

SUMMARY BRIEF

# BUILDING RESILIENCE TO CLIMATE CHANGE AND DISASTERS IN A SMALL ISLAND DEVELOPING STATE

*Lessons from Dominica*

// January 2023

## DEVELOPMENT CONTEXT

Due to its location, Dominica is particularly vulnerable to disasters, which have led to adverse impacts on livelihoods, infrastructure, and essential services. According to the 2017 *Post-Disaster Needs Assessment*,<sup>1</sup> Hurricane Maria's damages amounted to 226 percent of Dominica's 2016 GDP. Dominica's roads and buildings, which are extremely vulnerable to storm surge flooding and landslides, were also hard to rebuild due to the island's mountainous landscape.

Dominica's vulnerability was also exacerbated by development decisions that did not account for disaster risks and climate change impacts. Information sharing among agencies was weak, largely due to limited capacity and lack of an overall mechanism for sharing information with low transaction costs. Finally, disaster risk management (DRM) responsibilities were dispersed among various government agencies, with limited collaboration among entities. Limitations in climate risk management, at the systemic, institutional, and individual levels, affected the country's ability to manage its natural hazard risks strategically and comprehensively.

CLIMATE DELIVERY INITIATIVE SERIES //

CIF Program: PPCR

## TOPICS

- Climate Resilience
- Disaster Recovery
- Infrastructure

## PROJECT NAME:

Disaster Vulnerability Reduction Project (DVRP)

## PROJECT COST:

USD 83.3 million

## PARTNER ORGANIZATION:

World Bank

## PROJECT DURATION:

2014–2023

## COUNTRY:

Commonwealth of Dominica

## IMPLEMENTING MDB



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International Finance Corporation

1 <https://www.gfdr.org/en/publication/post-disaster-needs-assessment-dominica>



## DOMINICA – DISASTER VULNERABILITY REDUCTION PROJECT

The Disaster Vulnerability Reduction Project (DVRP) was funded by Dominica’s Strategic Program for Climate Resilience (SPCR), with substantial co-financing from a World Bank International Development Association (IDA) credit. The DVRP aimed to reduce Dominica’s vulnerability to natural hazards and climate change impacts through (a) investments in resilient infrastructure and (b) improvements in hazard data collection and monitoring systems. The critical need for Dominica to improve its transportation infrastructure works was underscored by the devastating losses and damages in the infrastructure and road sector in the wake of Tropical Storm Erika in 2015 and Hurricane Maria in 2017.

### DELIVERY CHALLENGES AND SOLUTIONS

The project encountered both expected and unexpected delivery challenges during implementation:

#### **CHALLENGE 1: Coordination and engagement — Coordination challenges within the government**

The first delivery challenge that the project was confronted with was a gap in the lending engagement between the World Bank and the government of Dominica. This gap in the country’s lending

engagement with the World Bank constrained its ability to mobilize sufficient finance for building resilience at scale.

#### **SOLUTION: Mobilizing PPCR’s convening power to unlock large-scale financing**

PPCR’s involvement — facilitating the development of Dominica’s SPCR and providing USD29 million for the DVRP, of which a considerable proportion (USD12 million) was a grant — helped Dominica and the World Bank to reengage with each other. Thus, PPCR helped to create a pathway that supported Dominica in building its overall capacity for strengthening its disaster management.

#### **CHALLENGE 2: Natural disasters — Infrastructure disruption**

The project faced considerable delays in the rehabilitation of the road sector after Tropical Storm Erika and Hurricane Maria, as the extensive damage to the road systems increased the scope of the rehabilitation work required. Moreover, the plans and designs for rehabilitation works had to be adjusted, contributing to further delays.

#### **SOLUTION: Post-disaster restructuring**

Following Hurricane Maria, the project was restructured to expand the scope of rehabilitation, to develop road infrastructure and increase its resilience. One critical element of this restructuring was the creation of an implementation support team (IST) to build capacities within the ministries

through mentoring and training the project coordination unit (PCU) staff. The project also worked with the newly established Climate Resilience Execution Agency for Dominica (CREAD) to coordinate all reconstruction work.

### **CHALLENGE 3: Natural disasters — Emergency response**

The project had to reorient its short-term development objectives and strategies to manage setbacks from hurricane-damaged logistical and infrastructural systems, particularly for the vitally important agriculture sector. Immediately after the hurricane, the PCU developed an Agricultural Emergency Response Grant (AERG) subproject, financed from the CERC of the DVRP. However, the AERG confronted formidable logistical difficulties, as well as the lack of an integrated database that could enable the real-time monitoring of applications, payments, and procedures.

#### **SOLUTION: Engaging local authorities and targeting the most vulnerable**

Direct communication with beneficiaries were set up through the local agricultural extension and fisheries services, which were supported by local entities — village councils, producers' organizations, and churches. To ensure adequate payments for the agricultural sector, the AERG ultimately did not issue payments to people with a regular non-agricultural income and tightened eligibility criteria to focus support to the most vulnerable.

### **CHALLENGE 4: Human resources and organizational capacity — Staff turnover**

Recurring high turnover in the PCU and the implementing entities meant that there were low staff numbers to cover extensive responsibilities. This was due to the high demand for technical staff throughout Dominica and the Caribbean in general, which exceeded the available supply.

#### **SOLUTION: Empowering local staff capacity**

To tackle this challenge, the IST provided close implementation support to all the World Bank's PCUs in Dominica, including the DVRP. More local staff were recruited, and more training was provided to build their capacity in different sectors.

