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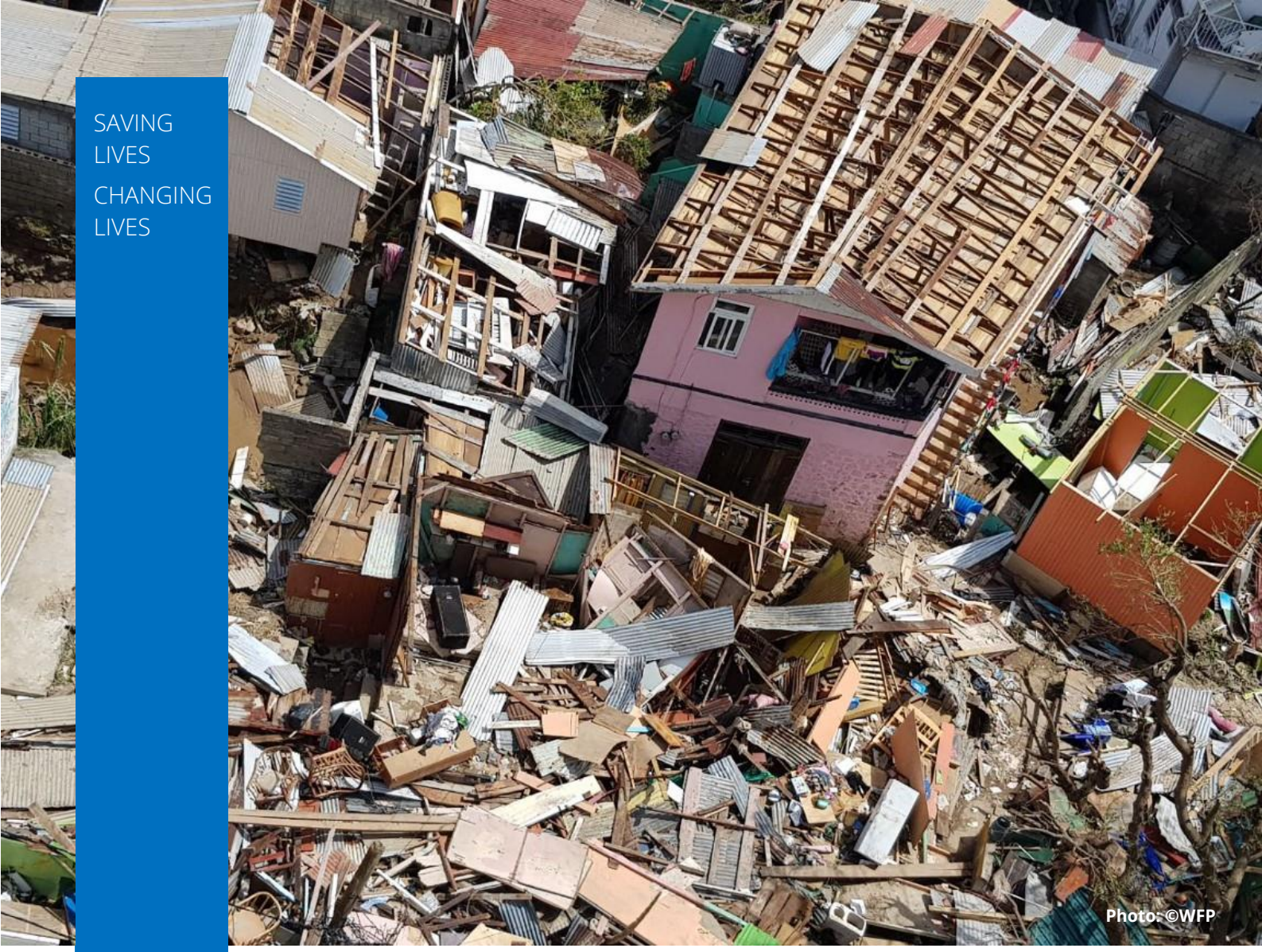

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Shock-Responsive Social Protection in the Caribbean

Literature Review

Valentina Barca, Madhumitha Hebbar, Marwah Malik, and Felicity Le Quesne, with Francesca Ciardi

Oxford Policy Management

November 2019

Funded by

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Oxford Policy Management Limited
Registered in England: 3122495
Level 3, Clarendon House
52 Cornmarket Street
Oxford, OX1 3HJ
United Kingdom

Tel: +44 (0) 1865 207 300
Fax: +44 (0) 1865 207 301
Email: admin@opml.co.uk
Website: www.opml.co.uk
Twitter: @OPMglobal
Facebook: @OPMglobal
YouTube: @OPMglobal
LinkedIn: @OPMglobal

World Food Programme
Barbados Office for Emergency Preparedness and Response in the Caribbean
UN House
Marine Gardens
Christ Church
Barbados

Tel: +1 246 467 6085
Email: wfp.barbados@wfp.org
Website: www.wfp.org/countries/caribbean
Twitter: @WFP
Facebook:@World Food Programme
YouTube: @World Food Programme
LinkedIn: @World Food Programme

[1] Anguilla, Antigua and Barbuda, Bahamas, Barbados, Belize, Commonwealth of Dominica, Grenada, Republic of Guyana, Haiti, Jamaica, Montserrat, St. Kitts & Nevis, Saint Lucia, St. Vincent & the Grenadines, Suriname, Republic of Trinidad and Tobago, Turks & Caicos Islands and the Virgin Islands.

Acknowledgements

This report was commissioned by WFP and conducted by OPM. It is part of the overall 'Study on Shock-Responsive Social Protection in Latin American and the Caribbean', which has the objective of generating evidence and informing practice for improved emergency preparedness and response, linked to more flexible national social protection systems.[2]

We want to thank Rodolfo Beazley (OPM's team leader for the assignment), Regis Chapman and Sarah Bailey (WFP Barbados Office for Emergency Preparedness and Response in the Caribbean), and Ana Solórzano (WFP's Regional Bureau for Latin America and the Caribbean) for their guidance, suggestions, and support throughout the development of this publication.

WFP expresses its gratitude to the European Civil Protection and Humanitarian Aid Operations, Global Affairs Canada, the Mexican Agency for International Development Cooperation, the UK Government Department for International Development, and the United States Agency for International Development/Office of U.S. Foreign Disaster Assistance (USAID/OFDA) for the financial support that allowed for the implementation of this literature review.

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[2] www.wfp.org/publications/shock-responsive-social-protection-latin-america-and-caribbean

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List of abbreviations

ASEAN	Association of South-East Asian Nations
BOOST	Building Opportunities for Our Social Transformation
CARICOM	Caribbean Community
CCRIF	Caribbean Catastrophe Risk Insurance Facility
CCT	Conditional cash transfer
CDEMA	Caribbean Disaster Emergency Management Agency
CDERA	Caribbean Disaster Emergency Response Agency
CDM	Comprehensive Disaster Management
CDRM	Comprehensive Disaster Risk Management
CERC	Contingent Emergency Response Component
CRI	Climate Risk Index
DRIP	Disaster Risk Information Platform
DRM	Disaster risk management
ECLAC	Economic Commission for Latin America and the Caribbean
EM-DAT	Emergency Events Database
EWS	Early warning system
HDI	Human Development Index
HDVI	Haiti Deprivation and Vulnerability Index
HFA	Hyogo Framework of Action
IDB	Inter-American Development Bank
ILO	International Labour Organization
IMF	International Monetary Fund
MLSS	Ministry of Labour and Social Security
MIS	Management Information System
NGO	Non-governmental organisation
NIS	National insurance scheme
ODPEM	Office of Disaster Preparedness and Emergency Management
OECD	Organisation for Economic Co-operation and Development
OPM	Oxford Policy Management
PAP	Public assistance programme
PATH	Programme of Advancement Through Health and Education
PCDPPP	Pan Caribbean Disaster Preparedness and Prevention Project

PMT	Proxy means test
RRM	Regional Response Mechanism
SDD	Social Development Department
SOP	Standard operating procedure
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
UNISDR	United Nations International Strategy for Disaster Reduction
WFP	World Food Programme
WMO	World Meteorological Organisation
XCD	East Caribbean dollar

1. Introduction

Globally, the number, duration, and size of disasters and crises are on the rise. At the same time, the cost of emergency responses has been increasing, thus exerting further pressure on already limited resources. Concurrently, there is growing global recognition of the need to leverage existing resources to respond to shocks – as reflected in Grand Bargain commitments. This has led governments and international actors to explore opportunities for social protection systems and programmes to play a bigger role in responding to shocks, given their objectives of providing support to affected households and building resilience. Given the small size, high exposure, and low resources that characterise most Caribbean countries, assessing the role for social protection in preparing for, responding to, and mitigating the impact of shocks in the region is of crucial importance. Further, given the pivotal role of disaster risk management (DRM) systems in addressing shocks in the region, understanding synergies between DRM and social protection is equally important. Against this backdrop, this literature review seeks to answer the following questions:

- How are DRM systems organised in the region? To what extent are social protection principles already embedded in DRM systems?
- How are social protection systems structured and implemented in the region?
- What design and implementation features of the social protection system have elements of flexibility and adaptability to facilitate rapid and adequate shock response?
- What recent regional experiences and good practices have there been in regard to responding to shocks via social protection?

This literature review has been commissioned by the World Food Programme (WFP), in collaboration with the Caribbean Disaster Emergency Management Agency (CDEMA). The countries under consideration for this literature review are the CDEMA-Participating States: Anguilla, Antigua and Barbuda, Commonwealth of the Bahamas, Barbados, Belize, Commonwealth of Dominica, Grenada, Republic of Guyana, Haiti, Jamaica, Montserrat, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Republic of Trinidad and Tobago, Turks and Caicos Islands, and the Virgin Islands. The review forms a part of the wider 'Study on Shock-Responsive Social Protection in the Caribbean' and is complemented by six case studies: Dominica, Belize, Jamaica, Guyana, Saint Lucia and Trinidad and Tobago.

The methodology adopted for the study combines a narrative review of published and grey literature, and primary research via key informant interviews and questionnaires.[3] Research on this topic in the region is still emerging, and documented examples are limited to a handful of countries. Consequently, the fact that this literature review covers primarily electronically documented material remains an important limitation. The remainder of this report is structured as follows:

[3] Responding countries include Antigua and Barbuda, Belize, Dominica, Guyana, Haiti, Jamaica, Saint Lucia, Saint Vincent and the Grenadines, and British Virgin Islands.

- Section 2 defines key concepts and presents a framework for analysis.
- Section 3 frames the context in terms of exposure to shocks, poverty, and vulnerability.
- Section 4 examines the preparedness of DRM systems in the region.
- Section 5 examines the preparedness of social protection systems in the region.
- Section 6 describes regional experiences in responding to shocks via social protection systems.
- Section 7 presents conclusions.

2. Conceptualising shock-responsive social protection

2.1 Key concepts

In this section we define the key concepts that are referenced in the conceptual framework for this study, which is given below.

2.1.1 Shocks

Shocks can be classified as either 'covariate' or 'idiosyncratic' (OPM, 2015). Covariate shocks affect a considerable proportion of the population simultaneously (e.g. hurricanes, floods, conflict), whereas idiosyncratic shocks affect individual households or household members (e.g. the death of a breadwinner or catastrophic illness). Further, covariate shocks can be distinguished by several aspects. The following typologies of shocks will be referenced throughout this review (Barca and Beazley, 2019):

- *Type:* In this review, we focus on natural hazards and economic shocks, which are the most prevalent shocks in the region.
- *Onset*: Shocks can be rapid-onset, e.g. hurricanes or floods, or slow-onset, e.g. drought, economic crisis.
- *Size:* Shocks can be large (i.e. with country-wide affects), or small- to medium-sized.
- *Recurrence:* Shocks can be recurrent or occasional.

2.1.2 Social protection

While international agencies and countries vary in their respective definitions of social protection, this review understands social protection to be the set of public actions that address both the absolute deprivation and vulnerabilities of the poorest, and the need of the currently non-poor for security in the face of shocks and lifecycle events (OPM, 2017). This can be achieved through a broad range of policy instruments, with varying objectives and financing mechanisms – each with distinct implications for shock-responsiveness. The figure below shows the different types of social protection instruments; social assistance is the primary focus of this review.

Figure 1: Range of social protection instruments

Source: Adapted from https://gsdrc.org/topic-guides/social-protection/types-of-social-protection/
Note: We distinguish between contributory programmes and non-contributory programmes because of the distinct set of risks and population groups they are designed to target. In the case of non-contributory programmes, transfers are fully paid for, whereas in the case of contributory programmes, participants make regular payments to a scheme to cover costs related to life-cycle events. In the case of the latter, costs are matched by the provider (for example, an employer).

2.1.3 Disaster risk management (DRM)

DRM is the application of policies and strategies to prevent new disaster risk, reduce existing disaster risk, and manage residual risk, which contributes to the strengthening of resilience and reduction of disaster losses (United Nations International Strategy for Disaster Reduction (UNISDR), 2009). DRM is often viewed as having five focal areas: prevention, mitigation, preparedness, response, and recovery (Baas *et al*., 2008). Establishing a shock-responsive social protection system relates to preparedness, response, and recovery from a disaster, and therefore potentially intersects with a number of different DRM activities and mechanisms (UNISDR, 2009). These overlaps are discussed throughout the review.

2.1.4 Shock-responsive social protection

While all social protection is geared towards addressing shocks, shock-responsive social protection focuses on covariate shocks (OPM, 2017). This is because covariate shocks present two unique challenges to social protection systems. First, covariate shocks expand the need for social protection for many individuals simultaneously. Second, covariate shocks may themselves undermine the capacity of the social protection delivery systems by affecting staff or damaging infrastructure.

Shock-responsive social protection entails both *ex-ante* and *ex-post* measures. Routine programmes and systems can be strengthened in advance of a shock, so that they are better prepared when shocks materialise. *Ex-post*, social protection can support affected households to recover from shocks.

2.2 A framework for analysing the shock-responsiveness of social protection systems

The conceptual framework for shock-responsive social protection for this review focuses first on 'system preparedness' and then on 'system response'. It draws on the theoretical framework developed by OPM (OPM, 2015; O'Brien *et al.*, 2018a), adapted in the OPM-WFP research for the Latin America and the Caribbean and the Association of South-East Asian Nations (ASEAN) regions (OPM, 2018; Beazley *et al*., 2019).

