

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

BARBADOS

CONTINGENT LOAN FOR NATURAL DISASTER EMERGENCIES

(BA-O0004)

LOAN PROPOSAL

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Annex II	Results Matrix
Annex III	Fiduciary Arrangements

REQUIRED ELECTRONIC LINKS (REL)	
REL#1	Monitoring and Evaluation Plan

OPTIONAL ELECTRONIC LINKS (OEL)	
OEL#1	Economic Analysis
OEL#2	Operating Regulations
OEL#3	Automatic Redirection List (ARL)
OEL#4	Technical Annex: BA-O0004 Contribution to Climate Change Adaptation
OEL#5	Safeguard Policy Filter (SPF)

ABBREVIATIONS	
ARL	Automatic Redirection List
BERT	Barbados Economic Recovery and Transformation
CARICOM	Caribbean Community
CCF	Contingent Credit Facility for Natural Disaster and Public Health Emergencies
CCRIF	Caribbean Catastrophe Risk Insurance Facility
CDEMA	Caribbean Disaster Emergency Management Agency
CDM	Comprehensive Disaster Management
CNDRMP	Comprehensive Natural Disaster Risk Management Program
CGA	Country Gender Assessment
CWP	Country Work Programme
CZM	Coastal Zone Management
CZMU	Coastal Zone Management Unit
DEM	Department of Emergency Management
DEO	District Emergency Organizations
DRM	Disaster Risk Management
EA	Executing Agency
ECLAC	Economic Commission for Latin America and the Caribbean
EMAC	Emergency Management Advisory Council
FFF	Flexible Financing Facility
GDP	Gross Domestic Product
GIS	Geographic Information System
IDB	Inter-American Development Bank
iGOPP	Index of Governance and Public Policies
IMF	International Monetary Fund
MFEI	Ministry of Finance, Economic Affairs and Investment
NDFRTPs	Natural Disaster Financing and Risk Transfer Programs
NEMS	National Emergency Management System
NEOC	National Emergency Operations Centre
NPV	Net Present Value
OR	Operating Regulations
OVE	Office of Evaluation and Oversight
PCR	Project Completion Report
SIDS	Small Island Developing States
TC	Technical Cooperation
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention for Climate Change
UNISDR	United Nations International Strategy for Disaster Reduction
V20	Vulnerable Twenty Group
WAL	Weighted Average Life

PROJECT SUMMARY
BARBADOS
CONTINGENT LOAN FOR NATURAL DISASTER EMERGENCIES
(BA-O0004)

Financial Terms and Conditions ^(a)				
Borrower:			Flexible Financing Facility ^(b)	
Government of Barbados			Amortization Period:	25 Years ^(c)
Executing Agency:			Grace Period:	5.5 Years ^(c)
The Ministry of Finance, Economic Affairs and Investment (MFEI)			Weighted Average Life (WAL):	15.25 Years ^(c)
Source	Amount (US\$ million)	%	Disbursement Period:	5 Years ^{(d) (e)}
IDB (Ordinary Capital (OC)):	80	100	Interest rate:	LIBOR Based
			Inspection and supervision fee:	^(f)
			Drawdown fee	^(g)
Total:	80	100	Currency of Approval:	Dollars of the United States of America
Project at a Glance				
Project objective/description: The general objective of the operation is to alleviate the impact that a severe or catastrophic natural disaster could have on the country's public finances. The specific objective is to improve the country's financial risk management of natural disasters by increasing stable, cost-effective, and quick access contingent financing to cover extraordinary public expenditures during emergencies caused by severe or catastrophic natural disasters.				
Special contractual condition for general eligibility to request disbursements: Approval and entry into force of the Operating Regulations (OR) in the terms previously agreed upon with the Bank (§3.4).				
Special contractual conditions prior to each disbursement: The specific contractual conditions that must be met for each disbursement will be: (i) the Bank has verified the occurrence of an eligible event, as defined in the Terms and Conditions of Coverage (see Annex I of the OR); (ii) the Comprehensive Natural Disaster Risk Management Program (CNDRMP) (see Annex II of the OR), previously agreed upon with the Bank, is being executed to the Bank's satisfaction (§2.6); and (iii) within 90 calendar days following the occurrence of an eligible event, the borrower has submitted disbursement requests, indicating the amount(s) of the disbursement(s), if it/they will come from the regular program resources, from available undisbursed balances of the loans identified in the Automatic Redirection List (ARL) (see Annex III of the OR), or a combination of both. In the case of ARL resources, the loan(s) in question and the respective amount to be used shall be identified (§3.5).				
Exceptions to Bank Policies: None.				
Strategic Alignment				
Challenges^(h):		SI <input type="checkbox"/>	PI <input type="checkbox"/>	EI <input type="checkbox"/>
Cross-Cutting Themes⁽ⁱ⁾:		GD <input type="checkbox"/>	CC <input checked="" type="checkbox"/>	IC <input type="checkbox"/>

^(a) Financial terms and conditions of the contingent loan in accordance with the Contingent Credit Facility for Natural Disaster and Public Health Emergencies (GN-2999-4) approved by the Bank's Board of Executive Directors pursuant to Resolution DE-040/20.

^(b) Under the flexible repayment options of the Flexible Financing Facility (FFF), changes in the grace period are possible as long as the Original Weighted Average Life (WAL) and the last payment date, as documented in the loan agreement, are not exceeded.

^(c) Amortization periods, WAL, and grace periods begin on the date of each disbursement of the loan.

^(d) The resources availability period (disbursement period) may be extended for up to five additional years, at the Bank's discretion and upon the borrower's request.

^(e) When requested, loan disbursements are subject to the Bank having sufficient resources from the [ARL](#) or the Bank's regular lending program for Barbados, as applicable (§2.4).

^(f) The inspection and supervision fee will be established periodically by the Board of Executive Directors as part of its review of the Bank's lending charges, in accordance with the applicable provisions.

^(g) Fee is not charged if the contingent loan is not drawn. The Bank will only charge a one-time fee of 50 basis points at the time of disbursement for each disbursement and will be applicable on disbursed amount only. This fee does not apply to the amounts disbursed from loans included in the [ARL](#). The drawdown fee will be subject to periodic revision by the Board of Executive Directors, as with all lending charges.

^(h) SI (Social Inclusion and Equality); PI (Productivity and Innovation); and EI (Economic Integration).

⁽ⁱ⁾ GD (Gender Equality and Diversity); CC (Climate Change and Environmental Sustainability); and IC (Institutional Capacity and Rule of Law).

I. PROGRAM DESCRIPTION AND MONITORING OF RESULTS

A. Background, problem addressed and justification

1. The country's vulnerability to natural disasters and climate change

- 1.1 Barbados, as most Small Island Developing States (SIDS), is vulnerable to severe natural disasters and climate change. More than half of its residents live in zones of high risk from natural hazards, and about fourth-fifth of the country's Gross Domestic Product (GDP) is generated in exposed areas.¹ Located in the Southeastern Caribbean Sea, the country has historically been exposed to tropical cyclones and their associated effects, such as flooding and storm surges. Such natural hazards typically put a large proportion of the population, residential and commercial buildings and productive infrastructure at high risk, as the country's coastal zone is densely populated, and the economy is driven by beach tourism.² Barbados has been also affected by earthquakes and tsunamis, although its exposure is relatively low.³
- 1.2 Despite being situated on the southern edge of the Atlantic hurricane belt, which makes Barbados less likely to be in the path of tropical cyclones, several major hurricanes have made significant impact on the country.⁴ Of particular importance is hurricane Janet, the most powerful cyclone of the 1955 season, which made a direct hit on Barbados as Category 3 with maximum sustained winds of 120 mph and prolonged torrential rains. In the capital city of Bridgetown, hundreds of buildings were damaged by strong winds, several thousand people were evacuated due to a 2-m storm surge that swept away low-lying houses, and all electrical and telecommunication services were interrupted.⁵ It is estimated that the storm caused 38 casualties, 29,000 residents were left homeless, over 8,000 homes destroyed, and damage and losses of 14% of GDP.⁶
- 1.3 Since then, Barbados has not received any direct hits from any other major hydro-meteorological system but has nevertheless experienced the effects of other events. In 1980, hurricane Allen passed just north of Barbados as Category 3, producing damages to private housing, agriculture, and the fishing sector. More recently, in 2010, tropical cyclone Tomas made landfall on the south coast of Barbados with wind gusts of 63 mph and produced excessive rainfall, resulting in 1,200 houses damaged and disruption of electricity service and water supply in the affected areas.⁷ Due to the country's significant coastal exposure, the estimated losses reached US\$68 million (1.5% of GDP), leading to an insurance payout by

¹ World Bank (2012). [Disaster Risk Management in Latin America and the Caribbean Region](#).

² Department of Emergency Management (DEM) (2014). [Country Document for Disaster Risk Reduction: Barbados](#).

