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Linking Disaster Risk Financing to Social Protection in Barbados

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About the World Food Programme

Reaching nearly 150 million people in over 120 countries each year, the World Food Programme is the world's largest humanitarian organization saving lives in emergencies and using food assistance to build a pathway to peace, stability and prosperity, for people recovering from conflict, disasters and the impact of climate change.

WFP Caribbean works with national, regional and international partners to strengthen the region's resilience to the climate crisis, and other risks. WFP adopts a system-focused approach as part of its capacity strengthening efforts through research and advocacy, digitalization, human resource development, south-south cooperation, and by investing in critical infrastructure and assets. WFP works with partners to provide direct assistance to populations impacted by shocks when events surpass national and regional capacities.

These investments place the most vulnerable people at the centre of efforts to minimize the combined impacts of climate, economic and other shocks on the Caribbean. WFP Caribbean's multi-country strategic plan supports 22 countries and territories across the English- and Dutch-speaking Caribbean through leveraging its expertise in vulnerability analysis and mapping, end-to-end supply chain management, shock-responsive social protection, food systems strengthening and climate risk financing.¹

¹ https://executiveboard.wfp.org/document_download/WFP-0000135918?_ga=2.66316206.168143545.1679498584-1123234837.1677265273

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Executive Summary

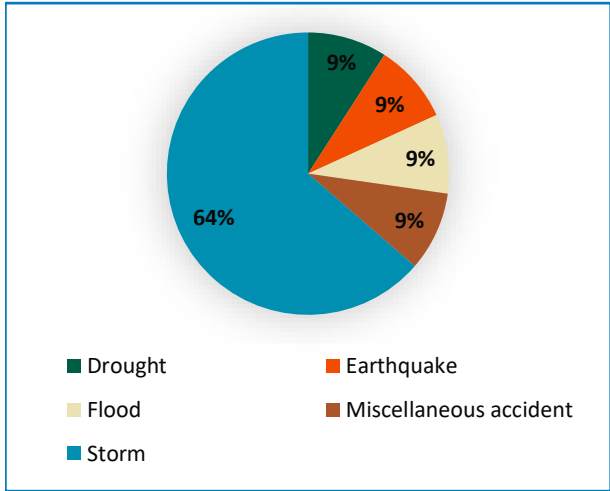
Barbados is the wealthiest country in the Eastern Caribbean, with a Gross Domestic Product (GDP) per capita of US\$ 17,225 in 2021 (World Bank, 2023). However, income distribution is unequal, with 17.5 percent of the population estimated to be living under the poverty line in 2016 (Beuermann, D., 2017). The poorest and most vulnerable segments of the population face high levels of risk from a variety of hazards, most of which are climate-related (see Figure 1). The island has been affected by several natural hazards over the past decade, including Hurricanes Tomas (2010), Ernesto (2012), Harvey (2017), and Elsa (2021), and tropical storms Matthew (2016), Maria (2017), Kirk (2018), and Gonzalo (2020), which caused substantial damage and livelihood disruptions. The effects of climate shocks are not only short-term, but can have longer-term negative impacts on incomes, human capital formation and asset accumulation (Caruso, G.D., 2017). Households living in poverty tend to be most affected by the impacts of natural hazards and suffer disproportionate losses compared to wealthier households.

Social protection systems already play an essential role in poverty reduction in Barbados. There are several non-contributory social protection programmes, the largest of which is the National Assistance Programme (NAP), which provides cash assistance to approximately 6500 households. If these programmes are made more shock-responsive, they can significantly reduce the impacts of covariate shocks by facilitating rapid and predictable assistance to the most vulnerable. Predictable finance is key to making social protection systems shock-responsive. However, reactive resource mobilization has been the most common practice to finance shock responses to date.

Ex-post finance resource mobilisation limits the ability of government authorities to plan and implement predictable responses to support affected households and communities. Therefore, the efficiency, cost, and overall shock-responsiveness of social protection programmes can be improved by adopting a disaster risk financing approach.

This report outlines options for linking disaster risk finance instruments with social protection systems in Barbados with a particular focus on insurance as part of a broader risk-layered disaster risk financing approach. Catastrophe insurance is already used by governments in the region through the Caribbean Catastrophe Risk Insurance Facility Segregated

FIGURE 1: AVERAGE NATURAL HAZARD OCCURRENCE IN BARBADOS (1980-2020)



Portfolio Company (CCRIF SPC), and there are emerging initiatives at country-level for linking potential CCRIF SPC payouts to social protection scale-ups.

Building on such regional initiatives as well as on lessons learnt from the COVID-19 response in Barbados, this report provides recommendations to strengthen and institutionalize linkages between disaster risk finance and social protection to make the country's social protection systems more shock-responsive.

Recommendations

Strengthening and institutionalizing linkages between disaster risk finance and shock-responsive social protection in Barbados requires tailoring risk financing approaches to the government's needs. There are several strategic entry points through which links between disaster risk financing and social protection could be built into existing systems. Non-contributory social protection programmes are particularly important in this context, as they target vulnerable low-income households, who are also usually the most vulnerable to disasters. This report identifies three strategic focus areas for incorporating a disaster risk financing approach as part of a shock-responsive social protection system:

STRATEGIC FOCUS AREA 1: INTEGRATE RISK AND VULNERABILITY ANALYSIS INTO TARGETING AND PROGRAMMING.

Understanding the frequency and severity of risk, its spatial dimension and who is at risk is essential to identifying the most appropriate disaster risk finance instruments. This paper recommends a risk-informed approach to social protection programming and targeting:

- Prioritize the most frequent and high-impact shocks to develop financial measures linked to national social protection.
- Invest in robust risk and vulnerability analysis and information management systems to support risk-informed targeting of beneficiaries.
- Ensure that the Management Information System being rolled out by the Ministry of People Empowerment and Elder Affairs includes indicators on risk and vulnerability, including data on near-poor households which are not, as yet, included in social protection programmes.

STRATEGIC FOCUS AREA 2: DEVELOP A COMPREHENSIVE, RISK LAYERED FINANCIAL FRAMEWORK.

Predictable and effective financing is critical to responding to the impact of shocks and disasters of varying magnitude. Adopting a risk layered approach can improve the cost efficiency of implementing disaster risk financing strategies and support planning efforts for different types of

shocks. Building on existing social protection systems and programmes, we recommend that the government work with development partners to:

- Develop a comprehensive, layered financial framework linked to social protection scale-up scenarios for events of different magnitude.
- Align different disaster risk finance instruments with different phases of disaster risk management ranging from anticipatory action to early response and recovery.

STRATEGIC FOCUS AREA 3: STRENGTHEN LINKAGES BETWEEN DISASTER RISK FINANCE AND SOCIAL PROTECTION.

The Government of Barbados has made tremendous progress in making its public finance arrangements climate resilient. We recommend that the government leverage existing disaster risk financing mechanisms to enhance community resilience through shock-responsive social protection programming. We recommend five actions:

- Earmark disaster risk finance resources for shock-responsive social protection.
- Test and evaluate the effectiveness of forecast-based anticipatory action specific to social protection responses.
- Establish operational processes to link sovereign risk insurance (notably CCRIF SPC coverage) payouts to planned responses through social protection programmes.
- Catalyse linkages between microinsurance and social protection programmes.
- Earmark reserves and contingency funds to address extensive risks (i.e. high-frequency low-severity events) and slow-onset hazards.

