



## COPING WITH DROUGHT AND CLIMATE CHANGE IN MOZAMBIQUE

### MOZAMBIQUE CASE STUDY

DECEMBER 2010

<b>Country</b>	Mozambique [ <a href="http://www.adaptationlearning.net/country-profiles/mz">http://www.adaptationlearning.net/country-profiles/mz</a> ]
<b>Region</b>	Eastern Africa
<b>Key Result Area</b>	Water Resources Natural Resource Management Agriculture/Food Security  <i>Key words: drought, floods, climate change, adaptive capacity</i>
<b>UNDP Project ID</b>	3786
<b>Project Activity Dates</b>	Start: 2009 End: 2014
<b>Key Stakeholders</b>	Farmers and pastoralists within the Limpopo Basin area, namely the Guijá district.

## ABSTRACT

The Government of Mozambique recognizes that the country is vulnerable to catastrophes and that the hazards resulting from climate change are exacerbating the persistence of absolute poverty in Mozambique. Of all of the natural hazards affecting the country, drought is the most common and the most devastating. In light of this challenge, the United Nations Development Programme (UNDP) and its partners are implementing the Coping with Drought and Climate Change (CwDCC) project in Ethiopia, Kenya, Mozambique and Zimbabwe. The projects are scheduled to run for five years with the goal of enhancing the capacity of agricultural systems in dryland areas to adapt to climate variability and change. For Mozambique, the implementation of this project will enhance food security and the capacity to adapt to climate change in agricultural and pastoral systems. More specifically, the project will reduce drought vulnerability in farming and pastoral communities by guaranteeing water supply and through training the local communities to grow drought-resistant crops, like sweet potato, cassava or sorghum. The project will also help improve the communication lines to make weather forecast and climate information available to communities. Key lessons learned from the project to date indicate that it is valuable to design a pragmatic and achievable work plan, and be aware of logistical constraints. Cooperation with similar initiatives is another important factor and critical component of ensuring project success.

## BRIEF DESCRIPTION OF ISSUES

### *Background*

Mozambique is one of the poorest countries in the world and one of the most frequently and worst affected by natural disasters. With a direct link to climate change, recent natural disasters have included droughts over consecutive years, alternated with severe flooding. Extremely variable climatic conditions, including increased frequency of cyclones from the Indian Ocean, are predicted, as well as rising land temperatures. Climate change induced drought is a critical issue in Mozambique as it bears directly on ecosystem services. To address vulnerability in the agriculture sector, measures included: (1) adjust land management practices, such as changes in crop types, season and location of farming, development of intensified and mechanized farming; (2) promote drought tolerant crop varieties and livestock in drought vulnerable areas; (3) alternate grazing systems; (4) change stocking rates; (5) change the timing of the grazing period.

In terms of water resource issues, the unprecedented floods in 2000 focused global attention on the Limpopo Basin, but droughts are historically more frequent and impact more people than floods (Limpopo Basin Atlas, 2003). As a slow onset hazard that often extends for more than an entire year, droughts also have the potential to cause longer-term economic disruption than a rapid onset hazard; however estimates are difficult to calculate. Severe droughts appear to occur every seven to eleven years within the Basin (for example, the 1982/83 and 1991/92 droughts associated with the El Niño phenomenon), with less severe events occurring more regularly. However, in recent years, the timing of severe droughts has become more frequent: 2001/02, 2002/03 and recently in 2004/05.

## BRIEF DESCRIPTION OF PROJECT

### *Solution: Adaptation Approach, Components and Description*

In response to the challenges detailed above, the aim of the project is to reduce vulnerability to drought in farming and pastoral communities by guaranteeing water supply and by training the communities to grow drought-resistant crops, like sweet potato, cassava or sorghum. In order to diversify income opportunities, women will be trained to preserve natural fruits such as marula, massala, and tinhiri for sale in markets. The project will also help improve the communication lines to make weather forecast and climate information available to communities. Farmers/pastoralists and communities in Guijá, situated in the central part of Gaza province: Chigubo in the north, Chókwe in the south, Mabalane in the west and Chibuto in the east.

The project sites, Mbala-vala, Nhanguenha, Nalazi and Chivonguene communities in Guijá District, belong to the semi-arid regions of the Limpopo River Basin. These are among the poorest and most drought-prone areas of the country. The project will open and clean dams, lagoons and channels and build concrete water harvesting and storing systems that have already been tested in semi-arid regions of Brazil. The project will also set the demonstration fields with drought-resistant crops. Finally, people will be trained on the impact of climate change and adaptation measures.