³ Barbados recorded 2 earthquakes and 3 tsunamis since 1900. See DEM (2014), Annex III: Historical Hazard Impacts in Barbados.

⁴ Caribbean Disaster Emergency Management Agency (CDEMA) (2017). Snapshot Document: Barbados.

⁵ Longshore (2010). Encyclopedia of Hurricanes, Typhoons, and Cyclones.

⁶ IDB (2019). Public Expenditure Review for Barbados: Climate Change and Disaster Risk Management Analysis.

⁷ CDEMA (2010). [Summary of Impact of Hurricane Tomas on CDEMA Participating States](#).

the Caribbean Catastrophe Risk Insurance Facility (CCRIF) to the government of approximately of US\$8.5 million.⁸

1.4 **Climate change.** As a member of the Vulnerable Twenty Group (V20), Barbados is highly vulnerable to the adverse impacts of climate change. It has many of the intrinsic vulnerabilities that are associated with SIDS: small and undiversified economy, limited land and natural resource base, concentration of population on low-lying coastal zone, and exposure to extreme weather events.⁹ As observed in Barbados' Second National Communication under the United Nations Framework Convention on Climate Change (UNFCCC),¹⁰ the country expects to experience sea level rise, coral bleaching, fluctuations in weather patterns that could lead to more extreme rainfall episodes, and particularly more tropical storms and hurricanes. Without the proper mitigation and adaptation measures to reduce these risks, the impact on the population, economy and coastal resources could be significant, as the effects of climate change intensify across the Caribbean region. According to the Economic Commission for Latin America and the Caribbean (ECLAC), the losses to the tourism sector alone could mount to US\$10 billion by 2050 (193% of GDP).¹¹

1.5 **Gender and natural disasters.** International evidence suggests that the impact of natural disasters tends to be more severe among vulnerable groups, particularly women, children and people with disabilities as they have fewer coping mechanisms to deal with these unexpected shocks.¹² In Barbados, female-headed households tend to be disproportionately poorer and have fewer employment opportunities,¹³ placing them in conditions of greater vulnerability to severe natural disasters. As well, situations of displacement and unsafe living conditions during disaster emergencies, including temporary shelters, have been found to increase the risk of gender violence in the region.¹⁴ At the same time, evidence suggests that the inclusion of women in local disaster preparedness contributes to resilience and can prevent loss of life.¹⁵ These findings highlight the need to integrate gender perspective in the country's disaster risk management strategies.

2. Macroeconomic context and financial vulnerability to severe and catastrophic natural disasters

1.6 Barbados has a small, open, service-oriented economy. The tourism sector is one of the main sources of foreign exchange reserves, employment and economic growth, accounting for approximately 17% of GDP directly and 31% of GDP when considering indirect spillovers to other sectors.¹⁶ The COVID-19 pandemic has

⁸ CCRIF (2010). Tropical Cyclone Tomas (AL212010). Event Briefing, Eastern Caribbean Impact.

⁹ IDB (2014). [Regional Study: LAC Small Island Development States](#).

¹⁰ Government of Barbados (2018). [Barbados' Second National Communication under the UNFCCC](#).

¹¹ ECLAC (2011). [An Assessment of the Economic Impact of Climate Change on the Tourism Sector in Barbados](#).

¹² United Nations Development Programme (UNDP) (2009). [Making Disaster Risk Reduction Gender-Sensitive](#).

¹³ Caribbean Development Bank (2016). [Country Gender Assessment \(CGA\): Barbados](#). The rate of poverty in female-headed households is 19.4%, compared with 11.5% in male-headed households.

¹⁴ United Nations Population Fund (UNFPA) (2012). Gender Based Violence and Natural Disasters in Latin America and the Caribbean.

¹⁵ Buvinic et. al (1999). Hurricane Mitch: Women's Needs and Contributions; and UNDP (2009).

¹⁶ <https://wtcc.org/Research/Economic-Impact>.

triggered a severe economic recession in the country.¹⁷ The halt on tourism arrivals between March and July 2020 and the strict 3-month curfew¹⁸ have triggered a halt on economic activity.¹⁹ In early July, Barbados cautiously started reopening the economy for international tourists, after stopping local transmission of the disease. Recent forecasts indicate an economic contraction of 8.8% in 2020.²⁰ The impact on the government's fiscal stance will also be severe. Compared to FY2019/20, revenues are expected to fall 6.4% in FY2020/21, while expenditures are projected to increase 16.4% in FY2020/21.²¹

- 1.7 The government is in the midst of implementing an ambitious fiscal consolidation program, the Barbados Economic Recovery and Transformation (BERT) program, which was approved August 2018. The BERT became the underlying framework for a US\$380 million four-year International Monetary Fund (IMF) Extended Fund Facility program,²² and sets a debt-to-GDP target ratio of 60% of GDP by 2033. To date Barbados has passed three reviews under the program and completed the debt exchange in 2019. Consequently, the debt-to-GDP ratio fell from 158.3% of GDP in FY2017/18 to 122.2% of GDP in FY2020/21. Although the target primary fiscal balance of 6% of GDP in FY2019/20 was realized, this target has been revised to 1% of GDP and 3.5% of GDP for FY2020/21 and FY2021/22 respectively, to accommodate for the impact of COVID-19.
- 1.8 In this context of ongoing reforms, large contingent fiscal liabilities associated with disasters and climate change pose great risks to the fiscal consolidation process. It is estimated that a major hurricane with a return period of 50 years would cause potential losses of 28% of GDP, while a 100-year return period event would yield losses of 59% of GDP.²³ Thus, the occurrence of a catastrophic natural disaster not only could derail the progress made to achieve debt sustainability,²⁴ but also undermine the government's financial capacity to provide an effective emergency response and post-disaster recovery.²⁵ The government is committed to strengthen financial resilience to disasters. It has insurance protection against several hazards through the CCRIF and has recently included natural disaster

¹⁷ On 11 March 2020, the World Health Organization (WHO) declared the outbreak of COVID-19, the disease caused by the 2019 novel coronavirus, or nCoV-2019, which affects the respiratory system, a pandemic. To date (September 15, 2020), the WHO has reported more than 29,155,581 confirmed cases globally, resulting in more than 926,544 deaths. In Barbados, these figures are 183 and 7, respectively. [WHO Coronavirus Disease \(COVID-19\) Dashboard](#).

¹⁸ The authorities set curfews between April to July 2020.

¹⁹ IMF (2020). [Barbados: Third Review Under the Extended Arrangement](#), June 2020.

²⁰ ECLAC (2020). [Addressing the Growing Impact of COVID-19 with a View to Reactivation with Equality: New Projections](#), July 2020.

²¹ Revenues are forecast to fall from 31.2% of GDP in FY2019/20 to 29.2% of GDP in FY2020/21. Expenditures are expected to increase from 27.4% of GDP in FY2019/20 to 31.9% of GDP in FY2020/21.

²² The program was signed in October 2018 for US\$290 million and was increased by US\$90 million in June 2020 in response to COVID-19.

²³ United Nations International Strategy for Disaster Reduction (UNISDR) (2015). [Global Assessment Report on Disaster Risk Reduction 2015](#). Return periods estimates are a measure of average frequency and intensity of events. For example, a return period of 50 years means that one would expect, on average, two major hurricanes within a certain radius over the next 100 years.

²⁴ IMF (2019). Op cit. See Annex V, Building Resilience to Natural Disasters and Climate Change.

²⁵ Standard & Poor's (2015). The Heat Is On: How Climate Change Can Impact Sovereign Ratings. According to the report, a 250-year tropical storm that impacts Barbados could lead a downgrade of its credit rating of up to 5 notches, and therefore, raising the cost of financing.

clauses into the new domestic and external bonds.²⁶ While Barbados has experienced fewer severe natural disasters than other Caribbean countries; hurricanes and tropical cyclones are likely to be more frequent and intense due to changing climate. These risks underscore the need to continue building fiscal resilience.