Conclusion

The Government of Barbados is in the process of completing the amalgamation of its social services under the Ministry of People Empowerment and Elder Affairs, which aims to enable more efficient delivery of social protection. As part of this process, and in line with Barbados Social Protection Policy, Strategy and Implementation Plan for a Rationalised National Social Protection System (BARSPIP) 2021 – 2024, the government is committed to increasing investments in shock-responsive social protection systems. These efforts are evidenced by activities such as the digitisation of assessment forms and the creation of a management information system to speed up the processing of beneficiary data and enable better case management and more accurate targeting.

These developments provide an opportunity for the government to explore and strengthen the link between social protection systems and disaster risk financing to support the management of contingent liabilities related to social protection.

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1. Introduction

Barbados is the wealthiest country in the Eastern Caribbean, with a GDP per capita of US\$ 17,225 in 2021 (World Bank, 2023). Before the COVID-19 pandemic, the economy was stable, with a fiscal balance of 3.6 percent of GDP. Despite the country's high-income designation, the poverty rate was estimated at 17.5 percent in 2017, while the extreme poverty rate was estimated at 3.6 percent (IDB, 2018). Compared to the regional average in Latin America and the Caribbean, inequality is moderate with a Gini coefficient of 0.32. However, the economy is highly dependent on tourism which leaves it exposed to external economic and other systemic shocks, such as the COVID-19 pandemic. Furthermore, the most vulnerable and those living in poverty face high levels of climate risks. Over the past decade, several significant natural hazards have impacted the island, causing significant damage and livelihood disruptions, including Hurricanes Tomas (2010), Ernesto (2012), Harvey (2017), and Elsa (2021), and the tropical storms Matthew (2016), Maria (2017), Kirk (2018), and Gonzalo (2020). Climate change is expected to increase the frequency and intensity of such events (Box 1).

BOX 1: IPCC CLIMATE PROJECTIONS FOR A 2-DEGREE CELSIUS GLOBAL WARMING SCENARIO

Tropical cyclone rainfall rates are projected to increase on the order of 10 to 15 percent for rainfall rates averaged within about 100 km of the storm

Tropical cyclone intensities globally are projected to increase by 1 to 10 percent

The global proportion of tropical cyclones that reach very intense (Category 4 and 5) levels is projected to increase

Source: NOAA/GFDL, 2022.

With climate change likely to exacerbate the cost burden of climate shocks, governments need more cost-effective and predictable financing strategies. In this context, the World Food Programme's Caribbean Multi-Country Office commissioned a study to identify options to link disaster risk finance and social protection systems in Barbados. This report provides recommendations for linking existing social protection programmes with disaster risk financing mechanisms, drawing on lessons learned from the COVID-19 response in Barbados and from disaster risk financing initiatives in the region. These recommendations aim to promote dialogue among different stakeholders to make the country's social protection systems more shock-responsive by strengthening and institutionalising linkages between disaster risk finance and social protection. While social protection in Barbados includes both contributory schemes (i.e. social insurance) and non-contributory

programmes (i.e. social assistance), this paper focuses on non-contributory programmes given their role in assisting the most vulnerable.

1.1. Vulnerability, Social Protection and Disaster Risk Financing in Barbados

According to the Inter-American Development Bank's (IDB) Barbados Survey of Living Conditions 2016/2017, 17.21 percent of households in the country live under the poverty line, with 3.39 percent considered to be indigent poor (Beuermann, 2017). Poor households often rely on fragile infrastructure, are less likely to have financial safety nets or insurance coverage, and own fewer assets and savings. As a result, they are more likely to be impacted by natural hazards and suffer significant losses from disasters relative to wealthier households (Hallegatte, 2016). Extreme shocks can also push vulnerable households living above the poverty line into poverty. The effects of climate shocks are not only short-term but can also lead to longer-term and inter-generational negative welfare outcomes (Caruso, 2017).

Social protection systems already play an essential role in addressing poverty in Barbados. Several non-contributory social protection programmes are implemented in the country, the largest of which is the National Assistance Programme (NAP) administered by the Welfare Department. As of April 2022, the programme provided cash assistance to some 6500 households (Table 1). If these programmes are made more shock-responsive, they can significantly reduce the impacts of disasters by facilitating rapid and predictable assistance to the most vulnerable.

BOX 2: RISK LAYERING

Risk layering is an approach that involves selecting a combination of ex-ante and ex-post financial instruments to address events of different frequency and magnitude, which represent different layers of risk. A risk layering framework recommends a 'bottom-up' approach, ensuring that less costly instruments are used first, with the most expensive sources of funding used only for exceptional events. Based on this approach, funding is first allocated for recurring disaster events and then supplemented with additional financial capacity to cover less frequent but more severe events.

Predictable finance is key to making social protection systems shock-responsive. Yet, reactive resource mobilization is the most common practice to finance shock response in the Caribbean (USAID, 2022). Ex-post resource mobilisation limits the ability of government authorities to plan and implement predictable responses to support affected households and communities. Adopting a risk layered disaster risk finance approach can improve the efficiency, cost, and overall shock-

responsiveness of social protection programmes by ensuring predictable and adequate resources in the event of a disaster (see Box 2).

Table 1: Main Non-Contributory Social Protection Programmes in Barbados

Programme / Agency	Type of scheme	Coverage	Target Population
National Assistance Programme (Welfare Department)	Cash transfers, rent and bill payments	6500 Households	Proxy means-tested and verified households
National Assistance Board (NAB)	In-kind transfer	1100 Households	Elderly citizens
'Strengthening Human and Social Development' Project	In-kind and cash transfers	1500 Individuals 250 Households	Households in poverty selected using an eligibility (poverty) scorecard
National Disabilities Unit	In-kind transfer	2000 Households/individuals	Disabled individuals
Child Care Board	In-kind transfer	1215 Children	Children requiring foster care

Source: Key Informant Interviews

In developing a risk-based approach to disaster risk financing and linking it to social protection, policy makers in Barbados can build on several existing disaster risk financing mechanisms. The Government of Barbados is making a concerted effort to strengthen its financial resilience in the face of disasters. The government has parametric insurance coverage for tropical cyclones and excessive rainfall under the Caribbean Catastrophe Risk Insurance Facility (CCRIF SPC). Furthermore, it has implemented a natural disaster clause across its debt stock during the 2018-2020 debt restructuring, which enables the country to defer principal and interest payments when it receives a CCRIF payout of US\$ 5 million or more for earthquakes or excess rainfall events and US\$ 7.5 million or more for hurricanes. The natural disaster clause is estimated to make available up to US\$ 700 million for disaster response, helping Barbados to become one of the first countries with a climate-resilient public finance strategy (Ho and Fontana, 2021).

In 2007, Barbados passed the Catastrophe Fund² Act, which provides financial assistance to low-income families whose houses are damaged or destroyed by a catastrophe. In 2020, the act was amended to include economic shocks. Following this amendment, the US\$ 50 million fund provided no-interest loans to large businesses that experienced revenue loss due to the COVID-19 pandemic. In the same year, the government secured a US\$ 80 million contingent loan from the IDB under the Contingent Credit Facility for Natural Disaster Emergencies (CCF). The IDB facility provides much-needed contingent financing to governments to respond to severe and catastrophic disasters. In addition to having various financing mechanisms in place, Barbados is one of the countries in the Caribbean that has developed a legal and regulatory framework aligned with CDEMA's Comprehensive Disaster Management (CDM) Framework.

