

ADAPTS: Adaptive Water Management at a Local Scale

Ethiopia case study

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GOAL OF ADAPTS

Climate change is expected to result in gradual changes in temperature, rainfall patterns and sea level rise, but also increased climate variability and extreme events, threatening water availability and food security for millions of poor people. Adaptation strategies to deal with these impacts are urgently needed from the level of communities to national governments.

In 2008, the Institute for Environmental Studies, ACACIA Water and Both ENDS started the ADAPTS project. 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.

To achieve this goal, ADAPTS focuses on:

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

ADAPTS sets out to show that adaptation is already taking place at the local scale, and to provide practical experiences and lessons from various contexts that can feed the discussions on climate-proofing water management from the local to the (inter)national level.

The project is being implemented in six river basins around the world. Projects with three year duration are being carried out in Ethiopia, Ghana and Peru. Projects with a one year duration are carried out in Botswana, Brazil and Vietnam. This fact sheet provides an overview of the main challenges and activities in the Genale-Dawa basin in Ethiopia, with a focus on the Borana Zone.

ETHIOPIA CASE STUDY

The Borana zone in southern Ethiopia has a typical semi arid savannah landscape. Most of the 960.000 inhabitants are active in dry land farming, typically herding livestock based on traditional pastoralist systems. The average income is low, there is high illiteracy and the child mortality rate is 142 per 1000.



Fig.2 Borana Girls fetching water from far areas

The main goals of this project are to increase resilience of communities to climate change through improving water availability in the region by introducing sand dams (and other Rain Water Harvesting systems); to bring sand dams under the attention of policy makers; to assess sustainability of sand dams under future scenarios; and to show that local action, can contribute to a regional solution with respect to water availability.

CLIMATE CHANGE AND VULNERABILITY

Projections for the coming century for the Borana zone are that temperature will rise circa 3 degrees, and rain is expected to become more variable including an increase in the occurrence of droughts. During droughts small scale agriculture will fail, death of livestock will increase and the productivity of livestock will decrease. Women and children left in the sedentary villages need to travel large distances to fetch drinking water.



Fig. 3 A not mature sand dam in Borana.

LOCAL ADAPTATION

Action for Development is active in Borana for more than 10 years, among others by building water cisterns. In 2007 they were trained in the construction and management of sand dams. This project will assess whether sand dams are an effective and sustainable measure to improve the availability of safe water under current and future circumstances in the zone, and if it fits the management tradition of pastoralist communities. And also how sand dams compare on costs and benefits to other techniques like cisterns and boreholes. This information will be used to promote the inclusion of water harvesting/sand dams in regional planning. As the implementation of many small scale measures will add up to a regional impact. ADAPTS closely interacts with the MFS program implemented by ERHA and RAIN, and will supply information to be used in replication of sand dams throughout the country.

The study will both focus on technical aspects of sand dams, to answer the question if and how sand dams can successfully be implemented (construction, siting, dimensions etc.,) and also look into the use and

management of the sand dams by the local communities.

DIALOGUE AND UP-SCALING

Together with the communities, local government and other NGOs, the potential role of sand dams in supplying water during normal years and for drought relief are being explored. With the involvement of national actors, assessments are being made on how small scale projects may contribute in reaching MDG no.7 on safe drinking water, and how they may contribute in adapting to climate change in Ethiopia. Construction of new sand dams is close to completion stage in 2 different areas of Borana. Socio-economic and hydrological evaluations are done on existing sand dams with the involvement of university people. When the sand dams prove to be successful, replication in other areas is one of the goals.

EXPECTED FINDINGS

The project will produce information and insights on:

- effect and use of sand dams under current circumstances, by Participatory Rural Appraisals and field surveys;
- the impact of sand dams on water availability in the basin, taking into account up-, and downstream effects;
- the general impacts of climate change on the district;
- whether sand dams are a good measure to cope with the negative effects of climate change.

The findings of the project are being discussed in the consecutive meetings and workshops of local stakeholders; at meetings with national stakeholders, and at international meetings.

PARTICIPATING INSTITUTES

Action for Development (AfD), Zonal Water Resource Office, Ethiopian Rainwater Harvesting Association (ERHA), RAIN, IVM VU-University, Both ENDS and Acacia Water.

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