribution of the population and their movements, socioeconomic characteristics access to public and private means of transportation and distribution of assets and infrastructure. These assessments can inform how resources may need to be prioritized for these areas.
- Facilitate consultations with communities to understand their needs before, during, and after evacuations.
- Lead consultations with transportation agencies and operators on key aspects of evacuation planning and implementation, including setting up agreements in advance to facilitate evacuation using small boats or other vessels.
- Conduct trainings and exercises with the public to increase their awareness about what to do when an evacuation is ordered.
- Create formal strategies or policies that address early warning planning and implementation, with a focus on the different needs of people according to their gender, age, sexual orientation, gender identity, disability or migration status.
- Expand the languages in which early warning and communication is offered, tailored to the specific migrant communities present in each State.
- Develop tailored communication plans that respond to the needs of communities with different levels of access to traditional compared to non-traditional sources of information and to reach people with disabilities, especially those related to vision, hearing or mobility.
- Create systems to communicate with people while they are evacuated to provide real-time status updates about transportation, fuel, shelters, healthcare, and other essential services.
- Invest in building sufficient shelters to meet the evolving and diverse needs of evacuees.
- Ensure that affected people have access to shelters and essential aid, regardless of migration status.
- Collect information disaggregated by gender, age, disability and migration status so that evacuated individuals can be supported most effectively.
- Put measures in place to prevent gender-based violence and violence against populations such as women, LGBTIQ+ people, children and people with disabilities. This is especially important in shelters.

LOCAL

- Support hazard mapping and vulnerability assessments at the local level to facilitate planning and preparedness. Take into consideration strategies for supporting the effective and safe evacuation of persons of different genders, ages, disabilities, and migration status.
- Conduct training and exercises to help ensure that the community is prepared to respond to an evacuation order and to various types of hazards.
- Enforce building codes and provide safe housing to create hazard-resilient infrastructure and prevent the need for some evacuations.

Evacuations, guided by the good practices highlighted in this report, are a type of mobility that can be a life-saving strategy used by government and communities to prevent injury and death. Evacuations play a key role in broader disaster risk reduction efforts; while States continue to work to reduce long-term risk to hazards, evacuations are a tool to physically move individuals and communities away from danger. These processes can be difficult and costly; these efforts are not taken lightly by government officials or community members. This report highlights the challenges associated with implementing evacuations as well as some of the good practices that Caribbean States have implemented to better protect their populations and to work towards building resilience.

Introduction

This report provides analysis of regional and national evacuation-related policies, strategies, and practices. IOM's Migration Governance Framework (MIGOF), which presents principles and guidelines to help ensure that migration is humane, orderly and benefits migrants and society, shows that good migration governance is based on effective responses to the mobility dimensions of crises. The MIGOF highlights the need to address the root causes of crises and associated population movements in order to work toward recovery, transition and sustainable development (IOM, 2016c). IOM operates in emergency situations to develop the resilience of people who are moving, especially those in situations of vulnerability. IOM also seeks to work with governments to build capacity to manage all forms and impacts of mobility (IOM, 2019c).

Evacuations are one type of mobility related to hazards and crises. For this report, an evacuation is “the rapid movement of people away from the immediate threat or impact of a disaster to a safer place of shelter. It is commonly characterized by a short time frame, from hours to weeks, within which emergency procedures need to be enacted in order to save lives and minimize exposure to harm” (IOM, 2014). Evacuations are a strategic risk reduction response usually (though not always) initiated and coordinated by governments, often in collaboration with strategic partners and affected communities to minimize the impacts of hazards. It is also a specific and usually time-limited form of migration, an adaptive measure to protect persons at risk from the effects of hazards.

Previous regional studies have examined disasters, impacts, and responses; however, this is the first major study to assess regional and national evacuation policies, strategies, and practices in the Caribbean from a comparative perspective. Extensive research was conducted spanning the regional disaster risk reduction literature to determine the scope of previous studies, and a need was identified for a comparative analysis of evacuation-related policies, strategies, and practices specific

to the Caribbean. Therefore, this study fills a crucial knowledge gap by examining strengths, challenges and opportunities for improvement. This study relied on information provided by representatives from government, civil society groups and persons affected by evacuations. The report also includes experiences and perspectives of persons disproportionately affected by disasters, such as women, children and youths, elderly and disabled persons, LGBTIQ+ persons, and migrants. An analysis of policies was conducted for all CARICOM Member States and the Dominican Republic. While interviews and focus groups were conducted in six Caribbean States —Antigua and Barbuda, Barbados, the Commonwealth of The Bahamas, the Commonwealth of Dominica, the Dominican Republic, and the Republic of Haiti—this study seeks to provide a regional panorama of evacuation policies, strategies, and practices, while also highlighting challenges and good practices.

An analysis of secondary literature collectively provided a broader and more comprehensive perspective regarding how regional and national leaders, in conjunction with international partners and affected persons, have collaborated to identify and address existing gaps in regional and national evacuation response mechanisms.

The expectation is that findings and recommendations will help inform governments and relevant partners during the planning, development, and implementation of evacuation-related policies and strategies that align with key principles identified in disaster risk reduction-related frameworks, notably the *Sendai Framework for Disaster Risk Reduction (2015—2030)*, the *2015 Paris Agreement under the United Nations Framework Convention on Climate Change (UNFCCC)*, the *Global Compact for Migration* and the Caribbean Disaster Emergency Management Agency (CDEMA)'s *Comprehensive Disaster Management Strategy and Programming Strategy (2014—2024)*. Ultimately, this study seeks to support disaster risk reduction practices and safer and more effective evacuations in the region.

Methodology

The methodological approach that guided this study is outlined in Figure 2. Both quantitative and qualitative data analyses were employed. The combination of literature, policy, and primary data analyses provided a deep and contextualized understanding of communities' and States' knowledge, experience, and expertise.

DESK REVIEW

A desk review was conducted using pre-set search terms to identify relevant literature on regional evacuations. The search identified approximately 85 sources, including reports from IOM and other international organizations, academic articles, and national reports and documents, which were gathered and analyzed to better understand regional and national contexts, priorities, trends, and gaps. Key findings were documented systematically using a desk review matrix that delineated findings on regional and national policies, strategies, and practices as well as methodology and geographical scope. The desk review helped to set the tone for the data collection process in hopes of filling gaps identified in the literature.

National climate change or environmental policies, disaster risk reduction policies, national development strategies, and communications to the UNFCCC were analyzed for all CARICOM Member States and the Dominican Republic to identify measures currently included in national policies and priorities and to draw out best practices and common challenges. This process was a vital component of the study because it helped to highlight some provisions presently employed by regional and national governments to mitigate the impacts of disasters and support evacuation responses.

DIAGNOSTIC INTERVIEWS

IOM conducted diagnostic interviews with key regional and global stakeholders, including CDEMA, to shape the scope of the study

Figure 1: Illustration of methodologies used to gather, organize, and analyze data



Source: Author's elaboration

and to better understand existing gaps and concerns that should be considered to ensure this report would be useful and relevant to current events and ongoing processes in the region.

CARIBBEAN-WIDE SURVEY

To collect data from Caribbean nationals during the COVID-19 pandemic, the research team launched an online survey via targeted ads on Facebook, focusing on migration connected to climate and environmental change, evacuations, and planned relocation. The ads were designed to gather responses from as many Caribbean States and socioeconomic groups as possible as well as persons of all genders, LGBTIQ+ community, rural residents, disabled and elderly person, Indigenous people, young adults, and migrants.

The survey was offered in English, Spanish, and Haitian Creole. However, persons with limited access to the internet may have been less likely to contribute. A total of 369 valid responses were received between July and September 2020, of which 60 per cent were from women and 39 per cent were from men, while one per cent did not identify their gender. The countries from which responses were most common were Haiti, the Dominican Republic, and Belize. Six per cent of respondents identified as having a disability, nine per cent identified as LGBTIQ+, and 23 per cent identified as Indigenous¹. The survey results are not statistically representative of the entire population of the Caribbean. Therefore, the survey data presented in this report should not be taken as representative trends. However, responses provide meaningful insights into the experiences and perspectives of Caribbean nationals. For a full demographic disaggregation of survey results, please see Appendix I.

INTERVIEWS WITH GOVERNMENT, CIVIL SOCIETY AND AFFECTED PERSONS

The research team selected six States in which to conduct interviews for several reasons: a) each had experienced natural hazards or emergencies; b) members of the Caribbean Community

(CARICOM) and/or the Organization of Eastern Caribbean States (OECS); and c) may have experienced cross-border evacuations. This report seeks to highlight the unique characteristics and experiences of these States but also to help form a regional view of evacuation policies, strategies, and practices, drawing from these States as examples. Due to the COVID-19 pandemic, interviews with officials and community members were led by local facilitators, in full adherence with IOM protocols and data protection standards to help ensure the safety and well-being of all participants and researchers.

CHALLENGES AND LIMITATIONS OF THE STUDY

This study was conducted in 2021 during the COVID-19 pandemic, making primary data collection a challenge. The research team attempted to overcome these challenges by conducting an online regional survey, hiring local facilitators and working with IOM National Offices to engage local stakeholders. Below are the challenges and limitations associated with this study:

- The volcanic eruption in the Saint Vincent and the Grenadines in 2021 hindered the ability to interview many individuals who were involved in recovery efforts;
- The national political context in Haiti limited the ability collect data;
- Limited Caribbean-related literature on evacuations presented a major obstacle for understanding regional and national policies, strategies, and practices;
- There is limited content on how people in situations of vulnerability are mainstreamed into regional and national policies and strategies, which affected how the research team was able to assess how disasters impacted these groups and the roles they play in evacuation responses;
- The snowball strategy was employed to recruit some interviewees, particularly community members, which may have led to the inclusion of participants with similar perspectives. A larger group of participants may have contributed to more generalizable findings.

¹ The research team is not able to verify this percentage, but it is likely that respondents identified as Indigenous even if they are not or misunderstood the definition provided for Indigenous identity, as this percentage is high for the Caribbean region.

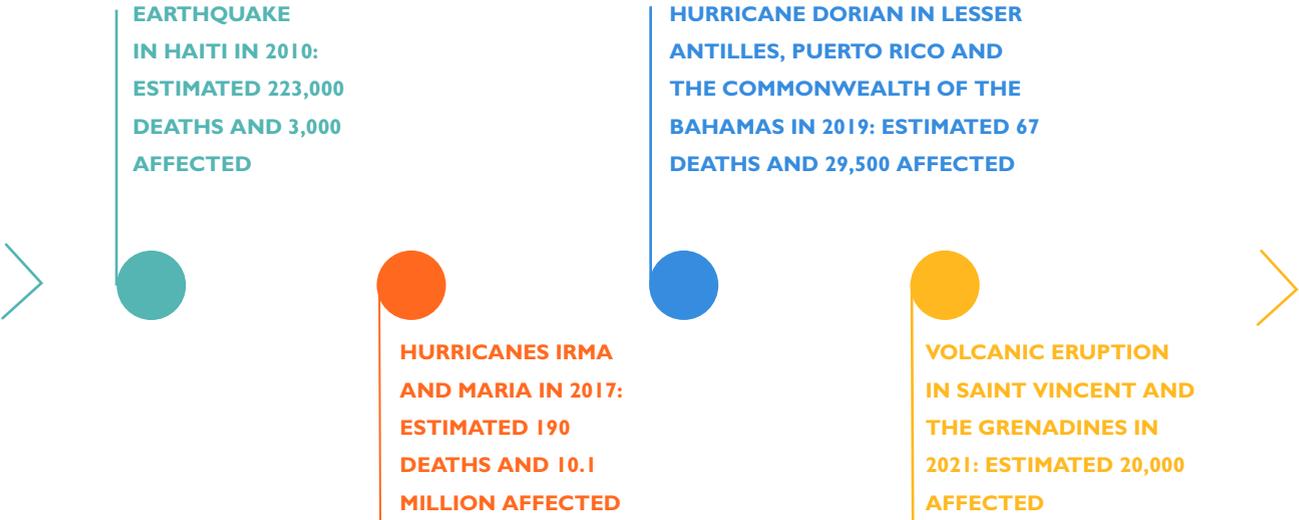
CHAPTER 1: HAZARDS, EVACUATIONS AND DISASTER RISK REDUCTION IN THE CARIBBEAN



The Caribbean is rooted in diverse histories, cultures and socio-economic characteristics. Due to its geographic location and geomorphological composition, the region has historically been vulnerable to frequent and intense climate change-induced hazards. Although hurricanes contribute to major damage across the region, flooding —associated with hurricanes, storm surges and rain— occurs more frequently and contributes to great cumulative damage to assets and loss of life annually (OCHA, 2019; Fontes de Meira and Phillips, 2019). This is exacerbated by rising sea levels and the fact that many States lie partially below sea level (Fontes de Meira and Phillips, 2019). Rainy seasons can also intensify the hazards affecting communities, leading

to mudslides and landslides (Sepúlveda and Petley, 2015). Some States are also exposed to volcanic eruptions. Other climate-induced effects that are threatening the existence of these States and livelihoods of their inhabitants include rising sea levels, coastal erosion and salinization and reduced water availability, among others; these impacts affect the environment and economic sectors, especially agriculture, forestry, fishery and tourism. This chapter addresses the types of hazards that affect Caribbean States and assesses how hazards are connected to risk for communities and individuals. When risk is high, an evacuation may be necessary to save lives and prevent injury.

Figure 2: Timeline of key regional disasters, 2010 - 2021.



Source: OCHA, 2019; UNICEF, 2021.

Caribbean States experience both sudden-onset hazards, typically referred to as extreme weather and geophysical events, and slow-onset hazards, which unfold gradually over longer periods of time. Both types of hazards cause extensive losses and damage, affect human rights and social protection and drive human mobility (Paul-Rolle, 2014; Shultz, et al, 2016; World Bank, 2018; Lopez-Marrero and Wisner, 2012; Wilkinson, et al., 2016).

However, it must be noted that the distinction is not always easy to make, particularly in instances of droughts or rainfall variability; it is often difficult to establish a clear or observable beginning and end of a single hazard because slow-onset hazards gradually occur over longer periods of time, and sudden-onset and slow-onset hazards may compound each other. Nonetheless, responses for both require pragmatic and timely mitigation, preparedness, and response strategies. The key differences are summarized in Table 1.

SUDDEN-ONSET AND SLOW-ONSET HAZARDS

The characteristics of sudden- and slow-onset hazards often shape the potential impacts and necessary response.

Table 1. Differences between sudden- and slow-onset hazards

CHARACTERISTICS	SUDDEN-ONSET HAZARDS	SLOW-ONSET HAZARDS
MANIFESTATION	Usually single and discrete	Usually gradual and indiscrete
DURATION	Manifests between hours and months	Manifests over years or decades
PREDICTABILITY	Difficult to predict frequency, intensity, and when they will occur	Often easier to predict and tend to be visible
IMPACTS	Localized events that lead to major damages	Gradually impacts larger geographical areas if left unchecked

Source: UNFCCC, 2012, and OHCHR, 2018.

SUDDEN-ONSET HAZARDS

Sudden-onset hazards, such as storm surges, earthquakes, flash floods, mudslides, and landslides often cause rapid and mandatory evacuations due to the speed of manifestation and their unpredictable nature. These events may occur in seconds. Decisions to evacuate are generally rooted in the notion that affected persons and communities are too exposed to hazard risks and lack adequate resilience and capacity to withstand the potential impacts of these hazards when they occur. Therefore, to minimize the risk of harm and loss of lives, governments may activate evacuation protocols based on available data and technical advice of experts. This is not a simple decision, because the time-critical and intricate nature of the process could determine the magnitude of the impact in terms of lives lost or affected, access to information affected persons need to effectively navigate evacuations, and provision of adequate social protections and services. Government capacity to activate response systems and mobilize resources often determine whether the impacts of hazards will be resolved quickly or are protracted. While the duration of sudden-onset hazards and related evacuations is typically measured between hours and months, the impacts are often longer lasting (OHCHR, 2018).

EXAMPLES OF SUDDEN-ONSET HAZARDS IN THE CARIBBEAN

Flooding in the Co-operative Republic of Guyana in 2005 and 2006 is an example of a sudden-onset hazard. The month-long flooding was localized primarily in three coastal regions, affecting approximately 275,000 persons, or 37 per cent of the total population (UNDP, 2009a; Pelling, 2011; Weekes and Bello, 2019), many of whom evacuated to government shelters or sought shelter with family and friends (PAHO, 2005). Many of these persons are vulnerable because the coastal zone is below sea level, which is compounded by extensive seasonal rainfalls, rising tides, and poor irrigation and drainage systems. Although the Guyana Defence Force tried to stop water breaches along the coastal zones, Guyana's vulnerability to floods highlights the need for long-term planning and disaster risk management systems to mitigate their impact.²

Similarly, the Commonwealth of The Bahamas has been vulnerable to devastating hurricanes. In 2019, Hurricane Dorian caused an estimated 9,840 new internal displacements and at least 70 fatalities (IDMC, 2020; ECLAC, 2020). The destructive trail of the hurricane forced many to seek shelter on other islands, including New Providence and Eleuthera, and in neighboring States, including the United States of America, Canada and CARICOM Member States. Owing to the swift response of the government and partners, internal and external networks were mobilized to facilitate evacuations and disaster response smoothly to help minimize the impact of the hurricane (IDMC, 2020; ECLAC, 2020).

The La Soufrière volcano eruption in the Saint Vincent and the Grenadines in 2021 also led the government to activate its evacuation protocols, causing up to 20,000 people residing in high-risk zones in the north of the island to evacuate (UNICEF, 2021). A majority of evacuees stayed with family and friends, while an estimated 4,400 sought refuge in 84 government shelters. Neighboring States also offered to receive evacuees (OCHA, 2021). This evacuation was complicated by the ongoing COVID-19 pandemic, which affected the accessibility of public shelters and transportation.

² Comprehensive assessments had not been completed at the time of this publication for the 2021 flooding to determine the extent of its impact and damage relative to the 2005-2006 flooding.

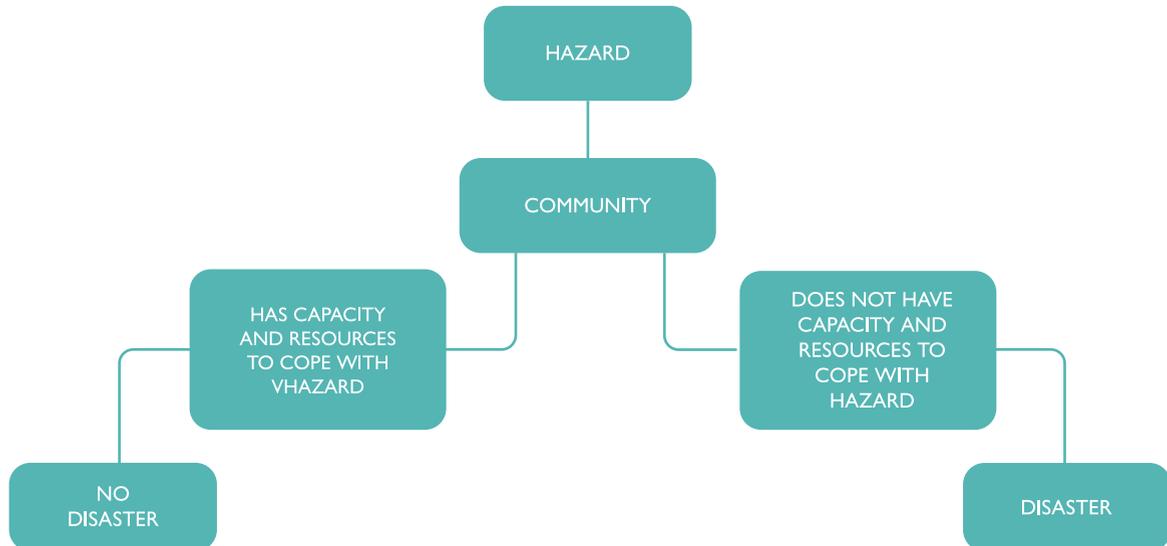
SLOW-ONSET HAZARDS

Slow-onset hazards manifest gradually but may have significant and lasting impacts. Some of the most common slow-onset hazards in the Caribbean are rising sea levels, droughts, and coastal erosion, which may lead to people and communities choosing to move as an adaptation strategy. Relative to sudden onset hazards, slow onset hazards are less likely to require government-led evacuation, though affected people could choose to move away from the hazard. Slow-onset hazards generally allow for greater time between forecast and impact, which provides authorities more time to anticipate, plan and reduce impacts; however, the extent to which these actions are prioritized depends on government capacity and will to address these hazards.

When not prioritized, the cumulative effects lead to irreversible damage and increasing displacement in the Caribbean (UNFCCC, 2012; Abeldano Zuñiga and Fanta Garrido, 2020; OCHA, 2011; McConnell, 2003).

This report focuses on sudden-onset hazards, as they are most likely to prompt an evacuation, whereas slow-onset hazards are more closely associated with longer-term change and migration patterns. However, slow-onset hazards could contribute to or exacerbate the impact of sudden-onset hazards; for example, if a community experiences coastal erosion over many years, it may be more vulnerable to flooding during a hurricane.

Figure 3: Illustration of how hazards relate to disasters



Source: Abhaya Prasad and Louis Hugo Franscescutti, 2017.



WHEN HAZARDS BECOME DISASTERS

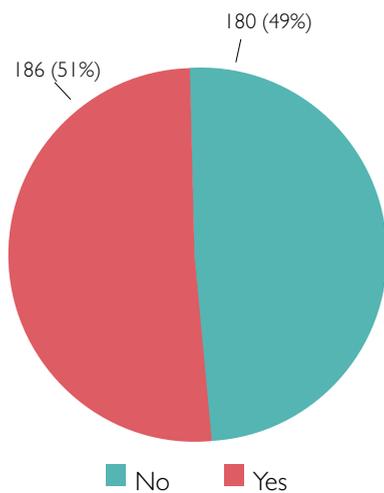
Hazards and disasters are conceptually distinct. The UNDRR defines hazards as any natural process, phenomenon, physical events, or human behavior that may pose a negative impact on the economy, society, or ecology. Hazards are catalysts of disasters, which may cause harm or death, destruction of property, social disruption, environmental degradation, and resource depletion of different capacities.

In contrast, disasters are a consequence of hazards, exposure, and vulnerability. The Intergovernmental Panel on Climate Change describes the relationship as before disasters = hazard + exposure + after vulnerability. Regions, States, and communities that are unable to mitigate the effects of these three factors with the resources and capacity at their disposal, are more likely to experience disasters. In contrast, if regions, States and communities possess adequate capacity and resources, disasters are likely to be avoided, though resources may be depleted. Good governance is a key component in determining the extent to which States and communities can prevent or mitigate negative impacts. Therefore, establishing appropriate disaster risk reduction institutions, policies, and frameworks is crucial for minimizing the likelihood of hazards becoming disasters.

Source: UNDRR, 2004; IPCC, 2012; Prasad and Francescutti, 2017; UNDRR, 2020a

According to the survey conducted for this study, out of the 366 respondents, approximately 51 per cent reported having been affected by a disaster between 2015 and 2020. Most of these respondents were from Haiti, the Commonwealth of Dominica, and the Commonwealth of The Bahamas.

Figure 4. Respondents Personally Affected by a Disaster, 2015-2020



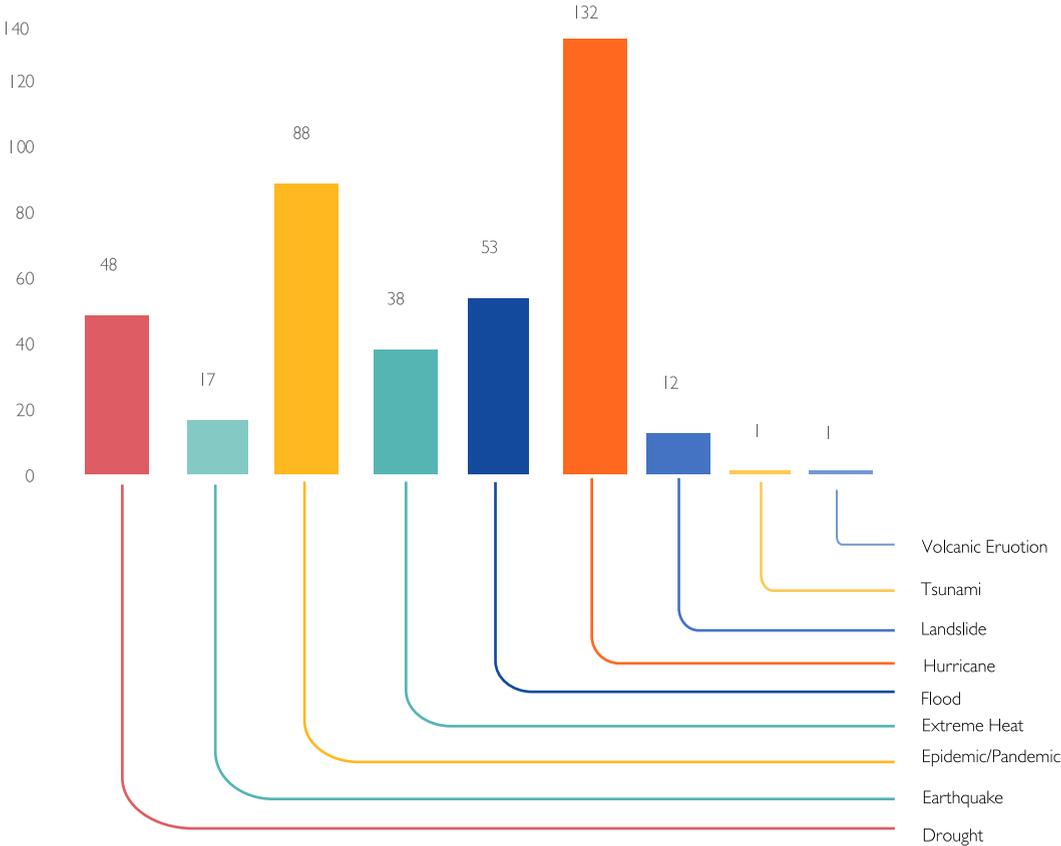
The research team created a statistical tree, using R, to understand how different demographic factors intersect or overlap to understand for which individuals these demographics had a statistically significant relationship with having experienced a disaster between 2015 and 2020.

