

CARIBBEAN REGIONAL RESILIENCE BUILDING FACILITY



GFDRR
Global Facility for Disaster Reduction and Recovery



WORLD BANK GROUP

Mainstreaming Disaster Risk Management in Public Infrastructure Management in Haiti

Context and Objectives

As a result of vulnerable infrastructure, unplanned and rapid urbanization, and institutional fragility, Haiti is at severe risk of natural hazards and disaster events, the frequency and intensity of which are being exacerbated by climate change. Most of the country is exposed to two or more major hazards including tsunamis, hurricanes, floods, earthquakes, and landslides. In these circumstances, even moderate events have disastrous consequences, resulting in significant loss of life. Poverty reduction efforts and inclusive economic growth are also vulnerable to disaster-induced shocks, as most poor households can be economically impacted by just one shock. It is therefore critical that in order to protect lives and development gains, vital public infrastructure must be made disaster resilient. This is especially the case with educational facilities such as schools, as they are regularly used as shelters in the aftermath of disasters such as the 2010 earthquake and Hurricane Matthew in 2016.

The goal of the “Mainstreaming Disaster Risk Management in Public Infrastructure Management in Haiti” Technical Assistance (TA) is to reduce the vulnerability of public infrastructure to natural disasters by reducing existing risks and avoiding new ones through risk-informed construction and retrofitting of infrastructure. The TA is supporting the government of Haiti in promoting and integrating the principles of disaster risk management with regards to public infrastructure management, and especially focusing on educational facilities. The TA supports the implementation of the World Bank-financed Haiti Development Policy Financing with a Catastrophe-Deferred Draw Down Option (Cat-DDO).

Main Activities

- Education Infrastructure Disaster Risk Diagnostic and Analysis.
- Diagnostic on Resilience of Critical Public Infrastructure.

Results

Under the first component of this project, activities are supporting the Ministry of National Education (*ministère de l'Education nationale et de la Formation professionnelle* - MENFP) to mainstream DRM in the national education sector and to better understand the needs of the sector to identify potential World Bank investments. Several outputs were developed:

- i. A report was developed which included an analysis and recommendations to the MENFP's proposed data collection system, as well examples of best practices and lessons learned from international experience and recommendations to improve data collection and storage efforts.
- ii. A database was made available with key parameters that could be integrated into and aligned with MENFP's future Education Management Information System (EMIS).
- iii. A technical report was drafted on retrofit feasibility studies, including results of analytical studies, conceptual sketches of proposed retrofit designs, cost estimates, and a summary of recommendations on the feasibility of retrofit for each selected typology.
- iv. A technical report was developed summarizing findings on school infrastructure management and recommendations.

CARIBBEAN REGIONAL RESILIENCE BUILDING FACILITY



GFDRR
Global Facility for Disaster Reduction and Recovery



WORLD BANK GROUP

- v. A technical report was developed together with a presentation on findings of market analysis of construction companies and opportunities for capacity building to support construction and retrofit of schools and public buildings.

The second component of this project focuses on developing a diagnostic on resilience to critical public infrastructure in **Haiti**. Technical assistance was provided and captured through a draft report to review the design of ongoing solar investments and put forward recommendations to strengthen their resilience. This helped to: (i) define the exposure and vulnerabilities of solar electric infrastructure, processes and systems in Haiti to natural hazards (e.g. storms and hurricanes, flooding, earth quakes) and vandalism; (ii) assess the robustness and redundancy of systems as well as the challenges and opportunities in restoring capacity of energy service provision in the aftermath of disasters; (iii) identify key failure mechanisms in stand-alone solar mini grids in routine operation and those expected in case of a catastrophic events; (iv) identify constraints of building and maintaining resilient infrastructure and adapting old infrastructure systems to current and future needs; (v) identify and prioritize available options to address resilience gaps, considering both operational practices (e.g. removing and safely storing solar panels and/or batteries from external buildings if there is an imminent hurricane threat) as well as installation and construction practices that enhance reliability; (vi) define how far the novel, modular design approach conceived by the project increases resilience; and (vii) provide guidance on additional actions that can be considered to improve the reliability of service provision, increase asset life, and improve people's well-being.

Partnerships and Coordination

The project is undertaken jointly with institutions of the government of Haiti including the Ministries of Public Works, of the Interior and Local Authorities, of Education, of Economy and Finance, of Planning, and of External Cooperation.

Country

Haiti

Caribbean Regional Resilience Building Facility component

Adaptation Facility for Leveraging Investments in Resilience in the Caribbean

Amount approved

EUR 321,810 / \$351,803

Duration

05/2020-12/2022