

# Water Availability, Quality and Integrated Water Resources Management in Northern Haiti

Florida International University

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## Executive Summary

Water resources management in Northern Haiti is characterized by weak institutions and management frameworks, data gaps, and uncertainty over the quality and quantity of water resources available. The Trou du Nord River and Massacre Transboundary Aquifer (MTA) watershed system are vulnerable to environmental change and human processes, the ramifications of which have not been comprehensively measured. The *Parc Industriel de Caracol*, in particular, is a large industrial development with major implications for Northern Haiti's future economic, social, and environmental well-being. In this context, FIU assessed the current water quantity and quality in the watershed and adapted two numerical models to support future development of an integrated water resources management plan, as a crucial component of a successful sustainable development strategy in the region.

Florida International University (FIU) proposed an adaptive, inclusive, and integrated approach for the Water Availability, Quality and Integrated Water Resources Management in Northern Haiti project. FIU was uniquely qualified to implement the project for three reasons: 1) our technical experts are highly trained modelers, hydrologists, climate scientists, data analysts, water policy developers, and lawyers, with experience implementing similar projects in Haiti and the Caribbean, and throughout the globe; 2) our technical approach incorporates the most innovative and practicable hydrologic technologies and management methods; and 3) FIU has strong cultural, political, and institutional connections with Haiti and the Haitian diaspora that can be harnessed to maximize stakeholder engagement and sustainability of project outcomes.

Our approach to the r project components reflected an inclusive and integrated management philosophy capable of replication and scale-up to the national level. Under the first component of the project, FIU provided a comprehensive analysis of the major laws, policies, and institutions in the Haitian water sector, as well as the capacities of stakeholders to manage water resources. The results of the analysis was mainstreamed into the project's other Activities, while contributing to contemporary scholarship on sustainable development in Haiti. In the implementation of the second component, the FIU Team comprehensively assessed data and information gaps that were to be targeted in the final part of the project, and consolidated FIU's pre-existing databases on water resources in Northern Haiti. For the third component, FIU experts integrated open-source hydrologic models into an assessment framework capable of assessing the state of water resources at the local, regional, and national levels. The results of the three components of the project are the basis to be used to develop an integrated water resources management plan that incorporates the results of components 1, 2, and 3, while maximizing community participation and stakeholder engagement.

FIU's approach to the project emphasizes two principles of development programming that are crucial for the legitimacy and sustainability of project outcomes: community ownership and replicability. The project engaged stakeholders at all levels of the project, including staffing, institutional partnerships, and community engagement plan. The analyses and models were developed so that stakeholders can replicate the project's approach in other regions, or scale-up the approach to the national level. These principles reflected FIU's philosophy that the success of development projects is dependent upon producing sustainable results, receiving buy-in from local communities, and improving local skill sets so that management of reforms can continue without reliance on outside expertise. FIU involved as collaborators two of the leading universities in Haiti, the University of Quisqueya and the University of the State of Haiti at the Campus Henry Christophe de Limonade. These institutions provided the support on the ground while acquiring skills useful in continuing with the work begun under the present project.

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