

## Sustainable Land Management



### Water management in Siketi - Clean water and university studies

By Christian Bernhart

In 2003 for the first time, nearly 5000 residents of Siketi are drawing healthy drinking water from eight standpipes in the village.

The collaborators in this project, which includes a reservoir, pumping system and supply pipes, were the Syngenta Foundation for Sustainable Agriculture and the Center for Development and Environment (CDE) of the University of Bern, as part of their joint project for sustainable land management in Eritrea (SLM), which also has geography students at the University of Asmara conducting their own field studies.

Around 21 kilometers south of Asmara, next to a church overlooking the road to Mendefer, Siketi offers a panorama of the surrounding fields. Here 60-year-old grandmother Wuba Gnebru carries her youngest grandchild next to a nearly finished circular structure of stone blocks. "I'm new here, but that is a good thing," she said of the border war that forced her to leave Ethiopia and return to her home village. Looking at the reservoir that will soon hold 100 cubic meters of water, she added with a wink: "Of course this water is dedicated to Jesus, but he won't be drinking it alone."

Engineer Alem Tasfamariam, technical consultant of the Eritrean Ministry of Water, is happy to hear the woman's quick wit. After Eritrean independence, he ended his Canadian exile to take up supervision of the country's water management projects.

Siketi, his home village, was known for its water resources even before the war, with plentiful ground-water reserves discovered near the village in the 1980s. The Ministry of Water dug an eight-meter well four meters in diameter. Whenever water shortages have struck the capital city, as during the drought of 1984/85, up to 30 trucks a day, each with a 13-cubic-meter tank, carried Siketi's water

to Asmara.

Inexhaustible to this day, these reserves also benefit the villagers. Every morning and evening, as elsewhere throughout the country, children lead donkeys to the well, drop in their buckets, haul on the ropes and pour water into rubber drums lashed to their donkeys' backs. Water is also scooped into special troughs for cows and goats. Basic hygiene, however, is rarely observed in the hustle and bustle at the well. Bacteria from feces contaminate the drinking water, infecting children in particular with chronic diarrhea and digestive problems.

Renovation of Siketi's water system began even before Eritrean independence in 1991, when the open well was partly shielded by a cement cover. Residents lugged stones uphill near the church, and even laid part of the 750 meters of pipes that would supply the future reservoir. Funds for a roof and the cement inner lining, however, were not yet at hand.

Only after independence did two NGOs, HABEN and UNICEF, supply the project's estimated CHF 50,000 for materials. Price hikes after the 1998 border war, however, threatened the project with failure. At this critical juncture the SLM program stepped in to cover the projected 20% cost overrun, having already supported the repair, planning and installation of ground-water wells in Hadmeti and Deki Lefay to the south.

Now nearly complete, Siketi's project includes an electric-powered pumping station that serves two standpipes in the upper village and six in the lower. SLM has also beneficially linked its work in Siketi to its training and development program. Program co-worker Robert Burtscher, who teaches in the Geography Department at the University of Asmara, had one of his doctoral students carry out dissertation field studies that surveyed the needs of residents. Her comprehensive questionnaire showed that residents are ready to work at covering the operating costs of the new water supply system. Such sociological surveys, a new research tool at the young university, extend the analysis of rural life in Eritrea.

<sup>1</sup> See E. Wajnberg, J.K. Scott, and P.C. Quimby (eds.), *Evaluating Indirect Ecological Effects of Biological Control*, Wallingford, Oxon, U.K.: CABI Publishing, 2001.