The tree showed that the following types of individuals had a statistically significant likelihood of having been affected by a disaster:

- Disabled people who are women or preferred not to identify their gender and did not identify as LGBTIQ+;
- Indigenous people who are male or did not provide their gender and did not identify as LGBTIQ+;
- People who are not Indigenous and who are LGBTIQ+;
- People who are either younger than 51 or older than 65, male, or preferred not to identify their gender, and not Indigenous;
- People who are Indigenous and LGBTIQ+.

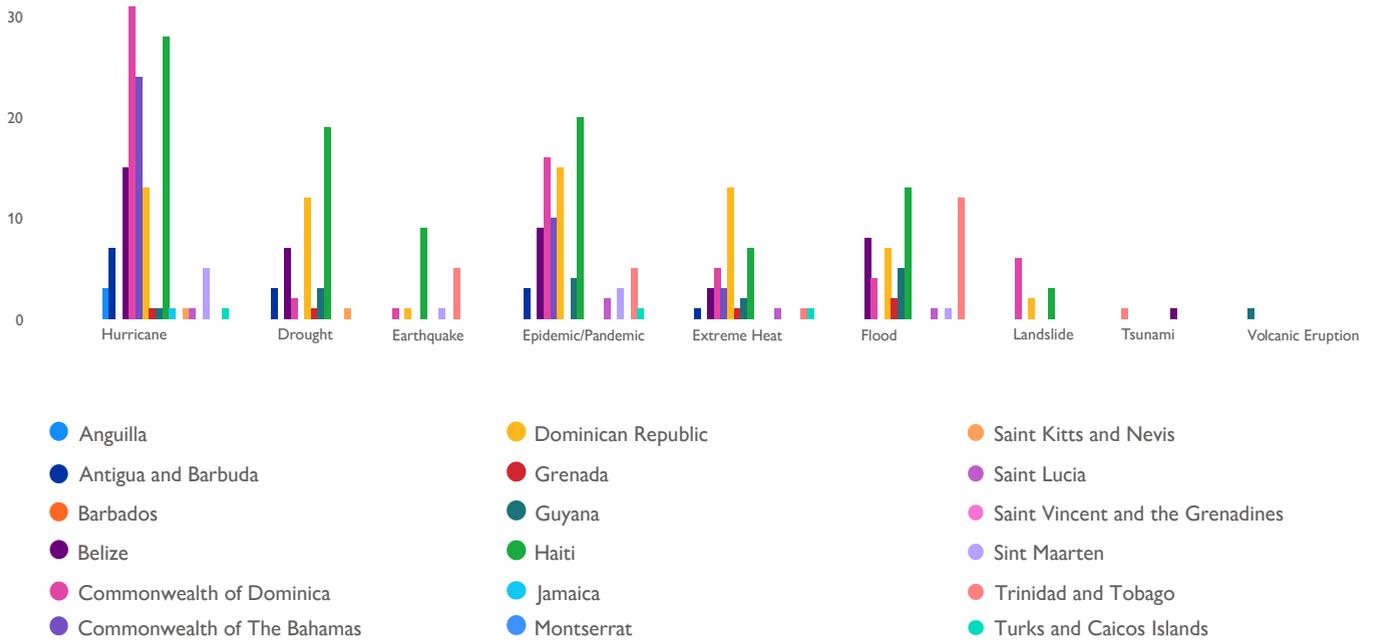
Although respondents experienced various types of disasters, hurricanes were the most common, followed by the COVID-19 pandemic. This is somewhat consistent with the most recent and most impactful disasters in the region during that timeframe.

Figure 5: Disasters experienced by respondents, 2015-2020



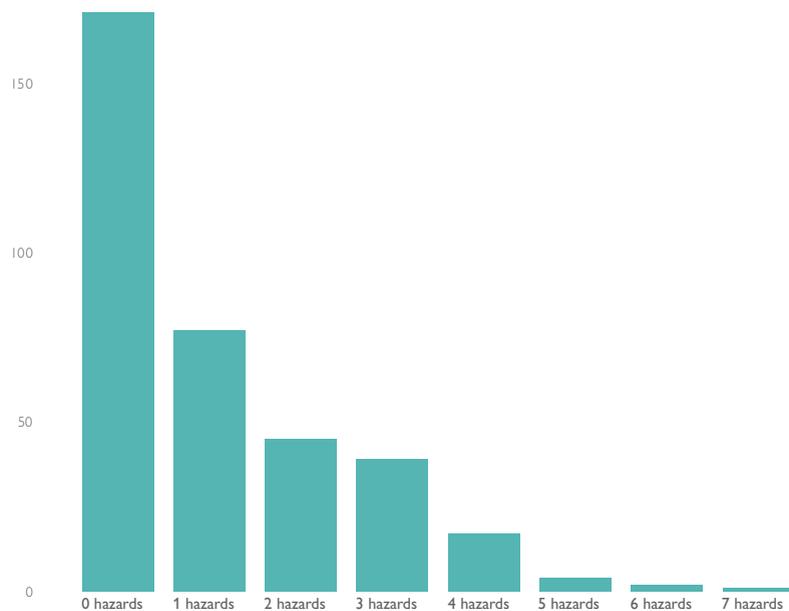
The disasters experienced by respondents varied by country of residence, which was statistically significant. Similarly, statistical significance was also found in the relationship between country of residence and various hazards included in the survey, namely drought; earthquake; epidemic/pandemic; extreme heat; flood; hurricane; landslide; tsunami; and volcanic eruption.

Figure 6: Disasters experienced by respondents, 2015-2020 by country



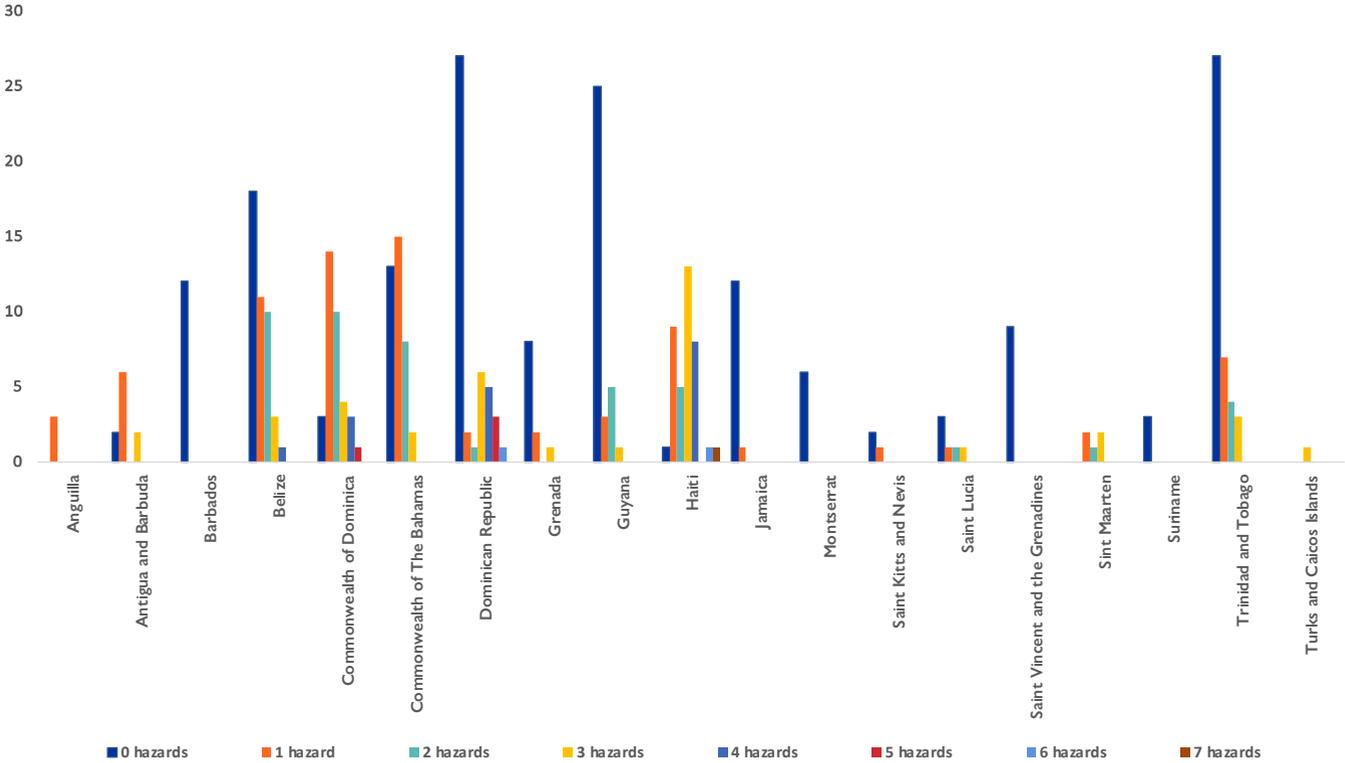
Respondents reported experiencing a both of slow- and sudden-onset hazards. Many respondents also experienced more than one hazard between 2015 and 2020.

Figure 7: Number of types of hazards experienced by respondents, 2015-2020



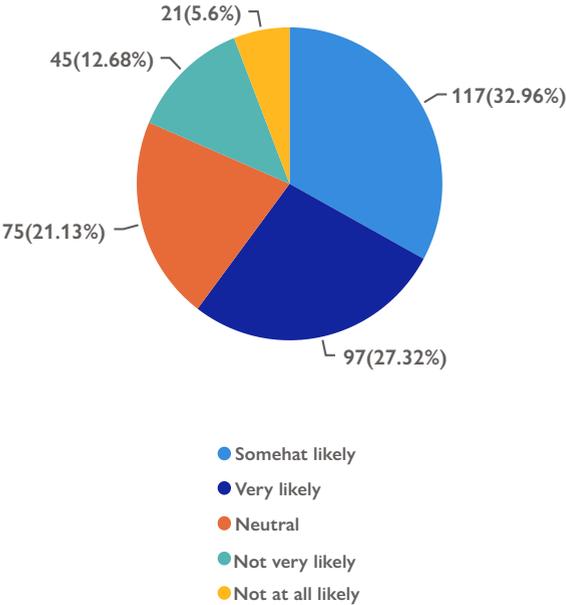
The relationship between country of residence and number of hazards experienced between 2015 and 2020 was also statistically significant. Respondents from some countries, such as Belize, Dominican Republic, and Haiti, reported experiencing multiple hazards, which is higher relative to respondents from other countries

Figure 8: Number of Types of Hazards Experienced by Respondents 2015-2020, by Country



A majority (60 per cent) of respondents believe that they are likely to experience a disaster in the next three years. In contrast, 19 per cent indicated that it is unlikely that they would be affected by a disaster in the next three years, while 21 per cent of respondents were neutral.

Figure 9: Respondents' Perception of their likelihood of being affected by a disaster in the next 3 Years



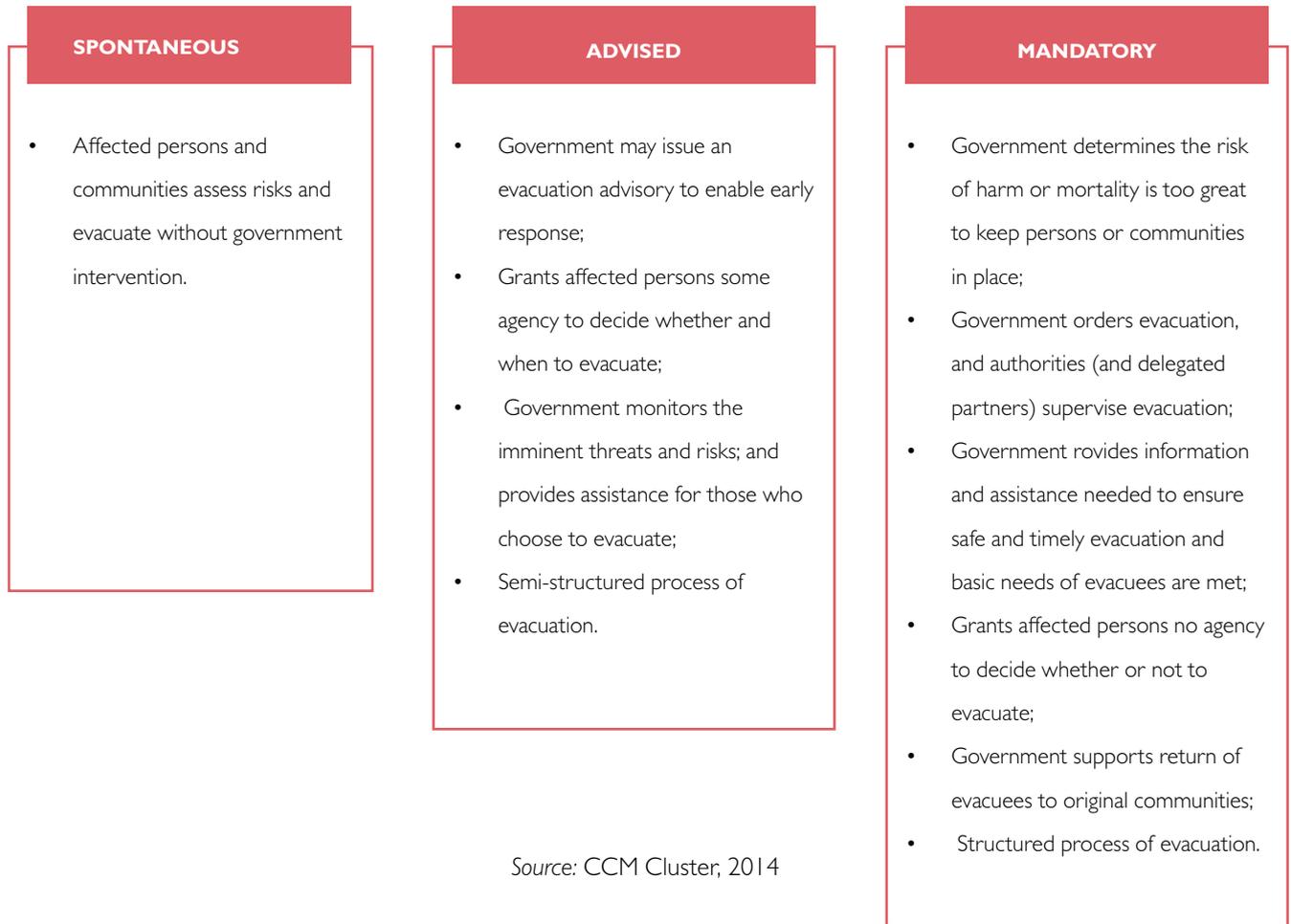
While these findings are not generalizable across the Caribbean, they indicate that respondents have experienced hazards and believe that they will experience more in the near future. Managing evacuations effectively is a fundamental tool for mitigating the risks of hazards and protecting families and communities.

EVACUATIONS AS A TOOL OF DISASTER RISK REDUCTION

Evacuations are a form of mobility generally (but not always) initiated and coordinated by national governments to mitigate the impacts of hazards. Evacuations are a strategic risk reduction response with a focus on saving lives and reducing exposure to harm and damage to assets (CCCM Cluster, 2014; Sarmiento and Hoberman, 2011).

The level of government involvement and agency of affected persons and communities to decide whether to evacuate depends on the potential impact and risks as well as existing legal frameworks to manage evacuation and land use. In the event of such occurrence, governments and partners may notify persons and communities of imminent threats and provide aid, if necessary, to leave and access temporary shelter until it is safe to return. In contrast, some evacuations may be spontaneous. Generally, the magnitude and potential impacts of the hazard also influences the decision to evacuate. Nonetheless, it is viewed as a temporary solution, ranging from hours to weeks, and therefore includes the returning of affected persons to their original communities once the threats or exposure to risks have subsided and authorities or affected persons have determined it to be safe to return. In cases where mandatory evacuation orders are activated, the State is likely to put measures in place to prevent unauthorized re-entry into evacuated area(s) until they deem it safe to do so. In contrast, in cases of voluntary evacuations, affected persons have more leverage to decide when to return, at their own risk (CCCM Cluster, 2014). Notably evacuations may become protracted displacements if return conditions are not present (UNDRR, 2019). This issue will be discussed in greater detail in Chapter 2.

Figure 10: Illustration of evacuation types and level of government involvement

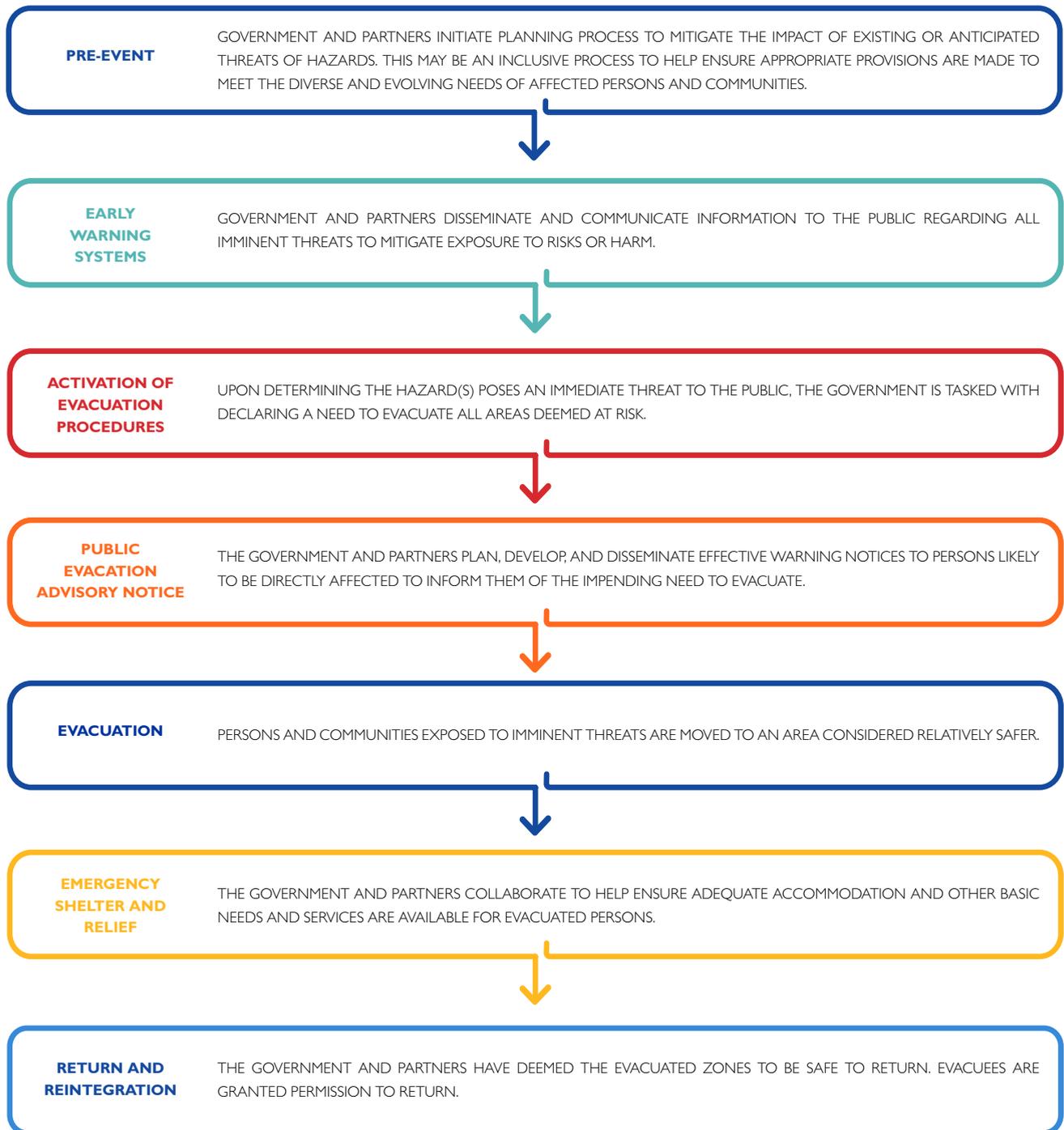


THE PHASES OF EVACUATION

Evacuations are a disaster risk reduction strategy aimed at mitigating the short- and long-term impacts of hazards. They involve rapid and coordinated movement of persons and communities to safer locations and their return once the threats have passed or minimized. However, evacuations are complex processes involving a range of multi-sectoral actors tasked with working in collaboration to mobilize sufficient resources, coordinate activities, and design and implement appropriate evacuation plans. These actors include governments, international organizations, private

sector stakeholders and civil society organizations, which coordinate in local and national disaster preparedness and planning, public communication, community mobilization, and implementation of evacuations and immediate response. While some hazards may allow early predictions, such as hurricanes, others could be less predictable, such as earthquakes or tsunamis. As a result, the time available between identifying the hazard and the time of expected impact generally contributes to how and when evacuation-related activities are prioritized and undertaken (CDEMA, 2014b).

Figure 11: Overview of the phases of evacuation



Source: CCCM, 2014; CDEMA, 2012

SOCIAL PROTECTION AND EVACUATION POLICY

Although all persons are vulnerable to the threats and risks of hazards, impacts vary by risk factors related to gender, age, disability, and sexual orientation and gender identity (UNISDR, UNDP and IUCN, 2009; Mortley, 2020). Specific situations of vulnerability are linked to risk factors (and protective factors) at the individual or household, community and structural levels, as well during contextual situations such as disasters (IOM, 2020c). These differing impacts are rooted in, and reinforced by, existing social and economic institutions, norms, practices, division of labour, and power dynamic that contribute to these groups being disproportionately vulnerable. These vulnerabilities often lead to discrimination, exclusion, and other challenges, which are magnified by hazards (Mortley, 2020; Morris and Edwards, 2008), and exacerbate existing disparities by reinforcing discrimination and stigmas (Mortley, 2020; Morris and Edwards, 2008). Moreover, efforts must be made to design and implement inclusive policies that cater to the diverse and evolving needs of many demographic groups (Forino, von Meding and Brewer, 2015).

Gender

Persons of different genders often experience hazards differently, often affecting women more severely than men due to gender-based inequalities and gender-based violence (GBV), and the impact is generally disproportionate. This is due in part because traditional gender structures and roles are likely to increase the vulnerabilities of women, girls and people of marginalized gender identities and influence access to resources and services, including health, education, and social protection (Bleeker, et al., 2021; Mortley, 2020). Likewise, women account for higher percentages of those

unemployed, are not equal participants in the workforce, and often earn lower wages relative to men, thus increasing their vulnerability to hazards (UNDP, 2009c; Stephens, 2013; Paul-Rolle, 2014). Evidence also suggests GBV is likely to increase during disasters and takes on various forms, including intimate or domestic violence, sexual abuse and exploitation, and trafficking, among others, often due to lack of capacity to ensure adequate security of displaced women and girls (Ferris, 2015). For instance, GBV rates increased following the 2010 earthquake in Haiti as a result of familial conflicts exacerbated by loss of loved ones, livelihoods and assets; limited resources; and relationship issues, such as infidelity, while living in shelters (Ferris, 2015). After Hurricane Dorian, persons in shelters in the Commonwealth of The Bahamas expressed some concerns about GBV, especially around showers and bathrooms (IFRC, 2019a).

Pregnant women, girls and mothers with infants also require specific medical care and may experience relatively limited mobility and support systems if family structures are disrupted because of displacement (IFRC, 2019a).

Additionally, poverty is also generally feminized. This is due in part to limited access to land ownership, financial resources, and access to credit and formal employment opportunities. These factors are critical in shaping a person's vulnerability and resilience in the event of a hazard. For instance, in the Commonwealth of Dominica, women were more likely to remain longer in shelters than men due to economic and social challenges, even if they preferred to return to their communities of origin. Data also suggest that female-headed households may be particularly vulnerable, especially those residing in rural and remote communities, coastal areas, and low-lying flood-prone areas. While some efforts have been made to strengthen gender mainstreaming within disaster risk reduction frameworks, gender continues to be absent

from many key regional policies and strategies (UNDP, 2009c; Mortley, 2020; Canada Caribbean Resilience Facility; Dulal, Shah and Ahmad, 2009; Bleeker, et al., 2021). Please see the table on page 45 for more information.

