

# Disability Inclusion in Disaster Risk Management–Assessment in the Caribbean Region

*“Nothing About Us Without Us<sup>1</sup>”*



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### *Note on front cover*

1. Principle adopted by the International Disability Alliance 2016. This has become the mantra for disability inclusion and used as the theme for many conferences on disability inclusion, as with the one in Guyana, 2018.

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# Contents

<b>Abbreviations and Acronyms</b>	vi
<b>Acknowledgments</b>	viii
<b>1. Introduction</b>	1
Aim and Scope of the Assessment	2
Audience for this Report	2
Methodology, Research, and Source Materials	2
Structure of the Report	2
<b>2. Climate Change, Hazards, Disasters, and Disability Inclusion in the Caribbean Region</b>	4
Climate Change and Hazards	5
Hazards versus Disasters	5
Disaster Risk Management, Climate Change Adaptation, and Societal Resilience	5
Disability, Hazards, and Disasters	5
Social Inclusion	6
Disability Inclusion	6
<b>3. Persons with Disabilities in the Caribbean Region</b>	8
<i>Recommendation 1</i>	14
<i>Recommendation 2</i>	14
<i>Recommendation 3</i>	14
<i>Recommendation 4</i>	14
<i>Recommendation 5</i>	14
<b>4. Legal and Normative Frameworks and Networks supporting Disability Inclusion in Disaster Risk Management (DRM) and Climate Resilience (CR)</b>	15
4.1 Key international conventions and global frameworks	16
4.2 Key Regional Agreements and Frameworks	17
4.3 Regional platforms, mechanisms and representative bodies with a mandate or some level of responsibility for supporting disability inclusion in DRM and CR	17
4.4 National Disability Policy and Support Networks	19
<i>Recommendation 6</i>	20

4.5 Organizations of Persons with Disabilities and Representative Bodies	21
<i>Recommendation 7</i>	23
4.6 National Government DRM Policy and Frameworks	23
<i>Recommendation 8</i>	27
4.6.1 Changing attitudes and approaches	27
<i>Recommendation 9</i>	28
4.7 National Government Policy and Frameworks Supporting Accessibility for Persons with Disabilities and Linkages to DRM	28
4.7.1 Accessible buildings and public infrastructure	28
<i>Recommendation 10</i>	30
<i>Recommendation 11</i>	30
4.7.2. Accessible Information and Communications Technologies	30
<i>Recommendation 12</i>	35
<i>Recommendation 13</i>	35
<i>Recommendation 14</i>	35
<i>Recommendation 15</i>	35
<i>Recommendation 16</i>	35
<b>5. Conclusion</b>	37
5.1 Main Findings in Summary	38
5.2 Conclusion and Recommendations	39
<b>Appendix A Additional Resources</b>	43
<b>Appendix B Companion Report</b>	45

**List of Figures**

Figure 3-1	Persons with disabilities in Dominica 2001 and 2011	11
Figure 3-2	Disability prevalence by type and degree among Males and Females in Antigua and Barbuda	12
Figure 4-1	National Emergency Management Committee Structure – Guyana	26
Figure 4-2	Percentage of internet users (%), by gender and disability status	33

**List of Tables**

Table 3-1	Rates of functional disability in Males and Females in Grenada, Guyana, Jamaica and Saint Lucia	11
Table 3-2	Disability prevalence among males and females in Antigua and Barbuda, Belize, Grenada, Guyana and Jamaica projected out to 2050	13
Table 4-1.	National commitments to CRPD and OP	16
Table 4-2.	National Disability Legislation Policy Disabilities in the selected	
Table 4-3	National Government Ministries with responsibilities for Disability Inclusion 20	
Table 4-4	Organizations of Persons with Disabilities – contact and outreach	21
Table 4-5	Disaster Management Acts and reference to people with disabilities and Disaster Risk Management Offices (the National Disaster Management infrastructure)	24
Table 4-6	Mobile Phone penetration in Caribbean countries.	31
Table 4-7	Internet and Social Media Penetration in the nine selected CRF-eligible Countries 2020 (including the change from 2019)	32
Table 4-8	Use of the Internet by type of disability for persons aged 5 and over (age standardized percentages) and not including the institutionalised population, in the Caribbean countries with the relevant census data	33
Table 5-1	Recommendations with implementation authorities, linkages, synergies and potential time frames for delivery noted	40
Box 4-1	CREWS Caribbean 2020 workshop – Special session findings	40

# Abbreviations and Acronyms

<b>ABAPD</b>	Antigua and Barbuda Association of Persons with Disabilities
<b>BAPD</b>	Belize Assembly for Persons with Diverse Abilities
<b>ASL</b>	American Sign Language
<b>CAP</b>	Common Alerting Protocol
<b>CARICOM</b>	Caribbean Tourism Partnership Community and Common Market
<b>CCA</b>	Climate Change Adaptation
<b>CCAP</b>	Climate Change Adaptation Policy
<b>CCCCC</b>	Caribbean Community Climate Change Centre
<b>CDB</b>	Caribbean Development Bank
<b>CDC</b>	Civil Defence Commission (Guyana)
<b>CDEMA</b>	Caribbean Disaster Emergency Management Agency
<b>CDM</b>	Comprehensive Disaster Management
<b>CIMH</b>	Caribbean Institute of Meteorology and Hydrology
<b>CMO</b>	Caribbean Meteorological Organisation
<b>CREWS</b>	Climate Risk and Early Warning Systems
<b>CRF</b>	Canada Caribbean Resilience Facility
<b>CRPD</b>	United Nations Convention on the Rights of Persons with Disabilities
<b>CRPD OP</b>	CRPD Optional Protocol
<b>CTU</b>	CTU Caribbean Telecommunications Union
<b>DAPD</b>	Dominica Association for Persons with Disabilities
<b>DoE</b>	Department of Environment (Antigua and Barbuda)
<b>DR</b>	Disaster Resilience
<b>DRM</b>	Disaster Risk Management
<b>DRR</b>	Disaster Risk Reduction
<b>ECLAC</b>	Economic Commission for Latin American and the Caribbean
<b>EM</b>	Emergency Management
<b>EWS</b>	Early Warning System
<b>GFDRR</b>	Global Facility for Disaster Risk Reduction
<b>GNCD</b>	Grenada National Council of the Disabled
<b>GoAB</b>	Government of Antigua and Barbuda
<b>GoB</b>	Government of Belize
<b>GoCD</b>	Government of Dominica
<b>GoG</b>	Government of Grenada
<b>GoGy</b>	Government of Guyana
<b>GoJ</b>	Government of Jamaica
<b>GoS</b>	Government of Suriname
<b>GoSL</b>	Government of Saint Lucia
<b>GoSVG</b>	Government of Saint Vincent and the Grenadines

<b>ICT</b>	Information and Communications Technology
<b>IFRC</b>	International Federation of Red Cross / Red Crescent
<b>ILO</b>	International Labour Organization
<b>ITU</b>	International Telecommunications Union
<b>JCPD</b>	Jamaica Council for People with Disabilities
<b>JSLC</b>	Jamaica Survey of Living Conditions
<b>MHIBEWS</b>	Multi-Hazard Impact- Based Early Warning Systems
<b>NaDMA</b>	National Disaster Management Agency (Grenada)
<b>NCCR</b>	National Coordination Centre for Relief (Suriname)
<b>NCPD</b>	Saint Lucia National Council of and for Persons with Disabilities
<b>NDC</b>	National Disaster Committee (Jamaica)
<b>NDMO</b>	National Disaster Management Organisation (Saint Lucia)
<b>NEC</b>	National Emergency Council (Saint Vincent and the Grenadines)
<b>NEMO</b>	National Emergency Management Organisation (Belize and Saint Lucia)
<b>NEOC</b>	National operations Centre (Guyana)
<b>NEPO</b>	National Emergency Planning Organization (Dominica)
<b>NGO</b>	Nongovernmental Organization
<b>NMHS</b>	National Meteorological and Hydrological Services
<b>NODS</b>	National Office of Disaster Services (Antigua and Barbuda)
<b>NRDS</b>	National Resilience Development Strategy (Dominica)
<b>NSPD</b>	Saint Vincent and the Grenadines National Society of Persons with Disabilities
<b>ODM</b>	Office for Disaster Management (Dominica)
<b>OPDEM</b>	Office of Disaster Preparedness and Emergency Management (Jamaica)
<b>OECS</b>	Organization of East Caribbean States
<b>PAHO</b>	Pan American Health Organization
<b>SDG</b>	Sustainable Development Goals
<b>SOP</b>	Standard Operating/ Operational Procedure
<b>UN</b>	United Nations
<b>UNESCO</b>	United Nations Educational, Scientific and Cultural Organization
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>UNISDR</b>	United Nations Office for Disaster Risk Reduction
<b>WCAG</b>	Web Content Accessibility Guidelines
<b>WG</b>	Washington Group on Disability Statistics
<b>WMO</b>	World Meteorological Organization
<b>WHO</b>	World Health Organization

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This report is the work of Dr. Linda Anderson-Berry. Its companion report by Dr. Yulia Krylova is entitled *Web-Based Information and Communication Technologies (ICT) in Disaster Risk Management: Practices, Policies, and Compliance with International Web Accessibility Standards*. Both reports are based on a desktop review of available literature, official documents, and video-based interviews. This report was prepared under the guidance of Dr. Naraya Carrasco, Suranga Sooriya Kumara Kahanda, and the support of Sara Gey Feria of the World Bank.

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Photo: Ron Bailey

# Introduction

The World Bank and the Global Facility for Disaster Reduction and Recovery (GFDRR), with support from the Canadian government, have established the Canada–Caribbean Resilience Facility (CRF) as a single-donor trust fund aimed at achieving more effective and coordinated gender-informed climate-resilient preparedness, recovery, and public financial management practices in nine targeted CRF-eligible countries.

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*The CRF is supporting, disability inclusive disaster risk management (DRM) as an essential element in building this societal resilience.*

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## Aim and Scope of the Assessment

The primary purpose of this assessment is to understand gaps better in the inclusion of persons with disabilities in national disaster risk management (DRM) and climate resilience (CR) processes and strategies in Antigua and Barbuda, Belize, Dominica, Grenada, Guyana, Jamaica, Saint Lucia, Saint Vincent and the Grenadines, and Suriname.

The report is based on the recognition that collectively people with disabilities are systematically marginalized and excluded from full and equal participation in society and societal processes. Primarily, the reasons are barriers to access that are both structural and nonstructural. These barriers can be removed or mitigated through effective social policy, implementation of existing norms and standards, and public will.

Persons with disabilities make up just one of many groups in society that are systematically marginalized and disadvantaged. Gender, ethnic and religious diversity, poverty, age, homelessness, levels of education and literacy, gender preference and diversity, and geographic isolation are just some of the characteristics that can define social exclusion. These factors contribute to vulnerability and susceptibility to harm in the event of geophysical, weather and climate-related catastrophic events. Disadvantage is multiplied when socially marginalizing characteristics occur in combination. Inclusive DRM that builds societal resilience to major disasters and the impacts of climate change will be best achieved when all marginalizing characteristics are understood and considered at all levels and in all phases of DRM processes.

The assessment will provide recommendations that make preparedness and recovery efforts more disability inclusive. This work will guide the CRF in making decisions toward supporting countries in their efforts to build the necessary capacity for preparedness and response to catastrophic events. The targeted outcomes are twofold: (i) in the planning and preparedness phases when saving lives and minimizing the immediate impacts are priorities and (ii) in the recovery phase to build back better for future resilience.

## Audience for this Report

The audience for this report are the national governments of Antigua and Barbuda, Belize, Dominica, Grenada, Guyana, Jamaica, Saint Lucia, Saint Vincent and the Grenadines, and Suriname; the CRF; and government and nongovernment entities—including the range of organizations representing persons with disabilities—and regional organizations that have an interest or legislated responsibility to support the integration of disability in DRM and CR in these countries.

## Methodology, Research, and Source Materials

The report is based on desktop research and semistructured interviews. Source materials and resources that have been accessed and examined include a broad-sweep literature search; government and other national websites in all nine selected CRF-eligible countries; UN and other international organization websites and official publications; relevant regional organization websites; a range of social media of relevant organizations; national news media; published research papers and grey literature. Semistructured interviews with in-country contacts representing DRM and CR agencies, organizations of persons with disabilities; private business; WMO experts; and, regional and international DRM representatives, have been conducted when possible. The simultaneous occurrence of the research for this report and the regional response to the COVID-19 global pandemic, together with the hurricane season preparation and response, has limited the number of interviews with many key informants across the DRM and disability sectors.

## Structure of the Report

This report explores the status of disability inclusion in emergency management, DRM and CR in the nine CRF eligible countries. It focuses on understanding the underlying societal contexts and identifying gaps in societal infrastructure that ultimately create barriers to the inclusion of persons with disabilities in DRM and CR activities.

- **Section 1** introduces the objective of the desktop review, details the methodology and scope of the work, and identifies the audience.
- **Section 2** considers the relationships between climate change, hazards, disasters, and social and disability inclusion in the Caribbean region.
- **Section 3** presents and discusses the demographics of people living with a range of disabilities in the nine CRF-eligible countries and identifies trends.
- **Section 4** considers the legal and normative frameworks with relevance to DRM, CR, and supporting the inclusion of people with disabilities. It includes key international conventions, regional agreements and regional organizations that have a resilience agenda and national disability legislation. The role of national organizations of persons with disabilities is considered. National DRM policy and guidance for operational DRM practice and service delivery related to persons with disabilities is explained. The section discusses national policy directed at removing barriers to access to infrastructure

and communications and supports disability inclusion in preparation for response to and recovery from hazard impacts. This section introduces a discussion of changing attitudes and approaches toward persons with disabilities.

- **Section 5** provides a summary of the main findings and concluding remarks.

The report presents sixteen recommendations targeted at addressing the identified gaps in existing disability and DRM policy and practice. A suggested timeline for the delivery of these recommendations follows the Conclusion.

Appended is a separate but related report entitled *Web-Based Information and Communication Technologies (ICT) in Disaster Risk Management: Practices, Policies, and Compliance with International Web Accessibility Standards* prepared by Dr. Yulia Krylova (Appendix B). It provides a deeper analysis and discussion of accessibility of web-based communications.



Photo: Jacek\_Sopotnicki

# Climate Change, Hazards, Disasters, and Disability Inclusion in the Caribbean Region

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*Disability is not simply a physical, sensory, or intellectual impairment. It also results from the interaction between people with impairments and barriers to access.*

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## Climate Change and Hazards

Climate change is a compelling reality. Societies worldwide need to understand and respond to the impacts of changing patterns of weather and climate-related hazards. The impacts of climate change in the Caribbean region are likely to include more hurricanes of greater intensity over longer hurricane seasons,<sup>1</sup> hotter and more frequent heat waves, an increase in storms that bring flooding rains, longer periods of drought, a rise in sea level, and accelerated coastal erosion.<sup>2</sup> The region is also susceptible to earthquake, volcanic activity, tsunami, and a range of pestilence and health emergencies, including global pandemics.

## Hazards versus Disasters

All countries experience natural hazards. However, disasters are a social construct. Whether natural hazards become disasters depend very much on the exposure and vulnerability of the people and the things they value that are in harm's way, and how they are impacted. How governments and national populations throughout the Caribbean region are able to plan and prepare for, and then respond to and recover from these weather and climate-related, geophysical and other hazardous events will determine the degree to which they become disasters.

## Disaster Risk Management, Climate Change Adaptation, and Societal Resilience

Disaster risk management (DRM) and climate change adaptation (CCA) strategies that build future societal resilience are intrinsically linked. Mitigating and reducing disaster risk, and minimizing loss is largely dependent on communities-at-risk of hazard impacts having effective early warning systems in place, and being well prepared to resist, respond, and recover. In vulnerable unprepared communities with low levels of individual and community resilience and where hazard risks are not well understood, and are poorly mitigated, many hazard events will become catastrophic disasters that severely impact national economies and the lives and livelihoods of people. This will lead to increasing levels of human loss and suffering

that are experienced unequally across the impacted populations. Marginalized and disadvantaged groups, such as persons with disabilities, women, girls, ethnic and racial minorities, indigenous peoples, the poor, and the homeless are disproportionately affected by shocks. Empowering citizens and communities, particularly those most excluded, and supporting community participation can result in improved resilience to disasters, better development outcomes, and more sustainable solutions.<sup>3</sup>

## Disability, Hazards, and Disasters

Persons with disabilities are part of every society and are considered to be among the most vulnerable and disadvantaged. They are not a homogenous group. Disability has often been poorly defined and not well captured in public policy. Some definitions have been considered in the context of health, based on cause, and will include those afflictions present at birth and may or may not account for those acquired through injury or aging. Others have focused on function and will always include physical limitations and usually include intellectual limitations. However, mental and psychological afflictions have rarely been well captured.<sup>4</sup> Such lack of clarity has made understanding, measuring, and monitoring the demographics and dynamics of disability difficult and implicates the development and delivery of DRM and other social policy supporting people with disabilities.

The United Nations Convention on the Rights of Persons with Disabilities (CRPD)<sup>5</sup> that came into force in 2008, framed disability as “those who have long-term physical, mental, intellectual or sensory impairments, which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others”. It emphasises that disability is not simply a physical, sensory, or intellectual impairment. Rather, it also results from the interaction between people with impairments and barriers to access.

Clear and overwhelming evidence shows the impacts of catastrophic events on persons with disabilities are more severe<sup>6</sup> and that the resilience capacity for this population is lower.<sup>7</sup> This is exacerbated when disruptions to their ecosystems are established in a way that undermines or limits the physical, social, economic, and environmental

networks and support systems they rely on. The lack of accessible and disability-inclusive features affects how persons with disabilities prepare, receive, and respond to warnings and information, shelter safely or evacuate, and ultimately recover. This is often compounded by the inextricable link between disability and poverty;<sup>8</sup> <sup>9</sup> “disability is a risk factor for poverty, and poverty is a risk factor for disability”.<sup>10</sup> This intersectionality of poverty and disability, among other sources of marginalization, plays a significant role in increasing vulnerability and compromising a person’s ability to make choices and take enabled actions in their own best interests and build disaster resilience.<sup>11</sup> Typically, persons with physical impairments are disproportionately represented in deaths and injuries following major disasters—being two to four times more likely to suffer.<sup>12</sup> When psychological disability is included, this rate is estimated to double.<sup>13</sup> In addition, discrimination is common on the basis of disability when resources are scarce following a major disaster.

## Social Inclusion

Societies include peoples with a wide range of personal attributes and characteristics. Age, gender, disability, race, ethnicity and belief systems are just a few. A society is considered to be socially inclusive when all its members have equal access to opportunities to participate, to the best of their ability and within the constraints of not causing harm to others, in every aspect of life and all societal processes. This includes contributing to the governing structures, justice and freedom from discrimination, accessing an education and gainful employment, celebrating and practicing their chosen religions and importantly—for the context of this report—contributing to their own safety in the face of hazards and danger.

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***Social inclusion is the process of improving the terms on which individuals and groups take part in society—improving the ability, opportunity, and dignity of those disadvantaged on the basis of their identity.<sup>14</sup>***

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Many countries, including all of those across the Caribbean region, are committed to the principles of social inclusion that support the enabling of all individuals to be able to “secure a job; access services; connect with family, friends, work, personal interests and local community; deal with personal crisis; and have their voices heard”.<sup>15</sup> All are developing and implementing supportive policy frameworks. However, the prevailing reality is that no Caribbean society is inclusive, and that in the face of disaster, people with disabilities and other marginalized communities are disproportionately affected.

## Disability Inclusion

Disability inclusion, as an element of social inclusion strengthens a whole society. The inclusion of persons with disabilities as full and active participants in society is centered around opportunity and choice. It is based on the availability and accessibility of supportive societal networks, systems, and infrastructure that enable them—as individuals and as groups of individuals with similar abilities and limitations—to have their capacities and strengths recognized and built on so that they are in the best possible position to take actions in their own best interests. Ample evidence points out that empowering persons with disabilities and other disadvantaged and vulnerable groups can lead to stronger climate actions and more resilient societies.<sup>16, 17</sup> Mitigation actions and adaptation efforts that include people living with a range of disabilities in their design and implementation are likely to have broad societal benefits.<sup>18</sup>

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***The inclusion of persons with disabilities in society is centered around opportunity and choice. It will be based on the availability and accessibility of supportive societal networks, systems, and infrastructure to enable full and active participation. In the context of DRR and CR, a particular focus is on accessible infrastructure and communications.***

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Disability inclusion that guarantees the rights, dignity, and safety of persons with disabilities is the central pillar of the CRPD and a core principle of the 2030 Agenda for Sustainable Development and the 2015 Paris Agreement. In the World Bank, disability inclusion has gained traction with the Environmental and Social Framework (ESF), the Disability Inclusion and Accountability Framework and the World Bank Group Commitments on Disability-Inclusive Development (2018) noting particularly Commitment 5: “People with Disabilities in Humanitarian Contexts – Our projects financing public facilities in post-disaster reconstruction efforts will be disability inclusive by 2020.”<sup>19</sup> The Sendai Framework for Disaster Risk Reduction 2015–2030 calls for the empowerment of persons with disabilities along with factoring gender-sensitive approaches across all stages of DRM activities. It also encourages community engagement and citizen participation throughout the DRM cycle.