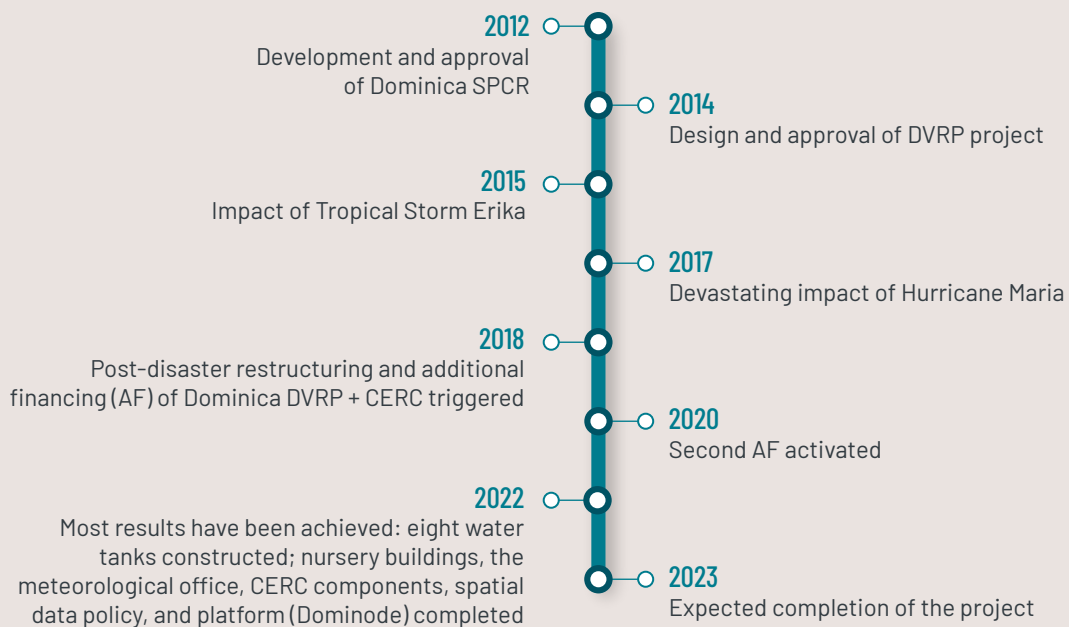
## **TRACING THE IMPLEMENTATION PROCESS**

The project sought to achieve its objectives through the following key components:

- **Component 1: Prevention and Adaptation Investments** — rehabilitation of the East Coast Road (ECR) and the construction of water tanks on the West Coast;
- **Component 2: Capacity Building and Data Development, Hazard Risk Management** — development of data and information systems and tools to better manage disaster risks and climate change in Dominica;
- **Component 3: Natural Disaster Response Investments** — activation of a provisional component for the rapid reallocation of the project credit through streamlined procurement and disbursement procedures to cover emergency response and recovery costs after a major adverse natural event; and
- **Component 4: Project Management and Implementation Support** — provision of advisory services and coverage of relevant costs to strengthen institutional capacity for project management.

The project was shaped by the need to adapt to the impacts of Tropical Storm Erika and especially Hurricane Maria, which triggered the CERC and saw an increased focus on reconstruction for resilience. Figure 1 highlights key milestones along the implementation timeline.

**FIGURE 1. Tracing the DVRP Implementation**



## PROGRAM RESULTS

Despite implementation delays caused by both Tropical Storm Erika and Hurricane Maria, as well as the COVID-19 pandemic, the DVRP made substantial progress toward its project objectives less than one year before project closing (as of April 2022). It included the following achievements:

- Rehabilitation of the ECR and the construction of eight new water tanks and access roads, thus ensuring access to water for up to 3,000 households, as well as the construction of a forestry nursery in the Pond Casse area;
- Construction of the bathymetric component of the LiDAR survey, and the hydrometeorological office building and the forestry nurseries; and
- Provision of USD7 million to support Dominica’s agricultural emergency response to Hurricane Maria.



Water storage tank and associated reservoirs constructed under the project.

## LESSONS LEARNED

Three key lessons that may be useful to similar climate resilience projects, particularly in SIDS, are presented below:

- 1 Capacity building is an essential element to be included in project design to ensure sustainability.** The constraints on the supply of skilled technical staff who were in high demand in Dominica, especially after the two consecutive disasters, was a significant challenge. However, the project was able to help address this challenge by providing training to staff, including in technical areas. This suggests that similar projects, particularly in SIDS settings, may want to consider including early capacity building in resilience-oriented projects.
- 2 Access to liquidity following a natural disaster can expedite a post-disaster response.** Past disaster experiences in the Caribbean show that affected governments often struggle to raise the necessary financing to cover emergency response and rehabilitation immediately following a disaster event. In the case of the DVRP, an emergency contingency component was crucial in helping small farmers and large commercial farmers alike, and stimulating the local economy.
- 3 A strong PCU is paramount in multisector projects to ensure effective implementation.** As disaster vulnerability reduction involves multiple sectors, designing a comprehensive, multisectoral program during the preparation phase is pivotal. The outcomes of the DVRP show that a diverse set of preparation activities can have significant implications for project management and implementation speed, including (a) establishing a consensus among implementing agencies to clarify project activities and ensure coordination; (b) building the necessary local capacity in procurement, financial management, and monitoring and evaluation (M&E); and (c) providing the PCU with the requested help to support its leadership role in project implementation.

# THE CLIMATE INVESTMENT FUNDS

The Climate Investment Funds (CIF) is one of the largest multilateral climate funds in the world. It was established in 2008 to mobilize finance for low-carbon, climate-resilient development at scale in developing countries. 14 contributor countries have pledged over US\$10 billion to the funds. To date CIF committed capital has mobilized more than \$62 billion in additional financing, particularly from the private sector, in 72 countries. CIF's large-scale, low-cost, long-term financing lowers the risk and cost of climate financing. It tests new business models, builds track records in unproven markets, and boosts investor confidence to unlock additional sources of finance.



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