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Diversification in East and Southern Africa

Bundling Parametric Insurance to Build Climate Risk Resilient Community: Experience from IBFI Application in Zambia

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AICCRA
Accelerating Impacts of CGIAR Climate Research for Africa

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Climate Resilience

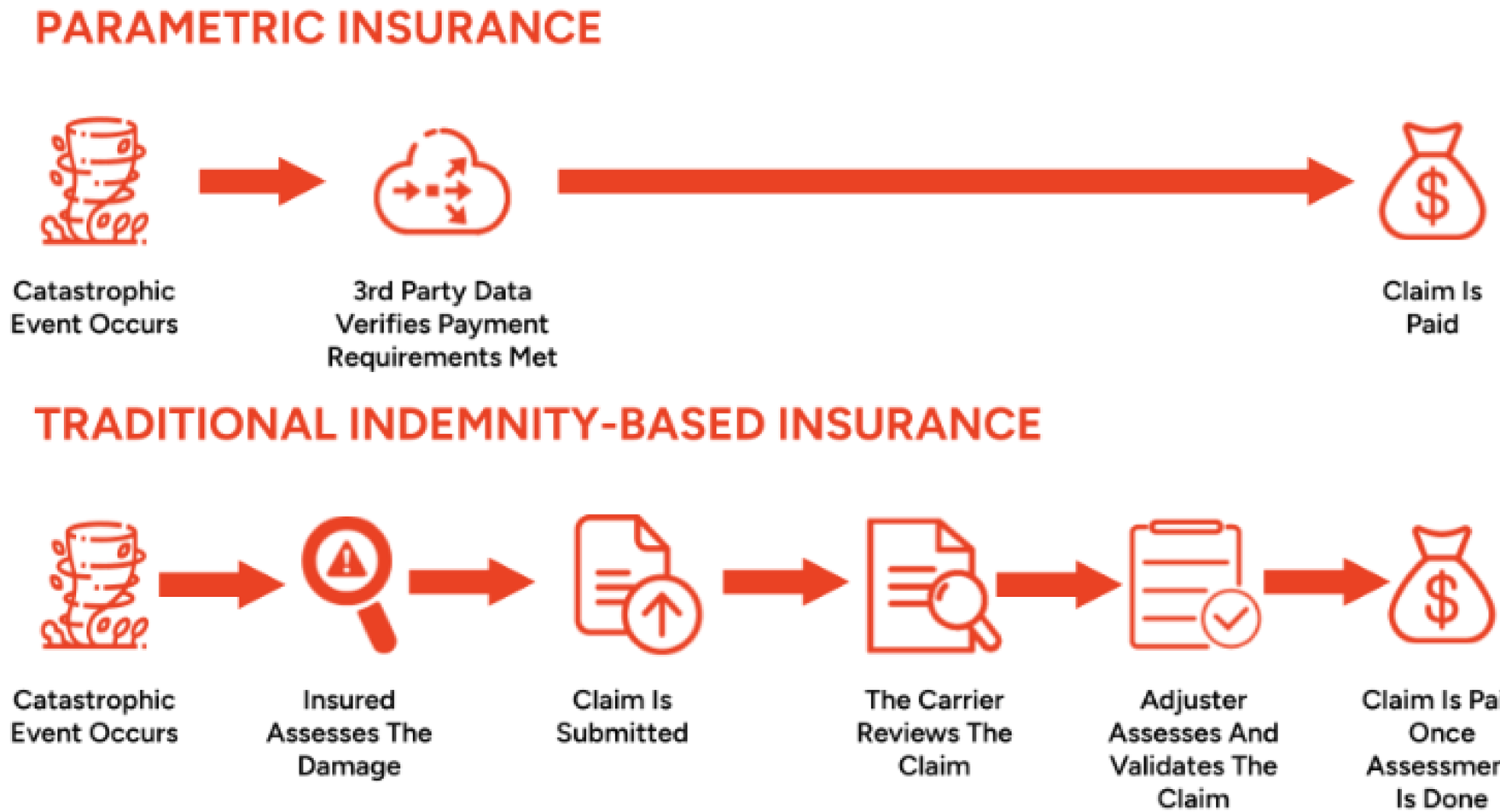
DIWASA
Digital Innovations for Water Secure Africa

Parametric Insurance

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What is Parametric Insurance?