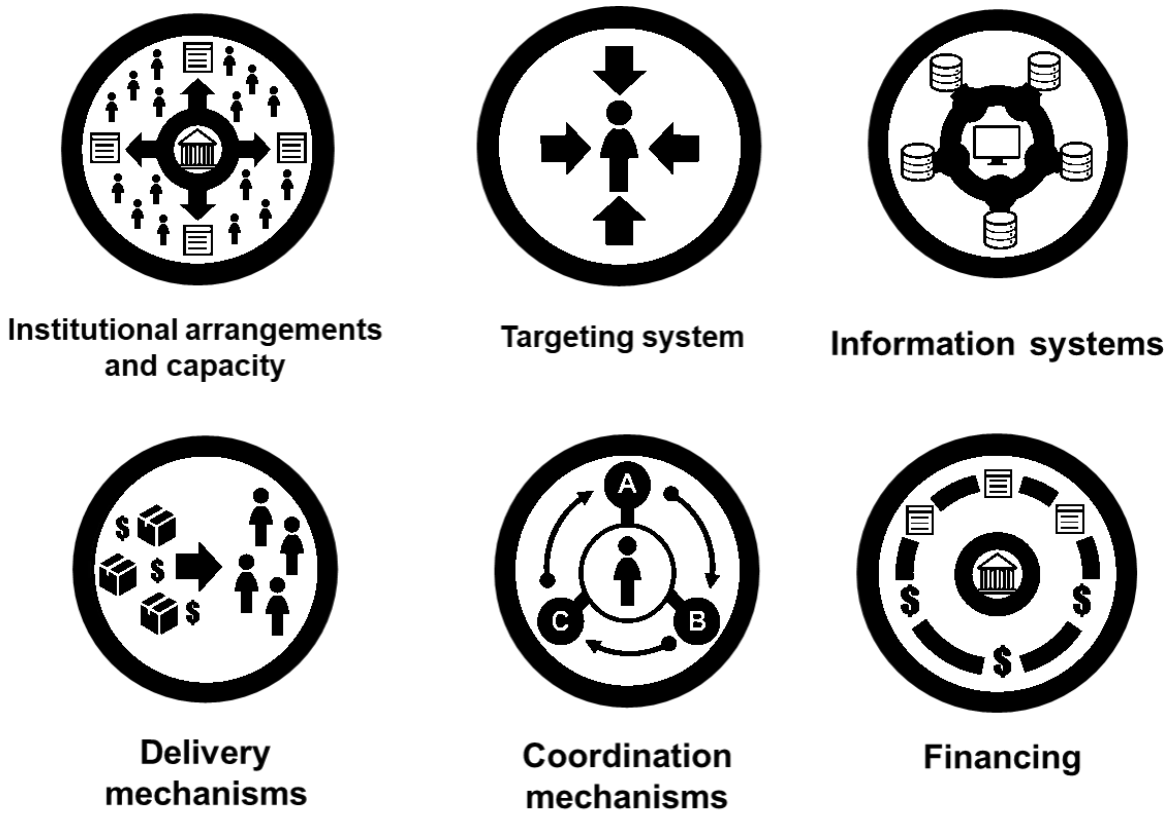
2.2.1 System preparedness

The first half of the framework – focused on 'preparedness' – provides a systematic approach to understanding the factors that enable social protection systems and programmes to be responsive to shocks and to deliver effective responses in the Caribbean. The preparedness of the social protection system depends on six aspects which are essential for a prompt and effective response (Beazley *et al*., 2016):

1. **Institutional arrangements and capacity:** the legislation, policies, and mandates of key DRM and social protection institutions, as well as the organisational structure that affects services delivery in these areas.

2. **Targeting system:** the protocols, processes, and criteria for identifying people and families that should receive social protection or DRM support.
3. **Information systems:** socio-economic, disaster risk, and vulnerability information to enable decision making before and after a shock—including social registries and beneficiary registries, DRM information systems, and issues related to accessibility, sharing protocols, data collection mechanisms, data relevance and accuracy, and security and privacy protocols.
4. **Delivery mechanisms:** the mechanisms in place for delivering cash or in-kind assistance to social protection beneficiaries and/or people affected by shocks.
5. **Coordination mechanisms**: mechanisms and protocols for coordinating the DRM activities before and after a shock—including the coordination of different government agencies, of activities at different government levels, and of humanitarian agencies (the role of the social protection sector is of particular interest).
6. **Financing mechanisms:** strategies and mechanisms for financing DRM activities before and after a shock—including budgetary instruments, contingent credits, and market-based instruments like parametric insurance (protocols and commitments for financing responses through social protection are of particular interest).

Figure 2: Typology of system preparedness for shock-responsive social protection



Source: adapted from Beazley *et al.* (2016)

Section 4 and Section 5 discuss these aspects at length for the DRM and social protection sectors, respectively.

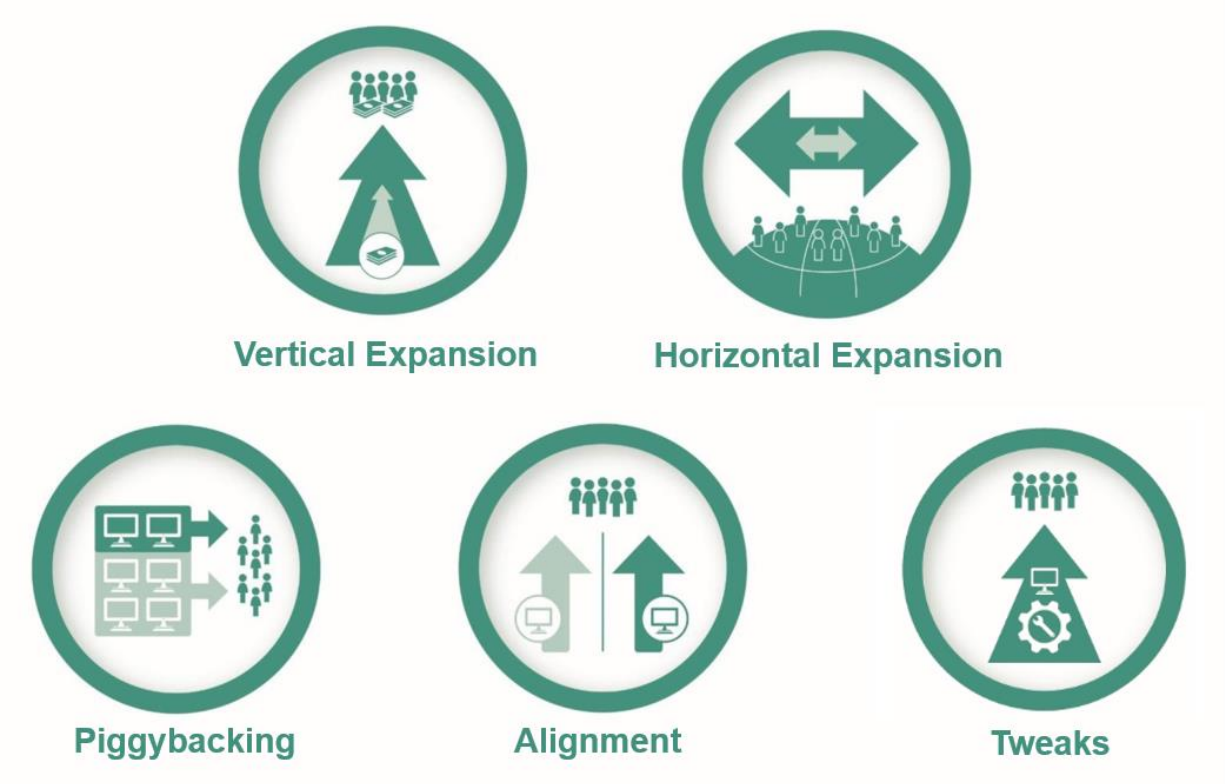
2.2.2 System response

The second half of the framework focuses on 'system response' (see Figure 3). Based on the capacity and 'preparedness' of existing social protection systems and programmes, there are a number of strategies that may be employed to scale up the overall level of support that a routine system provides to vulnerable people (O'Brien *et al*., 2018a):

1. **Vertical expansion**: Increasing the benefit value or duration of an existing social protection programme or system.
2. **Horizontal expansion**: Temporarily extending social protection support to new households.
3. **Piggybacking**: Utilising elements of an existing social protection programme or system for delivering a separate emergency response.
4. **Alignment**: Aligning some aspects of an emergency response with the current or possible future national social protection programmes.
5. **Design tweaks**: Making small adjustments to the design of a core social protection programme.

Section 6 examines recent shock responses in the region based on this typology.

Figure 3: Conceptual framework for the review: response



Source: OPM (2015)

3. Poverty and exposure to shocks

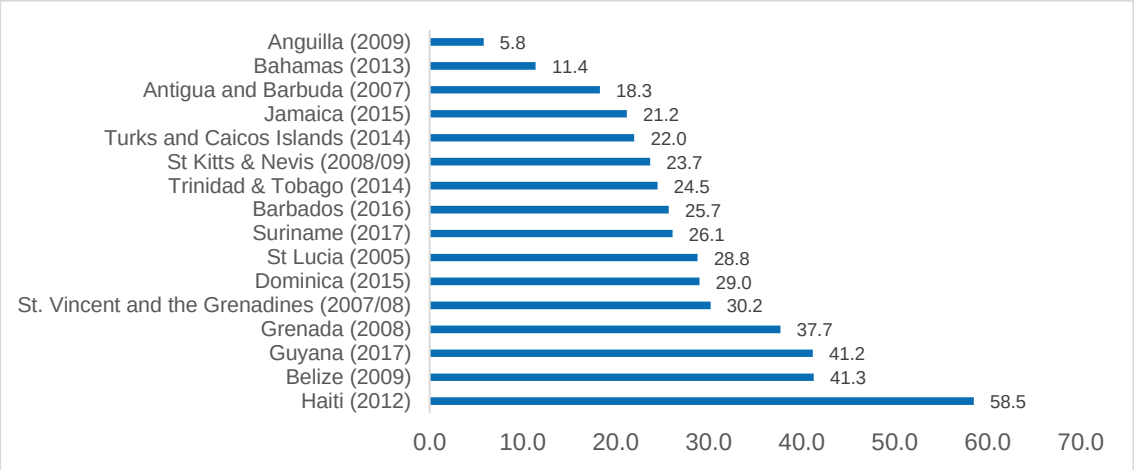
This section provides an understanding of the context within which each social protection and DRM system is operating in the region. The section also emphasises a set of characteristics that are common across countries and territories in the region that affect a) the development of their social protection systems and b) their capacity to cope with shocks.

3.1 Poverty

Most countries in the region are characterised by high income levels and high levels of human development, except for Haiti. The average gross national income per capita (at current international $) in 2017 was $13,091, ranging from $785 in Haiti to $31,391 in Turks and Caicos Islands. As seen in Table 7 in Annex A the UN Development Programme's (UNDP's) Human Development Index (HDI) classifies Bahamas and Barbados as countries with 'very high' levels of human development, whereas most others are rated as 'high' (or 'medium', in the case of Guyana). Haiti is the only country categorised as 'low' (UNDP, 2018).

Despite favourable levels of income and human development, poverty remains a challenge. In general, recent data on income poverty are scarce for several countries, often based on country poverty assessments carried out between 2005 and 2008. For a few countries, data collected post-2010 through living standards surveys provide less outdated poverty estimates. The poverty rate in Anguilla is the lowest, followed by the Bahamas and Antigua and Barbuda. However, this is still significantly above Organisation for Economic Co-operation and Development (OECD) levels (1.2%). Income poverty in Jamaica, Turks and Caicos, Saint Kitts and Nevis, Trinidad and Tobago, Barbados, Suriname, Saint Lucia, Dominica, and Saint Vincent and Grenadines ranges between 21% and 30%. Poverty in Grenada, Guyana, Belize, and Haiti is much higher than in their regional counterparts, with Haiti being the poorest, with 58% of the population living in poverty (Inter-American Development Bank (IDB), 2018).

Figure 4: Population below the poverty line



Source: IDB, 2018, Country Poverty Assessments by the World Bank

Small labour markets imply high levels of unemployment and informality in the region. The regional unemployment rate remains quite high, at 12.1% (in comparison with the OECD

average of 5.3%). As seen in Figure 8 in annex, Grenada fares the poorest, recording an unemployment rate more than twice the regional average. Trinidad and Tobago and Saint Kitts and Nevis perform the best (3–4%) compared to other regional counterparts, with both countries experiencing a persistent decline in unemployment over time (Parra-Torrado, 2014). Unemployment disproportionately affects the poor, the youth, and women across the countries (Williams *et al*., 2013). Estimates suggest high levels of informal employment across the countries (International Labour Organisation (ILO), 2017): Guyana (48–53%), Jamaica (50%), and Saint Lucia (31%). Further, many countries in the region experience considerable dependence on weather-sensitive sectors, such as agricultural and tourism for employment. For instance, the proportion of labour force engaged in agriculture varies between 8% and 30% (ILO and World Bank, 2016a). More people, particularly rural women, are engaged in other industries – such as food processing – with backward and forward linkages to agriculture. Similarly, tourism contributes to nearly 14% of employment in the region (World Travel and Tourism Council, 2017).

3.2 Shocks

3.2.1 Natural hazards

Being in the cyclone and hurricane belts bordering the equator, where more frequent weather shocks are experienced, the Caribbean region is highly vulnerable to natural hazards. Among 12 of the 18 CDEMA-Participating States for which the World Risk Index is available, four show very high levels of disaster risk (Antigua and Barbuda, Guyana, Haiti, Jamaica) and three others exhibit high or medium levels of disaster risk (Belize, Suriname, and Trinidad and Tobago). Further, the disaster risks are exaggerated by the climate vulnerabilities faced by the region. As per the Climate Risk Index (CRI), Haiti and Dominica were among the top 10 countries affected by long-term climate risks between 1998 and 2017 (Eckstein *et al*., 2018)

Table 1: World Risk Index 2019

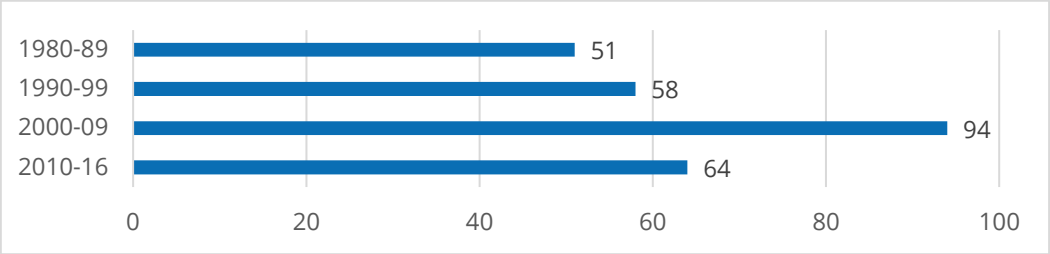
Country	Rank	World Risk Index	Exposure	Vulnerability	Susceptibility	Lack of coping capacity	Lack of adaptive capacity
Antigua and Barbuda	**2**	30.8	69.95	44.03	23.38	76.65	32.05
Bahamas	**127**	4.31	11.85	36.36	18.31	58.71	32.05
Barbados	**175**	1.35	3.67	36.86	20.58	58.31	31.68
Belize	**62**	8.02	17.14	46.78	27.21	74.19	38.96
Grenada	**177**	1.01	2.26	44.58	28.05	70.49	35.2
Guyana	**5**	22.87	44.98	50.84	26.41	79.68	46.44
Haiti	**16**	16.34	24.18	67.56	50.37	90.28	62.03
Jamaica	**30**	11.91	26.18	45.51	24.6	74.7	37.22
Saint Lucia	**123**	4.52	10.24	44.15	21.72	75.19	35.55
Saint Vincent and the Grenadines	**178**	0.8	1.88	42.86	27.7	70.92	29.95
Suriname	**76**	7.36	15.29	48.17	29.24	74.11	41.16
Trinidad and Tobago	**49**	9.44	23.28	40.56	19	69.59	33.09

Source: Bündnis Entwicklung Hilft and Ruhr University Bochum – Institute for International Law of Peace and Armed Conflict (2019) **Note**: Data are not available for Anguilla, Antigua and Barbuda, Dominica, Montserrat, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Turks and Caicos Islands, and British Virgin Islands

3.2.2 Frequency of shocks

The Caribbean region is highly exposed to natural hazards, and their frequency is on the rise (Alleyne *et al.,* 2017). Between 1950 and 2009, the disaster frequency in the region rose by 347%. Since 1980, the region has suffered 267 disasters, with the maximum number of disasters occurring in 2000–09. Storms account for over half the number of disasters (56%), followed by floods (33%), and droughts (17%). Earthquakes and landslides are rare in the region (2%). **Within the region, all countries are uniformly affected by shocks, except for Haiti and to some extent, Jamaica.** An analysis of the natural hazards between 1981 and 2018 using EM-DAT data shows that 36% of the disasters in the region were in Haiti, followed by 11% in Jamaica.

Figure 5: Number of disasters in the Caribbean region, 1980-2016



Source: EM-DAT, as cited in Alleyne *et al.* (2017)

3.2.3 Economic impact of shocks

Between 1970 and 2016, 23,537,486 people were affected by disasters in the Caribbean, resulting in a total of 239,845 deaths. This represents 6% of the global disaster-related deaths during this period. The vast majority were a result of the devastating earthquake that struck Haiti in 2010, which resulted in 222,570 deaths. The EM-DAT likely underestimates the mortality rate as it does not include data on deaths for 37% of the events in the Caribbean. While a majority of the fatalities were caused by geological disasters in the 1970s and the 1980s, in 1990–2009 a majority of deaths were due to climate-related disasters (Bello, 2017).

