Anticipating Disaster: Local Dependence on Formal Climate Information vs. Traditional Ways of Knowing

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Overview of Presentation

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Traditional Mechanisms for Predicting Floods and Droughts
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Climate Trends & Anticipated Impacts on Southern Zambia

Image Left: Map of Zambia including Southern Province

Image Right: Map of Kazungula District, Southern Province
Research Objectives & Methodology

• Two weeks of data collection (July 2016)
• Interviews, focus groups, participant observation, and site visits

Identify current barriers in coping with and adapting to climate-induced disasters and opportunities to improve access to early warnings and enhance local preparedness

Photograph (right) courtesy of Zumbo Mbambara
Findings & Analysis for Climate-Induced Disasters Impacting Communities

I. Droughts

Water-stressed residents in Kawewa draw drinking water and irrigate their fields.
In the fishing village of Simalaha, residents illustrate water levels during the 2006 floods.
Local Coping Mechanisms & Adaptation Strategies

Agricultural Adaptive Strategies

- Timing of Planting
- Crop selection
- Keeping fields in upland/lowland
- Earthen ridges and furrows

Temporary or Seasonal Relocation

Structural Reinforcement

Houses, even those constructed on earthen mounts, often suffer irreparable damage during floods.
Local Access to Formal Weather & Climate Information

Zambia Meteorology Department (ZMD)’s Formal Advisories:
• Six-month forecasts
• 10-day forecasts
• Daily forecasts
• Extreme Weather Advisories

Image: Automatic weather station in Sikaunzwe, which sends data directly to the ZMD, but is not disseminated locally.
Uses and Limits of Formal Climate and Weather Information
Traditional Mechanisms for Predicting Floods & Droughts

Seasonal Indicators

- Trees (flowers, fruit, leaves)

More Immediate Indicators

- Clouds and Wind
- Movements of Birds
- Presence of Cobwebs in the
Formal Data vs. Traditional Ways of Knowing
Status of Formal Flood Early Warning Systems (EWS)

- Dissemination of ZMD-prepared forecasts and extreme weather advisories
- Interventions to establish community-based EWS after 2006 & 2008 floods
Existing Informal Community-Based EWS

Image: Community meetings provide an efficient avenue for rapidly communicating early warnings.
Examples of Informal Communication Structures for Exchanging Critical Information between Communities
Opportunities for Improving Community-Based EWS

Recommendations

Image: Major flood damage from the 2008 flood near the Kasaya Bridge.
Acknowledgements

Collection with ZRCS District Project Officer, Emmanuel Mudenda and Zumbo Mbambara, Kazungula Branch Volunteer
Questions?

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Full Report, Blog and Photo Gallery available at:
http://sciencepolicy.colorado.edu/students/redcross/gladfelter