3. Natural disaster risk management in Barbados

- 1.9 Acknowledging the need to more effectively address the country's high vulnerability to tropical cyclones and the additional risk imposed by climate change, the government has taken several institutional, policy and legislative actions to mainstream Disaster Risk Management (DRM) over the past years. The Emergency Management Act of 2006 is the main legal instrument governing DRM in Barbados. It established, in 2007, the Department of Emergency Management (DEM) and the Emergency Management Advisory Council (EMAC) to coordinate, develop and implement the national policy on disaster prevention, reduction, preparedness, response and recovery. Regarding disaster response, the DEM coordinates the National Emergency Management System (NEMS), which is an overarching, multi-stakeholder mechanism designed to manage emergencies at all levels (see [Operating Regulations \(OR\)](#) for further detail). The system comprises five main group of stakeholders: (i) the DEM; (ii) the EMAC and its 16 Standing Committees; (iii) the National Emergency Operations Centre (NEOC); (iv) 30 District Emergency Organizations (DEO); and (v) international partners and the private sector. These stakeholders bring together human resource elements and technical expertise to ensure an effective response in time of crisis.
- 1.10 Recent progress made on DRM includes the Barbados Comprehensive Disaster Management Country Work Programme (CWP) 2019-2023,²⁷ which is a results-based, multi-year programme, developed by the DEM and partners of the NEMS, with support from the UNISDR and the CDEMA.²⁸ The CWP is structured around five programme areas for work over the next four years: (i) institutional strengthening; (ii) preparedness response and mitigation capacity; (iii) community resilience; (iv) research and knowledge management; and (v) recovery.
- 1.11 In terms of articulation between DRM with climate change, Barbados is signatory to the UNFCCC and has ratified the Paris Agreement. The country submitted its Second National Communication under the UNFCCC, in which underlines the effects of climate change on extreme weather events and calls for adaptation measures and resilience.²⁹ Additionally, the country is the first in the Caribbean region to establish a specialized agency – the Coastal Zone Management Unit (CZMU) – tasked with the conservation and management of the coastal zone and

²⁶ The clauses would enable the government to capitalize interest and defer principal maturities due for two years in the event a natural disaster hits the country and triggers a payout above US\$5 million by CCRIF.

²⁷ DEM (2019). [The Barbados Comprehensive Disaster Management \(CDM\) CWP 2019-2023](#).

²⁸ The CDEMA is a regional inter-governmental agency for disaster management in the Caribbean Community (CARICOM). It was established in 1991 with primary responsibility for the coordination of emergency response and relief efforts to member states that require such assistance. Barbados is a member of the CDEMA.

²⁹ Government of Barbados (2018). Op cit.

its resources.³⁰ Among its objectives, the CZMU seeks to mitigate the adverse effects of climate change in the coastal zone.

- 1.12 The status of disaster risk management in Barbados is documented in the Comprehensive Natural Disaster Risk Management Program (CNDRMP) (see Annex II of the [OR](#)) (¶2.6). The CNDRMP, based on the CWP 2019-2023, includes a matrix identifying long term goals as well as activities, with correspondent indicators, for the next year to foster progress in the five key areas of DRM: (i) governance framework; (ii) risk identification; (iii) risk reduction; (iv) disaster preparedness and response; and (v) financial protection. These activities will be monitored through indicators established and updated annually. Current disaster risk management status and areas of future action are summarized in ¶1.13 to ¶1.17.
- 1.13 **Disaster Risk Management governance general framework.**³¹ In January 2020, the government approved the CWP 2019-2023 (¶1.10). The development of this multi-year, cross-sectoral program recognized the need for a more comprehensive, strategic, long-term approach to DRM. This approach is better aligned to, harmonized with, and monitorable, in the context of internationally articulated DRM framework (The Sendai Framework for Disaster Risk Reduction 2015–2030). While the recent CWP and the Emergency Management Act are quite comprehensive, there is room for improvement in the operational level, particularly regarding the coordination and coherence across the agencies that comprise the NEMS.
- 1.14 **Risk identification.**³² The Barbados Meteorological Services is the primary institution mandated to conduct the activities associated with disaster risk identification. It undertakes monitoring and prediction of hydrological and climate phenomenon, data processing, and advisory weather services to the public and other specific user groups such as aviation, shipping, and tourism. The Department also issues warnings/alerts proactively when hurricanes are approaching the country. Another key institution in this strategic area is the CZMU. With the support of the Coastal Risk Assessment and Management Program Loan ([2463/OC-BA](#)), the CZMU has increased its capacity to undertake risk analysis studies, including probabilistic hurricane and flood risk assessments, through the development of the National Coastal Risk Information and Planning Platform.³³ To further advance on this area, the country faces a number of challenges. For example, weather forecasting and hurricane alerts need to be further improved to provide more accurate information to citizens and tourists in real time, across the country. Additional modern equipment, technology and training is needed by the Barbados Meteorological Services, as well as optimizing institutional coordination and better networking for broader real time integrated hazard monitoring.

³⁰ [World Bank Climate Change Knowledge Portal](#).

³¹ Refers to a framework of laws, norms, policies, and institutional capacity to manage and reduce disaster risk.

³² Refers to the technical and scientific research required to identify vulnerable areas and sectors.

³³ This tool is a web-based, multi-user digital platform with advanced mapping and visualization capabilities that allows users to view, interact with, and model hazard risk at individual property parcel or community scales, as well as to estimate the cost of repair or replacement of assets affected by a hazard of a given severity.

- 1.15 **Risk reduction.**³⁴ Given Barbados' exposure and vulnerability to natural disasters, the government is committed to promote disaster risk reduction actions. In this regard, the Ministry of Housing, Lands and Maintenance is currently implementing a retrofitting program to increase resilience of the building stock occupied by vulnerable low-income households. Other recent progress made in this area includes the 2013 update of the country's Building Code, which was developed in 1993, and the inclusion of risk assessment and climate change considerations for planning, design, construction of public coastal infrastructure. Still, compliance on these building regulations and the adoption of risk reduction measures during the construction of public infrastructure projects remains voluntary as there is no law in Barbados that makes their adherence mandatory.
- 1.16 **Emergency preparedness and response.**³⁵ Barbados has a well-established and organized national mechanism for disaster preparedness and emergency operations (¶1.9), though there is still room for further improvements. As identified in the CWP 2019-2023, some review and update of sector emergency response plans in agriculture, tourism, communications, housing, and security are required. Also, the integration of gender considerations into the country's DRM strategy and the updating of social protection policies and standard operating procedures for managing vulnerable persons in emergencies are identified as pending tasks. Furthermore, more needs to be done on recovery planning, according to the findings of the 2018 CDEMA audit. The report found some aspects of this strategic area that need improvement: (i) recovery planning; (ii) business continuity planning, particularly among micro, small and medium enterprises; and (iii) mechanisms to support the psychological recovery of the population post disaster. Presently, there is no clear ex-ante strategic plan on how continuity of government and post-disaster recovery and reconstruction might be optimally coordinated and facilitated. Recognizing this deficit, the government is embarking on the development of an enhanced national recovery framework in 2020 as part of the CWP 2019-2023.
- 1.17 **Financial protection.**³⁶ The Ministry of Finance, Economic Affairs and Investment (MFEI) oversees the sourcing and allocation of funds used to address natural disasters. A national disaster fund was created in 2007 through the Catastrophe Fund Act but had historically limited reserves (public budget of US\$1.25 million per year). Since then, overall public expenditures for DRM activities has consisted mainly of the DEM's annual estimated budget of US\$0.6 million.³⁷ Nevertheless, given the threat posed by natural disasters and climate change, the Government of Barbados has taken effective measures to strengthen its financial resilience. The country has purchased insurance protection through the CCRIF against hurricanes, excess rainfall, and earthquakes. Since 2010, the CCRIF has made 6 payments to Barbados for recovery efforts, totaling US\$19.3 million. Another significant measure was the inclusion in 2019 of natural disaster clauses into new

³⁴ Refers to the actions related to disaster risk mitigation, civil protection, resilient infrastructure, and nature-based risk mitigation measures that public entities plan, implement, and maintain.

³⁵ This refers to emergency/contingency planning and response actions.

³⁶ This refers to the actions related to ensuring financial resilience to shocks including but not limited to the arrangements for preparation and financial disbursement for immediate response, rehabilitation, and reconstruction in the event of disasters.

³⁷ IDB (2019). Public Expenditure Review for Barbados: Climate Change and Disaster Risk Management Analysis.

government bonds that will allow the capitalization of interest and deferral of scheduled amortization falling due for two years. The risk retention capacity provided with this contingent loan would be another important step in improving the country's natural disaster risk financial management and would complement the CCRIF, which was highlighted by the IMF in its latest Article IV Report for Barbados.

4. Programs for financing and transferring risks of natural disaster emergencies

- 1.18 The Bank follows a comprehensive risk management strategy within the framework of the Bank Action Plan for Improving Disaster Risk Management (GN-2339-1); and in 2008 approved the finance approach of this strategy (GN-2354-7). The objective of this approach is to help borrowing member countries with the design and implementation of Natural Disaster Financing and Risk Transfer Programs (NDFRTPs). These programs include a combination of financial mechanisms and instruments that will improve prevention planning and provide broader and more stable and efficient coverage of the risk of extraordinary public financial outlays.
- 1.19 The NDFRTPs proposed by the Bank always assume that, because of budgetary and financial constraints, no single instrument can effectively cover, by itself, all layers of risk. For this reason, it is imperative that a variety of instruments that can be adapted to cover specific areas of risk be used, based on the probability of occurrence and the magnitude of the expected impact of the disasters.
- 1.20 In view of the above, the design of the NDFRTPs considers drawing on directly budgeted resources or on reserve funds to cover public outlays resulting from disasters which occur more frequently and are less severe. As the likelihood of disasters decrease and their severity increase to a catastrophic level (and hence require higher extraordinary expenditures), the NDFRTPs draw on other risk retention instruments, such as contingent loans, followed by (or complemented by) risk transfer instruments, such as insurance and/or catastrophe bonds,³⁸ since the former are economically more efficient. Lastly, NDFRTPs also consider the possibility of extremely infrequent events for which ex ante financial coverage is too costly, as the expense and losses they produce are extraordinarily high; in such cases, ex post financing is required.³⁹
- 1.21 **Potential benefits.** The benefits of focusing on this type of ex ante financing programs for the emergency phase are proven to be greater than their potential costs. NDFRTPs make it possible for countries to obtain more efficient coverage in terms of direct costs as well as the savings created by timely availability of resources, while reducing the liquidity gap that governments generally face during

³⁸ At the macro level, risk-transfer instruments against natural disasters such as catastrophe bonds can yield significant welfare gains by smoothing domestic income and consumption and relaxing the country's external borrowing constraint. See Borensztein et al. (2016). [The Welfare Gains from Macro-Insurance Against Natural Disasters](#), Journal of Development Economics.