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Photo: Florian Kopp

# Persons with Disabilities in the Caribbean Region





The World Health Organization (WHO) estimates that approximately 15 percent of the world’s population lives with some form of disability.<sup>1</sup> The World Bank estimates that three percent of those with disabilities experience severe difficulties.<sup>2</sup> Disability increases in both prevalence and intensity with age, and with a worldwide ageing population, the number of people living with disabilities will increase over the coming decades.

In the Caribbean context approximately 1.3 million people live with some form of disability with nearly 250,000 being significantly functionally limited. By extrapolation, it can therefore be assumed that, in the nine selected CRF-eligible countries included in this report, close to a million people are living with a disability with about 200,000 of these being severely limited in some way. Officially reported prevalence of people with disabilities as a proportion of the national population varies widely across the Caribbean region and ranges from 2.5 to 7.3 percent and averaging 3.5 percent overall. This variation may be explained by differences in how disability is defined, understood, documented, and measured across the region and how the data are collected and recorded for official purposes. People may also be hesitant in reporting disability, particularly in rural areas. Prevalence rates are consistently reported as being moderately higher among females.<sup>3</sup>

Measuring, monitoring, and explaining both the prevalent status and the dynamics of the demographics of disability within a society are essential for the development and delivery of national disability inclusion policy and practice and for addressing social inequalities in support of building societal resilience. Throughout the Caribbean region, precise and existing disability demographic data at the national level—which are usefully disaggregated by age, gender, ethnicity, geographic location, and economic circumstance—are frequently not easily accessible or available at all. This is a problem for social planning across all levels of society.

Disability data, at a national level, are collected through the decennial National Census of Population and Housing. This provides detail and information at the total population level that is broad-brush and generalized. While data can be disaggregated and analyzed according to a range of

characteristics if they are reported in sets of categories and cross-tabulated, such data lack fine detail. Each census gives a snapshot in time, and over successive censuses demographic patterns and trends can be identified. Census disability data are useful for understanding the population dynamics of persons with disabilities. This can support DRM in developing national policies and strategies, agencies responsible for developing early warning systems, and those developing medium- to long-term strategic initiatives to build resilience to weather and climate, geophysical and other hazards.

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***The lack of quality disaggregated disability data presents a major constraint in planning for disability-inclusive disaster response and recovery, and for medium- to longer-term planning for community resilience.***

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The nine selected CRF-eligible countries conducted their national census during the period 2001–2002 and subsequently in 2010–2012. These countries are well advanced in the process of planning their next censuses. However, these efforts have been interrupted because of impacts of COVID-19. Until 2001, questions relating to disability were infrequently and inconsistently included. Disability demographics were sometimes contained in education and employment data and at other times in health data with a focus on cause of disability.

The Washington Group on Disability Statistics (WG)<sup>4</sup> was established in 2001 to address a recognized need for internationally agreed common definitions, concepts, standards, and methodologies for the collection of high quality disability data. Such robust data would identify and measure functional impairment and would support the collection of consistent and nationally and internationally comparable disability data. The Washington Group developed the “Short Set of Questions” (WGSS) comprising six questions recommended for national population and housing censuses that focused on identifying functional difficulties in seeing, hearing, walking, or climbing steps, remembering or concentrating, self-care, and communicating in one’s normal language. Measurement is based on the degree of difficulty in

performing the functions.<sup>5</sup> An extended question set based on functioning was also developed for national surveys. The Washington Group in partnership with the World Bank have made online training in the WGSS available in the region through a series of presentations and webinars.<sup>6</sup> These standards have been adopted by all CRF-eligible countries considered in this report and are being applied in a somewhat consistent way in national surveys and in the last two national censuses.

Since 2001, these CRF-eligible countries have defined and included categories in various ways. Dominica has used categories based on sight, hearing, speech, mobility, body movements, gripping, learning and behavioural. Respondents were also given a response option of ‘other’ although there was no guidance on the questionnaire as to what this might include<sup>1</sup>. Saint Lucia does not appear to have included communication ability; and Saint Vincent and the Grenadines has added slowness at learning or understanding, and included climbing stairs in walking ability. Belize has included learning and behavioral disorders as separate categories. These differences are a significant divergence from the WGSS and may detract from the uniformity of the methodology and impact the comparability of data. Nevertheless, categories are similar and some comparison—both in-country and interregionally—over time should be broadly possible. The caveat being that this is very much dependent on how the populations understand the questions and their willingness to respond.

Concerns around stigma and prejudice may discourage some from responding at all, and a level of confusion over how to actually answer the questions will influence individual responses. The degree of difficulty—the metric for the level of disability—is generally categorized as: no difficulty; some difficulty; lots of difficulty; and, cannot do it at all. For some respondents, the boundaries of these categories will be blurred while others may over- or underestimate their abilities particularly in a progressive condition such as visual impairment that increases with age. Confusion over how to record an individual who

<sup>1</sup> In both the 2001 and 2011 censuses significant numbers responded to this option. It is possible that mental and psychological impairments and conditions such as autism have been included as ‘other’ also where multiple disabilities are experienced in a single individual.

presents with more than one affliction will sometimes mean the person is recorded several times or that only one disabling characteristic is accounted for—either of these will skew the results. Intellectual, mental, and psychological disabilities are very poorly described or accounted for and this is a significant omission as numbers are known to be relatively high and increasing.<sup>7</sup> Understanding how to respond to the questions is directly related to how they are framed and presented to respondents. It is essential that all CRF-eligible countries ensure data collection agencies personnel be trained in WGSS philosophy and methodologies.

The most commonly reported types of disability and sensory impairments are in mobility—particularly difficulty in walking, and vision. Where disaggregated data are available, clear trends point toward prevalence and degree of difficulty increasing with age. With the exception of gender, results of any analysis and cross-referencing of data with other societal characteristics are not usually available in published national population profiles.

Table 3-1 depicts rates of functional disability with prevalence expressed as a ratio per thousand in the total population in Grenada, Guyana, Jamaica and Saint Lucia. The table was constructed from official census reports. Prevalence is higher in females across virtually all categories. Grenada has reported a much higher rate than Guyana, Jamaica and Saint Lucia. This will most likely be a function of how the numbers have been reported rather than a real difference in prevalence. This is because the actual numbers or proportion of people with disabilities across all functional disability categories is likely to be consistent in the CRF-eligible countries. Any significant divergence is probably owing to the way the data are collected and how people respond to the questionnaire or how the data is reported than a real difference in the populations. It highlights the difficulties interpreting and comparing disability demographic data with inconsistent methodologies in both collection and reporting of data.

In all selected CRF-eligible countries, disability is significant and increasing in total numbers. As populations age, the proportion of persons with disabilities in the populations is also increasing. Visual impairment and difficulty with physical mobility have the greatest prevalence; numbers

**Table 3-1. Rates of functional disability in males and females in Grenada, Guyana, Jamaica and Saint Lucia.**

Functional disability Prevalence per 1000 population	Grenada (107,796)		Guyana (752,029)		Jamaica (2,825,932)		Saint Lucia (11,195)	
	Male	Female	Male	Female	Male	Female	Male	Female
Seeing	65	113	10	13	11	17	11	15
Hearing	18	28	4	4	4	5	4	4
Walking	41	73	10	10	10	14	14	20
Remembering or concentrating	23	42	5	5	5	6	4	4
Self-care	13	18	No data available	No data available	6	7	8	9
Upper body	15	23	5	5	9	13	5	6
Communication	11	19	4	3	5	4	6	5

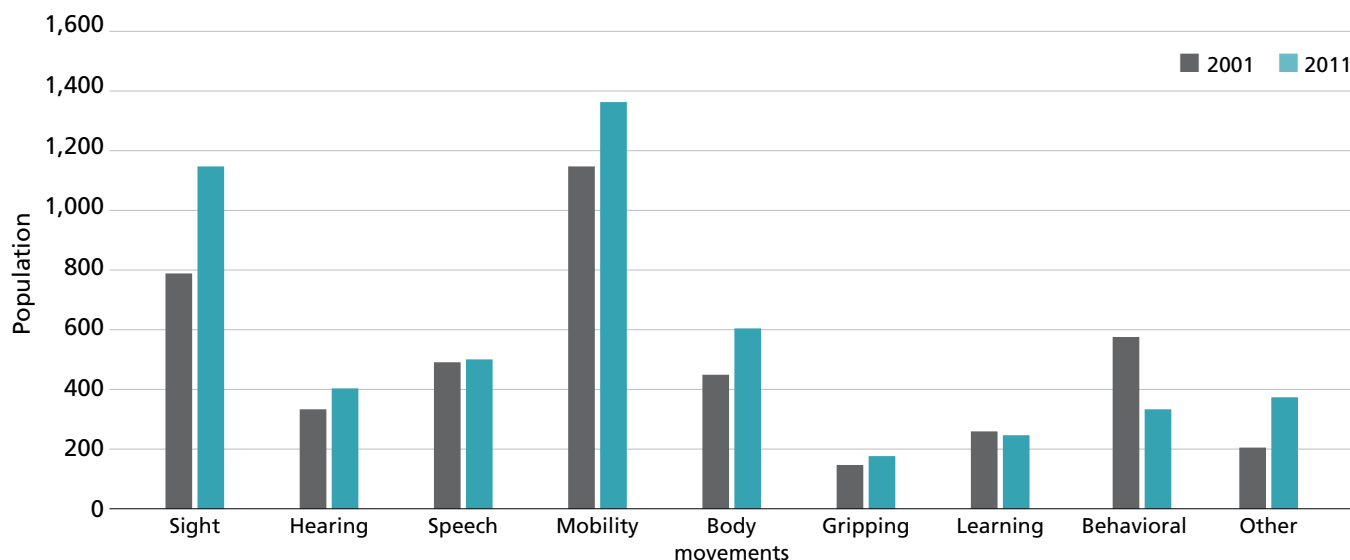
Source: Compiled from official most recent (2010–2011) census reports of Grenada, Guyana, Jamaica and Saint Lucia. The current total population at the time of the census is noted in brackets.

are higher among females, particularly in the older-age categories. Disability most often coincides with other marginalizing characteristics. Mental and associated disabilities are poorly accounted for.

Figure 3-1. indicates the population of persons with disabilities, by type of disability in Dominica. It shows that physical mobility and visual impairments have the greatest prevalence and that these are increasing at a relatively greater rate than other disabilities. This trend is consistent across the Caribbean region.

Disability related to mental, intellectual and psychological factors is poorly acknowledged and is likely to be underreported in all nine countries. Relevant demographic data presumably exists in other official and nonofficial data bases related to administration and service provision, health studies, and research projects, to name a few. However, these are not readily available in accessible and interoperable databases and have not been sourced and analysed for this report. Based on WHO estimates of a likely prevalence as high as one-in-five suffering a “mental, intellectual or psychological disorder that may

**Figure 3-1. Persons with disabilities in Dominica 2001 and 2011.**



Source: Government of Dominica official 2011 census report.

or may not be disabling throughout their life-time”<sup>7</sup> the numbers are likely to be significant.

Disability prevalence is consistently reported to be higher among females across virtually all type, degree-of-difficulty and age categories. There are a few exceptions. Prevalence among males is marginally higher than in females in speech-related disabilities in Dominica. In Antigua and Barbuda, males below age 35 years with disabilities appear to very slightly outnumber females. Prevalence and degree of impairment across all disabilities increases with age and females number more than males in the older age brackets. Disability most often coincides with other marginalizing characteristics.

Figure 3-2 depicts the number of males and females by type of disability and severity of the disability in Antigua and Barbuda. The figure shows that the two main disabilities in the country are walking and seeing. A total of 348 men and 607 women indicated in the 2011 census that they experienced difficulties to walk or they could not walk at all. Three hundred men and 510 women were visually disabled. In the case of walking, this accounts for 1.15 percent of the total population, in the case of seeing it was 0.98 percent.

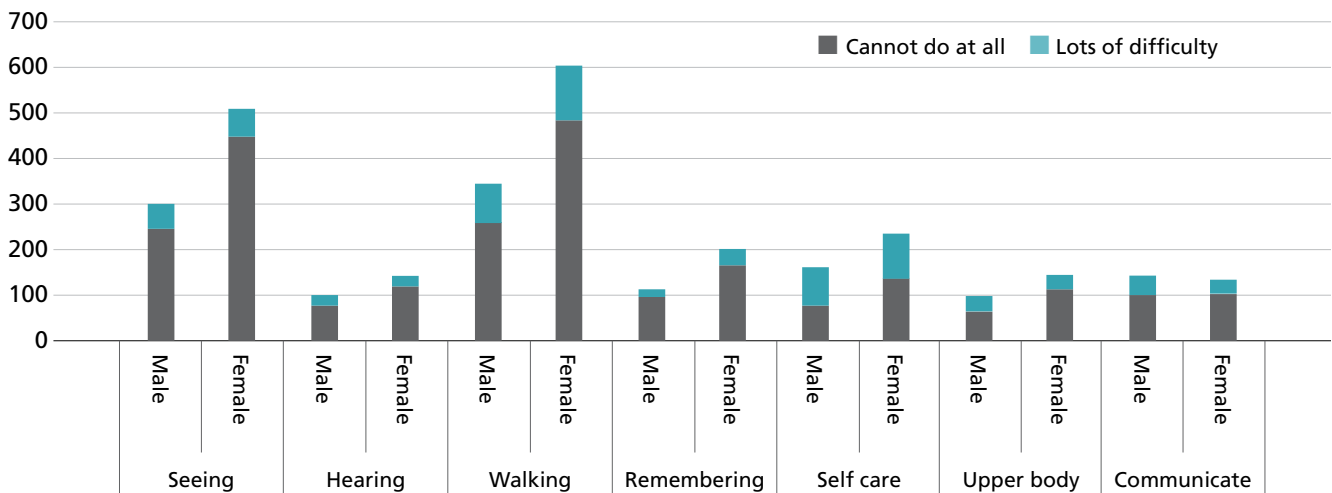
Persons with disabilities are not a homogenous group. Abilities, capacities, and limitations vary widely, and

census data alone do not capture this. More specific and targeted disaggregated disability data are required to enhance the basic data set and enable the finer scale analysis that will be useful for DRM planning, particularly at the local and community levels. DRM planners and policy makers are well aware that the level of information relating to persons with disabilities available to them lacks the level of detail necessary for disability-inclusive sectoral and community level planning—particularly operational planning—and frequently note the lack of adequate and suitable disaggregated data available for analysis. Unfortunately, detail of the precise categories and scale of data that would enable the development of the fit-for-purpose datasets, considered to be essential to these DRM planning needs, are rarely articulated.

***DRM planners and policy makers require robust quality disaggregated data. However, they rarely articulate their precise data needs.***

Over the next few decades, the Caribbean region will see an increase in the ageing population and therefore an increase in the proportion of the population living with disabilities. It is estimated that the 60 plus years-old cohort in the population will double over the next two

**Figure 3-2. Disability prevalence by type and degree among males and females in Antigua and Barbuda.**



Source: Government of Antigua and Barbuda official 2011 census report.

decades. Along with the worsening of physical, sensory, and mental conditions that lead to disability, will be an associated increase in chronic illness and disease, which can also be linked with the onset of disability.<sup>8</sup>

Table 3-2 provides a brief analysis of population trends in Antigua and Barbuda, Belize, Grenada, Guyana and

Jamaica that indicates that over the coming decades population growth rates will slow to the point where in some countries total population numbers will begin to decline between 2040 and 2050. This is due to decreasing fertility rates and increasing outward migration. At the same time populations are ageing and prevalence of disability will increase.

**Table 3-2. Disability prevalence among males and females in Antigua and Barbuda, Belize, Grenada, Guyana and Jamaica projected out to 2050.**

		Estimated 2020	Projected 2030	Projected 2050
<b>Antigua and Barbuda</b>	Total population	98,000	105,000	110,800
	Persons aged over 60 (% of population)	12.8	19.7	24.9
	Prevalence of disability by sex: Male Persons with disabilities (% of the population)	2.3	2.8	3.3
	Prevalence of disability by sex: Female persons with disabilities (% of the population)	3.2	4.2	5.1
<b>Belize</b>	Total population	400,000	467 600	571 000
	Persons aged over 60 (% of population)	6.6	8.9	14.7
	Prevalence of disability by sex: Male Persons with disabilities (% of the population)	3.0	3.3	4.1
	Prevalence of disability by sex: Female persons with disabilities (% of the population)	3.3	3.9	5.4
<b>Grenada</b>	Total population	112,500	115,700	115,000
	Persons aged over 60 (% of population)	11.3	14.3	25.1
	Prevalence of disability by sex: Male Persons with disabilities (% of the population)	2.9	3.4	4.8
	Prevalence of disability by sex: Female persons with disabilities (% of the population)	4.5	5.3	7.5
<b>Guyana</b>	Total population	788,000	822,000	824,000
	Persons aged over 60 (% of population)	10.5	14.9	13.8
	Prevalence of disability by sex: Male Persons with disabilities (% of the population)	3.2	3.6	3.9
	Prevalence of disability by sex: Female persons with disabilities (% of the population)	3.5	3.9	4.1
<b>Jamaica</b>	Total population	2,913,160	2,932,629	2,703,591
	Persons aged over 60 (% of population)	14.4	18.7	28.0
	Prevalence of disability by sex: Male Persons with disabilities (% of the population)	3.0	3.5	4.5
	Prevalence of disability by sex: Female persons with disabilities (% of the population)	4.0	4.8	6.5

Source: Economic Commission for Latin America and the Caribbean (ECLAC) on the basis of National population and housing census and United Nations, Department of Economic and Social Affairs, Population Division (2015) World Population Prospects: The 2015 Revision.a

Note: a. <https://www.cepal.org/en/publications/5059-disability-caribbean-study-four-countries-socio-demographic-analysis-disabled>

Throughout the COVID-19 response, all the CRF-eligible countries have supported the vulnerable and disadvantaged within their populations. To deliver this support response, agencies needed quick access to disability data that indicated type and extent of disability, geographic location, and social circumstance at all levels of social aggregation, right down to the individual household, together with detailed information on support systems already in place. The fact that very little of this information was centrally available or easily accessible in any of the nine CRF-eligible countries underscores the strong and urgent need for each country to develop and maintain a national disabilities database and produce a

#### Recommendation 1

**National DRM agencies should determine and document their precise disability-related information needs. This will enable the design of a schedule of fit-for-purpose databases for integrating disability inclusion in DRM activities.**

#### Recommendation 2

**Develop an inventory of national repositories of data related to disability inclusion that includes categories that identify content detail, metadata, ownership, accessibility and management standards.**

#### Recommendation 3

**National governments support the collection of prioritized disability demographic data to complement existing datasets.**

national register of persons with disabilities. All the selected CRF-eligible countries are working toward developing a national registry of persons with disabilities and are at various stages of agreeing the purpose, parameters, and management of collected data. Throughout the research for this report, it became apparent that whereas clear gaps exist in the types of disability data that are collected and are available, much has been collected across multiple agencies in support of a breadth of projects, national strategies, and initiatives. A range of methodologies have been applied to gathering and managing these data and therefore databases, that are potentially useful for DRM, are generally not interoperable or widely accessible.