LGBTIQ+ persons

Members of the LGBTIQ+ community are often disproportionately affected during disasters in terms of access to resources, information, and general support because they are likely to face exclusion, discrimination, and isolation (Root, 2020). Persons within the LGBTIQ+ community are often denied access to healthcare and other essential social services, such as housing, education, and employment and, in some cases, they are arbitrarily detained (O’Flaherty and Fisher, 2008). As a result, they are likely to become more vulnerable during disasters due in part because they are largely absent from planning and implementation of evacuation policies and strategies. Please see the table in Chapter 2 for more information.

Disabled persons

In times of disasters, persons with disabilities are often made more vulnerable, and the type of vulnerability depends on the type of disability a person has. Understanding the characteristics of the disabled community is important for designing preparedness and response activities that incorporate their perspectives and needs. Persons with limited mobility or impaired vision may need assistance to evacuate and may depend on family members or others for support and hearing-impaired persons will not hear alarms or other auditory warnings. This is critical for enhancing access to transportation, shelters, and other services, while also helping to ensure they are informed about disaster risks (PAHO, 2012a).

Older persons

The Caribbean is one of the fastest ageing populations in the developing world, and age often intersects with disability and mobility. A 2008 study showed that among the population older than 60 in Antigua and Barbuda, Saint Lucia, Saint Vincent and the Grenadines, and Trinidad and Tobago, 16–20 per cent had one or more disabilities. The rate among women was higher, due primarily to mobility issues. In persons older than 80, 50 per cent had at least one disability (PAHO, 2012a). Limited mobility and disabilities related to vision and hearing may require different methods for communicating with older persons and providing response. Additionally, older persons may have distinct nutritional requirements (PAHO, 2012a, 5-6).

Older persons are particularly affected by non-communicable diseases (NCDs) (Hassan, et al., 2020). Two studies focused on the Caribbean and parts of the United States of America estimate that most deaths after Hurricanes Irma and Maria were due to complications from NCDs, such as diabetes, hypertension, cardiovascular disease, asthma, chronic obstructive pulmonary disease, and mental health disorders (Issa, et al., 2016; Cruz-Cano and Mead, 2019). The Caribbean has the highest rate of premature mortality due to NCDs in the Americas (Hassell and Hennis, 2016). It is important to provide necessary health services and security arrangements to protect older persons, particularly women, against GBV (PAHO, 2012a).

Children and Youth

Children and youth are dependent on others for access to essential resources, support, decision-making, and financial support. These challenges may be exacerbated during disasters, especially if families are living in poverty

or informal settlements. When disasters strike, adult members may lose their livelihoods, and families may be forced to make decisions which could prove detrimental to children and youths, including removing them from school and forcing them to work to support siblings or older family members (Cecchini, Sunkel and Barrantes, 2017).

In addition, many States are forced to use public schools as disaster shelters, which often disrupts the delivery of academic services until displaced persons have returned home or are re-housed. For instance, Hurricane Matthew led to many persons being moved to shelters in Haiti; however, due to many losing their dwellings, it made it difficult to move them out of shelters after the storm and meant the government and partners had to put measures in place to move these persons elsewhere before schools could be reopened (UNICEF, 2016).

Migrants

Migrants, regardless of migration status, may face challenges during crises. They may have difficulty accessing early warning information if it is not provided in multiple languages, and they may lack work or residency permits or identity documents, which may hinder their access to response services. Migrant populations are generally not incorporated into evacuation preparedness and response planning and often do not have equal access to humanitarian assistance, among many other challenges (IOM, 2016a). Migrants may fear legal consequences such as deportation upon requesting assistance. Migrants' socioeconomic conditions and cultural backgrounds may influence their capacity and willingness to evacuate during emergencies. These factors may affect how they receive and understand warnings and how they choose when and where to evacuate (IOM, 2017a). These elements were

reflected during the evacuation of affected persons in the Commonwealth of The Bahamas during Hurricane Dorian, during which Haitians experienced challenges accessing shelters and receiving assistance, often due to fear of deportation (OHCHR, 2019).

Individuals may experience increased vulnerability due to multiple and intersectional risk factors at the individual, household, community or structural levels. In order to minimize the sources of vulnerability and to strengthen protection factors for resilience, efforts must be made to gather, collate and analyze accurate and gender-disaggregated data to generate evidence-based evacuation planning, preparation, and response. This is essential in helping to minimize some of the inequalities that reinforce discrimination and stigma and to inform the regional, national, and local responses needed for appropriate social protection and building resilience. However, gathering disaggregated data continues to be a challenge across the region, which limits the ability of regional and national governing bodies to better understand the specific experiences and needs of affected communities. This lack of data also impacts the inclusion of these communities in national and regional policies and strategies on disaster risk reduction (IDMC, 2020; IOM, 2020a; Thomas and Benjamin, 2017; UNDP, 2009b).

It is also critical to understand that the aforementioned groups are not defined only by the factors that put them at risk of being in vulnerable situations, but that their perspectives and leadership are key to effective disaster risk reduction and long-term development. Opening opportunities for many different voices to shape disaster reduction policy, response mechanisms, and long-term recovery is vital for building resilient communities.

MIGRANTS AND EVACUATIONS

IOM's Migrants in Countries in Crisis (MICIC) Initiative defines 10 principles to guide the protection of migrants in countries experiencing conflicts or natural disasters:



1. First, save lives.



2. As human beings, all migrants are entitled to human rights, regardless of their immigration status.



3. States bear the primary responsibility to protect migrants within their territories and their own citizens, including when they are abroad.



4. Private sector actors, international organizations and civil society play a significant role in protecting migrants and in supporting States to protect migrants.



5. Humanitarian action to protect migrants should be guided by the principles of humanity, neutrality, impartiality and independence.



6. Migrants are rights holders and capable actors, resilient and creative in the face of adversities.



7. Migrants strengthen the vitality of both their host States and States of origin in multiple ways.



8. Action at the local, national, regional and international levels is necessary to improve responses.



9. Partnerships, cooperation and coordination are essential between and among States, private sector actors, international organizations, civil society, local communities and migrants.



10. Continuous research, learning and innovation improve our collective response.

Source: IOM, 2016a.



DELINEATING EVACUATION AND DISPLACEMENT

There is a very thin line between evacuation and displacement, because many evacuations mark the beginning of displacements. While those two concepts are interlinked, a distinction can be made based on the level of personal choice affected persons are able to exercise during these processes. For instance, during voluntary evacuations, affected persons have agency to determine whether they move to cope with existing or anticipated shocks associated with impending hazards. In contrast, displacement occurs when affected persons are forced to evacuate their residence and communities prior to, during, or after a hazard due to the intensity of the hazardous events, exposure of persons and assets to risks, and personal vulnerability. In essence, the vulnerability of persons and communities and a lack of capacity to withstand the potential impacts of the hazard contribute to displacement. The government generally plays a central role in activating and coordinating evacuation processes, with the support of strategic partners.

Generally, the evacuation process is more closely managed, while evidence suggests that displacements are often prolonged for many persons who have been evacuated, especially for those whose homes were damaged or destroyed. Therefore, whereas some evacuees may be able to return soon after being impacted by disasters, others may be displaced for years or may have to settle elsewhere which may seriously affect their livelihoods, migration status and general well-being.

A key challenge in delineating these two concepts is that evacuation and displacement data are merged, which renders making the distinction difficult.

Sources: Esnard and Sapat, 2014; McAdam, 2020.

Slow- and sudden-onset hazards have different impacts on environments and communities. Both types of hazards have had significant impacts on States across the Caribbean, and efforts to assess vulnerability to hazards are critical to formulate and implement strategies to minimize exposure to risks and to save lives.

CHAPTER 2: EVACUATION PREPAREDNESS AND COMMUNICATION



This chapter addresses some of the key policy-related preparedness measures that occur before an evacuation, such as the creation of disaster risk reduction policies, hazard monitoring and early warning, vulnerability assessments and social protection, and other measures employed to mitigate the effects of disasters, especially when confronting evacuations. These practices are generally guided by national evacuation and emergency response policies.



Emergency preparedness and evacuation planning should include details on how to disseminate information, raise awareness and educate the public about these elements.

This information should be translated into languages understood by migrants, conveyed through media that migrants use and shared by actors that migrants trust.

Source: IOM, 2016b.

EVACUATION AND EMERGENCY RESPONSE POLICIES

Responsibility for preparing for evacuations falls within the purview of national emergency management agencies. While States have evacuation plans, there is no single template that can be applied to all situations. Therefore, plans must be developed based on local contexts and situational analyses that helps to guide the planning and preparedness processes (CCCM Cluster, 2014, 11).

THE CARIBBEAN RISK INFORMATION SYSTEM (CRIS)

The Caribbean Risk Information System (CRIS), managed by CDEMA, is a virtual platform that hosts risk management data and information to facilitate analysis, research, greater awareness of risk management and climate change adaptation in the Caribbean.

The GeoCRIS component provides access to geospatial data for each of the participating States. This data is key for risk and hazard mapping, which inform disaster preparedness and response operations.

Sources: CDEMA, n.d.a; CDEMA, n.d.d.

The following table provides an analysis of the primary evacuation or emergency response policies of CARICOM Member States and the Dominican Republic. Where appropriate, multiple policies have been included for a single State, but in most cases only one policy has been included because it is the most relevant. While most States also have climate change-related national plans and strategies, this table focuses on disaster management and response policies, which generally include provisions related to evacuation or provide the framework under which evacuations are conducted. The table highlights good practices in evacuation- and disaster-related policies, including linking disaster risk reduction and evacuations to broader national development planning, incorporating early warning into national policy, and identifying geographical areas that are at risk to different hazards – this can be done through official hazard or vulnerability mapping or informal identification of areas that are often affected by hazards.

Table 2: National evacuation-related policies and their frameworks

COUNTRY	NATIONAL LEAD EMERGENCY RESPONSE AGENCY OR MINISTRY	DOCUMENT	LINKED TO EVACUATION?	LINKED TO NATIONAL DEVELOPMENT STRATEGY?	DISCUSSES EARLY WARNING?	IDENTIFIES VULNERABLE AREAS?
ANGUILLA	Department of Disaster Management	<i>Comprehensive Disaster Management Policy 2013</i>	✗	✓	✓	The policy includes a goal to bring awareness about vulnerable communities
ANTIGUA AND BARBUDA	National Office of Disaster Services	<i>The Disaster Management Act, No. 13 of 2002</i>	Limited discussion relating to evacuation of resident in the event of emergency disaster.	✗	✓	Discusses identifying vulnerable areas
BARBADOS	Department of Emergency Management	<i>The Barbados Comprehensive Disaster Management (CDM) Country Work Programme (CWP), 2019 – 2023</i>	✗	✓	✓	✓
BELIZE	National Emergency Management Organization (NEMO)	<i>Disaster Preparedness and Response Act, Chapter 145. Revised Edition 2003</i>	Provides guidelines to help ensure the safety of affected persons, including providing access to shelter.	✓	✓	References need for vulnerability mapping
COMMONWEALTH OF THE BAHAMAS	The National Emergency Management Agency (NEMA)	<i>Disaster Preparedness and Resource. LRO 1/2008</i>	✓	✗	✓	Discusses possibility of plans for vulnerable areas
COMMONWEALTH OF DOMINICA	Office of Disaster Management (ODM)	<i>National Disaster Plan 2001</i>	✓	✓	✓	Discusses need for vulnerability analyses

DOMINICAN REPUBLIC	Comisión de Emergencias		<i>Plan Nacional de Gestión Integral del Riesgo de Desastres en la República Dominicana, Decreto no. 275-13</i>	✓	✓	✓	✓
GRENADA	National Disaster Management Agency		<i>National Disaster Plan, 2005</i>	✓	✓	✓	Discusses vulnerable communities but not identify specific communities
GUYANA	Civil Defence Commission (CDC)		<i>National Integration Disaster Risk Management and Implementation Strategy, 2013</i>	✓	References development but not links to a specific policy	✓	Includes a goal to conduct vulnerability and hazard mapping. Lists some communities that are especially vulnerable.
GUYANA			<i>Multi-Hazard Disaster Preparedness and Response Plan, 2013</i>	✓	Brief reference to connection to national development policy	✓	Includes a plan and model for conducting vulnerability mapping
HAITI	Direction Générale de la Protection Civile		<i>Plan National de Réponse aux Urgences, 2001</i>	✓	References development but not links to a specific development policy	✓	References need for vulnerability and hazard mapping
HAITI			<i>Plan National de Gestion des Risques de Désastre 2019-2030</i>	✓	✓	✓	Identifies coastal areas and urban centres as vulnerable, but largely does not list specific communities

JAMAICA	Office of Disaster Preparedness and Management	<i>Disaster Risk Management Act, 2020</i>	×	×	✓	×
MONTSERRAT	DMCA – Disaster Management	<i>Disaster Preparedness and Response Act</i>	×		×	Discusses vulnerable communities but not identify specific communities
SAINT KITTS AND NEVIS	National Emergency Management Agency	<i>Natural Hazard Management and Mitigation Policy 2001</i>	×	Linked to land use plans	✓	✓
		<i>National Disaster Management Act (No. 5 of 1998)</i>	✓	Linked to land use plans	✓	✓
SAINT LUCIA	National Emergency Management Organization (NEMO)	<i>Disaster Management Policy Framework of Saint Lucia, 2004</i>	✓	✓	✓	Sets out guidelines for identification of vulnerable areas
		<i>Comprehensive Disaster Management Strategy and Programme Framework. 2009</i>	✓	×	✓	Mentions hazard mapping and vulnerability assessments
		<i>Hazard Mitigation Policy, 2006</i>	×	✓	✓	Discusses coastal areas as vulnerable
SAINT VINCENT AND THE GRENADINES	National Emergency Management Office (NEMO)	<i>Comprehensive Disaster Management Policy, 2014</i>	✓	×	✓	×
SURINAME	National Coordination Center for Disaster Relief	No national legislation dedicated to emergencies				



Sources: Author's elaboration.

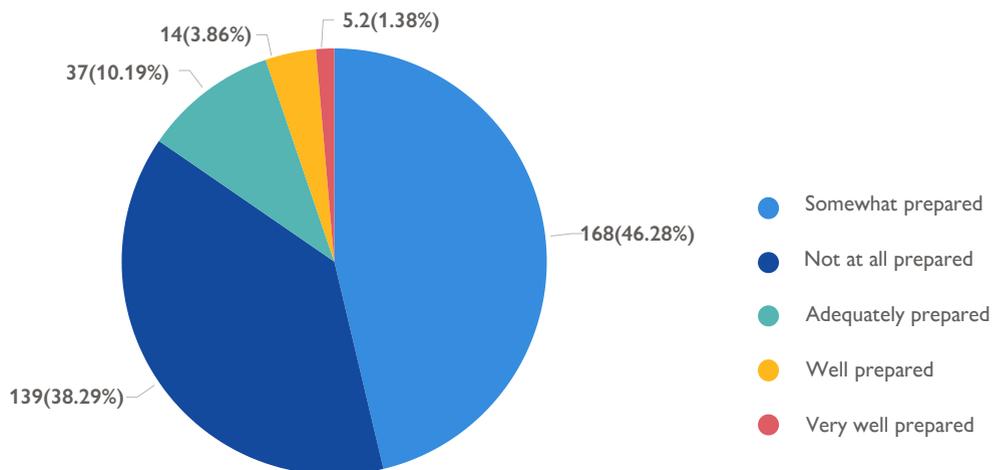
Table 2 shows that 10 of the States analyzed have incorporated some aspects of evacuation in their DRR policies. Additionally, eight States have explicitly linked their DRR policy with the national development strategy, and two others have linked it to land use or other planning policies. Linking evacuations and DRR to national development shows a recognition that mitigating and responding to natural hazards, including through evacuations, is critical for long-term development and addressing the needs of affected communities.

Table 2 also shows that most DRR policies do address early warning, though the degree of detail given varies by policy. The analysis identified that 14 States include a discussion

of early warning in their national DRR policy. This will be discussed in greater detail in this chapter. Table 2 shows that most policies do not specifically identify which communities are most at risk of specific hazards, which would be a result of hazard or vulnerability mapping. However, most mention the need to conduct such assessments. This type of mapping helps ensure that key areas most in need of mitigation and protection measures are identified, laying the foundation for specialized support and response.

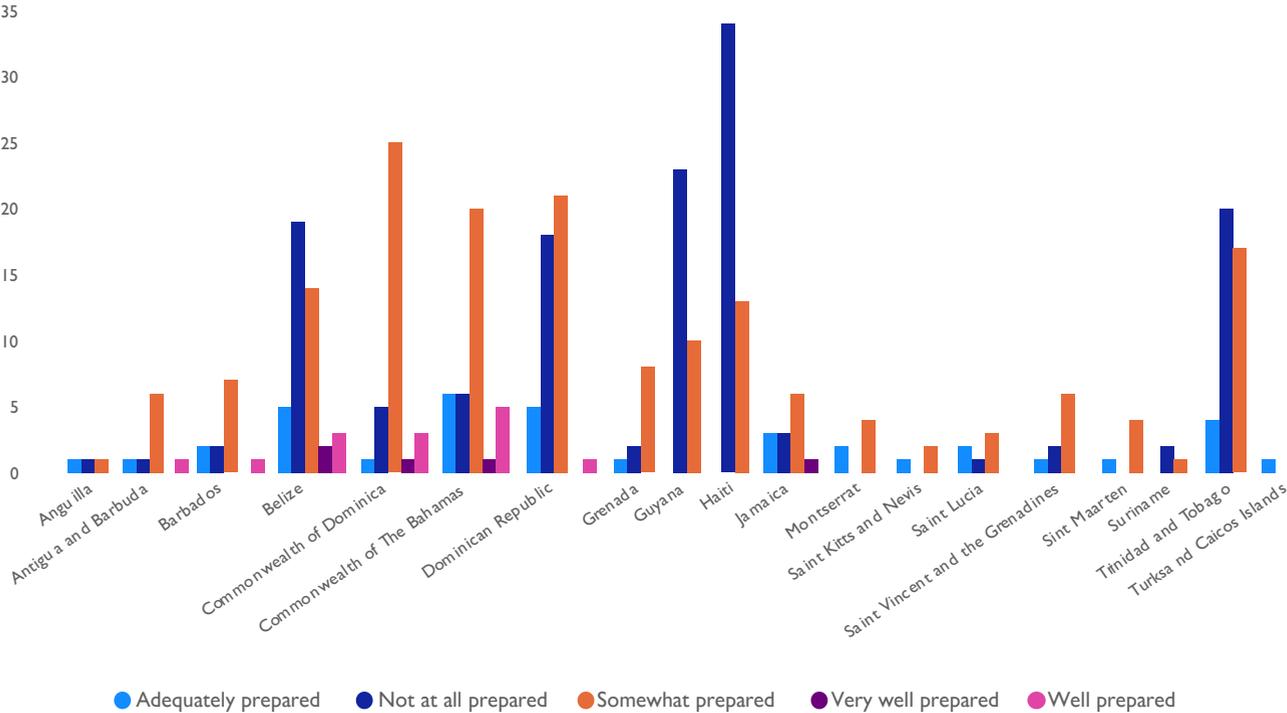
Preparedness is key to saving lives in the event of a hazard. Survey respondents expressed some concerns about the level of preparedness in their communities, with 46 per cent noting that their community is somewhat prepared, and 38 per cent reporting that their communities are not at all prepared.

Figure 12. Respondents' Perceptions of how prepared their community is for a disaster.



Responses varied greatly by the respondents' country of residence, with respondents from Belize, Guyana, Haiti, and Trinidad and Tobago expressing that they felt their communities are not at all prepared for a disaster. Respondents from Belize, the Commonwealth of The Bahamas, the Commonwealth of Dominica, the Dominican Republic, and Trinidad and Tobago also reported feeling that their community is somewhat prepared. Very few respondents, regardless of country of residence, felt that their community is well prepared or very well prepared.

Figure 13: Respondents' Perception of How Prepared their Community is for a Disaster by country



PREPAREDNESS PLANNING

Ensuring the public is adequately prepared for evacuations is crucial for saving lives, minimizing damage and enhancing response operations. This is generally a long-term process that begins with careful planning and consideration of contingencies and nuances of the disasters. Evacuation plans enable the movement of people and assets temporarily to safer places before, during or after a hazardous event, and they may include provisions for the return of evacuees and options to shelter in place.

For instance, prior to being affected by Hurricane Irma in 2017, the National Office of Disaster Services (NODS) held consultations with the Antigua and Barbuda Meteorological Office, which had upgraded the storm to category five³ and advised that the island would be heavily impacted. This information helped to inform the initial decision to recommend residents living along coastal zones to take extra precautions and prepare for impact (Antigua Nice Ltd., 2017). CDEMA was tasked with coordinating preparedness efforts by activating the *Regional Coordination Plan* and the Regional Response Mechanism. This was followed by liaising with government officials to develop an operational scenario and plan; conducting technical and operational briefings; and drafting preliminary impact assessments based on existing population and projected impacts⁴. Those actions provided some guidance during the national preparedness process to help ensure an effective response. Moreover, NODS focuses on three core principles that are geared toward educating and preparing the public about threats to communities and what must be done.

CARIBBEAN COMMUNITY CLIMATE CHANGE CENTER (5CS)

The 5Cs is an institution that was established under the CARICOM system and has regulatory authority overseeing climate change in addition to promoting mitigation and adaptation policies, strategies, and practices in the Caribbean. Within those confines, this framework aims to utilize its regulatory authority and resources toward enhancing livelihoods, promoting, and testing new and diverse crop varieties that are tolerant of the changing weather patterns and are not susceptible to hazards, promoting education and public awareness initiatives, and supporting the development of new legal tools to foster a more effective insurance sector. This also aligns with the 5C's function of coordinating the Caribbean's Green Climate Fund.

Sharing some similarities to the CDM Strategy, the 5C's developed and implemented its *Regional Framework for Achieving Development Resilient to Climate Change*; however, it does not clearly identify and address evacuations and displacements. A few provisions within the framework, however, does indirectly relates to minimizing displacement risks, including supporting the integration of adaptation measures in developing new infrastructures, namely by formulating and enforcing new building codes.

Source: The Caribbean Community Climate Change Center.

³ Winds reach 157 mph or greater on The Saffir-Simpson Hurricane Wind Scale is likely to cause catastrophic damages. For more information, see: www.nhc.noaa.gov/aboutsshws.php.

⁴ CDEMA, www.antiguanice.com/v2/client.php?id=859&news=10246 Irma – Situation Report #1.

They include conducting regular trainings, drills, planning for effective response, engaging the public regarding disaster risks and warnings, evacuation protocols, and availability of public shelters (Government of Antigua and Barbuda, n.d.).

In addition, prior to the evacuation of Saint Vincent and the Grenadines, CDEMA's Coordinating Unit liaised with the government, the Seismic Research Centre of The University of the West Indies, and Regional Response Mechanism (RRM) representatives regarding the status of the volcano. The Regional Coordination Plan was activated on 29 December 2020 and was followed by various regional response mechanisms, including: a) CARICOM Disaster Assessment and Coordination; b) CARICOM Operational Support Team; c) Rapid Needs Assessment Team; d) Caribbean Disaster Relief Unit; and e) the Regional Urban Search and Rescue Teams. These teams were crucial to providing substantive technical assistance to the country's National Emergency Management Organization in various areas, including evacuation planning and logistics planning. CDEMA also convened various meetings to address numerous purposes: a) revise the national Volcano Emergency Plan and Standard Operating Procedures; b) provide guidance on mobilizing international and regional preparedness assistance with the support of key representatives of political, scientific, and technical institutions across the region; and c) brief the Caribbean Development Partners Group on the status of La Soufrière. Together, these actions helped to guide the preparedness process that was later employed by the government and RRM partners. This included collaborating with various partners to ensure essential matters are addressed in a timely manner, including availability of adequate logistics support, food security, security, and relief support to meet the needs of affected persons and communities (CDEMA, 2021a).

CDEMA has also collaborated with international partners to support regional preparedness efforts. In 2019, funds were mobilized through the *Strengthen Integrated and Cohesive Preparedness Capacity At A Regional, National and Community Level In the Caribbean* project, which supports effective early warning systems and improving information management and operational capacity to enhance preparedness mechanisms for the Caribbean Regional Response (CDEMA, 2019c). This collaboration aimed to enhance the knowledge and skills of participants in critical areas, including "information flows, methods and tools for data/information collection, information products including timelines for development and distribution, data visualization and mapping for better analysis and decision-making" (CDEMA, 2019c).

VULNERABILITY ASSESSMENTS AND SOCIAL PROTECTION

A key component of evacuation preparedness planning is understanding key vulnerabilities of potentially affected zones. However, while many key policies do not explicitly include details of vulnerability or hazard mapping (see Table 2), many do refer to the need for this type of assessment or to plans to conduct an assessment in the future. Understanding the type or frequency of hazards affecting each State, community, or geographical area is critical for planning an effective evacuation (Alam and Habib, 2019).