³⁹ IDB (April 2010). Natural Disasters Financial Risk Management: Technical and Policy Underpinnings for the Use of Disaster-Linked Financial Instruments in Latin America and the Caribbean, IDB-TN-175.

such events due to the combination of increased expenditures, lower revenues,⁴⁰ and incremental constraints in terms of cost and access to debt.

- 1.22 Providing ex ante financial coverage for the emergency phase in high magnitude disasters partially reduces the risk of even worse impact scenarios in terms of the disaster's impact on public accounts, since financing is quickly available to handle the emergencies. This has been verified in several studies conducted by the Bank⁴¹ and other multilateral organizations such as the IMF.⁴² These studies confirm that having the financial coverage to provide liquidity in case of severe events ensures greater stability in long-term economic growth compared to a scenario in which this type of coverage is not in place, since resources are readily available to meet the requirements of an emergency, which eliminates the need to finance extraordinary expenditures from public accounts that were not budgeted to accommodate such needs.

5. Operation's relation to the Bank's country and sector strategies

- 1.23 **Bank's actions and support in the sector and lessons learned in Barbados.** The Bank has been taking concrete actions to strengthen disaster risk management in borrowing member countries, in line with the Bank's Disaster Risk Management Policy (GN-2354-7). In particular to Barbados, the Bank has supported the government to advance progress in Coastal Zone Management (CZM) and disaster risk management for more than 35 years. The Bank has invested more than US\$58 million through loans and Technical Cooperation (TC) to promote key legislation and policies, address coastal vulnerabilities, improve local planning capacities, and sustained projects to protect the shoreline. Specifically, the Bank approved the Coastal Risk Assessment and Management Program loan ([2463/OC-BA](#)) and a TC ([ATN/MD-12057-BA](#)) to build resilience to coastal hazards by linking CZM with disaster risk management, and by financing hazard-resilient physical investments. The program recently developed the National Coastal Risk Information and Planning Platform (NCRIPP) (§1.14). Also, the Bank approved the TC ([ATN/OC-13923-BA](#)), Capacity Building Ecosystem Services Valuation Integrated CZM Best Practice Dissemination, to document and disseminate lessons learned in coastal management and in enhancing coastal resilience in small island developing states, as well as to enhance the capacity of the CZMU through the use of innovative spatial analysis tool for mapping and valuing ecosystem services. In 2018, the Bank also completed its Barbados field appraisal to develop the country's Index of Governance and Public Policy in Disaster Risk Management (iGOPP) assessment report. Risk information from the NCRIPP was used to analyze the fiscal risk to natural disasters, and the iGOPP was used to identify budgetary, legal, and institutional reforms required to strengthen the DRM framework. Outputs from both the NCRIPP and the iGOPP feed into the design of the CNDRMP.
- 1.24 **Lessons learned from loans from the Contingent Credit Facility for Natural Disaster and Public Health Emergencies (CCF).** The Bank has been supporting borrowing member countries in the design and implementation of comprehensive

⁴⁰ Nuguer and Powell (2020). Implications of Climate Change and Natural Disasters, Chapter 6 from "Inclusion in Time of COVID-19", IDB.

⁴¹ IDB (2002). Disaster Risk Management. Freeman, Mechler et. al.

⁴² IMF (2012). Natural Disasters: Mitigating Impact, Managing Risks. Laframboise and Loko.

disaster risk financing strategies that combine instruments of risk retention and risk transfer such as contingent credit lines and insurance. Within this framework, the Bank has approved twelve loans from the CCF throughout the LAC region, along with three successful disbursements totaling US\$256 million⁴³ ([3670/OC-EC](#), [4331/OC-DR](#) and [4853/OC-BH](#)). The lessons learned from the preparation of each loan and the disbursements have been incorporated, with the pertinent changes made in the design of new operations, a process that has also been used for this program. For this operation, the lessons learned are reflected in these areas: (i) the development of parametric coverage with higher-quality satellite information; (ii) the refinement of methodologies for triggers design and disbursement calculations; (iii) the strengthening of the coordination and execution mechanism between the Executing Agency and the public-sector institutions responsible for budget execution during natural disaster emergencies (§3.2); and (iv) the establishment of CCF Operational Guidelines (GN-2502-3), which ensure an efficient and effective supervision and execution process for these operations. All these improvements have been properly reflected in the program's [OR](#).

- 1.25 The relevance and effectiveness of the CCF have been verified and corroborated by these recent assessments: “Country Program Evaluation for Ecuador 2012-2017, prepared by the Bank’s Office of Evaluation and Oversight (OVE),⁴⁴ and the Project Completion Report (PCR) validated by OVE of the execution of a CCF loan in respond to Ecuador’s earthquake in 2016 ([3670/OC-EC](#)). Among the main lessons learned are: (i) the parametric design of CCF loans is an efficient mechanism to quickly provide resources to countries; (ii) the rapid disbursement of loan resources is key to the operation’s success, so it is necessary to integrate disbursement procedures into the Bank’s systems; (iii) having an independent and concurrent assurance audit help ensure that loan resources would be used in accordance with the Bank’s eligibility criteria; (iv) limitations in inter-institutional coordination make it necessary to strengthen coordination mechanisms during the implementation of the operation; (v) the IDB, through the CCF loans, promotes the adoption of ex ante disaster risk financing strategies; and (vi) as one of the first organizations to respond to the disaster, the Bank played an important role in the dialogue with the government and in coordinating the different sector agencies.
- 1.26 **Strategic alignment of the operation.** The operation is aligned with the IDB Group Country Strategy with Barbados 2019-2023 (GN-2953-1), particularly with the cross-cutting issues of Climate Change and Disaster Risk Management, as it will contribute to reducing vulnerability to natural hazards and increasing resilience against the effects of climate change through the financial protection provided by this loan. The operation as a whole will support the country’s financial framework to adapt to climate change and reduce its financial vulnerability to extreme events. Therefore, 100% of loan resources are considered climate change adaptation finance, according to the [joint Multilateral Development Banks’ approach on climate finance tracking](#).⁴⁵ These resources contribute to the IDBG’s climate finance goal of 30% of combined IDB and IDB Invest operational approvals by year’s end 2020.

⁴³ Currently the total coverage provided by the contingent loans amounts to US\$1,911 million.

⁴⁴ Country Program Evaluation Ecuador 2012-2017. OVE, IDB, December 2017.

⁴⁵ 2018 Joint Report on Multilateral Development Banks Climate Finance.

- 1.27 The project is also consistent with the Second Update to the Institutional Strategy (UIS) (AB-3190-2) and is aligned with the cross-cutting theme of Climate Change and Environmental Sustainability, by increasing the ex ante financial coverage available to the country in the event of a severe or catastrophic natural disaster. The operation is aligned to the IDB Group Corporate Results Framework 2020-2023 (GN-2727-12), as it specifically contributes to the auxiliary indicator “Countries that have improved disaster risk management”. Furthermore, the project is consistent with the Bank’s Disaster Risk Management Policy (GN-2354-5) and with the Climate Change Sector Framework (GN-2835-8), by improving the public sector’s access to climate finance for adaptation and resilience-building, through the use of financial instruments that provide rapid and cost-efficient resources to governments to finance unforeseen public expenditures during natural disaster emergencies. Finally, the operation is included in the Update of the Annex III of the 2020 Operational Program Report (GN-2991-3).
- 1.28 **Gender perspective.** Additionally, the project supports efforts towards the cross-cutting theme of Gender Equality and Diversity, as part of the activities contemplated in the CNDRMP. The first-year milestones, within the component of risk reduction and the long-term goal of reducing vulnerability of existing low-income residential housing infrastructure, includes the indicator of developing gender-sensitive criteria to identify vulnerable persons (¶1.5). A report that includes a Geographic Information System (GIS) mapping of vulnerable persons is expected to be produced during the first year. This map will include gender disaggregated data (see Table 1 of Annex II of the [OR](#)). Milestones in each subsequent year of the CNDRMP will include measures to address gender issues (see [Monitoring and Evaluation Plan](#)).