Typically, the economic cost of disasters in the small island developing states is disproportionately high relative to the size of their economies, and the Caribbean is no different. Between 1970 and 2016, the Caribbean suffered over $22 billion (in 2009 constant prices) in damages as a direct result of disasters. The relative size of the damages vis-à-vis the economy was found to be disproportionate: the average economic cost of climate-related disasters between 1950 and 2014 (13% of the national GDP) was approximately 13 times the damage suffered by large states (1%). Between 1990 and 2014 the Caribbean small states suffered the highest economic losses (2.4%) compared to other small island developing states (1.8%) and other states (0.4%). The human impact of disasters is correspondingly higher in the small island developing states, affecting 10% of the population on average, as against 1% in large states (IMF, 2017).

The average impact of disasters within the region belies cross-country differences in the magnitude of devastation. Between 1998 and 2017, all of the top worst-affected countries in terms of losses as a percentage of GDP were small Caribbean countries (UNISDR, 2016).

3.2.4 Economic shocks

Most Caribbean economies are small, open, and vulnerable to external economic shocks (Downes, 2009). They rely on North America, the United Kingdom, and Europe, both for the export of goods and services (for example, sugar, bananas, tourism, and financial services) and for foreign direct investment. Most countries have limited productive sectors (monocultural economies) and therefore remain exposed to international economic volatilities. For instance, the loss of competitiveness of island monoculture exports (spices, bananas, sugar) has resulted in increased unemployment and poverty over the years. Highly elastic demand for these goods from a few countries also exposes these countries to global crises.

The risks of such a high reliance on the external economy was manifested most recently in the aftermath of the global financial crisis in 2008. After a period of modest growth between 2005 and 2008, economic growth declined due to export reductions, particularly in the Bahamas, Jamaica, Saint Vincent and the Grenadines, and to some extent in Trinidad and Tobago (Utting *et al*., 2012). Tourism, which is a crucial source of growth and employment in the region, declined considerably. For instance, visitors to Saint Vincent and the Grenadines fell by 6% (ibid.). Further, the crisis caused by the steep decline in the price of oil led to budget deficits in countries such as Trinidad and Tobago, forcing the government to scale back on public expenditure (ibid.). Several of the countries also recorded reductions in private sector construction activity as foreign construction projects were scaled back due to the reduction in financial credit and a reassessment of future economic activity (Downes, 2009).

4. DRM system preparedness

Drawing on the conceptual framework set out in OPM (2015) and O'Brien *et al*. (2018a), this section describes DRM systems in the region, focusing on the institutional arrangements, the coordination mechanisms, the financing mechanisms, and implementation.

4.1 Institutional arrangements and coordination

4.1.1 Country level

The scope and strength of DRM legislative and institutional frameworks provides an important indication of how a country is likely to approach disasters and disaster risk.[4] The scope and nature of legislative and institutional frameworks for DRM varies across the region.

Table 2 provides a framework for categorising DRM governance systems, according to: the strength of the system (e.g. plan vs. law); the thematic scope of the system (e.g. emergency response vs. risk management); the institutional design of the system (e.g. relying on sectoral line ministries vs. creating a specialist institution with a coordination mandate); and degree of decentralisation and participation. The four categories range from maximal to minimal DRM systems. Several countries in the region have adopted broad DRM system laws – the most comprehensive in scope of the four types of systems – indicating the growing recognition of the importance of taking an integrated approach to disaster management, including a strong focus on prevention and preparedness, rather than only managing the impacts of disasters once they manifest.

Annex B.1 provides some examples of key legislation and plans relating to DRM in the Caribbean. Annex B.2 describes important features of DRM systems in the region, highlighting country-country commonalities and variations.

4.1.2 Policy frameworks and coordination at regional level

Regional cooperation on managing and coping with disasters in the Caribbean dates back to the 1970s. The multi-donor Pan Caribbean Disaster Preparedness and Prevention Project (PCDPPP) was established in the 1970s in response to a series of disasters. PCDPPP was followed by the establishment of the Caribbean Disaster Emergency Response Agency (CDERA) in 1991, renamed CDEMA in 2009, with the aim of improving intergovernmental cooperation for disaster preparedness and response. CDEMA is currently the prime intergovernmental regional agency tasked with supporting disaster management efforts in the Caribbean and has been an important voice in the region calling for integrated or comprehensive DRM approaches (Collymore, 2011). See Annex B.3 for a detailed analysis of the role and strategy of CDEMA.

[4] It is not a sufficient indication: the existence of laws and institutional mandates does not necessarily say anything about the extent to which they are actually implemented, or how they align with other policy and legislative narratives, which may align but may also duplicate or conflict, etc.

Table 2: Variation in DRM systems within the region

DRM system type	Law / system description	Salient features	Country
Broad DRM law(s)	Covers the full spectrum of DRM and establishes specialist national institutions for DRM coordination and at least some local structures or roles	Most of these, post-date the 2005 Hyogo Framework of Action (HFA), as well as the 2001 Comprehensive Disaster Management (CDM) framework of CDEMA, and establish a designated authority for dealing with disasters, and place an emphasis on early warning; some set up disaster funds. These are generally associated with national-level DRM/disaster risk reduction plans or policies	Anguilla Antigua and Barbuda Bahamas Jamaica Saint Lucia Saint Vincent and Grenadines British Virgin Islands
Emergency management law	A specific law that is focused on disaster response, with some elements of preparedness, early warning systems (EWS), response and recovery mechanisms	The head of the state is normally directly responsible for declaring an emergency and, subsequently, for coordinating response	Barbados[5] Montserrat Belize
No laws, but national-level DRM plans	DRM legislation does not exist but national-level plans to deal with disasters are in place	These plans are usually limited to the scope of disasters, i.e. they may deal with only one type of disaster	Turks and Caicos Trinidad and Tobago Grenada Haiti Guyana
No laws, but development plans with DRM/disaster risk reduction focus	No DRM legislation or plans; however, national development plans or sectoral plans mention DRM and associated processes to be followed in times of disaster	Disaster management is incorporated in the development plan or climate change plan; often it is included in sectoral plans	Saint Kitts and Nevis Dominica Suriname

Source: Authors, based on country disaster risk reduction documents, country progress reports on HFA implementation, and review of relevant disaster-related laws, policies, and plans available online. The table is intended to be indicative, rather than comprehensive

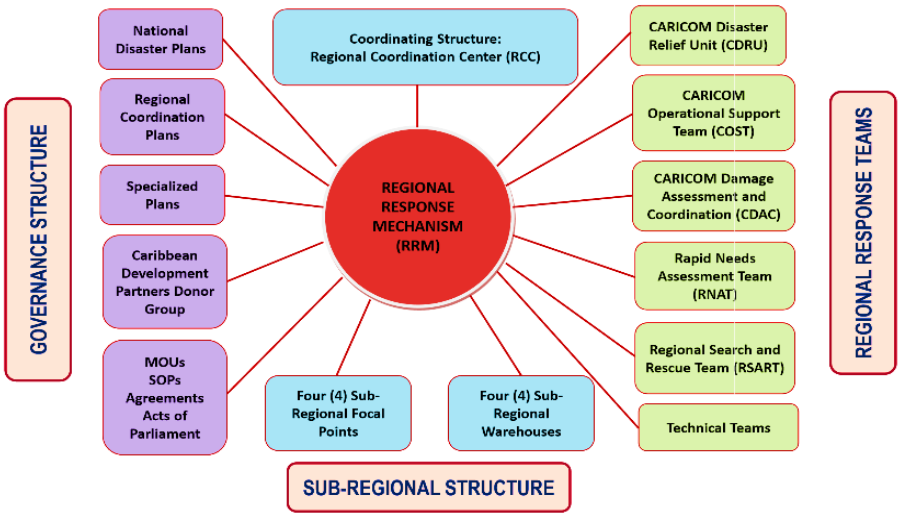
[5] Barbados is currently in the process of mainstreaming the CDM framework in the functioning of its Department of Emergency Management, which is the country's national coordinating unit for DRM.

CDEMA's Comprehensive Disaster Risk Management (CDRM) framework and strategy (2014–2024) are intended to feed into national plans and policies in Caribbean states, as well as providing the guidelines and frameworks for regional response in the event of disasters.[6] The framework, while non-binding, puts national disaster management authorities at the heart of the regional activities and response, and consequently requires national governments to mainstream CDRM principles in their institutional structures and improve inter-ministerial/inter-departmental coordination for DRM.

CDEMA supports response and relief operations through its Regional Response Mechanism (RRM), which is a network of member states, and national, regional, and international disaster stakeholders. Figure 6 illustrates the governance structure of the RRM. Operations are conducted through five technical response teams, focusing on different aspects of response, such as emergency coordination, humanitarian needs assessment, while coordination takes places through four regional sub-divisions that maintain sub-regional regional warehouses and offices.[7]

In terms of international DRM regulations, the Sendai Framework for DRR – the successor to the HFA – is expected to be adopted by countries in the Caribbean. The Havana Declaration and Action Plan adopted by Association of Caribbean States member states in June 2016 emphasises implementation of the Sendai Framework (CDEMA, 2018). The process of harmonising the CDRM Framework and Strategy, as well as its Performance Monitoring Framework and Action Plan, with the Sendai Framework has begun, and there are significant crossovers in priorities and strategy (UNISDR, 2016).

Figure 6: An illustration of CDEMA's Regional Response Mechanism (RRM)



Source: CDEMA (2016a)

[6] The strategy and framework underpin four priority actions: 1) strengthened institutional arrangements for CDM; 2) increased and sustained knowledge management and learning for CDM; 3) improved integration of CDM at sectoral levels; and 4) strengthened and sustained community resilience (CDEMA, 2014).

[7] Sub-regional divisions are: 1) North-Western Sub Region: led by Jamaica, includes Bahamas, Belize, Turks and Caicos; 2) Eastern Sub-Region: led by Antigua and Barbuda, includes Anguilla, Montserrat, St. Kitts and Nevis, and Virgin Islands; 3) Central Sub-Region: led by Barbados, includes Dominica, Saint Lucia, and St. Vincent and Grenadines; and 4) South Sub-Region: led by Trinidad and Tobago, includes Suriname and Grenada.

4.1.3 Governance and coordination challenges at country level

While many Caribbean countries have relatively sophisticated DRM legislative and institutional structures, a common challenge is adequate resources for implementation, which creates governance and coordination challenges. Limited resources mean limited investment in building the technical capacity to deliver mandates. Hence, while countries may have strong DRM mechanisms on paper, their ability to mainstream DRM, raise awareness, and build capacity is often severely constrained (UNDP, 2011).

A key challenge relates to the effective coordination among disaster management actors, i.e. ministries, agencies, and committees, as well as compatibility with national plans. While legislation and national plans often delineate roles and authorities, in practice there are overlaps between national coordinating mechanisms and those of sectoral agencies and departments. This can lead to less coordinated efforts whereby initiatives at community level, or those undertaken by sectoral departments, operate as stand-alone programmes that are disconnected from national initiatives. Also, the absence of a unifying national framework can result in inconsistency in the application of DRM practices and can lead to duplication of efforts. Institutional strengthening to ensure such national-level coordination and cohesion was also highlighted as one of the regional priorities at the CDM signature event held in 2016 in Barbados (CDEMA, 2016b).

While in practice approaches to DRM at the local level (especially response and recovery) involve a wide variety of actors, there is significant variation in terms of the degree to which the roles of non-government actors are recognised in institutional structures and frameworks. Comprehensive DRM systems benefit from multi-stakeholder involvement in all stages of the DRM cycle, from prevention to response/recovery: mitigation, preparedness, and response initiatives are better designed and implemented when vulnerable populations provide inputs and are adequately informed. In the absence of a formal mechanism to engage local, sub-national actors, efforts to include these actors is often inconsistent and can have implications for the adequacy and efficacy of initiatives. Countries like Trinidad, Virgin Islands, and Jamaica have attempted to include non-governmental organisations (NGOs), civil society organisations, and the private sector specifically in their emergency planning and responses but do not have formal systems in place for such inclusion.

4.2 Disaster risk financing

A comprehensive DRM approach envisages governments anticipating and preparing for shocks by adopting a range of financing options and layering them in such a way as to ensure continued support for shocks of varying frequencies and magnitudes, and across varying time periods. Countries can use a mix of *ex-ante* (reserve or calamity funds, contingent budgets, risk transfer) and *ex-post* (budget reallocation, domestic credit, external credit, tax increases, and donor assistance) financing mechanisms to respond to disasters. *Ex-ante* instruments, i.e. financing that is arranged and provisioned before disasters strike, are invariably more efficient than *ex-post* sources (Maher, Fitzgibbon, and Solórzano, 2018). *Ex-post* financing, i.e. financing that is mobilised after a disaster materialises, can delay disaster response, thereby increasing the likelihood of households resorting to negative coping strategies. Further, while some *ex-post* mechanisms are not cheap (e.g. borrowing), others come at the cost of long-term development expenditure (e.g. budgetary reallocation). Disaster risk financing in the Caribbean

represents a mix of *ex-ante* and *ex-post* initiatives, with countries showing varying levels of maturity and success. *See Annex B.5 for a detailed analysis of the different methods of financing disaster risk (retention, transfer, and aid) in the Caribbean region.*

Caribbean states, with their resource-constrained economies, generally lack sufficient or sustainable financial resources to operationalise their DRM policies and plans (Collymore, 2011). In several countries where legislature or policies mandate the establishment of contingency or emergency funds to provide relief during disasters, these funds are under-resourced and hence are unable to adequately finance response when disaster strikes. When a disaster strikes, they seldom have enough resources to adequately respond, and to recover thereafter. While a usual recourse is borrowing after a shock has occurred, this usually comes at a high cost, further exacerbating the indebtedness of countries (Maher, Fitzgibbon, and Solórzano, 2018).

In the absence of dedicated DRM budgets, inter-departmental coordination for financing becomes an impediment to effective disaster response. For instance, in Anguilla there is no dedicated budget for DRM and sectoral departments engage in DRM using their sectoral budgets. Since several sectoral departments carry out a range of DRM activities at their own levels it is difficult to coordinate and track the various activities and investments, especially during disasters (Government of Anguilla, 2013).

Some countries, such as Jamaica, rely on budgetary reallocations to meet disaster financing needs. However, as described earlier, such reallocations have high opportunity costs in terms of the country's growth and development targets. Often the ministries which reallocate funds are the ministries of education, social work, housing, and health. In Jamaica, in 2013, the Ministry of Health reallocated resources worth $2.1 million that were budgeted for the purchase of vehicles and medicines, for repairs to health facilities damaged by Hurricane Sandy (World Bank, 2017b).

4.3 Early warning systems

Early warning systems (EWS) represent an important link between preparedness and response, as they can potentially trigger early response. Effective EWS need four components, which should be coordinated across institutions and across levels, and which cater to all the phases of the DRM cycle. The components are: (1) detection, monitoring, and forecasting of hazards; (2) analysis of the risks involved; (3) dissemination of timely warnings, which should carry the authority of the government; and (4) activation of emergency plans to prepare and respond (World Meteorological Organization, 2017).

EWS have existed in one form or other across all countries in the Caribbean since 2000. There has been a diversity of regional and national-level EWS interventions to date, some of these embedded within national EWS policies. Each of these components is discussed in Annex B.4.