CONDUCTING RISK ASSESSMENTS

- All, or at least all the main, hazards that might affect a certain area, and their patterns of occurrence or intensity;
- The presence of people in the area, also considering their number, geographic distribution and movement, which may vary by the time of the year, day of the week and time of the day;
- The demographic and socioeconomic characteristics of the population, with special attention to people's access to public and private transportation options and evacuation behaviors;
- The distribution and characteristics of assets and infrastructure in the area.

In order to account for migrants and their needs, risk assessments should include the concentrations of migrants in specific areas, whether inflows of migrants occur during specific times of the year or a particular day of the week, and whether migrants stay in the area at a particular time of day.

Source: IOM, 2017a.

While vulnerability assessments may focus on geographical areas, they may also focus on the demographic and social characteristics of communities at risk, identifying members of the community who may require specialized or additional assistance as well as the assets or capabilities that members of the communities can offer as first responders or to support their neighbors during evacuations.

The following table demonstrates the extent to which national evacuation-related policies in the Caribbean consider and include provisions for specific populations that are often in situations of vulnerability.

Table 3: National evacuation-related policies and their consideration of specific populations.

COUNTRY	DOCUMENT	PROVISIONS RELATED TO MIGRANTS OR MIGRATION	PROVISIONS RELATED TO WOMEN	PROVISIONS RELATED TO DISABLED PEOPLE	PROVISIONS RELATED TO OLDER PEOPLE	PROVISIONS RELATED TO LGBTIQ+ PEOPLE	PROVISIONS RELATED TO CHILDREN
ANGUILLA	<i>Comprehensive Disaster Management Policy 2013</i>	×	×	×	×	×	×
ANTIGUA AND BARBUDA	<i>The Disaster Management Act, No. 13 of 2002</i>	×	×	×	×	×	×
BARBADOS	<i>The Barbados Comprehensive Disaster Management Country Work Programme, 2019-2023</i>	✓	✓	✓	✓	✓	✓
BELIZE	<i>Disaster Preparedness and Response Act, Chapter 145, Revised Edition 2003</i>	×	×	✓	✓	×	✓
COMMONWEALTH OF THE BAHAMAS	<i>Disaster Preparedness and Resource. LRO 1/2008</i>	×	×	×	×	×	×
COMMONWEALTH OF DOMINICA	<i>National Disaster Plan 2001</i>	✓	✓	✓	✓	×	✓
DOMINICAN REPUBLIC	<i>Plan Nacional de Gestión Integral del Riesgo de Desastres en la República Dominicana, Decreto no. 275-13</i>	×	✓	×	×	×	×

	National Integrated Disaster Risk Management Plan and Implementation Strategy for Guyana, 2013	×		Discusses the need to mainstream gender within policies	×	×	×	×
GUYANA								
	Multi-Hazard Disaster Preparedness and Response Plan, 2013	×	✓	✓	✓	×	×	✓
GRENADA								
	Country Document on Disaster Risk Reduction, 2014	×	✓	✓	✓	×	×	✓
HAITI								
	Plan National de Réponse aux Urgences, 2001	×	✓	✓	✓	×	×	✓
	Plan National de Gestion des Risques de Désastre 2019-2030	✓	✓	✓	✓	×	×	✓
JAMAICA								
	Disaster Risk Management Act, 2015	×				×	×	×
				References need to take action against sexual or other harassment in emergency shelters	×	×	×	×
MONTSERRAT								
	Disaster Preparedness and Response Act, 2013	×	×	×	×	×	×	×
SAINT KITTS AND NEVIS								
	Natural Hazard Management and Mitigation Policy 2001	×	×	×	×	×	×	×
SAINT LUCIA								
	Disaster Management Policy Framework of Saint Lucia	×	×	✓	✓	×	×	×

	<i>Comprehensive Disaster Management Strategy</i>	×	✓	×	×	×	×
	<i>Hazard Mitigation Policy</i>	×	×	×	×	×	×
SAINT VINCENT AND THE GRENADINES	<i>Comprehensive Disaster Management Policy, 2014</i>	✓	×	×	×	×	×
SURINAME	No national legislation specific to emergencies						
TRINIDAD AND TOBAGO	<i>Comprehensive Disaster Management Policy Framework for Trinidad and Tobago</i>	×	×	×	×	×	×

Sources: Author's elaboration

Table 3 shows that provisions specific to gender, age, disability, sexual orientation and gender identity or migration status are largely not integrated into national evacuation-related policies. Notable exceptions are the Commonwealth of Dominica, the Republic of Haiti—which specifically identify provisions related to women, disabled people, older people and children, though not LGBTQ+ people—Barbados and Grenada. The Commonwealth of Dominica policy even specifically identifies roles for groups such as the Girl Guides in District Emergency Committees and Community Emergency Committees. The finding on lack of provisions in policies throughout the region is supported by other literature as well; a Canada Caribbean Resilience Facility study found that most disaster-related policies in the Caribbean are gender-neutral and do not include considerations of the specific needs of men, women, girls and boys, older people, disabled people, people living with HIV, and minorities (Canada Caribbean Resilience Facility, 2021, xii-xiii). Specifically mandating the

inclusion of the perspectives and needs of these groups is critical to ensuring that disaster planning is effective, and that disaster response is provided equitably.

HAZARD MONITORING AND EARLY WARNING

Information relating to evacuations, the first and second elements of people-centered early warning systems, is usually managed by national disaster management agencies, or ministries and national meteorological offices. CDEMA and other regional offices also play key roles in monitoring risks and issuing warnings across the region as appropriate. Table 2 shows a strong focus on early warning across the region, with 14 of the CARICOM Members States and the Dominican Republic including details or a plan for early warning in their central disaster risk reduction or evacuation policies.

For example, the University of the West Indies Seismic Research Center played a key role in monitoring volcanic activity in Saint Vincent and the Grenadines and advised the Government when seismic activity was first detected in December 2020. A United Nations Development Programme (UNDP) desk review of early warning systems across the Caribbean found there has been an improvement in early warning systems between 2015 and 2020 (UNDP, n.d.). Multi-hazard early warning systems, which address several hazards or impacts over time for inter-related or cumulative disasters, were found to be in development, and warning systems focus primarily on hurricanes and floods, with some work related to tsunamis or volcanoes. The study identified at least seven projects with a multi-hazard focus, usually funded by the European Union and the World Bank. However, of the 28 projects reviewed, only eight were verified to consider gender explicitly (UNDP, n.d.). Nonetheless, these tools could prove vital for supporting evacuation planning and preparedness.

It is important to communicate warning and specific information regarding how to respond to evacuation notices using the means that are accessible to a wide range of people, including migrant populations. Survey respondents reported that social media, television, and radio were their primary sources of information regarding potential hazards.

PEOPLE-CENTERED EARLY WARNING SYSTEMS

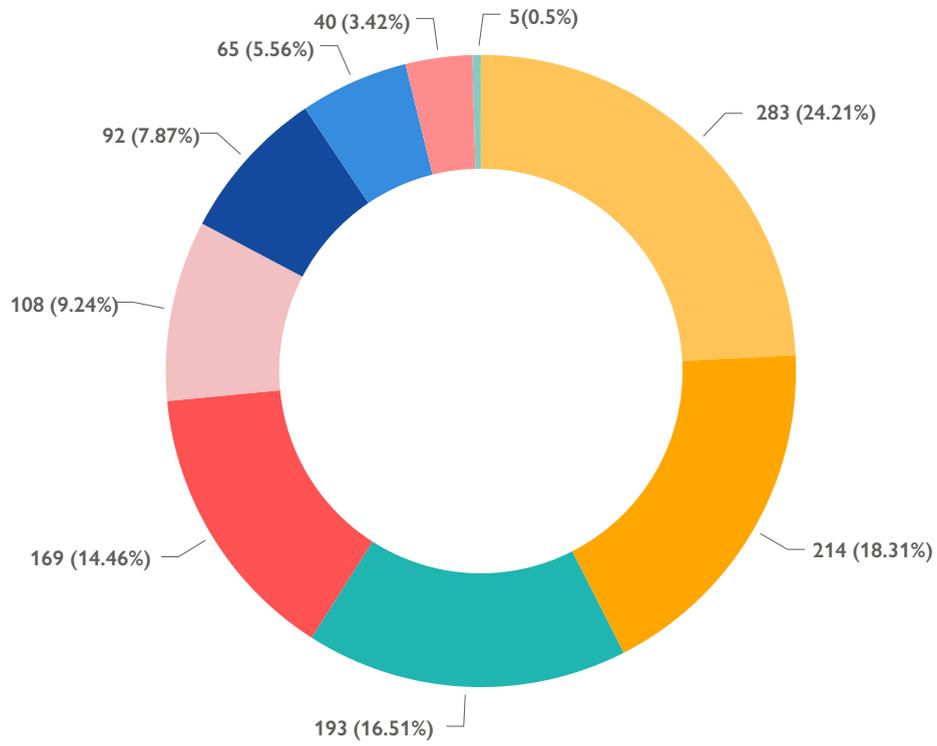
Effective people-centered early warning systems include four key elements:

- Disaster risk knowledge based on systematic data collection and disaster risk assessments;
- Detection, monitoring, analysis and forecasting of hazards and possible impacts;
- Dissemination and communication, via an official source, or authoritative, timely, accurate and actionable warnings and information on likelihood and impact;
- Preparedness at all levels to respond to the warning received.

These four elements are inter-related and require coordination across sectors and levels of government.

Source: UNDRR, 2020b.

Figure 14: Sources about Potential Disasters that Respondents Reported Using



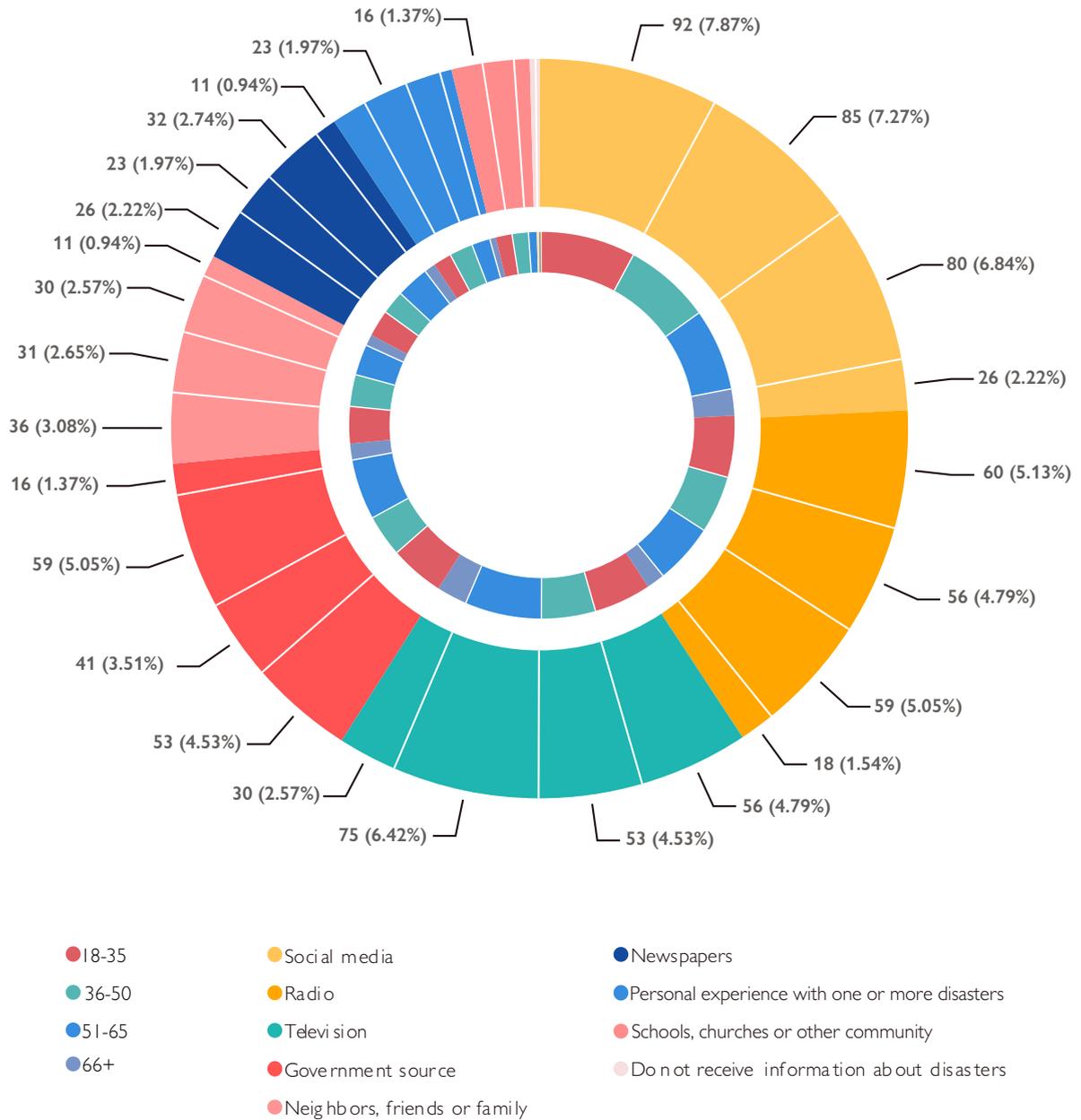
● Social media
● Television
● Radio

● Government source
● Neighbors, friends or family
● Newspapers

● Personal experience with one or more disasters
● Schools, churches or other community institutions
● Do not receive information about disasters

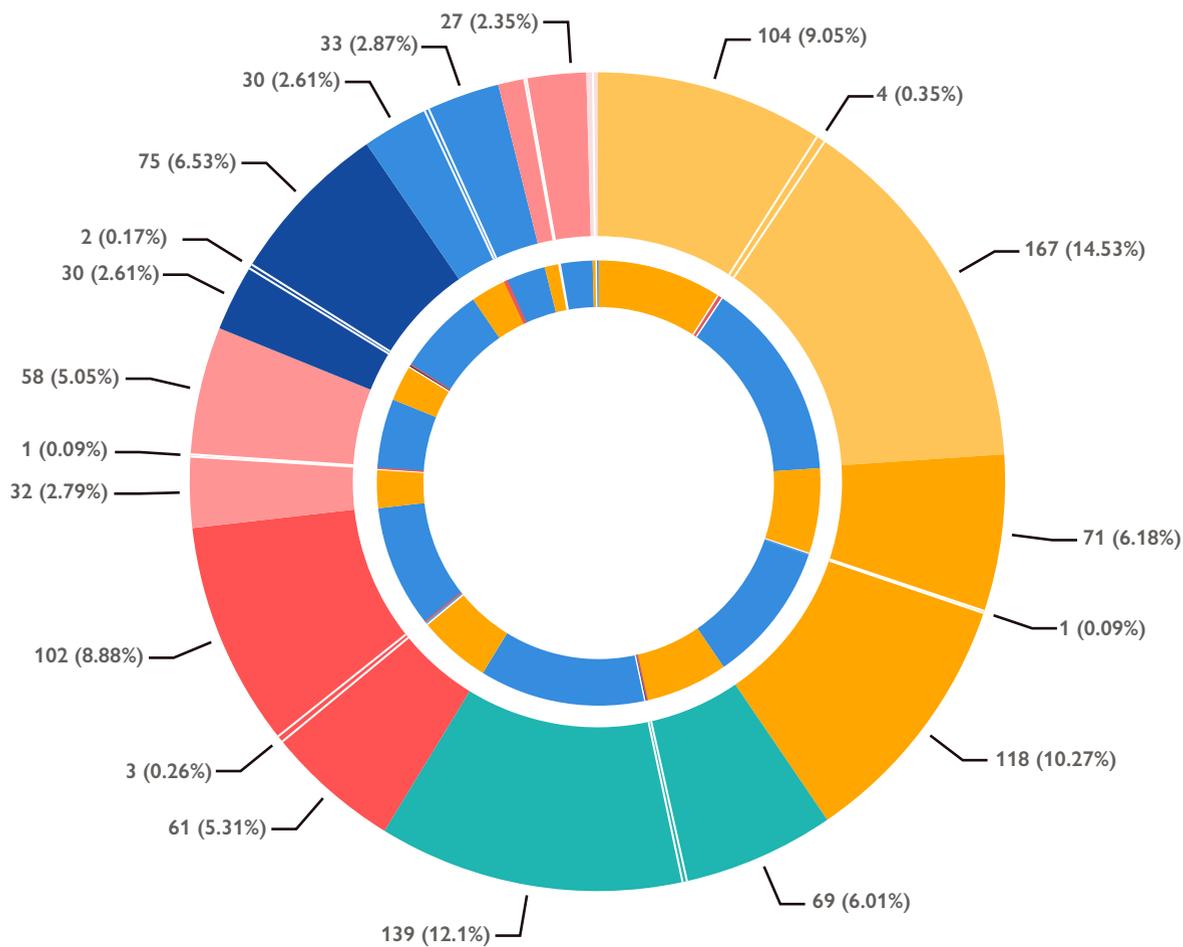
The sources that respondents preferred varied by age, with younger people preferring social media and radio, while older people preferred television and government sources.

Figure 15: Sources about Potential Disasters that Respondents Reported Using, by Age



Overall, women reported more use of all sources of information related to hazards.

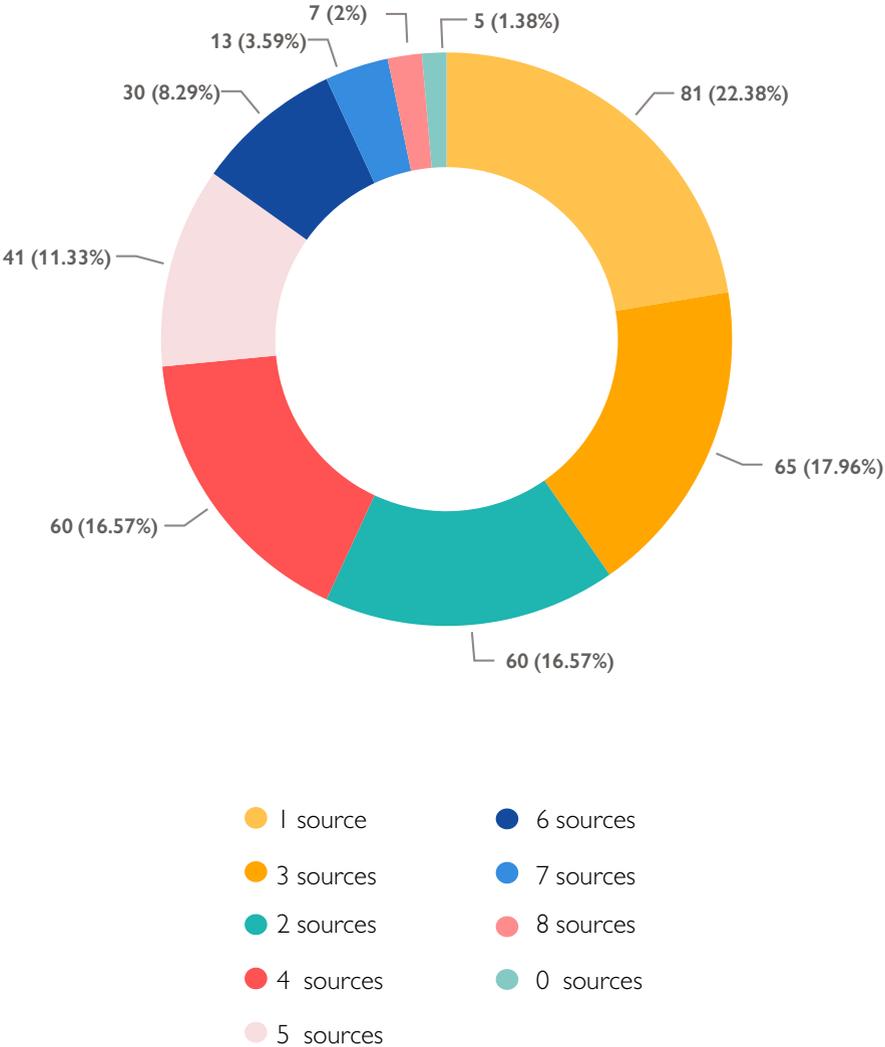
Figure 16: Sources about Potential Disasters that Respondents Reported Using, by Gender



- Man
- Social media
- Government source
- Personal experience with one or more disasters
- Women
- Radio
- Neighbors, friends or family
- Schools, churches or other community
- Prefer not to identify
- Television
- Newspapers
- Do not receive information about disasters

The greatest proportion of respondents, 22 per cent, reported that they rely on one source of information about potential hazards, followed by 18 percent who rely on three sources.

Figure 17: Number of Sources about Potential Disasters that Respondents Reported Using



Ensuring that the population is adequately aware of evacuation response plans, at-risk areas, and arrangements that have been put in place plays a vital role in reducing harm and loss of lives. Specifically, government and partners are required to closely monitor hazards and relate essential information to the public in an accurate, clear, and timely manner, while also outlining what, if any, local and household preparedness measures could be employed to help reduce their risks. Community members interviewed as part of this study indicated that accessibility to information regarding hazards varied.

COMMUNICATION

Effective mitigation of risks depends on the level of commitment catered not only toward planning and enforcement by governing bodies and stakeholders but also communicating evacuation preparedness plans to the public in a timely manner. Therefore, ensuring the public is aware of potential hazards and risks are vital for minimizing potential damage, harm, and loss of life. This requires relaying concise, consistent, and clear communication strategies, which helps the public to become aware of risks they may be exposed to as well as become informed about how best to prepare and respond when faced with impending disasters. This is crucial for preventing deaths, harm, and accessing appropriate assistance.

The responsibility of supporting preparedness and communicating those strategies rests primarily on the national emergency management agencies. However, CDEMA may also be tasked with contributing to the preparedness process through its mandate to ensure Member States and citizens are adequately prepared when confronted by hazards and therefore are able to effectively evacuate, if necessary. This includes providing citizens with

COMMUNICATING WITH MIGRANT POPULATIONS

Communicating with migrants often requires the inclusion of specific provision in emergency communication plans so that evacuations can be managed safely and effectively. The language in which messages are shared and channels that are used to disseminate information are particularly key. It is critical to adapt message to ensure effective communication of evacuation warnings and information and complement message dissemination with media and channels that migrants used and trust.

Consulates and embassies, migrant leaders, civil society organizations and private sector employees are key actors to disseminate and validate information on emergencies and evacuations for migrant populations.

Source: IOM, 2017a.

essential information that could help enhance their safety and general well-being prior to and during evacuations. Communication protocols with stakeholders are built into national disaster management strategies to varying degrees. However, many of those strategies do not make provisions that detail how affected persons and evacuees will be informed of issues such as risk areas, available modes of transportation, access to those modes of transportation, and varying levels of restrictions regarding what evacuees may be permitted to take with them as they evacuate, among other pertinent issues.

Moreover, many of those strategies do not document when transportation becomes accessible, frequency of departures from designated sites, potential destinations and shelters, evacuation of vulnerable and special needs persons, access to essential services, or the security measures that are put in place to help ensure the safety and general well-being of evacuees. Therefore, this highlights the need not only for more comprehensive national evacuation strategies, but also comprehensive communication strategies geared toward effectively communicating during evacuations,

because communication remains a critical component during all phases of evacuations. This does not suggest that States do not effectively communicate with stakeholders and the public during the planning and preparedness process. In fact, based on survey respondents, various platforms are used to keep the public informed, including traditional and non-traditional sources.

Table 4: Modes of communication used by interview respondents

SOURCES OF INFORMATION	
<ul style="list-style-type: none"> • Television • Radio • Print Media • Word-of-mouth • Loudspeakers • Local meetings 	<ul style="list-style-type: none"> • Public alert system • Internet • Social Media • Text messages • Phones • Mobile apps (including WhatsApp, Instagram, Facebook and Common Alerting Protocol (CAP) in Barbados)

Employing strategies that encompass the above-mentioned platforms help to ensure a larger audience is reached because different populations obtain information through different means. This was evident based on the diversity of responses from interview respondents, wherein a majority relied on traditional sources for information, while many are also turning to the internet or social media to stay informed. These diverse platforms provide governments and partners greater opportunities to facilitate and disseminate vital information with the public.

Due to damage and destruction to communication infrastructure in areas such as Barbuda, the Commonwealth of Dominica (primarily the north), Abaco and Grand

Bahama Islands, and the British Virgin Islands during the 2017 and 2019 hurricane seasons, some residents, especially in remote areas, generally found it difficult to stay informed of evacuation plans. Therefore, they were generally forced to rely on family and personal networks for information and guidance. Likewise, security services and voluntary workers also played important roles in communicating preparedness plans using public meetings and briefings to help communicate to the public regarding what they needed to do to help ensure their safety (Wilkinson, et al., 2021). Those approaches proved to be somewhat effective due to the close-knit nature and size of some communities. However, some respondents conveyed that communications were generally conducted in English,

and therefore non-English speaking persons may not have clearly understood instructions that were issued. Therefore, States with high migrant populations, who may not speak a country's dominant language, should work toward putting systems in place to issue instructions in the native languages based on population demographics to minimize risks.

