



GUINEA

Increased Resilience and Adaptation to Adverse Impacts of Climate Change in Guinea's Vulnerable Coastal Zones

LEAST DEVELOPED COUNTRIES FUND	
LDCF grant	\$3,377,000
Cofinancing	\$5,250,000
NAPA completion	July 2007
Inclusion in LDCF Work Program	January 2009
Expected CEO endorsement	December 2009
Expected implementation start and completion	March 2010–November 2014
GEF Agency	United Nations Development Programme (UNDP)
Other executing partner	Ministry of Sustainable Development and the Environment

Based on assessments undertaken for both the Initial National Communication (INC) and Guinea's National Adaptation Programme of Action (NAPA), climate change is expected to have intense and acute impacts on low-elevation coastal zones (LECZs). Existing baseline pressures, such as erosion, are likely to be compounded by increased salinization and flooding resulting from climate-driven pressures. The resultant impacts on coastal zones are expected to present serious development challenges to Guinea. Coastal lands play a key role in national food security in terms of agricultural production focused on rice, and over one-third of the country's population is located in coastal lands. If climate change considerations are not taken into account, a number of major investment programs in agriculture and industry currently planned in coastal zones, a significant proportion of which are expected to be in highly vulnerable areas, are likely to be at risk.

The coastal plains of Forécariah and Boffa are among the most vulnerable LECZs selected for immediate implementation of the NAPA. These plains possess vast

cultivated estuarine rice fields protected by a dense row of mangroves. Thousands of farmers make these plains the rice granary of Lower Guinea. Additional climate change-related pressures, such as increasing surface temperature, decreased precipitation, and sea-level rise (SLR), are expected to inundate lowlands, modify the taxonomic structure, and destroy infrastructure and natural defenses like mangroves. This is likely to lead to saline intrusion, shortages in drinking water, and loss of productive agricultural land and/or decreased yields.

Climate change scenarios suggest that annual average temperature in the coastal zone will increase by 0.2 to 3.9 degrees Celsius. Rainfall variability is predicted to increase, overall precipitation to decrease by as much as 30 percent by 2050, and SLR-related erosion to increase. The INC's projected scenarios for Guinea suggest a high likelihood of increased tidal amplitude that might cause abrasive actions from residual currents. Assessments demonstrate that, over long periods, SLR could cause a major loss of rice fields, ranging possibility from 17 to 30 percent in 2050 to 37 to 60 percent in 2100.



These findings suggest that both soft and hard coastal protection infrastructures and agriculture systems will become increasingly vulnerable. Even if vigorous measures curb human-induced global emissions, the combined effects of the principal climate risks will still compromise livelihood security. To ensure food security, implementation of adaptation activities is critical for the 26 percent of Guinea's population that lives along the coast.

Project Activities and Expected Impacts

The Guinea LDCF project addresses several NAPA priorities directly relevant to coastal adaptation. Special attention has been paid to Priority 5, *Protection of cultivation in coastal regions*. The outcomes and outputs of the proposed project are also relevant to aspects of the following priority NAPA interventions: Priority 2, *Developing knowledge and good practices* with a focus on ecosystem and natural resource management issues; Priority 3, *Promotion of adaptation technologies in mangroves*; Priority 5, *Protection of cultivation in coastal regions*; and Priority 6, *Improving information, education and communication on climate risks* with a focus on legislation and guidance on the sustainable use of natural resources and environmental education for coastal populations.

Given the inter-relatedness of the priority projects, a logical and cost-effective strategy is to implement them in an integrated and programmatic manner. LDCF resources are used to integrate climate risk reduction into planning, policies, and programs in coastal areas at the national and subnational levels. Local action plans for adaptation are developed on a pilot basis and the national master plan for urban coastal cities, including the capital Conakry, is reviewed and amended to take climate change and variability into account. This is complemented by capacity building of key stakeholders in socioeconomic groups such as loggers, fishmongers, fishermen, and local politicians responsible for implementation of the regulatory texts on risk management related to SLR.

The project also contributes to informing pragmatic adaptation responses through demonstrations. In particular, the project promotes adaptation to saline intrusion and increased erosion due to SLR, which is expected to contribute to agricultural production for farmers and restore natural pastures, among other things. Effective coastal management systems, primarily "soft" or small scale in nature, are designed and

implemented to reduce coastal inundation, for example by re-establishing zoning/green habitats in priority regions and developing climate-resilient livelihood practices for communities. Finally, good practices are disseminated for potential replication in other areas.

By following a programmatic approach to adaptation, the project enhances the resilience of coastal areas' long-term development to anticipated impacts. Expected adaptation benefits include strengthening of technical capacities in coastal management, decentralized and accessible information, and building social and organizational capacity to integrate climate risk reduction into long-term planning frameworks.

Synergies and Coordination

The implementation of the project is overseen by a Steering Committee that brings together representatives from different ministries, nongovernmental organizations, and local government from the relevant coastal zones. The National Council for the Environment and Sustainable Development (NEX) is entrusted with execution, with oversight from the UNDP Guinea Country Office.

The project also coordinates activities with the GEF-funded *Guinea Current Large Marine Ecosystem (GCLME)* intervention. The project *Combating Living Resources Depletion and Coastal Area Degradation in the Guinea Current Large Marine Ecosystem (GCLME) through Ecosystem-based Regional Actions* focuses on the priority problems and issues of the GCLME that lead to unsustainable use of fisheries and other marine resources, and the degradation of marine and coastal ecosystems by human activities.

Synergies are also built with the following projects: (a) the World Bank-GEF *Coastal, Marine and Biodiversity Management* project, 2008–13; (b) *the Program of Support to Villagers Communities phase II (PACV2)*, which includes marine and coastal biodiversity management; and (c) other projects taking place in the coastal areas related to food security, such as the recent French Agency for Development (AFD) project *Improving Rice Production in Mangrove Areas to Reduce Poverty*, and other initiatives from the European Union and the Japanese and German governments related to biodiversity conservation, poverty reduction, and capacity building.

For More Information

Global Environment Facility
1818 H Street NW
Washington DC 20433 USA

Tel: 202-473-0508
Fax: 202-522-3240

August 2009
www.theGEF.org