



ADAPTS: Adaptive Water Management at a Local Scale

Botswana case study

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GOAL OF ADAPTS

Climate change is expected to increase the severity, duration and frequency of weather related extreme events, threatening water availability and food security for millions of poor people. Hence, it is clear that adaptation strategies have to be implemented from the level of communities to national governments.

The Institute for Environmental Studies, ACACIA Water and Both ENDS have started the ADAPTS project in 2008. The overall aim of ADAPTS is: *“to increase developing countries’ adaptive capacities by achieving the inclusion of climate change and adaptation considerations in water policies, local planning and investment decisions”*.



Fig. 1 The six case study areas.

SUB-OBJECTIVES

To achieve this goal, ADAPTS focuses on:

- **1. Knowledge development:** develop climate change information and study how local water management can be made climate proof.
- **2. Local Action:** identification, support, documentation, analysis and dissemination of innovative, locally-based interventions to assure that local knowledge and visions are included in basin and national policy dialogues
- **3. Dialogue:** Establish policy dialogues between local and national stakeholders on the issues of sustainable water management and adaptation to climate change.

The project is being implemented in six river basins around the world. Three year projects have started in Ethiopia, Ghana and Peru. One year case studies have started in Botswana, Brazil and Vietnam. This fact sheet will provide a current overview of the main challenges and activities in the Limpopo basin in Botswana.

BOTSWANA CASE STUDY

The villages of Gobojango and Tsetsebje are located in the eastern corner of Botswana. Due to the unreliability of the rainy season, people are moving towards cattle keeping rather than growing crops as their main livelihood activity. The aim of this project is to see whether small-scale water harvesting structures can help to diversify the livelihoods of the population to make them less vulnerable to climate change and to cater for self sufficiency in terms of food supply

The project is carried out in conjunction with the Groundwater and Drought Management Project (GDMP) of the Southern African Development Community (SADC).



Typical sand river in Botswana

CLIMATE CHANGE AND VULNERABILITY

Botswana is semi-arid to arid with mean maximum temperatures of 28-34 °C during summer and mean minima of only 6-10 °C in winter. The water stressed country has only one rainy season (Nov-March), with 300-400 mm of rain annually in the project area. Potential evaporation by far exceeds rainfall. Temperatures have been rising since the 1960s and are projected to rise by another 2-3.5 °C by 2050 in the project area. Rainfall has been decreasing at least since 1970 and is projected to decrease by another 5-15% by 2015.

The high temporal and spatial variability of rainfall already makes people vulnerable to droughts, and hardly any agriculture is being practiced. However, the government has some interesting strategies in place to cope with climate hazards

CONTEXT

The Groundwater and Drought Management Project (GDMP) is one of the Southern African Development Community's (SADC) response to the challenges in managing groundwater in the sub-region. The Project began operations in January 2007 and its aim is to contribute to increased awareness and understanding of groundwater and groundwater drought management in the region, resulting in the incorporation of groundwater principles into policy development and decision making throughout the region.

The objective of the SADC Groundwater and Drought Management Project is the development of consensus on a SADC regional strategic approach to support and enhance the capacity of its Member States in the definition of drought management policies, specifically in relation to the role, availability (magnitude and recharge) and supply potential of groundwater resources.

Through the ADAPTS project the project is extended with a demonstration project, in order to show the opportunities for recharging the groundwater locally and thereby making water available for agricultural practices.

LOCAL ADAPTATION

The project aims at developing a demonstration project in north-eastern Botswana. The project includes the construction of a sand dam, a water supply and irrigation system. The water stored will directly be used for small irrigation at the community level. Although not actively involved in the construction, the community will be responsible for the management of the system and the crop production. As the concept of self-sufficiency at the community level is new in Botswana, this project, if successful, will act as a show case for other communities.

DIALOGUE AND UP-SCALING

The project is being developed in close cooperation with the different stakeholders. These stakeholders include the different ministries, research institutes and water affairs.



Typical sanddam in Zimbabwe

PARTICIPATING INSTITUTES

SADC Groundwater and Drought Management Project (Botswana), Well Field (Botswana), IVM/VU University (The Netherlands), Acacia Water (The Netherlands)

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