

Canada

**CANADA CARIBBEAN DISASTER
RISK MANAGEMENT FUND**



Snapshot Document
Guyana

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



Country Overview

Guyana is located on the northeast coast of the South American continent, covering approximately 215,000 km² divided into four (4) natural regions: a low-lying coastal plain; a hilly sand and clay area; a forested highland region; and an interior savannah. Guyana is part of the broader natural area called the "Guianas" or the "Guyana Shield" which is known for its rich biodiversity.

Guyana has a tropical climate with almost uniformly high temperatures and humidity and experiences two wet seasons (April to July and November to January) and two dry seasons (February to April and July to November). Rainfall is heaviest in the northwest and lightest in the southeast and interior. The country is rich in surface water resources; however, drainage is poor and river flow sluggish. As such, swamps and areas of periodic flooding are found in all but the mountainous regions. Guyana is located outside the Atlantic hurricane track and most vulnerable to floods and droughts. Flooding results from heavy or continuous rainfall exceeding the absorptive capacity of soil and the flow capacity of rivers and streams, as well as breaches of coastal defences and dams. The coastal regions are particularly vulnerable and water can only be drained from these populated areas by pumps

during low tide. Flooding is also a major hazard in the flat areas of the interior's savannah, where the water can remain stagnant for weeks. The country has been impacted by a number of severe floods, the heaviest on record (since 1888) being the floods of December 2005 - February 2006. The months-long flooding, concentrated in the most heavily populated areas, created a disaster for the communities in Regions 3, 4 and 5 resulting in damages estimated at Guyana \$55.1 billion (equivalent of 59% GDP). The disaster affected 275,000 people and claimed 34 lives (7 by drowning and 27 from illnesses arising from the floods).

During drought, Guyana experiences water rationing, cessation of logging and river transport in some places, and the loss of livestock. For example, in February 2010 the Government was required to allocate US\$ 1.3 million for farmer relief in Region 2. In terms of climate change, the projected effects include sea level rise, with a strong impact on the mangrove ecosystems, and an increase in extreme weather events such as intensified rainfall and more consecutive dry days.

CCDRM Fund Projects in Guyana

The CCDRMF has received twenty-seven (27) project applications from Guyana. Of these, five (5) community-based projects were approved and successfully implemented. These projects supported disaster risk management through flood mitigation, improved drainage infrastructure, livelihoods protection, food security, and shelter renovation.

Mitigation of Impacts of Flood Inundation Project

Coastal portions of Guyana sit between 19.7 inches (0.5 meter) and 39.4 inches (1 meter) below sea level. This severely increases the risk of flooding, which worsens with the effects of climate change. As a result, the livelihoods of many communities that are especially dependent on farming as their main source of income are threatened. This project rehabilitated secondary drainage canals, raised cultivation plots, and installed drainage outlets of farmlands stretching across several villages (Bushlot Farm to Bloomingfield) in Region 6, Guyana. With support from the project, the risk of

crop losses as a result of flooding to almost 100 farming households was significantly reduced. Close to 60% of farmers received ploughing support which allowed them to elevate a total of 197.75 acres of cultivation plots. Forty out of fifty plots identified were excavated to improve access to channels for drainage and irrigation. The project was implemented by “Partners in Rural Development” with support from the Canadian Hunger Foundation. This is a good example of international NGOs helping and building the capacity of grass root organizations to execute projects of this nature.



Project	Organisation	Objectives
Mitigation of Impacts of Flood Inundation Project	“Partners in Rural Development” CHF-Guyana/Central Corentyne Farmers Group	To rehabilitate secondary drainage canals, raise cultivation plots and install drainage-outlets on farmlands ² so as to enhance irrigation efficiency and reduce flood risk.
Project Period	GAC Contribution	Total Project Cost
2011-2012	\$44,902.00	\$48,562.00

²Locations: Bloomfield, Lancaster, Alness, Limlair, Adventure, Hogstye, Nurney, Friendship, Kildonan Village, Bush Lot, Port Mourant and Letter Kenny, Central Corentyne District, Berbice

Disaster Mitigation through Improved Farm Techniques

Farmers in Guyana are at high risk of crop loss due to heavy rains and waterlogged conditions. This project aimed to improve the livelihoods of crop farmers in Bushlot Farm to No. 43 Village, Corentyne and Berbice Communities, by enhancing the drainage infrastructure to extend the production period and giving beneficiaries ready access to seedlings to replant farms after adverse weather conditions. With support from the project, a Rotary Ditcher was provided to assist with the enhancement of the drainage infrastructure within the communities. In addition, a functioning nursery facility was established and training was provided by the National Agricultural Research and Extension Institute (NAREI).

The services provided by this facility had a tremendous impact on farmers throughout the Corentyne Coast. The facility was intended as a facility where farmers can access seedlings during disaster periods at nominal costs. Due to the high quality of the seedlings being produced at this facility,

farmers request seedlings for their regular cultivation periods. Free seedlings have also been provided to vulnerable farmers after one period of heavy rains.



