

## SIERRA LEONE

### INTEGRATING ADAPTATION TO CLIMATE CHANGE INTO AGRICULTURAL PRODUCTION AND FOOD SECURITY

**LDCF project grant: \$2,644,800**

**Co-financing: \$2,775,000**

**NAPA completion date: June, 2008**

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

**CEO endorsement date: October 2009  
(expected)**

**Implementation start: May, 2011  
(expected)**

Sierra Leone's economy depends heavily on its natural resources. Agriculture is the largest economic sector in Sierra Leone, contributing (in 2006) to approximately 46% of GDP and employing over 65% 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 the Sierra Leone's National Adaptation Programme of Actions (NAPA), poor communities have suffered the most from climate change impact, as floods destroyed their crops and increased droughts caused water shortages in some areas of the country. In particular crop production, being highly vulnerable to climatic change, has been affected by prolonged period of dry days even during the rainy season

(July/September) and heavy rains in March that prevented farmers to burn their fields resulting in weeds expansion. As an example of predicted climate change impact on crop production, for temperatures above 25°C, rice production is expected to retard and yields to decrease. 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, therefore, 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 on the long term. This objective is achieved through various concrete activities, including: a) mapping and characterization of vulnerability of inland swamp rice

production; b) establishment of 100 ha of climate proofed inland rice fields in inland valley; c) 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 helps rural farmers sustain production in periods of low rainfall, but also contributes 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: a) national professionals mainly at the meteorological department with the involvement of other key stakeholders at the national level (i.e. policy makers); and b) general public, the latter with particular attention to women and children. Concerning the capacity of national government professionals,

training is provided to different categories of personnel (forecasters, observers, instrument technicians, etc) in the meteorological department. Also, recognizing that weather and climate information is critical for agriculture, sixteen weather stations are being improved/established to improve functionality of the monitoring system.

## **SYNERGIES AND COORDINATION**

This intervention is closely linked to the Rural and Agricultural Development Project (RADEP) that IFAD is currently implementing. The RADEP global objective is to overcome rural poverty in the project area by: a) increasing the income of the target groups; b) improving rural household livelihoods; c) strengthening the capacities of local institutions. Through this bundling with the RADEP, coordination with relevant activities of projects that are complementary to the latter will be ensured. In particular, links are being established with: a) the FAO/Government of Italy-supported *Food Security through Commercialization of Agriculture (FSCA) Project*, which will support 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 JICA-funded *Agricultural Development Project in Kambia*, which develops technical packages for rice and vegetable production; and d) the programme *“Enhancing smallholder access to NERICA seed for alleviating rural poverty in Western and Central Africa”*, implemented by the Africa Rice Centre (WARDA) with a grant from IFAD.

### **FOR MORE INFORMATION**

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