How does it work?



Piloted in Zambia: Mazabuka → Index-Based Flood Insurance (IBFI)

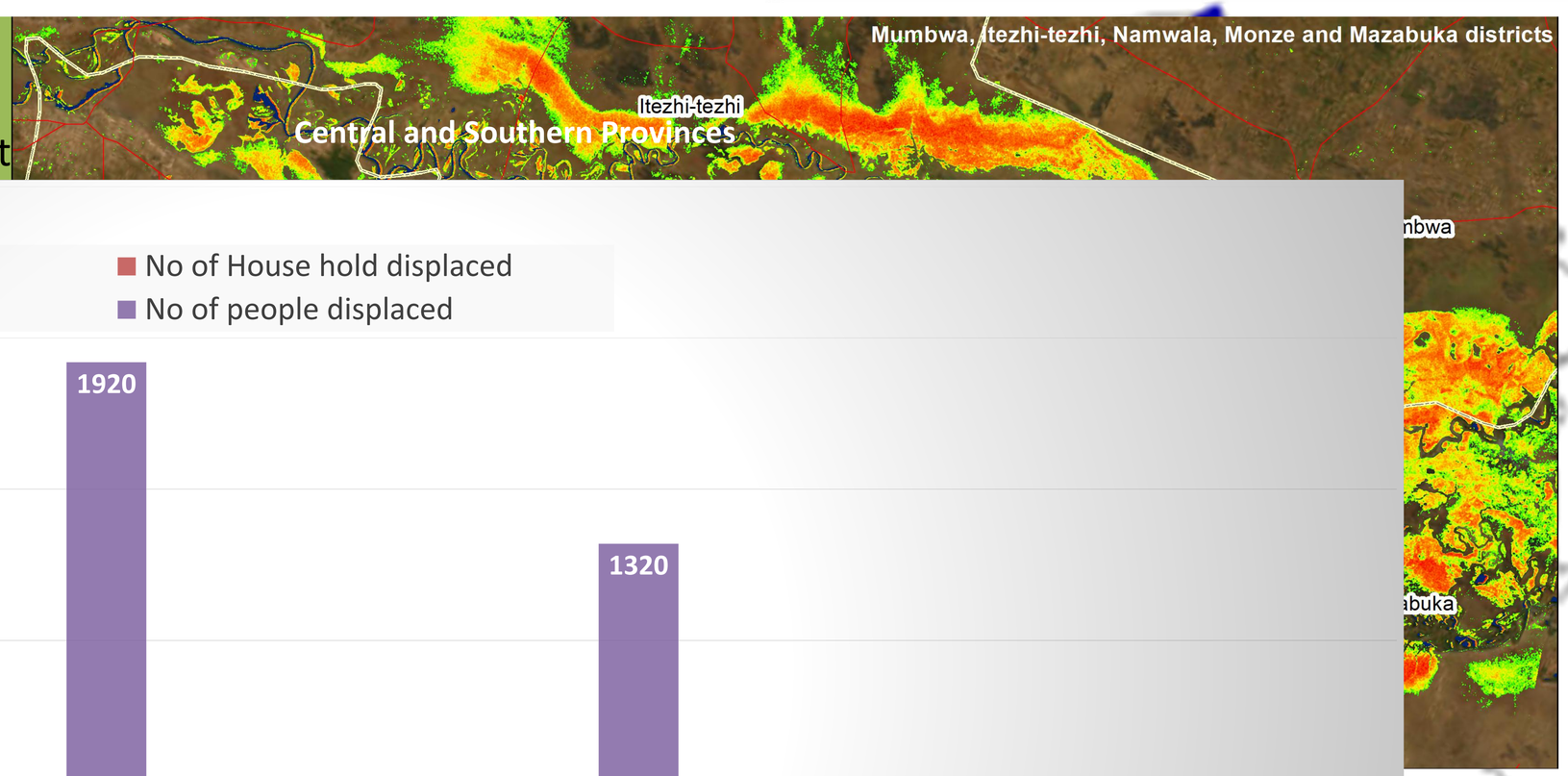
Deploying and rapidly scaling in a coordinated and inclusive way