Household Preparedness Activities

Evacuation preparedness is a key activity undertaken by governments during hazards. However, the survey conducted as part of this study revealed that many persons across the Caribbean are using their own experiences and resources to prepare themselves and their communities to minimize the impacts of hazards. In the survey, 55 per cent of respondents suggested that prior to evacuations, they or members of their households took steps to reduce the impact of hazards on their households or communities. Responses varied among States and included measures taken in both urban and rural communities.

Some survey participants reported either learning about hazards and risks in the community or actively reaching out to inform or train their neighbors in the community.

Community measures:

- Participate in trainings on climate change, the environment or disaster response;⁵
- Inform other community members about steps to take to stay safe;⁶
- Help provide education to the community on disaster-related issues.⁷

Some participants shared how they helped to inform their neighbors by training them in radio communications⁸, producing hurricane preparedness videos to be shared on the local news,⁹ and advocating for the inclusion of migrants in disaster planning.¹⁰ Others were directly involved in disaster response as first responders,¹¹ or by helping to prepare community shelters.¹² One participant reported being involved in community-based disaster mapping and planning.¹³

Measures around or near home:

- Clearing drains or waterways;¹⁴
- Trimming trees and cutting overhanging branches;¹⁵
- Clearing the area around the home of any items that could harm people or property;¹⁶

5 Commonwealth of The Bahamas: Andros Town, Fresh Creek, Andros Island; Dominican Republic: Provincia Elías Piña in Comendador in Las Delicias, Santiago in Dorado Primero.

6 Commonwealth of The Bahamas: Nassau Bain and Grant's Town; Commonwealth of Dominica: Mahaut; Dominican Republic: San Juan; Haiti: Jeremi in Caracoli, Mowon; Saint Kitts and Nevis: Basseterre.

7 Commonwealth of Dominica: Mahaut; Haiti: Aquin Vieux-Bour, Delmas, Gonaïves in Ruelle Dupiton Okay, Port-au-Prince;

8 Commonwealth of Dominica: Pottersville in Roseau.

9 Commonwealth of The Bahamas: Nassau.

10 Commonwealth of Dominica: Mahaut.

11 Dominican Republic: Azua, Guanatico in Puerto Plata, Villa Jaragua in Bahoruca; Turks and Caicos: Grand Turk.

12 Freeport Grand Bahama, Commonwealth of The Bahamas: Freeport in Grand Bahama; Saint Kitts and Nevis: Basseterre.

13 Saint Kitts and Nevis: Sandy Point.

14 Barbados: Christ Church; Belize: Orange Walk Town; Commonwealth of Dominica: Fond Cole, Mahaut, Morne Bruce, Roseau; Dominican Republic: Distrito Nacional Mata Hambre, Padre las Casas; Grenada: St. George's; Guyana: West Coast Demerara, Georgetown, Georgetown East, New Amsterdam; Haiti: Cap-Haïtien; Jamaica: Yallahs in Albion; Saint Lucia: Bobanneau; Saint Vincent and the Grenadines: Kingstown; Trinidad and Tobago; Gasparillo in South Trinidad, Glencoe, St. Augustine.

15 Antigua and Barbuda: St. John's; Barbados: Christ Church, Goodland in Bridgetown; Commonwealth of The Bahamas: New Providence; Commonwealth of Dominica: Fond Cole, Goodwill, Morne Bruce in Roseau, Portsmouth; Dominican Republic: Puerto Plata, San Juan de la Maguana; Grenada: St. George's; Haiti: Ansavo in Vil, Cap-Haïtien, Mowon, Okay; Jamaica: Benson in Spanish Town; Saint Lucia: Bobanneau, Micoud; Saint Vincent and the Grenadines: Belair.

16 Anguilla: Island Harbour; Barbados: Goodland in Bridgetown; Commonwealth of The Bahamas; Commonwealth of Dominica: Goodwill in Roseau, Portsmouth; Dominican Republic: San Juan de la Maguana; Montserrat: St. John's.

- Installing storm shutters;¹⁷
- Securing windows and doors.¹⁸

Respondents in the Dominican Republic and Haiti also noted that they plant trees or do not cut down trees,¹⁹ and respondents in Guyana and Saint Lucia built a physical means of flood defence around their homes.²⁰ Respondents in the Commonwealth of Dominica reported that they purchased or increased their life or home insurance.²¹

Measures taken in structure of the home:

- Reinforcing the structure of the house, including the roof;²²
- Choosing a home that is on high ground or elevating the existing home;²³
- Choosing a home that was built to be resistant to storms (with thick walls or reinforced beams, for example).²⁴

Respondents in Antigua and Barbuda and the Commonwealth of Dominica reported building a shelter inside their homes.²⁵

When hazards are predicted, respondents noted that they prepared in a range of ways, mostly in storing essential supplies and ensuring that they can stay in their homes or a shelter safely:

- Storing essentials, including medicine;²⁶
- Storing food;²⁷
- Storing water;²⁸
- Securing important documents;²⁹
- Creating a household emergency plan;³⁰
- Preparing for evacuation, such as creating a “go bag” so that they can evacuate quickly.³¹

17 Antigua and Barbuda: St. John's; Belize: Belize City; Commonwealth of The Bahamas: Carmichael, Nassau, New Providence, Spring City; Commonwealth of Dominica: Belfast in Mahaut.

18 Barbados: Christ Church; Commonwealth of The Bahamas: Blair Estates in Nassau, Rumcay Sumner Point; Grenada: St. David; Jamaica: Benson in Spanish Town, Yallahs in Albion; Trinidad and Tobago: Arima, Port of Spain.

19 Dominican Republic: Nagua, Santo Domingo Este; Haiti: Vil Okay.

20 Guyana: Georgetown; Saint Lucia: Gros Islet.

21 Morne Bruce in Roseau and Portsmouth.

22 Commonwealth of Dominica: Belfast in Mahaut; Goodwill in Roseau, Morne Prosper, Tarish Pit; Dominican Republic: Puerto Plata; Haiti: Ansavo in Vil; Jamaica: Negril; Montserrat: Brades; Sint Maarten: Philipsburg.

23 Commonwealth of The Bahamas: Carmichael, New Providence; Dominican Republic: Azua en El Libertador; Guyana: East Berbice in Corentyne, Georgetown.

24 Commonwealth of The Bahamas: North Victoria Hill; Dominican Republic: Azua en El Libertador; Guyana: East Bank Demerara; Jamaica: Kingston; Suriname: Paramaribo.

25 Antigua and Barbuda: Saint John's; Commonwealth of Dominica: Marigot.

26 Barbados: Goodland Park Christ; Belize: Orange Walk; Commonwealth of Dominica: Laplaine, Morne Prosper.

27 Commonwealth of The Bahamas: Commonwealth of Dominica: Mahaut, Morne Prosper; Dominican Republic: Distrito Nacional Mata Hambre; Grenada: St. David; Haiti: Aken; Jamaica: Benson in Spanish Town; Montserrat: St. John's; Saint Vincent and the Grenadines: Kingstown.

28 Antigua and Barbuda: St. John's; Belize: Belmopan in Valley of Peace, San Pedro Town; Commonwealth of The Bahamas: Commonwealth of Dominica: Laplaine; Dominican Republic: Bahoruco, Puerto Plata; Grenada: St. David; Guyana: Cornelia Ida in West Coast Demerara; Haiti: Aken; Jamaica: Benson in Spanish Town; Saint Vincent and the Grenadines: Kingstown.

29 Mahaut, Commonwealth of Dominica: Mahaut; Haiti: Aken in Maseyan, Ansavo in Vil; Montserrat: St. John's.

30 Antigua and Barbuda: Spring View; Belize: Bermudian Landing, Hopkins; Commonwealth of Dominica: Morne Prosper; Commonwealth of The Bahamas: Nassau; Montserrat: Brades in Davy Hill; Saint Vincent and the Grenadines.

31 Commonwealth of The Bahamas: Nassau; Commonwealth of Dominica: Trafalgar Village; Guyana: Georgetown; Haiti: Aken; Trinidad and Tobago: Chaguanas, Glencoe.

32 Belize: Belize City; Trinidad and Tobago: Chaguanas.

33 Belize: Belize City.

34 Commonwealth of The Bahamas: Tropical Gardens; Commonwealth of Dominica: Goodwill in Roseau.

35 Belize: Belmopan in Valley of Peace, San Pedro Town.

Several respondents said that they store their household items in plastic boxes³² or move their belongings from the bottom floor of the house to the top floor³³ to protect them from being ruined by water. Others reported more permanent measures, such as preparing generators,³⁴ installing solar energy,³⁵ and growing their own food at home.³⁶

Based on responses in the interviews conducted as part of this study, governments continue to support measures to help facilitate evacuation preparedness.³⁷ These measures include:

- Promoting early warnings and evacuation notices in affected communities to ensure affected persons are evacuated safely and in a timely manner.³⁸
- Using multiple platforms and strategies to appeal to larger populations so they could receive and comply with orders.³⁹
- Coordinating with partners to help support the implementation process when they interact with persons on the ground in addition to providing affected persons with the tools and access to information necessary to help ensure their safety.⁴⁰

In addition, many governments continue to utilize the technical support and resources available through CDEMA, in collaboration with regional and international partners, to help guide preparedness planning to help mitigate risks. This includes convening high-level meetings and briefings; conducting needs and impact assessments; and updating governments of affected states and RRM partners.

While evacuation preparedness depends on an active role by the Government, individuals often serve as leaders in their communities and households, drawing on their experiences to help keep themselves and their families safe during hazards and disasters.

³⁶ Belize: San Pedro Town.

³⁷ Antigua and Barbuda; the Commonwealth of The Bahamas.

³⁸ Antigua and Barbuda; the Commonwealth of The Bahamas; Belize; the Commonwealth of Dominica; Jamaica; Montserrat.

³⁹ Barbados; the Commonwealth of The Bahamas; Jamaica.

⁴⁰ The Commonwealth of The Bahamas.

CHAPTER 4: PHYSICAL EVACUATION



This chapter outlines steps employed to support effective evacuations and is organized based on the *MEND Guide: Comprehensive Guide for Planning Mass Evacuations in Natural Disasters*. As such, it presents some of the key actors and how they work in concert to ensure evacuation plans are coordinated to enhance the safety and well-being of evacuees and communities.

Evacuations are complex processes that require strategic coordination between multi-sectoral partners to reduce risks, save lives, and prevent losses or damage to properties (CDEMA, 2014a). Therefore, partners, including regional, national, and local governing authorities, international and regional organizations, private sector stakeholders, and civil society actors all play pivotal roles in helping to implement and coordinate evacuation plans effectively (CDEMA, 2014a). The magnitude and complexity of hazards and the capacity of national governments generally contribute to the need for various actors to support evacuation responses (Oxfam, 2011). Generally, the technical capacity and resources that partners possess determine what type of role they will take during an evacuation. CDEMA plays a vital role in supporting the implementation of evacuation plans, usually through mobilizing technical and financial support, when States request such assistance. This is generally the case when it is anticipated that local means will be exhausted or may not be sufficient to meet needs (CDEMA, 2016). The responsibility, however, for implementing evacuations falls within the remit of the national emergency management agencies, though local government often plays a key role as well.

CDEMA AND EVACUATIONS IN THE CARIBBEAN

The Caribbean Disaster Emergency Management Agency (CDEMA), established as the Caribbean Disaster Emergency Response Agency in 1991, is the CARICOM regional inter-governmental agency for disaster management.

CDEMA comprises 19 Participating States, both CARICOM Member States and non-CARICOM Member States in the Caribbean.

CDEMA mobilizes and coordinates disaster relief; mitigates or eliminates, as much as possible, the immediate consequences of disasters in Participating States; provides immediate and coordinated response by means of emergency disaster relief; gathers, coordinates and provides reliable and comprehensive information on disasters; encourages the adoption of DRR and mitigation policies at practices and cooperative arrangements and mechanisms to facilitate DRR at the regional level; and coordinates the establishment, enhancement and maintenance of emergency and disaster response capabilities among Participating States.

Source: CDEMA, n.d.b.

COORDINATION

Multi-sectoral coordination plays an essential role during the implementation process given that evacuations require the mobilization of numerous actors, including security services, emergency services and administrators, international and regional organizations, private sector, and others, and the sharing of information to facilitate adherence to the evacuation plans. This requires clearly defining and conveying the roles and responsibilities of strategic partners and how their individual tasks are interlinked for achieving the overall goals of the evacuation plan. As such, State emergency management agencies possess coordination and management structures that define how information flows to line ministries and other partners. These national disaster management agencies are generally composed of various bodies that help guide the process, from preparedness planning to implementation and assessment.

Although the national disaster management agencies of each Caribbean State differ to some extent regarding their organizational structures and operations, they also share many similarities. As such, the coordinating structure highlighted below was developed after assessing the key actors involved, the decision-making processes, the information flow and coordination, and how decisions were implemented in numerous States, including Jamaica, the Co-operative Republic of Guyana, The Commonwealth of The Bahamas, Grenada, and Barbados. This analysis showed that a top-down approach is generally employed during the coordination process, which is overseen by Cabinet officials and disaster management administrators who are tasked with shaping policies and strategies, often based on data and information gathered using a bottom-up approach, and liaising with strategic partners. As the regional level, CDEMA plays an important role in coordinating collaboration.

NATIONAL EMERGENCY ADVISORY COMMITTEES

Supervised by the Director and Cabinet, these committees comprise multi-sectoral members that engage in consultative processes to review existing strategies and guidelines and formulate new directives, if necessary, to steer the state through evacuation processes with the assistance of relevant government ministries and strategic partners. These committees often include personnel from the security services, public health, local government, and meteorology. The primary aim is to protect lives and assets during these processes and therefore, implementing an effective evacuation plan hinges upon putting in place measures to educate, train, and liaise with the public and strategic partners; ensuring adequate manpower and physical resources are accessible; and promoting public awareness initiatives, among other key issues.

NATIONAL EMERGENCY OPERATIONS BODY

Generally overseen by the director of the main disaster risk reduction ministry or agency, these bodies are tasked with implementing the tactical and operational aspects of evacuation processes, namely by coordinating strategies developed by the national emergency advisory committee and ensuring implementation, monitoring, and evaluation of activities. This provides a feedback mechanism that could contribute to the modification of evacuation activities based on findings and lessons learned. However, findings and lessons learned are generally relayed to the Advisory Committees for further consideration and decision-making or assist in determining the prioritization of evacuation activities.

GOVERNMENT-LED CLUSTER COORDINATION SYSTEMS

Governments have also established cluster systems led by line ministries and international organizations, which include other international and national authorities, civil society groups, private sector, and others, working together to ensure the varying needs of evacuees are met, such as shelter, health, education, livelihoods, among other sectors.

Clusters play crucial roles in coordinating various sectors that stakeholders are assigned and are tasked with providing adequate and timely assistance by establishing strategic and sustainable partnerships with local and national authorities, regional and international partners, and civil society groups to help support the delivery of key services in accordance with the established evacuation plan. The national emergency agencies have been responsible for leading the coordination of relevant government agencies and clusters.

IOM leads the Global Camp Coordination and Camp Management (CCCM) Cluster in situations of disasters triggered by natural hazards. They focus on coordinating with several humanitarian actors to provide humanitarian assistance and protection to displaced persons in temporary emergency shelters and support the management of these emergency shelters to ensure evacuees and displaced persons can access basic needs. This is done by monitoring needs and service gaps. Also, they support governments in formulating shelter-related strategies for communities that have been affected by disasters and requires evacuees to temporarily reside in shelters (IOM, 2021b). Rapid shelter assessments are generally key for understanding the needs and resources.

IOM AND EMERGENCY RESPONSE

IOM works in emergency contexts around the world to promote disaster preparedness and response. Through the Inter-Agency Standing Committee (IASC) and as the lead agency under the cluster approach in camp coordination and camp management in disasters, IOM serves as a key partner in emergency shelters, logistics, health, protection and early recovery.

In 2017 in the wake of Hurricane Maria in the Commonwealth of Dominica, IOM distributed tarpaulins, solar lights, hygiene kits and other non-food items. IOM also tracked the status of displaced people in emergency shelters through the Displacement Tracking Matrix (DTM) tool.

Following Hurricane Dorian in the Commonwealth of The Bahamas in 2019, IOM distributed tarpaulins, supported debris removal and used the DTM to provide updated demographic and population data.

In the aftermath of the 2021 earthquake in Haiti, IOM supported the effort to find safe buildings where displaced people could shelter in anticipation of the effects of Tropical Depression Grace. IOM also distributed masks and information to prevent the spread of COVID-19.

Sources: IOM, 2021a; IOM, 2017d; IOM, 2019b; IOM, 2021c.

PROVINCIAL OR DISTRICT COMMITTEES

Provincial or district committees are also pivotal for supporting the planning and preparedness process because they are usually the first responders and have a better understanding of the situation on the ground. As such, in addition to developing and implementing provincial level evacuation plans and operational procedures, they may be tasked with organizing and coordinating provincial level resources to support effective and timely activities are operationalized to save lives and reduce risks during disasters. This is done by coordinating with community groups, churches, non-governmental organizations, and community members.

Depending on the capacity of States to implement evacuation strategies, non-governmental partners may be engaged; otherwise, existing systems are likely to become overwhelmed, which places the lives of affected persons and evacuees at risk. For instance, the earthquake in Haiti (2010), flooding in the Co-operative Republic of Guyana (2005) and the Republic of Suriname (2006), hurricanes in the Commonwealth of The Bahamas (2017 and 2019), and volcanic eruption in the Saint Vincent and the Grenadines (2021), international support was solicited to assist the coordination of those evacuation efforts, namely through technical support, logistics planning, and resource mobilization.

THE ROLE OF THE PRIVATE SECTOR IN EVACUATIONS

The private sector plays a pivotal role during regional evacuation through strategic and planned partnerships with the government, international and regional organizations, and other key partners and therefore strengthening the government's leverage in effectively evacuating affected persons by tapping into extensive capacities and competencies available in the private sector. Notably, in an enabling environment, the private sector could support evacuation operations by mobilizing adequate resources to evacuate affected persons, provide aid and relief, and promote sustainable economic growth and development in the aftermath of disasters. This is done by making transportation, food, health and medical care, schools, and other essential services, accessible for affected persons, including vulnerable and marginalized persons.

EVACUATING PERSONS FROM AFFECTED AREAS

Private sector actors, particularly airlines, cruise lines, and small boat operators, have historically played important roles in evacuating persons in the region. For instance, in collaboration with CDEMA, the LIAT airline facilitated the transportation of regional response teams to affected areas and the evacuation of people out of Sint Maarten and the British Virgin Islands in 2017 due to Hurricane Irma (Jamaica Observer, 2017).

On 12 September 2017, in response to Hurricane Irma, the Norwegian Sky and Royal Caribbean Majesty cruise ships helped to evacuate and transfer persons from Saint Thomas to Puerto Rico and Miami (CDEMA, 2017). In September 2019, in the wake of Hurricane Dorian, Bahamas Paradise Cruise Line helped evacuate 1,200 persons to Palm Beach, Florida in the United States of America. The ship arrived in the Commonwealth of The Bahamas with doctors and nurses as part of the cruise line's humanitarian support to help the thousands of persons affected by the hurricane (Robles, 2019). Royal Caribbean International and Carnival Cruise Line sent ships to Saint Vincent and the Grenadines to help evacuate people from the imminent eruption of the La Soufrière volcano in April 2021. Each cruise line sent two ships, each of which had capacity for up to 1,500 persons, with the intention of transporting them to neighboring States (Sarkisian, 2021). The COVID-19 pandemic created challenges for this evacuation, with concern about close contact between the evacuees on the ships. All passengers were required to have a negative rapid antigen test taken within 24 hours of boarding (Deane, 2021).

Similarly, private charter ferries and fishing boats also made meaningful contributions to the evacuation process. Though less systematic and challenging at times, many were evacuated to safety, which proved vital as safe evacuation routes narrowed with approaching disasters, especially in Barbuda, the Commonwealth of The Bahamas, and the Commonwealth of Dominica (Rayala, 2017). These endeavors were generally conducted in collaboration with governments and partners, and were crucial for evacuating persons, especially those in remote and hard to reach places. These efforts also removed some pressure from the larger vessels and air operations. Generally, crews travelled in pairs, manned by a captain and mate, to help ensure the safety of the rescue and maximizing the number of persons that could be evacuated per vessel (Bahamas Strong Alliance, 2020).

HOUSING

Private sector actors also facilitated the provision of housing for evacuated populations and for relief providers who come to affected areas to provide various forms of aid and assistance.

Carnival Cruise Lines sent a ship to St. Croix to house relief workers after Hurricane Irma, for which the company was reimbursed by the United States Federal Emergency Management Agency (FEMA) for the use of the ship (Robles, 2019).

On 18 April 2019, CDEMA and Airbnb signed an agreement to facilitate infrastructure for temporary emergency housing and to strengthen emergency response. Airbnb and CDEMA will provide emergency preparedness and response educational materials to Airbnb hosts and share information with Airbnb hosts and guests in areas affected by emergencies. Shelter is a necessity for those displaced during an emergency, visitors, and humanitarian teams deployed to support response efforts. CDEMA will partner with Airbnb on their "Open Homes" program, now called Airbnb.org, to diversify options for temporary housing during response and early recovery. The program, which was launched in the Caribbean in August 2018, allows hosts to offer their properties for free to people in need (CDEMA, 2019a).

PROVIDING AID

Both local and international actors are key to providing humanitarian aid and beginning the process of economic recovery.

After Hurricane Maria in 2017, Royal Caribbean International used its ships to carry hurricane victims from Puerto Rico, St. Croix and St. Thomas to South Florida and delivered 900,000 cases of supplies to the islands (Carrazana, 2019).

Many actors responded to Hurricane Dorian in 2019. On 3 September 2019, Royal Caribbean International announced that it would stock its ships with supplies such as generators, water, cleaning supplies, sheets, and towels for delivery to the Commonwealth of The Bahamas. The first ship, the Empress of the Seas, carried 10,000 meals, 10,000 bottles of water, generators, and medical supplies (Carrazana, 2019). Royal Caribbean donated USD 1 million to disaster relief and collaborated with the Government of The Bahamas, the Pan American Development Foundation and Bahamian charities (Carrazana, 2019). Royal Caribbean served 20,000 meals a day and helped to shuttle people from Grand Bahama to Nassau, while Carnival spent USD 1 million on medical supplies, given to Direct Relief, an aid organization. As of 12 September 2019, Royal Caribbean had transported 810 people and donated almost 150,000 bottles of water (Robles, 2019). Norwegian Cruise Line's Norwegian Breakaway ship also supplied relief supplies to Nassau, Great Harbour Cay and the company's private island, Great Stirrup Cay and announced that it would donate USD 1 million for short-term hurricane relief. The Walt Disney Company, which owns Disney Cruise Line, also pledged USD 1 million in cash and in-kind support (Carrazana, 2019). The Celebrity Cruises Equinox cruise ship was supposed to dock at Nassau but was diverted by Hurricane Dorian and docked instead at Freeport on Grand Bahamas, which was partially destroyed by the hurricane. Instead of continuing with the schedule itinerary, the Celebrity Equinox cruise ship prepared 10,000 meals on 6 September 2021, which guests volunteered to plate and pack (Henninger and Ortiz, 2019).

Other companies created long-term arrangements to support aid relief. On 16 November 2020, CDEMA and interCaribbean Airways Ltd., which is based in Turks and Caicos Islands, signed a Memorandum of Understanding establishing a mutual agreement for the movement of relief personnel and supplies to support immediate and coordinated response for disasters in the region. This partnership strengthens the airlift capacities of the Regional Response Mechanism (CDEMA, 2020).

Local private sector stakeholders, particularly businesses organized by chambers of commerce, also play a key role in supporting relief and economic revitalization. After the volcanic eruption in Saint Vincent and the Grenadines in 2021, the Caribbean Chambers of Commerce (CARICHAM) coordinated with local counterparts to distribute water, masks, soap, and hygiene products. The Trinidad and Tobago Chamber of Energy helped distribute 24,000 gallons of water and first aid supplies. The British Virgin Islands chamber distributed toys to help children with emotional and psychosocial adjustment (UNDRR, 2021).

MOBILIZING RESOURCES

To effectively implement national evacuation plans, strategies must be employed to mobilize adequate resources—both technical and financial—to ensure affected persons are evacuated to safe zones in a timely manner. At the regional level, CDEMA supports resource mobilization through various platforms and strategies. This includes developing proposals, engaging partners, and conducting donor conferences when disasters occur. During these processes, states, agencies, NGOs, private sector, foundations, and individuals are engaged to mobilize financial and technical assistance to help implement strategic plans geared toward response efforts, which includes operationalizing evacuation plans. Led by CDEMA's Coordinating Unit and guided by its *Corporate Plan 2017-2020*, strategic partners—both traditional and non-traditional—donors are sought out to access funds to build resilience, inclusive of both preparedness and response components; pursuing resources from the Green Climate Fund; and engaging existing and new development and other partners that could commit financial and technical support to CDEMA to help implement its disaster response efforts, including evacuations (CDEMA, 2019b). For instance, in the aftermath of hurricane Irma, CDEMA organized a donor conference in New York to support Caribbean nations through pledges from international and regional donors (Charles, 2017).

