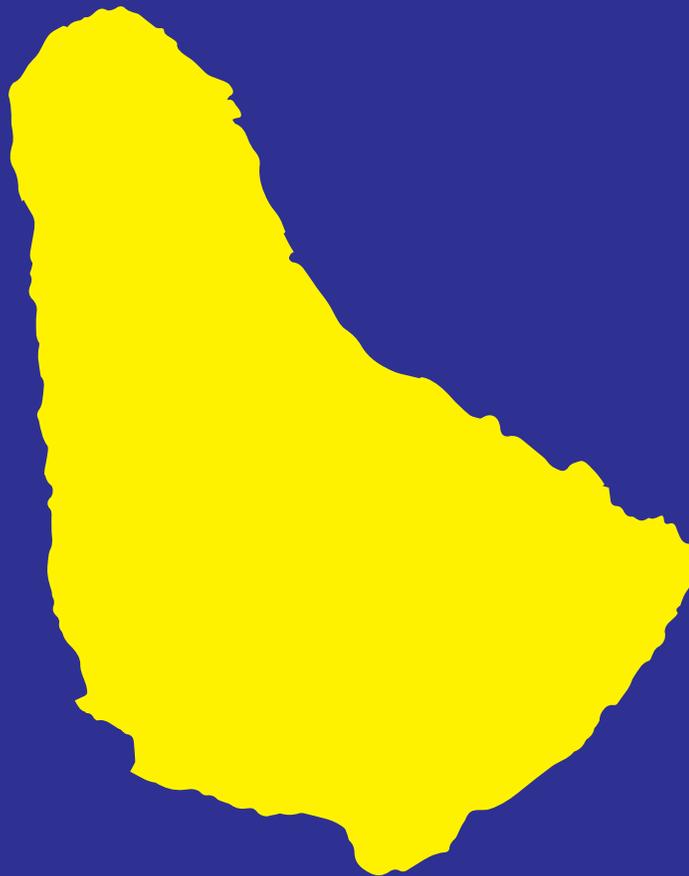


Canada

CANADA CARIBBEAN DISASTER
RISK MANAGEMENT FUND



Snapshot Document
Barbados

About The CCDRMF

The Canada Caribbean Disaster Risk Management Fund (CCDRMF) is one component of Global Affairs Canada's larger regional Caribbean Disaster Risk Management Program. The CCDRMF is a competitive fund designed to support community-driven projects that enhance the resilience of communities and reduce risks from natural hazards (e.g. floods, droughts, tropical storms, hurricanes) and climate change.

Established in 2008 as a small grant facility, the CCDRMF finances projects ranging from CAD \$25,000 to CAD \$75,000, and up to CAD \$100,000 in exceptional cases. The target audience is community-based organisations, non-governmental organisations, civil-society organisations, and government agencies wishing to undertake community projects in the following beneficiary countries¹ : Antigua and Barbuda, the Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, Montserrat, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, and Trinidad and Tobago.

For the purposes of the CCDRMF, a 'community' is defined as 'a group of people living in the same geographical area (such as a neighbourhood, district,

city or town)' or 'a group of people with similar interests (such as youth and women) or livelihoods (such as farmers or fishers)'.

Between 2008 and 2015, there have been nine (9) Calls for Proposals and in total, the Fund received 212 project applications. Only forty-three (43) projects, 20%, from thirteen (13) countries, met the criteria and were eligible for consideration.

Following a rigorous development process, the Fund has supported thirty-four (34) sub-projects in 11 countries valued at just over CAD\$2.2M. The projects have strengthened disaster risk management through improved emergency communication systems, shelter retrofits and safer building practices, flood mitigation and land stabilisation, water storage, food security and climate-smart agriculture, and mangrove restoration.

¹In addition, one small community project was approved for the British Virgin Islands



Barbados
National Flag

Island Overview

Barbados is the most easterly Caribbean island in the North Atlantic Ocean. The island, is unlike other volcanic islands in the Lesser Antilles. Instead, 86% of Barbados is comprised of limestone laid down in a series of terraces, deeply incised by numerous gullies and underlain by a complex underground cave system. The remaining 14% of the land area consists of sedimentary deposits (sands, shales and clays) found in the north-eastern Scotland District. Barbados is relatively flat with soft slopes in the central region, including the highest point, Mount Hillaby rising 336 m above sea level. The Barbadian climate is classified as dry sub-humid, with overall average temperatures ranging from 24°C to 28°C. There is a distinct dry season from December to May and a wet season from June to November and no permanent rivers.

