



NIGER

Implementing NAPA Priority Interventions to Build Resilience and Adaptive Capacity of the Agriculture Sector to Climate Change

LEAST DEVELOPED COUNTRIES FUND	
LDCF grant	\$3,960,000
Cofinancing	\$11,060,000
NAPA completion	July 2006
Inclusion in LDCF Work Program	April 2009
CEO endorsement	August 2009
Implementation start and completion	September 2009–August 2013
GEF Agency	United Nations Development Programme (UNDP)
Other executing partner	National Council for Environment and Sustainable Development

The Sahelian eco- and agricultural systems are very sensitive to even small changes in climate and climate variability. Rainfall patterns are extremely erratic, and can cause floods one year and drought the next. The projected increase in temperature and following evapotranspiration and decrease in rainfall will further increase climate vulnerability in a society that is already heavily dependent on rainfed agriculture and pastoralism for survival. The adaptive capacity of the Nigerian farmers and pastoralists to deal with such challenges is at best marginal, and non-climate-driven problems such as maladaptive farming practices, including for example overstocking with livestock and ploughing of erodible soils, low market access due to poor or nonexistent roads, and rapidly increasing rural

populations leading to expansion of agriculture into previously marginal areas, further exacerbate the situation. Existing problems, such as periodic food shortages, unsuitable agricultural practices, and recurrent water shortages, will undoubtedly only increase, unless climate resilience strategies are integrated into development efforts in Niger.

Project Activities and Expected Impacts

The project contributes to the building of adaptive capacity to climate change in the agricultural sector of Niger. First of all, the project focuses on increasing the resilience of food production systems and food insecure communities faced with the impacts of climate change. This includes a wide spectrum of new adaptation initiatives implemented



in a selection of pilot communities. Innovative water harvesting measures are being tested for increasing crop productivity. The “Zai” methodology, for example, entails digging holes of 0.5 m diameter at intervals of 1–2 m, and filling these holes with a mixture of compost, manure, and topsoil. Rainwater runs off the bare soil surface between the holes and ultimately drains into them. In this way, each “Zai” hole becomes a biological hotspot, with greater soil water and nutrient content than the surrounding soil. Crops such as millet, sorghum, and maize are sown in the “Zai” holes, and their productivity is greatly increased relative to plants sown outside of the holes. Another initiative to be implemented is the dissemination and testing of more drought-resilient varieties of traditional crops such as millet, sorghum, and maize.

The barriers to widespread use of such crop varieties include technical capacity and financial constraints. Seeds must be bought, and poor rural farmers cannot afford this cost. The project can be instrumental in establishing mechanisms for the sustainable diffusion of drought-adapted crop varieties to vulnerable communities. The facilitation of food banks is another activity implemented to increase the climate change resilience of local food security. Food shortages often occur for a brief period at the end of the dry season in rural communities, a phenomenon that is likely to increase with climate change. Food banks are one method of supplying food during critical periods. This activity is sustainable, because once the food bank is established a self-sustaining business is generated, whereby food is bought at a discounted rate from the government, stored in the bank, and then sold to the rural communities. A final measure implemented to counter the threat of climate change-induced impacts on crop productivity is to improve water management practices.

The Niger River is currently underutilized as a source of irrigation water for several reasons. One is that rainfall patterns have been predictable and therefore reliance on more expensive alternative sources of water has not been a priority. Second, utilization of surface water resources through irrigation has been constrained due to a shortage of funds. At present, only 10 percent of the 270,000 hectares of land suitable for irrigation has been developed in Niger.

A second leg of the project focuses on increasing the institutional capacity of the agricultural sector, especially in regard to information and extension services to farmers. This includes, among other things, distributing seasonal weather forecasts and providing local advice concerning the design of water and crop management strategies. The project also supports the incorporation of adaptation to climate change issues into provincial and local development and risk management plans.

Synergies and Coordination

Niger is also one of the project countries of the United Nations Development Programme-GEF/ Small Grants Programme (SGP) Community-Based Adaptation (CBA) Programme. It is likely that many of the community-based interventions that are likely to emerge for funding through the CBA mechanism also focus on agriculture-related activities. The CBA initiative is therefore a timely complement to this LDCF project and exchanges have already commenced between GEF/SGP and coordinators of the LDCF project. Coordination and synergies are also being secured with other related projects funded through government and bilateral sources, such as the Niger government’s *Special Programme of the President*, the Canadian government’s *Fight against Poverty Fund*, and German Agency for Technical Cooperation’s *LUCOP – Fight against Poverty* project.

For More Information

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