At the national level, government-led cluster coordination systems are also employed with the assistance of line ministries, national emergency management agencies, and international cluster agencies to mobilize funds by advocating for funding to meet existing needs. This is done by engaging and educating donors on some of the key issues that needs to be addressed and how their funding could help meet those needs.

EVACUATING HAITIANS DURING HURRICANE DORIAN

People of Haitian descent are presently the largest minority in the Bahamas, making up approximately 20 per cent of the population; however, many are in irregular status.

Prior to Hurricane Dorian in 2019, the Haitian population often occupied informal settlements. After the hurricane, many were displaced to Nassau, Freeport and surrounding areas. The devastation of predominantly Haitian settlements is exacerbated by the ongoing vulnerability many experience, particularly those in irregular status and who are low-income.

It was reported that in some cases, affected Haitians were not able to evacuate safely, as they were barred from accessing shelters and emergency aid. Low income, high cost of living and limited social networks outside the Haitian community also contributed to an inability to evacuate. Check points operated by immigration officials at ports, shelters, and churches also limited the ability of Haitians to receive assistance. These factors led to a higher rate of deaths among Haitians compared to the total population.

Sources: IOM, 2019a; OHCHR, 2019; OHCHR, 2019; Fielding, 2008; Turnquest, 2019; IDMC, 2020.

As such, several lead agencies have collaborated with donors across the Caribbean to develop proposals to access funding from existing mechanisms. For instance, IOM has been a strong regional advocate for displaced persons by mobilizing resources to assist affected states with emergency shelters. Likewise, the Pan American Health Organization has advocated for access to health services (PAHO, 2012b).

Coordination between governments and partners are critical for the success of evacuations. This helps to maximize and optimize available resources and capacities but, equally important, it helps to disseminate essential information to help guide decision-making that minimizes risks.

CHAPTER 4: PHYSICAL EVACUATION



Another key component of the evacuation process is the need to implement pragmatic systems to effectively move and document masses of affected persons from red zones to safety in systematic ways. Therefore, logistics and transport-related matters are vital for supporting the implementation process. The government and partners document and inform affected persons of the various modes for transportation, transportation routes based on risk assessments, schedules for pick-ups at designated sites, and criteria pertaining to how affected persons will be prioritized.

The geography and topography of the country generally determines the strategies employed by government and partners to evacuate affected persons effectively and safely. Decisions to employ certain strategies are further influenced by the potential impacts of disasters, which may limit evacuation efforts. However, notably, there does not seem to be national strategies that outline details various assets could be mobilized and used during evacuations. This includes assets to move affected persons by air, sea, or by land.

AIR OPERATIONS

Several States have prioritized evacuations by air to swiftly evacuate affected persons in masses; however, this is often impacted by the situation on the ground. In some instances, such as in Barbuda in 2017 and on Grand Bahama in 2019, airports were either damaged or destroyed and thus made it challenging to conduct air evacuations. In the aftermath of Hurricane Irma, and with a second emerging hurricane, Jose, 1,800 residents had to be evacuated. The airstrips were already ill-equipped to accommodate larger planes (Joseph, 2017), and Irma further damaged the airport's infrastructure, including its terminal and runway, forcing its closure to commercial flights. Despite these risks, the

Government of the Bolivarian Republic of Venezuela supported the evacuation process by supplying two military cargo planes, which helped to evacuate larger groups of affected persons relative to smaller aircrafts. Evacuees were transported mainly to Antigua (Joseph, 2017).

Both public and chartered planes also played key roles during this process. To help ensure the passage of affected persons on Abaco and Grand Bahama islands during Hurricane Dorian, the government ordered Bahamasair, the national airline, to cease charging airfares. The airline had previously charged USD 75 to fly from the two heavily impacted islands to New Providence. However, the government intervened (Noel-Ferguson, 2019), as many evacuees were not able to pay for flights. However, there were not enough flights available to evacuate all affected persons in a timely manner, leaving many to use chartered flights. One Bahamian interviewed during this study indicated that chartered flights could cost more than USD 900, which made it challenging to purchase a flight. Additionally, military assets, including from the United States of America military and Coast Guard, the United Kingdom Royal Air Force and the Royal Bahamas Defense Force, were also mobilized to enhance efforts to evacuate affected persons, using helicopters to evacuate people in a timely manner (Parsons, 2019).

MARINE OPERATIONS

The Caribbean is composed of predominantly island states and therefore accessibility for evacuations is limited without marine operations (Sarkisian, 2021). Cruise ships played a crucial role in supporting the evacuation efforts in the Commonwealth of The Bahamas after Hurricane Dorian. Many evacuees were offered the chance to evacuate to Florida free of charge, if they possessed the proper documentation (Johnson, 2019). Royal Caribbean,

Norwegian, and Carnival cruise lines were also mobilized to support the evacuation (Johnson, 2019).

In the wake of seismic activity from the La Soufrière volcano in Saint Vincent and the Grenadines in 2021, evacuees were transported to neighbouring States that had agreed to provide shelter by opening their borders. This included Saint Lucia, Grenada, Barbados, and Antigua and Barbuda, and these agreements were mostly bilateral in nature with the Government of Saint Vincent and the Grenadines (AP, 2021). Due to the challenges posed by the COVID-19 pandemic, the Caribbean Public Health Agency (CARPHA) led the development of the COVID-19 Protocol During Evacuation to help guide decision-making to minimize the risks of COVID-19 exposure and transmission, while remaining cognizant of the fact that large groups of people needed to be moved into small spaces in a short period of time, that they would be in close contact with each other, and that they were under a significant amount of stress, all of which could contribute to the transmission of the virus (CARPHA, n.d.). However, the priority was to safely evacuate persons from danger zones, which meant that strict compliance with recommended standards, which included Polymerase Chain Reaction (PCR) testing and vaccination prior to being evacuated and boarding the cruise ships or airplanes, was not fully plausible, as resources, space, and time were limited (CARPHA, n.d.). Therefore, other COVID-19 sanitation and hygiene measures were employed to minimize risks, such as masking, hand washing and social distancing, among others.

These cross-border evacuations were coordinated by the government of Saint Vincent and the Grenadines, the cruise lines and receiving countries. Most of these countries are Protocol Members of the Eastern Caribbean Economic Union (ECEU), which allows travel using national identification documents. The Government of Saint Vincent

and the Grenadines also made efforts to engage other governments that are not Protocol Members to request that they admit evacuees without passports.

Smaller sea vessels were also commandeered or organized in some instances by government to support evacuation. For instance, prior to Hurricane Dorian, the Bahamian Government contracted several small boats and ferries to evacuate persons from affected areas free of charge (BBC, 2019). Likewise, small ferries and fishing boats were used in Barbuda prior to Hurricane Irma (Gray, 2017), the La Soufrière volcanic eruption in Saint Vincent and the Grenadines (CARPHA, n.d.), and in the aftermath of Hurricane Maria in the Commonwealth of Dominica (Ayuso and Boding Hansen, 2017). However, due to the size of these vessels, only small numbers of persons could be evacuated relative to planes and cruise ships. It often took longer to complete the evacuation due to the difficulties navigating rough tides.

LAND OPERATIONS

Land evacuations are also common in the region. This often includes governments arranging to evacuate affected persons who may not have access to a vehicle or other means of transportation out of danger zones. This includes getting assistance from neighbors, families, or friends, if possible. For instance, in the case of Saint Vincent and the Grenadines, those who had personal vehicles or could carpool with others did so (Al Jazeera, 2021), while the government provided others with public transportation (News784, 2021).

The analysis of national policies conducted for this study and the responses of interviewees shows that there is a need to put in place measures to address the needs of people in situations of vulnerability during evacuations. Without

specific protocols and provisions, individual operators and officials are left to make decisions about how best to respond to urgent needs, which creates gaps in care and support. Therefore, the needs and perspectives of people in different situations of vulnerability should be explicitly and clearly integrated into national strategies to ensure their needs are addressed during every stage of evacuation. However, despite the lack of specific government guidance to establish criteria for prioritizing individuals for evacuation, ferry operators in Barbuda made efforts prior to Hurricane Irma to implement a system whereby people in situations of vulnerability were prioritized, according to respondents interviewed for this study. A government official in the Commonwealth of Dominica pointed to the need to facilitate greater involvement of stakeholders, such as people working in fishing, who can support evacuations. Respondents from Haiti cited the key role that family members and neighbors played in assisting older people and children, reporting that young people carried them to safety and that the greatest assistance in the initial aftermath of the 2010 earthquake came from their fellow community members.

SEARCH AND RESCUE

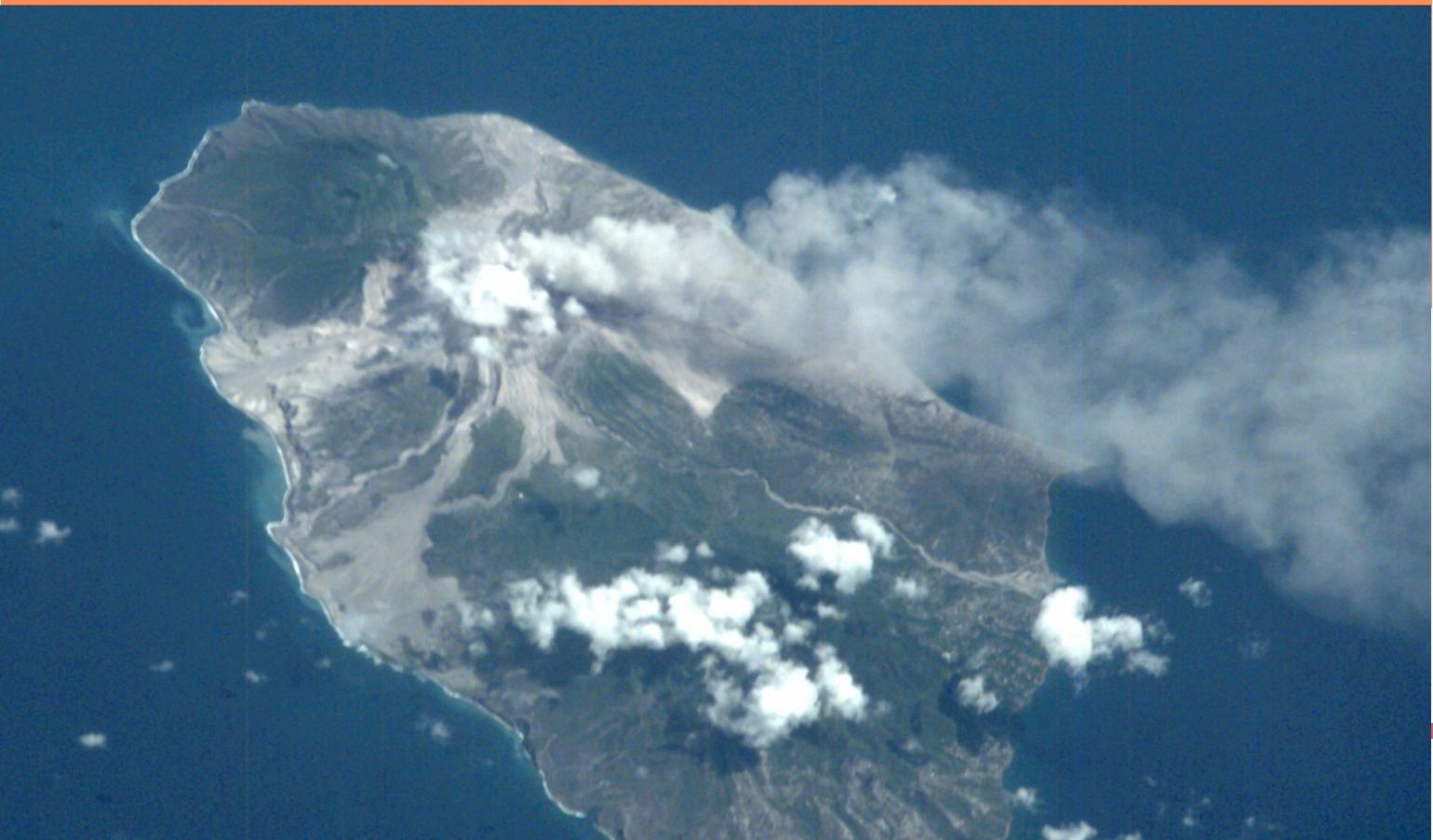
One of the priorities of governments and partners is to help secure the safety and lives of persons that may be affected by disasters by removing them from affected areas. While some people evacuate before a hazard affects a community, the search and rescue process is critical for saving lives and for ensuring that people who were trapped or injured can then be evacuated in the aftermath of the hazard. This is necessary so that evacuees are given access to treatment, from basic first aid to urgent medical care. The core goals of search and rescue (SAR) operations are to:

- Locate persons who are missing;
- Determine persons who may be victims and casualties of disasters;
- Implement pragmatic strategies to effectively and safely evacuate located persons; and
- Transport located persons away from danger zones.

2021 LA SOUFRIÈRE VOLCANIC ERUPTION IN SAINT VINCENT AND THE GRENADINES

Seismologists from the University of the West Indies Seismic Research Centre recorded⁶ increased seismic activities in La Soufrière in December 2020 (Kim, 2021). This guided the government to start developing evacuation plans to evacuate residents to safer areas and neighbouring states (Sarkisian, 2021). On 8 April 2021, the government activated an evacuation order, resulting in the movement of approximately 20,000 people from communities close to La Soufrière. This evacuation occurred both domestically and internationally (Obregon, 2021).

Public education initiatives and asset mapping were critical parts of the planning and preparedness phase. CDEMA, the University of the West Indies Seismic Research Center, and the government collaborated to complete a mapping of populations that would potentially be affected, highlighting the logistical aspects of a potential evacuation while adhering to Standard Operating Procedures. This included identifying the approximate number of vehicles needed to evacuate each community, how many persons could be transported by road, water or air, and where to create assembly points prior to evacuation. In addition to determining where evacuations should be conducted, these partners created different evacuation plans in the case that the evacuation order was given during the day or during the night. United States Southern Command and other partners were consulted to determine if they could provide any humanitarian assistance.



Meetings and trainings were held with community members to discuss and address existing or anticipated issues for the planning and implementation processes. However, the COVID-19 pandemic negatively affected the level of participation. Consultations were moved to online platforms; however, segments of the population did not have access to internet. The government and partners like the Seismic Research Centre invested in public education to teach residents about the volcano and how to keep themselves safe.

The government made arrangements to immediately transport affected persons without private vehicles or other means of transportation to safe zones, if they were not able to carpool with neighbors, families, or friends. Cruise ships were offered to transport affected persons from along the northern coast (Wyss, 2021).

The COVID-19 pandemic complicated evacuation plans—both internally and externally. The government also made efforts to establish emergency shelters at churches, schools, community centers, and other public facilities in safe zones. Approximately 4,000 evacuees resided temporarily in government shelters, while others stayed in hotels or with family and friends (Bisram, 2021). Strict COVID-19 protocols were observed in government shelters whereby everyone seeking access to public shelters were encouraged to be tested, and those who tested positive for COVID-19 were sent to an isolation center (CARPHA, n.d.; Wong, 2021a). However, the disruption of the water system due to the volcanic eruption exposed many evacuees to the risk of contamination, since they were not able to employ some of the recommended hygiene practices, including regularly washing one's hands (Bisram, 2021). Many hotels that were converted into emergency shelters requested that persons seeking shelter be vaccinated prior to being permitted on their premises (Wyss, 2021), which caused some delay in the evacuation process.

Leading up to the eruption, bilateral agreements were created with several neighbouring islands, particularly Antigua and Barbuda, Barbados, Grenada and Saint Lucia, to open their borders to temporarily host evacuees (Wyss, 2021; Guenot, 2021). The free movement permitted within the Organisation of Eastern Caribbean States (OECS) Eastern Caribbean Economic Union (ECEU) under the Revised Treaty of Basseterre helped to facilitate this process, because nationals of OECS Protocol Members are permitted to migrate, reside and work freely in Protocol States without applying for work permits or other visas. The evacuation of individuals was arranged bilaterally, with each host State determining their ability to host evacuees, the number of people they could accept, and the health and hygiene protocols needed to ensure safety given the COVID-19 pandemic. Affected persons interested in evacuation on the cruise ships were required to be vaccinated prior to boarding the ships. Moreover, while the cruise ships were equipped to transport persons to safe zones, they were not adequately staffed to provide temporary housing (Guenot, 2021). Although these measures delayed the evacuation process, it also helped ensure the safety and well-being of the public.

At the time of this report, evacuees began returning home to assess damage and initiate the rebuilding process in the orange and yellow zones (Wong, 2021b). Those from the red zone are still waiting for the government to allow them to return to the north of the island (Fleary, 2021). Regional and international partners have mobilized resources to support the recovery

efforts with the provision of food, health services, logistics, and WASH assistance (CDEMA, 2021b). Moreover, it is expected that 12,000-15,000 affected persons will be provided with cash transfers; approximately USD 5,600 in market vouchers were provided to 257 affected persons in the days following the eruption to meet their immediate needs, and other food assistance were scaled up for people displaced in public and private shelters (CDEMA, 2021b).

In June 2021, the World Bank approved USD 50 million to support the island's response and recovery needs and long-term development agenda. This includes addressing the COVID-19 pandemic response, strengthening its fiscal sustainability apparatus, and putting in place measures to enhance climate and disaster resilience (World Bank, 2021). In July 2021, the International Monetary Fund also approved USD 11.6 million to further support response needs (IMF, 2021). Specifically, this package will support clean up and reconstruction as the island strive to return to economic stability, considering large segments of its productive sectors were damaged or destroyed.

The evacuation and response efforts associated with this eruption are ongoing as of the drafting of this report.

SECURITY

Identified within national disaster risk management legislation, security and emergency services (including the police, military, firefighters, coast guards and emergency medical services) are key actors during evacuations. Therefore, having a continued presence in affected communities during the evacuation processes, while liaising with relevant partners, including national emergency management agencies, enables them to best support evacuation operations by providing protective services for evacuees along established evacuation routes and at evacuation shelters. Where possible, coast guards have also provided support for water-based evacuations, namely by escorting evacuation vessels and conducting rescue missions at sea, to help ensure safety and well-being during the evacuation process. This was particularly evident in the Commonwealth of The Bahamas after Hurricane Dorian, which involved assistance from the United States of America Coast Guard and the Royal Navy of the United Kingdom (Mitchell, 2019; AP, 2019b).

Some of the best practices employed during the evacuation process, according to respondents interviewed for this study across the Caribbean, was that the government deployed its security services to affected communities. This served two purposes: a) ensuring affected persons were safely evacuated, and b) establishing parameters around affected communities to help prevent persons from returning while the risks were still high. However, these States may lack the capacity to enforce these orders. In Barbuda, prior to Hurricane Irma, persons defied mandatory evacuation orders by evading authorities (Dominica News Online, 2017). Similarly, although efforts were made to utilize the Bahamian military, police, and other support staff to help ensure the safe evacuation of persons on Abaco and Grand Bahama, many persons remained despite a mandatory

THE REGIONAL SECURITY SYSTEM (RSS)

Integral to the Regional Response Mechanism, the RSS was established in 1982 “out of a need for collective response to security threats” in the region. Initially conceived as a joint defense and security treaty for signatories to mitigate internal and external aggression, the RSS evolved and expanded its scope and purpose, forming a critical link between the disciplined forces and CDEMA. This cooperative and integrated approach offers many advantages for addressing regional security-related issues. Therefore, while the RSS confronts numerous issues, one of its mandates focuses on supporting disaster management, and it has the authority to activate the CARICOM Disaster Relief Unit, which must be requested by CDEMA or the Regional Coordinating Centre (RCC).

Over the years, the RSS has been mobilized to assist with various regional disaster management-related issues. For instance, the RSS provided preparedness and evacuation support during the recent volcanic eruption in the Saint Vincent and the Grenadines. In collaboration with CDEMA, the Saint Vincent and the Grenadines National Emergency Management Organization, and the University of the West Indies, measures were put in place to help ensure the safety and wellbeing of residents as the island transitioned from orange alert, wherein early warning and communication systems were activated, to red alert, where there were coordinated evacuation efforts. Similar, and recent, interventions by RSS included the 2010 earthquake in Haiti, hurricane Tomas in Saint Vincent and the Grenadines and Saint Lucia in 2015, and in Dominica after hurricanes Irma and Maria (2017), instances requiring relief efforts and restoration of order (RSS, 2021).

Ensuring these frameworks are implemented and operates in concert with each other, especially considering the overlapping of priorities and strategies, will prove crucial to the success of regional states meeting set targets.

Sources: The Regional Security System; Bryan, 2011; RSS, 2021; and UNISDR, 2016.

evacuation order issued by the government (Taylor, 2019). Additionally, according to interview respondents, security services and volunteer groups were also deployed to conduct house-to-house checks to ensure residents had vacated their homes and put systems in place to prevent their return until the area had been deemed safe by the government. This included establishing security barriers and patrols. However, despite these measures, some respondents noted that they were hesitant to leave their belongings behind, while others who decided not to evacuate avoided the authorities.

CROSS-BORDER EVACUATIONS

Cross-border evacuation entails the movement of affected persons outside the country which they reside as a strategy to minimize their risks. Like internal evacuations, this process is generally organized and facilitated by governments and partners but could also have some element of voluntary decision-making, as those with adequate resources may leave without government intervention. The Caribbean remains one of the only regions where cross-border evacuations are regularly implemented for nationals affected by increasing slow- and sudden-onset events. This reflects, in some regards, the island nature of these States, such that cross-border movements of evacuees across both contiguous and non-contiguous borders have become the norm. For instance, the volcanic eruptions in Montserrat in the 1990s resulted in a majority of the island's population being evacuated abroad, primarily to the United Kingdom, until it was deemed safe enough to return (Sword-Daniels, et al., 2014). Similarly, in the aftermath of the 2010 earthquake in Haiti, many affected Haitians were immediately evacuated to the Dominican Republic, Canada, Mexico and the United States. Others evacuated to Brazil and other Latin American States (Weiss Fagen, 2013). This instance highlights the difficulty of delineating

evacuation from displacement in some contexts. In 2019, Hurricane Dorian led to the evacuation of approximately 9,840 persons (IDMC, 2020), many of whom were evacuated to the United States of America and Canada due to the immediate threats posed by the hurricane. Bahamian citizens are eligible for electronic travel authorization visas that are valid for 90 days in the United States of America and 180 days in Canada, which facilitated this type of evacuation (AP, 2017). These options were available to people who had the resources to evacuate themselves. Cruise ships and aircrafts were permitted to provide transportation to affected persons who could afford passage, usually delivering them to Florida in the United States of America. Florida is geographically close to the Commonwealth of The Bahamas, and many Bahamians have family ties there. In some instances, transportation was provided for free; however, evacuees had to present the appropriate documentation.

Systems are also in place to help facilitate the free movement of persons within the Caribbean due to regional integration efforts. The CARICOM Single Market Economy (CSME) and the Organisation of Eastern Caribbean States (OECS) Eastern Caribbean Economic Union (ECEU) have put in place measures to permit citizens to easily enter other Member States or Protocol States, respectively. While nationals of CSME States have the right to reside for six months in other CSME Member States, nationals from ECEU Protocol States may migrate indefinitely and possess the right to legally resettle and seek livelihood opportunities (Francis, 2019). These agreements are key protection tools during times of crisis, as affected persons may choose to evacuate to neighboring States and stay with friends or family. The 2017 hurricane season saw the need to evacuate affected persons from a devastated Commonwealth of Dominica to nearby Antigua and Barbuda and Trinidad and Tobago. These cross-border evacuations occurred

simultaneously with mandated internal evacuations of Barbuda and the Commonwealth of The Bahamas (IOM, 2020a; Francis, 2019).

A key issue that must be considered during all cross-border evacuations is the need for documentation that identifies who each evacuee is. It is essential that they are documented and vetted to gain entry to another State. However, during an evacuation, documents may get lost, destroyed or stolen, making it difficult for officials to conduct any vetting, especially if affected persons lack any official documents that identify them. Therefore, officials are tasked with working with governments, when possible, to provide some verification. This was evident during the La Soufrière volcano eruption, when the Government of Saint Vincent and the Grenadines appealed to neighbouring States to permit evacuees into their jurisdictions with national identification documents if they did not possess a passport (Coto, 2021). IOM provided support to help create a standardized process for registering evacuees at each border.

Often a cross-border evacuation happens at the same time as an internal evacuation. An official in Antigua and Barbuda noted that an unconventional approach was taken to identify Barbudans who evacuated to Antigua without identification. Due to the small, close-knit nature of many communities in Antigua and Barbuda, and considering the number of persons from other States – including the Commonwealth of Dominica and Sint Maarten – who were trying to evacuate or return to Antigua during Hurricane Irma, border management officials asked Barbudans to help identify people without formal identification documents, then triangulated this information to confirm a person's identity. This ad hoc method helped ensure that people without identification documents could be registered as evacuees.