B. Objective, components and cost

- 1.29 The general objective of the operation is to alleviate the impact that a severe or catastrophic natural disaster could have on the country’s public finances. The specific objective is to improve the country’s financial risk management of natural disasters by increasing stable, cost-effective, and quick access contingent financing to cover extraordinary public expenditures during emergencies caused by severe or catastrophic natural disasters.
- 1.30 As an additionality, the operation seeks to enhance the disaster risk management of the country by fostering improvements in five main areas to be monitored through the CNDRMP: (i) governance framework; (ii) risk identification; (iii) risk reduction; (iv) disaster preparedness and response; and (v) financial protection. Particularly, the Bank will, as part of the annual monitoring and supervision of the CNDRMP, promote improvements in the country’s response and preparedness capacity to natural disasters by encouraging the development of a national early warning policy and the enhancements to social protection policies for managing vulnerable population (see Annex II of the [OR](#)).
- 1.31 **Single component.** The proposed operation contemplates a single component of US\$80 million to structure a stable and efficient ex ante financial coverage to afford, in a timely manner, any extraordinary expenses that could arise in emergencies caused by severe or catastrophic natural disasters. To determine the country’s financing needs to address emergencies caused by natural disasters,

the Bank analyzed the exposure, vulnerability and historical impact of hurricanes and floods in the country.⁴⁶ Particular weight was given to the impact of Hurricane Janet in 1955, as well as the effects of climate change in increasing the frequency and intensity of events. The amount is also determined by the eligible expenditures (¶3.7) and the Terms and Conditions of Coverage (¶2.3). The amount of the loan is within the limits established for the CCF (GN-2999-4).⁴⁷

- 1.32 **Beneficiaries.** Potential beneficiaries are the entire population of Barbados, in general, and the affected population that receives emergency assistance under the proposed coverage, in particular.

C. Key results indicators

- 1.33 In line with the project's specific objective (¶1.29), the expected outcome is an improved country's financial risk management of natural disasters by increasing stable and efficient contingent financing to cover extraordinary public expenditures during emergencies caused by severe or catastrophic natural disasters.
- 1.34 To show improvement in the country's financial risk management, the following indicators will be monitored: (i) the increase in the amount of ex ante financial coverage available to the country provided by this operation; (ii) the change in the spread between the financial cost of this loan and the financial cost of Barbados' long-term sovereign external commercial debt; and (iii) the speed of access to resources if an eligible event occurs. In addition, the effectiveness of the national policy for disaster risk management will be monitored through the satisfactory execution of the CNDRMP, including the promotion and execution of activities to address gender issues identified therein (see [Monitoring and Evaluation Plan](#)).
- 1.35 **Economic Analysis.** The [Economic Analysis](#) of the project uses a cost effectiveness analysis methodology that evaluates a scenario in which the full amount of the contingent loan is used due to the occurrence of a catastrophic event. The Net Present Value (NPV) of the cost of financing the IDB loan was compared to the NPV of the cost of issuing bonds, under the following assumptions: (i) the LIBOR rate set for the IDB loan; and (ii) the bonds issued have a 10-year maturity and their rate is based on the country's current risk premium on the international sovereign debt market. Both NPV were calculated using a discount rate of 12%. The results show that the contingent loan granted by the Bank is 51.1% of the cost of issuing debt, which makes it a much more efficient option not only in terms of financial cost but also in terms of how quickly the resources are made available. Lastly, it shows that even in the event of minimally probable variations in the main indicators, there is a wide range of values in which the IDB loan alternative remains the most efficient (see [Economic Analysis](#)).

⁴⁶ Evidence of the exposure and vulnerability to hurricanes and their associated effects can be appreciated in Section I.A.1. It is important to note that economic losses cited in this section include damages to public and private sector assets and stock.

⁴⁷ In the case of Barbados, the country limit would correspond to two percent (2.0%) of the country's GDP or US\$103 million (based on 2018 GDP).

II. FINANCING STRUCTURE AND MAIN RISKS

A. Financing instrument

- 2.1 The proposed operation will be structured through an investment loan, which will be granted through the Contingent Credit Facility for Natural Disaster and Public Health Emergencies (CCF, Modality I) (GN-2999-4) for a total amount of US\$80 million. All disbursements made will be charged to the Bank's Ordinary Capital resources. The funds may either come from the regular lending program, available undisbursed balances of the investment loans already approved and identified in the [Automatic Redirection List](#) (ARL),⁴⁸ or a combination of these two options.
- 2.2 Contingent loans granted under the CCF have specific financial terms and conditions to provide adequate support to the country at the critical time of an emergency caused by severe or catastrophic events, when public finances are doubly affected by a combination of the need for additional resources to meet extraordinary expenses and unexpected shortfalls in revenues due to a decrease in economic activity. The specific terms and conditions include: (i) the amortization period and grace period are calculated from the date of each disbursement; (ii) the Bank will only charge a one-time fee of 50 basis points (reviewed periodically) at the time of disbursement for each disbursement and will be applicable on disbursed amount only. This fee does not apply to the amounts disbursed from loans included in the [ARL](#); and (iii) the period during which the resources are available for requesting disbursements is five years, which can be extended for up to five additional years at the borrower's request and at the Bank's discretion. In the event of an extension, the amortization, grace, and commitment fee collection periods will be calculated as of the effective date of this extension.
- 2.3 **Eligible events.** This loan will provide coverage for hurricanes and excess rainfall associated to cyclonic systems, based on the intensity and affected population criteria contractually agreed upon by the country and the Bank and detailed in the Terms and Conditions of Coverage (see Annex I of the [OR](#)). The Terms and Conditions of Coverage include the types of events eligible for coverage, as well as specific matters related to eligibility for disbursements and the methodology for calculating the maximum amount that may be disbursed, based on the intensity and percentage of the country's population affected by each eligible event.
- 2.4 Loan disbursements will be contingent upon the availability of sufficient resources from the [ARL](#) or resources allocated to the Bank's regular lending program with Barbados, as applicable, when the disbursement is requested. If sufficient resources are not available at the time of the disbursement request, the Bank may

⁴⁸ The [ARL](#) is an alternative funding scheme exclusive of the CCF that includes the Bank's current investment loans with the country that have balances available for disbursements, which could be automatically redirected should an event occur (GN-2999-4, paragraph 4.12). The current ARL was agreed among the borrower and the Bank considering to the following criteria: (i) the priorities of the government in the context of potential natural disaster emergencies; and (ii) projects' execution status and performance. In consultation with the borrower, the [ARL](#) is periodically updated, usually once a year, to include new loans. If a potential event is declared eligible by the Bank and the resulting disbursed funds come fully or partially from loans listed in the ARL, the Bank will update project management systems to reflect the corresponding changes in selected loans.

disburse up to the maximum amount of available resources. In the event no funds are available, the Bank will not be obligated to make any disbursements for as long as and to the extent that no resources are available. Once this situation has ended as determined by the Bank, it will notify the borrower.

- 2.5 **Disbursement limits per event.** The maximum disbursement amount that may be made for each eligible event will be subject to the lower of the following limits: (i) the available undisbursed balance of this contingent loan; and (ii) the maximum amount established for the type, location, and intensity of the event declared eligible (¶2.3).
- 2.6 **Comprehensive natural disaster risk management program.** The CCF states that all borrowing member countries of the Bank are eligible to receive financing through the facility, provided that they have a CNDRMP in place to the Bank's satisfaction, with the objective of promoting the effective formulation of a national policy on the comprehensive management of disaster risks, thereby strengthening the general governance framework, improving the identification and reduction of such risks, and enhancing disaster management as well as the financial management of disaster risks. During the preparation of this operation, the project team assessed Barbados' DRM policy and institutional framework, and its main findings are summarized in Section I.A.2. The CNDRMP has been developed and agreed upon in conjunction with the government⁴⁹ (see Annex II of the [OR](#)). The CNDRMP includes medium-term goals and first-year milestones.
- 2.7 To maintain the financing through the CCF, the CNDRMP must be progressing satisfactorily towards the agreed long-term goals therein. To assess the successful execution of the CNDRMP, the Bank will perform annual evaluations to monitor if all the identified yearly-milestones and activities are being executed satisfactory. The first annual evaluation will be carried out 12 months after the loan contract enters into force. During the evaluation, the Bank and the Government of Barbados will also discuss milestones for the subsequent period. This annual review process will be repeated until the loan drawdown period expires.

B. Environmental and social risks

- 2.8 In accordance with Directive B.13 of the Environment and Safeguards Compliance Policy (GN-2208-20, Operational Policy OP-703), this operation does not require classification. Since the resources that could ultimately be disbursed under this loan may only be used to finance extraordinary public expenditures incurred during an emergency; and given that the MFEI, as the Executing Agency (EA), ensures compliance with the country's environmental and social laws on the use of the resources, no adverse environmental or social impacts are expected. Moreover, the loan contract will include a negative list of the types of expenditures that may not be financed with the loan proceeds.

