



SIERRA LEONE

Integrating Adaptation to Climate Change into Agricultural Production and Food Security

LEAST DEVELOPED COUNTRIES FUND	
LDCF grant	\$3,074,280
Cofinancing	\$2,935,000
NAPA completion	June 2008
Inclusion in LDCF Work Program	September 2008
Expected CEO endorsement	October 2009
Expected implementation start and completion	May 2011–May 2015
GEF Agency	International Fund for Agricultural Development (IFAD)
Other executing partners	Ministry of Lands, Country Planning and Environment; Ministry of Agriculture and Food Security

Sierra Leone's economy depends heavily on its natural resources. Agriculture is the largest economic sector, in 2006 contributing to approximately 46 percent of GDP and employing over 65 percent of the labor force. Rice is the main agricultural production and it is mainly cultivated for subsistence purposes.

The impacts of climate change are already tangible in the country. Indeed, Sierra Leone is experiencing climatic hazards such as seasonal drought, strong winds, thunderstorms, landslides, heat waves, floods, and changed rainfall patterns. As reported in Sierra Leone's National Adaptation Programme of Action (NAPA), poor communities have suffered the most from climate change impact, as floods destroy their crops and increased droughts cause water shortages in some areas of the country. In particular, crop production, being highly vulnerable to climatic

change, has been affected by prolonged periods of dry days even during the rainy season (July–September) and heavy rains in March that prevent farmers from burning their fields resulting in weeds expansion. As an example of predicted climate change impact on crop production, temperatures above 25 degrees Celsius are expected to retard rice production and lead to decreased yields. Other production, such as maize, millet, and cocoa, are projected to be negatively affected by climate change. Considering that food production depends entirely on subsistence farming, a decline in agricultural productivity—coupled with the increasing trend of food prices—is expected to ultimately worsen current food security problems.

Project Activities and Expected Impacts

The objective of this LDCF project is to lessen the impact of climate change on vulnerable rural groups,



as well as on natural resources critical for sustaining agricultural production and increasing food security. The project consists of three main components focused on both implementation of concrete adaptation measures to reduce the vulnerability of the country's food production, and broader-based capacity-building measures at the national and local levels.

The first component aims at improving the resilience of rice farming to climate variability, in order to ensure food security in the long term. This objective is achieved through various concrete activities, including mapping and characterization of the vulnerability of inland swamp rice production, establishing 100 hectares of climate-proofed inland rice fields in inland valley, and making rice production/yields more resilient to climate change through the adoption of climate-resilient rice varieties and more efficient soil and water management practices.

The second component aims to promote integrated Natural Resource Management (NRM) and climate-resilient irrigation practices. The NAPA of Sierra Leone emphasizes that food security problems, exacerbated by climate change, can be minimized if adequate irrigation systems are installed in the uplands and viable drainage and water control systems are implemented in the lowlands. More concretely, this includes the following activities: (a) increasing water efficiency for irrigation in the uplands, (b) promoting small-scale irrigation schemes, (c) improving drainage system and water control measures in lowland sites, and (d) training of farmer-based organizations (FBOs) on sustainable water management. In view of the likely increase in agricultural demand for irrigation water, optimization of agricultural irrigation is fundamental. Improved and more efficient irrigation schemes not only help rural farmers sustain production in periods of low rainfall, but also contribute to suppressing weed growth in rice fields. With regard to the drainage systems, it is important to address the possible impact of climate change on their capacity and resilience.

The final component focuses on capacity building and targets two different audiences: national professionals

mainly at the meteorological department with the involvement of other key stakeholders, such as policy makers, at the national level; and the general public, with particular attention to women and children. Concerning the capacity of national government professionals, training is provided to different categories of personnel such as forecasters, observers, and instrument technicians in the meteorological department. Also, recognizing that weather and climate information is critical for agriculture, 16 weather stations are being improved or established to improve the functionality of the monitoring system.

Synergies and Coordination

This intervention is closely linked to the *Rural and Agricultural Development Project (RADEP)* that the International Fund for Agricultural Development (IFAD) is currently implementing. The RADEP global objective is to overcome rural poverty in the project area by increasing the income of the target groups, improving rural household livelihoods, and strengthening the capacities of local institutions. By linking with the RADEP, coordination with relevant activities of the projects that are complementary to the latter are ensured. In particular, links are being established with: (a) the Food and Agriculture Organization (FAO)/government of Italy-supported project *Food Security through Commercialization of Agriculture (FSCA)*, which supports the establishment and strengthening of sustainable FBOs and from which both the RADEP and the IFAD/LDCF project could benefit in the area of capacity building of farmer-based organizations; (b) the second phase of the FAO/government of Germany-assisted project, *Development of a Sustainable Seed Programme* in Sierra Leone, which coordinates efforts to increase capacity for seed production and processing and widespread dissemination; (c) the *Japan International Cooperation Agency-funded Agricultural Development Project in Kambia*, which develops technical packages for rice and vegetable production; and (d) the program *Enhancing Smallholder Access to NERICA Seed for Alleviating Rural Poverty in Western and Central Africa*, implemented by the Africa Rice Centre with a grant from IFAD.

For More Information

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August 2009
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