Another key issue that often must be addressed is the resettling of Caribbean citizens that are residing in neighboring States during disasters. This generally requires bilateral arrangements to meet and discuss plans to effectively and efficiently return their citizens home or to a place of safety as early as possible. This often requires dispatching immigration officials, representatives from consulates, or persons within the diplomatic corps to assess the needs on the ground and contribute to the relocation planning process, which may include chartering adequate flights for persons expressing an interest in returning home.

Moreover, utilizing available resources to support the protection of children is also important. Children may travel with a parent or guardian, but they may also be unaccompanied, especially if they became separated from family members during the evacuation process. If the relationship between the child and the parent or guardian is not formally documented, it can be difficult to ensure that they are not exposed to additional risks, such as trafficking. According to UNICEF, in the aftermath of the La Soufrière volcanic eruption in 2021, four children were identified as unaccompanied and separated, and UNICEF and the Child Welfare Development Agency began to conduct contact tracing to track children who were evacuated across borders and to ensure their safety and security (UNICEF, 2021).

COVID-19 EVACUATIONS

During the COVID-19 pandemic, some States provided flights to evacuate their nationals from other States in which COVID-19-related border closings made it difficult for individuals to return to their countries of origin. This report is largely focused on non-health-related hazards, but it is important to note that health-related evacuations have taken place as well. Below are some key examples of COVID-19-related evacuations in the Caribbean:

- On 21 April 2020, 33 nationals of Trinidad and Tobago who were stranded in Barbados returned home on two flights after the National Security Minister granted them an exemption to enter the country. Arrangements were put in place for the evacuees to be medically examined upon arrival (Loop News, 2020d).
- On 1 May 2020, 70 Trinidad and Tobago nationals who were unable to leave Suriname for approximately a month due to border closings returned to the country. Upon arrival, they were shuttled to The University of the West Indies (UWI) Debe Campus to be quarantined for 14 days (Loop News, 2020a).
- On 11 May 2020, a Consul Liaison Service Officer in Canada confirmed that a repatriation flight would evacuate 18 Barbadian hotel workers from Canada to Barbados. He also stated that the workers were housed for free near the hotel (Loop News, 2020c). This move came to ensure that the Barbadians would be able to return home before the 13 May 2020 deadline for their contracts (Loop News, 2020b).
- In May 2020, over 200 Saint Lucians who were employees of the Carnival Corporation LLC disembarked the Carnival Glory off the Vigie Coast and were immediately taken to the Castries Public Health Facility. As of 12 May 2020, the Government of Saint Lucia had repatriated 248 nationals through its efforts to ensure that all citizens could return home during the pandemic (Loop News, 2020e).
- On 1 June 2020, The Cayman Islands announced it would offer an evacuation flight to Caymanians to return from Jamaica, to be followed by 14 days of quarantine. The passenger list for the flight was compiled by the Jamaican Honorary Consulate and prioritized persons in vulnerable situations (Young, 2020).

Securing the lives of all affected persons is an essential part of the government's role as a facilitator of organized evacuations. As such, they need to employ all possible means to evacuate affected persons from danger zones to safety. This may include land, marine, or air operations based on the situational context on the ground. This will help guide the decision-making process regarding how best to utilize available resources to safely evacuate affected persons in a timely manner.

CHAPTER 5: IN THE AFTERMATH OF EVACUATIONS



This chapter outlines how States respond to evacuees through the provision of aid as they are transitioned from danger zones to safety. Access to essential services is often critical for their survival at this juncture. This includes the provision of essential supplies, assistance, and planning for long-term support and rebuilding. Response and recovery efforts may save lives by putting in place measures to stabilize and eventually reduce the impact of the hazard experienced and potentially future hazards as well through durable solutions.

CDEMA, and more specifically, the Regional Response Mechanism (RRM), is responsible for deploying technical support upon the request of impacted Member States to aide response efforts (CDEMA, n.d.d.). The technical assistance and resources mobilized by international and regional partners could prove critical for national governments to ensure essential services are delivered in a timely manner and in accordance with national plans and strategies. The national emergency management agencies are responsible for coordinating partners and cluster agencies.

SHELTERS

Sheltering evacuees is often a challenge. Although many evacuees stay with families, friends or in private accommodations rather than in public shelters, the availability of public shelters is nonetheless still critical for the success of evacuations. Meeting the needs of evacuees with a range of backgrounds and requirements is an additional challenge.

In countries where IOM has presence or operational teams, it works in coordination with the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) and the UN Resident Coordinator's Office to lead the

humanitarian response based on the contingency plans previously defined and agreed upon with the International Federation of Red Cross and Red Crescent Societies (IFRC). IOM may lead the joint sector in a co-leadership capacity of government-designated entities. Generally, rapid shelter needs assessments are conducted to determine the estimated sheltering needs of evacuees. This information then guides the procurement and allotment of required materials to meet the needs of evacuees (IOM, 2017c). The IFRC has also collaborated with IOM and others to help address the existing gaps in sheltering affected persons through the development of effective strategies, which included fostering an inclusive approach that helps to identify possible buildings or abandoned infrastructures that could be used for shelters to meet existing shelter needs, capacities, and gaps. In the aftermath of Hurricane Maria, efforts were made to support approximately 1,000 affected persons regarding housing, land, and property-related issues (IFRC, 2017).

In the event of an evacuation, shelters must be readily available, and people from affected communities must be able to access them. Interview respondents from the Dominican Republic, particularly from San Juan, expressed concern that there is no shelter easily accessible to them and that there is a need to have medical personnel stationed near the community to treat injuries and provide care. They also highlighted the need for medicine and potable water. Similarly, respondents from Coulibistrie in the Commonwealth of Dominica identified the need for more suitable shelters near their community and resources to support people who are evacuating, such as renewable energy sources and water storage tanks. In the Commonwealth of The Bahamas in the wake of Hurricane Dorian, some evacuees were turned away due to shelters being overwhelmed, leading many evacuees to find alternative options, including staying with family members

and friends (AP, 2019a). For low-income individuals, who were experiencing difficulties prior to the disaster, this exacerbated their situation.

Across the region, governments have employed various strategies to accommodate evacuees. Often this means relying on churches, community centers, public schools and other public facilities. Evacuees who are able to gain access to public shelters often experience overcrowding, lack of privacy and an absence of adequate security, which may be a serious risk, especially for women, girls, children (Seelinger and Wagner, 2013) and people with marginalized gender identities, gender expression or sexual orientation. In many cases, there is a connection between disasters and an increase in GBV, often related to insecurity in shelters, which often puts women, girls, and other groups at risk (IFRC, 2018b), and LGBTIQ+ people may be especially vulnerable to GBV and other forms of violence during an evacuation and in shelters. Aid distribution points and access to water, sanitation and hygiene facilities should also be monitored to prevent GBV; the design of the shelter contributes greatly to the level of safety. For instance, in the aftermath of the 2010 earthquake in Haiti, cases of sexual assault significantly increased (Campbell, et al., 2016). Domestic violence is also common in the wake of disasters. In order to combat this issue, the Government of Antigua and Barbuda developed and implemented a programme geared toward training personnel within the health care, security and shelter management sectors to help mitigate risks of GBV (Government of Antigua and Barbuda, 2020). Likewise, both the Commonwealth of Dominica and the Co-operative Republic of Guyana are also trying to put in place measures to identify root causes of GBV, to inform strategies to reduce future violence (Sirker, 2021).

Ensuring that shelters are accessible to disabled people and older persons is often a challenge. A government official in

the Commonwealth of Dominica noted that while people are often sensitive to the needs of older people, a more structured response is needed to ensure that they can access shelters and health services as needed.

Likewise, migrants may be at risk, if people in irregular status are not able to access shelters (IFRC, 2019b). After Hurricane Dorian, many Haitians experienced heightened discrimination, threats and harm, especially when the electric grid was disrupted (Bleeker, A, et al.). While some States track the migration status of evacuees, others do not. While this practice allows migrants access to shelters and services, it limits a quick response to migrants' needs and the ability to connect them with the consulate of their country of origin.

HEALTH SERVICES

The type and magnitude of disasters are likely to affect the type and depth of health services evacuees may need. For instance, earthquakes typically lead to various blunt-trauma injuries, such as broken bones or lacerations that may stem from being struck by or trapped under large debris (Silberner, 2010). In contrast, floods are more likely to expose evacuees to water-borne diseases, skin infections and cholera, among others (WHO, n.d.). In addition, evacuees from Abaco and Grand Bahama islands were most threatened by water- and vector-borne diseases, including Dengue, Chikungunya, and Zika. Overcrowding and hygiene-related issues in shelters also posed major concerns relating to infectious diseases, including tuberculosis and HIV (IFRC, 2019a). States and partners, including PAHO, have donated protective gear, including masks and sanitization products, which was vital during the evacuation of the Saint Vincent and the Grenadines during the COVID-19 pandemic. Consequently, the type of disaster influences the medical assistance required.

IOM identified several themes from interviews across the region. Access to health care services varies across States during evacuations. However, governments and partners collaborate to optimize their resources and capacity to meet the diverse health needs of evacuees. For instance, according to interview respondents from Barbuda, the Commonwealth of The Bahamas, and Republic of Haiti, health facilities were either damaged or destroyed during the 2017 and 2019 hurricane seasons, and 2010 earthquake, respectively. This, according to some respondents, affected access to healthcare services. Nonetheless, alternative approaches are employed to assist those in need as best as possible. For instance, in the aftermath of the volcanic eruption in Saint Vincent and the Grenadines in 2021, it was determined that the most urgent health needs of evacuees, especially those in high-risk areas (including shelters) were for health services for mothers, children and people with chronic diseases or pulmonary issues (IFRC, 2021).

Psychosocial support is also critical. Hurricane Maria contributed to a greater need for psychosocial support due to the stressful post-hurricane circumstances (IFRC, 2017). Therefore, trying to respond to trauma was essential for evacuees as they transition to a “new normal.” This would entail putting in place measures wherein evacuees are able to be grouped with family members, close friends, or others that could be part of their support system which would help reduce the likelihood of evacuees feeling isolated.

RELIEF AND BASIC NEEDS

In the aftermath of disasters, evacuees generally have little or no personal effects and may need urgent access to relief or non-food items, such as shelter materials, blankets, clothes, hygiene kits, baby supplies, dignity kits, and livelihood assistance, among other necessities. The needs of evacuees vary. Therefore, in many instances, governments

THE DIASPORA AND EMERGENCY RESPONSE

The Caribbean has one of the largest and most highly skilled diasporas in the world, and the region remains an area of net emigration.

Diasporas play a key role by sending remittances, which benefit both individuals and States, and this assistance can be especially critical during crises. Diasporas also provide material support during emergencies; they often provide supplies to hospitals and affected communities, provide information to family members and friends about the crisis and provide family- or community-specific assistance.

Sources: CMC, n.d.; IOM, 2017b; IOM, 2021d

and partners provide relief packages or cash grants to support the acquisition of basic needs to evacuees who presented themselves at shelters. For instance, in the wake of Hurricane Maria, the International Federation of Red Cross and Red Crescent Societies (IFRC) provided 5,000 households with shelter relief, which included mosquito nets, blankets, kitchen sets, and tarps, among other items (IFRC, 2017). Similarly, in the wake of Hurricanes Irma and Maria, the IFRC supported 12,452 persons with non-food aid (IFRC, 2018a).

Many evacuees remain in shelters or are displaced in host communities, with some staying with family and friends, for extended periods of time and requiring some level of assistance. In the wake of the volcanic eruption in Saint Vincent and the Grenadines, IFRC budgeted an estimated USD 68,800 for disbursement to 200 families to support their basic needs (IFRC, 2021), while USD 2,000 cash

grants were distributed in Dominica after Hurricane Maria in 2017 (IFRC, 2017). Similarly, multipurpose cash grants were provided to evacuees in the Commonwealth of The Bahamas to support rental or host family support for three months in the aftermath of Hurricane Dorian (IFRC, 2019a). In contrast, seasonal flooding in Barbados, which has caused many affected persons to evacuate without the intervention of government or partners, often led community members to help support the needs of those most affected. Cash grant initiatives to meet basic needs of evacuees has also been completed in Antigua and Barbuda and the Co-operative Republic of Guyana.

Funding the aforementioned initiatives are collaborative endeavors between States and partners, who work closely to mobilize technical and financial support through flash appeals and fundraising to help meet these needs. Some States are also taking action to use financial tools to support disaster response. On October 7, 2019, the Government of Jamaica announced that the Green Climate Fund approved Jamaica to list the first-ever Caribbean Green Bond on the stock market; this will help finance primarily DRR-related projects and initiatives (Government of Jamaica, 2019). While some respondents who were interviewed indicated that governments and partners provided some relief items regarding livelihood support, food and water, and health care, others indicated they were not as fortunate. For instance, while respondents in Barbuda, Montserrat, the Commonwealth of The Bahamas, Dominica, and Belize conveyed that they were able to get access to various forms of support, evacuees in Haiti were less likely to report receiving assistance. This may have been due in part to the length of the evacuation, the damage caused by the disasters, and whether evacuees were in shelters, staying with family, friends, or in private accommodation. Depending on the type of hazard and availability of resources, relief efforts

THE CARIBBEAN CATASTROPHE RISK INSURANCE FACILITY SEGREGATED PORTFOLIO COMPANY (CCRIF SPC)

The Caribbean Catastrophe Risk Facility Insurance Facility (CCRIF SPC), developed under the leadership of the World Bank, was established in 2007 due in part to the devastating impact that Hurricane Ivan had on Grenada's housing stock in 2004. According to the World Bank, approximately 89 per cent of Grenada's housing was damaged or eliminated. One of the first of its kind, the objective of this multi-country risk pool is to minimize the financial impact of devastating disasters by quickly mobilizing financial liquidity soon after the policy is activated. Therefore, after impact, participating states could access funds to help mitigate the impact of disasters, namely by helping to fill shortfalls in short-term cash flows. The impacts of disasters are further amplified because of the small and simplified nature of these economies.

Funds made available from insurance payouts could enable recipient governments to finance the initial disaster response and maintain basic functions and service provision after the disaster, which could potentially reduce displacements or prevent it from becoming a protracted affair. For instance, Hurricane Matthew in 2016 resulted in major damage in Haiti. Therefore, funds provided by the CCRIF SPC were crucial for meeting financial needs, especially for support the rebuilding process. Funds were allotted to support the procurement of building materials and repairing of buildings. This aided affected persons in rebuilding their lives relatively quickly from a community to national levels since the CCRIF SPC provides insurance on a national scale

Sources: World Bank, 2005; CCRIF, 2015, 2016; and Beazley and Ciardi, 2020.

may end quickly after a disaster or may span long periods of time. Moreover, the length of time required to successfully provide aid depends on the magnitude of the disaster, the preparedness of the state, the vulnerability and accessibility of impacted communities, and availability of immediate resources (Romeo Upperman, Marcelle and Excell, 2019).

EDUCATION

States often use schools as shelters during evacuations, though this can cause challenges for the continuity of education for children and youths. However, governments and partners have employed several strategies to help mitigate the impact of this issue. These included integrating students into schools in host communities in the case of the Commonwealth of The Bahamas after Hurricane Dorian (Fagenson, 2019); encouraging home schooling

and providing school necessities in the Commonwealth of The Bahamas and Montserrat; evacuating students from Montserrat to other countries to mitigate disruption of education; and training teachers to deliver psychosocial support to displaced students and children in host communities (UNICEF, 2019).

Mobility through evacuation can be a life-saving tool, but it requires detailed planning and significant resources from governments and partners to ensure that people are safe and healthy during their time away from their home communities. It is especially critical to take into consideration the different needs of people of different genders, ages, disabilities, sexual orientations, gender identities and migration status.

CHAPTER 6: RETURNING HOME



When it is deemed safe, evacuees migrate back to their home communities. Just as mobility during the evacuation process must be carefully managed, return requires support and resources. The government plays a key role in facilitating how and when people move, resettle and rebuild.

Returning home and recovery after mandatory evacuations can be long-term processes which may be protracted by the initial community vulnerabilities and assessments, existing risks, access to adequate and essential services, and ability of evacuees being able to adapt to their new environments, among other consideration. This is generally a phased process that is initially sanctioned by governments. At that juncture, the government and partners can put in place resiliency measures to mitigate future impacts of hazards; invest in rehabilitating vital support systems, such as health and safety services, public information, reconstruction, and conducting damage and vulnerability assessments to inform the “build back better” approach to assist evacuees to return to their daily lives. This is done while remaining cognizant of the need to formulate and implement preventative and preparedness measures to minimize vulnerability to future disasters. This is usually established in national recovery and reconstruction plans, which are government-led efforts that formulates strategic plans and frameworks for short-and long-term recovery within the economic and social sectors; and fostering risk reduction in all sectors with the aim of mitigating future vulnerability of the people and State.

RETURNING HOME

In Saint Vincent and the Grenadines, the road to returning home for many had already begun at the time of drafting of this report, with the government approving the return of evacuees that resided within the yellow and orange zones.

However, those from the red zone continue to wait for a mandate from the Government that would permit them to return to their communities in the north of the island, where La Soufrière is located (Fleary, 2021). Similarly, in the aftermath of Hurricane Dorian, which devastated the Abaco and Grand Bahama islands in the Commonwealth of The Bahamas, the government sanctioned the return of evacuees to their communities by establishing temporary housing on both islands, which included purchasing and installing 250 dome structures, each of which can house between four and six people, to help get evacuees back to their communities so that they could begin the process of rebuilding. Each dome structure was equipped with plumbing, drainage, a sewer system, and electricity (Government of the Commonwealth of The Bahamas, 2019). Further, these structures were hurricane-resilient, which also contributed to a sense of security (Government of the Commonwealth of The Bahamas, 2019). The government and partners involved relocating some evacuees that resided along the coastal zones, which are often impacted the most, further inland. The expectation is that by investing in affordable, resilient homes, persons most vulnerable to natural hazards would be better protected.

A majority of interview respondents showed some level of enthusiasm regarding returning home. For instance, flooding in Barbados has caused many residents to evacuate on their own volition; however, due to the often low-level damage caused, respondents felt that only a temporary evacuation was necessary until water levels receded, so that it was relatively to return to their communities. However, in other States, such as Antigua and Barbuda, the Commonwealth of Dominica, and the Commonwealth of The Bahamas, returning and rebuilding was much more difficult; respondents expressed that their attachment to their communities and a sense of family was key to their decision to return.

As such, in trying to mitigate their risks, many indulged in various disaster risk reduction strategies, including building away from streams; clearing streams; and investing in affordable resilient homes, among others. However, this process is often challenging, costly and long-lasting; respondents from the Republic of Haiti largely felt that their communities have not returned to pre- 2010 earthquake levels of employment and provision of social services and expressed concern about the future of the community.

RECOVERY

Government intervention plays a vital role in evacuees returning home and subsequent resuscitation of local economies. The Government of The Bahamas, for example, helped to pave the way for the revitalization of the private sector. Recognizing the economy was largely dependent on small- and medium-sized enterprises, the government announced a micro, small and medium-sized enterprises programme to help finance the revival of approximately 3,500 enterprises on Abaco and Grand Bahama (McKenzie, 2019). Since the launch of this initiative, 36 enterprises have received close to USD 650,000 in funding. It is expected that after the first year of recovery, these enterprises will have an estimated impact of USD 6.7 million on the economy, which suggests a potential return of USD 3 for every USD 1 invested. The estimated return on the fully launched initiative was USD 43 million (Government of the Commonwealth of The Bahamas, n.d.). Likewise, international partners, including Mercy Corps, the Red Cross and the Samaritan's Purse, among others, have contributed to economic recovery through small grants. For instance, the Mercy Corps provided small grants to approximately 200 small businesses in the Commonwealth of The Bahamas to help them reopen in addition to providing business training on business sustainability.

This included ensuring sufficient transition shelters were provided while reconstruction efforts continued, in addition to ensuring access to water (Mercy Corps, 2020). Such initiatives were instrumental in recovery efforts because they supported evacuees in rebuilding their lives and livelihoods. This is crucial for mitigating vulnerabilities that were created by the disasters and assisting evacuees to enhance their capacities and abilities to reduce the impact of disasters – both for themselves and others by creating employment opportunities.

Recovery on Barbuda took a different path, as the entire island is considered Crown Land, meaning that individual land ownership is not permitted on the island. Therefore, only Barbudans and their descendants have rights to land on the island for building homes, farming, or commercial purposes for free through the Barbuda Council, the local legislative authority. In the wake of the Hurricane Irma, the Government moved to amend the Act by introducing the Barbuda Land (Amendment) Bill, 2017, which proposed introducing individual property rights on the island to foster sustainable development by permitting residents to acquire land titles (Government of Antigua and Barbuda, 2017). This change would allow title holders to gain access to loans to rebuild their homes and start businesses (Sou, 2019). However, while some residents were optimistic about gaining property rights, they were also skeptical of the implications and were concerned that the government would then also free up lands for private investments to establish resorts to facilitate tourism (Scruggs, 2017). Many residents viewed this as a threat to their culture and way of life (Sou, 2019). The differences in perspectives have affected the recovery efforts (Observer, 2017).

In addition, critical for recovery is putting in place mechanisms to provide financial support to evacuees and their families who sustained losses. Measures to access government loans varied across States in terms of eligibility requirements, size of loans, and interest rates. Likewise, loans and grants for businesses have also been essential in the economic recovery of regional States. After Hurricane Maria, the Commonwealth of Dominica received an estimated USD 10.2 million from the Caribbean Catastrophe Risk Insurance Facility Segregated Portfolio Company (CCRIF SPC) to help ensure continuity of government operations (CCRIF SPC, 2017b). An additional USD 15.6 million was paid to the governments of Antigua and Barbuda, Anguilla, and Saint Kitts and Nevis after the passage of Irma (CCRIF SPC, 2017a). Governments and partners continue to work together to support economic recoveries of impacted States through small loans and grants.

States may also take action to put in place long-term strategies to address hazards and prevent disasters. The Commonwealth of Dominica focused on climate resilience as a national strategy in the wake of Hurricane Maria. The government created the Climate Resilience Execution Agency for Dominica (CREAD), which aims to “make Dominica more resilient to future natural disasters,” ensure that the recovery from Hurricane Maria will be as effective and quick as possible, and assist public institutions, private sector and civil society to better manage disasters and recovery from disasters in the future (CREAD, n.d.). This work will be part of the country’s overarching work to become the “first climate resilient nation in the world” (CREAD, n.d.).

Human mobility through evacuation and return processes must be carefully managed, providing the financial, material and social resources necessary to ensure safe movement from the first warning of an approaching hazard through the return home and start of long-term recovery.

Conclusions

This report analyses regional and national evacuation-related plans, strategies, and practices and draws on the experience and expertise of government officials, civil society stakeholders, and people affected by hazards and evacuations throughout the Caribbean. This report has shown the wide range of actors that are key to facilitating safe and effective mobility through evacuations and the many considerations necessary to support evacuees' short- and long-term needs. Largely, evacuations are managed internally, but Caribbean States have also implemented multiple cross-border evacuations, drawing from long-time partnerships and regional integration to facilitate safe movement and shelter of evacuees. Regional actors such as CDEMA play a key role in these processes and facilitate dialogue around good practices.

Evacuations, guided by the key good practices highlighted in this report, are a key adaptation and life-saving strategy used by government and communities to prevent injury and death. Evacuations are a form of mobility that plays a key role in broader disaster risk reduction efforts; while States continue to work to reduce long-term risk to hazards, evacuations are a tool to physically move individuals away from danger. These processes can be difficult, costly and traumatic, and these efforts are not taken lightly by government officials or community members. This report highlights the challenges associated with implementing evacuations as well as some of the good practices that Caribbean States have implemented to better protect their populations.

KEY FINDINGS

This study highlighted some key strengths of current evacuation policy and practice and identified opportunities for strengthening disaster risk reduction and migration governance.

EVACUATION PREPAREDNESS AND COMMUNICATION

- All States except one have national disaster risk reduction or evacuations policies, and some have multiple policies that work in conjunction.
 - Based on an analysis of the policies, 10 of these States incorporated some aspect of evacuations into their disaster risk reduction policies. Additionally, eight States have linked disaster risk reduction to their national development strategies.
- Most national disaster risk reduction policies in the Caribbean address early warning, though the degree of detail given varies by policy. The analysis identified that 14 States include a discussion of early warning in their national DRR policy.
- Most policies do not specifically identify which communities are most at risk of specific hazards.
- Respondents in the survey conducted for this study expressed concern about the level of preparedness in their

communities, with 84 per cent noting that they feel their community is not at all prepared or somewhat prepared for a disaster.

- While some States relay their evacuation messages in multiple languages, it is important to assess which languages are needed in each country context to ensure that messages are accessible to migrant communities.
- National disaster risk reduction documents in many States identify the need for detailed hazard mapping and vulnerability assessments to better understand which geographical areas and communities are at risk from which hazards.
- Provisions specific to gender, age, disability, sexual orientation and gender identity or migration status are largely not integrated into national evacuation-related policies. Notable exceptions are Barbados, the Commonwealth of Dominica, Grenada and the Republic of Haiti.
 - While many national disaster risk reduction and evacuation policies specifically refer to the needs of older persons and disabled persons, fewer refer to gendered needs or the needs of migrant populations. No policies in the region specifically address the needs of LGBTIQ+ persons.
- Interview participants in some countries discussed a lack of information about evacuation procedures and how to access resources. Providing training can help communities be better prepared in the event of an evacuation.
- There is a need to strengthen communication systems to provide real-time information and status updates related to access to shelters, health services, and other essential aid.