Project

Disaster Mitigation through Improved Farm Techniques

Organisation

**“Partners in Rural Development”
CHF-Guyana/Bushlot Farm no. 43 Village Development Group**

Objectives

To redesign the internal field drainage system infrastructure on targeted farms³ to reduce the effects of water logging on crop production and the establishment of a nursery to produce much needed seedling for farmers in the participating communities.

Project Period
2011-2015

GAC Contribution
\$39,371.85

Total Project Cost
\$44,451.85

³Bushlot Farm no. 43 Village, Corentyne and Berbice Communities

“Empowering Women in Wowetta to Mitigate Against Threats to Food Security Resulting from Droughts, Flooding, Wild Fires and Extreme Climate Change Effects” AND “Alleviation of the negative effects of natural disasters in Region 9 indigenous Communities” Projects.

The women of Wowetta (North Rupununi) and Moco Moco (Central Rupununi) undertook identical projects to mechanize the processing of farine, which is a by-product of the cassava plant - a root vegetable which is the main staple of Amerindian Villages across Guyana. These communities are often faced with extreme climatic events (drought and flooding) which have threatened food security in the past.

With support from the project and additional support from CUSO International and Conservation International, these factories became instrumental in sustaining and empowering indigenous communities in the Rupununi by providing employment opportunities for the women, as well as a means to stock-pile farine for food security in times of natural disasters.

Prior to the project, the communities provided little opportunity for the employment of women, resulting in the dependence of women on men. This motivated a few women to come together and ensure that other women in their communities had the opportunities to earn.

The vulnerability of the communities is exacerbated by the extreme weather conditions which accompany the wet and dry seasons. The impact of extreme drought or excessive rainfall leaves women of the village, vulnerable and without adequate supplies of food to sustain their families. The presence of the farine factories has now given them the level of food security needed to offset future disasters, as they are able to process and store adequate supplies for their entire district.

Today, women of these two communities are employed, certified and trained to operate in a safe business environment. Notably, they are working to secure external markets for excess stock through branding, quality control and nutrition labeling.



Project

Empowering Women in Wowetta to Mitigate Against Threats to Food Security Resulting from Droughts, Flooding, Wild Fires and Extreme Climate Change Effects

Organisation

Wowetta Village Council (WVC)

Objectives

To enhance food security and adapt to the impacts of flood and drought in Wowetta by establishing a facility to produce and stockpile farine as a food reserve.

Project Period
2015-2017

GAC Contribution
\$87,457.00

Total Project Cost
\$136,840.00

Project

Alleviation of the negative effects of natural disasters in Region 9 indigenous communities

Organisation

Kanuku Mountains Community Representative Group (KMCRG)

Objectives

To reduce the incidence of hunger and the related problems that affect indigenous people during and after extreme climatic events, by enhancing resilience of cassava production systems to ensure the production and availability of the staple food, farine.

Project Period
2015-2017

GAC Contribution
\$99,135.00

Total Project Cost
\$143,158.53



Enhancement of Emergency Shelter Capacity to Mitigate Flood Risk in Ordnance Fortland

The community of Ordnance Fortland, is faced with a high exposure to flooding because it is below sea level, as well as in close proximity to two major water bodies that crest their banks. The community often acts as a drainage basin for run-off excess water from neighbouring communities during heavy periods of rainfall.

This project aimed to reduce the risk of flood related disasters in this community, which is home to 700 persons, by increasing their capacity to cope with the impacts of flooding, particularly the temporary displacement of residents. To mitigate this, the Fort Ordnance Primary School was retrofitted and commissioned as an emergency shelter, including amenities such as wheelchair ramps and rails, washroom and bath facilities, a driveway to facilitate the delivery of relief supplies, and an equipped kitchen and feeding

area. A shelter management committee was identified to coordinate and overlook the management of the shelter operations at the School. Twenty-two (22) persons have been trained in the area of Shelter Management, and are now part of the mechanism for emergency response in the Ordnance Fortland community, and wider Region Six.

A Shelter Management Protocol that is specific to operations at the Fort Ordnance Primary School has been developed, was exercised and reviewed. The Shelter Management Protocol now serves as a part of the community and the Region's mechanism for disaster management, as well as a template for future shelters that may be established over time.



Project	Organisation	Objectives
Enhancement of Emergency Shelter Capacity to Mitigate Flood Risk in Ordnance Fortland	Civil Defence Commission (CDC)	To reduce the adverse impacts displaced residents in Ordnance Fortland face due to excessive flooding by improving the facilities and implementing a shelter management system at the Fort Ordnance Primary School (Temporary Shelter).
Project Period 2015-2017	GAC Contribution \$97,228.15	Total Project Cost \$105,119.44



References

Castello, J. (2009). Enhancing Gender Visibility in Disaster Risk Management and Climate Change in the Caribbean - Country Assessment Report for Guyana. United Nations Development Programme.

CDC. (2014). Progress and Challenges in Disaster Risk Management in Guyana, 2014. Civil Defence Commission.

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