Why Parametric Insurance in Zambia: EO Flood Inundation Mapping in Zambia

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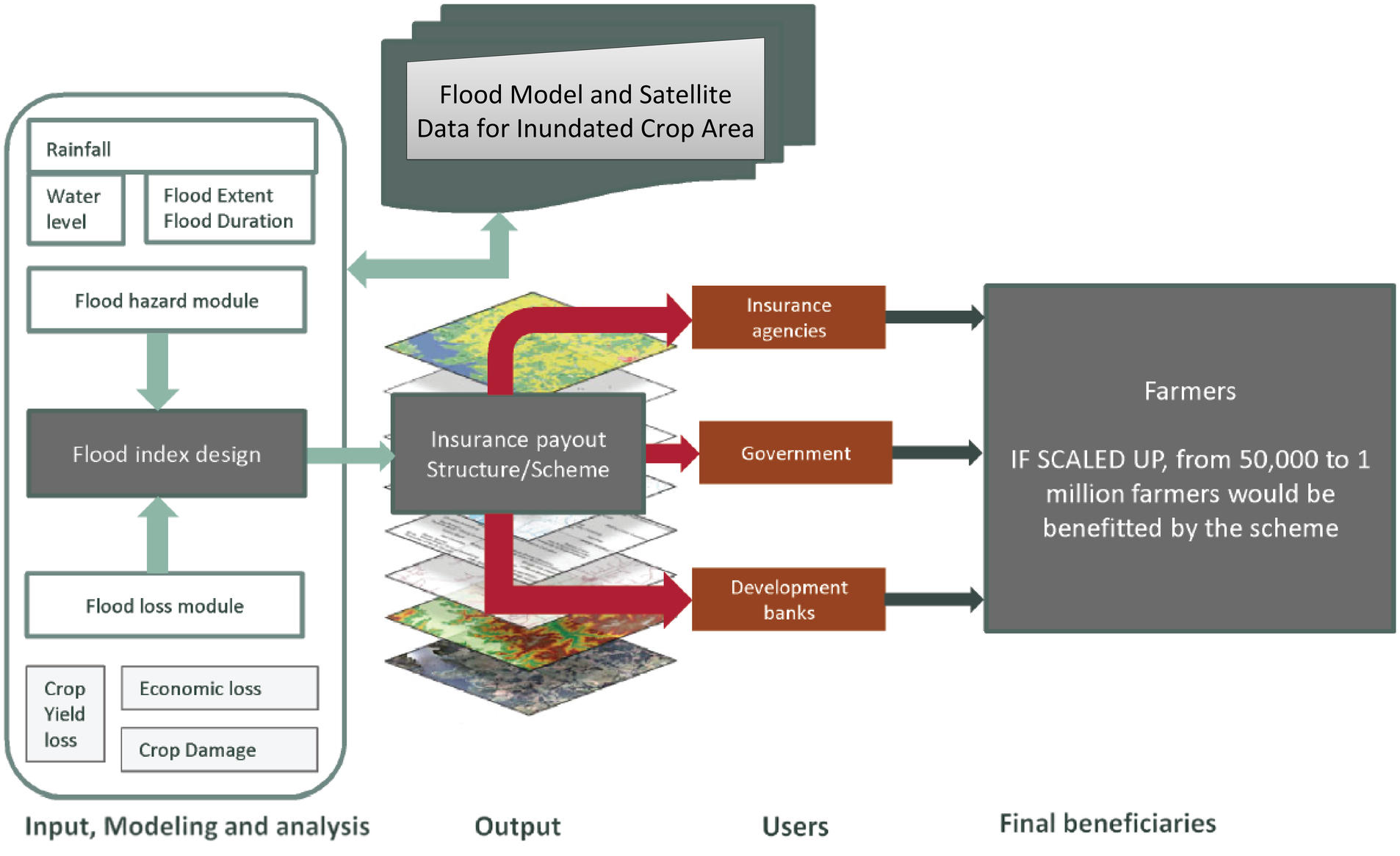
While Zambia contends with several hazards, ric

In February 2023, Zambia faced its most





Developing Index Based Parametric Insurance (IBPI)



Considers integrated flood hazard model, economic loss data and satellite images for index development

The Scope

- Bundling climate insurance solutions: Index Based Flood Insurance (IBFI) (co-design and co-implement with insurers/SMEs and MoA) under UU– With potential scaling in AICCRA