#### Recommendation 4

**Development of data-sharing agreements among national institutions based on existing national and international data management standards for accessing and sharing data in support of disability inclusion in prevention, preparedness, response, and recovery activities and building climate resilience across the region.**

#### Recommendation 5

**All agencies with a responsibility for the collection and management of national data sets ensure that relevant personnel be trained in WGSS philosophy and methodologies.**

*Notes:*

1. <https://www.who.int/teams/noncommunicable-diseases/disability-and-rehabilitation/world-report-on-disability>
2. <https://www.who.int/teams/noncommunicable-diseases/sensory-functions-disability-and-rehabilitation/world-report-on-disability>
3. <https://www.cepal.org/en/publications/5059-disability-caribbean-study-four-countries-socio-demographic-analysis-disabled>
4. <https://www.washingtongroup-disability.com/question-sets/wg-short-set-on-functioning-wg-ss/>
5. <https://www.washingtongroup-disability.com/about/about-the-wg/>
6. <https://www.washingtongroup-disability.com/resources/online-trainings-and-webinars/>
7. <https://www.who.int/news-room/fact-sheets/detail/mental-disorders>
8. <https://www.cepal.org/en/publications/5059-disability-caribbean-study-four-countries-socio-demographic-analysis-disabled>



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# Legal and Normative Frameworks and Networks supporting Disability Inclusion in DRM and CR

# 4

## 4.1 Key international conventions and global frameworks

The rights of persons with disabilities to dignity, liberty, security of person on an equal basis with others, and to be free from torture and cruel, inhuman or degrading treatment or punishment, have long been enshrined in a range of general and specialized international treaties, conventions, and agreements.

The most recent and binding of these, with relevance to disaster risk management and climate resilience, are: *The UN Convention on the Rights of Persons with Disabilities (CRPD) and the Optional Protocol*, in which Article 11 states that “States Parties shall take, in accordance with their obligations under international law, including international humanitarian law and international human rights law, all necessary measures to ensure the protection and safety of persons with disabilities in situations of risk, including situations of armed conflict, humanitarian emergencies and the occurrence of natural disasters.” Article 28 focuses on “adequate standard of living and social protection”, which would provide some support to those at risk of the impact of climate change,<sup>1</sup> and the Optional Protocol that contains a provision to monitor and enforce the CRPD commitments.

*The Sendai Framework for DRR 2015–2030*<sup>2</sup> recognizes persons with disabilities and their representatives as essential stakeholders in disaster risk reduction (DRR) and acknowledges the importance of disability inclusive disaster preparedness, response and recovery, and the availability of accessible technology and communications.

*The 2030 Agenda for Sustainable Development*<sup>3</sup> and *the Sustainable Development Goals (SDGs) of 2015*<sup>4</sup> pledge to ensure “no one will be left behind” and to “endeavour to reach the furthest behind first”, which is the most vulnerable and disadvantaged.<sup>5</sup> Disability is mentioned throughout the text describing the SDGs, and direct links are made to DRR and climate change adaptation (CCA) in several of the goals and commitments. *The Paris Agreement (2015)* builds on the United Nations Framework Convention for Climate Change (UNFCCC) and acknowledges that all countries, in their efforts to mitigate the risks of climate change, should respect their obligations on human rights, including “the rights of indigenous peoples, local communities, migrants, children, persons with disabilities and people in vulnerable situations ... .”<sup>6</sup>

In addition to setting a standard based on agreement around human rights and societal values, these instruments also contain processes for reporting progress against key performance indicators. As UN member nations, all nine selected CRF-eligible countries have ratified *The Sendai Framework for DRR 2015–2030*; *The 2030 Agenda for Sustainable Development and the Sustainable Development Goals (2015)*; *The Paris Agreement* and the CRPD—although not all have ratified the CRPD Optional Protocol (table 4-1) In doing so, their governments have committed to establishing national processes and developing national policy to deliver on their key goals and commitments and support disability inclusion across the whole of society.

**Table 4-1. National commitments to CRPD and OP.**

	Convention on the Rights of Persons with Disabilities	Optional Protocol
<b>Antigua and Barbuda</b>	Signed March 2007 / Ratified January 2016	Signed 2007 – not ratified
<b>Belize</b>	Signed May 2011 / Ratified June 2011	Not signed
<b>Dominica</b>	Signed March 2007 / Ratified October 2012	Accession October 2012
<b>Grenada</b>	Signed July 2010 / Ratified August 2014	Not signed
<b>Guyana</b>	Signed April 2007 / Ratified September 2014	Not signed
<b>Jamaica*</b>	Signed March 2007 / Ratified March 2007	Signed March 2007 – not ratified
<b>Saint Lucia</b>	Signed September 2011 / Ratified June 2020	June 2020 accession
<b>Saint Vincent and the Grenadines</b>	Accession October 2010	October 2010 Accession
<b>Suriname</b>	Signed March 2007 / Ratified March 2017	<b>Not signed</b>

Note: \*Jamaica was the first country in the world to sign the CRPD.



In support of these binding agreements the UN has established the 2019 Disability Inclusion Strategy (UNDIS)<sup>7</sup> that provides an accountability framework that enables the UN system to support the implementation of the CRPD and other international human rights instruments, as well as the achievement of the Sustainable Development Goals, the Agenda for Humanity and the Sendai Framework for Disaster Risk Reduction. Additionally, a number of UN agencies and NGOs have developed standards and guidelines and toolkits on disability inclusion that have relevance in the DRM and CR context.

## 4.2 Key Regional Agreements and Frameworks

Commitments that promote the rights and dignity of persons with disabilities and support their inclusion and participation in society generally and DRM specifically are reflected in several significant Caribbean regional agreements. All nine selected CRF-eligible countries are party to the Inter-American Convention on the Elimination of All Forms of Discrimination against Persons with Disabilities – 1999 (IACPD).<sup>8</sup> The Kingston Accord (2004)<sup>9</sup> and most recently and importantly, the Declaration of Pétion Ville (2015),<sup>10</sup> which was signed by all 15 States of the Caribbean Community (CARICOM) to reiterate their commitments to implement the CRPD. Commitments within this declaration support incorporating comprehensive disaster management (CDM) at all levels of public planning in their respective countries as a means of reducing vulnerability to natural phenomena. This agreement is wide reaching in the context of development and mainstreaming social policy. With respect to DRR and CCA, governments recognize that the population of the region is vulnerable to the impacts of natural phenomena, which tend to increase with the effects of climate change and result in disasters across the region, and agree that an effective way to tackle this vulnerability is by supporting and enabling regional and international cooperation. While these agreements do not have the force of law, they demonstrate national commitment to principles supporting mainstreaming disability inclusion and provide reference points for the development of national disability policy, including those of DRM and CR.

## 4.3 Regional platforms, mechanisms and representative bodies with a mandate or some level of responsibility for supporting disability inclusion in DRM and CR

Disabled People's International (DPI)<sup>11</sup> is a cross-disability nongovernmental organization with membership drawn from national organizations of persons with disabilities worldwide. With the exception of Suriname all CRF-eligible countries are represented in the North America and the Caribbean National Assembly of the DPI. The organization is led by persons with disabilities and is mandated to represent and advocate for the rights and wellbeing of all in their community in international forums, particularly those of the United Nations. The DPI is strongly focused on supporting the implementation of the CRPD but has no direct separate priority to support DRR specifically.

Several regional organizations and mechanisms with a focus on DRR and CCA collaborate on cooperative and supportive arrangements to establishing early warning systems, DRM and building community resilience within an all-hazard context. All have a level of commitment to supporting disability inclusion. These include: the Caribbean Disaster Emergency Management Agency (CDEMA);<sup>12</sup> the Comprehensive Disaster Management Strategy (CDM 2014–2024);<sup>13</sup> the Caribbean Disability Conference 2019;<sup>14</sup> the Caribbean Meteorological Organisation (CMO);<sup>15</sup> the Caribbean Institute for Meteorology and Hydrology (CIMH);<sup>16</sup> the Caribbean Telecommunications Union (CTU);<sup>17</sup> the Caribbean Community Climate Change Centre (CCCCC);<sup>18</sup> and the Climate Risk Early Warnings System (CREWS).<sup>19</sup>

CDEMA provides a forum of support for developing DRM policy and practice that is consistent and cooperative across the Caribbean region. It provides tangible support in operational guidance and training, and in times of disaster mobilizes support for impacted populations. It has been responsible for developing and supporting the implementation of the CDM 2014–2024, which provides a strategic and consistent approach to DRM that focuses on mainstreaming CDM in key sectors across society and building disaster resilience. Gender, climate change, information and communication technologies (ICT) and

environmental sustainability are cross-cutting themes in the implementation of the CDM strategy. Persons with disabilities, and marginalized or otherwise disadvantaged communities are acknowledged collectively as vulnerable groups in priority area 4 that addresses community vulnerability through “emphasizing the need to focus on actions that will address vulnerable groups and how they are impacted by hazards with a regional goal to build or strengthen community-based disaster management capacity for vulnerable groups.”<sup>20</sup>

However, direct reference highlights the need to harmonize with global agendas in which the inclusion of people with disabilities is direct and explicit. The Sendai Framework, the Sustainable Development Goals, the United Nations Framework Convention for Climate Change (UNFCCC), and the Paris Agreement all have strong components for social inclusion and goals specifically targeted at the inclusion of people with disabilities in all aspects of preparing for and responding to the impacts of changing world climates. CDEMA, CMO, and National Hydrological and Meteorological Services (NMHSs) are partnering to develop and implement multihazard impact-based

forecasting and early warning systems (MHIBEWS) across the region. Impact-based warnings and information are explicitly designed to be people-centric, fully inclusive, and accessible to all who are at risk. CDEMA and CMO support national weather and warnings services to implement the common alerting protocol (CAP) as a warnings format standard, which effectively increases the number of platforms available for warnings’ dissemination that are accessible to persons with disabilities.

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***CDEMA provides a forum of support to develop DRM policy and operational practice that is consistent and cooperative and that recognizes the need to harmonize with global agendas where the inclusion of people with disabilities is direct and explicit.***

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CDEMA, CMO, and national DRM personnel all acknowledge that the needs, capacities, and capabilities of persons with disabilities are neither well understood nor addressed (box 4-1).

#### **Box 4-1: CREWS Caribbean 2020 workshop – Special session findings.**

CMO and CDEMA facilitated a CREWS Caribbean workshop in May 2020 entitled “*Impact-Based forecasting and Scenario Planning: Making the linkages that can strengthen decision making*”<sup>1</sup> The workshop was attended by regional and national disaster managers and weather service providers and a range of other government and nongovernment stakeholders.

A special breakout session was convened, “*Reaching Vulnerable People—connecting with them and their support systems*” as this was a critical gap in consideration and planning. Recommendations from the session were reported as:

- (i) **Improve forecast messaging.** Consider nonnative languages, disabled persons, gender, age, immigrants, and Indigenous groups.
- (ii) **Innovate outreach** – more effective mass media and going beyond mass media.
- (iii) **Forge relationships with vulnerable communities as part of preparedness, ahead of an event,** to get better compliance for disasters.
- (iv) **Establish partnerships with relevant sectors,** such as social services, gender bureaus to get active feedback and better serve those communities, and make forecasts more relevant.

Note:

1. <https://public.wmo.int/en/media/news/caribbean-workshop-impact-based-forecasting-and-risk-scenario-planning-and-semi-structured-interviews>

## 4.4 National Disability Policy and Support Networks

State parties to the CRPD have acknowledged and agreed to support and promote the fundamental rights of persons with disabilities in all societal contexts. Implicit in this is facilitating their full and meaningful inclusion in DRM processes and decisions, and actions that will impact their safety and security in emergencies, and their ability to adapt and build resilience to the impacts of climate change. Governments of Antigua and Barbuda, Belize, Dominica, Grenada, Guyana, Jamaica, Saint Lucia, Saint Vincent and the Grenadines and Suriname have all agreed to “adopt all appropriate legislative, administrative and other measures for the implementation of the rights recognized in the (present) Convention”<sup>21</sup> and all

have an obligation to change attitudes and approaches toward people with disabilities. With the exception of Dominica, all of these CRF-eligible countries have, or are in the process of developing, some national legislation or social policy—or have constitutional protections — that promote the rights of people with disabilities to live in society with dignity and adequate support (see table 4-2). No constitutional provisions or national disability legislation make direct mention of the rights of people with disabilities and the obligations of any of these national governments in the event of disasters or other impacts related to climate change. However, all these countries have legislation, policy, and administrative and operational frameworks on disaster management that contain provisions for the inclusion of people with disabilities—discussed in more detail in section 4.6.

**Table 4-2. National disability legislation and policy in the selected CRF-eligible countries.**

Country	Legislation
<b>Antigua and Barbuda</b>	The Disabilities and Equal Opportunities Act, 2017; National Council of and for Persons with Disabilities is established.
<b>Belize</b>	Still in development—An Equal Opportunities Bill is drafted—it failed to pass into legislation in 2019 but will be reintroduced in 2021 and is expected to be passed. This will bring additional protections to 21 marginalized and disadvantaged groups—including people living with a disability. <sup>1</sup> Some specific constitutional protections against discrimination based on disability.
<b>Dominica</b>	No laws that prohibit discrimination based on disability
<b>Grenada</b>	Still in development—a draft policy for Persons with Disabilities was initiated in 2014. The discussion was revisited in 2019.
<b>Guyana</b>	Guyana Act No. 11 of 2010 Persons with Disability Act 2010. Some constitutional protections against discrimination based on disability
<b>Jamaica</b>	The National Disabilities Act was drafted in 2014, passed in 2017 and will come into effect through the National Policy on Persons with Disabilities (2000) in the 2020–2021 financial year.
<b>Saint Lucia</b>	No laws that prohibit discrimination based on disability. CRPD ratified in 2020 and the development of disability legislation is expected to follow.
<b>Saint Vincent and the Grenadines</b>	The law prohibits discrimination against persons with physical, sensory, mental, and intellectual disabilities.
<b>Suriname</b>	The Policy for People with Disability 2005–2010 was developed and implemented in anticipation of the ratification of the CRPD.

Note: 1. Semi-structured interview Minerva Pinelo

***No constitutional provisions or national disability legislation in any of the nine CRF-eligible countries included in this report make direct mention of the rights of people with disabilities and of the obligations of any of these national governments in the event of disasters or other impacts related to climate change.***

National legislation and policy that contain a commitment to disability inclusion and protection of various rights of persons with disabilities are usually enunciated in policy that relate to health, education, employment, social security or housing for example and are delivered separately through various government ministries and agencies. Ministerial responsibility for policy relating to people with disabilities is therefore spread across many portfolios, and is often a minor line function (see table 4-3). Much of this policy has indirect relevance to DRM and all are aimed at building capacity in people across society, including those with disabilities. This will ultimately be supportive of building resilience in people with disabilities and the support structures, such as schools and public education systems, public health systems, social welfare, work places, and public facilities that they depend on. The only policy that appears to be directly and explicitly linked to the inclusion of people with disabilities in either DRM or CR is the national disaster management policy.

National governments in all selected CRF-eligible countries are strongly committed to the principles of disability inclusion in their societies. Despite this clear willingness to support disability inclusion, the enacting of national disability legislation has been relatively slow. Such legislation will give force-of-law to these commitments, mainstream disability inclusion, and allocate direct responsibility for establishing administrative frameworks, such as statutory bodies or bureaus, for delivering relevant policy initiatives across government and societal networks. This presents a gap in their ability to deliver disability inclusive DRM and CR.

**Recommendation 6**

**Belize, Dominica, Grenada Saint Lucia and Saint Vincent and the Grenadines need to enact disability legislation that will give force-of-law to their UNCRPD obligations.**

**Table 4-3. National government ministries with responsibilities for disability inclusion\***

Country	Ministry
<b>Antigua and Barbuda</b>	Ministry of Health, Wellness and the Environment
<b>Belize</b>	Ministry of Human Development – Social transformation and poverty alleviation Ministry of Education
<b>Dominica</b>	Ministry of Youth Development and Empowerment, Youth at Risk, Gender Affairs, Seniors Security and Dominicans with Disability Ministry of Finance and Investment
<b>Grenada</b>	Ministry of Social Development, Housing and Community Empowerment Ministry of Health, Social Security and International Business
<b>Guyana</b>	Ministry of Human Services and Social Protection
<b>Jamaica</b>	Ministry of Health and Wellness Ministry of Labour and Social Security
<b>Saint Lucia</b>	Ministry of Health Division of Human Services Ministry of Social Transformation, Local Government and Community Empowerment Ministry of Education, Innovation, Gender Relations and Sustainable Development
<b>Saint Vincent and the Grenadines</b>	Ministry of National Mobilization, Social Development, Family, Gender Affairs, Persons with Disabilities and Youth Ministry of Health Wellness and the Environment Ministry of Education, National Reconciliation and Information
<b>Suriname</b>	The Ministry of Social Affairs and Public Housing Ministry of Education Science and Culture Ministry of Public Works, Transport and Communications (OWT & C) and Tourism The Ministry of Labour

\* Both ministries and portfolio responsibilities frequently change.

## 4.5 Organizations of Persons with Disabilities and Representative Bodies

All nine CRF-eligible countries have a range of organizations that support people with various disabilities and from diverse backgrounds. They work toward disability-inclusion and diverse societies where persons with disabilities have dignity, voice, choice, and control

over their lives. Some government infrastructure considers and manages government responsibilities for disability inclusion holistically across all sectors of society—as with gender inclusion. However, with the possible exception of Suriname, each CRF-eligible country has one or two national umbrella organizations that represent a range of support organizations and a range of disabilities, and that have a direct working relationship with their national governments (table 4-4).

**Table 4-4. Organizations of persons with disabilities – contact and outreach.**

Country	Organizations of Persons with Disabilities	Contact and outreach
<b>Antigua and Barbuda</b>	The National Council Of and For Persons with Disabilities	The National Council Of and For Persons with Disabilities. Little information is available on any official government websites—needs further research.  <a href="https://www.antiguanice.com/v2/client.php?id=389">https://www.antiguanice.com/v2/client.php?id=389</a>
	Antigua and Barbuda Association of Persons with Disabilities (ABAPD)	Antigua & Barbuda Association of Persons with Disabilities P.O. Box W123, Woods Centre, St. John’s, Antigua, W.I. Phone: +1 (268) 720-7263/4 Email: <a href="mailto:Abapd1995@yahoo.com">Abapd1995@yahoo.com</a>  <a href="https://www.facebook.com/permalink.php?id=413903655394148&amp;story_fbid=2188853527899143">https://www.facebook.com/permalink.php?id=413903655394148&amp;story_fbid=2188853527899143</a>
<b>Belize</b>	The Belize Assembly for Persons with Diverse Abilities (BAPD)	<a href="https://disabilitybelize.org/">https://disabilitybelize.org/</a> Email: <a href="mailto:bapda.belize@gmail.com">bapda.belize@gmail.com</a> Phone: +501 631-0724 <a href="https://www.facebook.com/people/Bapda-Belize/100008598577667/">https://www.facebook.com/people/Bapda-Belize/100008598577667/</a>
<b>Dominica</b>	The Dominica Association for Persons with Disabilities (DAPD)	Website: <a href="https://dapd.weebly.com">https://dapd.weebly.com</a> P.O.Box 2359 Canal Lane, Goodwill; Roseau Commonwealth of Dominica Phone: 1-767-440-0842 E-mail: <a href="mailto:dapdoffice32@gmail.com">dapdoffice32@gmail.com</a>  <a href="https://www.facebook.com/Dominica-Association-of-Persons-with-Disabilities-Inc-100345484658596/">https://www.facebook.com/Dominica-Association-of-Persons-with-Disabilities-Inc-100345484658596/</a>
<b>Grenada</b>	The Grenada National Council of the Disabled (GNCD)	<a href="https://sites.google.com/site/gncdspiceisle">https://sites.google.com/site/gncdspiceisle</a> P.O. Box 512, Scott Street, St. George’s, Grenada Phone: (473) 440-0112 E-mail: <a href="mailto:gncd@spiceisle.com">gncd@spiceisle.com</a> <a href="https://mobile.facebook.com/Grenada-National-Council-of-the-Disabled-128753263872597/">https://mobile.facebook.com/Grenada-National-Council-of-the-Disabled-128753263872597/</a>
<b>Guyana</b>	The Guyana National Disabilities Commission	<a href="https://www.ncdguyana.org/">https://www.ncdguyana.org/</a> 49 Croal Street, Georgetown, Guyana Phone: +592 226 4566 <a href="https://www.facebook.com/NCDGuyana/">https://www.facebook.com/NCDGuyana/</a>
	The Guyana Council of Organisations for Persons with Disabilities	<a href="https://gcopd.org.gy/?fbclid=IwAR1r2o8S4OEss6_43uS192P4BnOXS2I2pLKnp_BGkl-bJ9NX6YpUCtRjXpk">https://gcopd.org.gy/?fbclid=IwAR1r2o8S4OEss6_43uS192P4BnOXS2I2pLKnp_BGkl-bJ9NX6YpUCtRjXpk</a> 44 High Street; Werk-en-Rust, Georgetown Guyana. Tel: 1-592-231-7976 <a href="https://www.facebook.com/gcopd/">https://www.facebook.com/gcopd/</a>

**Table 4-4. Organizations of persons with disabilities – contact and outreach (cont.).**

Country	Organizations of Persons with Disabilities	Contact and outreach
Jamaica	Jamaica Council for People with Disabilities (JCPD)	<a href="https://jcpdja.com/">https://jcpdja.com/</a> 18 Ripon Rd, Kingston, Jamaica Phone: <a href="tel:+18769688373">+1 876-968-8373</a> <a href="https://www.facebook.com/JCPDLive/">https://www.facebook.com/JCPDLive/</a>
	The Jamaica Combined Disabilities Association	<a href="https://dogoodjamaica.org/organization-search/item/combined_disabilities_association/">https://dogoodjamaica.org/organization-search/item/combined_disabilities_association/</a> P.O. Box 220, Liguanea, Kingston 6 and 18 Ripon Road, Kingston 5 Phone: (876) 929-1177/968-9784 Email: <a href="mailto:advocacy@cwjamaica.com">advocacy@cwjamaica.com</a> <a href="https://www.facebook.com/CombinedDisabilitiesAssociation/">https://www.facebook.com/CombinedDisabilitiesAssociation/</a>
Saint Lucia	The Saint Lucia National Council of and for Persons with Disabilities (NCPD)	<a href="https://ncpdinc.weebly.com/our-mission.html">https://ncpdinc.weebly.com/our-mission.html</a> Northern Office; Apricot Lane, Carellie. St. Lucia phone; 758-453-1539 <a href="mailto:ncpdinc@yahoo.com">ncpdinc@yahoo.com</a>
		Southern Office; New Dock Lane, Vieux Fort. St. Lucia phone; 758-454-3721 <a href="mailto:ncpdinc_s@yahoo.com">ncpdinc_s@yahoo.com</a> <a href="https://www.facebook.com/ncpdinc/">https://www.facebook.com/ncpdinc/</a>
Saint Vincent and the Grenadines	The Saint Vincent and the Grenadines National Society of Persons with Disabilities (NSPD)	P.O. Box 2075, 2 Webb St., New Montrose, St. Vincent and the Grenadines, W.I. Telephone: 784-456-8888 <a href="mailto:nsopwd@vincysurf.com">nsopwd@vincysurf.com</a> <a href="https://www.facebook.com/National-Society-of-Persons-with-Disabilities-490757517997021/">https://www.facebook.com/National-Society-of-Persons-with-Disabilities-490757517997021/</a>
Suriname	The Alliance for Decent Work for People with Disabilities (The Alliance).	Contact via the Ministry of Labour, Suriname

These organizations are trusted by the communities they represent and support, and the community at large and are in a good position to influence policy. All have a long history of service and high levels of membership within the community of people with disabilities, and all have good communication strategies with websites or Facebook pages or with both these channels. They give great visibility to persons with disabilities and provide outreach services to those that may slip through official safety-net programs, and are generally more supportive of people living with mental and psychological disabilities than official government services.