This report outlines options for linking disaster risk finance instruments with social protection systems in Barbados with a particular focus on insurance as part of a broader risk-layered disaster risk financing approach. Catastrophe insurance is already used by most governments in the region through the CCRIF SPC and there are emerging initiatives at country-level for linking potential CCRIF payouts to future social protection responses.

1.2. Moving toward a Reform of the Barbados Social Protection System

In 2021, the Government of Barbados adopted the Barbados Social Protection Policy, Strategy, and Implementation Plan for a Rationalised National Social Protection System (BARSPIP) 2021-2024. The policy outlines the social protection priorities for the country and defines a framework which aims to expand existing social protection policies, ensure the efficient delivery of assistance to beneficiaries, and improve targeting mechanisms to ensure the most vulnerable are captured (Government of Barbados, 2022).

The amalgamation of social services offered by the Ministry of People Empowerment and Elder Affairs (MPEA) is one of the key outputs under this strategy, which will allow the MPEA to provide all social protection services under one single department, the Department of Children and Family Services. The delivery of social protection services through a single entity aims to enable a more streamlined and people-centred process, which will allow for the effective and efficient delivery of assistance to those who need it the most. The restructuring also foresees the establishment of a unit

² The Catastrophe Fund was established to provide financial aid to eligible persons and qualifying businesses following a disaster.

within the MPEA which will be given the mandate to prioritize disaster risk reduction and management.

The strategy further recommends the development and implementation of a Management Information System (MIS) which aims to expedite the processing of beneficiary data and facilitate improved case management and accuracy for targeting of beneficiaries. At an operational level, the MIS will also be used to process payments, implement a complaints and grievance mechanism, and monitor and evaluate programmes. At a strategic level, the system aims to enable more robust policymaking through access to comprehensive social protection policy data.

1.3. Research Methodology

This report is based on a research methodology that includes a literature review, key informant interviews (KIIs) and secondary data analysis. The team conducted KIIs using semi-structured inquiry. The research questions were tailored to each informant based on a literature review and initial consultations. Interviews were conducted virtually between October 2021 and April 2022 with the MPEA, Welfare Department, the Department of Emergency Management (DEM), the Ministry of Agriculture and Food Security, the Caribbean Catastrophe Risk Insurance Facility Segregated Portfolio Company (CCRIF SPC), UNICEF, and the World Bank (see Annex 1 for list of key informants). The research team complemented feedback from KIIs with a comprehensive review of programme reports and technical documentation.

2. Lessons from the COVID-19 response and disaster risk finance initiatives in Barbados and the region

The COVID-19 pandemic significantly impacted the economy of Barbados, causing the tourism sector to contract by 65 percent in 2020 and by nearly 90 percent in early 2021 (CEPAL, 2021). Given the sector's direct and indirect contribution to employment and total economic output, the tourism downturn reverberated throughout the economy. Unemployment and inflation rose to 17 percent and 4.5 percent, respectively, in 2021 (ECLAC, 2021). According to the Caribbean COVID-19 Food Security and Livelihood Impact Survey conducted by the World Food Programme (WFP) and the CARICOM Secretariat in February 2022, 46 percent of respondents in Barbados reported that their household experienced job loss or reduced salaries since the start of the pandemic. The report also found that a quarter of respondents had to limit their food consumption by not eating for a day or by skipping meals. Approximately 57 percent of respondents used their savings to meet their immediate food and other essential needs, with the lowest-income households found to be most likely to resort to negative coping strategies to meet immediate needs (World Food Programme, 2022). Similarly, a survey by the Inter-American Development Bank found that 57 percent of lower-income households reported they could not make ends meet, compared to 41 percent of middle-income households and 32 percent of high-income households (Arteaga et al., 2020). On the other hand, 60 percent of middle-income households had difficulty meeting financial commitments, compared to 43 percent of low-income households and 28 percent of high-income families. The impact of COVID-19 was further compounded by ashfall from the La Soufriere volcanic eruption and by Hurricane Elsa in 2021, both of which occurred within three months of each other.

2.1 Lessons from the Social Protection Response in Barbados

To mitigate the socioeconomic impact of the pandemic, the Government of Barbados implemented a variety of social protection measures, including the launch of new programmes and modifications to existing ones (Table 2). The government's COVID-19 response effort offers essential learning

opportunities to inform the country's development of a shock-responsive social protection system supported by robust disaster risk finance. Some of the key lessons learned include:

- The utilization of social protection systems and existing programmes was vital for an effective response to the socioeconomic impact of the pandemic.
- Middle-income households that suffered income loss experienced a significant shock as they struggled to meet financial obligations, which exposed the extent of vulnerabilities across the population beyond those already living in poverty - despite the country's high levels of GDP per capita (Arteaga et al., 2020).
- Needs assessment and verification of new beneficiaries took longer than expected despite the Ministry hiring additional staff to assess cases, which highlighted the need for the development of a management information system to streamline targeting and registration processes, and to support harmonization across different programmes.
- The socioeconomic impact of the COVID-19 pandemic was exacerbated by the subsequent Hurricane Elsa and the ashfall from the La Soufriere eruption, straining already limited capacity within the government. Building agile, well-resourced, and efficient social protection systems is critical in the face of compound risks (multiple risks that occur simultaneously, or one after another).
- Although the government was able to proactively mobilize resources to respond to the impacts of the pandemic, having predictable ex ante financing would be more cost-effective and ensure more timely responses in the future.

2.2 Learning from Disaster Risk Finance Initiatives in the Region

In developing a disaster risk finance strategy within a shock-responsive social protection approach, the Government of Barbados can build on lessons from initiatives in the region to increase the predictability of funding for scaling up social protection benefits and to streamline coordination in response to shocks. Governments in the Caribbean have been exploring innovative means to link disaster risk finance with social protection mechanisms to mitigate the economic impact of shocks on households. The following examples are among the initiatives which can serve as a basis to inform Barbados' future strategy for linking disaster risk finance to social protection:

- **Top-ups of CCRIF SPC coverage for social protection responses.** In Dominica, WFP provides a 'top-up' to the premium of the government's CCRIF SPC Tropical Cyclone parametric insurance policy to provide financing for future social protection responses in the event of tropical storms or hurricanes. If the parametric policy is triggered following a tropical cyclone or hurricane, a portion of

the insurance payout will be used for immediate cash payments through the national social protection system to those directly affected. The pilot project is implemented in the 2021/22 and 2022/23 policy years. WFP is supporting a similar pilot in Belize for 2022/23 and 2023/24, with the premium 'top-up' split across two CCRIF policies, the Excess Rainfall Policy and the Tropical Cyclone Policy. This innovative approach aims to promote rapid and efficient responses to shocks by directly linking disaster risk finance with social protection programming, underpinned by the establishment of standard operating procedures for shock-responsive social protection.