While most Caribbean countries (through local and regional institutions) have arrangements in place to monitor hazards, there is variation in the comprehensiveness and accuracy of the monitoring systems, and in the extent to which links are hardwired between monitoring systems and procedures for (early) action. Alerts and warnings

predominantly relate to extreme weather events, such as high winds, precipitation, storm surges, and other types of coastal inundation, and given the wide-ranging impacts of these events, the early warnings do not adequately account for the projected impacts of different hazards. Using data on socio-economic vulnerabilities can improve risk and impact assessments, and consequently can lead to better informed warnings (WMO, 2018).

The gap between research and policy implementation is further challenged by problems of accessing data, and/or, at times, unavailability of data. In several countries disaggregated data based on various levels of vulnerabilities (e.g. data on disabled impacted by disaster) are not available. This has implications for the policy choices a country chooses and the design of subsequent interventions.

Given the scale and severity of some disasters, response and relief operations in some countries have been affected by damages to critical communications infrastructure and the absence of related contingency plans. Anguilla, and Turks and Caicos Islands reported significant network damage during Hurricane Maria and Irma, while Dominica's national communication infrastructure was almost completely destroyed during Hurricane Maria (WMO, 2018). This hindered communication between internal and external actors and affected coordination with humanitarian and local community actors on the ground.

Despite the range of interventions in the Caribbean to ensure preparedness and effective response, many interventions are only localised to the communities they are targeted at and may not be in tandem with the national structure. More than $57 million was invested in the Caribbean, through various donors, during the period 2003–2016, but many interventions target vulnerable communities, with, at times, no connections to national structures or frameworks. This also has implications for the sustainability of such interventions beyond the life of the project(s) (WMO, 2018).

5. Social protection in the region

What countries can do – in terms of mobilising social protection to address shocks – broadly depends on the design and systems underlying routine social protection programmes. Based on the conceptual framework in Figure 2, this section describes the main types of social protection programmes and their coverage, their institutional arrangements, their **information systems, their targeting systems, and their delivery mechanisms.**

5.1 Programmes and their coverage

Social assistance

Social pensions are the most common form of social assistance in the region. While social pensions are universal in Guyana and Suriname, they are means-tested in most countries (Antigua and Barbuda, Barbados, Belize, Dominica, Jamaica, Saint Vincent and the Grenadines, and Trinidad and Tobago), and pension-tested in a few countries (Saint Kitts and Nevis, Bahamas, and Anguilla). Most social pensions are aimed at the elderly, although a few countries cover other vulnerable groups, such as disabled individuals (Barbados and Saint Lucia) and the invalid (Saint Kitts and Nevis). We did not find evidence of any non-contributory pensions in Grenada and Haiti during our review.

Coverage of social pensions is relatively low in most countries, except for countries where social pensions are universal (see Figure 10). Among the seven countries with means-tested programmes and data on programme coverage, Trinidad and Tobago reaches 68% of the population in the targeted age-group, and in combination with its contributory pension scheme provides near-universal coverage. In the remaining countries, less than 30% of the targeted age-group is covered.

Almost all countries in the region have public assistance programmes (PAPs) to respond to the needs of the poor, but they often do not have a consolidated approach to delivery. Some programmes offer pure cash benefits, whereas others offer a combination of cash and in-kind transfers. Often, transfer values are determined by a review committee on a discretionary basis. Programmes cater to a range of requests, including burial grants, medical grants, food grants, and emergency relief.

Most programmes have limited reach as they cover a small share of the population, with a few exceptions. Dominica's PAP, Barbados' National Assistance Programme, and Saint Vincent and the Grenadines' Poor Relief Programme cover 8.9% (6,600 individuals), 3.7% (10,561 individuals), and 4.3% (4,700 individuals) of the population, respectively. All other anti-poverty programmes analysed within this review cover less than 2% of the respective country populations.

Conditional cash transfers (CCTs), targeted at improving health, nutrition, and education outcomes, are less common in the region. Countries that have flagship CCTs are Belize, Grenada, Haiti, and Jamaica. See Table 3 for key programme data.

Several countries in the region have long-running school feeding programmes. While these programmes are means-tested in some countries (e.g. Saint Lucia, Bahamas, and Trinidad and Tobago), they are offered universally in others (e.g. Dominica, Grenada and Guyana). Some countries use geographical targeting (e.g. Haiti, Guyana) to prioritise programme areas, with the goal of scaling up to extend universal coverage in the long term.

Table 3: CCTs in the region

Country	Programme	Beneficiaries	Transfer value ($)	Benefit generosity (% of GDP)
Belize	BOOST	8,600	22	5.3
Haiti	TiManman Cheri	80,234	15	25.7
Jamaica	Programme for Advancement Through Health and Education	367,955	13	3.9

Source: OPM analysis based on secondary reports.

Social insurance

Although social insurance schemes are not explicitly designed to respond to covariate shocks, they dominate the social protection systems in the region, and therefore are of interest to this review (Table 10). Initially centred on old-age pensions, these programmes have expanded to cover maternity, sickness, work injury, disability, and unemployment in several countries (Nassar *et al*., 2016). Coverage is mandatory for employees and the self-employed (except for Trinidad and Tobago and Saint Lucia), although the enforcement of contribution provisions is much looser for the latter than for salaried workers.

While coverage data are limited, contributory old-age pensions – the most common instrument across the countries – do not adequately reach the population at or above statutory pensionable age, as shown in Figure 9. The Bahamas and Trinidad and Tobago perform relatively better than other countries, all covering less than half of the targeted demographic group (i.e. the population at or above statutory pensionable age).

5.2 Institutional arrangements and capacity

Legal and policy frameworks

The legal and policy frameworks governing social protection in the region – which influence the scope for shock-responsiveness – show mixed levels of maturity. While social insurance benefits from legal backing across the region, there are variations regarding the extent to which social assistance is backed by legislation and/or policies and strategies (beyond relevant international standards). In some countries, rights to non-contributory social protection are historically embedded in legislation (see Box 1) yet do not always comprehensively address lifecycle risks, incorporate all current programmes offered, or fully discuss the rights and entitlements of beneficiaries; they may also be out of date (e.g. not amended according to the standards imposed by recent international legislation and human rights treaties). In some other countries where social assistance is nascent, there is no legal basis and programmes either operate outside the sphere of government (e.g. pilot interventions) or are supported through

non-legislative instruments, such as memorandums of understanding, executive orders, and policy statements (Kardan, 2018).

Box 1: Examples of legislation backing social assistance in the region

- **Antigua and Barbuda**: amended Social Security Act of 1973 and Poor Relief Act of 1961
- **Barbados**: National Assistance Act Cap 48 (with the National Assistance Regulations of 1969 and amendments)
- **Saint Kitts and Nevis**: Social Development Assistance Act of 1988 and Social Security Act of 1977 regulating non-contributory pension

Source: Morlachetti (2015).

In recent years several countries in the region have developed or are in the process of developing sectoral policies and strategies that articulate their government's vision of social protection. Many of these have been spurred by an acknowledgement of increased levels of poverty and vulnerability in the aftermath of the 2008 financial crisis – stressing the longer-term linkages between shocks and social protection. They have also been supported by development partners such as the United Nations Children's Fund (UNICEF), UN Women, and the World Bank, and have been developed on the back of a set of 'Social Safety Net Assessments' conducted between 2009 and 2010. The extent to which these policies and strategies have translated into action, beyond the 'vision' they set, varies widely across countries. In the countries with a comprehensive and recent social protection strategy, a few have already started to encompass a focus on response to crises and emerging vulnerabilities (see Box 2).

Box 2: Incorporating DRM into social protection strategy – examples

CDEMA's strategic CDM Strategy and Results Framework (2014–2024) includes the 'Caribbean Pathway to Resilience' framework, established in direct response to the devastating impact of the 2017 hurricane season and mandated by the Heads of Government of the Caribbean Community (CARICOM), who adopted it in July 2018. Pillar I of the 'Pathway' is Social Protection for the Marginal and Most Vulnerable, which recognises the need to strengthen and leverage national social protection to broaden the support for the most vulnerable in the face of existing hazards.

Jamaica's Social Protection Strategy explicitly discusses social protection's role in social risk management, including risks related to 'environmental conditions' and 'natural events such as disasters'. It also acknowledges social protection's 'preventive' and 'mitigative' functions, including for 'disaster preparedness', and sets out a comprehensive vision for social protection offerings that includes provisions for loss of income in the event of a shock (Government of Jamaica, 2014).

Anguilla's recently launched (February 2019) Social Protection Policy, Action Plan and Framework also encompasses a strong focus on 'integrating social protection into climate change adaptation planning and programming' and 'disaster preparedness and response', 'so that fewer households fall into poverty due to shocks, and so that the social protection system itself is not undermined by disasters' (Government of Anguilla, 2018).

Saint Lucia's 2015 Social Protection Policy acknowledges that 'as a Small Island Developing State existing within the context of climate change, groups and populations most likely to be

harmed by shocks – natural or anthropogenic – are those with limited resources to cope with the consequences.' Key objectives identified in the policy include the strengthening of current systems, including 'emergency and housing interventions' (Government of Saint Lucia, 2015). No specifics are included in the Policy, but a Social Protection Bill is currently due to be passed by parliament.

Saint Kitts and Nevis's 2012 National Social Protection Strategy stresses that 'despite St. Kitts and Nevis's high-income status, there are multiple economic vulnerabilities that have created a situation of economic fragility' – including 'disasters', 'global price increases', and the 'global economic crisis'. The social protection sector therefore plays a role in protecting 'against chronic poverty and hunger, shocks, destitution and social exclusion', while also promoting 'safeguards against shocks and disasters that may occur'. In order to do so, the Strategy sets out the relationship between social protection and other sectors.

Trinidad and Tobago's 2017–2022 National Social Mitigation Plan aims to mitigate the negative social impacts of the country's economic downturn. The approach guiding the Plan recognises the balance between assisting targeted populations to cope with shocks while maintaining a focus on national development goals and resilience building. One of the aims is to improve access to social protection programmes to advance people's capacities to better manage risks and shocks; and to enhance coordination and integration of existing social protection programmes, thereby creating an evidenced-based response package for persons requiring assistance.

Source: Compiled by authors from country-specific social protection strategies and regional policy documents.

Institutional capacity to deliver social protection

Inadequate capacity has been flagged as a persistent challenge in the region (Williams *et al*., 2013; Morlachetti, 2015; Williams *et al*., 2016; Beazley, 2018; Arreola, 2018) – particularly in terms of the following:

- **Coordination mechanisms and memorandums of understanding:** Many countries have a large number of social assistance programmes performing similar functions yet housed under different ministries, with no clear coordination mechanisms and memorandums of understanding outlining complementarities. This, risks compromising coordination with other sectors for enhanced shock response – namely DRM.
- **Staff and offices:** Limited number of staff and offices to guarantee effective outreach, implementation, and monitoring. Challenges in adequately staffing routine programming have effects on the staffing of emergency responses via the social protection sector – especially as staff themselves may be affected by the disaster.
- **Operational manuals, protocols, standard operating procedures (SOPs), etc:** Few countries in the region have fully documented design parameters, rules, and operations along the delivery chain within operational manuals and SOPs. In some cases, manuals only exist for the country's flagship programme but not others.[8] It is even rarer to find any explicit focus on provisions for emergency response within these manuals and SOPs. Donor support

[8] E.g. Relevant, detailed, consistent, and coherent, covering the full delivery cycle (Arreola, 2018).

in the region has focused on strengthening such documentation (e.g. WFP and UNICEF in Dominica, and World Bank in Jamaica).

5.3 Information systems

Depending on their set-up, existing social protection information systems can offer a range of possibilities for shock response. For instance, they can provide household-level data, which are not stored in many other administrative datasets. Information systems that collect socio-economic data can be used to facilitate the targeting of shock response. Further, where geo-referenced data are collected, they can help identify disaster-affected households. Depending on the data collected, they can be used *ex-ante* in predicting vulnerability to shocks (Barca and Beazley, 2019).

In the Caribbean region, the development of social protection information systems has been advancing, although few countries have integrated systems with wide coverage and systematic mechanisms for collecting up-to-date data. Table 4 summarises some key examples.

Table 4: Examples of social protection information systems in the Caribbean

Country and information system	Type of system[9]	Data collection approach	Individuals/ households covered	Targeting index associated with the information system
Belize Single Information System of Belize (SISB)	Social registry	Populated via the Building Opportunities for Our Social Transformation (BOOST) census survey registration process in 2011 and further data collection in 2014	26,334 households (130,904 people) – 35% of the population	Proxy means testing (PMT)
Haiti Information System of the Ministry of Social Affairs and Labour (SIMAST)	Social registry	Census survey in areas of intervention are carried out by staff from the National Coordination of Food Security of the Ministry of Agriculture,	152,000 households – approximately 7% of the population	The Haiti Deprivation and Vulnerability Index (HDVI) algorithm, composed of 20 indicators to single out households that are not only expenditure poor but also exhibit deprivation in multiple living conditions

[9] There are two approaches to creating an integrated social protection information system: (1) integrated beneficiary registries integrate information from existing programme management information systems to house comprehensive information on beneficiaries (e.g. to give an overview of who receives what); and (2) social registries centralise the collection and housing of data on potential beneficiaries to integrate the approach to registration and determining eligibility across programmes (Barca, 2017).

		affiliated with Kore Lavi		
Haiti Registre Unique des Bénéficiaires (RUB) (forthcoming)	Integrated beneficiary registry	Data integration across existing databases	Forthcoming	Forthcoming
Jamaica Beneficiary Identification System	Integrated beneficiary registry	On-demand application (at parish office or applicant's household if unable to visit office)	353,118 people (2018) approximately 12% of population	PMT
Saint Kitts and Nevis Single Household Registry	Social registry	Census survey conducted in 2014	6,000 households, approximately	PMT

Among many countries that do not have standardised information systems, the development of a solid information system for the sector is identified as a policy priority. For example, in acknowledgement of 'critical data gaps that hamper social protection programming,' Anguilla's Plan of Action 2019–2021 includes a focus on establishing and maintaining a social protection registry and developing an integrated information system that links non-contributory and contributory data (Government of Anguilla, 2018). Similarly, in Saint Vincent and the Grenadines, and in Dominica, recent assessments of social protection system preparedness for shock response have stressed the potential role of a strengthened social protection information system (Arreola, 2018; Beazley, 2018). In Saint Lucia and Guyana social registries and associated information systems are being developed, supported by the World Bank and IDB, respectively.

Beyond 'integrated' information systems serving multiple programmes, flagship programmes in most countries do have a supporting electronic management information system that is used to perform core functions – or are in the process of developing one. These offer the potential of being used, or piggybacked on, for shock response. However, these systems most often have low coverage and do not include relevant information for identifying households that are vulnerable to – or have been affected by – shocks.

Box 3: Potential for linking DRM and social protection information systems in Jamaica

The Disaster Risk Information Platform (DRIP) system

Newly developed and still in its testing phase, yet with broad potential, the DRIP is an information hub (developed using a 'CKAN' open source system) that can be used to access documents, research, and maps related to hazard, risk, and vulnerability information. It comprises four main modules: a) data collection (risk information); b) data management, storage, and publishing; c) search and discovery; and d) visualisation (DRIP Web Map). ArcGis,

a cloud-based platform, supports the DRIP Web Map module. This web map platform will be available to over 60 Government of Jamaica agencies.

Potential for linkage with social protection
A recent assessment found that DRIP would provide useful information for PATH purposes and for emergency response via other social protection programmes, by combining information from PATH's database, DRIP's geodatabases, and the Household Damage Assessment Form for Emergency Assistance. Nevertheless, there are information security vulnerabilities which still need to be addressed, and broader challenges with interoperability due to the lack of a unique, reliable, and secure method of authenticating an individual's identity (e.g. via a digital identity).