***All umbrella national organizations of persons with disabilities have a direct working relationship with a range of national government authorities, including DRM, and provide a focal point for support for people with disabilities in times of disaster.***

All are supported by their respective national governments either within the formalized government infrastructure or in partnership.

In Jamaica, the Jamaica Council for People with Disabilities (JCPD) has long been established as the government agency to promote the protection of the rights of persons with disabilities in collaboration with all relevant government agencies within the legislative framework, including DRM. Guyana’s National Disabilities Commission (NDC) is governed by the *Persons with Disability Act 2010* and is appointed by and accountable to the President of Guyana. It comprises 12 members or Commissioners some of whom are people with disabilities. Commissioners represent on the National Emergency Management Committee and are active in several of Guyana’s emergency management activities. In Saint Lucia the National Council of and for Persons with Disabilities (NCPD) is a statutory body created by an Act of Parliament. One of its official functions is to support emergency management and represent on disaster management committees. However, these committees are rarely active and engagement is minimal. The Alliance in Suriname is a partnership with government that is primarily focused on employment for persons with disabilities and human rights without mention of any particular role in DRM. All other national umbrella organizations representing persons with disabilities are essentially nongovernment but with a direct relationship of some sort with their governments. They typically rely heavily on national donors and fundraisers for financial support, so they are generally understaffed and poorly funded.

National, and other, disability support organizations have been a vital part of national responses to the COVID-19 pandemic. As emergency management and health departments have been overwhelmed, inclusion of people with disabilities in response strategies has been lacking. Governments have increasingly relied on the organizations of persons with disabilities to give visibility and direct support to persons with disabilities. All primary national disability organizations are at various stages of developing national disability registers and mapping and recording disability demographics—usually for the purposes of supporting access to special services focused on education, health, housing, transport, and employment. However, these registers are an excellent resource for DRM and are critical for disaster management planning.

#### Recommendation 7

**All national governments should provide adequate support for their national organizations of persons with disabilities. Where lacking, they should ensure that the working partnerships with these organizations are formalized and supported through the various ministry portfolios.**

## 4.6 National Government DRM Policy and Frameworks

In contrast to national disability legislation where much policy is relatively weak and official responsibility for administering it is distributed, all nine CRF-eligible countries considered in this report, have Acts of Parliament and policy, either enacted or in draft form and soon to be enacted, supporting disaster risk management and climate resilience with high level ministerial responsibility—often at the level of the Office of the Prime Minister or President. The policy prescribes an organized national disaster management infrastructure and systems and processes that are based on the CDEMA-supported comprehensive disaster management (CDM) framework and delivered through the various national disaster or emergency management offices (table 4-5). CDM is developed around the principles of the integrated management of all hazards through all phases of the disaster management cycle—prevention and mitigation; preparedness and response; recovery; and restoration or rehabilitation. This approach supports resilience building and the process is consultative and inclusive, with a range of stakeholders and partners represented at various levels of planning and requires the active involvement of both public and private sectors.

***All countries included in this report have Acts of Parliament and policy, either enacted or in draft form, supporting disaster risk management and climate resilience with high level ministerial responsibility.***

**Table 4-5. Disaster Management Acts\*and reference to people with disabilities\*\* and disaster risk management offices or agencies responsible for DRM policy.**

Country	DRM Acts / legislation giving authority to the establishment of national disaster management offices	National DRM Offices
<b>Antigua and Barbuda</b>	The Disaster Management Act 2002 <sup>1</sup> No direct reference to persons with disabilities specifically or vulnerable and disadvantaged persons generally.	National Office of Disaster Services (NODS) (Office of the Prime Minister)
<b>Belize</b>	Disaster Preparedness and Response Act, Chapter 145 Revised Edition 2003 <sup>2</sup> No direct reference to persons with disabilities specifically or vulnerable and disadvantaged persons generally.	National Emergency Management Office (NEMO) (Ministry of Transport and NEMO)
<b>Dominica</b>	Emergency Powers Act 1987 (a provision under the Constitution) <sup>3</sup> Disaster Management Policy 2001 Establishes Disaster Management Plan —indirect mention of vulnerable persons—included as a vulnerable system. Direct mention of persons with disabilities in operational preparation and response responsibilities.	Office of Disaster Management (ODM) (Ministry of National Security and Home Affairs)
<b>Grenada</b>	Emergency Powers Act 1987 <sup>4</sup> No direct reference to persons with disabilities specifically or vulnerable and disadvantaged persons generally.	National Disaster Management Agency (NaDMA) Office of the Prime Minister
<b>Guyana</b>	Disaster Risk Management Bill 2019 (still in draft)	National Emergency Operations Centre Civil Defence Commission (CDC) (Office of the Prime Minister)
<b>Jamaica</b>	The Disaster Risk Management Act 2015 <sup>5</sup> No direct reference to persons with disabilities specifically under the obligations of the Act but the Constitution of the National Disaster Risk Management Council stipulates the inclusion of the Chairman of the Jamaica Council for Persons with Disabilities.	Office of Disaster Preparedness and Emergency Management (ODPEM) (Ministry of local government and community development)
<b>Saint Lucia</b>	Disaster Management Act 2006 <sup>6</sup> No direct reference to persons with disabilities specifically or vulnerable and disadvantaged persons generally.	National Emergency Management Office (NEMO) (Office of the Prime Minister)
<b>Saint Vincent and the Grenadines</b>	National Emergency and Disaster Management Act 2006 <sup>7</sup> No direct reference to persons with disabilities specifically or vulnerable and disadvantaged persons generally.	National Emergency Management Office (NEMO) (Ministry of National Security Air and Seaport Development)
<b>Suriname</b>	Disaster Management Legislation still in draft form and the Law providing NCCR a legal base has not been approved as yet.	National Coordination Centre for Disaster Management (NCCR)

Notes:

1. <https://observatoriop10.cepal.org/en/instruments/disaster-management-act-no-13-2002>
2. [faostat.org/docs/pdf/blz49548.pdf](https://faostat.org/docs/pdf/blz49548.pdf)
3. [faostat.org/docs/pdf/dmi87085.pdf](https://faostat.org/docs/pdf/dmi87085.pdf)
4. <http://www.oas.org/dsd/environmentlaw/caribbeanlegislationproject/disaster%26stateemergency/grenada/emergency%20powers%20act.pdf>
5. [faostat.org/docs/pdf/jam145358.pdf](https://faostat.org/docs/pdf/jam145358.pdf)
6. <https://archive.stlucia.gov.lc/docs/disastermanagementact.pdf>
7. <https://faostat.org/docs/pdf/stv137162.pdf>

\*It should be noted that powers under the various Acts are broad and general when referring to the population or the public specific mention of sectors of the population is more likely to be contained in the operational procedures of the disaster management authorities

\*\*The term 'vulnerable' is most often used in DRM policy documents to refer to geographical areas and facilities considered to be at risk and not sectors of the population.



CDEMA developed the “Model Comprehensive Disaster Management Legislation and Regulations 2013 and Adaptation Guide”<sup>22</sup> in 2013 as guidance to support participating Caribbean states to modify their legislation and regulations and establish a DRM infrastructure that includes high level national disaster management policy and all operational arrangements. It prescribes comprehensive and connected roles, powers, and responsibilities for functional agencies, institutions, and stakeholders in DRM. The guide provides a blueprint for processes and procedures around establishing national disaster managements agencies, technical and advisory councils, district disaster management committees, and operational practices that are consistent across the Caribbean region.

CDM guidance is explicitly sensitive to gender inclusion. However, support for the principles of social inclusion in DRM and CR is indirect, particularly at high level planning, but implicit. For example, among the functions and powers of the national disaster management agency promoted by the model CDM guidance is, “... to encourage the mainstreaming of disaster risk reduction and climate change in development processes such as policy formulation, socio-economic development planning, budgeting, and governance, particularly in the areas of environment, agriculture, water, energy, health, education, poverty reduction, land-use planning, and public infrastructure and housing, among others.”<sup>23</sup> Direct reference to planning is limited for the needs of sectors of the population that may be disadvantaged and mention of vulnerability usually refers to areas at risk of hazard impact rather than to sectors of the population.

A notable exception is in the section relating to evacuation, where some detail exists around provisions addressing the needs of persons with special needs described as being the elderly and persons with various types of permanent or temporary disabilities. This includes: (i) knowing the special needs demographics of persons residing in the community or district; (ii) direct consultation to establish communication, transport and shelter need; (iii) using existing support structures and systems; and (iv) identifying and supplying any aids or specialized equipment required to ensure safe transit and shelter.<sup>24</sup> The CDEMA EWS toolkit<sup>25</sup> that is linked to the

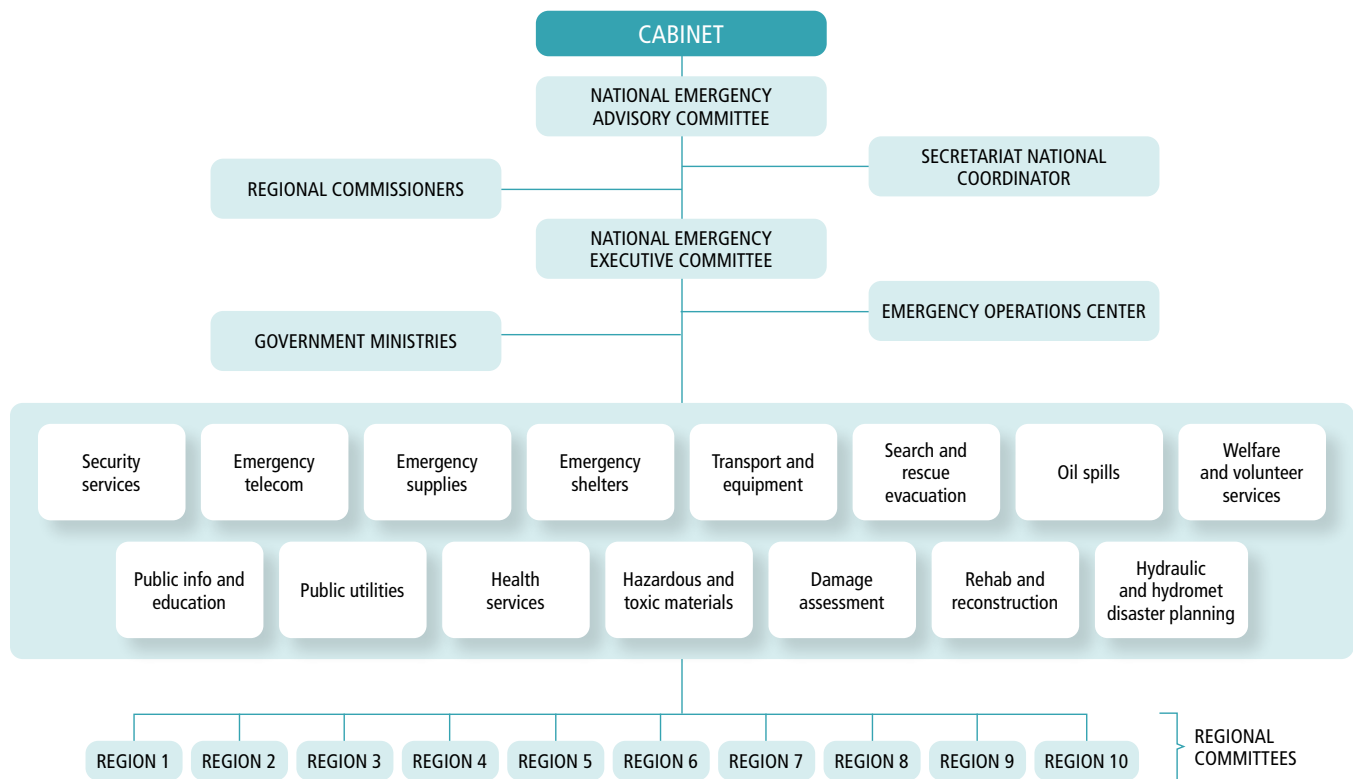
“Model Comprehensive Disaster Management Legislation and Regulations 2013 and Adaptation Guide” provides guidance for implementing accessible communications technologies and systems and CAP-based alerting systems to prepare and disseminate warnings and information. These systems are disability inclusive by design and provide people with a range of disabilities with options for accessing important information.

National disaster management operational plans, established under each country’s specific legislation and based on the CDM model, contain greater and more explicit detail of processes of inclusion and engagement of persons with disabilities in consultation processes at various levels of policy development and operational planning.

DRM authorities are committed to disability inclusion in policy development and operational practices. Apart from the formalized procedures that support opportunities for engaging with people with disabilities through the established DRM structures, all have established informal relationships with the disability sector, particularly at the local and community levels.

DRM is a tiered management system. All countries have a single high level national emergency management council or committee that oversees the implementation of DRM legislation. Usually chaired by the First Minister, its membership includes Ministers representing all relevant portfolios and a range of other senior national partners in DRM, for example, national ICT and energy providers, the Red Cross, churches, and national welfare organizations (figure 4-1). The interests of persons with disabilities are represented through the membership of managers or commissioners of the respective national organizations of persons with disabilities. A number of subcommittees focus on delivering specific aspects of DRM at an operational level and, where relevant, representatives of persons with disabilities are included in the membership, for example in committees considering response and recovery. Similarly, in local disaster management committees where community level representation is present, membership is invited directly through locally-based persons with disabilities or the community-based organizations that represent them.

**Figure 4-1. National Emergency Management Committee Structure – Guyana\***



Source: Civil Defence Commission organizational structure. ([https://cdc.gy/?page\\_id=14360](https://cdc.gy/?page_id=14360))

Notes: \*All Caribbean countries are implementing the CRM model and follow the CDEMA guidance. Committee structure and membership is adapted to suit national circumstances but will follow the same basic structure and function where organizations of persons with disabilities are officially recognised with permanent membership. This will usually be at the national emergency advisory committee level and the welfare-related committees. Membership of the local and community level committees should reflect that of the regional committees. CDEMA guidance indicates that all policy-setting, advisory and operational committees need to consider disability inclusion and notes that broader direct representation of persons with disabilities is essential.

Notwithstanding, the inclusion of persons with disabilities in the above-mentioned structures, this representation is often not apparent in high level forums. While persons with disabilities are often invited to participate, barriers to accessing meeting venues and inclusive communications technologies limits their ability to meaningfully contribute in discussions.

Evidence based on semistructured interviews<sup>26</sup> indicates that DRM personnel frequently describe engagement with persons with disabilities as having been achieved based on their deliberate efforts to include them in various forums. Conversely, persons with disabilities reported difficulties in being able to participate meaningfully because of the lack of accessibility to venues, presentations, discussion,

***Persons with disabilities have described engagement with DRM as being ‘well-intentioned’ but that the focus is on planning ‘for’ rather than ‘with’ persons with disabilities with the emphasis being on their limitations rather than on the capacities and abilities that can be built on and supported.***

***Addressing this will require attitudinal changes and focused attention on the provision of safe, fully accessible, and welcoming consultation.***

and notes. They also report a prevailing attitude of stigma and discrimination. They often describe feeling that they are effectively bystanders in processes that plan for them rather than with them. This disconnect in understanding meaningful participation between DRM personnel and persons with disabilities remains an issue and creates a significant barrier for persons with disabilities. Ultimately, this results in persons with disabilities not being heard or able to contribute around the impact of climate change and disaster on their daily lives.

Facilitating meaningful participation of persons with disabilities requires accessibility to reasonable accommodations and information that is shaped around the needs of all participants. It must be based on understanding and removing physical and attitudinal barriers that constrain the active contribution persons with disabilities. Such measures include accessible buildings, meeting rooms, and refreshment and toilet facilities with supports such as ramps, handrails, wide doorways, lifts and Braille signage, to mention a few. Accessible communications for invitations, presentations, and documentation with appropriate lighting, voice-to-text and text-to-voice technologies, screen magnifiers, large font or Braille documents, and sign language interpreters should be provided as required. Engagement must be early in the process. Finally, and importantly, the environment for engagement must be welcoming and supportive, with a prevailing attitude of mutual respect and based on looking for opportunities to engage with and build on capabilities and capacities of people with disabilities, rather than a focus on pity and helplessness that requires top-down intervention. For the building of long-term resilience to disasters and the impacts of climate change, the goal in DRM forums must be empowering and enable good decision-making for persons with disabilities through an approach and perspective of “what can we provide to enable you?” rather than “we will do or provide .....for you”. Such measures require a societal attitudinal change. Disability support organizations are powerful advocates for persons with a wide range of disabilities and are well placed to work in partnership with DRM to facilitate this shift in attitude.

