



People-centered Early Warning Systems

...help the population cope with the climate change-induced higher frequency of flood events

Definition and Objective

As a consequence of climate change more erratic and extreme rainfalls, an increasing number of tropical cyclones and rising sea levels will cause frequent and hardly predictable flood events. Especially developing countries such as Bangladesh, the Philippines, Indonesia, Madagascar and Mozambique have limited capacities to cope with those extreme events.

Early warning systems help to mitigate countries' susceptibility to climate change impacts by reducing their vulnerability to extreme events and therefore minimizing the risk for people's lives and livelihoods.

Low cost, people-centered early warning systems in which Disaster Risk Reduction committees (DRR committees) play a leading role provide crucial development opportunities for least-developed countries. Pioneering work has been done in Mozambique, where, commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ) and Munich Re Foundation, the simple and effective Búzi Early Warning System was developed. The best-practice model for people-centered early warning systems in the Búzi river basin uses a simple approach: local DRR committees are trained to monitor the river levels and send data to the district capital Búzi, where it is analyzed by the Technical Council for Disaster Risk Management – a body representing different sectors, including agriculture, education, health and infrastructure planning. When water levels are critical, the Operative Emergency Centre is activated and a radio warning is sent to local communities at risk. In each local DRR committee, the



Members of the Disaster Risk Reduction committee responsible for Early Warning (Thomas Loster, MRS)

For more information, go to:

<http://www.youtube.com/watch?v=2oBqJ7csSO0>

member who is responsible for monitoring the radio passes information on to those in charge of the early warning. Using text messages, megaphones, drums and local radio broadcasts, they spread the message within their community. This ensures that even illiterate members of the community are also informed on time. Having previously been trained by the DRR committee, the community then knows how to respond. The members of the evacuation team use risk maps, which have been developed in a participatory process, to bring the community to safer grounds.

Issues to Consider

In order to empower the government and civil society to cope with multiple current and future hazards, early warning systems should be focused on:

- 1.) Human resource development
Advising and strengthening of national institutions and civil society
- 2.) Organizational development
Creating a disaster prevention and emergency structure, working with local DRR committees
- 3.) Network development
International exchange of experiences, for example within South-South Cooperations
- 4.) Institutional development
Laws and regulations for Disaster Prevention and Climate Change Adaptation



With the help of local disaster prevention committees, even people living in remote areas can be evacuated safely before heavy flooding threatens their lives

Advantages

- ▲ In-time evacuation to safer grounds
- ▲ People-centered early warning systems save lives and prevent injuries
- ▲ Flood-affected communities organize evacuations without any external help (empowerment and decentralization)
- ▲ DRR Committees raise awareness for and inform their communities about disaster mitigation and preparedness measures
- ▲ Low-cost technology which can be run by local people

Challenges

- ▲ Mitigation and prevention measures (especially maintenance costs) have to be integrated in local district budgets
- ▲ The information flow and emergency response have to be exercised regularly in order to guarantee their functioning in emergency cases
- ▲ Awareness-raising and consolidation of local DRR committees need several years to break with unsafe behavior
- ▲ Long-term data-monitoring systems have to be established

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