Historically, the natural hazard threats to Barbados have been hurricanes, tropical storms, flooding, droughts, landslides, earthquakes, coastal erosion, and tsunamis. Although Barbados lies on the southern edge of the Atlantic hurricane belt and is therefore less likely to be hit directly by tropical cyclones, their associated effects (wind damage, inland flooding, storm surge, landslides, etc.) is of primary concern. It has been observed that Barbados is brushed by a tropical depression, tropical storm or hurricane

every 3.07 years. The most devastating was Hurricane Janet in 1955, which killed approximately 35 people, destroyed 8,100 homes and left 20,000 homeless. More recently, in 2010 Tropical Storm Tomas resulted in damages to 1,200 homes; led to impassable roads; and disrupted electricity service to 75% to 80% of the island, as well as the water supply. It has been estimated that Tropical Storm Tomas left in its wake near US \$8.5 million in damages island-wide.

In addition, Barbados has experienced periods of drought (e.g. the 2009 to 2010 drought) and fresh water shortage is a major concern. The active submarine volcano, Kick 'em Jenny, located 9 km northeast of Grenada and about 260 km southwest of Barbados also poses a threat of tsunamis. Of course, like other small island developing states (SIDS), Barbados is also vulnerable to the impacts of climate change, including changes in temperature and precipitation, intensified hydro-meteorological events and associated hazards, and sea level rise.

CCDRM Fund Projects in Barbados

The CCDRMF has received sixteen (16) project applications from Barbados. Of these, five (5) community-based projects have been approved and successfully implemented. These projects support disaster risk management through shelter renovation and improved shelter-in-place (water storage and rainwater harvesting), enhanced emergency communications, renewable energy, and capacity building.

VHF Repeater Telecommunication Network

The Barbados Citizens Band Radio Association has been involved with radio communications since 1975. They support the Department of Emergency Management with emergency communications and often provide technical support for equipment installation at both the national and district level. Funding was requested to address the limited radio coverage for response agencies.

The project supported the replacement of a repeater at Welchman Hall that is more efficient and the installation of a new repeater at The Mount, St. Peter. This increased coverage from six (6) parishes to nine (9) and from 50% of the island to 90% of the island. By increasing the communications range, the Association can now provide a more efficient radio network. To further support this, training on the use of the radios was provided to approximately 100 radio operators.



Project	Organisation	Objectives
VHF Repeater Telecommunication Network	Barbados Citizens Band Radio Association (BCBRA)	To increase emergency radio communications coverage across the island and enhance the resilience of the national emergency communications system by replacing an existing inefficient VHF repeater at Welchman Hall and establishing a new repeater at the BCBRA HQ in Bridgetown.
Project Period 2009-2010	GAC Contribution \$12,498.13	Total Project Cost \$17,363.81

Rainwater Harvesting to Enhance the Quality of Shelter-in-place for Persons with Disabilities in the Event of a Disaster

Households responsible for the care of persons with physical disabilities often consume more water than the average household and easy access to that water is necessary because persons with mobility aids, particularly wheel chair users, are unable to carry a glass of water, let alone a bucket. The Multiple Sclerosis Society of Barbados undertook this initiative to ensure persons impacted by multiple sclerosis in Barbados have adequate water supplies especially when impacted by tropical storms or hurricanes.

The project successfully installed water storage capacity, including pumps, to twenty nine homes and rainwater harvesting systems to three homes for gardening and cleaning purposes. The Society partnered with the Barbados Defence Force to install the tanks and pumps, ensuring their efficient and safe installation while

facilitating the rewiring of two homes. The Ministry of Health, Environmental Protection Department, Barbados Water Authority, Barbados Defence Force, and a private plumber provided training on the systems. Safe water storage and purification (e.g. bleach for purification) and the value of installing filters to remove contaminants in the potable water formed part of the training.



Project	Organisation	Objectives
Rainwater Harvesting to Enhance the Quality of Shelter-in-place for Persons with Disabilities in the Event of a Disaster	Multiple Sclerosis Society of Barbados (MSSB)	To ensure an uninterrupted supply of water to households with persons with MS during and after an extreme hydro-meteorological event or disaster; and to enhance the resilience of shelter-in-place.
Project Period 2012-2016	GAC Contribution \$62,456.00	Total Project Cost \$62,969.00

Building Resilience in Communities (BRIC)

In Barbados, disaster risk management is delivered through a network of district emergency organisations and volunteer community groups. The St Michael South East constituency includes a number of communities with heightened vulnerability due to flooding and a level of poverty. The Pinelands Creative Workshop has been working with these communities for many years and determined that a Satellite Emergency Operations Centre (SEOC) would help them deliver assistance much more effectively and efficiently.