COORDINATION OF EVACUATIONS

- The Caribbean Disaster Emergency Management Agency (CDEMA) is a key actor in supporting evacuations across the region.
 - CDEMA mobilizes and coordinates disaster relief, gathers and provides reliable and comprehensive information on disasters that can inform evacuations and encourages the adoption of disaster risk reduction policies throughout the region.
- The private sector, including cruise lines, has often played an important role in helping to evacuate affected persons and to supply assistance.
- States in the Caribbean often share a similar evacuation management structure, comprising National Emergency Advisory Committees, National Emergency Operations bodies, a government-led cluster coordination system and provincial or district committees.
- Most States have established frameworks for national and sub-national collaboration during evacuations. However, some of these frameworks lack detail or explicit connection to other relevant national policies or frameworks that would support implementation.

PHYSICAL EVACUATIONS

- Given the geographies of Caribbean States, evacuations take place via the air, water, and land.
- The COVID-19 pandemic posed significant challenges for conducting evacuations safely and for implementing needed health and hygiene processes.
 - Some States conducted evacuations in response to the COVID-19 pandemic.
 - In response to the 2021 volcanic eruption in Saint Vincent and the Grenadines, the Caribbean Public Health Agency (CARPHA) created a set of protocols to help guide evacuation hygiene and health provisions.
- Caribbean States have implemented cross-border evacuations multiple times, drawing on existing regional agreements and bilateral agreements to move people as safely as possible.
 - Many of these evacuations have relied on the provisions of the Organisation of Eastern Caribbean States (OECS) Eastern Caribbean Economic Union (ECEU) of the CARICOM Single Market and Economy (CSME). Some relied on bilateral agreements between States.
- There is no regional policy or strategy guiding cross-border evacuations in the Caribbean. Instead, ad hoc and bilateral agreements serve as guidance tools.
- States sometimes lack the capacity to enforce evacuation orders and prevent people from staying in or returning to areas mandated for evacuation.

SUPPORT DURING THE EVACUATION

- Although many evacuees stay with family members, friends, or in private accommodation during evacuations, shelters often do not have the capacity to host all people in need of a safe place to stay.
- Meeting the needs of people of all genders, members of the LGBTIQ+ population, disabled people, older people, children and youth and migrants is a significant challenge. Meeting these needs requires financial and human capacity that may be especially strained during a disaster.
- States work with partners to provide health services, relief and essential supplies and access to education while populations are evacuated.

RETURNING HOME

- Governments play a vital role in determining when evacuees may return safely to their communities. This process could be swift or protracted and may hinge not only on the magnitude and impact of the disaster, but also on the capacity of States and partners to put systems in place to mitigate existing and future risks in affected communities.
- Many governments deploy resources to support the reopening of local business and facilitate economic growth following an evacuation.
- Many States continue to work closely with strategic partners to “build back better,” including a focus on more resilient housing and community resources.
- States work with partners to mobilize both technical and financial resources to help evacuees return to their original communities and put in place initiatives to support economic recovery and livelihood opportunities.
- Rebuilding is a long-term process, and governments often lack the financial capacity to fund recovery efforts for as long as they are needed.

Recommendations

Regional

- CDEMA, with support from IOM, has identified a need to develop a comprehensive regional strategy that guides regional cross-border evacuations.
- Build protections and arrangements specifically related to disaster-related migration within the CARICOM Single Market and Economy and Eastern Caribbean Economic Union agreements to facilitate evacuations and support States and affected communities.
- Facilitate multilateral communication between emergency management agencies during times of crisis to support regional solutions rather than reliance only on bilateral agreements.
- Facilitate communication and standard operating procedures between consulates in the region, which can provide information and emergency assistance.

National

- Update national disaster risk reduction and evacuation policies to integrate disaster risk reduction and national development strategies and to facilitate interministerial coordination in times of emergencies.
- Conduct hazard mapping and vulnerability assessments to understand which geographical areas and communities are at risk from specific hazards. These assessments should include a mapping of the distribution of the population and their movements, socioeconomic characteristics access to public and private means of transportation and distribution of assets and infrastructure. These assessments can inform how resources may need to be prioritized for these areas.
- Facilitate consultations with communities to understand their needs before, during, and after evacuations.
- Lead consultations with transportation agencies and operators on key aspects of evacuation planning and implementation, including setting up agreements in advance to facilitate evacuation using small boats or other vessels.
- Conduct trainings and exercises with the public to increase their awareness about what to do when an evacuation is ordered.
- Create formal strategies or policies that address early warning planning and implementation, with a focus on the different needs of people according to their gender, age, sexual orientation, gender identity, disability or migration status.
- Expand the languages in which early warning and communication is offered, tailored to the specific migrant communities present in each State.
- Develop tailored communication plans that respond to the needs of communities with different levels of access to traditional compared to non-traditional sources of information and to reach people with disabilities, especially those related to vision, hearing or mobility.
- Create systems to communicate with people while they are evacuated to provide real-time status updates about transportation, fuel, shelters, healthcare, and other essential services.

- Invest in building sufficient shelters to meet the evolving and diverse needs of evacuees.
- Ensure that affected people have access to shelters and essential aid, regardless of migration status.
- Collect information disaggregated by gender, age, disability and migration status so that evacuated individuals can be supported most effectively.
- Put measures in place to prevent gender-based violence and violence against populations such as women, LGBTIQ+ people, children and people with disabilities. This is especially important in shelters.

Local

- Support hazard mapping and vulnerability assessments at the local level to facilitate planning and preparedness. Take into consideration strategies for supporting the effective and safe evacuation of persons of different genders, ages, disabilities, and migration status.
- Conduct training and exercises to help ensure that the community is prepared to respond to an evacuation order and to various types of hazards.
- Enforce building codes and provide safe housing to create hazard-resilient infrastructure and prevent the need for some evacuations.

Social Protection Considerations

Gender

- Ensure that national disaster risk reduction and evacuation policies specifically address gendered needs or experiences.
- Include persons of all genders in community preparedness and planning.
- Take measures to prevent gender-based violence, especially in shelters.
- Expand initiatives to provide accessibility and health services for different genders, including services for pregnant women or mothers with young children.
- Ensure access to relief and long-term employment or financial assistance during the relief and response phases for people of all genders.

LGBTIQ+ persons

- Integrate considerations for LGBTIQ+ people into national disaster risk reduction and evacuation policies.
- Include persons of all sexual orientations and gender identities in community preparedness and planning.
- Take measures to prevent gender-based violence and discrimination, especially in shelters and provision of relief.
- Ensure access to relief and long-term employment or financial assistance during the relief and response phases.

Disabled persons

- Include disabled persons during the planning and development of evacuation policies and strategies.
- Increase awareness of the diverse and evolving needs of disabled persons, which will differ according to the type of disability. Collect information on the characteristics of the disabled population to better understand how to meet these needs.
- Ensure that shelters, especially those operated by the government, are accessible for disabled people. This may require specific transportation strategies for ensuring that disabled people can reach the shelters.
- Ensure that health services for both short-term and long-term care is available during and after evacuations.

Older persons

- Ensure that early warning, physical evacuation, assistance, and processes for returning home take into consideration the specific needs of older people, with specific nutritional needs or with disabilities.
- Make provisions to ensure easy access to health services for both short-term and long-term care.
- Older persons often have experience with hazards and disasters; take measures to integrate this knowledge into planning and response as appropriate.

Children and youth

- Ensure that early warning, physical evacuation, assistance, and processes for returning home take into consideration that families may be moving with children and youth.
- Create plans to ensure continuity of educational services, especially if schools are used as shelters.
- Take measures to prevent violence against children during evacuation, especially gender-based violence.
- Provide financial assistance so that children and youth do not have to leave school to work during evacuation and longer-term recovery.

Migrants

- Provide early warning and updates in multiple languages, particularly the languages spoken by prominent migrant groups in each country.
- Make provisions to provide equal access to humanitarian assistance regardless of migration status, including shelter, social services, and relief.
- Collect data disaggregated by country of origin or nationality to better understand key trends, challenges, and needs.
- Coordinate with consulates to provide support to nationals affected by a disaster.

Annex I: Disaggregated Data

Figure 18. Age of respondents

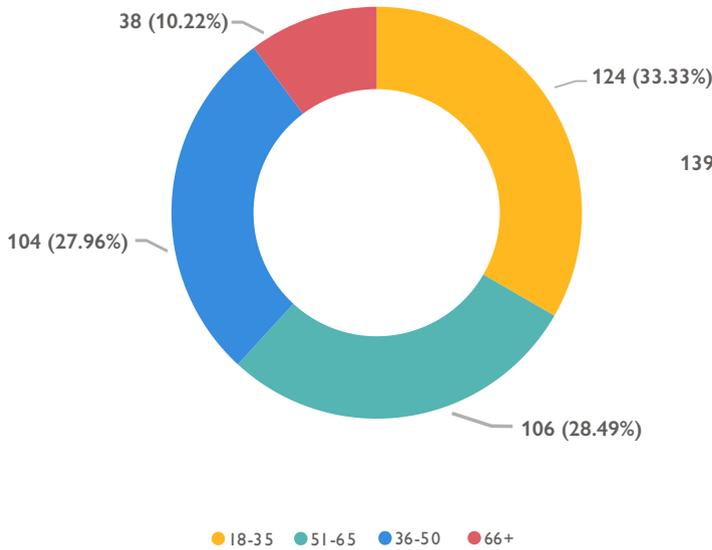


Figure 19. Gender of respondents

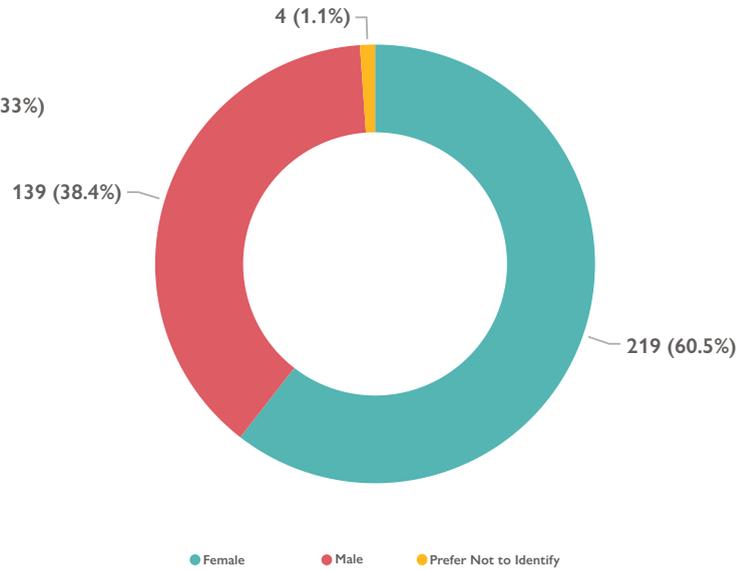


Figure 20. Number of Respondents, by Country of Residence

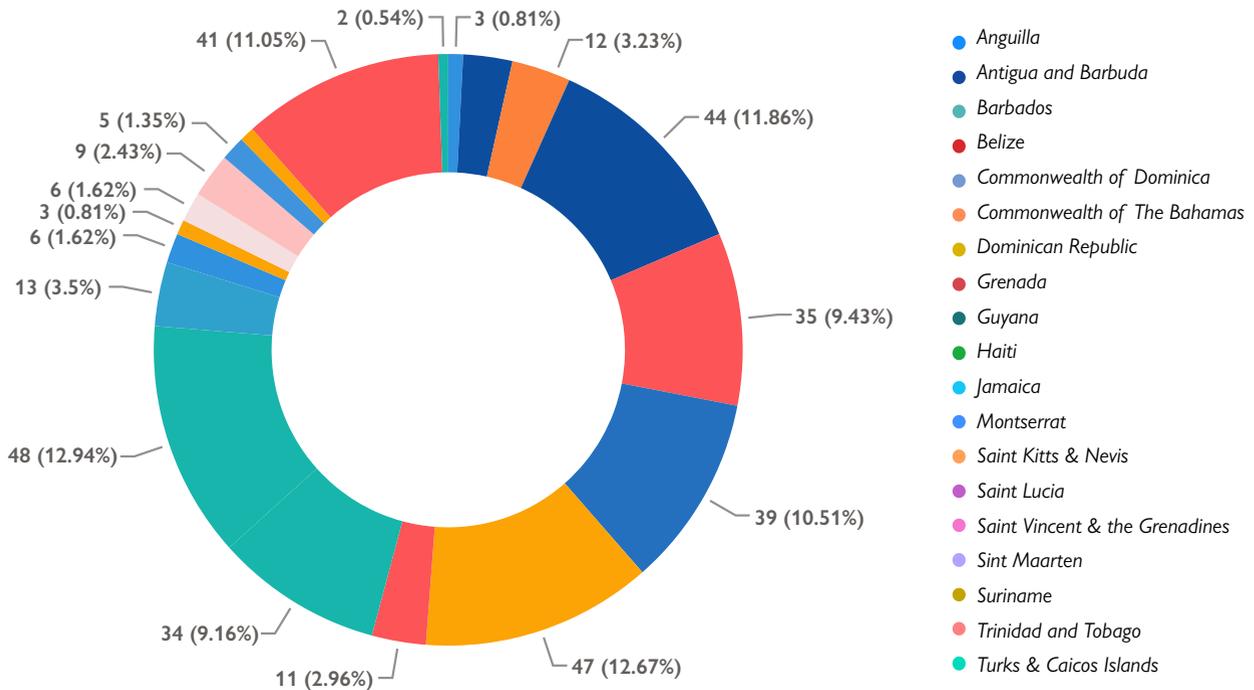


Figure 21. Type of neighborhood where respondents live

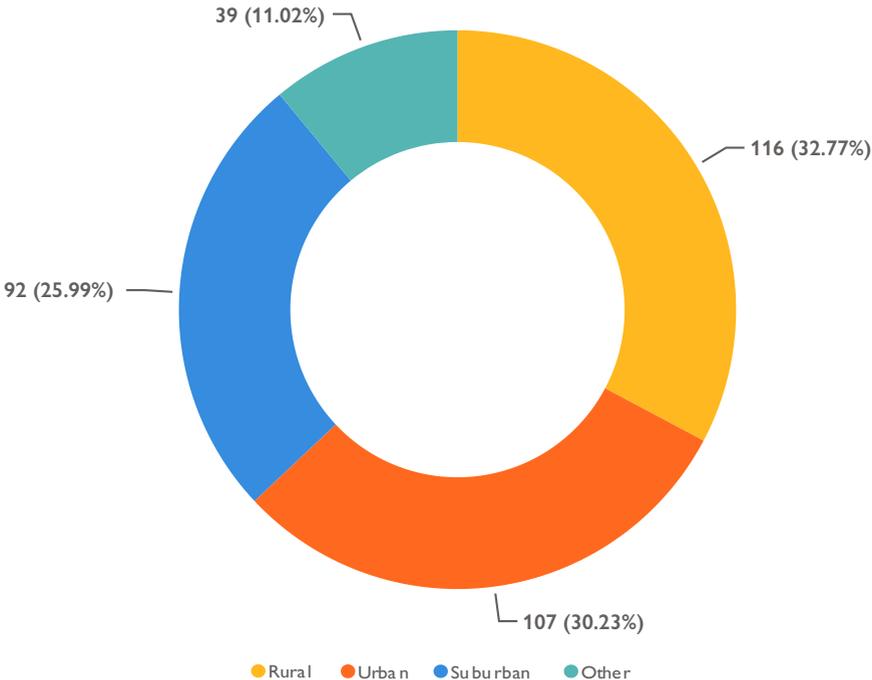


Figure 22. Respondents who identify as LGBTIQ+

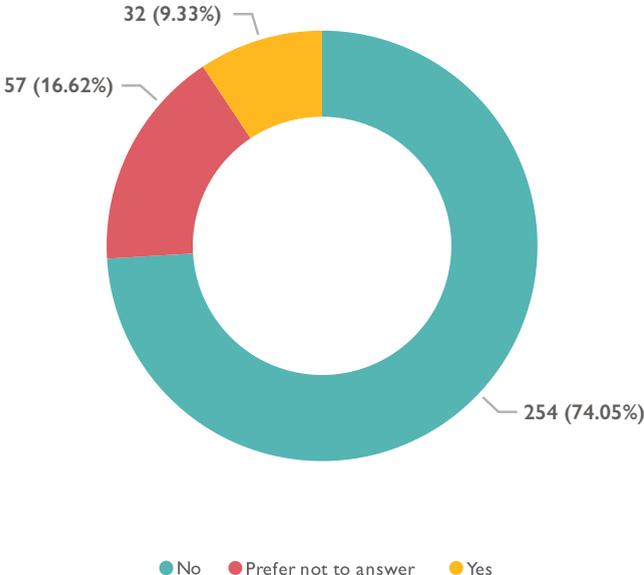


Figure 23. Respondents who identify as disabled

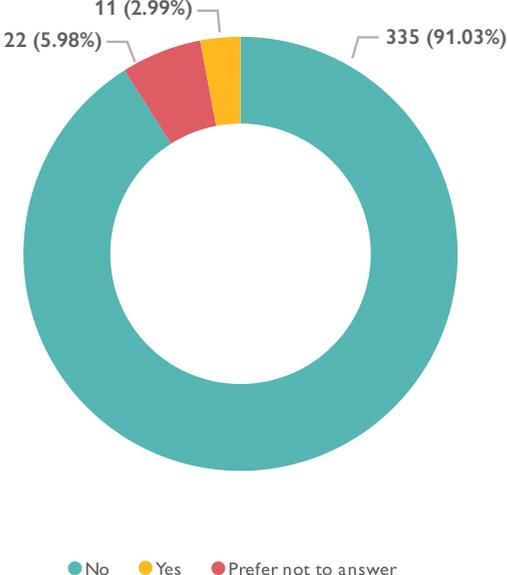


Figure 24. Number of Respondents, by Number of People in the Respondent's Household

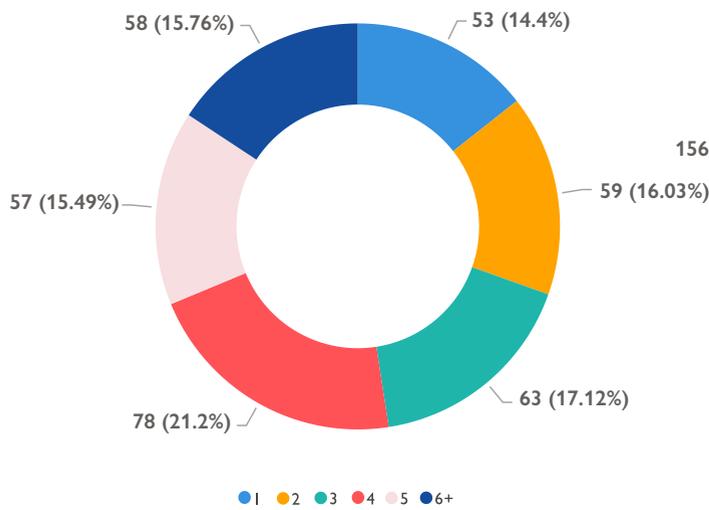


Figure 25. Households with Children Younger than 18

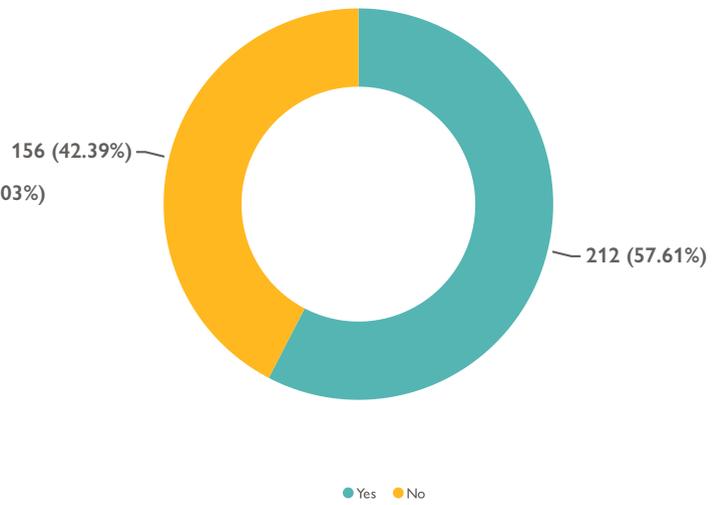


Figure 26. Current Employment Status

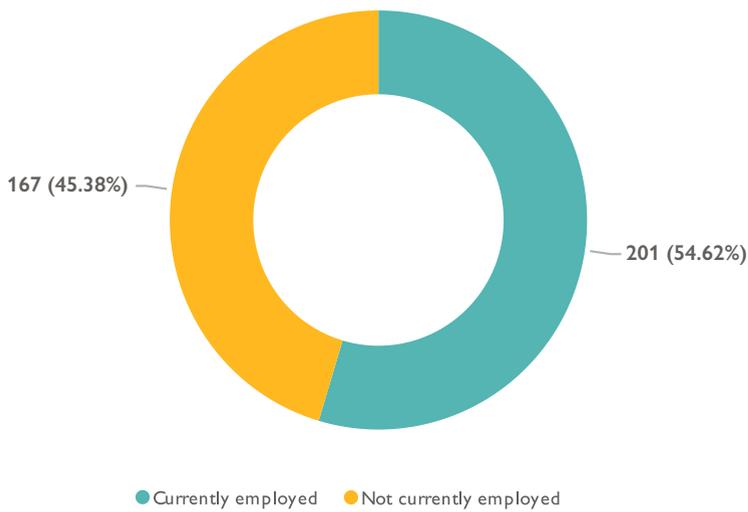
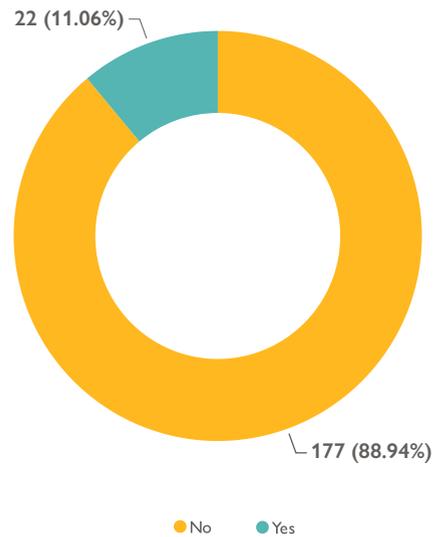


Figure 27. Receive Financial Support from Family or Friends Living Abroad



Annex II: Statistical Analysis

CORRESPONDENCE TESTS: CHI-SQUARED TESTS

The research team used chi-squared tests to test to significance of relationships between the demographics of survey respondents and their experience with disasters, their perception of risk, and their use of different sources of disaster-related information.

	AGE	GENDER	COUNTRY OF RESIDENCE
Having experienced a disaster between 2015 and 2020	Highly significant (p = 3.8e-09)	Highly significant (p = 1.09e-08)	Highly significant (p = 1.626e-14)
Having experienced a drought between 2015 and 2020	Highly significant (p = 2.64e-05)	Highly significant (p = 1.14e-12)	Highly significant (p = 6.744e-11)
Having experienced an earthquake between 2015 and 2020	Highly significant (p = 6.50e-05)	Highly significant (p = 5.957e-10)	Highly significant (p = 5.197e-11)
Having experienced an epidemic/pandemic between 2015 and 2020	Highly significant (p = 2.40e-05)	Highly significant (p = 8.364e-10)	Highly significant (p < 2.2e-16)
Having experienced a drought between 2015 and 2020	Highly significant (p = 0.0001)	Highly significant (p = 4.085e-08)	Highly significant (p = 2.288e-11)
Having experienced a flood between 2015 and 2020	Highly significant (p = 5.95e-05)	Highly significant (p = 3.645e-09)	Highly significant (p = 6.991e-07)
Having experienced a hurricane between 2015 and 2020	Highly significant (p = 0.0002)	Highly significant (p = 8.166e-10)	Highly significant (p = 3.23e-07)
Having experienced a landslide between 2015 and 2020	Highly significant (p = 0.0002)	Highly significant (p = 5.988e-08)	Highly significant (p = 4.28e-11)

TREE

The research team created a tree, using R, to understand how different demographic factors intersect or overlap to understand for which individuals these demographics had a statistically significant relationship with having experienced a disaster between 2015 and 2020.

The tree showed that the following types of individuals had a statistically significant likelihood of having been affected by a disaster:

- Disabled people who are women or preferred not to identify their gender, and did not identify as LGBTQ+;
- Indigenous people who are male or did not provide their gender, and did not identify as LGBTQ+;
- People who are not Indigenous and who are LGBTQ+;
- People who are either younger than 51 or older than 65, male, or preferred not to identify their gender, and not Indigenous;
- People who are Indigenous and LGBTQ+.

The number of individuals who identified themselves as Indigenous was higher than would be expected for the population surveyed. This is an important note in understanding possible errors in the demographic tree.

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