C. Fiduciary risk

- 2.9 There is a medium risk of insufficient information on expenses and/or supporting documentation that may render certain expenditures financed by the loan not

⁴⁹ Through project team missions held in November 2018, February and December 2019, and June 2020.

meeting the contractually stipulated eligibility criteria, preventing the Bank from accepting them, and thus, delaying the disbursement of needed loan resources for emergency response. To mitigate the risk, the Bank may require the EA to have independent and concurrent verification of the appropriate use of loan resources (¶3.8). The Bank will also provide technical assistance to the EA to strengthen its fiduciary capacity, particularly in the execution of natural disaster expenditures, under the regular monitoring and supervision activities of this loan.

D. Other risks and key issues

- 2.10 **Public management and governance risk.** An identified medium risk is related to the possibility of institutional arrangements and coordination within the government being insufficient in case of an eligible event, which would risk that resources disbursed are not utilized within the stipulated period, and therefore, contributing to a less effective emergency response. As a mitigation measure, the Bank will: (i) provide technical support to the MFEI, including training workshops for the use of loan resources in case of an eligible event, to strengthen its executing capacity of the loan during emergency response, under the regular monitoring and supervision activities of the loan; (ii) promote a coordination and execution mechanism between the relevant stakeholder for emergency response (¶3.2) that must be put in place by the MFEI immediately after the occurrence of an eligible event and disbursement to ensure the timely use of loan resources; and (iii) promote improvements in the country's response and preparedness capacity through the CNDRMP, particularly by encouraging the development of a national early warning policy (see Annex II of the [OR](#)).
- 2.11 **Sustainability.** The ex ante financial coverage provided by this operation for emergencies caused by eligible natural disaster events (¶3.3), together with the existing coverage through insurance protections by the CCRIF, will strengthen the government's financial management of disaster risks and funding capacity to cover extraordinary public expenditures needed for emergency response, thus mitigating the potential impact of future natural disasters on population, public finances and economic activity; and contributing to a faster and more sustainable recovery. The sustainability is also supported by the country's CWP 2019-2023.

III. IMPLEMENTATION AND MANAGEMENT PLAN

A. Summary of implementation arrangements

- 3.1 The borrower will be Barbados, and the EA will be the MFEI. Under the coordination of the MFEI, the use of loan resources will be carried out by the government through their public-sector institutions responsible for budget execution during emergencies. The MFEI will be responsible for: requesting the eligibility verification of an event; submitting the disbursement requests to the Bank; allocating the loan resources to the relevant sector agencies involved in the emergency response; coordinating the fiduciary, procurement, monitoring and evaluation arrangements to safeguard the timely and adequate execution of resources; substantiating the use of loan resources to the Bank in accordance with the provisions established in the Loan Agreement and the [OR](#); and ensuring the compliance with the objectives of the project.

- 3.2 **Coordination mechanism.** As the EA of this project, the MFEI, through the NEMS and in close coordination with the DEM as part of the EMAC, will coordinate with the NEOC operations group to allocate and execute the contingent loan resources during emergencies. The NEMS is an overarching, multi-stakeholder mechanism coordinated by the DEM to facilitate emergency management at all levels. It comprises five main group of stakeholders: (i) the DEM, which is responsible for coordinating all emergency management activities in the country; (ii) the EMAC and its 16 Standing Committees, an advisory organ that gathers relevant public institutions, including the Barbados Meteorological Services, and is responsible for planning for the emergency response both at the national and sector level; (iii) the NEOC, a centralized platform to directs the response activities; (iv) 30 DEO that organize the resources for response at the community level; and (v) international partners and the private sector. These stakeholders bring together human resource elements and technical expertise to ensure an effective response in time of crisis (see [OR](#) for further detail). Regarding the NEOC operations group, it is comprised of security agencies, such as Barbados Defense Force, and ministries such as Ministry of Transport, Works and Water Resources, Ministry of Agriculture and Food Security, Ministry of Housing, Lands and Maintenance, Ministry of Education, Technological and Vocational Training, Ministry of Tourism and International Transport, among others⁵⁰ and are responsible to determine and present their needs and prioritized expenses to the MFEI for approval.
- 3.3 To ensure the timely use of loan resources, a coordination and execution mechanism is detailed in the [OR](#) and must be put in place by the MFEI immediately after the occurrence of an eligible event and disbursement of loan resources. This mechanism entails the following process: (i) planning and expense identification; (ii) technical review; (iii) monitoring and execution; (iv) fiduciary review; and (v) eligibility and reporting.
- 3.4 **Special contractual condition for general eligibility to request disbursements: Approval and entry into force of the [OR](#) in the terms previously agreed upon with the Bank.** This document contains all the operational provisions concerning the supervision and administration of the loan, as well as the request for disbursements and use of resources. The [OR](#) will include: (i) the terms and conditions of coverage, which lays out the characteristics and functioning of the parametric triggers; (ii) the CNDRMP, including the indicators established for the monitoring of its progress; and (iii) the [ARL](#).
- 3.5 **Special contractual conditions prior to each disbursement. The specific contractual conditions that must be met for each disbursement will be:** (i) the Bank has verified the occurrence of an eligible event, as defined in the Terms and Conditions of Coverage (see Annex I of the [OR](#)); (ii) the CNDRMP (see Annex II of the [OR](#)), previously agreed upon with the Bank, is being executed to the Bank's satisfaction (¶2.6); and (iii) within 90 calendar days following the occurrence of an eligible event, the borrower has submitted disbursement requests, indicating the amount(s) of the disbursement(s), if it/they will come from the regular program resources, from available undisbursed balances of the loans identified in the [ARL](#) (see Annex III of the [OR](#)), or a combination of both. In the case of [ARL](#) resources, the loan(s) in

⁵⁰ For further details on Barbados' National Emergency Management System, see [OR](#).

question and the respective amount to be used shall be identified. These contractual conditions were set as standard for the execution of contingent loans in the CCF's Operational Guidelines approved by the Bank in 2014 (GN-2502-3).

- 3.6 Each disbursement under this loan will be made in accordance with the financial terms and conditions set out in the Project Summary, regardless of whether the resources come entirely or partially from the loans included in the [ARL](#) or the regular lending program.
- 3.7 **Eligible expenditures.** Loan proceeds may be used to finance extraordinary public expenditures incurred during emergencies caused by eligible events. The types of eligible expenditures will comply with the requirements established in document GN-2999-4 (paragraph 4.20 c) and GN-2502-3 (paragraph 1.7.b), namely: (i) they are not explicitly among the expenditures on the negative list included in the loan contract; (ii) they are legal under the laws of Barbados; (iii) they are directly related to the natural disaster emergency for which financing was provided; (iv) they have verifiable, documented, and clearly registered acquisitions and payments; and (v) they have been adequately dimensioned and priced. Some examples of eligible expenditures include emergency health equipment; vaccines and medications; food for the affected population; facilities and equipment for temporary shelters; and temporary rehabilitation of infrastructure and restoration of basic services.
- 3.8 The Bank will recognize up to 100% of the amount of eligible expenditures incurred and paid by the borrower as of the date of the onset of the eligible event, and for a period of up to 180 calendar days immediately thereafter. Upon formal request from the Borrower, the Bank, at its sole discretion, could extend this period for an additional 90 days, for a total of 270 days (GN-2999-4, ¶4.20 f). In all procurement related matters, this operation will be governed by the provisions set forth in the document establishing the CCF (GN-2999-4). The borrower will use its national laws on the procurement of goods and the contracting of works and services applicable to extraordinary fiscal expenditures in cases of natural disasters (see Fiduciary Arrangements (Annex III)).
- 3.9 **Reasonable assurance audit.** As per GN-2999-4, after the disbursement of loan resources, the Bank may require a concurrent and independent verification of the expenses financed by the loan, conducted by a reasonable assurance audit firm to assess the compliance with the criteria for expenditure eligibility set in the Loan Agreement and the [OR](#). The EA will be responsible for carrying out this activity and initially bear the costs associated with hiring the audit firm. These costs are eligible within the loan financing.
- 3.10 **Rationale for using resources.** The borrower, through the MFEI, will substantiate the use of disbursed resources through a Consolidated Report on the Adequate Use of Resources, to be submitted to the Bank within a period of 365 calendar days following the start date of the eligible event for which the Bank disbursed the resources in question. Such report must be accompanied by the final report of the reasonable assurance audit firm, in case it was required. If necessary, as provided in the document establishing the CCF (GN-2999-4), the Bank reserves the right to conduct ex post audits of the expenses incurred, the results of which may be used

to support a potential request to reimburse any amounts found to be ineligible for financing.