- **Flexible Hurricane Protection (FHP).** The FHP is a parametric insurance product providing hurricane protection piloted in Dominica offered through a mobile wallet. The insurance can be purchased by anyone, with the lower limit making it affordable for farmers and small business owners. The mobile wallet provides a range of financial services, including sending and receiving money, making purchases, and paying bills. Customers can purchase protection for between US\$200 and US\$100,000. The appeal of the FHP approach is its application of technology and digital financial services, which could enable large-scale application, a central requirement for the sustainability of insurance products.
- **Livelihood Protection Policy (LPP).** The LPP is a parametric microinsurance product that was designed to protect vulnerable individuals (e.g. small farmers, fisherfolk, seasonal tourism workers) against strong winds and excessive rainfall. The programme is implemented in Grenada, Jamaica, and Saint Lucia. Although the product is designed to provide financial protection to vulnerable individuals by protecting a diverse range of livelihoods, the take-up has been limited in the initial stages. The main lesson from the LPP experience is that a well-designed product and sufficient financial education and training are needed to increase the product's uptake and effectiveness. Based on lessons learnt, the aim of the programme is to increase insurance penetration and to scale up the programme to include additional Caribbean countries.
- **The Caribbean Ocean and Aquaculture Sustainability Facility (COAST).** COAST is a microinsurance initiative piloted in Grenada and Saint Lucia. COAST is explicitly designed to protect the livelihoods of fisherfolk. COAST's unique approach provides parametric insurance coverage for adverse weather and tropical cyclone events, protecting both asset losses and livelihoods interruptions. In addition, COAST has built-in tracking mechanisms to ensure funds are disbursed directly to beneficiaries (CCRIF SPC and World Bank, 2019).

Risk transfer products to support housing and reconstruction. Notable examples of supporting housing and reconstruction exist in the region. For instance, in Trinidad and Tobago, a CCRIF SPC payout went to family assistance through the Ministry of Social Development and Family Services. In addition, assistance was provided in the form of building materials and appliance replacement through a mechanism that moved resources from the Ministry to selected hardware stores where

families could acquire building materials. The assistance provided helped address one of the most significant household impacts of tropical storms, especially for poor households.

Table 2: COVID-19 Social Protection Responses

Source: Key Informant Interviews; ECLAC, 2022; ILO, 2021; WFP, 2020

Shock-responsive Measure	Transfer	Type of scheme	Brief description
Expansion of Unemployment Insurance	Cash transfer	Contributory	Supplemental support to the National Insurance Scheme (NIS) to cater to a large number of unemployment claims; laid-off workers receiving unemployment benefits for up to six months
Household survival programme (vertical expansion of the NAP)	Cash transfer	Non-contributory	40 percent increase in all rates and fees paid by the Welfare Department
Household survival programme (horizontal expansion of the NAP)	Cash transfer	Non-contributory	Cash benefit of up to BBD 600 per month to identified vulnerable families
COVID-19 cash transfer programme with support from the World Food Programme	Cash transfer	Non-contributory	One-off assistance of BBD 800 to local single-parent households and BBD 920 to vulnerable migrant households
'Adopt-a-Family' Programme	Cash transfer	Non-contributory	Cash transfers of BBD 600 per month to vulnerable families through a dedicated fund with financial support from government, citizens and business community
Relaxation/waiver of eligibility criteria for social security	Cash transfer	Contributory	Business Cessation Benefit of BBD 1,500 per month for self-employed persons who made NIS contributions but were not entitled to unemployment benefits
Distribution of care packages	In-kind transfer	Non-contributory	Distribution of some 3000-4000 hampers with food and sanitary items to vulnerable persons
Wage subsidies	Other	Non-contributory	Wage subsidies to pay 60 percent of insurable earnings to persons on short working weeks for the days they did not work
Deferrals/waivers of social security contributions	Other	Contributory	Deferral of employers' social security contributions for three months to employers who retain more than 75 percent of their staff
Deferrals/waivers of social security contributions	Other	Contributory	Extension of the deadline to pay social insurance contributions
Moratorium on mortgages	Other	Non-contributory	Moratorium on mortgages for individuals and businesses affected by COVID-19

3. Strategic Recommendations for Financing Shock-Responsive Social Protection

The COVID-19 pandemic, the impact of Hurricane Elsa, and the ashfall from the La Soufriere volcanic eruption have shown that social protection systems in Barbados are able to respond to significant shocks, but they have also highlighted some of the gaps and challenges that exist. The government has limited human resource capacity to respond to covariate shocks as well as limited financial resources, which may result in budget reallocations to finance responses at the expense of longer-term development priorities. Strengthening and institutionalizing linkages between disaster risk finance and social protection is an important opportunity to further strengthen the country's social protection system and make it more shock-responsive by providing a financial basis and improved mechanisms to meet the increased needs of vulnerable households resulting from covariate shocks.

This report outlines recommendations to support the Government of Barbados in developing a tailored and strategic approach for linking disaster risk finance with social protection. The information also seeks to help the country leverage the capacities of development partners in supporting these efforts, including the World Food Programme as well as other UN agencies and international financial institutions such as the World Bank.

Strategic Focus Area 1: Integrate Risk and Vulnerability Analysis into Targeting and Programming

Barbados faces recurrent disasters that cause significant disruption to the livelihoods of the most vulnerable, with tropical cyclones being the most common type of event (Figure 1). Carefully planned disaster risk finance strategies are thus critical to ensure that the government can protect its population against the impacts of such shocks. Understanding the frequency and severity of risk, its spatial and social dimension, and who is at risk, is fundamental for identifying the most appropriate disaster risk finance tools and determining the timing and scale of potential needs and financial requirements to respond. Building on the momentum and capacity gained from recent experiences, government and development partners should focus on the following core building blocks:

PRIORITIZE THE MOST FREQUENT AND HIGH-IMPACT SHOCKS TO DEVELOP FINANCIAL MEASURES LINKED TO NATIONAL SOCIAL PROTECTION

The government has developed a five-year Comprehensive Disaster Management (CDM) Country Work Programme (CWP) that considers different hazards and measures from preparedness to response, recovery, and mitigation (Department of Emergency Management, 2019). Following a holistic, integrated, and participatory approach, the National Emergency Management System (NEMS) constitutes the overarching mechanism to manage emergencies. Disaster risk finance tools will maximize the speed and efficacy of emergency responses by ensuring necessary funding in the event of a shock. However, the availability and cost of disaster risk finance, and in particular risk transfer instruments, are dependent on the type of hazard and the extent to which its associated risk can be quantified. Understanding the frequency and impact of different types of hazards is, thus, necessary to prioritize and determine the most appropriate financial instrument to deploy.

Storms account for 64 percent of natural hazards in Barbados on average (Figure 1). Even in the absence of a direct hit, the country is susceptible to high winds and torrential rainfall from passing storms, causing wind damage, flooding and landslides. Probable losses from a 100-year storm surge and hurricane event range from US\$750 million to US\$1.5 billion (IDB, 2019). For example, in 1987, Tropical Storm Emily caused US\$100 million in damages, and in 2021, Hurricane Elsa caused damage to 1,347 homes (CCRIF, 2021). In addition to damage to property and assets and loss of income, these hazards can have a lasting impact on households' health, food security and well-being. Both immediate response and recovery can be supported through shock-responsive social protection measures alongside broader efforts. For instance, top-ups could be provided for existing beneficiaries of social protection programmes to meet immediate needs following a disaster. Support could also be expanded to new beneficiaries to help them meet their immediate needs. Cash assistance to affected households can be linked with other programmes to guarantee long-term recovery (e.g. labour market programmes and entrepreneurship training).

Given their frequency and wide-ranging impact, we recommend that the government prioritize hurricanes, tropical storms and flood events in efforts to develop disaster risk finance mechanisms linked to social protection responses. While there are opportunities to connect disaster risk finance and social protection for other types of hazards (e.g. droughts), focusing first on the most significant and quantifiable risks will likely yield greater learning and results.

