

SUPPORTING RECOVERY AND STRENGTHENING FLOOD RISK MANAGEMENT IN GUYANA

Improving Guyana's climate resilience, protecting economic activity, and reducing the impact of natural disasters

AT A GLANCE

Country: Guyana

Risks: Flooding, coastal erosion

GFDRR Areas of Engagement: Deepening engagement in resilience to climate change, Promoting resilient Infrastructure, Scaling up the resilience of cities

Introduction

Guyana is highly vulnerable to sea level rise and increased flooding due to climate change and a lack of development and maintenance across its drainage system. For these reasons, planning and engaging with development partners on the rehabilitation of the East Demerara Water Conservancy (EDWC) dam was an essential step in strengthening flood risk management in Guyana. To continue the rehabilitative work on the EDWC, the World Bank provided additional financing of US\$26 million to the ongoing Guyana Flood Risk Management (FRM) Project. This financing combined with technical capacity support from the **Canada-Caribbean Resilience Facility (CRF)** and **European Union (EU) Caribbean Regional Resilience Building Facility (CRRBF)**, has helped the government of Guyana improve its climate resilience, protect economic activity, and reduce the impact of natural disasters.

The CRF is a World Bank-executed, single-donor trust fund established by the Global Facility for Disaster Reduction and Recovery (GFDRR) and the World Bank with support from Global Affairs Canada. The trust fund is valued at Can\$20 million—an estimated US\$14.4 million—and implemented over a five-year period (2019–2024). The CRF was established to achieve more effective and coordinated gender-informed, climate-resilient preparedness, recovery, and public financial management practices in nine Caribbean countries.

In Guyana, the CRF is helping to strengthen local capacity to efficiently implement the FRM Project and to mainstream climate resilience and gender into the public financial management cycle.

The CRRBF aims at enhancing long-term disaster resilience and adaptation capacity for the most vulnerable countries in the Caribbean. The CRRBF is providing support to the Government of Guyana in building climate and flood resilience in the Georgetown metropolitan area.



Georgetown, Guyana. Photo: janiecbros

Context

The EDWC dam is a critical component of Guyana's protection against flooding. However, a large stretch of this dam has been identified as being at risk of breaching. Under the country's FRM Project, a 4-kilometer segment of the EDWC dam was upgraded. To extend the flood protection, the World Bank approved an additional US\$26 million to rehabilitate a further 9 kilometers of the dam.

With this added funding, the project aims to significantly increase flood resilience in the low-lying coastal lands of the East Demerara area; this includes the country's capital Georgetown, where much of the population, as well as the country's administrative and commercial activities, are concentrated. The additional financing will allow infrastructure work to be scaled up and completed, with extensive work to improve the EDWC, which is one of Guyana's major water storage and flood control facilities. The project will enhance the drainage systems that ensure the EDWC's integrity.

To support the implementation of the additional financing, the CRF will provide technical experts to strengthen local capacities for improving the construction methodology, thereby speeding up the construction process and reducing the risk of flooding on downstream communities. In addition, the CRRBF is providing technical assistance to better understand the hydrological regime of the Georgetown area.



Supporting Guyana's COVID-19 Response

The COVID-19 pandemic has exposed the need to further strengthen regional and national systems for emergency and disaster response.

In the case of Guyana, the additional financing for the FRM Project will include funds needed to update the country's Emergency Preparedness Plan, strengthen its flood modeling capabilities, rehabilitate small existing irrigation structures, and support communication and outreach activities to better inform the public. These improvements will also help reduce the outbreaks of infectious illnesses due to flooding, alleviating the burden on the health care system that is currently managing the COVID-19 pandemic.

Activities

The ongoing CRF support in Guyana is focused on providing technical assistance and implementation support for recovery and resilience building. Activities are aimed at strengthening Guyana's ability to efficiently implement the FRM Project and support a review and refinement of the dredging and soil-handling methodologies. The activities also include both ad-hoc hands-on implementation training for the Project Implementation Unit and targeted technical training in the public financial management space, a Post-Disaster Public Financial Management (PDPFM) cycle review was carried out to identify potential areas for engagement. Some key areas include (1) technical assistance to strengthen the legal and regulatory framework for managing disaster risk financing and (2) technical assistance to enhance financial management controls and processes.

In terms of strengthening climate and flood resilience in the country, the Ministry of Finance of Guyana in partnership with the World Bank and the EU has identified a list of priority drainage interventions to be conducted in the Georgetown metropolitan area.

Results

The CRF provided technical and capacity support to improve the dredging methodology at the EDWC dam. This new technology is changing the way the Government of Guyana is managing flood risk, accelerating the implementation of Guyana FRM Project and allowing the project to rehabilitate additional 9 km of EDWC dam.

In this regard, a report containing specific technical recommendations has been prepared and submitted to the project-implementing agency. It was complemented by capacity-building activities conducted by international drainage experts. The report provides valuable recommendations on the construction methodology, the type of equipment to be used, and essential qualifications needed by contractors. Currently, the implementing agency is working with an international consulting firm to prepare the detailed design for rehabilitative works, which will be based on the recommendations of the CRF-funded study.



Photo: Peter Svensson

LESSONS LEARNED

Building local capacity is key to the replicability of the enhanced methodology.

The construction methodology used, while immediately applicable to the EWDC dam, can have a wider impact through its replicability. The approach used by the CRF's Implementation Support Team to enhance capacity at the local level means that the new dredging methodology will be used not only for the EWDC dam but can also be replicated and applied to other construction projects in Guyana. This approach to building local capacity can scale up the benefits of faster project implementation and better-performing structures, resulting in overall more resilient infrastructure across the country.

Adapting the engagement model to respond to the challenges of the ongoing pandemic is crucial.

The COVID-19 crisis affected the traditional modes of engagement with the client. In Guyana's case, the Implementation Support Team was restricted in its ability to physically visit the country to collect critical data needed to implement the project. Responding to this challenge, the team was able to collect the data virtually to facilitate the report preparation process. The client's commitment and team's close engagement have been the key ingredients of final success.