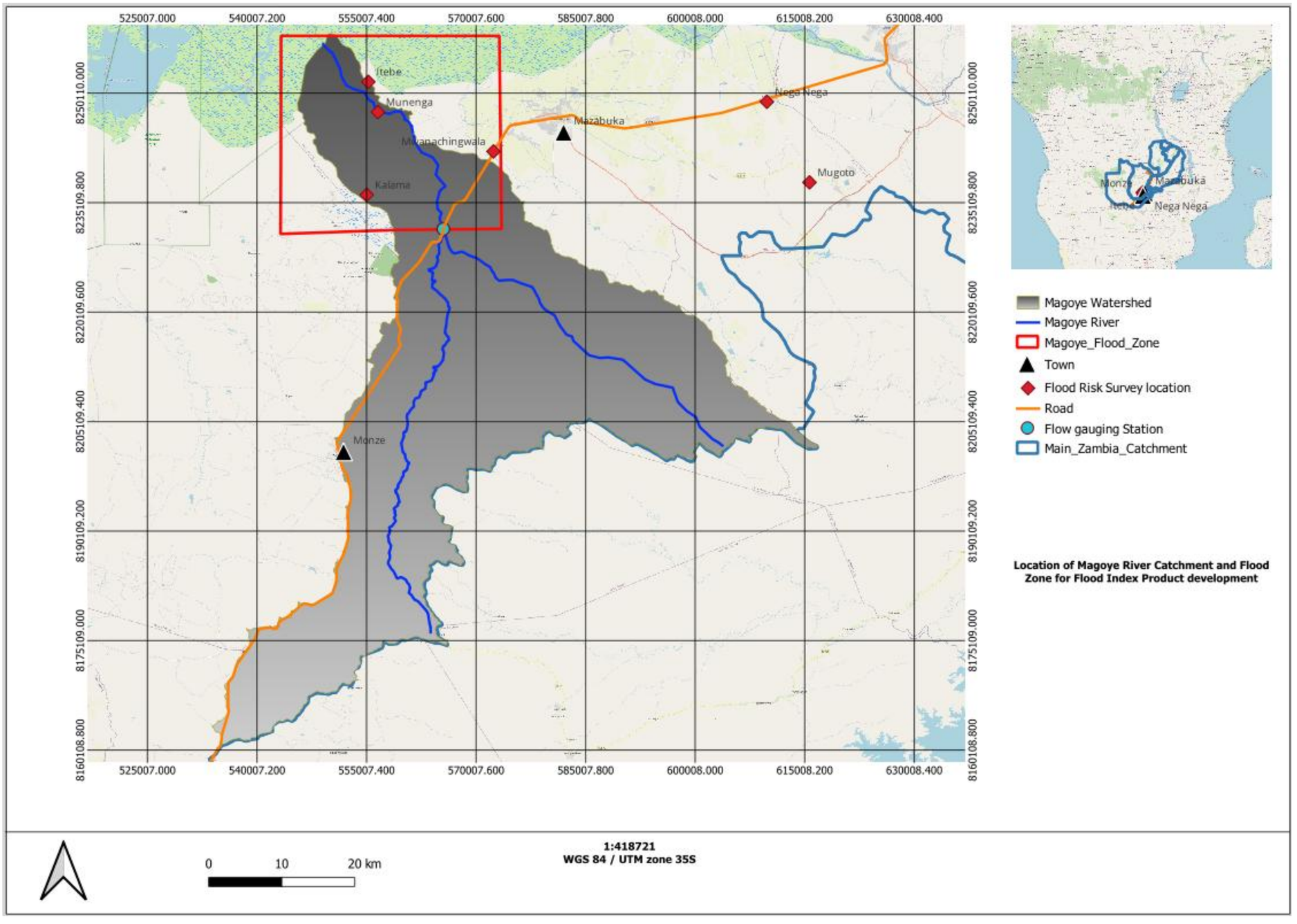
- To reach out to more than 250 communities (gender sensitive)

- Region selection, fieldwork, community interactions, current experience from communities (Survey prepared by IWMI on flood insurance feasibility), stakeholder meetings (private sectors + insurance companies) and discuss the role of IBFI and their interest
- Model development + Parameters (Flood Depth, duration, extent – complemented using RS data)