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*The problem does not lie in a lack of willingness of DRM to usefully engage with the disability sector but in a lack of understanding of how to truly and meaningfully connect with persons with disabilities and their representatives in a way that enables their full participation and contribution.*

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**Recommendation 8**

**Ensure the inclusion of persons with disabilities at all levels of consultation and planning. This should be facilitated with the provision of accessible venues and appropriate communications systems and support technologies.**

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**4.6.1 Changing attitudes and approaches**

A central tenet of the CRPD is to bring about a paradigm shift in attitudes toward persons with disabilities. The operational principles are eliminating stigma and addressing disability discrimination. However, stigma remains attached to disability. This is often rooted in fear and superstition, sometimes shame. Based on all the analyzed information including semistructured interviews, it seems clear that two dominant attitudes prevail toward persons with disabilities throughout the nine selected CRF-eligible countries, which ultimately result in discrimination. The first is one of stigma. The second is one of pity. This often arises from an attitude of caring and kindness, that is based on a belief in the personal limitations and helplessness in persons with disabilities. It focuses on a perceived need for their care and support, rather than as individuals with a range of abilities and capacities that can be enabled, and an appreciation that this will generally be to the benefit of the whole society, particularly when building future resilience. This attitude or perspective among much of the nondisabled across societies is pervasive, particularly in those with responsibilities for developing national social policies, including DRM. It shapes the way consultation forums are approached. It will not encourage the true participation of persons with disabilities or their

representatives in policy and decision-making forums, or their active contribution in DRM and CR activities and processes. Persons with disabilities feel this acutely and understand the limiting effect it has on their abilities to live full lives and grow abilities for resilience. “Nothing about us without us”<sup>27</sup> has almost become a mantra for disability inclusion, although it has also been applied to other areas of marginalization. It conveys the sentiments of both disability oppression and empowerment and was used as the theme for a 2018 regional workshop for persons with disabilities, which hoped to demonstrate pathways to full inclusion and the societal benefits of this as being stronger more resilient communities.

#### Recommendation 9

**Raise awareness and increase capacity of DRM and CR practitioners to foster a change in attitudes and approaches toward persons with disabilities through the delivery of awareness raising and training material that is jointly developed with national organizations of persons with disabilities and readily available for DRM and CR practitioners. Training activities and raising awareness events could also be delivered by persons with disabilities.**

## 4.7 National Government Policy and Frameworks Supporting Accessibility for Persons with Disabilities and Linkages to DRM

A primary normative mechanism for enabling disability inclusion across society is any national policy targeted at the removal of barriers to access. This is often prioritized in areas of development, land use planning, public infrastructure, transport, education, employment, and health. With respect to DRM specifically, policy and social mechanisms that enforce standards and operational practices that remove barriers to access to information and public infrastructure—such as buildings and transport and information and communications technologies—are particularly important.

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*The removal of barriers to access to information and infrastructure is critical for persons with disabilities in the context of preparing for response to and recovery from climate, weather, and geophysical hazard events, and in building their resilience in the face of disasters*

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The CRPD, which all countries have committed to support and implement, details this explicitly in Article 9, which states, “To enable persons with disabilities to live independently and participate fully in all aspects of life, States Parties shall take appropriate measures to ensure to persons with disabilities access, on an equal basis with others, to the physical environment, to transportation, to information and communications, including information and communications technologies and systems, and to other facilities and services open or provided to the public, both in urban and in rural areas. These measures, which shall include the identification and elimination of obstacles and barriers to accessibility, shall apply to, inter alia: (a) Buildings, roads, transportation and other indoor and outdoor facilities, including schools, housing, medical facilities and workplaces; (b) Information, communications and other services, including electronic services and emergency services.”<sup>28</sup>

Mechanisms for removal of these barriers are contained in national communications and public infrastructure policies, and national building standards and codes.

### 4.7.1. Accessible buildings and public infrastructure

All nine selected CRF-eligible countries have established national building codes and planning regulations that may be applied to both public and private buildings and developments. However, these do not necessarily include specific provisions for accessible accommodations for persons with disabilities. Construction standards that will support disaster-resilient infrastructure vary across the region. So too does the rigor with which the standards, codes, and regulations are applied and adhered to.

Belize and Suriname have adopted the Caribbean Uniform Building Code (CUBIC),<sup>29</sup> that does not include

requirements that ensure accessibility for persons with disabilities. In Belize, few new buildings have ramps and limited retrofitting of existing public buildings. No provisions are necessary for public transport or transportation routes that may be essential in the event of evacuation or escape to be accessible to persons with disabilities and, with the exception of planned areas in the capital Belmopan, streets are not usually suitable for wheelchairs.<sup>30</sup>

In Antigua and Barbuda, Grenada, Guyana, Saint Lucia and Saint Vincent and the Grenadines, building accessibility provisions are generally based on international standards that are prescribed in the Organisation of Eastern Caribbean States (OECS) building code<sup>31</sup> and include features such as ramps, hand and guard rails, clear access and egress, doorway width and openings specifications, the placement of internal fittings, accessible toilets and washrooms, lighting, tactile floor, and pavement markers. The OECS codes also include specifications for walkways and footpaths that will ensure safe and accessible transit routes for persons with disabilities. This is particularly important for planning for response to catastrophic events that may include evacuation and recovery processes. The national building codes in Antigua and Barbuda and Dominica also include specific requirements for building for resilience in both new buildings and renovations. Dominica developed a national building code for structural integrity and safe refuge in 2017 based on the OECS standard following massive damage related to Hurricane Maria when ninety percent of the national housing stock was damaged or destroyed. These codes generally apply to new public buildings only. An additional set of structural integrity guidelines was also developed with provision for accessibility for persons with disabilities as a mechanism to address the need for disaster and climate resilient housing constructions. Although no national laws mandate access to public transportation, services, or buildings, building owners in Grenada are gradually incorporating accessibility features during new construction and renovations to improve disaster resilience. In Saint Vincent and the Grenadines, the law does not mandate access to existing buildings for persons with disabilities, and access for such persons generally is difficult. However, in the circumstances where the OECS building codes have been enforced, accessibility to new

public buildings has generally improved. The National Housing Trust<sup>32</sup> in Jamaica has a policy whereby five percent of the housing provided by the National Housing Trust is set aside for persons with disabilities. Additionally, the Jamaica Disabilities Act, when it comes into force, will require that all public and commercial buildings are accessible and are built in accordance with the national building code. This will support persons with disabilities in building future resilience.

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***National building codes and planning regulations are inconsistent across the Caribbean region. They do not necessarily include specific provisions for accessible accommodations and transit for persons with disabilities and are not universally well applied or enforced.***

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With a focus on building back better for future resilience, all national governments—often in partnership with international donor agencies—support a number of separate initiatives and special projects that are sector based, disability inclusive, and that directly support building resilience in public and private infrastructure. Such national support holistically enhances community safety and societal resilience to disasters. Recent examples of such initiatives include the Smart Hospitals Program promoted by PAHO–WHO and funded through UK aid that has improved and modernized hospitals in Dominica, Guyana, Belize, Jamaica, Saint Lucia, and Saint Vincent and the Grenadines to make them more accessible for people with disabilities with adaptations for installing ramps, lifts and guardrails, or accessible toilets and clear signage, and thereby making them more resilient in disasters and environmentally sustainable. In several countries, with the support of donor agencies, new schools and those that are rebuilt following hurricane damage are designed for resilience and to accommodate for the needs of students with special needs in line with policy objectives of leaving no child behind and building back better. These projects are generally compliant with accessibility provisions as prescribed in the international standards for building codes. So too are buildings and infrastructure that support the tourist industry, which must ensure disability-inclusive accommodation and transit for visitors, particularly

in the main port destinations. However, many school buildings across the region are being strengthened for use as evacuation centres and it is clear that accessibility provisions are not always prioritized. For example, some school buildings in Belize that have been nominated as possible evacuation centres are in flood zones and have no toilet facilities on the ground floor and the access to higher floors is by stairs only.<sup>33</sup>

Planning regulations and building codes that are designed to guarantee accessibility to safe places and spaces for persons with disabilities can be very effective public policy instruments that support DRM planning for response and recovery and building disaster and climate resilience—not only for persons with a range of physical, sensory and intellectual capacities, but across society generally. This applies to both the built environment and the communities that rely on public infrastructure and buildings for safety, shelter, refuge, ease of transit, and lifestyle protection. These are only effective when they are applied to all new and existing buildings and to public transit infrastructure.

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***Whereas all countries considered in this report have instruments in place to support public infrastructure and buildings that are accessible to persons with disabilities, it is clear that these are not being fully embraced, implemented, or enforced. Compliance is likely to be greater in cities and larger towns than it is in the rural and more remote settlements.***

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Understanding of the root causes for this are beyond the scope of a desk review study and will require deeper in-country research. However, possible reasons that may be considered could include: (i) competing priorities for funds available for construction and development; (ii) a shortage of availability or skill in architects, engineers and builders, particularly in areas outside the major cities and tourist destinations; (iii) low levels of awareness of the relevance of the accessibility provisions in the building codes and standards; (iv) limited availability of inspectors to monitor and enforce regulations; and (v) small or nonexistent penalties for noncompliance.

#### Recommendation 10

**National governments should ensure the development of legislation and enforcement of national planning policies and building codes are applied to all new and retrofitted public and commercial buildings and public facilities. These must include the international standards and provisions that ensure accessibility and support easy access and egress for persons with disabilities across a range of disabilities.**

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#### Recommendation 11

**The Caribbean Uniform Building Code (CUBiC) does not include requirements that ensure accessibility for persons with disabilities. Belize and Suriname should amend national building and planning policies with additional or supplementary provisions specifically including requirements that ensure accessibility for persons with disabilities.**

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#### 4.7.2. Accessible Information and Communications Technologies

Building the necessary human capacities for planning and preparing for the response phases of disasters, and in the aftermath, will to a large degree depend on people of all levels of ability being able to access information that will allow them to make sound decisions and take effective and enabled actions for themselves, their families, and their communities that will maximize their safety and minimize risks. This may include: (i) hazard and risk-specific information for awareness-raising and preparation purposes; (ii) warnings that require responsive actions; and (iii) information to support the subsequent recovery and rebuilding efforts.

Communities throughout the nine selected CRF-eligible countries have long experience of dealing with the impact of climate, weather, and geophysical events. A high level of awareness is prevalent that climate change is impacting the region and that hazard risks are changing. More evidence of the impacts of climate change is becoming available and socialized.<sup>31</sup> It is also increasingly and widely accepted that, as drought, flood, severe storms and hurricane seasons become more erratic and coastal erosion more evident, hazard risks are amplifying.

For the maximum possible reach, it is essential that all hazard-related information be produced in a diversity of styles and formats and be available across a range of media and communication platforms, including social media, keeping consistency in messaging and meaning.

General populations are relatively proficient at accessing official hazard information and warnings messages that are disseminated via national, regional, and international media networks across many communication platforms and, increasingly, via social media. It seems that little intentional provision has been made to support accessibility across these platforms for persons with disabilities, who will have a range of capabilities and capacities and face a range of challenges in both accessing and using information. However, communications technologies, particularly the new and emerging internet-based communications technologies with their built-in accessibility features, are increasing availability. These include web readers and software that, magnify content, translate text-to-voice and voice-to-text, interpret graphics, and provide translation for a range of languages. Avatars that can be programmed to translate a variety of media content such as video, audio, or text into a signed language are increasingly available. Advances in computer graphics capabilities mean that personal computers, internet-enabled tablets, and smartphones are able to produce the animations with great clarity.<sup>34</sup> These technologies have utility across a wide spectrum of disabilities, including blindness and impaired vision, photosensitivity, deafness and difficulty hearing, limited mobility, speech impairments, learning disabilities and increasingly, developmental, cognitive and

intellectual disabilities. However, it must be noted that access is highly dependent on: (i) reliable internet connectivity; (ii) being able to afford internet-enabled devices and, (iii) that web-based content is produced and published in compliance with the internationally agreed web content accessibility guidelines<sup>35</sup> (WCAG)—with the existing minimum compliance recommended at web compliance and accessibility guidance (WCAG) version 2.1.

Mobile phone ownership and usage across the region is high and increasing (table 4-6). Penetration exceeds 100 percent of the population in all CRF-eligible countries except Guyana. Care must be taken in interpreting these numbers as many users, particularly companies, will have multiple connections and there will be a proportion of the disadvantaged within the population that have no mobile phone.

Accessibility to web-based information and social media is improving with the increased availability of smart phones and tablets with built-in accessibility functions such as text-to-speech, speech-to-text, and screen magnifiers.<sup>36</sup> Smartphone ownership is growing rapidly worldwide, but this growth rate is not equal. The global average was estimated at 39 percent in 2018, and with an average yearly increase in worldwide smartphone penetration of three percent, this is projected to reach 56.28 percent by 2024.<sup>37</sup> Upward growth shows huge disparities in smartphone ownership and access to smartphone technology between developed countries and the low- to medium-income ones. In 2020 Penetration rate in India was just 27.70 percent while in South Korea it topped

**Table 4-6. Mobile phone penetration in the CRF-eligible countries.**

Country	Mobile phone connections as a % of the population		% of active social media users accessing via mobile devices
	Jan 2020	Change since 2019	
<b>Antigua and Barbuda</b>	195%	+1.5%	98%
<b>Belize</b>	102%	+ 2.8%	99%
<b>Dominica</b>	117%	+1.3%	98%
<b>Grenada</b>	114%	+1%	98%
<b>Guyana</b>	82%	+2.1	99%
<b>Jamaica</b>	111%	+3.3%	99%
<b>Saint Lucia</b>	107%	+ 0.8%	98%
<b>Saint Vincent and the Grenadines</b>	128%	+ 1.1%	98%
<b>Suriname</b>	174%	+1.4%	99%

Source: <https://datareportal.com/reports/digital-2021>

95 percent.<sup>38</sup> Much is still to be done to understand how available access to the internet and these devices, and level of usage, actually caters for persons with disabilities in the Caribbean region. However, as low- to medium-income countries (LMICs), it can be assumed that smartphone penetration in all nine selected CRF-eligible countries will be at the lower end of the scale.<sup>39, 40</sup>

In support of this report, in-depth research considering “Web Based Information and Communication Technologies (ICT) in Disaster Risk Management Practices, Policies and Compliance with International Web Accessibility Standards”<sup>41</sup> was completed and is reported separately in Appendix B. It contains a review of the accessibility of internet-based information with relevance to DRM and CR for persons with disabilities across the nine CRF-eligible countries. The following content contains summarized text and of some key points and findings as indicated.

Internet infrastructure throughout the Caribbean region is generally improving. All governments appreciate that internet connectivity is crucial for development. However, supportive policy and implementation frameworks are not always in place.<sup>42</sup> Internet coverage is widespread but it is still fragmented in areas away from coastal urban centres where most of the population are located. Most of the CRF-eligible countries are mountainous, and for communities in those mountainous and rural areas internet connection is often difficult and expensive. Despite internet connection being available, it is unaffordable for many of the poor and disadvantaged in urban communities, where persons with disabilities tend to be overrepresented. As internet uptake has spread, the uptake of engagement with social media platforms, such as Facebook has increased rapidly (table 4-7).

**Table 4-7. Internet and social media penetration in the nine selected CRF-eligible countries in 2020 (including the change from 2019).**

Country	Population 2021	Internet users 2020	Social media users 2020
<b>Antigua and Barbuda</b>	98,731	74,100 (+0.9% – 2019) 76% penetration	64,000 (Unchanged – 2019) 66% penetration
<b>Belize</b>	401,300	240,000 (+4.3% – 2019) 61% penetration	240,000 (+ 12% – 2019) 61% penetration
<b>Dominica</b>	72,167	50,100 (+0.3% – 2019) 70.% penetration	39,000 (+13% – 2019) 54% penetration
<b>Grenada</b>	113,021	71,000 (Unchanged – 2019) 63% penetration	71,000 (+3.3% – 2019) 63% penetration
<b>Guyana</b>	788,400	430,000 (+2.4% 2019) Penetration 55%	430,000 (+11% – 2019) Penetration 55%
<b>Jamaica</b>	2,973,463	1.63 million (+0.5% – 2019) 55% penetration	1.3 million (+8.8% – 2019) 44% penetration
<b>Saint Lucia</b>	184,400	100,000 (Unchanged – 2019) 55%penetration	100,000 (+4.1% – 2019) 55% penetration
<b>Saint Vincent and the Grenadines</b>	11,263	67,000 (Unchanged- 2019) 60 % penetration	67,000 (+ 4.8% – 2019) 60% penetration
<b>Suriname</b>	589,200	360,000 (+2.9% – 2019) 62% penetration	360,000 (+1.4%- 2019) 62% penetration

Source: <https://datareportal.com/reports/digital-2021>



Article 9 of the CRPD calls on state parties to take measures to ensure that persons with disabilities have equal access to ICT and systems, including the internet. However, the existing statistics in several Caribbean countries, where the relevant data are available, provide evidence of significant differences in the internet usage between people with and without disabilities (table 4-8). It is also clear that females with disabilities have less access to the internet than males with disabilities (figure 4-2).

The Web Content Accessibility Guidelines 2.1 (WCAG) was accepted by the International Organization for Standardization as an ISO International Standard, ISO/IEC 40500:2012. It provides a common standard for web content accessibility based on four principles: (i) web content and user interface components should be

perceivable in that it is visible to at least one of the user's senses; (ii) user interface components and navigation must be operable, excluding interactions that the user cannot perform; (iii) information and the operation of user interface must be understandable to the user; and, (iv) content must be robust to be interpreted reliably by assistive technologies, such as screen readers, braille terminals, screen magnification software, speech recognition software, and keyboard overlays.

Official government websites and those of national disaster management agencies in the CRF-eligible countries that can be used by persons with disabilities to access important information necessary for the hazard awareness and education underpin their understanding of how to use hazards and warnings information.

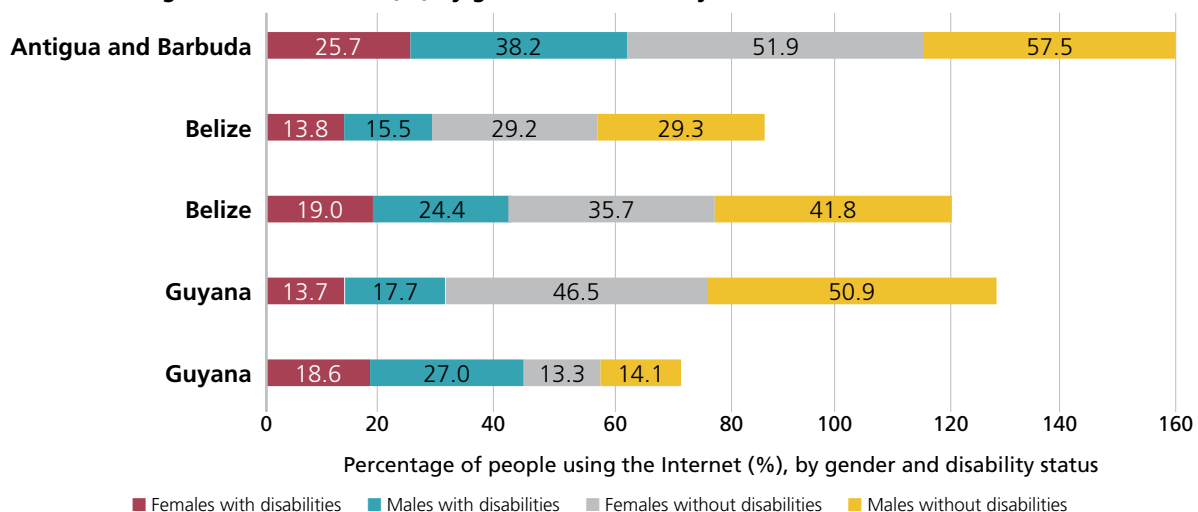
**Table 4-8. Use of the Internet by type of disability for persons aged five and above—age standardized percentages.\***

	Type of disability**							
	Seeing	Hearing	Walking	Remembering and concentrating	Self-care	Upper body	Communicating and speaking	None
<b>Antigua and Barbuda</b>	49	24	27	16	12	20	7	55
<b>Belize</b>	24	15	11	7	7	11	8	29
<b>Grenada</b>	31	15	20	11	11	19	7	42
<b>Guyana</b>	28	12	12	no data	no data	9	6	25
<b>Jamaica</b>	36	20	15	7	7	14	6	39

Source: ECLAC 2016. Collected on the basis of the national population and housing censuses conducted in Antigua and Barbuda in 2011, Belize in 2010, Grenada in 2011, Guyana in 2012, Jamaica in 2011. Table reproduced from Appendix A.

Note:\* And not including the institutionalized population in the Caribbean countries with the relevant census data. \*\*Prevalence is expressed as a ratio per thousand in the total population.

**Figure 4-2. Percentage of internet users (%) by gender and disability status.**



Source: This figure uses the data derived from Ullmann et al. 2018. Collected by ECLAC on the basis of the national population and housing censuses conducted in Antigua and Barbuda in 2011, Belize in 2010, Grenada in 2011, Guyana in 2012, Jamaica in 2011). Figure copied from Appendix A.

Their disaster preparedness and recovery activities, such as disaster or emergency coordinators' contact information, information about the location of shelters, instructions and tips on what to do before, during, and after hazard situations, emergency notices, policies, community disaster plans were tested against two of the WCAG compliance criteria and found in general to be noncompliant. This makes access to their content and information about disasters and emergency guidelines difficult, or even impossible for persons with disabilities. Saint Lucia was found to have the fewest accessibility barriers and Grenada the most.

