



## **ZIMBABWE: FLOOD MANAGEMENT PRACTICES - SELECTED FLOOD-PRONE AREAS ZAMBEZI BASIN**

1. **Location of the study:** Zimbabwe
2. **Author(s):** EK Madamombe<sup>1</sup>
3. **Brief description of flood management practice**

The Mzarabani and Guruve districts, of about 8,000 km<sup>2</sup>, are some of the most vulnerable areas to flooding in Zimbabwe. Both are located in the northern part of the country, within the Zambezi basin, the fourth largest international basin in Africa shared by eight countries. For a long time there was no activity in both districts due to adverse environmental conditions. It was only in the past thirty years that Government started opening up the area after realizing that it had very high agricultural potential due to fertile land. Today there is both commercial and subsistence agriculture as the main economic activities, as well as wildlife management. Livestock rearing is done at subsistence level. The current population is estimated at 300,000.

Two types of floods affect the area under study. The first and most frequent is the seasonal flood, occurring in most years normally in January or February, at the peak of the rainfall season. The second and not so frequent one is the cyclone-induced flood, having become more frequent than before. In February 2000 and March 2003 cyclones hit the basin bringing with it intense storms which also caused flooding and important damages in the area.

There are structural and non- structural flood mitigation measures in place in Zimbabwe. The first consist of dams and weirs. Although these were put in place to improve water security, they also serve as flood mitigation structures. The flood control is however limited by the amount of storage available and the way these dams are operated prior to, and during the rainy season. Zimbabwe being in a semi-arid region, it is difficult for the water managers to release water in anticipation of floods because of uncertainties in the occurrence and magnitude of runoff during the coming season.

The non-structural flood mitigation measures range from flood forecasting to rescue operations, as well as defining areas to settle. Meteorological forecasts are issued throughout the year and during the wet season the amount of rainfall is also predicted. This information is used in forecasting the river flows so as to assess whether there will be floods. Based on this, the appropriate authorities take the necessary steps to ensure the information is disseminated and the potential victims evacuated before or during the flood events.

The Civil Protection Act spells out the legal instruments for disaster management and the powers vested in individuals as well as organizations in the case of disasters such as floods. The responsibility of disaster preparedness and response rests with the Civil Protection Department; however, it can call on any government department or private sector to assist wherever such assistance may be required. This Act is undergoing revision and is soon to be renamed Emergency Preparedness and Disaster Management Act; its main thrust is to address structural and organizational gaps to ensure a multi sectorial representation.

The Civil Protection Organization has the overall responsibility for the management of flood emergencies. There is a working party comprising a number of Government departments. Other organizations related to floods may be co-opted as and when required. The working party is subdivided into three sub-committees.

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<sup>1</sup> Zimbabwe National Water Authority, Research and Data Department, Harare, Zimbabwe



The National policy for disaster management is that every citizen of the country should assist wherever possible to avert or limit the effects of disaster. Central government initiates hazard reduction measures through sector ministries, with local administration taking the responsibility for implementing and maintaining its effectiveness.

#### **4. Key issues**

Zimbabwe has a considerable number of dams, where water is stored as security for the dry years or seasons. There is therefore reluctance to release water from the dams in order to accommodate floods. The non-structural approach, which includes flood forecasts, is therefore used as an alternate strategy for flood management. If forecasts were accurate and the lead time reasonable, water resources managers would be in a better position to make decisions on whether to release water or not. Thus both structural and non-structural approach to flood management could be used to reduce the impact of floods and drought.

The involvement of a broad spectrum of the population in management of floods, with particular emphasis on management at local level, has recently made the management of floods a lot easier than the traditional centralized approach.

There is need to harmonize the water, land-use, development planning and disaster response laws as a way of encouraging IFM. At the moment the laws seem to be independent of each other.

Communication needs to be improved so that the potential victims can be reached. There is also need to create awareness on the impact of floods and how people should respond to such events at local level.

The Zambesi basin must be managed as one unit. At the moment each country has its own way of managing floods. A coordinated approach to flood management is needed, which would involve all eight countries sharing the basin.

#### **5. Relevance to the concept of IFM**

The study covers the following aspects of IFM to varying extents:

##### ***Integration of land and water management***

Aspect 2 - Land and water management

##### ***Participatory approach***

Aspect 7 - Community-based approach

Aspect 9 – Effective linkage between existing institution

##### ***Integrated hazards impact mitigation***

Early warnings and forecasts

Aspect 11 - Free and open exchange of data



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**6. Comments**

- (i) Potential strong points of the case study
  - Land and water conservation approaches
  - Community based approach for sustainable development of natural resources
- (ii) Potential for practices mentioned to be transferred/applied to other regions with geophysical and socio-economic characteristics)
  - “Lessons learned” which propose a way forward drawn from negative effects of recent flood events, and which take into account the new concept of IFM