

GERMANY: A CASE STUDY – RELATED BEST PRACTICE OR LESSONS LEARNED IN WATER AND SANITATION

International Cooperation: Botswana

The “Waste and Wastewater/Sanitation Management Project” in Botswana is on the German side coordinated by the GTZ (German Technical Cooperation). It was initiated in 1993 to focus on the prevention of water pollution caused by poor practices in waste and wastewater management. Within the framework of the project, the national Department of Sanitation and Waste Management was founded in 1999 as implementing agency on the Botswana side. The current phase of the project includes a significant wastewater element. This has led to the development and adoption by the government of a water and sanitation policy to establish the institutional, administrative and legal structures needed to provide effective sanitation across the country and protect water resources.

One of the project measures at grass roots level is the Community Based Natural Resources Management (CBNRM) – Missing Link pilot project implemented by IUCN (The World Conservation Union) and the Permaculture Trust of Botswana, a local NGO, with support from the DED (German Development Service), the Department of Sanitation and Waste Management and the GTZ ecosan sector project. This was started with the aim of introducing the ecosan concept with its potential for sanitation improvement, income generation, poverty alleviation and sustainable resources management to rural areas. The overall goal is “to develop, test and demonstrate a holistic, integrated approach to environmental management, sanitation and waste management at household and community level in selected communities” over a five year period (2001-2006).

The project began working with 20 households in the villages of Paje (Central District) and East and West Hanahai (Ghanzi district), focusing on ecological sanitation systems with the use of treated urine and dry faecal matter as fertilizer and soil conditioner in gardening and agriculture. Families chose a source separating dry sanitation system, where urine is diverted into a container for collection, and faecal matter is collected separately in a bucket, or sealed chamber (thus protecting groundwater resources). The project is one of the first to include children under five as users of separation toilets using special seats, produced in South Africa. The use of treated excreta as fertilizer and soil conditioner was combined with the composting of organic waste, rainwater harvesting, grey water use, gardening and the domestication of veldt products, and contributes to improving rural livelihoods in a sustainable manner, as well as providing improved sanitation at a lower cost than the traditional pit latrines.

The results have not gone unnoticed in the villages, with around 50 households now directly involved with the project and a further number voluntarily adopting different aspects for their own use. Even production of the urine diversion pedestals is now occurring at a local level.

On a national level, where government policy demands both the protection of groundwater and a prudent and rational utilisation of natural resources, this holistic approach to integrated sanitary provision is also being investigated for large scale implementation. In more densely populated urban areas of Botswana water borne sewage systems are still being installed. However, in the town of Shoshong vacuum systems are being used for the first time in Africa. The project is financed directly by the government with the possibility of the recovery of high-quality products from the wastewater being investigated. Costs for this vacuum sewerage disposal system are estimated at around 75% of the costs of installing a gravity sewer.

Besides cultural taboos initially causing slow acceptance in rural areas the main difficulties faced when introducing ecological sanitation have been in ensuring the financial contribution of

households (requested under the self-help approach) and the initial uncertainty of using the end products from the toilet. The lessons learnt show that respecting the individual needs of the households by adapting processes and systems to suit them can help overcome such difficulties, as can sharing information and learning by seeing with regard to the correct use of the toilet and the application of the products for gardening. Training of households and technicians and a locally based support programme have also contributed to the ongoing success of the project. It has been found that people, once adequately informed, are open to new technologies and recognise the value of the reuse of collected and treated urine and faeces. Households voluntarily accepted to invest in the construction of the superstructure of the toilets and thus moved from a highly subsidised to a self-help system.

On the national level there is now an appreciation by government that adopting ecological sanitation systems can sustainably protect water resources, contribute to agricultural productivity and poverty alleviation, and provide sanitary solutions for both rural and urban areas at a lower cost than conventional systems. The approach is now being promoted on a national level. Appropriate systems for urban areas are being investigated and pilot ecological sanitation systems will shortly come into service in Botswana's capital city Gaborone.