Finally, interoperability or data sharing with other government registries, including DRM could further enhance the potential for shock response. However, many countries in the region lack a foundational national identifier necessary to operationalise these more advanced response strategies. For example, in a recent assessment of Jamaica's social protection information system, 'interoperability among government agencies' was deemed to be 'hard to achieve in the current context', though not technically impossible (see Box 3). This was because different IDs were used to identify individuals registered in different databases (e.g. PATH beneficiary MIS, the National Insurance Scheme (NIS)). The Government of Jamaica is now working on a National Identification System to establish a unique, reliable, and secure method of authenticating an individual's identity (Segui, 2017). Similar challenges were reported in Dominica (Beazley, 2018), and were identified as a priority area for investment in the stocktaking exercise conducted after the response to Hurricane Maria (Government of Dominica *et al*., 2018).

5.4 Targeting systems

Social assistance targeting mechanisms in the region have been largely designed with the objective of reaching the chronic poor and therefore they have, a priori, limited capacity to capture the effects of sudden crises. Most programmes in the region are targeted (with the exception of school feeding programmes), and rely on means testing, PMT, or categorical targeting (for example, based on age) to determine eligibility. Further, almost all social pensions in the region are pension-tested, i.e. are targeted at individuals not receiving a contributory pension. The use of geographical targeting, with the intent of gradual scale-up, is common. The process for verifying the information supplied during registration varies across countries, but often relies on the judgement of *ad hoc* committees/boards or social workers/ministry staff.

The usefulness of these different targeting mechanisms in shock response will depend on several factors, such as:

- the **overlap between those eligible and those likely to be affected by shocks** (e.g. whether the social pension targets households, which are also likely to be heavily affected by shocks) – see Box 4 for an example from Haiti of the challenges of using routine targeting data for shock response;
- the **coverage** of any given programme, given its targeting criteria and registration process (many programmes in the region have low coverage – see Section 5.1);
- the **amount and type of data collected and retained** (programmes based on a PMT tend to collect and store more socio-economic data); and

- the **robustness of delivery systems underlying different targeting methods** (it is easier to piggyback on procedures/interoperability/capacity underpinning PMT or verified means testing than those involving more discretionary approaches)

Box 4: Routine targeting and shock response: insights from Haiti

'The HDVI is an algorithm composed of 20 indicators added through a weighting system to single out households that are not only expenditure poor but also exhibit deprivation in multiple living conditions dimensions (e.g. educational achievement and services, labour, food security, resources at home and dwelling services, etc.). However, the HDVI was designed to detect well-established household conditions and not necessarily sudden changes to wellbeing and livelihoods (Zuodar, 2016). These limitations were illustrated during the response to the 2015/16 drought implemented in the Northwest by ACF, a Kore Lavi consortium member, as part of their own emergency response programme. While using only indicators of food insecurity, ACF only found a 5% convergence with beneficiaries covered by Kore Lavi in the same area. This highlights the fact that the aspects of structural vulnerability captured by SIMAST and those of a shock-induced vulnerability such as food insecurity differ greatly.'

Source: OPM, 2017b.

5.5 Delivery mechanisms

In terms of shock response, a timely delivery of benefits, whether in cash or in kind, is, of course, crucial for ensuring the provision of effective support (Beazley *et al*., 2016). Overall, international evidence shows that electronic payments can be rapidly expanded during an emergency and offer important safeguards in terms of transparency and accountability, but these systems need to be developed and adapted before the crisis (Beazley *et al*., 2016). Moreover, shocks can disrupt or damage the infrastructure for delivery (e.g. causing an absence of electricity, lack of liquidity, etc) – meaning contingency planning will always be needed and manual systems will always have a role to play (O'Brien *et al*., 2018).

Currently, the bulk of the social assistance programmes in the Caribbean make payments via manual approaches, with a small number of programmes relying on electronic payment systems. Selected examples of cases where cash or cheques are delivered through local government structures and programme staff are provided in Table 5.

Table 5: Examples of manual payment systems

Country	Details
Grenada Support for Education, Empowerment and Development	Delivered in cash at Government District Revenue Offices across the country.
Haiti Social Assistance Fund (*Caisse d'Assistance Sociale*)	Cash transfers via a monthly distribution of cheques at the central office in Port-au-Prince.
Jamaica	Principally provided by cheques at local post offices (81%). The printing and distribution of nearly 300,000 cheques is a time-

Programme of Advancement Through Health and Education	consuming and laborious activity. The Ministry of Labour and Social Security (MLSS) has staff and equipment to handle printing and sorting cheques in two dedicated rooms at the MLSS building. Once the cheques are delivered to the 729 post offices and postal agencies, beneficiaries have 15 working days to collect them (Pulver, 2017).
Saint Vincent and the Grenadines Poor Relief	Payment is transferred by Treasury to the constituency offices. The Village Council Clerk makes payment to clients in cash at the Village Council Office on set days every month. During payment, Village Council Clerks request all beneficiaries to sign the payment list upon delivery of the benefit (Arreola, 2018).
Dominica PAP	In the two main cities, payments can be collected at government offices, or through bank transfers in some limited cases. Outside these areas, all payments are made through Village Councils, which collect the cheques from the Ministry of Health and Social Services, change the cheque to cash, and disburse the payments in their respective village offices (Beazley, 2018).

Table 6 illustrates programmes with an electronic payment system. Mobile money was only adopted in one donor-led programme in Haiti, while for all programmes distributing in-kind transfers (e.g. school meals), *ad hoc* systems for distribution were in place.

Table 6: Examples of electronic payment systems

Country	Details
Antigua and Barbuda People's Benefit Programme	Debit card via a local bank that can be used with four authorised vendors in Antigua and two in Barbuda.
Belize Building Opportunities for Our Social Transformation	The Accounts and Finance Department transfers the money to the Credit Union accounts of the beneficiaries (Otter *et al*., 2016).To reduce barriers for beneficiaries, transfers are made to the beneficiary's bank account at no cost to the beneficiary or bank, and can be withdrawn at any point without charge. The government gives each beneficiary the money (15 Belize dollars 15) necessary to open and maintain the account (Coirolo and Berger Gonzales, 2018).
Jamaica Programme of Advancement Through Health and Education	Electronic payments started in 2006 with the introduction of National Commercial Bank key cards used in ATMs (now accounting for 14% of transactions). Users may transact through 258 Automated Banking Machines and 9,000 merchant locations island-wide. In 2014 an additional electronic payment mechanism was introduced allowing beneficiaries to collect transfers from select remittance agents through two providers (now accounting for 5% of transactions) (Pulver, 2017).
Saint Vincent and the Grenadines	Direct transfers to the bank/credit union accounts of beneficiaries each month (paid via the National Insurance Services) (Arreola, 2018).

Non-contributory Assistance Age Pension	
Trinidad and Tobago Public Assistance Grant, Disability Grant and Senior Citizens' Pension	Direct deposit into the person's personal bank account or by cheque mailed directly to the person's address. The Government is in the process of transitioning all recipients to electronic bank transfers.
Trinidad and Tobago Food Support Programme	The monthly transfer is made through a magnetic card managed by a household representative and allows the purchase of food items at retail outlets.

While electronic payments have the potential for rapid scaling up during shock response, there is some evidence that electronic payments have very low take-up in the region, likely due to the structural limitations of the financial system. In Dominica, only 3.8% of the PAP transactions to beneficiaries are via bank account (Beazley, 2018). In Jamaica, 14% of the PATH payments are transferred via ATM cards and 5% via remittance agents, but the vast majority of beneficiaries opt for payment by cheque (Pulver, 2017). This is partially explained by the logistical challenges with guaranteeing the coverage of pay-points (such as ATMs). While manual payments do not preclude scale-up opportunities (as illustrated by country experiences in Section 6) they may have varying implications for cost efficiency.[10] Regardless of the type of payment mechanism used, countries can ensure better preparedness by diversifying the number of service providers, and thereby mitigate the risks of payment delivery during shocks.

[10] Manual payments do not necessarily imply lower cost efficiency. Cost efficiency is a function of several factors beyond delivery mechanism, such as the extent of new administrative activities required by the scale-up, and the existing level of technology and communication infrastructure (O'Brien *et al.,* 2013).

6. Shock-responsive social protection – recent experiences

While Section 4 and Section 5 discussed system preparedness for shock response in the DRM and social protection sectors, respectively, this section shifts the focus to system response, identifying strategies employed in the region to respond to shocks via social protection. Following the conceptual framework set out in Figure 3, this section describes these country experiences, classified by **type of response** (**vertical expansion, horizontal expansion, piggybacking, alignment, and design tweaks**) and by social protection instruments used (social assistance, social insurance, subsidies, and employment-related social protection).

While the capacity to deliver social protection has been increasing in the region, the review finds limited documented experiences of the systematic use of social protection in responding to shocks. Further, experiences across instruments and types of responses are concentrated in a subset of countries. Regardless, these emerging experiences highlight the potential for shock-responsive social protection and demonstrate opportunities for regional learning.

6.1 Social assistance

Some countries have used vertical expansion of their largest social assistance programmes to respond to major hurricanes, the most common rapid-onset shock in the region. Examples include the following:

- **Jamaica** provided a supplemental transfer of $30 (3,863 Jamaican dollars) over a period of three months to all 90,000 beneficiaries of the PATH CCT (i.e. 3% of the population), in recognition of their status as the most vulnerable, following Hurricane Dean in 2007. The country's Poor Relief programme, which targets some 0.5% of the population, was also 'vertically expanded' in recent crises, through the provision of food and hygiene kits, as well as basic materials for housing repairs (Arreola, 2016).
- In the aftermath of Hurricane Maria, **Dominica**—with support from the WFP and UNICEF—leveraged existing social protection systems to temporarily increase the value of transfers to the 6,600 (i.e. 9% of the population) existing beneficiaries of the PAP. The resulting 'Emergency Cash Transfer' had a transfer value of $90 per household per month, with a top-up of $50 per child, up to three children (Government of Dominica *et al*., 2018).
- In **Haiti**, an additional one-off food voucher of $25 value was transferred in December 2016 to 10,331 regular Kore Lavi beneficiaries in the 11 communes hardest hit by the hurricane. Further, Action Against Hunger and World Vision International scaled up existing Kore Lavi interventions with 5,220 conditional and unconditional cash transfers for three months targeting 1,740 households in two departments (OPM, 2017b).

Vertical expansion of social assistance is less commonly seen in the case of slow-onset shocks, such as the global financial crisis in 2008, although this is not the case for horizontal expansion, as explained below. Examples include the following:

- In **Saint Vincent and the Grenadines**, a larger 'cost of living' payment was made to persons already enrolled in the PAP (Blank, 2010). This likely covered approximately 4% of the country's population.
- In **Dominica**, there was a 10% increase in allowances granted under existing social assistance programmes in response to the global financial crisis in 2008 (Perch and Roy, 2010).

Horizontal expansion, or expanding existing programmes to new beneficiaries, is less frequently attempted in the region, regardless of the pace at which shocks materialise.

- The Emergency Cash Transfer in **Dominica** described above was also temporarily expanded to cover non-enrolled households who were severely affected by Hurricane Maria in 2017. The horizontal expansion, unlike the vertical scale-up, was entirely funded by the WFP and UNICEF (Beazley, 2018), but implemented by the government through the PAP mechanisms. A further Food Security Cash Transfer of $135, funded by WFP, was provided to the same beneficiaries of the Emergency Cash Transfer programme at the start of the 2018 hurricane season to strengthen household preparedness as well as to address continued needs.
- Recognising the poverty impacts of the global recession in 2008, several countries actively expanded enrolment in their flagship CCTs. For example, in **Jamaica**, the number of beneficiaries of PATH increased by 20% in 2010, after a steady coverage of 355,000 in 2008 and 2009 (Grosh *et al.*, 2014).
- **Saint Lucia** provided support to people from Dominica who had been displaced after Hurricane Maria struck in 2017. Support included rental payment, payment of school costs and food for children.

Several countries in the region have used piggybacking primarily to address rapid-onset shocks, but this strategy is less systematically used on a large scale. Some exceptions that involved deliberate piggybacking of administrative machinery underlying large programmes include the following:

- In response to Hurricane Dean in 2007, following the PATH vertical expansion, **Jamaica** also provided cash grants to non-beneficiaries through a damage assessment process that was supported by social workers (social protection capacity) and channelled via the PATH payment mechanism.[11] A similar approach was adopted with Hurricane Sandy in 2012 and further systems strengthening has happened since – enhancing preparedness and ensuring processes are captured within SOPs (Williams *et al*., 2016; Arreola, 2016).
- In **Trinidad and Tobago,** the Ministry of Social Development and Family Services supports the regional Disaster Management Units (DMU) in conducting post-disaster damage assessments. This was the case in the 2018 floods, when Social Welfare Officers worked alongside Field Officers from the DMU in assessing damage to households and loss of assets.

[11] The delivery of benefits is implemented according to the identified damage level by printing cheques using PATH's cheque payment system managed by MLSS. These cheques can be received at the post office or the parish office (Kim, 2017).

- In the **British Virgin Islands**, a Joint Cash Platform was developed by British Virgin Islands Red Cross/British Red Cross and Catholic Relief Services/Caritas Antilles, in coordination with the Ministry of Health and Social Development and the Social Development Department (SDD), in the early stages after Hurricane Irma and Maria. The platform was used to transfer over $3.2 million to 1,076 vulnerable hurricane-affected households between December 2017 and January 2018. The SDD played an important role in implementing the response, in particular with regards to the registration of households, with important efficiency and effectiveness gains in terms of 'improved understanding of BVI's context' and 'access to diverse vulnerable groups', while also strengthening the 'capacity of social workers'. In the long term, registration data were handed over to government and the Joint Cash Platform cash adviser was embedded in government for a year (Red Cross, 2018).
- In **Haiti**, the vertical expansion of the Kore Lavi programme following Hurricane Matthew in 2016 was supported by capacity and coordination from the Ministry of Social Affairs and Labour. This rapid involvement, which proved instrumental for programme outcomes, 'appear[ed] to be the result of the effort made by WFP and USAID to introduce and discuss shock-responsive mechanisms for Kore Lavi' in advance of the shock (OPM, 2017b). Further, the rapid vertical expansion of the food vouchers discussed above was made possible by the network of 1,000 food vendors associated with the programme.
- Following Hurricane Dorian in the **Bahamas** in 2019, the Department of Social Services provided food vouchers worth $100 to 2,611 people who had evacuated in New Providence (WFP, 2019b).

6.2 Social insurance

Several countries in the region responded to the economic shocks arising from the global crisis in 2008 through changes to their respective NIS. This response followed from the need to address the widespread impacts of the crisis on employment (see Section 3.2.4), although given the high degree of labour informality in the region it can viewed as a complement to non-contributory instruments.

- **Vertical expansion of the NIS was the most common strategy used to address the needs of the unemployed and the elderly:**
  - **The Bahamas** introduced a temporary financial measure under the NIS to pay up to 13 weeks of benefits at a rate just under the minimum wage, $200 a week, which increased the benefits for some people and expanded coverage to others, as minimum contribution requirements were overridden (Grosh *et al*., 2014).
  - **Saint Vincent and the Grenadines** increased minimum pensions (Perch and Roy, 2010).
  - **Saint Lucia** increased payments to pensioners by 2–5% (Perch and Roy, 2010).
  - **Barbados** tweaked the design of its programme to allow employers to defer a portion of NIS contributions for employees for one year, to be repaid at a low interest rate, in exchange for their agreement to maintain the workforce levels (Perch and Roy, 2010).

While social insurance is less frequently tapped into to address the impacts of natural hazards, some countries have scaled up the NIS vertically when disasters have taken on country-wide proportions. Examples include the following:

- **Jamaica** expanded its NIS for pensioners following Hurricane Dean in 2007. A one-off grant for emergency relief of $40 was made to all 74,770 pensioners residing in Jamaica in 2007, for a total amount of $2.9 million. However, this grant was drawn from the actual pension fund rather than other extraordinary budget allocations, which many stakeholders felt could dilute the pension system in the long-run (Arreola, 2016).
- Following Hurricane Ivan in 2004, the NIS in **Grenada** provided unemployment insurance to registered members through the Temporary Employment Programme up to a maximum of six months. The vertical scale-up resulted in a total disbursement of $ 2.4 million and benefitted 3,400 individuals, with a maximum per beneficiary disbursement of $1,000 (or 40–50% of their salary). Women and displaced workers in the tourism industry were the majority of claimants (Coirolo and Berger Gonzalez, 2018).

