

# Community based non-structural flood risk management for Malawi

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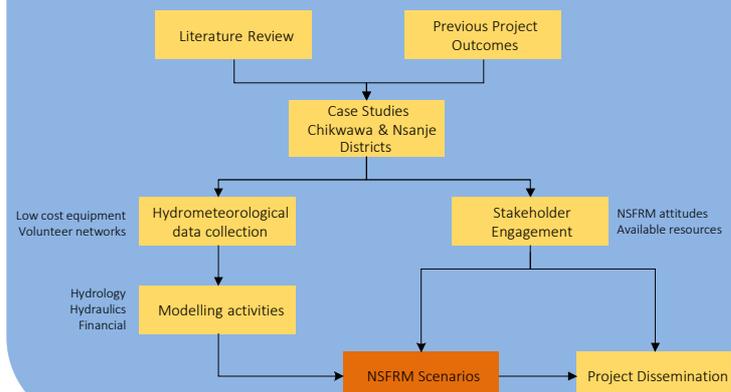


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## Introduction

- o Three quarters of disaster related economic losses in Sub-Saharan Africa (SSA) are caused by flooding<sup>1</sup>
- o Societal challenges preclude investments in traditional structural flood defences<sup>2</sup>
- o Increasing recognition of benefits of Non-Structural Flood Risk Management Measures (NSFRM):
  - flood forecasting and warning
  - land use planning
  - emergency preparedness, response and recovery
  - flood proofing
  - source control
- o Lack of previous research on community based resilience to flooding in Malawi<sup>3</sup>
- o Additional lack of hydrometeorological data collection networks in Malawi

## Methods



## Aims and Objectives

### OVERARCHING AIM

Develop a blueprint for community based NSFRM measures for Malawi

### SPECIFIC RESEARCH OBJECTIVES

- 01 Review efficacy of current FRM strategies in Malawi and internationally
- 02 Determine stakeholders attitudes to NSFRM
- 03 Quantify locally available resources (financial and workforce)
- 04 Explore low cost hydrometeorological data acquisition systems and potential for community based data collection
- 05 Develop range of NSFRM for different levels of flood risk and resources
- 06 Disseminate project outcomes to local actors

## Case Study<sup>4,5</sup>

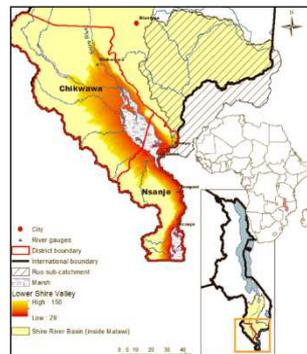


Figure 1: Case study location<sup>5</sup>

- o Chikwawa and Nsanje districts
- o Annual rainfall 400 - 700 mm
- o Land use change: woodlands to agricultural fields
- o Rural population with high poverty rates
- o Sources of livelihoods: farming, fishing and livestock rearing
- o Flooding presents severe threat to existing livelihoods



## Expected Outcomes

- o NSFRM blueprint for Malawi with applicability to SSA and similar regions worldwide
- o Development of low cost data collection system – theoretically global application

### Acknowledgements

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### References

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- <sup>3</sup> Mwale et al (2012), Application of SOM and MPL-ANN for streamflow and water level forecasting in data poor catchments, *Hydrology Research*
- <sup>4</sup> Adedoye et al (2015), A metric based assessment of flood risk and vulnerability of rural communities in the Lower Shire Valley, Malawi, *Proceedings of the International Association of Hydrological Sciences*
- <sup>5</sup> Mwale et al (2015), Quantifying vulnerability of rural communities to flooding in SSA: A contemporary disaster risk management perspective applied to the Lower Shire Valley, Malawi, *International Journal of Disaster Risk Reduction*