INVEST IN ROBUST RISK AND VULNERABILITY ANALYSIS AND INFORMATION MANAGEMENT SYSTEMS FOR RISK-INFORMED TARGETING

Beyond poverty levels, understanding households' risk and vulnerability to climatic and disaster risk is essential for designing appropriate shock-responsive social protection programmes. Information on who is likely to be most at-risk ahead of a shock allows a speedy response by minimizing the time and resources required for targeting through a post-disaster needs assessment process. A notable example from the region is the Dominican Republic's Vulnerability to Climate Hazard Index (Índice de Vulnerabilidad ante Choques Climáticos, IVACC), an environmental vulnerability index developed by combining household-level data on the home's physical characteristics and proximity to sources of danger (UNDP-UNEP, 2018). This tool also inspired the Government of Saint Lucia to develop a vulnerability index with support from WFP. We recommend that the government, working with its development partners, create a similar vulnerability index for Barbados by combining household-level socio-economic information with the spatial dimension of hazards. The vulnerability index could build upon the Social Vulnerability Index (SVI) developed by researchers in Barbados (Cumberbatch, 2020). Combining climate hazard information with the spatial distribution of social vulnerability from the SVI could be a starting point for generating household-level risk information.

In addition to risk-informed targeting, we recommend that the Government invest in developing and implementing standardized tools for gathering and analyzing time series or panel data to understand the socioeconomic impacts of disasters over time. Studies show that the impacts of disasters can take years to overcome and have hidden dimensions related to nutrition, health, livelihoods, and food security. As an example, a study in the Philippines shows that post-cyclone mortality among children under five is approximately 15 times higher than mortality during the events themselves, likely due to the indirect poverty-worsening effects of the storm (Anttila-Hughes, J., and Hsiang, S., 2013). A better understanding of the short, medium, and long-term dynamics of disaster impacts on poverty, livelihoods, and wellbeing in Barbados would provide an improved foundation for social protection programming and understanding of where shock-responsive mechanisms will have the most significant impact. For example, analysing post-disaster household expenditure patterns can help understand economic impacts over time. In addition, assessing the effectiveness of different social protection response measures would inform a better understanding of how to best address the needs resulting from shock.

ENSURE THAT SOCIAL PROTECTION REGISTRIES INCLUDE INDICATORS ON RISK AND ON VULNERABLE NON-POOR HOUSEHOLDS

We recommend integrating vulnerability and risk data into existing beneficiary registries to inform post-disaster needs assessment, beneficiary registration and targeting. Collecting such data systematically ahead of a potential shock can also help operationalize a vulnerability index to inform preparedness and response measures (see previous recommendation).

The COVID-19 pandemic has revealed that covariate shocks can push vulnerable middle-income households in Barbados into poverty (Arteaga et al., 2020). Expanding or establishing databases to include vulnerable households which do not benefit under any programmes would enable a more accurate ex-ante estimate of potential post-disaster needs and thus help to put appropriate disaster risk finance instruments in place. The MPEA already has a list of vulnerable persons which can be used as a basis for overlaying geo-referenced household data with risk and vulnerability information to pre-identify and prioritise households to be assisted in the event of a shock. Pre-registration of potential beneficiaries also has the advantage of minimizing disruptions in routine service delivery during disasters by reducing the effort and resources required for post-disaster assessment and registration. Given the dynamic nature of natural hazards and social vulnerabilities over time, we recommend that the government ensures the regular updating of such registries by putting in place dedicated tools, processes and resources.

Strategic Focus Area 2: Develop a Comprehensive, Risk Layered Financial Framework

One of the distinctive features of a shock-responsive social protection system is the ability to scale up support based on changing needs, which requires flexibility in implementation along with adequate financing. Scale-up scenarios can be predefined to support predictable and timely response measures. Linking these scenarios to a risk layered financing strategy allows governments to plan the use of a range of different disaster risk finance instruments to address events with different levels of impact. Building on the existing social protection systems and experiences in

Barbados, we recommend that the government and development partners consider the following strategy:

DEVELOP A COMPREHENSIVE, LAYERED FINANCIAL FRAMEWORK FOR SCALING-UP SOCIAL PROTECTION SUPPORT

We recommend that the government establish a four-tier risk layering strategy. Table 3 illustrates a potential strategy that could be developed for temporary expansions of the National Assistance Programme (NAP) based on four different impact scenarios. As the country's flagship cash transfer programme, the NAP is an obvious entry point for providing cash transfer assistance to shock-affected people in Barbados. We have used historical disaster impact data in the region to establish thresholds for four categories of events ranging from extreme impact to high, moderate, and low impact events. Standard practice in disaster risk finance and risk layering involves linking different risk finance instruments to different scales and frequencies of events (Box 2).

We recommend that the government and development partners consider the appropriateness of different instruments and their costs using this framework along with developing a comprehensive standard operating procedure for effective implementation of social protection responses. Social protection scale-ups can entail increasing transfer amounts for existing social protection beneficiaries (vertical expansion), and/or temporarily adding new beneficiaries in need of assistance (horizontal expansion).

For illustrative purposes, Table 3 provides an overview of four different impact scenarios and corresponding measures and costs for potential social protection scale-ups in Barbados. In this example, transfer values are based on previous COVID-19 social protection responses in Barbados (Table 2). As such, the proposed transfer amount to new beneficiaries (i.e. horizontal expansion) amounts to BBD 600 per month, similar to the amounts provided under the Adopt-a-Family and the Household Survival programmes. The proposed monthly top-up amount to existing NAP beneficiaries (i.e. vertical expansion) is equivalent to a 40 percent increase, in line with the top-up granted by the Welfare Department following the COVID-19 outbreak.³ Actual scale-up costs for each

³ To calculate the top-up, a reference amount of BBD 1,458 per month was used as an estimate of the average NAP benefit (based on a report by UNDP, UNICEF & UN WOMEN, 2020). A top-up of 40 percent corresponds to an amount of BBD 583, which has been rounded to BBD 600 in Table 3 for the ease of reference.

scenario would vary depending on the total number of beneficiaries, the duration of support, and the transfer amounts to beneficiaries.

Table 3: Risk Layering Framework for Shock-Responsive Social Protection Scale-Ups

Event Category	Disaster Risk Finance Options	Social Protection Programme Scale-up Measure				
		Type of scale-up	Number of beneficiaries	Average monthly transfer (BBD)	Months	Estimated Total Cost (BBD)
Extreme Impact	Catastrophe Bonds, Sovereign Insurance, Reinsurance, Development partners	NAP Vertical expansion	6,500	600	3	11,700,000
		NAP Horizontal expansion (3x NAP caseload)	19,500	600	3	35,100,000
		Total Scale-up	26,000			46,800,000
High Impact	Sovereign Insurance, Meso/ Microinsurance, Contingent Credit, Development partners	NAP Vertical expansion	6,500	600	3	11,700,000
		NAP Horizontal expansion (x2 NAP caseload)	13,000	600	3	23,400,000
		Total Scale-up	19,500			35,100,000
Moderate Impact	Meso/ Microinsurance, Contingent Credit, Reserves/Disaster Funds	NAP Vertical expansion	6,500	600	2	7,800,000
		NAP Horizontal expansion (x1 NAP caseload)	6,500	600	2	7,800,000
		Total Scale-up	13,000			15,600,000
Low Impact	Contingency Funds, Budget Reallocation	NAP Vertical expansion	3,600	600	2	4,320,000
		NAP Horizontal expansion (x1/2 NAP caseload)	3,250	600	2	3,900,000
		Total Scale-up	6,850			8,220,000

In developing the four-tier risk strategy, we recommend that the government include the following key considerations.

