

Mozambique flood warning system

A co-financed project by the Munich Re Foundation and BMZ/GTZ

Status report* by W. Stiebens (gtz-PRODER), 29 November 2005

* combination of two reports (by T. Loster)



There has been a significant increase in flood catastrophes in recent decades. Scarcely a day goes by without our seeing dramatic images of houses under water and people in need. Good early warning systems are a crucial factor in effective prevention. For this reason, we have decided to give our backing to the setting up of a simple but effective early warning system in Mozambique.

Mozambique is one of the world's poorest countries. Some 70% of the population lives below the US\$ 0.40/day poverty line. Only about a quarter of the population (23%) lives in towns, the country having one of the lowest urbanisation rates in the world. 17 years of civil war, which ended in 1992, and conflicts with South Africa have cost at least one million lives and laid waste vast tracts of land and much of the infrastructure. Mozambique also suffers more than its share of natural catastrophes. Apart from cyclones, which affect the south-eastern part of the African continent every year, the country has also been hit by severe drought in recent years. In 2000 and 2001, several hundred people lost their lives when large-scale floods affected a number of areas, one of which was along the River Búzi in central Mozambique. Many more inhabitants lost their livelihoods.

Outline of the project and current status

With the help of the "Mozambique flood warning" project, a simplified Búzi early warning system is being set up, which is specially tailored to the needs of the local population. The system is based on an impressively simple structure. A number of villagers have been nominated for the job of measuring daily precipitation levels at strategic points in the Búzi river basin. Water

levels along the river are also monitored using straightforward gauges. If there is particularly heavy rainfall or the water level becomes critical, this information is passed on by radio. Should reports reaching the central coordination point indicate widespread heavy rainfall, the alarm is raised. The gauges that measure the depth of the river are key elements in the controlling process. The people living in the area undergo special training to alert them to the dangers. A system of coloured flags is used to signal a flood warning. Pre-

Proposta do Esquema de Funcionamento do SIDPABB



designated helpers are sent out armed with megaphones to raise the alarm. Areas at risk are evacuated.



Local disaster prevention teams have been formed in a number of Búzi river basin villages. This year, experts from Honduras, who have successfully set up a similar community-based system in their own country, are on hand to support the scheme. Being able to call on their first-hand experience is a major benefit. The Central American experts have prepared training material and coordinate the flow of information between the helpers in the villages, district and province. A significant aim of the project is to include women in the teams so as to reinforce the part they play in the village community and in society. The system was tested on November, 24, right before the rainy season started. The simulation was a huge success.

Results

- The volunteers have fully understood and accepted the system. The technical steps (reading gauges, using radio, transmitting the relevant data) went well. All people involved felt responsible with great willpower to make the whole day a success. Also the people who live in the villages along the river have built up an understanding of risk.
- The new administration accepts ownership. The new administrator of the area, Dr. Langa, was involved in the simulations and now wants to distribute the results. For him it was a “best practice procedure”.



Next Steps

- During the rainy season the system needs to be calibrated. We need to define critical rain amounts and water levels along the river.
- In 2006, further villages will be integrated in SIDPABB, which will further raise awareness among people at risk. Furthermore, the new government will be trained to better understand the whole flood warning system.



Local project partners



The project is making use of both existing structures and the experience of renowned organisations. The international cooperation enterprise for sustainable development (GTZ) has worked in Mozambique since 1998. It has implemented a comprehensive programme designed to promote agricultural development and fight poverty. Experts from the GTZ and the World Institute for Disaster Risk Management have recruited the services of local people to help install the early warning system. The support of the people of the Búzi District (the ownership element) is a crucial factor. To ensure the project's success in the long term requires the participation and backing of the village elders, mayor and district president. Volunteers from Munich Re's South African office are also helping with the project and are responsible for monitoring the situation.

Contacts:

Thomas Loster, Chairman of Munich Re Foundation, +49 (0) 89/38 91-52 87,
tloster@munichre-foundation.org

Wolfgang Stiebens, DRM Adviser in Mozambique, +258 82 50 95 700,
stiebens@vt.edu