

Improving Flood Risk Management in Zambia

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based on data collected by volunteer teams in the Kazungula and Sesheke
districts and reports from the Zambia Red Cross Society and IFRC

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Executive Summary

As a part of the Zambezi River Basin Initiative (ZRBI), the Zambia Red Cross (ZRC) is interested in *disaster preparedness* and *risk reduction*. This represents a shift from reactive disaster response to proactive disaster response. The goal of proactive disaster response is to take early action based on early warnings to avoid the loss of life and minimize damages. I studied four communities located in the Zambian portion of the Zambezi River Basin – Kasaya, Sikaunzwe, Sikuzu and Situlu. Floods are recurring hazards in all 4 communities. My goals were to:

- Provide evidence to the donor community that it is worth it to disburse funds before a disaster strikes and that risk of failing to act outweighs the risk of acting in vain if the forecast does not materialize.
- Understand the nature of floods and vulnerabilities faced by Zambian communities along the Zambezi River.
- Establish the scope of early warning systems in these communities.
- Determine what kinds of skills and training are required for Red Cross volunteers to increase preparedness and reduce disaster risk.

In order to study these communities, I (along with the ZRC) conducted vulnerability and capacity assessments (VCAs) in all 4 communities. I also conducted interviews

with Red Cross disaster management staff. I compiled my results, analyzed them and accordingly generated a set of recommendations to overall improve flood risk management in the Zambian portion of the Zambezi River Basin.

My main findings are as follows:

- Floods generally occur between late January and March.
- Floods are also a capacity.
- Community members are vulnerable to floods not only because of their location relative to the Zambezi River and its tributaries, but also because of social factors.
- Community members are more concerned with the effects of floods on their fields than their homes.
- Droughts followed by floods are particularly devastating.
- Water scarcity is a major issue in all 4 communities.
- The main impacts of floods include: crop failure (especially maize); destruction of grazing pastures and crop fields; destruction of homes, food insecurity (and resulting starvation, malnutrition); water contamination; human disease outbreaks (malaria, diarrhea, bilharzia); animal disease outbreak (foot and mouth disease, CBPP); livestock death
- The main community responses to floods include: shift from lower lands to upper lands for shelter, cultivation, and pastures; construct ridges to obstruct floodwaters; dig furrows to drain floodwaters; farm on anthills, request government assistance; switch to alternative livelihoods (i.e. fishing, cutting and selling reeds, charcoal burning, making mats, gardening)
- Disaster risk reduction and preparedness are associated with a high economic cost.
- Existing community capacities: manpower, natural resources (i.e. sand, reeds, Mopani trees), knowledge of traditional medicines, access to structures that can be used as shelters, and access to clinics
- ZRC branch-level capacity needs to increase
- ZRC response speed/timeliness needs to increase
- Zambian Met forecasts are poorly packaged and inaccessible for communities

My main recommendations are as follows:

- Form disaster management action committees in each community. These committees will be trained by the ZRC and act as a communication and action platform between the ZRC and the community.
- Sensitize communities about disaster preparedness and EWS through a series of community meetings or door-to-door campaigns.
- Communities should undertake general disaster risk reduction and preparedness activities including: develop household-level plan, early planting, protecting fields, households and pit latrines, seed and food-surplus storage, harvesting rain and floodwaters, move important items to higher locations. Other methods need to be brainstormed with the community.

- EWS should be a collaboration between ZRC, government and community.
- Develop a communication protocol detailing who calls who when a forecast is received and what kinds of information should be provided. This should involve the National Society staff, branch officers and action committee members.
- Clearly designate and clarify staff roles during emergency situations.
- ZRC should create partnerships with the Zambian Met, Department of Water Affairs, NGOs that have worked with the communities in focus, and other organizations that monitor water levels and rainfall upstream of Sesheke and Kazungula.
- Establish ZRC branch accounts.
- Find warehouse space to preposition relief supplies. Supplies should be prepositioned in early January in anticipation of floods.
- Train branch officers in advanced disaster management and EWS.
- Train branch volunteers in Basic Disaster Management, EWS, and how to respond to predicted floods. Also train a select few in First Aid.
- There needs to be a discussion between community members, ZRC and Zambian Met about how to localize forecasts (packaging, dissemination/communication)
- Utilize alternative forecast resources such as the IRI Maproom.
- Contingency plans should be made at the national society, branch and community-levels using seasonal climate forecasts.
- Appropriately package and disseminate forecasts/early warnings (i.e. via cellphones, PA system, community meetings).
- Install rain/water table gauges which will be monitored by community members.