PRIORITISE RISK TRANSFER INSTRUMENTS FOR 'EXTREME-IMPACT' AND 'HIGH-IMPACT' EVENTS

A catastrophic event of 'extreme-impact' or 'high-impact' magnitude will likely affect most of the island's population. While some people have adequate resources to cope, many people will need government support to meet basic needs and to begin the recovery process. Experiences in the region help to derive assumptions for the development of scale-up scenarios. Past experience has shown that 'extreme-impact' or 'high-impact' events require a significant expansion of social assistance benefits to new beneficiaries. For example, following category 5 storm Hurricane Maria in 2017, Dominica's Public Assistance Programme (PAP) was expanded horizontally, adding almost three times the number of regular PAP beneficiaries. Additionally, existing social protection beneficiaries who are already vulnerable are likely to face hardship and will need additional support in the event of a major shock.

The 'extreme impact' scenario presented in Table 3 assumes a similar expansion of the NAP in Barbados as in Dominica (i.e. adding three times the NAP caseload) along with a 40 percent increase in benefits for existing NAP beneficiaries. Based on the transfer values discussed above, this scale-up would result in a cost of BBD 46.8 million a three-month assistance period. The 'high impact' scenario would entail adding twice the number of existing NAP beneficiaries and providing a 40 percent top-up for existing NAP beneficiaries. Such a scale-up would result in an estimated scale-up cost of BBD 35.1 million for a three-month period, when using the example transfer values (Table 3).

Catastrophe bonds and sovereign insurance (e.g. CCRIF SPC) may be the most appropriate instruments for such extreme-impact low-frequency events. Similarly, risk transfer instruments at the meso- and micro-level (e.g. COAST, LPP) and contingent credit are typical for managing high-impact events.

PRIORITISE RISK RETENTION INSTRUMENTS FOR 'MODERATE-IMPACT' AND 'LOW-IMPACT' EVENTS

Events in the 'moderate-impact' and 'low-impact' categories affect fewer people and cause less significant damage but tend to occur more frequently than high-impact disasters. In the example scenarios presented above, a 'moderate impact' event would entail a horizontal expansion of the NAP by doubling the number of beneficiary households together with a 40 percent increase in transfers to existing NAP beneficiaries, resulting in an estimated scale-up cost of BBD 15.6 million

over a two-month period. Such moderate-impact events may be better financed through risk retention instruments such as reserves or disaster funds, as well as through micro- and meso-insurance. Similarly, a 'low income' event would entail a horizontal expansion of the NAP by 50 percent along with a 40 percent increase in transfers to existing NAP beneficiaries, which would result in an estimated cost of BBD 8.22 million over a two-month period. Budgetary reallocation, as well as contingency funds, may be most appropriate for such 'low-impact' events with less widespread damage but higher frequency.

CONSIDER COST AND HOUSEHOLD NEEDS IN SCENARIO DEVELOPMENT

Three factors determine the cost of social protection scale-ups: the number of people assisted, the duration of support, and the transfer value of cash support provided. The last two parameters should be based on people's needs, although the availability of the government funding must also be taken into account. In the above example, transfer values are based on previous COVID-19 social protection responses in Barbados. However, a typical starting point for establishing the transfer value is a minimum expenditure basket (or the poverty line) or a food basket (or the indigence line). Household size, inflation, and alignment with transfer values of existing social programmes are among other potential factors to be taken into consideration. The 2016-2017 Survey of Living Conditions established the monthly poverty line at BBD 642.52 and the indigence line of BBD 297.28 per capita (about BBD 530 per month for a household of three) (Beuermann, 2017).

Using the risk layering framework and scenario-based approach presented here, the government can determine the level of resources required to meet social protection scale-up financing needs. Comparing these financial requirements against existing disaster risk finance instruments helps assess financing gaps for different scale-up scenarios. For example, the government's CCRIF SPC policy triggered a payout of US\$8.5 million following tropical storm Tomas in 2010.⁴ When using the scale-up scenarios and figures presented in Table 3, this payout amount covers just over half of the financing needs of a moderate social protection scale-up. This illustrative comparison shows that a comprehensive disaster risk layering strategy is needed to minimise financing gaps for social protection scale-ups in emergencies.

SUPPORT ALIGNMENT OF DISASTER RISK FINANCE STRATEGIES WITH MULTIPLE RESPONSE PHASES

In line with the CDEMA's CDM approach adopted by the Government of Barbados, disaster risk financing instruments should be aligned with multiple response phases or windows to effectively apply disaster risk financing strategies in the social protection sector. This framework provides a

⁴ Tropical storm Tomas reached category 2 intensity after passing Barbados.

structure for linking response phases with specific finance mechanisms and can help practitioners design sequenced triggers for action and financing using different early warning and assessment tools. Table 4 provides an overview of the different phases and corresponding examples of triggers, financing mechanisms and specific actions for each phase. Adding this time dimension to the risk layering process will provide a comprehensive framework for integrating forecast-based finance, ex-ante risk finance (e.g. CCRIF, meso/micro-insurance), and ex-post risk finance (e.g. appeals) in mutually supportive and programmatically effective combinations.

Table 4: Proposed Response Phases

Response Window	Anticipatory Action	Early Action / Response	Response / Short Term Recovery	Longer-term Recovery
Period	Depending on the lead time, several days to hours before the onset ⁵	0 to 1+ month after onset	1-6 months after onset	6-12+ months after onset
Trigger approach	Based on the risk of shock (e.g. action is triggered if a predefined forecast probability is reached)	Triggered by shock/based on rapid assessment (e.g. an insurance payout is triggered if a predefined rainfall amount or wind speed is reached)		Triggered by shock/based on a detailed assessment
Illustrative finance mechanisms	Anticipatory Action Funds, Contingent Finance	Contingent finance, rapid response funds, insurance (CCRIF, LPP, COAST)	Contingent finance, rapid response funds, insurance (CCRIF, LPP, COAST), Appeals	Contingent finance, rapid response funds, insurance (CCRIF), Appeals
Sample actions	Moving forward payments of existing programmes, initiating a shock-responsive process, vertical top-ups, awareness-raising, prepositioning, and preparedness actions	Top-up for people part of existing programmes or pre-identified; identification of impacted persons	Horizontal expansion of PAP or similar measures to reach new people with cash transfers	Tailored livelihood support, employment recovery measures, referrals to existing social assistance programmes

⁵ The anticipatory actions here are in reference to rapid-onset disasters.

Strategic Focus Area 3: Strengthen Linkages between Disaster Risk Finance and Social Protection

There is notable evidence that social protection transfers in anticipation of or in response to disasters reduce shock-induced poverty, allowing vulnerable households to prepare for, cope with, and quickly bounce back from a shock. At the same time, social protection programmes require predictable financing to be able to respond to shocks. We recommend that the government establish mechanisms to link disaster risk finance instruments with the social protection systems to ensure that funding is available to support poor and vulnerable people through shock-responsive programming.

A risk-layered approach, as presented in the previous sub-section, can serve as a framework for linking disaster risk finance instruments to prospective scale-ups of social protection. However, as risk financing instruments linked to social protection responses are still at a nascent stage, implementing pilot projects to test different financing and response options will help evaluate technical and operational feasibility. Pilot activities can also inform the design of risk-transfer and disaster risk financing mechanisms and help expand the knowledge base for action in Barbados and the Caribbean by providing a proof of concept. The following actions can be considered for linking the disaster risk financing to social protection systems and responses.

