Lessons learned from the integration of local stakeholders in water management approaches in central-northern Namibia

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Introduction

The Cuvelai-Etosha Basin in central-northern Namibia is characterised by a system of so-called Oshanas, very shallow ephemeral rivers which drain the whole basin from north to south towards the Etosha saltpan. Rainfall patterns in the region are very unpredictable and vary from 100 mm/a to 1000 mm/a with an average of 470 mm/a. Almost all rainfall occurs in summer between October and April. Evaporation is very high, while the infiltration in natural groundwater aquifers is low.

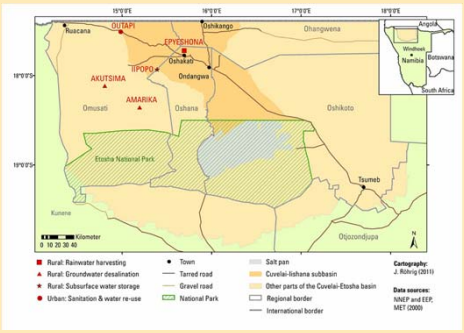

Figure 1: CuveWaters pilot villages in central-northern Namibia

The region is supplied with pipeline water, which is solely used as drinking water. Other water sources in the region are Oshana floodwater, water from hand dug wells or shallow excavation dams. Water from these sources is of low quality, especially towards the end of the dry season, and affected by high evaporation rates (2700 mm/a). Livelihoods in the region mainly depend on small-scale livestock farming and rain fed agriculture (mainly pearl-millet).

Integration of local stakeholders in water harvesting and management

Within the CuveWaters project, which is sponsored by the German Federal Ministry of Education and Research, different small-scale water supply and sanitation technologies were implemented in central-northern Namibia. Through this approach, the water supply in the region is decentralised and more water is made available for the local population. In the village of Iipopo, the pilot plant for harvesting and storing Oshana floodwater was implemented. Different storage options, ranging from a ferrocement tank to covered ponds are tested (Figure 2). The water stored is of medium quality and meant to be used for small-scale horticulture. It was the central aim of the project to involve stakeholders from all levels to make the project sustainable and to create ownership within the local community.

Therefore government authorities, Namibian scientists and local authorities were involved in the selection process of the pilot village, the storage technology and the beneficiaries within the selected community. Based on a hydrological survey and taking social aspects into consideration, the pilot village Iipopo was selected. After consultation of local authorities, workshops were held with the community. In these workshops, the construction site as well as trainees for the construction of the pilot plant were selected. The selected trainees were trained in tank construction as well as in the construction of greenhouses and drip irrigation systems (Figure 4). They can now use this knowledge to construct further tanks in the region.

After completion of the construction, ten jointly selected people from the local community received training in all aspects of horticulture, irrigation and the management of the water stored (Figure 3). Within the first two years of operation they will be assisted by the project before responsibility is completely handed over to the local users.

Figure 2: Pilot plant for water harvesting

Lessons learned

The integration of local stakeholders in all stages of the project has resulted in a very good acceptance of the technology within the local community. Especially during the construction of the pilot plant and the horticulture training phase, the commitment of the whole community was very high, resulting in more than 40 people from the village working on the construction site.

Figure 3: Training of users in horticulture

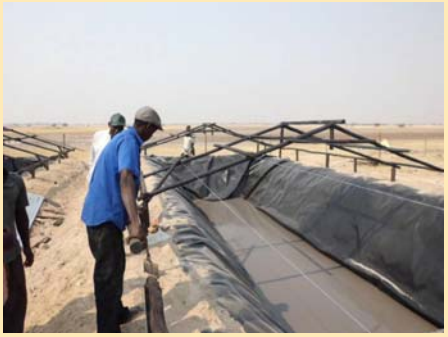

Figure 4: Training in the construction of water storage tanks

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