ENHANCING ADAPTIVE CAPACITY AND RESILIENCE TO CLIMATE CHANGE IN THE AGRICULTURE SECTOR IN MALI

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CONTEXT

Mali has one of the world’s lowest human development indexes (UNDP, 2014). Its economy is strongly dependent on agriculture, though only 14% of the land is considered cultivable. The agriculture sector is very sensitive to climate change, especially drought and desertification which have been occurring for several decades, and have been exacerbated by unsustainable management of natural vegetation. Future climate projections in Mali suggest an increase in temperature 1.5 times more than the average global rate, more erratic rainfall as well as an overall decrease in rainfall, and increased frequency of climate extreme events, such as drought, flooding and violent winds. As Mali’s agriculture sector is highly dependent on climatic factors, climate change will lead to important adverse impacts on this sector. The area suitable for agriculture, the length of growing season and potential yield (particularly along the margins of semi-arid areas) are expected to decrease. Climate change is predicted to alter the quantity and quality of available natural pastures and lead to new forms of seasonal movement of people with their livestock. These impacts on the agriculture sector will have direct effects on food security. This is already the case in the municipalities of Sandaré, Massantola, M’pessoba and Cinzana, which are particularly vulnerable to climate change. In these areas, critical income-generating activities for women, who make up 60% of the population, are related to agriculture. The degradation of land and natural resources exacerbated by climate change threaten both food security and livelihoods.

To address these challenges, the Government of Mali in partnership with UNDP, and with financial support from the Global Environmental Facility’s Least Developed Countries Fund (LDCF) initiated in 2010 the project ‘Enhancing Adaptive Capacity and Resilience to Climate Change in the Agriculture Sector in Mali.’ In 2013, the Government of Canada agreed to contribute additional funds to build on and scale up the results of this LDCF-funded project, under the new Canada-UNDP Climate Change Adaptation Facility (CCAF). The CCAF project in Mali aims to reduce climate change risks and improve food security in the four target municipalities identified above.
Proposed Interventions

Under the Canada-funded phase of this project, the following concrete and innovative adaptation measures are being implemented:

1. Improving capacities to prevent and manage the impacts of climate change on agricultural production and food security - This involves the development of an enabling environment for adaptation in the food and agriculture sectors at the municipality, regional and national levels, particularly related to mainstreaming climate change into policies and strategies; and

2. Strengthening climate resilience of agricultural production systems in the most vulnerable agro-pastoral communities - This includes scaling up successful piloted adaptation measures in the four municipalities, including several priority interventions identified in Mali’s National Adaptation Plan of Action. Notably, this includes strengthening the resilience of local grain production systems to climate change through the dissemination of climate-resilient seeds; diversification of revenue sources in rural communities; extending hydro-agrometeorological services to crop and livestock farmers; implementation of multi-use water management plans; restoring soil fertility through climate-resilient techniques; improving water retention capacities through improved run-off water catchments; and the development of an adaptation training package for rural populations.

EMERGING LESSONS

Adaptation interventions geared towards climate resilient income generating activities appears as a critical approach to empower women. In Mali, engaging women in climate resilient income generating activities, such as vegetable gardening provides them with more opportunities to access and own land. As they increasingly work on specific plots and generate revenue, they become empowered to discuss ownership with landowners (usually men) and local officials, which in certain cases have resulted in ownership.

Mainstreaming risk factors and mitigation strategies at the early stage of project design is essential for the project success. In Mali, a political crisis occurred during the implementation of the CCAF project. Financial partners suspended their assistance and activities interrupted. Today, the project team is working hard to catch up the delay, informed by the risk mitigation strategy developed previously.

Key Achievements to Date

Key achievements under the LDCF project have been scaled up under the CCAF project as demonstrated below:

- Vulnerability assessment undertaken in the communities of Sandaré, Massantola, Cinzana and M’Pessoba, as well as identification of capacity gaps of municipal actors in relation to climate change adaptation;
- Construction of 2 micro-dams in the Massantola and M’Pessoba municipalities;
- 160 producers, 40 per municipality, trained in production techniques, the use of compost, and equipped with materials for strengthening production (e.g. wheelbarrow, shovel, pick, rakes and a bag of natural Tilemsi phosphate);
- 4 solar-powered multifunctional platforms with a mill, a husker and a battery charger installed in 4 villages across 4 municipalities, to strengthen production; and
- Production of a documentary film on climate change in the municipalities of Cinzana, M’Pessoba, Sandaré and Massantola to raise awareness about adaptation activities.

One farmer in the municipality of Massantola has planted saplings of Acacia senegal provided by the project to produce gum arabic. He said that now he can sell the gum arabic produced by the trees and make additional income, as a way to diversify his livelihood, while also contributing to reforestation activities.