EARMARK DISASTER RISK FINANCE RESOURCES FOR SHOCK-RESPONSIVE SOCIAL PROTECTION

The Government of Barbados is making a concerted effort to strengthen its financial resilience in the face of disasters. For example, the government implemented a natural disaster clause across its debt stock during the 2018-2020 debt restructuring, which enables the country to defer principal and interest payments when it receives a CCRIF payout of US\$5 million or more for earthquakes or excess rainfall events and US\$7.5 million or more for hurricanes. The country also has a Catastrophe Fund established by law in 2007, which provides financial assistance to low-income families whose houses are damaged or destroyed by a catastrophe. In 2020, the legislation was amended to include provisions for economic shocks, with the US\$50 million fund providing interest-free loans to large businesses that experienced revenue loss due to the COVID-19 pandemic. The same year, the government established a Contingent Credit Facility for severe or catastrophic disasters through a US\$80 million loan from the IDB (for more details on existing disaster risk finance in Barbados, see section 1.1).

While Barbados is among the countries with the most advanced public disaster risk financing mechanisms in the region, concrete linkages between disaster risk financing instruments and social protection systems have yet to be established. The natural disaster clause and contingent disaster loan provide an opportunity to make ex-ante allocations of public finance for shock-responsive social protection measures that will allow vulnerable households to withstand the negative impacts of a shock. We recommend that the Government of Barbados earmark a portion of disaster risk funding for shock-responsive social protection to ensure that the significant progress made in securing financial resilience translates to community and household resilience. In addition, we recommend that the government establish standard operating procedures for the use of such earmarked funds to respond predictably to disasters through social assistance interventions (see previous sub-section).

TEST AND EVALUATE THE EFFECTIVENESS OF FORECAST-BASED ANTICIPATORY ACTION

Forecast-based finance and anticipatory action aim to reduce the impact of disasters by responding to forecasts or early warning information. For example, in 2020, WFP implemented forecast-based cash transfers in Bangladesh four days before a flood. Beneficiaries used these ex-ante transfers to purchase basic items like food and medicine, protect their assets, and facilitate evacuation for vulnerable family members. An impact evaluation shows that cash transfer recipient households had significantly higher food consumption and child well-being three months after the flood than households that did not receive the cash transfer. Similarly, in Peru, a forecast-based early action programme was activated following an El Niño forecast. Households received special kits to reduce damage to homes from El Niño-induced coastal flooding. As a result, beneficiary households had 63 percent less damage to their houses than those who did not receive the special kits (Aguirre, 2019).

Several pre-disaster activities can be activated before an event's onset to minimize the impact of disasters on households and communities. For example, a severe impact wind forecast could trigger cash or in-kind transfers of building materials to strengthen housing structures or short notice community disaster preparedness efforts with social protection beneficiaries. Forecast-based triggers could also be used to activate advance payments of benefits to existing beneficiaries, or to undertake preparedness actions such as prepositioning of supplies.

Barbados is well-positioned to implement forecast-based triggers for shock-responsive social protection. Barbados is one of the few countries that has implemented an impact-based forecast (IBF) system for high impact hazards, including high winds, severe convection, heavy rainfall, tropical cyclones, and drought (Campbell et al., 2018). The IBF provides a risk matrix that illustrates the level of impact ranging from 'Minimal' to 'Moderate,' 'Significant,' and 'Severe Impacts' for various hazards.

Furthermore, the IBF provides advisory responses tailored to multiple sectors. These developments offer an opportunity to test and evaluate forecast-based triggers for shock response in Barbados.

Even the best and most reliable forecasts are subject to uncertainty. Accordingly, we recommend a cost-benefit analysis as part of any pilot project on forecast-based financing to assess whether the benefits of acting on forecast information outweigh the costs of inaction, and to make the economic case for anticipatory action in Barbados.

DIRECTLY LINK SOVEREIGN RISK INSURANCE WITH SOCIAL PROTECTION PROGRAMMES

Barbados has been a member of the Caribbean Catastrophe Risk Insurance Facility Segregated Portfolio Company (CCRIF SPC) policy since 2007. The government purchases parametric insurance coverage for high-intensity tropical cyclones, excess rainfall, and earthquake events. Between 2010 and 2021, the government received payouts totalling US\$20,649,434 due to tropical storms and hurricanes, as well as intense rainfall events associated with trough systems (Table 5). The Ministry of Finance (MOF) is responsible for allocating CCRIF payouts across sectors. The DEM provides loss and damage data from line ministries to inform MOF's allocation decisions. However, there is limited tracking of allocations, making it difficult to know how much the payouts are channelled through the social protection system to assist affected communities.

We recommend that the government explore opportunities to link CCRIF SPC directly to scalable social protection programming. First, linkages could be made in partnership with development partners. For example, in 2021 and 2022, WFP provided financial support to the Government of the Commonwealth of Dominica to "top up" tropical cyclone coverage and will provide similar support to the Government of Belize under their tropical cyclone and excess rainfall coverage in 2022 and 2023. If triggered, the additional resources (on top of the usual payout) will be used for cash transfers through social protection systems. WFP is also providing technical assistance to strengthen national social protection systems to make them more shock-responsive to maximize the impact of the finance. The technical assistance could be more effectively managed by establishing a technical working group to operationalize and tailor CCRIF SPC products to be linked to national social protection programmes. A similar approach could be tested in Barbados. In addition, CCRIF SPC has provided discounts of up to 35 percent for additional coverage, which could provide significant value for money. Second, we recommend that the government work with its development partners to develop standard operating procedures (SOPs) to channel financial resources (whether received through CCRIF SPC or resources made available from deferred loan obligations) to fund shock-responsive cash or in-kind transfer interventions more effectively and predictably.

Table 5: CCRIF SPC Payouts Received by the Government of Barbados

Date	Event (Policy)	Payout Amount (US\$)
October 2010	Tropical Storm Tomas (Tropical Cyclone)	8,560,247
November 2014	Trough System (Excess Rainfall)	1,284,882
September 2016	Tropical Storm Matthew (Tropical Cyclone and Excess Rainfall)	1,728,277
September 2017	Tropical Storm Maria (Excess Rainfall)	1,917,506
October 2018	Tropical Storm Kirk (Excess Rainfall)	5,813,299
August 2019	Tropical Cyclone Dorian (Tropical Cyclone / Aggregated Deductible Cover)	123,500
July 2021	Tropical Storm Elsa (Tropical Cyclone and Excess Rainfall)	2,469,924
Total		21,897,635

Source: CCRIF SPC, 2020

CATALYSE LINKAGES BETWEEN MICROINSURANCE AND SOCIAL PROTECTION PROGRAMMES

Microinsurance has the potential to improve a household's ability to manage risk by providing financial protection directly to households. As the COVID-19 experience in Barbados has shown, vulnerable households that are not eligible for basic social protection programmes are likely to experience poverty following a major shock (see Section 1). For instance, livelihood disruptions or emergency expenses such as housing repair costs can result in significant financial burdens on households. Microinsurance payouts following a shock provide greater financial security by preventing costly coping strategies and could therefore be an effective mechanism for protecting poor and vulnerable households. However, key informants indicated that microinsurance penetration in Barbados is minimal to non-existent. We recommend that the government play a catalytic role in building up the microinsurance market, in two ways:

First, we recommend that the government facilitate the piloting of microinsurance schemes already operating in the region (e.g. LPP, COAST, or Flexible Hurricane Protection), taking into account lessons from other countries in the region. We recommend that the government establish direct linkages with social protection programmes in microinsurance pilots. For example, CCRIF SPC plans to roll out the LPP in all member countries. We recommend that the government take proactive measures to take full advantage of this opportunity. As part of a risk layering framework as presented in the previous sub-section, LPP or other microinsurance instruments could be used to address higher frequency, lower impact disasters that are not severe enough to trigger a CCRIF SPC payout but still cause significant damage.