B. Summary of arrangements for monitoring results

- 3.11 During the loan disbursement period, the Bank will carry out periodic monitoring of progress made in executing the CNDRMP to determine, based on the indicators established for this purpose, whether it is progressing satisfactorily (see [Monitoring and Evaluation Plan](#)). These evaluations will be conducted at least once a year. If, as a result of these evaluations, the Bank determines that the CNDRMP is not being satisfactorily executed, the borrower will be notified of the specific actions that need to be taken within a maximum period of 90 calendar days following the date of notification, in order to maintain its eligibility to receive disbursements under this operation. Once this timeframe passes, if the Bank should find that the recommended remedial actions were not completely and properly taken, it may, upon formal notification of the borrower, suspend temporarily the borrower's eligibility to receive loan disbursements until the shortcomings are properly remedied. However, it should be noted that pursuant to the provisions of GN-2999-4, paragraph 4.25, once the Bank has granted initial eligibility to receive disbursements under this loan, this eligibility will remain in effect during the loan's disbursement period unless the Bank formally notifies the country of its temporary suspension.
- 3.12 Within a period of no more than two years following each disbursement, the Bank, at its sole discretion and at no cost to the borrower, may verify through independent external audits the appropriateness of the expenditures claimed as eligible. If, as a result of any such audits the Bank determines that the disbursed funds were used to finance ineligible expenditures, it may demand that the borrower immediately rectify the situation or reimburse the amounts in question. The monitoring and evaluation of the operation will be conducted in accordance with the [Monitoring and Evaluation Plan](#).
- 3.13 **Evaluation arrangements.** As indicated in the [Monitoring and Evaluation Plan](#), the evaluation process during the loan disbursement period will be structured according to two different scenarios: (i) when no natural disaster events occur; and (ii) when an eligible and verified natural disaster occurs and disbursement proceeds are made. The main evaluation methodology for both situations is a reflexive approach. For the first scenario, the evaluation would focus on the efficiency of the loan through the entire 5-year coverage period. For the second scenario, the evaluation would mainly focus on assessing whether the financing conditions of the resources provided by the Bank are efficient to the country. To complement the reflexive evaluation, an ex post cost-effective analysis that compares the cost of disbursed loan resources with the cost of another financing alternative will be carried out. Additionally, the team has considered a qualitative evaluation to assess the contribution of the CNDRMP in improving the country's national policy for disaster risk management.

Development Effectiveness Matrix		
Summary		BA-O0004
I. Corporate and Country Priorities		
1. IDB Development Objectives		
Development Challenges & Cross-cutting Themes	-Climate Change and Environmental Sustainability	
Country Development Results Indicators	-Countries that have improved disaster risk management (#)*	
2. Country Development Objectives		
Country Strategy Results Matrix	GN-2953-1	The operation will contribute to the cross-cutting issues of climate change and disaster risk management, as it will contribute to reducing vulnerability to natural hazards and increasing resilience against the effects of climate change through the financial protection provided by this loan, along with actions contemplated in the Comprehensive Natural Disaster Risk Management Plan (CDRMP).
Country Program Results Matrix	GN-2991-3	The intervention is included in the 2020 Operational Program.
Relevance of this project to country development challenges (If not aligned to country strategy or country program)		
II. Development Outcomes - Evaluability		Evaluable
3. Evidence-based Assessment & Solution		7.7
3.1 Program Diagnosis		3.0
3.2 Proposed Interventions or Solutions		1.7
3.3 Results Matrix Quality		3.0
4. Ex ante Economic Analysis		10.0
4.1 Program has an ERR/NPV, or key outcomes identified for CEA		2.2
4.2 Identified and Quantified Benefits and Costs		3.3
4.3 Reasonable Assumptions		1.0
4.4 Sensitivity Analysis		2.2
4.5 Consistency with results matrix		1.4
5. Monitoring and Evaluation		8.5
5.1 Monitoring Mechanisms		2.5
5.2 Evaluation Plan		6.0
III. Risks & Mitigation Monitoring Matrix		
Overall risks rate = magnitude of risks*likelihood		Low
Identified risks have been rated for magnitude and likelihood		Yes
Mitigation measures have been identified for major risks		Yes
Mitigation measures have indicators for tracking their implementation		Yes
Environmental & social risk classification		B.13
IV. IDB's Role - Additionality		
The project relies on the use of country systems		
Fiduciary (VPC/FMP Criteria)	Yes	Financial Management: Budget, Treasury, Accounting and Reporting, External Control. Procurement: Information System, Price Comparison, Contracting Individual Consultant.
Non-Fiduciary		
The IDB's involvement promotes additional improvements of the intended beneficiaries and/or public sector entity in the following dimensions:		
Additional (to project preparation) technical assistance was provided to the public sector entity prior to approval to increase the likelihood of success of the project		

Note: (*) Indicates contribution to the corresponding CRF's Country Development Results Indicator.

The operation is a Contingent Loan for Natural Disaster Emergencies. The general objective of the operation is to alleviate the impact that a severe or catastrophic natural disaster could have on the country's public finances. The specific objective is to improve the country's financial risk management of natural disasters by increasing stable, cost-effective, and quick access contingent financing to cover extraordinary public expenditures during emergencies caused by severe or catastrophic natural disasters.

The documentation is well structured, with a good diagnosis of the country's vulnerability to natural disasters and climate change and the negative effects these events have on the country, its population, the economy, and the country's fiscal resources.

The proposed solution is clearly related to the problems identified. The results matrix reflects the objectives of the program and captures a good vertical logic. Output, outcome, and impact indicators have baseline and target values and sources of information.

The project has an ex ante cost-effectiveness analysis and a monitoring and evaluation plan in line with DEM guidelines and the characteristics of contingent loans for natural disaster emergencies. The economic analysis shows that the operation is efficient with a Net Present Value of the loan granted by the Bank that is 51.1% the cost of the next likely alternative, which makes it a more cost-efficient option. The monitoring and evaluation plan propose a reflexive evaluation, which will be complemented with an ex post cost-effectiveness analysis in the event of an occurrence of an eligible natural disaster.

The three risks identified in the risk matrix seem reasonable, one is classified as Low and two as Medium. The Medium risks include mitigating actions and their respective compliance indicators.

RESULTS MATRIX

Project Objectives:	<p>The general objective of the operation is to alleviate the impact that a severe or catastrophic natural disaster could have on the country's public finances.</p> <p>The specific objective is to improve the country's financial risk management of natural disasters by increasing stable, cost-effective, and quick access contingent financing to cover extraordinary public expenditures during emergencies caused by severe or catastrophic natural disasters.</p>
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EXPECTED IMPACT

Indicators	Unit of Measure	Baseline		Year 1	Year 2	Year 3	Year 4	End of Project	Means of Verification	Observations
		Value	Year							
Expected impact: The impact of a severe or catastrophic natural disaster on Barbados’ public finances is alleviated.										
Ex ante financial coverage as a percentage of maximum probable expenditure ¹ during emergencies caused by natural disasters of catastrophic magnitude.	%	17.3 ²	2020	36.4	35.6	34.8	34.0	33.2 ³	Ministry of Finance, Economic Affairs, and Investment (MFEI)	The indicator measures Barbados’ ex ante financial coverage as a percentage of maximum probable expenditure to respond to emergencies caused by natural disasters of catastrophic magnitude.

¹ Maximum probable emergency expenditure is based on an [IDB study](#) that estimates the occurrence of a catastrophic event with recurrence of 1 in 100 years.

² The baseline for the impact indicator includes: (i) the total coverage of US\$68.5 million provided by the insurance policy contracted with the Caribbean Catastrophe Risk Insurance Facility (CCRIF); and (ii) average annual reserves of US\$1.25 million in the country's Catastrophe Fund.

³ This value assumes that a severe or catastrophic event does not occur in the period covered by the projection but includes estimates of variations in the growth of the expenditure value.

EXPECTED OUTCOMES

Indicators	Unit of Measure	Baseline		Year 1	Year 2	Year 3	Year 4	End of Project	Means of Verification	Indicator for Disbursement (Yes/No)	Observations
		Value	Year								
Expected outcome: Improved financial risk management of natural disasters by increasing stable and efficient contingent financing to cover extraordinary public expenditures during emergencies caused by severe or catastrophic natural disasters.											
# 1: Availability and stability: Increase in the country's total ex ante financial coverage to meet extraordinary public expenditures during emergencies caused by severe or catastrophic natural disasters.											
Amount of ex ante financial coverage available to the country.	US\$ million	69.8	2020	149.8	149.8	149.8	149.8	149.8	MFEI	No	The indicator shows the total amount of ex ante financing available to the country to address emergencies caused by disasters.
# 2: Financial cost: Available coverage is efficient in terms of financing cost.											
The spread over LIBOR for the IDB loan compared to the spread for Barbados' long-term sovereign external commercial debt.	Basis points	439 ⁴	2020	Differential spreads	Differential spreads	Differential spreads	Differential spreads	Greater than or equal to 200	IDB Finance Department Refinitiv Eikon MFEI	No	The financial cost of the IDB loan compared to the financial cost of Barbados' long-term sovereign external commercial debt will be monitored.
Cost of financing if an eligible event occurs: the spread over LIBOR for the IDB loan compared to the spread for Barbados' long-term sovereign external commercial debt. ⁵	Basis points	N/A ⁶	2020					Reduction of the financial cost of extra-ordinary emergency expenditures financed by contracting debt	IDB Finance Department Refinitiv Eikon MFEI	Yes	The financial cost of the IDB loan compared to the financial cost of Barbados' long-term sovereign external commercial debt will be monitored at the end of the months immediately before and after an eligible event.