6.3 Subsidies

Recognising the inflationary effects of economic crises, some countries have employed commodity subsidies (Perch and Roy, 2010). This is illustrated by the following measures introduced after the economic downturn in 2008:

- **Dominica** reduced taxes on cooking gas, lowered tariffs on some products, and increased the tax-free allowance from East Caribbean dollar (XCD) 15,000 to XCD 18,000.
- **Saint Lucia** allocated $10 million for direct subsidisation of rice, flour, and sugar, and improved the targeting of subsidies.
- **Saint Vincent and the Grenadines** created a subsidy for electricity and provided fertiliser subsidies to 1,776 farmers (reducing cost by 50%) through support provided by Venezuela.

6.4 Good practices during shock response

Recent regional responses to shocks via – or in coordination with – the social protection sector have often been designed on an *ad hoc* basis in the aftermath of the shock. However, some good practices have emerged during the implementation of the shock response strategies described above, and these are described in turn.

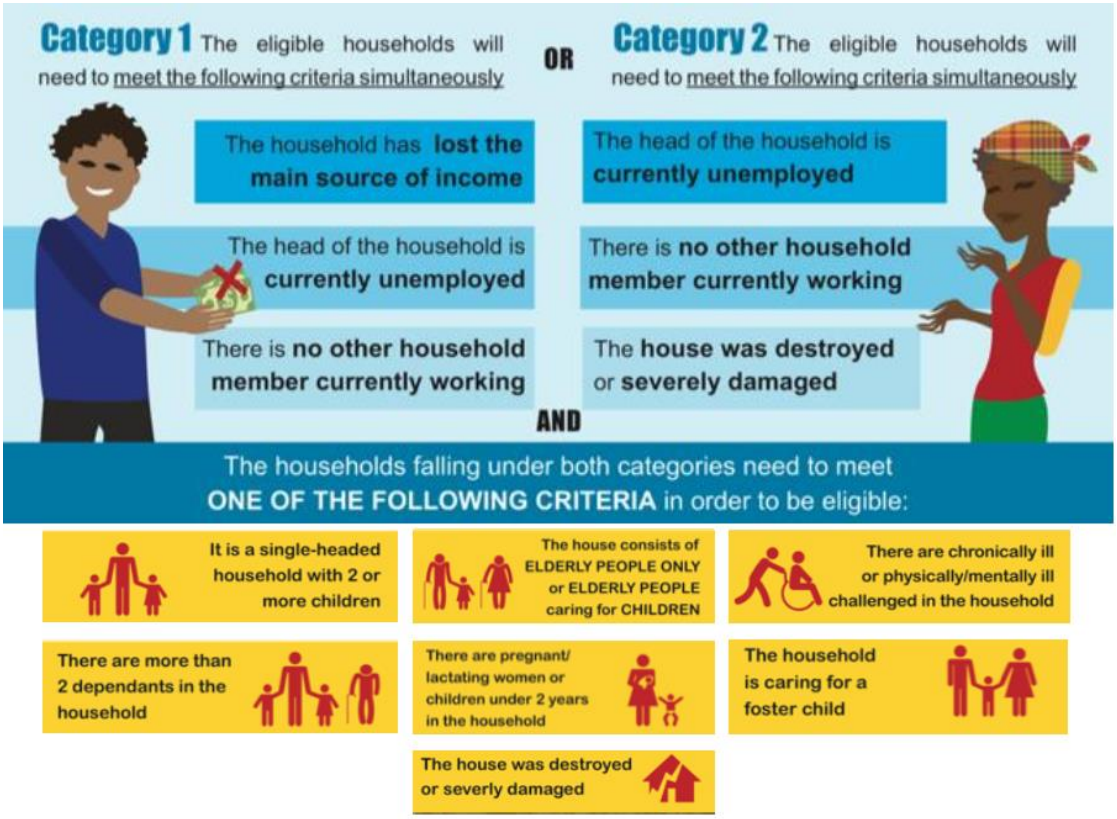
1. **Ensuring continuity of service delivery for routine programmes**
   When shocks hit, routine beneficiaries of social assistance programmes are likely to be among the most vulnerable, given their pre-existing poverty. Ensuring continuity of delivery is therefore a priority and may require surge capacity and flexibility vis-à-vis standard arrangements. For example, in Dominica, routine PAP payments were not disrupted by Hurricane Maria (Beazley, 2018).
2. **Coordinating with other actors, and in particular DRM, and considering social protection actions as one component of a more holistic strategy**
3. **Agreeing on a scalability framework to guide response strategies in advance**
   Many experiences in the region required *ad hoc* planning and coordination in the aftermath of the shock, although these responses were quite successful, some planning and coordination actions could be done prior to the shock, in order to be able to respond more rapidly.

   a. **Finalising the targeting approach**

Decisions on who to target in the aftermath of a shock can be decided in advance of a shock but need to be refined based on additional data collected on affected populations and their needs. For example:

- In **Dominica**, targeting criteria were established through a consultative process involving government entities (local governments, social welfare officers, and emergency committees), WFP, and UNICEF. These comprised demographic indicators generally associated with vulnerability, together with disaster-related indicators. Based on these criteria, Beneficiary Selection Committees were in charge of pre-selecting beneficiaries and this selection was further validated through data analysis. The final lists were approved by government following validation by cabinet (Beazley, 2018).

Figure 7: Targeting criteria and communication material used for outreach, Dominica



Source: Beazley (2018)

- In the **British Virgin Islands** a Joint Cash Platform (humanitarian actors) worked closely with the Ministry of Health and Social Development to agree targeting criteria (households with low or no income who fall into a number of other vulnerability categories, such as having suffered severe housing damage, families with children under five, or family members who have severe health issues, disabilities, or are over the age of 65 with no support) (Red Cross, 2018).

b. Issuing payments/transfers

Depending on the strength and integrity of the payment systems of existing programmes, this could include 'piggybacking' on that same system or selecting a new system. Examples of both options are seen below:

- **Dominica's** Emergency Cash Transfer grants were distributed to beneficiaries using the existing PAP delivery mechanisms, largely based on manual payments through the Village Councils. There were some delays in the payments, but these were due to data collection issues and approval of payment lists (linked to lack of preparedness), not to the payment system itself (Beazley, 2018).
- In the **British Virgin Islands** a new payment system was put in place: the 'single cash delivery platform', via a First Caribbean Bank account that was managed by the Red Cross. The bank also provided an electronic payment (e-payment) system that enabled segregation of duties and authorisation levels (Red Cross, 2018).

4. **Supporting the collection of data to inform targeting**

The expertise – and trust within local communities – of staff from social welfare ministries can play a very important role in post-emergency data collection and needs assessments. Experiences in the region have stressed this extensively, whether the collection of data to inform targeting is led by the DRM sector or by the ministry in charge of delivering social transfers. For example:

- In the **British Virgin Islands**, field work and registration were carried out by joint SDD (50 social workers) and Red Cross teams, via an electronic platform. An evaluation of the process showed that 'the SDD participation contributed to strengthening SDD social workers' skills and capacity', while also enhancing engagement with communities and the overall cost-effectiveness of the response (Red Cross, 2018).
- In **Dominica** data collection for the horizontal expansion – via a Vulnerability and Needs Assessment questionnaire – was conducted from November 2017 to mid-January 2018, reaching 17,200 households in the country (more than 80% of the population). Data collection was mainly paper-based and was conducted by 'Beneficiary Selection Committees': these included five members – Village Council chairpersons/clerks, community leaders, and widely respected members of the community (teachers, priests, nurses, etc.).

There have also been a few examples of cases where data and information from past disasters have been built on to support social protection programming going forward. For example, in the British Virgin Islands, the Joint Cash Platform registration database from the emergency response was handed over to the government SDD to enable potential access to recovery and development support. Moreover, initially designed as a six-month collaboration, the Joint Cash Platform was transitioned to become a national cash collaborative platform, while the main cash expert from the response was embedded in the SDD for a year, with a longer-term focus on systems building (Red Cross, 2018).

5. **Learning from previous shock responses has been an important focus in the region.** There have been a wide range of events, workshops and research, particularly following Hurricanes Irma and Maria, to take stock of the timeliness, appropriateness, and effectiveness of emergency responses. These include the following:

- A Dominica **lesson learned exercise** was conducted to identify the next steps for systems strengthening and preparedness investment following the government-led response through the PAP, implemented with the support of WFP and UNICEF.
- The **first regional inter-ministerial symposium on shock-responsive social protection in the Caribbean** was convened by CDEMA and WFP in Turks and Caicos Islands in June 2019. The event was followed by a **Caribbean South-South Cooperation knowledge-sharing and learning event** in the Dominican Republic on strengthening emergency preparedness and response targeting and data management through risk-informed social protection.
- A **shock-responsive social protection workshop** was held in the British Virgin Islands with the support of WFP, to enable the government to self-assess the system and programmatic capacity of its social protection schemes to contribute to the delivery of assistance to crisis-affected and vulnerable populations.
- In March 2019, the government of the British Virgin Islands and the British Red Cross co-hosted a **sub-regional Collaborative Cash Programming in Shock Responsive Social Protection** to promote future cash programming as part of social protection mechanisms.
- In 2018 and 2019, the government of Belize spearheaded a **series of conferences**, with the support of development partners including UNICEF, the World Bank and ILO, to increase the knowledge of national and civil society partners on key areas of social protection. One of the conferences focused on **social protection in emergencies**, with additional support from WFP.
- **Country case studies** in Belize, Dominica, Guyana, Jamaica, Saint Lucia and Trinidad and Tobago have been conducted by WFP and OPM, to generate evidence and improve emergency preparedness and response through national social protection programmes. Case studies have also been completed in Haiti and the Dominican Republic, resulting in measures and investments to boost the shock-responsiveness of existing systems.[12]
- **The first Latin America and Caribbean region seminar on Shock-Responsive Social Protection** was held in Peru in 2017 with the support of WFP. It included the participation of CDEMA, CCRIF and representatives from Jamaica. A **conference on Adaptive Social Protection** was held also in Peru in 2019 with the support of the World Bank and WFP, and with representation from the British Virgin Islands and Dominica.
- The World Bank and WFP held a **panel discussion and training session on Adaptive and Shock-Responsive Social Protection** at the Understanding Risk conference in Barbados.

[12] All published case studies are available at: www1.wfp.org/publications/shock-responsive-social-protection-latin-america-and-caribbean

7. Conclusion

The question on how social protection can contribute to preparing for, responding to and mitigating the impact of shocks, is an important one for the Caribbean. The region is highly vulnerable to both natural and economic shocks, and countries are impacted disproportionately when shocks materialise due to their small size and resource constraints. At the heart of this question is leveraging the synergies between social protection and DRM. This review assessed the potential for shock-responsive social protection in the CDEMA Participating States, establishing a picture of DRM and social protection in the region, and experiences of social protection systems in responding to shocks.

While several countries have DRM legislative and institutional structures that are quite comprehensive in scope, DRM has yet to be mainstreamed in several sectors, including social protection. In some Participating States there is a close intersection and collaboration between DRM and social protection, with ministries in charge of social protection also leading or closely supporting relief efforts. In most countries, however, there is limited coordination between the two sectors. This is often attributed to limited mutual understanding of priorities, systems, and responsibilities as well as limited resources to raise awareness and build capacity.

Although the use of national social protection to prepare for and respond to shocks is still emerging, there are positive examples in the region as evidenced by the assistance provided to hurricane-affected households in Jamaica, Dominica, British Virgin Islands and more recently the Bahamas. In these countries, governments leveraged national cash transfer or voucher programmes through one or more of the following approaches: increasing the benefit value or duration (vertical expansion), temporarily extending support to new households (horizontal expansion), or using the administrative capacity to deliver an aligned emergency response (piggybacking).

These experiences, coupled with the growing threat of climate-related risks in the region and ongoing efforts to build the resilience of vulnerable households, have led to increased interest and demand for shock-responsive social protection in the Caribbean. This is evidenced by the wide range of regional conferences, workshops, events, research and technical assistance to strengthen the linkages and dialogue between the DRM and social protection sectors, to generate evidence and inform practice for innovative emergency preparedness and response practices in the region, and to identify preparedness investments to shock-proof national social protection systems and programmes.

Concurrently, several countries are already implementing concrete measures to strengthen and consolidate their national social protection systems overall; and regional efforts, under the leadership of CDEMA and its partners, are underway to develop an integrated and sustainable risk management approach that recognises the critical linkages among DRM, climate change adaptation, sustainable development and social protection. These developments offer significant opportunities to more strongly link social protection with disaster risk management and strengthen social protection's role for shock-response.

One opportunity is the development of social protection information systems. Though few countries already have comprehensive systems in place, many have identified this as a policy priority, which presents an opportunity for social protection and for preparedness and response.

If information systems are developed in a manner that is risk-informed, data on households could be collected, analysed and used in ways to better understand vulnerability to shocks and to plan for and implement responses to them.

Another opportunity is the development of payment mechanisms. While the bulk of social assistance payments in the region are made though manual approaches - successfully used in response to large-scale shocks in Jamaica and Dominica - a growing number of programmes are transitioning to or making full use of electronic payments. These can enable rapid scale up during a crisis and the ability to meet needs more quickly, while also offering increased transparency and traceability.

Ensuring that resources can flow to affected populations swiftly is key in emergency responses, as it is the ability to fund them through robust and predictable financing. In this regard, the risk financing instrument CCRIF offers great potential especially owing to its ability for rapid pay-outs and the lack of restrictions on how recipient countries decide to allocate them. This could potentially open the doors for the channelling of pay-outs when a policy is triggered, to finance disaster responses via national social protection systems.

While the purpose of this review was to provide a snapshot of the state of DRM and social protection in the Caribbean, there are several other research areas that are important to address moving forward. This include an analysis on how to best integrate gender equality in the design and implementation of shock-responsive social protection programming, the impact and implications of shocks on vulnerable groups such as the elderly, disabled and migrants, and how they can be addressed through national social protection.

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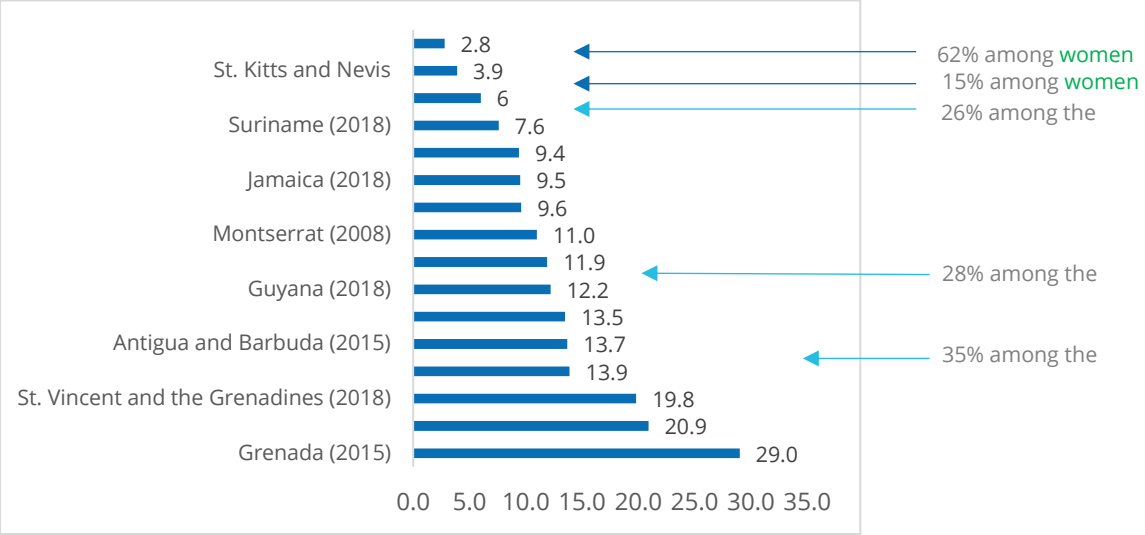
Annex A Data on poverty, vulnerability, and shocks

Table 7: HDI 2018 rank for countries under review[13]

Country	HDI rank (2018)	HDI level
Haiti	168	Low
Guyana	125	Medium
Belize	106	High
Dominica	103	High
Suriname	100	High
Saint Vincent and the Grenadines	99	High
Jamaica	97	High
Saint Lucia	90	High
Grenada	75	High
Saint Kitts and Nevis	72	High
Antigua and Barbuda	70	High
Trinidad and Tobago	69	High
Barbados	58	Very high
Bahamas	54	Very high

Figure 8: Unemployment rate, by country



Source: ILO estimates for all countries, except for Antigua and Barbuda (Labour Force Survey, 2015); Turks and Caicos (Labour Force Survey, 2015); Saint Lucia (IMF, 2017).

