

A Novel Approach to Climate Change Resilience

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Background/Objectives. The Inter-American Bank's Caribbean Climate Smart Islands Program (CCSIP) aims to demonstrate ways of transitioning to a low carbon and climate resilient pathway in the islands. CCSIP has worked to identify and implement climate resilient mitigation and adaptation measures in priority sectors including transport, infrastructure, energy, water, waste treatment and tourism. This paper presents a case study of a pilot project implemented in Caye Caulker, Belize under the CCSIP.

Approach/Activities. As part of the CCSIP, an Economics of Climate Adaptation (ECA) study of potential climate change adaptation measures that could be implemented on Caye Caulker, Belize was conducted. Following the ECA, a Prioritization Report that presented a prioritized ranking of potential climate resilience projects for the island was developed and a Prioritization Workshop took place. The purpose of the workshop was to gather stakeholders, review the results of a Prioritization Report and to select one of the top four highest ranked projects for implementation. In-depth discussions of top-ranked potential adaptation measures resulted in the stakeholder group voting to implement a mangrove restoration project on the island. However, in the following weeks, support for the mangrove restoration was withdrawn by several stakeholders. Ultimately, stakeholders supported an Integrate Climate Resilience Program that would improve long-term climate resilience and provide educational job opportunities.

Results/Lessons Learned. As part of the Integrate Climate Resilience Program, an evaluation of technology that could increase Caye Caulker's capacity to adapt to climate change was undertaken. SOURCE® hydropanels were found to be an effective way to provide safe drinking water before, during, and after extreme weather events. The final pilot project consists of a 21 SOURCE® hydropanel installation on the roof of buildings at the Caye Caulker Roman Catholic School (CCRC; the island's only hurricane shelter) and the installation of two hydropanels at the Caye Caulker Health Center. A community focused educational program to promote the use of sustainable adaptation strategies was also developed. Within a month of the installation of CCRC panels, a power failure hit the island for days, and a couple of months later a water shortage struck the island when the local water company could not supply enough fresh water. The CCRC system was able to provide drinking water to more than 100 residents during these times as well as provide drinking water to students at the school. In the more than two years following the installations, however, multiple component failures have impacted the system due to the salty atmosphere and ongoing repairs and maintenance have been needed to keep the systems running. The purchase of 5-year maintenance contract plus a 1-year warranty guarantees that the systems will be maintained in working order until 2024.