⁴ See [Economic Analysis](#).

⁵ If market information is unavailable on the spread of Barbados' long-term sovereign external commercial debt, it will be estimated using the average interest rate based on the country's credit rating (currently B-, according to Standard and Poor's).

⁶ The baseline will be the difference in the cost of financing right before the occurrence of an eligible event, and it will be compared with the evolution of differential costs after the occurrence of the eligible disaster.

Indicators	Unit of Measure	Baseline		Year 1	Year 2	Year 3	Year 4	End of Project	Means of Verification	Indicator for Disbursement (Yes/No)	Observations
		Value	Year								
# 3: Speed of access: Available coverage is efficient in terms of how quickly the country can access to the resources to cover the potential emergency needs.											
Speed of access to resources if an eligible event occurs.	Days	90 ⁷	2020	30	30	30	30	30	IDB Finance Department MFEI	Yes	The indicator will measure the number of days between the date the country submits an eligibility verification request and the date on which the Bank notifies that loan resources are available for disbursement.

OUTPUT

Indicator	Unit of Measure	Baseline	Year 1	Year 2	Year 3	Year 4	End of Project
Single Component: Bank's Contingent financing to cover extraordinary public expenses that could arise in emergencies caused by severe or catastrophic natural disasters.							
Financial coverage available.	US\$ Millions	0	80	80	80	80	80

⁷ The baseline consists of the average time normally required to launch a sovereign bond issue in US dollars on the international market and is subject to revision based on the Barbados' future bond issuance at the time of measurement.

FIDUCIARY AGREEMENTS AND REQUIREMENTS

COUNTRY: Barbados
PROJECT NAME: BA-O0004
PROJECT NUMBER: Contingent Loan for Natural Disaster Emergencies
EXECUTING AGENCY (EA): Ministry of Finance, Economic Affairs, and Investment (MFEI)
FIDUCIARY TEAM: Vinicio Rodriguez and Maria Camila Padilla (VPC/FMP)

I. EXECUTIVE SUMMARY

- 1.1 The project will be financed through the Contingent Credit Facility for Natural Disaster and Public Health Emergencies (CCF) and will be executed in accordance with the conditions established in document GN-2999-4.
- 1.2 According to the CCF, disbursements will only be made when an eligible event occurs and when the conditions as stipulated in the loan contract have been met.
- 1.3 This project is structured as an investment loan and the Bank's applicable fiduciary policies would apply, except for those waived under GN-2999-4. The project will be for a total amount of up to US\$80 million.

II. FIDUCIARY CONTEXT OF THE COUNTRY AND EXECUTING AGENCY

- 2.1 The Barbados Constitution of November 30, 1966, provides the framework for public financial management (PFM). The Financial Management and Audit Act (FMAA) of 2011 covers public revenue and expenditure, the Treasury system, public debt and guarantees, and Procurement. During 2019 the Parliament passed the Public Financial Management Act, which is also part of the FM framework
- 2.2 Smart Stream system is the Accounting System used by the central government of Barbados. It integrates budget, treasury, and accounting functions. The modules of Smart Stream currently in operation include Purchases, Payables, General Ledger, Funds Control, Billing, Human Resources, Payroll, Supplies Management and Fixed Assets. All transactions are accounted in Barbados Dollar.
- 2.3 The MFEI has oversight over all government expenditure. If a natural disaster occurs, the line Ministry or department responsible to respond to the event requests MFEI approval of the estimated cost to cover the emergency response. Once it is approved, the funds are released. The monitoring of the expenditure is coordinated by the Budget Department of the MFEI who controls the amount of resources allocated to the Ministries and subsequently loaded onto the government's accounting system. The recipients of the funds are mandated to produce quarterly financial reports which are then analyzed to ensure that there are no inconsistencies in the use of them.

III. FIDUCIARY RISK EVALUATION AND MITIGATION ACTIONS

- 3.1 There is a medium risk of insufficient information on expenses and/or supporting documentation that may render certain expenditures financed by the loan not meeting the contractually stipulated eligibility criteria, preventing the Bank from accepting them, and thus, delaying the disbursement of needed loan resources for emergency response. To mitigate the risk, the Bank may require the Executing Agency to have independent and concurrent verification of the appropriate use of loan resources. The Bank will also provide technical assistance to the Executing Agency (EA) to strengthen its fiduciary capacity, particularly in the execution of natural disaster expenditures, under the regular monitoring and supervision activities of the loan.

IV. FIDUCIARY ARRANGEMENTS FOR PROCUREMENT EXECUTION

- 4.1 **Procurement execution.** Pursuant to GN-2999-4 “Contingent Credit Facility for Natural Disaster and Public Health Emergencies”, the Borrower will apply its own rules and regulations for the procurement of goods, works and services for natural disasters, based on the waiver granted with respect to the Bank’s procurement policies.
- 4.2 Loan proceeds may be used to finance extraordinary public expenditures incurred during emergencies caused by eligible events. The types of eligible expenditures will comply with the procurement and fiduciary rules established in documents GN-2999-4 (¶4.20.c) and GN-2502-3 (¶1.7.b), namely: (i) are not explicitly among the expenditures on the negative list included in the loan contract; (ii) are legal under the country’s laws; (iii) are directly related to the natural disaster emergency for which the financing has been provided; (iv) have verifiable, documented, and clearly registered acquisitions and payments; and (v) have been adequately dimensioned and priced.

V. FINANCIAL MANAGEMENT AGREEMENTS AND REQUIREMENTS

- 5.1 Financial management agreements and requirements are specified in document GN-2999-4 and are summarized as follows:
- 5.2 **Disbursement requests.** Requests for the disbursement of loan proceeds will be submitted within 90 calendar days immediately after the onset of the eligible event, under the modality of advance of funds. Pursuant to the provisions of the document establishing the CCF, when an eligible event occurs, and at the country’s choice, the amounts disbursed under the loan may come from the following sources of Bank financing: (i) funds from the ordinary capital fund; and/or (ii) resources from the undisbursed balances of loans on a list of investment loans previously approved by the Bank and identified and agreed upon with the country in the operation’s loan contract ([Automatic Redirection List](#) (ARL)).¹
- 5.3 **Disbursement mechanism.** Once the special contractual conditions precedent to each disbursement have been met, the borrower may obtain up to 100% of the amount requested in the form of an advance of funds. The resources will be

¹ The [ARL](#) will be updated periodically to include new loans.

credited by the Bank in a designated bank account at the Central Bank of Barbados.

- 5.4 **Reasonable assurance Audit.** As per GN-2999-4, after the disbursement of loan resources, the Bank may require a concurrent and independent verification of the expenses financed by the loan, conducted by a reasonable assurance audit firm to assess the compliance with the criteria for expenditure eligibility set in the Loan Agreement and the [Operating Regulations](#) (OR). The executing agency will be responsible for carrying out this activity.
- 5.5 The Bank will recognize up to 100% of the amount of the eligible expenditures incurred and paid by the borrower during the 180 calendar days following the date on which the emergency began. the Bank, at its sole discretion, may extent this period for an additional 90 days, for a total of 270 days.
- 5.6 The MFEI will substantiate the use of disbursed resources through a Consolidated Report on the Adequate Use of Resources, to be submitted to the Bank within a period of 365 calendar days following the start date of the eligible event for which the Bank disbursed the resources in question. Such report must be accompanied by the final report of the reasonable assurance audit firm, in case it was required. If necessary, as provided in the document establishing the CCF (GN-2999-4), the Bank reserves the right to conduct ex post audits of the expenses incurred, the results of which may be used to support a potential request to reimburse any amounts found to be ineligible for financing.

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-___/20

Barbados. Loan BA-O0004 to the Government of Barbados
Contingent Loan for Natural Disaster Emergencies

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with the Government of Barbados, as borrower, for the purpose of granting it a contingent loan for natural disaster emergencies. Such contingent loan will be for the amount of up to US\$80,000,000 from the resources of the Bank's Ordinary Capital, subject to the availability of resources from the regular loan program with the Government of Barbados or from the Automatic Redirection List, as the case may be, and will be subject to the Financial Terms and Conditions and the Special Contractual Conditions of the Project Summary of the Loan Proposal.

(Adopted on __ _____ 2020)