## Project Targets

RESULT	TARGET
<b>Objective: Contribute to enhancement of food security and the capacity to adapt to climate change in agricultural and pastoral systems in Mozambique (specifically in the Gaza Province, Guijá District)</b>	At least 7 of local communities (4267 households) are implementing strategies to cope with drought and climate changes, improving development sustainability in the Guijá district.
<b>Outcome 1: Livelihood strategies and resilience of vulnerable farmers in the selected pilot sites improved and sustained to cope with drought and climate change</b>	At least 7 communities (4267 households) have introduced drought tolerant crops and conservation agriculture techniques.
<b>Outcome 2: Enhanced use of Early Warning Systems for agricultural purposes at the selected pilot sites</b>	At least 50% of farmers/ households (3952) are using early warning information into their agricultural practices' decisions.
<b>Outcome 3: Drought mitigation (water scarcity reduced) integrated across sectors and programmes at various levels of society in pilot sites of the project</b>	At least 7 communities (4267 household) have access to quality drinkable water and productive water in project pilot sites.
<b>Outcome 4: Farmers/Pastoralists outside the pilot sites replicate successful approaches to cope with drought and climate change</b>	At least 3 communities out of pilot sites introduce coping with drought and climate change strategies tested within the project.

## LESSONS LEARNED

### Results and Learning

#### Key lessons learned:

**1. Design a pragmatic and achievable work plan (preferably during inception stage):** Projects need to remain focused and be cognizant of their logistical and practical parameters. An achievable project work plan should be decided early in the inception phase to ensure timely and effective implementation. Stakeholders at the project inception workshop, held on the 23 and 24 February 2009, agreed that the project needed to be narrowed down, and the number of activities prioritised and reduced. The project currently contains 9 outputs and 38 separate activities and an achievable project work plan is being finalised.

**2. Be aware of logistical constraints (e.g. staffing capacity) and respond accordingly:** The UNDP CO has recruited an administrative assistant to ensure that the programme manager can concentrate into the implementation of activities. An international consultant has also been hired to assist the programme manager in developing managerial tools, prioritizing the activities in the project document and producing a baseline study to inform activities' implementation and allow for M&E in the future. This extra support is invaluable in ensuring that the activities are implemented according to schedule.

**3. Consider external factors when designing project timeframes:** In October 2009 there were national elections in Mozambique that influenced some Government paralysis and difficulties in implementing project activities. Being cognizant of these external factors that may influence project outcomes, allows project staff to plan and operate accordingly.

**4. Coordinate efforts and cooperate with similar initiatives:** It is imperative to coordinate efforts and cooperate with other initiatives involved in climate change in order to increase benefits and feedback for on-going activities. It was also recommended for the programme manager to align the activities plans with the Guijá District Development Plan (covering 2010 to 2012) to tap potential for synergies and to re-engage partners of the project (line Ministries, and local NGOs) already present in the field.

### Sustainability

The proposed project is expected to be sustainable based on a high level of government, institutional and local level community commitment, and through the involvement of local NGOs. In this regard, formal commitment letters from the implementing agencies (government institutions) guarantees project continuity beyond the end of the project. Local community commitment will be ensured by cultivating community ownership through the implementation of community-based activities, which is an important part of the project. Finally, the involvement of local NGOs as partners in the implementation phase is contributing to the sustainability of the project and has sought to establish complementary and meaningful partnerships.

## Replicability

The medium and long term vision is to be able to replicate the successful actions in other drought prone areas. Successful approaches in Guijá, a drought prone district, should have generated interest to replicate in other parts with similar problems. Replication will entail packaging information on lessons of this project for other drought prone areas. Among other districts, suggested districts by the stakeholders in workshop group discussions include, Chibuto, Chigubo, Mabalane, Chicualacuala, Massingir and Massangena in Gaza province and Funhalouro, Mabote and Panda in Inhambane province. Other districts are located in other drought prone areas such as southern Tete province, Northern and southern Manica province, southern Sofala province and parts of Nampula and Cabo Delgado province. Ideally, the experience gained in Guijá will be used by the implementing agencies to draw better strategies in those districts.

## Funding

GEF Project Grant (SCCF): US\$960,000

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Co-financing Total: US\$929,840

Project Cost: US\$1,889,840

## Time Frame

2009-2012/2014

*Adjusted for delays in the early phases of project implementation (2008 was inactive year for the project and 2009 started implementation) and likely reduction of the duration of the project (from 5 to 3 years).*

*Profile Updated: December 2010*

*Previously Created: September 2008*

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Adaptation Learning Mechanism: [www.adaptationlearning.net](http://www.adaptationlearning.net)

ALM Project Website: <http://www.adaptationlearning.net/projects/mozambique-coping-drought-and-climate-change>