[13] Data not available for Anguilla, Montserrat, Turks and Caicos, and the British Virgin Islands.

Table 8: Magnitude of disasters in recent times: selected examples

Name and year	Country affected	Economic losses (% GDP)
Hurricane Irma (2017)	British Virgin Islands	309%
Hurricane Irma (2017)	Barbuda	9%
Hurricane Maria (2017)	Dominica	224%
Hurricane Matthew (2016)	Haiti	22%
Tropical Storm Erika (2015)	Dominica	90%
Floods (2015)	Dominica	96%
Earthquake (2010)	Haiti	120%
Hurricane Tomas (2010)	Saint Lucia	43%
Hurricane Dean (2007)	Belize	6%
Floods (2005)	Guyana	60%
Hurricane Ivan (2004)	Grenada	212%

Source: Compiled by authors from country documents and HFA country progress reports

Annex B DRM systems in the region

B.1 Examples of key legislation and plans relating to DRM in the Caribbean

- **Anguilla:** Disaster Act (2007), followed by Comprehensive Disaster Management Strategy (2013).
- **Antigua and Barbuda:** Disaster Management Act 2002 and a National Comprehensive Disaster Management Policy (2014–16).
- **Bahamas:** Disaster Preparedness and Response Act (2006).
- **Barbados:** Emergency Management Act (2006).
- **Grenada:** National Disaster Management Plan (2012).
- **Jamaica:** Disaster Risk Management Act (2015) and National Disaster Management Framework.
- **Montserrat:** National Disaster Response Act (1999).
- **Saint Vincent and Grenade:** National Emergency and Disaster Management Act (2006).
- **Turks and Caicos:** National Disaster Plan (2012).
- **British Virgin Islands:** Disaster Management Act (2011), Disaster Management Bill (2017), National Emergency Relief Policy (2017).

B.2 Institutional set-up of DRM systems

Several countries address DRM through plans or strategies, not legislation. In some cases, these plans or strategies deal with a range of disasters, such as the National Disaster Plan 2012 in Turks and Caicos and Guyana's National Integrated Disaster Management Strategy 2013–2023, which aim to address all stages of DRM from prevention to response. In other cases, they are hazard-specific (e.g. the National Earthquake Plan 2011 in Trinidad and Tobago), and/or focus on recovery and reconstruction. Haiti's Action Plan for National Recovery and Development is one example of the latter.

All countries have a designated department, office, or agency that is tasked with coordinating disaster management, but the scope and authority of their mandate varies widely. In some countries, such as Belize and Montserrat, these institutions are mandated just to focus on response and relief efforts, not on other dimensions of risk management, such as preparedness and early warning. The way in which these institutions are established also varies: in some cases, the institutional framework is confirmed by legislation, which suggests it might have greater longevity than in other cases. Examples of acts that establish institutional structures are Anguilla's Disaster Act 2007 and Barbuda's Disaster Management Act 2002.

In some cases, DRM institutions have a direct reporting line to the head of government, which can enhance access and authority. This is the case in Anguilla and Barbuda, mentioned above. Where DRM institutions are subsumed within existing organisations, they tend to report to a minister (directly or indirectly), and only then upwards to the head of government. In such cases,

a lot would depend upon the priorities of the minister and their recognition of the importance of DRM.

Many countries have established multi-stakeholder governing bodies to contribute to DRM, reflecting a recognition of the cross-sectoral nature of risk management and the need for mainstreaming and collaboration. Anguilla's 2007 Disaster Act establishes a National Disaster Management Committee, which includes the Ministry of Social Development, Ministry of Finance, and the Health Authority, among others, and is tasked with providing overall direction to disaster management efforts and development of a national disaster management plan. Saint Lucia's National Emergency Council, and Saint Vincent and Grenadines' National Emergency Council have been similarly established and perform similar roles.

DRM responsibilities are sometimes devolved to sub-national levels. The extent to which this occurs depends upon the structure of government in the country, as well as the breadth of their DRM system. In Jamaica, Emergency Operation Centres are responsible for response and recovery operations and exist at parish level. In Saint Vincent and Grenadines, District Disaster Committees form part of the national DRM structure and are tasked with developing and reviewing district disaster management plans annually.

DRM is a prerogative that cuts across sectors, as well as levels of government. If it is to be effective in protecting development gains, risk management must be integrated across sectoral mandates and priorities. Reference to DRM within broader (non-DRM-specific) policy frameworks can therefore be taken as a positive indication of mainstreaming. For example, Dominica's National Climate Resilient Plan includes DRM as a priority action, and DRM has a similar emphasis in Guyana's Climate Resilience Strategy and Action Plan. Grenada's Growth and Poverty Reduction Strategy (2012–15) identifies CDM and climate resilience as one of four priorities for achieving the nation's medium-term development vision.

Box 5: DRM mainstreaming in Jamaica

The Office of Disaster Preparedness and Emergency Management (ODPEM) in Jamaica is the prime body responsible for operationalising the country's DRM framework. In its move to incorporate comprehensive DRM practices, ODPEM has been leading several initiatives to mainstream DRM in Jamaica's key sectors, including the agricultural sector (which is also one of the sectors that is most vulnerable to disasters). Subsequent to the occurrence of Hurricane Dean in 2007 – which rendered losses worth $46 million – a National Agricultural Risk Management Programme was started. DRM is also mentioned in the country's national agricultural policy. Efforts to mainstream DRM in the tourism sector are also underway under a regional project being implemented by CDEMA.

DRM assessments have also been incorporated into the development approval process. Hazard and risk maps and site inspections are used to carry out such assessments, and capacity building of local government authorities is being done to allow them to use hazard maps and risk-related data in development planning. The national building code and development order, which define regulations for development, are also being revised to reflect updated risk assessments.

Source: UNDP (2011); Government of Jamaica (2013); ODPEM (2013).

Disaster management acts in several countries (e.g. Anguilla, Antigua and Barbuda, Bahamas, Jamaica, Saint Lucia, Saint Vincent and Grenadines, British Virgin Islands) also mention 'especially vulnerable areas' and mandate the development of separate plans to address risks to these areas (and people). These acts outline a process for delineating vulnerable areas and a process for developing disaster risk reduction and mitigation plans for these areas. In addition to being approved by the head of government (e.g. governor), the plans should be informed by public consultation. These 'special area precautionary plans' include special regulations for development in vulnerable areas and could include restrictions on the development in specific areas.

B.3 The role and strategy of CDEMA

CDEMA's CDRM strategy has important linkages with other regional frameworks, such as the CARICOM strategic framework (2015–19), which aspires to a Caribbean community 'that is integrated, inclusive and resilient'. The strategy ties in with other key development frameworks, including the Sustainable Development Goals (2015–2030) and the 2006 St Georges Declaration of the Organisation of Eastern Caribbean States, which includes integrated DRM as one of its 21 principles (CDEMA, 2014). DRM is also considered a development priority regionally. Improving disaster management and strengthening risk reduction mechanisms are priorities according to the Programme of Action for the Sustainable Development of Small Island Developing States 1994, and more recently in the Mauritius Strategy for the Further Implementation of the Programme of Action for the Sustainable Development of Small Island Developing States (2005).

B.4 Components of early warning systems (EWS) in the region

B.4.1 Detection, monitoring, and forecasting of hazards

Technologies for forecasting and monitoring hazards in the Caribbean vary widely, depending on the type of hazard. Technologies from Doppler radars for hurricane forecasting and seismic sensors for monitoring seismic activity to basic flood early warning systems (EWS) using simple rain gauges and river level gauges are used throughout the Caribbean (Collymore, 2016). Since the 1980s, Jamaica has been using community-operated flood warning systems, with varying levels of success.

Regional institutions across the Caribbean are also heavily involved in monitoring hazards, and issue their own advisories based on their monitoring.

- The Seismic Research Centre of the University of the West Indies monitors earthquakes and volcanoes for the English-speaking islands of the Eastern Caribbean, or the Pacific Tsunami Warning Centre, which has been providing interim tsunami advisory services for the Caribbean region since 2005, and which was augmented by services from the National Tsunami Warning Centre in 2007 (Collymore, 2016).
- The Caribbean Catastrophe Risk Insurance Facility (CCRIF) employs a real-time impact forecasting system which provides real-time estimates of expected hazard levels of all tropical cyclones and their expected impacts on population and infrastructure. This information is shared with all CCRIF countries (CCRIF, 2015).

- The forecasting system is also linked to the regional EWS platform, the Caribbean Dewetra Platform for Natural Disaster Risk Assessment and Prediction, which provides real-time data on hydro-meteorological risk forecasting, environmental monitoring, and disaster risk mitigation. Outputs and analysis from both forms part of CDEMA briefings to participating states (Collymore, 2016).

Hydro-meteorological and related scientific forecasts, on the other hand, are primarily addressed within national boundaries via national meteorological and hydrological services, under the Caribbean Meteorological Organisation agreement. Some national meteorological and hydrological services have forecasting responsibilities for preparing and issuing warnings for neighbouring countries as all Caribbean countries do not have their own service.[14]

B.4.2 Risk assessments and analysis

Assessing risks is an important facet of preparedness: not only does it allow disaster prevention through pre-emptive action, it also helps prepare for, and hence mitigate, impacts of disasters. Since the impacts of disasters permeate across various sectors, a thorough assessment of risk and, subsequently, pre-emptive actions require coordination across departments of health, education, social work, planning, and development.

Several countries have made efforts to carry out hazard and vulnerability assessments across regions and sectors, for example the British Virgin Islands (see Box 6). Several others have incorporated hazard mitigation plans in their national development plans or included hazard and vulnerability assessments in their planning and development processes – for example, as part of their environmental impact assessments; examples include the Bahamas and the British Virgin Islands.

Box 6: DRM mainstreaming risk assessments and analysis in the British Virgin Island

The British Virgin Islands has attempted to mainstream DRM in its development plans both at the national level and in its sectoral plans and policies. It is currently in the process of incorporating hazard mitigation requirements within the National Planning Act 2004. The Act originally required certain developments to undergo environmental impact assessments. The environmental impact assessment has been updated to include Hazard Vulnerability and Risk Assessment parameters. Consequently, it is obligatory to complete a hazard assessment for any kind of development within designated hazardous areas. The Hazard Vulnerability and Risk Assessment was updated earlier in 2010 to include erosion and drainage concerns and is being revised further. Another initiative to understand and map risks and vulnerabilities includes the development of a Multi-Hazard Atlas (in collaboration with the Town and Country Planning Department) that will be compatible with the National Physical Development Plan and revisions to the national GIS database. The Department of Disaster Management also coordinates with sectoral departments (such as the Public Works Department and the Town and Country Planning Department) on integrating hazard mitigation in their development plans.

Source: Department of Disaster Management, British Virgin Islands (2012).

[14] As per the RA IV Hurricane Committee Operational Plan (WMO, 2018).

Another facet of preparedness, and a successor to understanding risk, is building awareness of risks and risk mitigation and management actions among communities. Several countries that have submitted their HFA progress reports have positively reported on the existence of mechanisms for raising awareness about risks, preparedness arrangements etc. through school curricula and trainings for government officials etc. However, there is limited evidence relating to the effectiveness of these arrangements, as well as the inclusiveness of their design.

B.4.3 Dissemination of early warnings

Dissemination of early warnings in the Caribbean happens through both regional and national forums. Many regional bodies, as described above, are involved in detecting, monitoring, and recording hazard-related information. Countries where technical capacities (or institutions) to detect and monitor hazards do not exist rely on regional platforms for updates on developing disasters and oncoming hazards. Once information regarding an impending disaster is received by national disaster management authorities, they trigger their national dissemination systems to relay the information to the public.

The dissemination of information related to disasters involves a range of tools, including internet and cellular phones, which have broadly proven to be useful in delivering real-time information that is also adequately downscaled and understandable to various end users. However, Short Message Service (SMS) technology from cellular providers has met with varying levels of success throughout the Caribbean (WMO, 2018). Other avenues for information dissemination include radio broadcasts, community announcements, and social media and messaging platforms, such as WhatsApp and Facebook. Box 7 describes an integrated approach to communicating warnings in Anguilla.

Box 7: Disaster warning systems in Anguilla

The National Warning System in Anguilla employs a comprehensive set of technologies to ensure information regarding disasters is available to all residents in the country before, during, as well as after a disaster event occurs. Since there is no local meteorological office, Antigua's Meteorological Service is used for weather-related information, which is then disseminated through the warning systems in Anguilla. Some features of the system are: internet popup (BAM Box), email, FM radio interrupts, a smartphone application, and radio data system receivers. A National Communications Policy and Plan has been drafted, while a disaster web page is under development that would allow alerts to be received through mobile phone applications. Community residents and leaders play a vital role in ensuring the dissemination of information to the most disadvantaged residents, and in persuading people to take action, especially those who might wait until the last minute.

Source: Government of Anguilla (2013).

B.4.4 Activation of emergency plans to prepare and respond

Almost all states have proactively included disaster response protocols in their disaster/emergency plans, such as emergency telecommunications, rescue and relief plans, shelters, etc. The British Virgin Islands has a National Alert System that consists of a National Siren System and National Emergency Broadcast System, while Grenada has national committees for Shelter Management, Emergency Telecommunications, Disaster Relief Management, Health Services, and Search and Rescue, among others, for efficient response and relief efforts.

B.5 Approaches to disaster risk financing in the Caribbean

B.5.1 Risk retention

Risk retention implies explicitly or implicitly absorbing the impacts of a shock if it occurs, and commonly takes the form of *ex-ante* financial planning. Several states have created provisions for disaster financing through their disaster management acts, which is evidence of proactive planning for disaster. Common financing arrangements are emergency or contingency funds that are meant to be spent when disasters strike. Saint Lucia maintains a contingency fund worth $315,000 (as at 2016), while Jamaica's fund is capitalised at $4 million (as at 2017) (WFP, 2019a). Other countries where such funds exist include Grenada, Turks and Caicos, British Virgin Islands, and Barbados[15]. The table below lists some other Caribbean countries where some form of budgetary allocation has been made:

Table 9: Budget allocations for DRM, historically, in select Caribbean countries

Country	% budget /amount allocated (in $)	Description of allocation
Antigua and Barbuda	345,249[16]	Budget for National Office of Disaster Services; no allocation for disaster risk reduction investments/activities
Saint Lucia	248,380[17]	Budget for National Emergency Management Organisation; no allocation for disaster risk reduction investments/activities
Saint Kitts and Nevis	0.001%[18]	Relief and reconstruction
Turks and Caicos	0.7%[19]	Risk reduction/prevention
Dominica	370,000	Allocated to the Office of Disaster Management
Jamaica	0.8%[20]	Disaster management activities across ministries

Source: Compiled by authors from country documents and HFA country progress reports where information about allocations is available. Hence, the figures relate to different budget years and are meant to be indicative of the level of allocations only.