The project supported the refurbishing of the Marcus Garvey Resource and Development Centre, enabling it to be the command centre for the decentralised emergency operations. This included roof replacement, shutter installation and the replacement of a wooden door with a more resilient metal one. In addition, emergency communication equipment was installed to allow the satellite site to communicate with

the national centre and with the volunteer teams on the ground. These teams received training on community risk reduction and community mapping, first aid, emergency communications and equipment familiarisation.

A 40ft storage container was also purchased and stocked with emergency response equipment such as chainsaws to help the community teams address immediate response needs. The project has improved response and support to persons in distress, as well as increased the ability to reach persons, especially shut ins, disabled, amputees, persons with issues of mental health, diabetics and the elderly living alone through the use of sectoral response teams.



Project

Building Resilience in Communities (BRIC)

Organisation

Pinelands Creative Workshop (PCW)

Objectives

To improve disaster risk management in the St. Michael South East constituency through enhanced communications, improved planning and the overall strengthening of its Satellite Emergency Operations Centre (SEOC).

Project Period
2017-2018

GAC Contribution
\$95,495.95

Total Project Cost
\$141,057.89

**The Amateur Radio Society
Alternative Energy for Powering
Emergency Telecommunications**

The Amateur Radio Society of Barbados provides support on international emergency telecommunications to the Department of Emergency Management and the Caribbean Disaster Emergency Management Agency. Natural disasters, when they occur, often compromise the power grid and can sometimes take a while to be restored. The Society required an alternative back-up power supply to increase their resilience to these natural hazards.

Through the support of Canada, the Society installed solar photo-voltaic power generation and battery storage to ensure that communications can be maintained even after extended power outages. Additional works were required to create an enclosed air-conditioned space for the batteries as battery life shortens considerably when stored at temperatures above 25 centigrade.

One of the added value elements of this initiative is that the Society no longer need to store fuel for generators and the funds received from the power company for the excess power generated and sold to the grid is being used to help maintain the system and the operations of the Society.



Project	Organisation	Objectives
The Amateur Radio Society Alternative Energy for Powering Emergency Telecommunications	Amateur Radio Society of Barbados (ARSB)	To install a Grid Connected and Stand Alone Solar Powered Alternative Energy System to increase efficiency and resilience of the ARSB emergency communications systems by providing uninterrupted power.
Project Period 2013-2017	GAC Contribution \$32,659.65	Total Project Cost \$36,858.65

Shelter Retrofit: Improving Accessibility at the George Lamming Primary School

Traditionally in Barbados, emergency shelters are public schools, churches and a few other multipurpose buildings. However, as these buildings are not purpose built shelters they are often ill equipped. As such, many shelters have been removed from the list or downgraded due to disrepair; resulting in areas around the island being without adequate designated shelters. Furthermore, the number of shelters that can accommodate people with disabilities is limited.

The Department of Emergency Management has worked with the Education Technical Management Unit of the Ministry of Education to strengthen the infrastructure at the George Lamming School to allow for re-classification as a Category 1 shelter. A viable accommodation option for at least fourteen (14) people with disabilities in the event of adverse hazard impact events is

included. The project has involved the expansion of the bathrooms to include disabled access facilities and showers, installation of roll down shutters to enclose the open walkways during a storm and a survey of people with disabilities in the catchment area to determine their specific needs before, during and after events, including transportation needs to get to the shelter. This project is being considered as a pilot before addressing similar weaknesses in other shelters.



Project

Shelter Retrofit:
Improving
Accessibility at the
George Lamming
Primary School

Organisation

**Education Technical
Management Unit
(ETMU), Ministry of
Education**

Objectives

To elevate George Lamming to a Category I Shelter and provide a viable accommodation option for at least fourteen (14) disabled vulnerable persons during and after adverse hazard impact events including storms and hurricanes.

Project Period
2019

GAC Contribution
\$98,611.00

Total Project Cost
\$143,212.00



References

DEM. (2014, December). Country Document for Disaster Risk Reduction: Barbados, 2014. Department of Emergency Management

IFRC. (2010, November 22). Caribbean: Hurricane Tomas. International Federation of Red Cross

Pasch, R. J., & Kimberlain, T. B. (2011, March). Tropical Cyclone Report Hurricane Tomas (AL212010) 29 October-7 November 2010. National Hurricane Centre.

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