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***No official government websites, including those of the national disaster management agencies are fully compliant with Web Content Accessibility Standard, WCAG 2.1.***

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None of the nine CRF-eligible countries have standalone web accessibility policies. Web accessibility considerations are also not fully integrated into their national policies and plans on persons with disabilities and ICT.

In most cases, consideration of disability issues in ICT policy is limited to general provisions about the necessity of equal access to ICT. As noted, for example, in the attached Krylova report (Appendix B), Jamaica's Persons with Disabilities Sector Plan proposes to increase access to ICT and assistive devices for persons with disabilities. However, it does not incorporate any specific strategies or any provisions on web accessibility.<sup>43</sup> Furthermore, the 2014 Disability Act of Jamaica, which embodies the principles of equality and nondiscrimination against persons with disabilities does not cover either ICT or web accessibility standards.<sup>44</sup> Similarly, the 2017 Disabilities and Equal Opportunities Act of Antigua and Barbuda, which prohibits discrimination against persons with disabilities, does not include any provisions related to ICT or web accessibility.<sup>45</sup> Although the 2010 Persons with Disabilities Act of Guyana mentions ICT in respect to persons with disabilities, it does not include any provisions on web accessibility.<sup>46</sup> In the same vein, the 2012 National Youth Development Policy of Belize mentions an increasing role of ICT and the internet in promoting leadership and

self-development of young people with and without disabilities, but it fails to include any specific guidelines.<sup>47</sup>

Warning messages and related information can be made more accessible to persons with a range of limitations, abilities, and capacities when produced and disseminated using the common alerting protocol (CAP)—the international standard format for emergency alerting and public warning that has been designed for all hazards and across all communications media ranging from sirens to cell phones, faxes, radio, television, and various digital communication networks based on the internet. CAP has now been adopted by CDEMA, CMO, and all Caribbean disaster management authorities and NMHSs as the standard format for creating warnings messages. This has increased the efficiency of delivery and the range of possible platforms for dissemination, giving persons with disabilities greater opportunities for receiving warnings in a timely way and in a format, they can access. It has also been successfully applied to the development of emergency warnings applications, which are being made available across the Caribbean region. Representatives from across DRM communications and many other government departments have received multiple levels of training in the use and application of CAP over years, most recently in 2020, and support has been provided for the installation and maintenance of dedicated web servers in all selected countries.

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***The adoption of CAP as the standard format for emergency alerting and public warning dissemination in all nine selected CRF-eligible countries has given persons with disabilities greater opportunities for receiving timely warnings in a format, they can access.***

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The United Nations CRPD recognizes and promotes the use of sign language for the deaf and hearing impaired. It makes clear that sign languages are equal in status to spoken languages and obligates state parties to facilitate the learning of sign language and promote the linguistic identity of the deaf community. The Caribbean region does not have a uniform sign language, instead the region has various types of sign language across the nine

selected CRF-eligible countries. However, the official US version is the most widely understood and used. Some country level sign language training is available, usually facilitated through disability support organizations, but the number of expert sign language communicators remains very limited. The sign language translation of warning messages and related important information is included in the national warnings protocols as a standard operating procedure (SOP) in all selected countries. Based on interviews that were carried out for this report with representatives from CMO and disability support and other personnel in Antigua and Barbuda, Guyana, Jamaica and Belize, it is clear that simultaneous sign language translations have not always been available on televised emergency warnings, recorded information video clips, or live streams on official government websites across the Caribbean region. This is primarily because of a lack of trained translators. It was noted however, that throughout the 2020 response to the COVID-19 pandemic the use of sign language has been supported by all national governments and that the availability of sign language translation has greatly increased in all relevant official televised and video messaging.

Many blind people use Braille to read instructive documents and navigate their way around buildings and public facilities through signage on doors, lifts, toilet and washrooms. Print versions of emergency warnings and disaster management information are not systematically made available in braille. However, some are available in graphic and large font. Tactile paving on footpaths and stairs, and Braille signage are accessibility requirements contained in international standards although, as already noted, these standards are not well adhered to, particularly in older public buildings and those in rural and remote locations. This is particularly significant for DRM when buildings and transit routes are likely to be used in the case of evacuation, emergency assembly points, and emergency sheltering.

#### Recommendation 12

**Produce public awareness and education literature that support DRM, and CR in a range of accessible formats, including braille, easy-to-read and large print as required, and graphic, and in all appropriate local languages.**

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#### Recommendation 13

**Produce and disseminate public awareness and education information that support DRM and CR across a range of media and platforms—online, social media, traditional broadcast media, print and direct personal contact.**

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#### Recommendation 14

**Sign language should be available in televised and video recorded presentations of warnings and public awareness-raising information, consultation and planning meetings or workshops, and training exercises as needed. The critical shortage of sign language interpreters should be addressed with targeted American Sign Language (ASL) training for DRM purposes. This training could be facilitated at a regional level.**

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#### Recommendation 15

**Increase the compliance of WCAG 2.1 standards in DRM and climate change information on official government websites.**

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#### Recommendation 16

**National governments, CDEMA, and CMO should continue to support national DRM and NHMSs in the application of the common alerting protocol (CAP) in the development of inclusive weather and climate-related and other warning services in the preparation of warning messages. This will ensure the greatest possible range of internet-enabled dissemination platforms available for the originators of early warnings.**

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## Notes

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23. Model Comprehensive Disaster Management Legislation and Regulations 2013, page 21
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Photo: © Igor Kiporuk | Dreamstime.com

# Conclusion

# 5

## 5.1 Main Findings in Summary

More than a million persons across Antigua and Barbuda, Belize, Dominica, Grenada, Guyana, Jamaica, Saint Lucia, Saint Vincent and the Grenadines, and Suriname live with a range of physical, sensory, and mental disabilities. Populations in these countries are aging, and as they age a distinct trend toward disability heightens. A lack of quality, accessible disaggregated disability data limit a precise understanding of this demographic. However, it is clear that visual impairment and limited mobility are the most prevalent sensory and physical disabilities across virtually all age categories. The rates of intellectual, mental and psychological disability are not well understood as these conditions are both poorly defined and are typically not well accounted for in official statistics. Rates of disability across all impairments are generally higher among females. Most disability is acquired and increases with age, both in degree and as a proportion of the population. Disability often intersects with other marginalizing characteristics, such as poverty, poor literacy, low income, homelessness, ethnic and religious diversity and social or geographic isolation. When apparent, the disadvantage is compounded.

All nine national governments are committed to disability inclusive DRM and have developed policies and national standards that support accessibility of information and public infrastructure for persons with disabilities. This, alongside more accessible communications technologies, is contributing to improving the opportunities for persons with disabilities to greater access to DRM information and warnings. The adoption of the Common Alerting Protocol for weather warnings and information and the increase in internet-based communication devices with inbuilt accessibility features are improving the availability of information for persons with various levels of abilities. However, availability does not guarantee accessibility—the ability to afford internet-enabled devices and access to the internet and reliable national communications infrastructure are important limiting factors. Web content management standards—such as Web Content Accessibility Guidelines (WCAG 2.1)—are not commonly applied to content made available on official DRM websites. This means persons with disabilities who rely on accessibility software such as screen readers and

translators cannot access the information. For many persons with disabilities, barriers to access buildings, public transport, and other public infrastructure persist. This not only limits their opportunities to participate fully in societal processes, it also creates difficulties in responding to emergencies, particularly in evacuation. Building codes and public planning regulations designed to enable accessibility for persons with disabilities to buildings and public infrastructure are enshrined in public policy but are not well applied or enforced.

Throughout the response to COVID-19 in the Caribbean region, focus on disability inclusion and support for persons with disabilities has increased. However, many are still too often effectively excluded from the DRM and CR planning processes. Despite policy supporting inclusive practices, DRM planning still tends to be carried out for rather than with persons with disabilities, and is based on their limitations rather than their strengths. Persons with disabilities are invited to participate in DRM planning and policy forums but their active engagement is frequently not well facilitated. Removing barriers to their full and active participation will require greater attention to enforcing policies that support access to the built environment and information and communications technologies. Importantly, and possibly more difficult to achieve, it will also require an attitudinal change that will shift the perspective of DRM managers and policy planners toward people with disabilities from one of pity, based on their perceived helplessness, to one of people with disabilities as a community with a diversity of skills and capacities that can be built upon and strengthened.

All nine selected CRF-eligible countries have strong and active organizations of persons with disabilities that have a direct working relationship with their respective governments. Some are part of the government infrastructure, others are less well supported and often poorly resourced. All are trusted by their communities and are strong advocates for the people they represent. However, they are underutilized in DRM planning, particularly at the national level, and should certainly be supported to play a greater role in policy and planning forums and in supporting education that raises awareness and understanding of hazards, warnings and preparation for response to emergencies among people with disabilities.

## 5.2 Conclusion and Recommendations

This desk study report has considered the inclusion of persons with disabilities in Antigua and Barbuda, Belize, Dominica, Grenada, Guyana, Jamaica, Saint Lucia, Saint Vincent and the Grenadines, and Suriname in societal processes aimed at responding to and reducing the risks associated with a range of hazardous events and in building societal resilience to future climates. Research has been based on available literature and documentation and some limited direct contact with in-country sources. No original research or possibility for in-depth investigation formed any part of this report. The status of disability inclusion in DRM and CR has been described and explored and gaps identified and analyzed to the extent possible. Deeper analysis will require targeted in-country research.

The report includes 16 recommendations that are based on the major findings (table 5-1). They address the identified gaps in existing disability and DRM policy and practice that create or worsen barriers to access to information and the built environment and, which prevent the participation and active engagement of persons with disabilities in DRM and CR forums. Recommended actions are aimed at leveraging the policy instruments and established disability support infrastructures that exist. Establishing new societal infrastructure, relationships, and practices will support greater inclusion and build the necessary capacities in persons with disabilities to engage in planning and preparing for the response and recovery phases of hazard impacts. These recommendations are designed to enhance the opportunities for persons with various abilities, constraints and capacities to make decisions and take actions that will build their future climate resilience.

**Table 5-1. Recommendations with implementation authorities, linkages, synergies, and potential time frames for delivery noted.**

#	Recommendation	Implementation responsibility
1	<b>National DRM agencies should determine and document their precise disability-related information needs. This will enable the design of a schedule of fit-for-purpose databases for integrating disability inclusion in DRM activities.</b>	<ul style="list-style-type: none"> <li>• National governments to implement through ministries with portfolio responsibilities in DRM and working closely with those in community services and disability inclusion.</li> <li>• Collaboration with CDEMA will support regional consistency</li> <li>• Consultants to be contracted to discover and document data needs and recommend the design, schedule, and management of the database</li> </ul> <p>This work is included for consideration in the 2021–22 CRF work plan in combination with Recommendation 2.</p>
2	<b>Inventory of national repositories of data related to disability inclusion that includes categories that identify content detail, metadata, ownership, accessibility, and management standards.</b>	<ul style="list-style-type: none"> <li>• National governments to implement—through ministries with responsibility for national statistical offices and national data management standards national statistics offices</li> </ul> <p>This work is included for consideration in the 2021–22 CRF work plan in combination with Recommendation 1.</p>
3	<b>National governments support the collection of prioritized disability demographic data to complement existing datasets.</b>	<ul style="list-style-type: none"> <li>• National government to implement—multiagency</li> </ul> <p>Will be informed by Recommendations 1 and 2 Recommendations 1,2, and 3 can be packaged.</p>
4	<b>Development of data-sharing agreements among national institutions based on existing national and international data management standards for accessing and sharing data in support of disability inclusion in prevention, preparedness, response, and recovery activities and building climate resilience across the region.</b>	<ul style="list-style-type: none"> <li>• National governments to implement with formalized agreements at ministerial level.</li> <li>• Will include the partnerships and institutions managed under various portfolios such as government agencies, statutory bodies, national authorities, tertiary, and special education institutions, and donor-supported projects.</li> <li>• Regional level collaboration will support regional consistency</li> </ul> <p>This will be supported and informed by the outcomes of Recommendations 1 and 2.</p>
5	<b>All agencies with a responsibility for the collection and management of national datasets ensure that relevant personnel be trained in WGSS philosophy and methodologies.</b>	<ul style="list-style-type: none"> <li>• National governments to implement through the ministry with responsibility for the national statistics offices and data management standards</li> </ul> <p>Training provided through Washington Group on Disability Statistics</p>
6	<b>Belize, Dominica, Grenada, Saint Lucia, and Saint Vincent and the Grenadines need to enact disability legislation that will give force of law to their CRPD obligations</b>	<ul style="list-style-type: none"> <li>• National governments of Belize, Dominica, Grenada, Saint Lucia, and Saint Vincent and the Grenadines to implement</li> </ul>
7	<b>All national governments should provide adequate support for their national organizations of persons with disabilities. Where lacking, they should ensure that the working partnerships with these organizations are formalized and supported through the various Ministry portfolios</b>	<ul style="list-style-type: none"> <li>• To be implemented by national governments</li> <li>• All should review current levels of support</li> <li>• Governments of Belize, Dominica, Grenada Saint Vincent and the Grenadines could consider inclusion of organizations of persons with disabilities (OPDs) in government infrastructure</li> </ul>
8	<b>Inclusion of persons with disabilities at all levels of consultation and planning. This should be facilitated with the provision of accessible venues and appropriate communications systems and support technologies.</b>	<ul style="list-style-type: none"> <li>• National governments to implement at the national levels through the national emergency management offices.</li> </ul> <p>Synergy with Recommendation 9.</p>



**Table 5-1. Recommendations with implementation authorities, linkages, synergies, and potential time frames for delivery noted. (cont.)**

#	Recommendation	Implementation responsibility
9	<p><b>Raising awareness and increasing capacity of DRM and CR practitioners to foster a change in attitudes and approaches toward persons with disabilities through the delivery of awareness-raising and training material that is jointly developed with the national organization of persons with disabilities and readily available for DRM and CR practitioners. Training activities and raising awareness events could also be delivered by persons with disabilities.</b></p>	<ul style="list-style-type: none"> <li>• To be implemented by national organizations for persons with disabilities</li> <li>• Will require adequate resourcing and national government funding support</li> <li>• Could be developed with support from donor agencies with expertise in developing training packages and educational institutions—University of the West Indies and CDEMA</li> <li>• Delivered OPD in partnership with DRM in appropriate DRM planning and training forums</li> </ul> <p>Synergies with Recommendations 12 and 13.</p>
10	<p><b>National governments should ensure the development of legislation, and enforcement of national planning policies and building codes is applied to all new and retrofitted public and commercial buildings and public facilities. These must include international standards and provisions to ensure accessibility and support easy access and egress for persons with disabilities across a range of disabilities.</b></p>	<ul style="list-style-type: none"> <li>• National governments to implement, monitor and manage through their appropriate portfolios</li> <li>• As in many instances existing provisions are not well adhered to, additional research to explore gaps would be useful.</li> </ul>
11	<p><b>The Caribbean Uniform Building Code (CUBiC) does not include requirements that ensure accessibility for persons with disabilities. Belize and Suriname should amend national building and planning policies with additional or supplementary provisions specifically including requirements that ensure accessibility for persons with disabilities.</b></p>	<ul style="list-style-type: none"> <li>• National governments Belize and Suriname to implement</li> </ul>
12	<p><b>Produce public awareness and education literature to support, DRM, and CR in a range of accessible formats, including braille, easy-to-read and large print as required, and graphic, and in all appropriate local languages.</b></p>	<ul style="list-style-type: none"> <li>• To be implemented through national emergency offices in consultation with relevant organizations for persons with disabilities, particularly those focused on the blind and visually impaired, and representatives of multicultural communities.</li> <li>• National governments to ensure adequate resources through relevant ministries.</li> </ul>
13	<p><b>Public awareness and education information to support DRM and CR across a range of media and platforms—including online, social media, traditional broadcast media, print, and direct personal contact.</b></p>	<ul style="list-style-type: none"> <li>• To be implemented through national emergency management offices with support also provided for local and community emergency authorities</li> <li>• Attention should be paid to both formal and informal communication networks</li> </ul> <p>Synergies with Recommendations 12 and 16.</p>
14	<p><b>Sign language should be available in televised and video-recorded presentations of warnings and public awareness-raising information, consultation and planning meetings or workshops, and training exercises as needed. The critical shortage of sign language interpreters should be addressed with targeted American Sign Language (ASL) training for DRM purposes. This training could be facilitated at a regional level.</b></p>	<ul style="list-style-type: none"> <li>• To be implement by national governments through their national emergency management offices in partnership with the appropriate organization of persons with disabilities</li> <li>• Signed warnings and information is not a simple matter of direct translation. It requires interpretation of both language and meaning that is specific to the national context. Targeted training is essential.</li> <li>• ASL is the dominant (but not only) sign language used throughout the Caribbean region.</li> </ul> <p>It is likely that training in ASL for emergency management (EM) has been developed in the US and could be adapted to suit the CRF-eligible countries.</p>

**Table 5-1. Recommendations with implementation authorities, linkages, synergies, and potential time frames for delivery noted. (cont.)**

#	Recommendation	Implementation responsibility
15	<b>Compliance of WCAG 2.1 standards in DRM and climate change information in official government websites.</b>	<ul style="list-style-type: none"> <li>• To be implemented by national governments through their departments with responsibility for ICT standards and applied to all government websites—information related to EM is spread across multiple portfolios</li> <li>• National disaster management offices to support compliance through skilled web management.</li> <li>• CEDMA could provide oversight and support training for DRM where necessary.</li> </ul>
16	<b>Availability of the greatest possible range of internet-enabled dissemination platforms for the originators of early warnings, national governments. CDEMA and CMO should continue to support national DRM and NHMSs in the application of the common alerting protocol (CAP) in the development of inclusive weather and climate-related, and other warning services in the preparation of warning messages.</b>	<ul style="list-style-type: none"> <li>• CMO and CDEMA to support NMHSs to develop locally produced weather and climate warnings and information in CAP format through ensuring forecaster and weather services managers are trained and proficient in CAP</li> <li>• National emergency management offices—with CEDMA support, to ensure all web managers with a responsibility for developing DRM related warnings be trained and proficient in the use and application in CAP</li> <li>• CAP training is made widely available throughout the Caribbean region facilitated through regional training workshops.</li> </ul>

Notes: Recommendations require legislation or policy change. Delivery will be in the longer term. With support, all other recommendations can be delivered in the short to medium term

## Appendix A: Additional Resources

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## Appendix B: Companion Report

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### **Web-based Information and Communication Technologies (ICT) in Disaster Risk Management: Practices, Policies, and Compliance with International Web Accessibility Standards**

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Companion Report to

*Disability Inclusion in Disaster Risk Management–Assessment in the Caribbean Region*

JULIA KRYLOVA IN SUPPORT OF SECTION 3.6.1 ACCESSIBLE COMMUNICATIONS

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## B1. Practical aspects of the use of web-based ICT by persons with disabilities in disaster risk management

Web-based information and communication technologies (ICT) have a high potential for improving access for persons with disabilities to public information and services provided by government agencies, private entities, and non-profit organizations in disaster and emergency situations, as well as in pre- and post-disaster periods. Article 9 of the United Nations *Convention on the Rights of Persons with Disabilities* (CRPD) calls on state parties to take measures to ensure that persons with disabilities have equal access to ICT and systems, including the internet (United Nations 2006). Since 2000, the internet has been playing an increasingly important role in enhancing the involvement of persons with disabilities in disaster preparedness and recovery efforts worldwide. However, the existing statistics in several Caribbean Resilience Facility (CRF)-eligible countries where the relevant data

are available provide evidence of significant differences in the internet usage between people with and without disabilities (table B-1).

