

## HAITI

### STRENGTHENING ADAPTIVE CAPACITIES TO ADDRESS CLIMATE CHANGE THREATS ON SUSTAINABLE DEVELOPMENT STRATEGIES FOR COASTAL COMMUNITIES

**LDCF project grant: \$3,500,000**

**Co-financing: \$7,000,000**

**NAPA completion date: December 2006**

**Inclusion into LDCF Work Program:  
September, 2008**

**CEO endorsement date: March 2010  
(expected)**

**Implementation start: June 2010  
(expected)**

Ranking 155th in the HDR list, Haiti belongs to the poorest LDCs group and has long been vulnerable to climate related disasters. Growing scientific evidence shows that new climate trends and new climate risks patterns are now emerging in Haiti as a result of global warming. The INC and NAPA established that the annual average temperature across the country is expected to rise in the range of 0.8°C to 1°C by 2030 and in the range of 1.5°C to 1.7°C by 2060. These changes are predicted to be accompanied by increasing rainfall variability, decrease in precipitation in the range of -5.9% to -20% by 2030, and increased frequency and intensity of extreme floods and droughts events. Haitian observations tend to confirm these scientific findings: people report dry seasons that last longer, while rainy seasons are shorter but more intense. Anticipated increases in sea levels and sea surface temperatures are also likely to be primary causes for increased beach erosion, salinization of fresh water aquifers and estuaries, coastal erosion and increased coral reef bleaching throughout the island. There is also a trend that suggests increased frequencies of hurricanes. Recent research revealed that Haiti's southern peninsula presents a heightened vulnerability to hurricanes compared to the rest of the country. These climatic changes and their associated impacts pose a direct threat to the island's coastal settlements and economies. Indeed, the population is primarily concentrated in low-

elevation coastal lands which prove to be highly prone to hurricanes, storm surges, flooding, erosion and salinization. The densely populated slum districts of Haiti's coastal cities are located to a large degree in flood plains which render the poorest even more vulnerable to catastrophic hydrometeorological events.

While current climate change exerts indisputable pressures on Haiti's coastal areas, a number of non-climate driven problems seriously increase the vulnerability of Low Elevation Coastal Zones (LEZs) to climate hazards and limit their capacity to adapt. The main immediate threats on Haiti's coastal systems include a) uncontrolled and unplanned urbanization along the coast boosted by rapid population growth and booming rural migration, b) unsustainable farming practices, such as overgrazing, overpumping of coastal aquifers, or clearing of mangroves for agriculture and charcoal production, and c) pollution of coastal water bodies and ecosystems due to sub-optimal or inexistent urban waste and wastewater treatment systems. The effect of these pressures leads to loss of natural coastal buffer zones and exacerbates exposure to climate change and sea-level rise impacts. Combined with current baseline stressors on LEZs, climate change effects are likely to hamper attainment of MDGs and national development objectives in Haiti if no risks reduction responses are put into motion.

To address these challenge, the sustainable solution for Haiti is to establish a national system that can support the process of adaptation of the coastal development sector in a continuous and sustainable way, and that can address both climate driven and baseline problems in an integrated manner. However, several barriers exist today that hamper Haiti from achieving the above solution, including: a) inadequate planning and technical environments which impede promotion of climate risks management in the coastal development sector, b) insufficient institutional capacities and donor coordination that limit opportunities to identify and channel adaptation resources in relation to needs, and, c) inappropriate

coastal development practices that do not account for climate change and have the potential to increase coastal areas' vulnerability to emerging climate risks and disasters.

## **PROJECT ACTIVITIES AND EXPECTED IMPACTS**

The LDCF project aims to overcome these barriers and to strengthen adaptive capacity of populations and productive sectors in coastal areas to address increasing climate change risks. This includes 3 basic project activities: a) improving institutional capacity to plan for and respond to increasing coastal hazards, b) mainstreaming climate risks into existing humanitarian and development investment frameworks, and c) local pilot activities to demonstrate how to enhance climate change resilience in the LECZs.

Firstly, the project fosters a policy shift from reactive crisis management to proactive risk management. LDCF funding is used to train policy-makers and key technical staff, and help them incorporate climate hazards into coastal zone planning. Furthermore, the project informs climate change-considerate legislation for the management of coastal areas and facilitates alignment of existing coastal management programmes with a view of stronger integration and climate resilience.

Construction and development standards are also reviewed and upgraded so that key features of climate impacts in Haiti are incorporated in the design of coastal infrastructure and equipment, and adaptation requirements for the LECZ are properly incorporated in the design of the new Environmental Information System for Haiti. Furthermore, it will strengthen institutional set-ups and mechanisms to adapt to anticipated climate change impacts, and ensure that information flows are improved between climate monitoring, forecasting and early warning services to municipalities and communities in high-risk coastal areas. Disasters prevention, rescue and early recovery measures and plans will also be upgraded to take into account the additional risks induced by climate change.

Secondly, the project helps make the costs of climate change on human development in LECZ more explicit in order to mobilize the donor community and stimulate the creation of a National Adaptation Coalition. More specifically, a Multi-donor Programmatic Partnership for CRM is put in place, including a package of interventions to address climate change risks æ policy, regulatory and institutional reforms, capacity building, and investments æ to be executed and funded in a coordinated way, from a variety of sources, including national budgets, bilateral development cooperation agreements,

country assistance programs of multilateral agencies, and private foundations.

Finally, the project will implement a suite of specific community-based adaptation measures to demonstrate how to withstand the impacts of extreme weather events (hurricanes and floods) and sea level rise (increased erosion, submersion and salinization). New risks assessment procedures and zoning regulations is tested in order to align municipal planning processes with emerging coastal hazards and shoreline changes. The project also produces and implements shoreline management plans in selected high-risk areas so as to ensure climate resilience of current coastal development processes and provide a cohesive framework for carrying out coastal adaptation activities at the field level. Specific attention is paid towards the maintenance of "buffer zones" in the LECZ, through the protection and restoration of natural coastal defenses, such as mangroves and sand beaches systems, by using environmentally-friendly technologies and sustainable land management methods. Additionally, the project pays particular attention to the development of suitable systems to secure sources of potable water for coastal communities prone to saline intrusion resulting from accelerated SLR and more frequent flooding. Innovative coping mechanisms such as rainwater harvesting, micro surface and ground water recharge and treatment facilities is piloted and demonstrated for up-scaling over time and in future projects. It is expected that the results achieved through the pilot activities will feed into the process of institutional strengthening of key central agencies by providing concrete examples and field guidelines for the development of climate proofed investment plans and long-term development policies.

## **SYNERGIES AND COORDINATION**

This project concept has been discussed with different actors in the Government of Haiti such as the Ministries of Environment, of Interior, and of Planning and External Cooperation. The project closely interacts with the following programmes currently under implementation in Haiti: "Emergency Recovery and Disaster Management Project" (WB), "Local capacity building for better risks management" (EU), "National Programme for Early Flood Warning" (IDB), "Strengthening of the National Disasters Risks Management System" (UNDP), "Environmental Management Support Programme" (UNDP), "Flood Management Programme in Jacmel's Municipality" (AFD), "Integrated Watershed Management in the South-East Provinces" (AECI), "Enhancing Environmental Management Capacities in National Institutions" (MoE/IDB).

## **FOR MORE INFORMATION**

**Global Environment Facility**  
1818 H Street NW  
Washington DC 20433 USA  
Tel: 202-473-0508  
Fax: 202-522-3240