Second, we recommend that the government consider subsidising or incentivising micro-insurance uptake in conjunction with other resilience-building activities. For example, linkages with LPP, COAST, or a Flexible Hurricane Protection scheme could be developed through direct premium subsidies for existing beneficiaries of social assistance programmes. By providing insurance to social protection beneficiaries, the government would make its social protection system more shock-responsive, while helping to expand microinsurance options to households who are at risk of falling into poverty after a shock.

While premium support can be effective for the poorest households, a cost-sharing approach might be more appropriate for highly exposed, better-off households. Experiences in other countries shows that vulnerable but non-poor households benefit most from microinsurance schemes. In order to have a greater impact, premium top-ups could complement resilience-building measures. For example, the government could introduce a pilot 'Emergency Preparedness for Insurance' scheme, where premium support is conditional on beneficiaries creating an emergency preparedness plan for their household, or combined with livelihood support tailored to specific risks (e.g. in agriculture).

The government could also stimulate the microinsurance market by supporting product design and development, raising awareness among potential clients and, most importantly, creating an enabling legal and regulatory environment.

EARMARK RESERVES AND CONTINGENCY FUNDS TO ADDRESS EXTENSIVE RISKS (I.E. HIGH-FREQUENCY LOW-SEVERITY EVENTS) AND SLOW-ONSET HAZARDS

Although extensive risks (small and recurrent events mostly associated with highly localized hazards) have limited impact compared to low frequency, high impact events, they limit the progress of the poorest and push those on the margins of society further into poverty. Evidence suggests that cumulative losses from extensive risk account for up to 42 percent of total economic losses in low- and middle-income countries (UNISDR, 2015). The use of risk transfer instruments like insurance for extensive risks can be expensive due to high premiums for frequent events. Other risk finance instruments, such as contingency or reserve funds, or savings at the household level, are typically more cost-effective (see previous sub-section for proposed risk layering framework).

While the existing Catastrophe Fund and the Contingent Credit Facility are suitable for major rapid onset events, key informants in Barbados pointed out that there is still insufficient funding to address small recurrent events, as well as slow-onset hazards. For example, interviewees said that

farmers lose crops and income due to drought, but little attention is given to drought risk compared to other disasters like storms or flooding. We therefore recommend that in addition to coverage for catastrophic events, the government dedicate funds for response actions addressing extensive risks and slow-onset hazards through social protection.

Looking ahead

Recent experiences and current priorities provide a significant opportunity for the government to further explore and strengthen the link between social protection systems and disaster risk finance, to support the management of contingent liabilities as it relates to social protection. The Government of Barbados is in the process of finalizing a merger of the social services department under the Ministry of People Empowerment and Elder Affairs, which is intended to allow for an even more efficient design in the delivery of assistance to those who need it at the community level. Under this process and aligned with the Barbados Social Protection Policy (2021-2024), the government is committed to strengthening preparedness investments as it relates to social protection systems, as evidenced through activities such as the digitalisation of assessment forms and the creation of a Management Information System. Both aim to expedite the processing of beneficiary data and facilitate improved case management and accuracy for targeting.

Further consideration should be given to explore the potential for linking existing instruments to social protection systems, which can be used to provide assistance to people impacted by or vulnerable to disasters. As existing instruments are not very well suited to address drought and recurrent small-scale floods, it will be necessary to find the right mix of instruments to be implemented, particularly in the context of climate change.

In tandem, there are opportunities to pilot linking new financing mechanisms such as Anticipatory Action which can also reduce vulnerability by enabling preparedness measures prior to the impact of a disaster. It is of importance for the government to consider how different financing options can be applied across the different response windows, to ensure that people receive the support they need and that measures to respond are efficient and effective.

More predictable and effective financing overall would facilitate pre-disaster planning on how to address needs and is critical to respond to the impacts of shocks/disasters. At the same time, strengthening the link between risk finance instruments and social protection systems would enable social protection to be activated more rapidly and reach the most vulnerable and impacted people.

The Government of Barbados is a leading voice on the need for finance tailored to the realities of island states. Disaster risk financing is an important part of this discussion and an entry point for innovation. The government recognises the importance of applying multiple instruments to address the impacts of risks and also the need to review and amend the use of these instruments to consider not only the impact from natural hazards but also economic shocks. Given the investments made by the government to strengthen social protection systems and its appetite for pursuing

innovative risk financing mechanisms, there is an opportunity to build further evidence and experience that clearly illustrates the importance of establishing concrete linkages between disaster risk financing and social protection.

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Acronyms

BBD	Barbados Dollar
CCF	Contingent Credit Facility
CCRIF SPC	Caribbean Catastrophe Risk Insurance Facility Segregated Portfolio Company
CDEMA	Caribbean Disaster Emergency Management Agency
CDM	Comprehensive Disaster Management
COAST	Caribbean Oceans and Aquaculture Sustainability Facility
CWP	Country Work Programme
DEM	Department of Emergency Management
FHP	Flexible Hurricane Protection
GDP	Gross Domestic Product
IBF	Impact-Based Forecast
IPCC	Intergovernmental Panel on Climate Change
IVACC	Índice de Vulnerabilidad ante Choques Climáticos (Vulnerability to Climate Hazard Index)
LPP	Livelihood Protection Policy
MIS	Management Information System
MOF	Ministry of Finance
MPEA	Ministry of People Empowerment and Elder Affairs
NAP	National Assistance Programme
SVI	Social Vulnerability Index
US\$	United States Dollar
WFP	World Food Programme

Annex 1: List of Key Informants

The table below provides a list of the persons interviewed for this study, including their corresponding professional title and institution, and the interview date.

Name of Contact	Position	Institution	Interview Date
Mr Isaac Anthony	Permanent Secretary	CCRIF SPC	23 December 2021
Ms Elizabeth Emanuel	Disaster Risk Management Specialist	CCRIF SPC	23 December 2021
Mr Andrew Pollard	Coordinator(ag)	Ministry of People Empowerment and Elder Affairs	27 January 2022
Ms Danielle Skeete	Deputy Director (Ag)	Department of Emergency Management	16 February 2022
Ms Joy-Anne Johnson	Programme Officer	Department of Emergency Management	16 February 2022
Ms Lorraine Willet	Chief Welfare Officer	Welfare Department	24 February 2022
Ms Wayne Nurse	Senior Programme Officer	Welfare Department	24 February 2022
Ms Diana Rose King	Social Policy, Shock Responsive Social Protection Specialist	UNICEF	01 March 2022
Mr Terry Bascombe	Permanent Secretary	Ministry of Agriculture and Food and Nutritional Security	04 July 2022
Mr Robert Saul	Senior Economist	Ministry of Agriculture and Food and Nutritional Security	04 July 2022
Mr Damian Coppin	Economist	Ministry of Agriculture and Food and Nutritional Security	04 July 2022

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