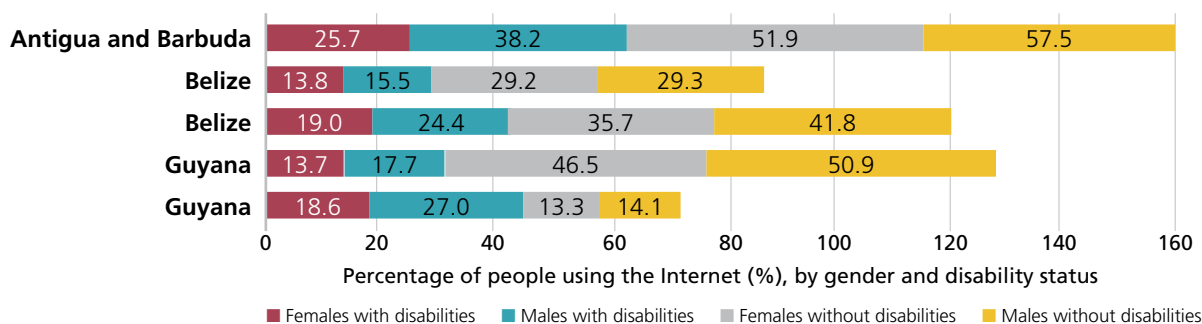
Table B-1 demonstrates the use of the internet by people with disabilities related to seeing, hearing, walking, remembering and concentrating, self-care, upper body, and communication and speaking in the five CRF-eligible countries: Antigua and Barbuda, Belize, Grenada, Guyana, and Jamaica. However, these data do not include the institutionalized population with cognitive and mental disabilities because the national population and housing censuses in these countries do not collect the related information on this group of people (Ullmann et al. 2018). The internet usage decreases with age for both persons with disabilities and persons without disabilities (Ullmann et al. 2018). Figure B-1 presents sex-disaggregated gender data for the internet use in the above-mentioned countries. Women in both groups—with and without disabilities—tend to use the internet less compared to their male counterparts in the respective groups.

**Table B-1. Use of the internet by type of disability for persons aged 5 and over (age standardized percentages) in some CRF-eligible countries with the relevant census data.**

	Type of disability							
	Seeing	Hearing	Walking	Remembering and concentrating	Self-care	Upper body	Communicating and speaking	None
Antigua and Barbuda	49	24	27	16	12	20	7	55
Belize	24	15	11	7	7	11	8	29
Grenada	31	15	20	11	11	19	7	42
Guyana	28	12	12	no data available	no data available	9	6	25
Jamaica	36	20	15	7	7	14	6	39

Source: ECLAC 2016. Collected on the basis of the national population and housing censuses conducted in Antigua and Barbuda in 2011, Belize in 2010, Grenada in 2011, Guyana in 2012, Jamaica in 2011.

**Figure B-1. Percentage of internet users (%) by gender and disability status.**



Source: This figure uses the data derived from Ullmann et al. 2018. Collected by ECLAC on the basis of the national population and housing censuses conducted in Antigua and Barbuda in 2011, Belize in 2010, Grenada in 2011, Guyana in 2012, Jamaica in 2011). Figure copied from Appendix A.

The data in table B-1 and figure B-1 come from the national population and housing censuses conducted between 2010 and 2012 in Antigua and Barbuda, Belize, Grenada, Guyana, and Jamaica. Over the last decade, internet penetration rates almost doubled in Latin America and the Caribbean regions, from 35.7 percent in 2010 to 71.5 percent in 2020 (Internet World Stats 2010; 2020). However, no current data are available on the internet usage disaggregated by users' disability status in these countries. Also, these data are found lacking in the other four CRF-eligible countries—Dominica, Saint Lucia, Saint Vincent and the Grenadines, and Suriname. This data gap significantly limits the ability of the national governments in all these CRF-eligible countries to direct resources and develop effective policy responses to address special needs of persons with disabilities and other disadvantaged groups in various policy areas, including disaster risk management (DRM) and disaster risk reduction (DRR).

Despite the absence of the exact statistics, recent reports by international organizations find significant digital barriers experienced by persons with disabilities in the CRF-eligible countries (Ullmann et al. 2018; ECLAC 2019a). For example, a recent policy brief commissioned by the United Nations Economic Commission for Latin America and the Caribbean (ECLAC) indicates that while “smartphones now have built-in accessibility features, such as voice recognition software, many websites and other online platforms are still inaccessible to persons with disabilities” in this region (ECLAC 2019a). Besides, the COVID-19 pandemic has increased the digital divide for most marginalized groups, including persons with disabilities (UN-DESA 2020a). At the same time, the pandemic has highlighted a critical role that electronic government services and information sharing play during emergency situations at the country, regional, and global levels.

Improving internet access for persons with disabilities remains a severe challenge at both the country and regional levels. Yet, several regional cooperation and knowledge-sharing organizations—such as ECLAC, the Caribbean Centre for Development Administration, the Latin American Centre for Development Administration, and the Network of e-Government Leaders of Latin America and the Caribbean—assist national governments in digital transformation (UN-DESA 2020a). For example,

in 2019, ECLAC organized training sessions for public officials and organizations working with persons with disabilities in Dominica, Grenada, Jamaica, Saint Lucia, and Saint Vincent and the Grenadines to increase persons with disabilities' access to ICTs, thereby helping the national governments in these countries with their responsibilities under the CRPD (ECLAC 2019b).

Another regional example is a program “Improving Accessibility for Youth with Disabilities Through ICT and Open Solutions in the Caribbean” launched by the United Nations Educational, Scientific and Cultural Organization (UNESCO) in 2014. Its key objective was to provide young people and national ministries with special skills to develop hardware and software innovative solutions to fight social exclusion, discrimination, and poverty through the application of innovative ICT, assistive technologies, and open solutions, including free and open-source software, open access, open standards, open training, and cloud computing, among others (UNESCO 2014). This accessibility program was developed for 18 countries participating in the Caribbean Community (CARICOM), including the nine CRF-eligible countries. Its activities included enhancing technical capacities of the Ministries of Youth and Culture (and Women's Affairs) for formulating socially inclusive ICT policies and master plans on persons with disabilities and building ICT capacities, both hardware and software, through open solutions among youth (UNESCO 2014).

National and regional programs about building ICT capacities in the CRF-eligible countries have a high potential for improving persons with disabilities' access to disaster-related information. Thus, web-based online platforms are commonly used for various disaster information systems. The United Nations and the European Commission, for instance, developed an online cooperation framework for disaster information systems worldwide aimed at improving data collection, distribution and sharing in the first phase after major disasters (GDACS n.d.). The integrated Global Disaster Alert and Coordination System (GDACS) website offers several online disaster information systems and coordination tools: (i) GDACS Disaster Alerts issued and disseminated to subscribers immediately following sudden-onset disasters; (ii) the virtual On-Site Operations

Coordination Centre (OSOCC), an online platform for real-time information exchange and cooperation among disaster responders; and (iii) maps and satellite imagery from various providers (GDACS n.d.). Information posted on GDACS is available to all internet users, except for the virtual OSOCC, which is restricted to disaster management agencies and response organizations.

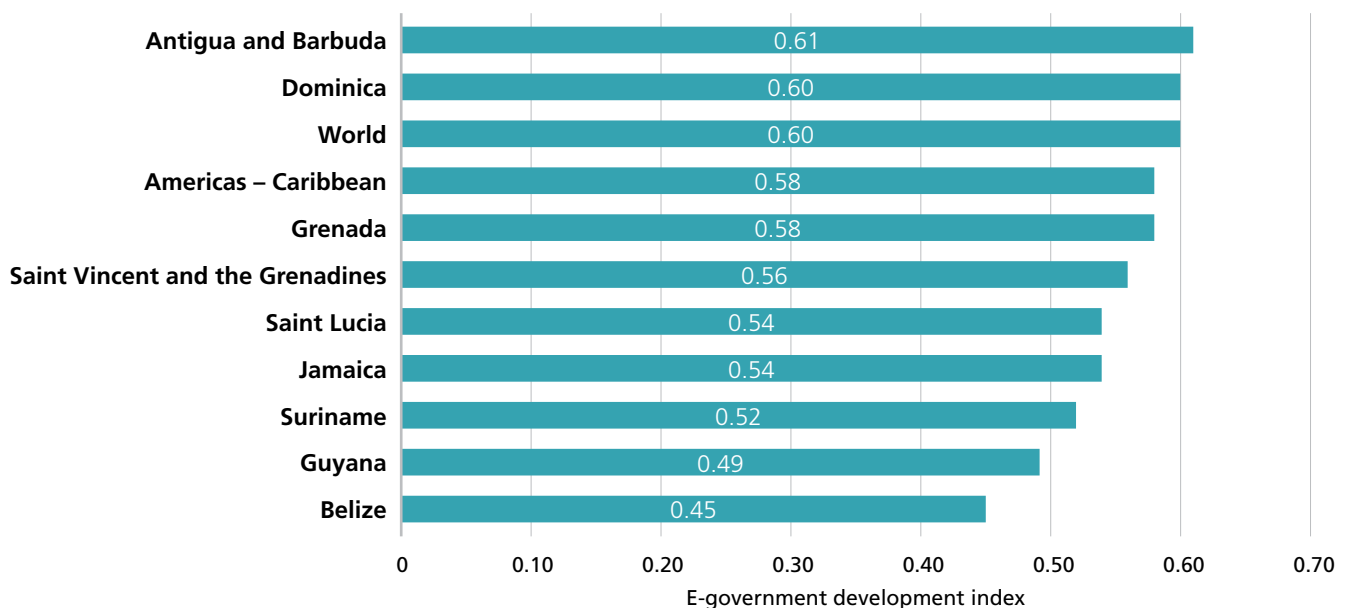
In DRR, a multitude of websites and digital platforms share disaster-related information, such as online portals, communities, and blogs such as PreventionWeb, web-based messengers such as Skype, Slack, Google Hangouts, WhatsApp, Spike, Zoom, Viber, Facebook Messenger, and Wire, image and video sharing online platforms namely Instagram, Flickr, and YouTube, and social networking websites like Facebook and Twitter. These websites and apps are accessible on various devices that are connected to the internet, including hardware computers, laptops, notebooks, and mobile phones. In addition, online web mapping, such as Yandex Maps and Google Maps, can be used as disaster relief guidance systems. For example, they can help disaster survivors get to hospitals and temporary evacuation shelters, which might be challenging if some of the roads were physically destroyed by hazards. Also, they can help responders who participate in search and rescue find the exact location of disaster victims, which might be difficult if they are not familiar with local routes. For example, in the aftermath of Typhoon Ondoy and Typhoon Pepang in 2009, a group of volunteers launched

a Google Maps-based website to share flood updates and information about the location of persons in need of rescue (UN-APCICT/ESCAP 2010).

The internet is also widely used to coordinate relief programs and initiatives. For example, at the regional level, the Caribbean Disaster Emergency Management Agency (CDEMA) has developed an online database—the Relief Supplies Tracking System (RSTS)—to facilitate the management and tracking of disaster relief supplies. This online database allows for better coordination of relief operations through enhanced collection, distribution, and analysis of disaster relief information (CDEMA 2016).

The role of e-government in DRR is of critical importance for all countries in the Caribbean region and worldwide. The United Nations e-government survey published by the United Nations Department of Economic and Social Affairs (UN-DESA) explores trends in e-government development and traces countries' progress on integrated policies and services provided to citizens, including persons with disabilities. Specifically, it encourages national governments to bridge the digital divide between people with and without disabilities. Based on the e-government survey, UN-DESA calculated an e-government development index (EGDI) for 193 United Nations member states, including the nine CRF-eligible countries (figure B-2). The EGDI measures the capacity of national governments to use ICT to deliver public

**Figure B-2. The 2020 e-government development index.**



Source: Data derived from the UN-DESA 2020b, e-government development index (database); <https://publicadministration.un.org/egovkb/en-us/Data-Center>.

services by assessing national websites, e-government policies, and strategies in specific sectors for delivery of essential services (UN-DESA 2018). It consists of three subindices: (i) a human capital index which covers adult literacy gross enrolment ratio, expected years of schooling, and mean years of schooling across all levels of the educational system; (ii) a telecommunications infrastructure index covering connectivity with regard to fixed-line, mobile or cellular, fixed broadband and wireless broadband subscriptions, along with internet use per 100 inhabitants; and (iii) an online services index covering the scope and quality of service offered by a cross-section of government websites (UN-DESA 2018). Only two among the CRF-eligible countries—Antigua and Barbuda and Dominica—had higher EGDI values in 2020 than a global and regional average EGDI, with Belize, Guyana, and Suriname demonstrating the lowest results (figure B-2).

Overall, the 2020 e-government survey identifies a positive trend toward expanding the provision of online services designed for vulnerable populations, such as women, youth, the elderly, and persons with disabilities (UN-DESA 2020a). Yet, among these groups, persons with disabilities tend to be less well served with online services (UN-DESA 2020a). Among other functions, the e-government survey allows for the identification of the readiness of digital governments in addressing challenges associated with DRM and enhancing e-resilience. Specifically, results of a regression analysis based on the e-government survey database suggest that those countries that publish

relevant weather- and disaster-related information on their government websites have lower casualties when disasters occurred (UN-DESA 2018).

Only eight out of the nine CRF-eligible countries have official websites of their national disaster management agencies (NDMAs): Antigua and Barbuda, Belize, Dominica, Grenada, Guyana, Jamaica, St. Lucia, and St. Vincent and the Grenadines. The uniform resource locator (URL), also known as a web address, of their official websites can be found in table B-2. Suriname is the only country among the CRF-eligible countries that has not developed a website for its disaster management agency, the National Coordination Center For Disaster Relief, which might prevent an effective dissemination of disaster-related information among all affected individuals, including persons with disabilities and other disadvantaged groups.

Innovative computational technologies and high-speed internet have allowed geospatial data and various applications to be incorporated directly into the websites of the NDMAs. For example, the website of the National Emergency Management Organisation (NEMO) in Saint Vincent and the Grenadines uses web services to incorporate graphical tropical weather forecasts generated by the National Hurricane Centre (NHC) and the National Weather Service (NEMO n.d.). These graphic forecasts show all active tropical cyclones, and disturbances with tropical cyclone formation potential over the next two

**Table B-2. National Disaster Management Agencies in the CRF-eligible countries.**

Country	Name	Abbreviation	Website URL
<b>Antigua and Barbuda</b>	National Office of Disaster Services	NODS	<a href="http://nods.gov.ag/">http://nods.gov.ag/</a>
<b>Belize</b>	National Emergency Management Organisation	NEMO	<a href="http://site.nemo.org.bz/">http://site.nemo.org.bz/</a>
<b>Dominica</b>	Office of Disaster Management	ODM	<a href="http://odm.gov.dm/">http://odm.gov.dm/</a>
<b>Grenada</b>	National Disaster Management Agency	NaDMA	<a href="https://nadma.gd/">https://nadma.gd/</a>
<b>Guyana</b>	Civil Defense Commission	CDC	<a href="https://cdc.gy/">https://cdc.gy/</a>
<b>Jamaica</b>	Office of Disaster Preparedness and Emergency Management	ODPEM	<a href="https://odpem.org.jm/">https://odpem.org.jm/</a>
<b>Saint Lucia</b>	National Emergency Management Organisation	NEMO	<a href="http://nemo.gov.lc/">http://nemo.gov.lc/</a>
<b>St. Vincent and the Grenadines</b>	National Emergency Management Office	NEMO	<a href="http://www.nemo.gov.vc/nemo/">http://www.nemo.gov.vc/nemo/</a>
<b>Suriname</b>	National Coordination Centre For Disaster Relief	NCCR	N/A



and five days (NEMO n.d.). Geospatial data are critical for the entire DRM cycle because disaster-related data are location-specific. Information can be used by both disaster survivors and responders. For example, Jamaica’s Office of Disaster Preparedness and Emergency Management (ODPEM) provides geospatial information about shelters and their status that disaster survivors and responders can use (ODPEM n.d.).

An analysis of the NDMAs’ websites shows that they contain various disaster-related information, including disaster or emergency coordinators’ contact information, information about shelters, instructions and tips on what to do before, during, and after hazard situations, emergency notices, policies, and community disaster plans, among other materials. Table B-3 contains an availability checklist that covers these important topics by respective websites from September 2020.

Access for persons with disabilities to disaster-related information posted on these and other relevant websites can be significantly restricted if the websites lack web accessibility. For example, persons with sight impairments are excluded from access to information if the related website is not properly designed and developed to be used by assistive technologies, such as screen readers. Further,

if audio announcements about disaster situations do not have open captures or if websites post disaster-related audio and visual content without any text alternatives or sign language versions, they exclude people with hearing challenges. Another example relates to people with cognitive and mental disabilities whose access to information can be restricted if a given website has an unclear and inconsistent interface. Further, when websites use flashing effects that are not designed properly, users prone to seizures caused by such effects cannot use them. Finally, if webpages are written in complicated language, users with dyslexia and learning difficulties might experience severe challenges in understanding their content. These and many other barriers hamper the ability of persons with disabilities to access and use public information and services, including those related to DRM.

Improving web accessibility of DRM-related websites requires accelerated national efforts. This challenge is particularly critical for the small island developing states (SIDS) in the Caribbean region because they share a number of characteristics that make them vulnerable to external threats, including small populations, limited economies of scale, and undiversified economies. In this respect, a higher level of digital connections between various groups of populations, including persons with

**Table B-3. Content of the NDMAs’ websites in the CRF-eligible countries.**

	Disaster coordinators’ contact information	Information about shelters	Instructions on what to do before, during, and after hazard situations	Emergency notices	Policies	Community disaster plans
<b>Antigua and Barbuda’s NODS</b>	Available	Available	Available	Available	N/A	N/A
<b>Belize’s NEMO</b>	Available	N/A	Available, including pet protection	Available	N/A	N/A
<b>Dominica’s ODM</b>	Available	Available	Available	Available	Limited	N/A
<b>Grenada’s NaDMA</b>	Available	Available	Available, including tips for pregnant women, the elderly, fishermen, farmers, hotels and coastal resorts	Available	N/A	N/A
<b>Guyana’s CDC</b>	N/A	N/A	Available	N/A	N/A	N/A
<b>Jamaica’s ODPEM</b>	Available	Available	Available	Available	Available	Available
<b>Saint Lucia’s NEMO</b>	Available	Available	Available	Available	Available	N/A
<b>St. Vincent and the Grenadines’ NEMO</b>	Limited	Available	Available	Available	Available	N/A

Source: Authors’ analysis of the NDMAs’ websites in Antigua and Barbuda, Belize, Dominica, Grenada, Guyana, Jamaica, St. Lucia, and St. Vincent and the Grenadines. 2020.

disabilities, and public, private, and non-profit entities could help improve the distribution of disaster-related information and the delivery of public services, as well as to minimize the impact of disasters on local communities. Although many CRF-eligible countries still lack adequate policies and regulations related to persons with disabilities' access to web-based ICT, some of the CRF-eligible countries have launched initial regulatory reforms in this sphere.

## B2. National policies on accessible ICT in the CRF-eligible countries and international web accessibility standards

Article 21 of the CPRD mandates that state parties provide public information in accessible formats to people with different kinds of disabilities (United Nations 2006). It also urges private entities, mass media, and information providers through the internet to make their services accessible to persons with disabilities (United Nations 2006). All disaster-related information should be available in formats that can be used by people with various disabilities. Considering an increasing importance of the web-based ICT for persons with disabilities, the World Wide Web Consortium (W3C)—an international standards body—developed international web accessibility standards. The latest version of these standards, known as the web content accessibility guidelines 2.1 (WCAG), provides a common standard for web content accessibility based on the four principles: perceivable, operable, understandable, and robust (W3C 2018b). First, web content and user interface components should be perceivable, meaning that they should be visible to at least one of the user's senses. Second, user interface components and navigation must be operable, excluding interactions that the user cannot perform. Third, information and the operation of user interface must be understandable to the user. Fourth, content must be robust to be interpreted reliably by assistive technologies, such as screen readers, braille terminals, screen magnification software, speech recognition software, and keyboard overlays. Each of these principles has a list of guidelines and three priority success criteria

levels: Level A or baseline conformance, Level AA or conformance with additional success criteria, and Level AAA or the highest level of conformance.

In 2012, WCAG criteria were accepted by the International Organization for Standardization (ISO) as an ISO International Standard, ISO/IEC 40500:2012. This standard was reviewed and confirmed in 2019 by the ISO. Following WCAG, ISO/IEC 40500:2012 covers a wide range of recommendations for making web content more accessible for people with various types of disabilities, such as deafness and hearing loss, blindness and low vision, learning disabilities, cognitive limitations, limited movement, speech disabilities, photo-sensitivity and combinations of these impairments (ISO n.d.)

