

# The People-Centered Mozambique Flood Warning System



The people of Mozambique are vulnerable to natural hazards such as cyclones, floods and droughts.



The early warning system is simple but effective. Rain measurements in strategic places of the river catchment are reported to a center located in Buzi. Warnings are issued in case of strong areal precipitation.



Members of the local disaster prevention teams read the measurements every day. They have been trained and designated, which makes them feel very responsible.



Also the river gauges are monitored. Easy readable marks indicate critical water levels. As of 2006 the river gauges are being calibrated (rain versus water levels).



A national radio frequency is reserved for the reports and warnings. Tests of the system in November 2005 have shown that the whole flood warning system is well accepted.

## Background

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. Mozambique 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 Buzi in central Mozambique. Many more inhabitants lost their livelihoods. Mozambique 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 Buzi 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 Buzi early warning system has been set up, which is specially tailored to the needs of the local population.

A number of villagers have been nominated for the job of measuring daily precipitation levels at strategic points in the Buzi 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 people living in the area undergo special training to alert them to the dangers. Pre-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 Buzi river basin villages. In 2005, Experts from Honduras have prepared training material and coordinate the flow of information between the helpers in the villages, district and province.
- The people in the village are informed in meetings at the local meeting points. This helps keep the awareness alive.

The system was successfully tested in November 2005 just before the start of the next rainy season.

## Local project partners

The German Association for Technical Cooperation (gtz) has worked in Mozambique since 1998. It has implemented a comprehensive programme designed to promote agricultural development and fight poverty. Wolfgang Stiebens from the gtz and the World Institute for Disaster Risk Management as well as other local experts have recruited the services of local people to help install the early warning system. The support of the people of the Buzi 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.

## Outlook

Plans are now afoot to consolidate the early warning system. If feasible, it will be extended to the Caia District on the Zambezi River, in the heart of the country. The project, which could also be set up in other exposed regions, includes the key elements of expertise, ownership and information materials – not to mention the role of those responsible for operating the warning system. For the people of the Buzi river basin, the best form of preparation is to remain vigilant.

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