Often, *ex-post* financing requires reallocations from other public spending. This can have significant development impacts, as well as impacts for fiscal discipline and governance. For example, between 2004 and 2014, the Government of Jamaica financed 22.6% (approximately $895.5 million) of its total disaster financing needs through reallocations from other ministries (World Bank, 2017b). Therefore, *ex-ante* instruments offer more predictable DRM. **While the existence of contingency funds is a positive sign for financial planning, disaster impacts regularly outstrip countries' internal capacity to respond to disasters in an adequate and effective manner.** Often, the funds are only enough to meet the administrative costs of running the disaster agencies, and therefore *ex-ante* instruments are always preferable.

[15] Countries' progress reports on the implementation of HFA.
[16] For the year 2016 (National Office of Disaster Services Antigua and Barbuda, 2017).
[17] Approved budget for the year 2012–13 (National Emergency Management Organisation Saint Lucia, 2014).
[18] Between 2013 and 2015 (National Emergency Management Agency St. Kitts and Nevis, 2015).
[19] Between 2011 and 2013 (Department of Disaster Management and Emergencies, 2013).
[20] For the year 2013–14 (JICA, 2014).

B.5.2 Lending and grants

Caribbean states have relied significantly on donor funding (loans and grants, sometimes on concessional terms) for enhancing their DRM systems, as well as response and recovery operations post-disaster. The inadequacy of public financial resources, and the severe fiscal impacts of redirecting existing public resources, is a major reason for this.

The World Bank has been an important source of support for disaster risk financing in the region, providing technical assistance and concessional financing. For example, under the three-year cycle of the 18th replenishment of the International Development Association, $615 million of concessional finance is available to six eligible CARICOM countries: Dominica, Grenada, Guyana, Haiti, Saint Lucia, and Saint Vincent and the Grenadines (World Bank, 2018b). The World Bank's Contingent Emergency Response Component (CERC) is also an important tool in the region, providing rapid access to lines of credit that can help address shortfalls in financing for response and recovery activities (see Box 8 below).

Box 8: Financing disaster response in Belize through CERC

Disaster response in Belize derives direction from the Disaster Preparedness and Response Act, 2000. The Act does not, however, earmark funds for disasters or create a contingency budget. In the event of a disaster, the National Emergency Management Organisation – the prime agency responsible for carrying out emergency response – performs an assessment of the damage and submits an application to the Ministry of Finance for allocation of funds accordingly. Once triggered, the CERC bridges the shortfall of response and recovery funds by financing emergency recovery and reconstruction projects under an agreed CERC Operations Manual.

Source: World Bank (2017a).

B.5.3 Risk transfer

Owing to limited financial resources and difficulties in effectively retaining risk, risk transfer represents an important option for Caribbean countries. Risk transfer involves transferring risk to a third party in exchange for payment (usually), such as an insurance premium or payment of interest on a catastrophe bond.

Risk transfer can occur at different levels. At the micro level, some Caribbean countries have adopted micro-insurance schemes as a means of protecting farmers against the risk of crop damage (see Box 9).

Box 9: Grenada's experience of WINCROP and the Livelihood Protection Policy

Grenada uses various insurance mechanisms to protect low-income households and farmers against agricultural losses from disasters. The banana crop in Grenada is primarily insured through Windward Islands Crop Insurance Ltd (WINCROP), which started in 2000, was suspended after Hurricanes Ivan and Emily, and restarted again in 2012. WINCROP insures against loss of banana holdings in the event of windstorm and volcanic eruptions. Out of the 581 claims received from 2000 to 2009, WINCROP paid 479 of them, worth a total of $128,295 (XCD 346,397). Low-income households in Grenada are eligible for insurance from wind and excess rain through the Livelihood Protection Policy, which is a weather index-based insurance

policy21. The Livelihood Protection Policy caters to low-income individuals irrespective of occupation. The product is readily available and accessible through local distribution channels, including cooperative banks, credit unions, and farmer associations, and has arguably provided timely cash pay-outs shortly after a weather event.

Source: World Bank (2017c).

The CCRIF Segregated Portfolio is an innovative regional risk-pooling fund that offers parametric insurance to member countries for earthquake, tropical cyclone, and excess rainfall risk. To date the CCRIF has made pay-outs of around $139 million to 13 member governments, all within 14 days (WFP, 2019a).

Box 10: Catastrophe risk pools – CCRIF

Catastrophe risk pools are mechanisms that enable countries to access risk transfer solutions in a manner that may be more cost-effective than if they entered into such transactions alone. Regional risk pools can: (i) build regional reserves to finance losses from small and medium-sized events; (ii) attract donor support to capitalise a fund; (iii) pool country-specific disaster risks into one diversified portfolio; (iv) access international reinsurance markets on competitive terms, diversifying risk across multiple countries with different risk profiles; and (v) build up a better foundation of risk information and management (World Bank, 2017e).

For example, the CCRIF Segregated Portfolio has 19 members (primarily small Caribbean island states). It allows member governments to purchase insurance coverage to finance immediate post-disaster recovery needs. The facility acts as a risk aggregator by enabling participating countries to pool their country-specific risks into one, better-diversified portfolio. This diversification should result in a substantial reduction in the premium cost, of 45–50%. Claims payments are based on parametric triggers, which means they are index-based insurance instruments that pay claims based on the occurrence of a pre-defined event, e.g. hurricane, earthquake etc., rather than an assessment of actual losses on the ground. This measurement, made remotely by an independent agency, allows for transparent, low settlement costs and quick-disbursing contracts.

Insured countries will pay an annual premium commensurate with their own specific risk exposure. Parametric insurance products are priced for each country based on their individual risk profile. Annual premiums typically vary from $200,000 to $4 million, for coverage ranging from $10 million to $50 million. The CCRIF paid out to the Government of Haiti after the 2010 earthquake and financed rescue and relief operations after the 2017 hurricane season in Antigua and Barbuda, Saint Kitts and Nevis, and Anguilla.

Source: Maher, Fitzgibbon, and Ana Solórzano (2018).

[21] The Livelihood Protection Policy has been designed by the Grenada-based Trans-Nemwil Insurance Ltd., together with Grenada Co-Operative Bank Ltd. and Grenville Co-Operative Credit Union. It was developed through the 'Climate Risk Adaptation and Insurance in the Caribbean' project, implemented by the Munich Climate Insurance Initiative, in partnership with CCRIF SPC, MicroEnsure, and Munich Re.

B.5.4 International humanitarian financing

International humanitarian financing has varied greatly in terms of its frequency, volume, and nature over the years in the Caribbean. Haiti has been a major recipient of international humanitarian aid since the massive 2010 earthquake and periodic devastating storms. Humanitarian funding for Hurricane Irma in 2017 totalled $47 million (UNOCHA, 2019). However, prior to Hurricanes Irma and Maria, most other countries in the region had received relatively small amounts of international humanitarian assistance because the size of disasters and capacity of governments typically have not triggered large international relief efforts. Dominica is the most striking example, receiving $30 million in 2017, compared to $1.1 million in 2002. Antigua and Barbuda, similarly, received $11.7 million in 2017 and 2018.[22]

Governments, historically, have received very little international humanitarian financing directly, despite having the primary responsibility to respond to emergencies, and this also holds for the Caribbean. In 2016, only 6% went to government, with most going to multi-lateral organisations (59%), NGOs (20%), and the Red Cross movement (11%) (Development Initiatives, 2017). Important entry points to channel funding to governments remain UN agencies, NGOs, and the Red Cross supporting government systems (Bailey, 2018). Examples of such an approach in the Caribbean include WFP and UNICEF support in Dominica via the Joint Emergency Cash Transfer programme, and the British Virgin Islands Joint Cash Platform developed by British Virgin Islands Red Cross/British Red Cross and Catholic Relief Services/Caritas.

[22] Data from United Nations Office of Coordination Affairs Financial Tracking Service (accessed March 2019).

Annex C Social protection systems in the region

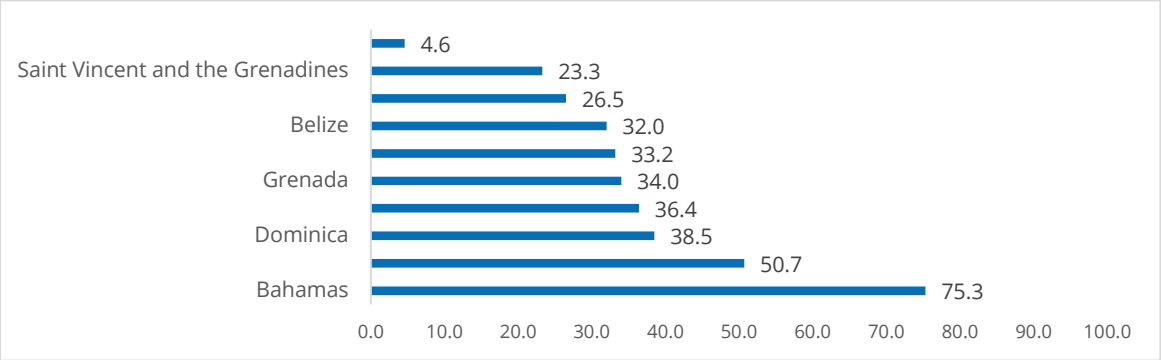
Table 10: Types of social insurance programmes available in the region

Country	Old-age / disability / survivors	Unemployment	Family allowance	Sickness benefits	Maternity benefits	Medical benefit	Work injury
Anguilla	•			•	•		•
Antigua and Barbuda	•			•	•	•	•
Bahamas	•	•		•	•	•	•
Barbados	•	•	•	•	•	•	•
Belize	•			•	•		•
Dominica	•			•	•		o
Grenada	•			•	•	•	•
Guyana	•		•	•	•	•	•
Haiti	•			o	o		•
Jamaica	•		•	o	o	•	•
Saint Kitts and Nevis	•			•	•		•
Saint Lucia	•			•	•	•	•
Saint Vincent and the Grenadines	•			•	•	•	•
Suriname	•			o		•	o
Trinidad and Tobago	•		•	•	•	•	•
British Virgin Islands	•			•	•	•	•

Source: Social Security Administration and International Social Security Association (2018). Information not available for Montserrat and Turks and Caicos Islands

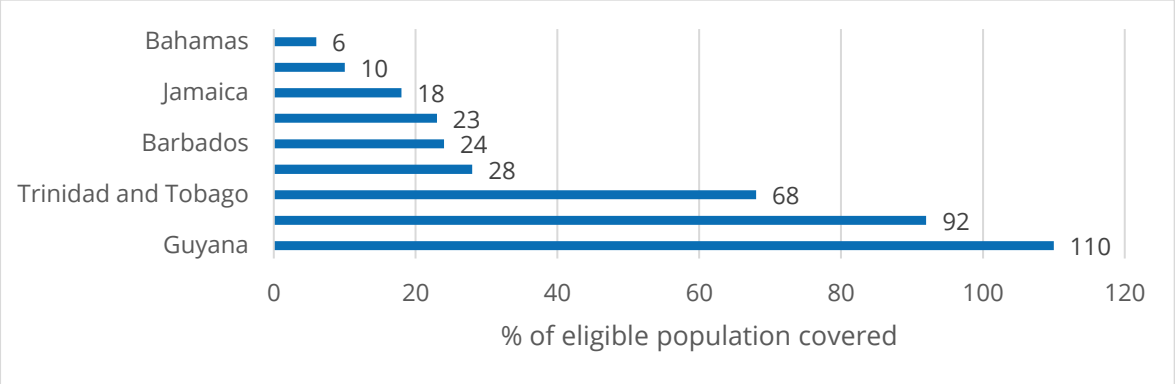
o: Employer liability system only.

Figure 9: Share of population at or above statutory pensionable age receiving contributory pension



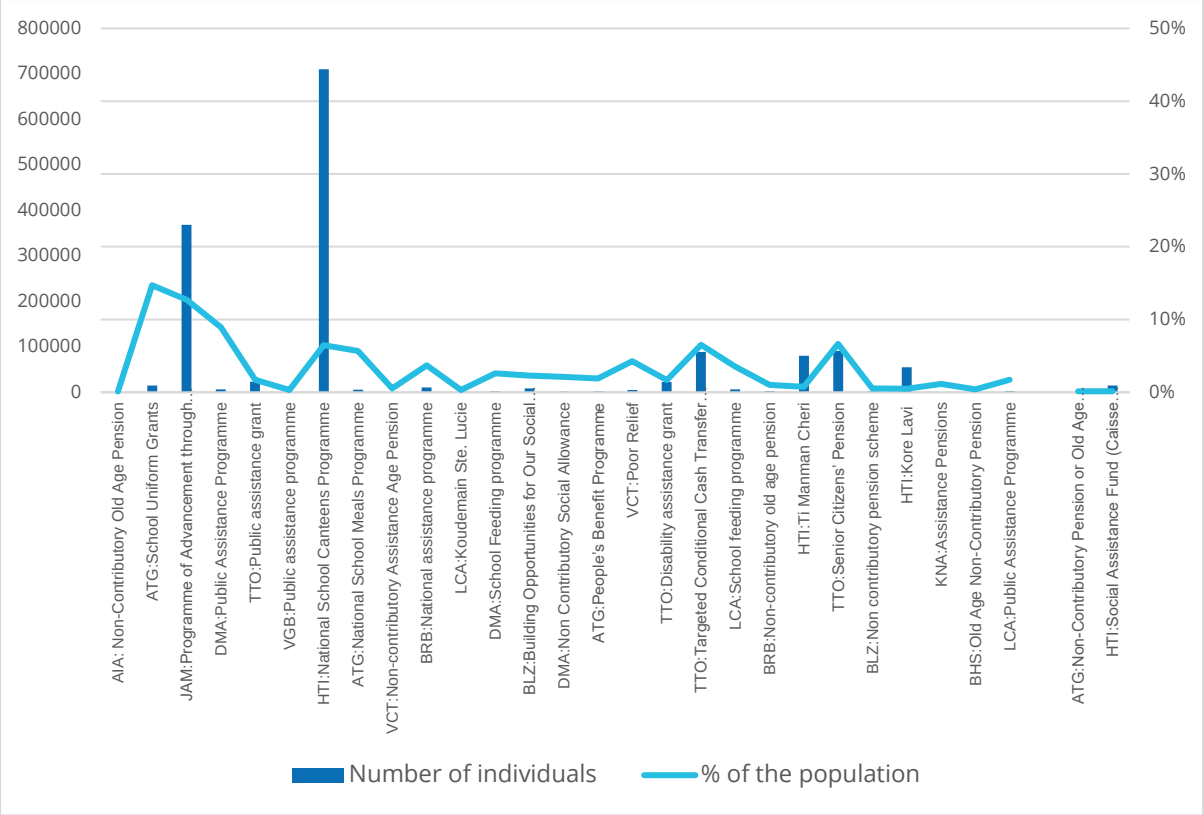
Source: Compiled by the study team from multiple reports. * Guyana has universal social pensions.

Figure 10: % of eligible population covered by social pension



Source: Help Age International Social Pensions Database, last updated 1 March 2018.

Figure 11: Coverage of the population: Selected programmes



Source: Compiled by the authors from several reports.

Note**:** The three-digit codes correspond to country ISO codes: AIA: Anguilla, ATG: Antigua and Barbuda, BHS: The Bahamas, BRB: Barbados, BLZ: Belize, DMA: Dominica, HTI: Haiti, JAM: Jamaica, KNA: Saint Kitts and Nevis, LCA: Saint Lucia, VCT: Saint Vincent and the Grenadines.

World Food Programme
Barbados Office for Emergency Preparedness and Response in the Caribbean

UN House, Marine Gardens,
Christ Church
Barbados

Tel: +1 246 467 6085
Email: wfp.barbados@wfp.org
Website: www.wfp.org/countries/caribbean