Many countries have adopted their national policies and regulations based on WCAG 2.1 (W3C 2018a). Some of them have developed standalone web accessibility policies, while others have integrated web accessibility standards into the related policies, including laws that help access to persons with disabilities, procurement regulations, or ICT policies (W3C 2018a). A good example of the standalone web accessibility policy is the European Union's *Web Accessibility Directive* adopted in 2016 and the accompanying *European Accessibility Act* adopted in 2019 (EC 2016, 2019). One of the leading examples of the integrated laws on digital accessibility is the Amendment (Section 508) to the *United States Rehabilitation Act of 1973* (Government Services Agency 2019). Section 508 enforces web accessibility standards within all United States federal agencies and covers internet and intranet websites, telephones, smartphones, tablets, laptops, computers, multimedia, operating systems, digital documents, and online training, among other things. Since Section 508 applies to all IT services procured by the United States government, it has also facilitated a widespread adoption of accessibility standards among private entities and contractors in the IT industry.

None of the nine CRF-eligible countries have standalone web accessibility policies. Web accessibility considerations are also not fully integrated into their national policies and plans on persons with disabilities and ICT. In most cases, their coverage of disability issues is limited to general provisions about the necessity of equal access

to ICT. For example, Jamaica's Persons with Disabilities Sector Plan proposes to increase persons with disabilities' access to ICT and assistive devices; however, it does not incorporate any specific strategies or any provisions on web accessibility (GoJ 2009). Further, the 2014 Disability Act of Jamaica, which embodies the principles of equality and nondiscrimination against persons with disabilities, does not cover either ICT or web accessibility standards (GoJ 2014). Similarly, the 2017 Disabilities and Equal Opportunities Act of Antigua and Barbuda, which prohibits discrimination against persons with disabilities, does not include any provisions related to ICT or web accessibility (GoAB 2017b). Although the 2010 Persons with Disabilities Act of Guyana mentions ICT in respect to persons with disabilities, it does not include any provisions on web accessibility (GoGy 2010). In the same vein, the 2012 National Youth Development Policy of Belize mentions an increasing role of ICT and the Internet in promoting leadership and self-development of young people with and without disabilities, but it fails to include any specific guidelines (GoB 2012).

Coverage of special needs of persons with disabilities in national telecommunication laws and ICT policy documents is very fragmented. For example, the Strategy and Action Plan for Grenada fosters the development of ICT to the benefit of less advantaged groups, including persons with disabilities and the elderly, yet, it does not contain any strategies or related accessibility guidelines (GoG 2006). Similarly, Jamaica's ICT Sector Plan, St. Vincent and the Grenadines' National ICT Strategy and Action Plan, and Dominica's Strategy for Implementing the National ICT in Education Policy are limited to general provisions regarding the promotion of affordable universal access to ICT, including services to the disabled and other disadvantaged groups (GoJ 2009; GoSVG 2010; GoCD 2004). Moreover, the 2010 National ICT Strategy of Saint Lucia does not contain any reference to persons with disabilities (GoSL 2010). In comparison, the National ICT Policy of Trinidad and Tobago—which is not CRF eligible—is based on a more advanced approach and contains extended sections on accessibility, e-government, and digital inclusion (Fonseca-Hoeve et al. 2017). The National ICT Policy of Trinidad and Tobago contains specific strategies to promote digital inclusion of persons with disabilities through three channels: (i) facilitating

the rollout of infrastructure projects in underserved communities and assistive technologies for persons with disabilities; (ii) ensuring that persons with disabilities have access to basic telecommunications mobile services through the provision of assistive mobile devices; and (iii) implementing outreach and training programs to target persons with disabilities (GoTT 2019).

Even though ICT policies in some CRF-eligible countries intend to improve persons with disabilities' access to ICT, their actual implementation is challenging owing to the lack of standardized processes and monitoring procedures of web accessibility and equal access to ICT, in general. Despite the fact that the abovementioned ICT policies in the CRF-eligible countries were developed over a decade ago, little progress has been made on equal access to ICT, as documented in recent reports by international organizations (Ullmann et al. 2018; ECLAC 2019a). Various mechanisms can be used to improve persons with disabilities' access to ICT, such as universal service funds (USFs), a universal service obligation (USO), subsidies, access deficit charges, and public-private partnerships (ECLAC 2019a). For instance, USFs—which represent a system of legal telecommunications subsidies and fees—are used in many countries to achieve universal service coverage. A USO enforces telecommunications providers to make their services available to all users, including disadvantaged groups and those living in remote areas. Four CRF-eligible countries under consideration—Dominica, Grenada, Saint Lucia, and Saint Vincent and the Grenadines—have both USFs and USOs (ECLAC 2019a). These countries are member states of the Eastern Caribbean Telecommunications Authority (ECTEL), whose establishing treaty contains an important provision regarding universal telecommunications service to the disabled and physically challenged (ECTEL 2000). Another ECTEL member state, Antigua and Barbuda, has drafted a telecommunications act with USO and USFs provisions; however, it has not been fully implemented yet (ECTEL 2000). Belize is considering developing a USO and USFs, while Guyana is already in the process of their establishment (ECTEL 2000). Further, Jamaica has active USFs, with a related framework aimed at ensuring persons with disabilities' access to telecommunications, while Suriname is the only country among the CRF-eligible states that does not consider either USFs or a USO necessary (ECTEL 2000).

Weak legislative and regulatory frameworks remain a significant challenge for improving both access to ICT and web accessibility in the CRF-eligible countries under consideration. Even in those countries that have adopted special legal provisions for persons with disabilities’ access to ICT, their implementation appears slow. Also, one of the reasons behind unequal access to ICT can be attributed to the existing legislative and regulatory frameworks in the CRF-eligible countries use narrow attitudes and approaches toward persons with disabilities and disability issues (ECLAC 2019a). In addition, these policies are not harmonized with disaster management and climate change policies. For example, according to a recent study, despite the perceived importance of ICT, very few NDMA’s in the Caribbean region have organizational strategies and systematic plans for developing their ICT capability (Levius et al. 2017). Also, despite considerable variation among the ICT capabilities of the NDMA’s, significant gaps emerge between the potential role of ICT and the resources available, including equipment, facilities, software, and IT personnel (Levius et al. 2017). For example, only Jamaica and Suriname’s NDMA’s have in-house ICT specialists, while the other agencies are relying mostly on external arrangements through other government departments (Levius et al. 2017). Insufficient human and other resources make it particularly challenging for the NDMA’s to develop comprehensive strategies and plans to improve access for persons with disabilities to disaster-related information and online services.

### B3. Compliance with international web accessibility standards: A preliminary analysis of official websites of the NDMA’s in the CRF-eligible countries

Researchers first attempted to conduct a global web accessibility overview of national government portals and ministry websites in 193 United Nations member states in 2011 (Goodwin et al. 2011). Their study was based on the unified web evaluation methodology (UWEM) initiated by the European Commission to support a unified way to assess web accessibility across European countries and their compliance with WCAG (European Commission 2006). UWEM includes 144 accessibility tests that check all web elements for their compliance with WCAG (European Commission 2006).<sup>1</sup> Based on the UWEM methodology, web accessibility scores were calculated for each United Nations member state (Goodwin et al. 2011). Accessibility scores represent a percentage of accessibility barriers found among 144 test cases applied to countries’ governmental websites. The lower the countries’ accessibility scores are, the better their web accessibility is. Table B-4 contains countries’ ranks and accessibility scores calculated for the nine CRF-eligible counties (Goodwin et al. 2011).

Persons with disabilities encounter web accessibility barriers in all CRF-eligible countries, with Saint Lucia having

**Table B-4. Ranks and accessibility scores of the CRF-eligible countries on web accessibility of their government websites.**

	Rank among 193 countries	Accessibility score (%)	Number of websites tested for web accessibility
<b>Antigua and Barbuda</b>	50	23.21	6
<b>Belize</b>	107	33.33	4
<b>Dominica</b>	108	33.33	1
<b>Grenada</b>	26	15.61	5
<b>Guyana</b>	119	36.61	5
<b>Jamaica</b>	146	42.31	4
<b>St. Lucia</b>	189	60.65	6
<b>St. Vincent and the Grenadines</b>	93	31.19	5
<b>Suriname</b>	168	50.0	1

Source: Goodwin et al. 2011.

the highest accessibility score of 60.65—which is the worst result among the nine countries—and Grenada having the lowest accessibility score of 15.61, which ranks as the best result among this cohort of countries. Accessibility barriers prevent persons with disabilities from having equal access to public information and government services and create additional problems for other people with special needs. Therefore, the national governments in the CRF-eligible countries need to take special measures to identify and eliminate existing accessibility barriers and digital gaps.

People who live with some form of disability in the Caribbean region are among the hardest hit during health and disaster crises in fatalities and impacts on wellbeing (CRF 2020). It is extremely important for official government websites and the NDMAs in the CRF-eligible countries to be accessible to users with various types of disabilities. Specifically, they need to comply with the existing international web accessibility standards, such as WCAG 2.1 (W3C 2018b). An advantage of WCAG compliance is that it provides a better experience not only to persons with disabilities, but to all other internet users as well.

Properly designed official government websites including those of the NDMAs in the CRF-eligible countries can be used by persons with disabilities to access important information necessary for their disaster preparedness and recovery activities. Such information ranges from disaster or emergency coordinators' contact information, information about the location of shelters, instructions and tips on what to do before, during, and after hazard situations, emergency notices, policies, community disaster plans, and various educational materials. Due to the limited scope of the desk review, this analysis focuses only on two examples to illustrate the necessity of comprehensive in-depth website accessibility conformance evaluations based on the existing methodologies, such as the WCAG website accessibility evaluation methodology (W3C 2016).

The first example uses the W3C markup validation service, a validator developed by the W3C to allow internet users to check HTML and XHTML documents for well-formed

markup. Although markup validation constitutes only one of the multiple steps required for the complete web accessibility analysis, it constitutes an important step toward ensuring the technical quality of websites and provides initial justifications for more comprehensive evaluations. The website's markup validation is a time-consuming process, and hence this example is limited only to select webpages of the NDMAs' websites, containing instructions on emergency situations. A webpage is a web resource identifiable by a single URL, and it commonly consists of multiple elements, such as images, headings, and texts, all of which should be equally accessible to persons with disabilities and people without disabilities. Table B-5 contains the URL of a specific webpage used for the markup validation and the number of warnings or errors generated by the W3C markup validation service. This markup validation is performed to ensure that assistive technologies—such as screen readers that generally rely on the HTML—can properly interpret the content of the webpage.

The NDMAs' websites are not fully compliant with internationally agreed website accessibility standards, which might make access to their content and information about disasters and emergency guidelines difficult, or even impossible, for some people with disabilities (table B-5). Color contrast tests offer another example of web accessibility barriers. The intent of such tests is to ensure a text and its background contrast enough to be read by people with moderately low vision who do not use contrast-enhancing assistive technology. According to WCAG 2.1, Level AA success criteria ensures a contrast ratio of 4.5:1 because it allows users with vision loss equivalent to approximately 20/40 vision to read the related content (W3C 2016). Level AAA ensures a higher contrast ratio of 7:1 because it allows users with vision loss equivalent to approximately 20/80 vision to read the related content. Table B-6 contains the results of the color contrast tests for WCAG Level AA and Level AAA conducted on specific NDMAs' webpages containing shelter information. The specific tool used for these tests is the colour contrast Analyser (CCA) developed by the Paciello Group (n.d.).

**Table B-5. Markup validation of specific webpages containing instructions and tips for emergency situations through the W3C markup validation service.**

Country	Content of the webpage	URL of a specific webpage used for the markup validation	The number of warnings or errors generated by the W3C markup validation service
Antigua and Barbuda’s NODS	Hurricane’s effects: things to do before a hurricane, hurricane disaster supplies kit, after the storm.	<a href="http://nods.gov.ag/hazzards/hurricane/">http://nods.gov.ag/hazzards/hurricane/</a>	7 warnings
Belize’s NEMO	Earthquake and tsunami safety guidelines	<a href="http://site.nemo.org.bz/safety-guidelines/">http://site.nemo.org.bz/safety-guidelines/</a>	15 warnings and errors
Dominica’s ODM	Information about earthquakes and things to do before, during and after an earthquake.	<a href="http://odm.gov.dm/resources/hazards/earthquakes">http://odm.gov.dm/resources/hazards/earthquakes</a>	19 warnings and errors
Grenada’s NaDMA	Hurricane precautions for the elderly.	<a href="https://nadma.gd/hurricane/hurricane-precautions-for-the-elderly/">https://nadma.gd/hurricane/hurricane-precautions-for-the-elderly/</a>	141 warnings and errors
Guyana’s CDC	Disaster tips	<a href="https://cdc.gy/?page_id=14361">https://cdc.gy/?page_id=14361</a>	9 warnings and errors
Jamaica’s ODPEM	General preparedness and safety tips.	<a href="https://www.odpem.org.jm/general-safety-tips/">https://www.odpem.org.jm/general-safety-tips/</a>	98 warnings and errors
Saint Lucia’s NEMO	Disaster tips and to do checklists.	<a href="http://nemo.gov.lc/Tips/To-Do-Checklist">http://nemo.gov.lc/Tips/To-Do-Checklist</a>	71 warnings and errors
St. Vincent and the Grenadines NEMO	Information about hurricanes and things to do before, during and after an hurricane.	<a href="http://nemo.gov.vc/nemo/index.php/hazards/70-hurricane">http://nemo.gov.vc/nemo/index.php/hazards/70-hurricane</a>	79 warnings and errors

Source: Authors’ preliminary analysis of specific webpages containing instructions for emergency situations posted on the websites of NDMA’s. 2020.

**Table B-6. Color contrast validation of specific webpages containing shelter information with the use of the CCA.**

Country	URL of webpages with shelter information	Results of the CCA tests (Level AA)	Results of the CCA tests (Level AAA)
Antigua and Barbuda’s NODS	<a href="http://nods.gov.ag/2020-hurricane-shelters/">http://nods.gov.ag/2020-hurricane-shelters/</a>	Passed	Failed
Belize’s NEMO	<a href="http://site.nemo.org.bz/national-shelter-list/">http://site.nemo.org.bz/national-shelter-list/</a>	Failed	Failed
Dominica’s ODM	<a href="http://odm.gov.dm/resources/hazards/hurricanes/8-hurricane-shelters">http://odm.gov.dm/resources/hazards/hurricanes/8-hurricane-shelters</a>	Passed	Failed
Grenada’s NaDMA	<a href="https://nadma.gd/emergency-shelters/">https://nadma.gd/emergency-shelters/</a>	Failed	Failed
Guyana’s CDC	N/A	N/A	N/A
Jamaica’s ODPEM	<a href="https://www.odpem.org.jm/odpem_slider/shelters/">https://www.odpem.org.jm/odpem_slider/shelters/</a>	Passed	Passed
Saint Lucia’s NEMO	<a href="http://nemo.gov.lc/Shelter-Listing">http://nemo.gov.lc/Shelter-Listing</a>	Failed	Failed
St. Vincent and the Grenadines NEMO	<a href="http://nemo.gov.vc/nemo/index.php/62-plan-policies/emergency-shelters/540-emergency-shelters-2020?highlight=WyJzaGVsdGVycyJd">http://nemo.gov.vc/nemo/index.php/62-plan-policies/emergency-shelters/540-emergency-shelters-2020?highlight=WyJzaGVsdGVycyJd</a>	Passed	Passed

Source: Authors’ preliminary analysis of specific webpages containing shelter information posted on the NDMA’s websites. 2020.

Some of the webpages tested are not compliant with the WCAG 2.1 contrast requirements (table B-6). Similar to the previous example, this analysis points to various digital barriers to persons with disabilities on the NDMAs' websites, which in turn suggests the importance of conducting more comprehensive in-depth website accessibility conformance evaluations of these websites in accordance with the international web accessibility standards. Such in-depth evaluations could serve as a tool to help the NDMAs achieve and maintain equal access to their public information and online services. Their key objective is to foster the design and development of disaster-related websites to the benefit of less advantaged groups with special needs and to ensure that persons with disabilities, aging people, and other vulnerable individuals do not suffer from digital exclusion. An advantage of the website accessibility conformance evaluations relates to the fact that they can be used by developers to introduce necessary improvements and enhancements in the websites' design to better serve persons with disabilities.

#### Note

1. Different evaluation methodologies contain a different number of test cases. For example, a methodological approach developed by the United States Department of Homeland Security (DHS) Office of Accessible Systems and Technology (OAST) is based on the Conformation Test Process that includes 66 test cases. It was established to provide a standard means to evaluate web-based electronic content for conformance to the standards of Section 508 of the *Rehabilitation Act of 1973*, which align with WCAG 2.1 Level A and Level AA Success Criteria (United States Federal Chief Information Officers Council and Accessibility Community of Practice 2019).

## B4. Gaps and recommendations

The analysis identified gaps in the web accessibility and offers a number of recommendations for the nine CRF-eligible countries (table B-7).

**Table B-7. Gaps and recommendations of web accessibility in the nine CRF-eligible countries.**

GAPS		RECOMMENDATIONS
<b>Legislation, policies, and plans</b>	<ul style="list-style-type: none"> <li>• Lack of mandatory web accessibility policies at the national level.</li> <li>• The use of outdated language and narrow approaches toward persons with disabilities and disability issues in national policies on the use of Universal Service Funds (USFs) and Universal Service Obligation (USO).</li> <li>• Ineffective implementation of the USF legislation in some of the CRF-eligible countries.</li> </ul>	<ul style="list-style-type: none"> <li>• Develop either standalone web accessibility policies or integrate web accessibility requirements into the related policies, such as laws on protection of persons with disabilities, procurement laws, or ICT policies.</li> <li>• Accede to the Optional Protocol to the Convention on the Rights of Persons with Disabilities.</li> <li>• Amend national policies related to the use of USFs with updated language reflecting technological change and modern approaches to disability.</li> <li>• Enhance implementation of the USFs’ legislation.</li> </ul>
<b>Disaggregated data and research</b>	<ul style="list-style-type: none"> <li>• Insufficient information about the use of internet by persons with disabilities.</li> <li>• Insufficient local research on barriers and obstacles to persons with disabilities and disadvantaged groups to access ICT in an effective and efficient way.</li> </ul>	<ul style="list-style-type: none"> <li>• Strengthen collection of data on the use of the internet and other ICT by people with different types of disabilities, disaggregated by sex and age.</li> <li>• Provide resources for local research related on various digital barriers and obstacles to persons with disabilities and other disadvantaged groups.</li> </ul>
<b>Institutional strengthening</b>	<ul style="list-style-type: none"> <li>• Multiple accessibility barriers found in the course of preliminary analyses of the official websites of the NDMAs confirm previous research into web accessibility in the Caribbean region.</li> <li>• Lack of incentives provided to public and private entities to make their digital resources more accessible to persons with disabilities in disaster management and other policy areas.</li> <li>• A significant gap between the potential role of ICT and the resource base of the NDMAs, including equipment, facilities, and software, as well as their limited or lacking in-house IT expertise.</li> </ul>	<ul style="list-style-type: none"> <li>• Conduct comprehensive website accessibility conformance evaluations of official governmental websites, with a particularly focus on the NDMAs , based on the available methodologies.</li> <li>• Consider opportunities for introducing incentives for public and private entities related to disaster management to provide equal access to their digital resources.</li> <li>• Increase the NDMAs’ human and other resources to integrate web accessibility standards into their digital platforms.</li> <li>• Increase representation of persons with disabilities within the NDMAs and the USFs through employing staff with disabilities and appointing disability focal points.</li> </ul>
<b>Advocacy and education</b>	<ul style="list-style-type: none"> <li>• Insufficient discussions on the use of accessible ICT in DRM and DRR.</li> <li>• Insufficient awareness among public officials about the importance of compliance with international web accessibility standards</li> </ul>	<ul style="list-style-type: none"> <li>• Organize trainings and workshops for relevant public officials in the NDMAs and other public entities on international web accessibility standards.</li> <li>• Support public information and education functions related to accessible ICT in DRM, including making available suitable public information resources via the web.</li> </ul>
<b>Partnerships in ICT projects related to DRM</b>	<ul style="list-style-type: none"> <li>• Insufficient efforts to involve in policy making and create partnerships with CSOs and NGOs working on disability issues.</li> <li>• Expand the use of public–private partnerships in ICT projects related to web accessibility and DRM.</li> </ul>	<ul style="list-style-type: none"> <li>• Develop partnerships with various persons with disabilities organizations to work in collaboration on the development and implementation of relevant web accessibility policies.</li> <li>• Increase engagement with persons with disabilities during ICT project calls, appraisal and implementation processes related to DRM.</li> <li>• Create the enabling environment that fosters innovation and participation across the private sector companies.</li> </ul>



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***“Nothing About Us Without Us”***

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***“We are the ones wearing the boots —  
we know where they pinch”***

—Executive Secretary Beverly Pile  
National Commission on Disability, Guyana

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