- Co-design and Co-implement IBFI with the insurer and ACRE Africa

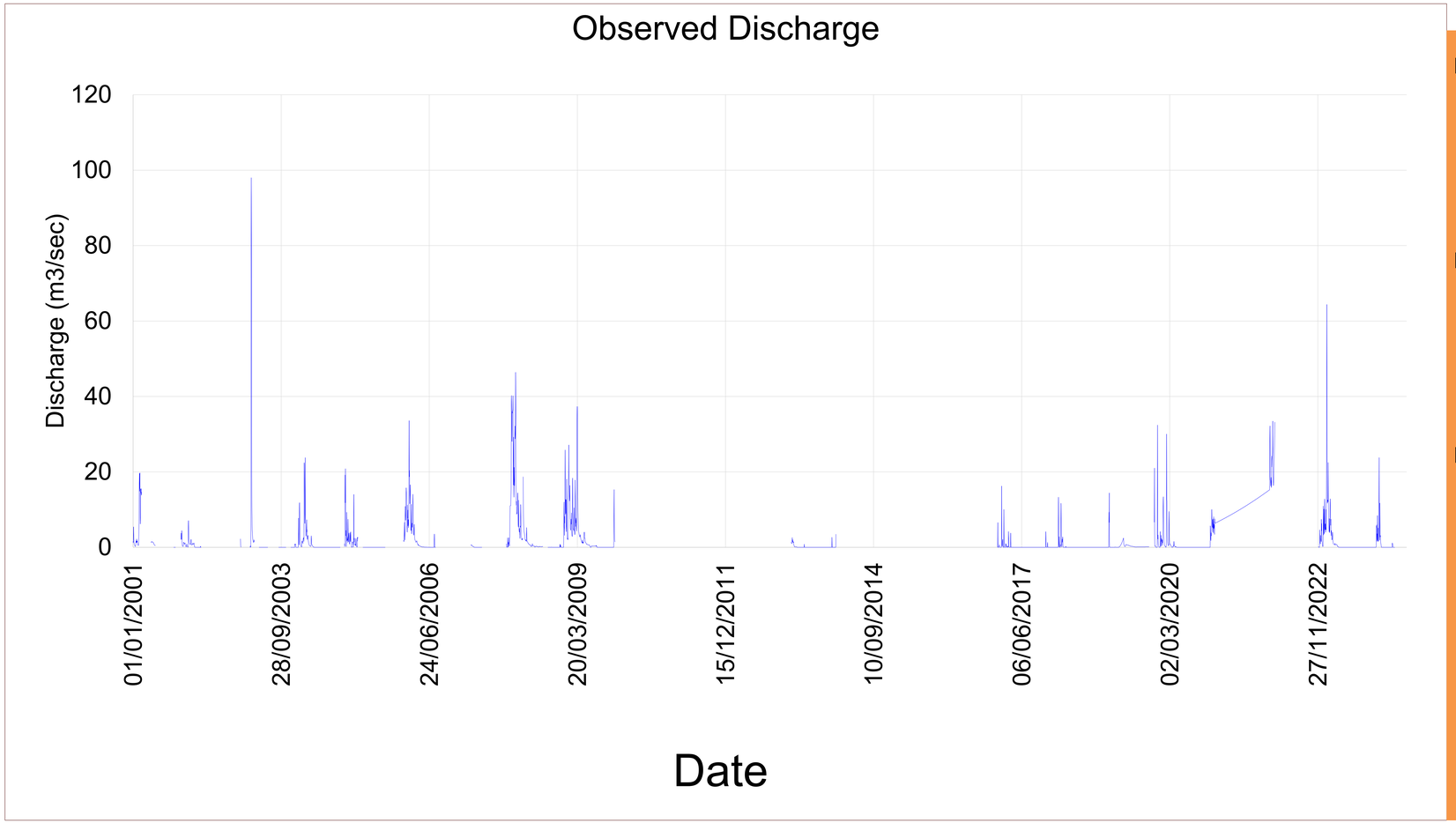
Pilot: Lower Magoye River in Mazabuka District

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- Flood-affects:
  - ✓ Households displacement,
  - ✓ Crop fields,
  - ✓ Livestock.
- Affected Villages:
  - ✓ Kalama
  - ✓ Munenga,
  - ✓ Mwanachingwala
  - ✓ Itebe

Discharge data



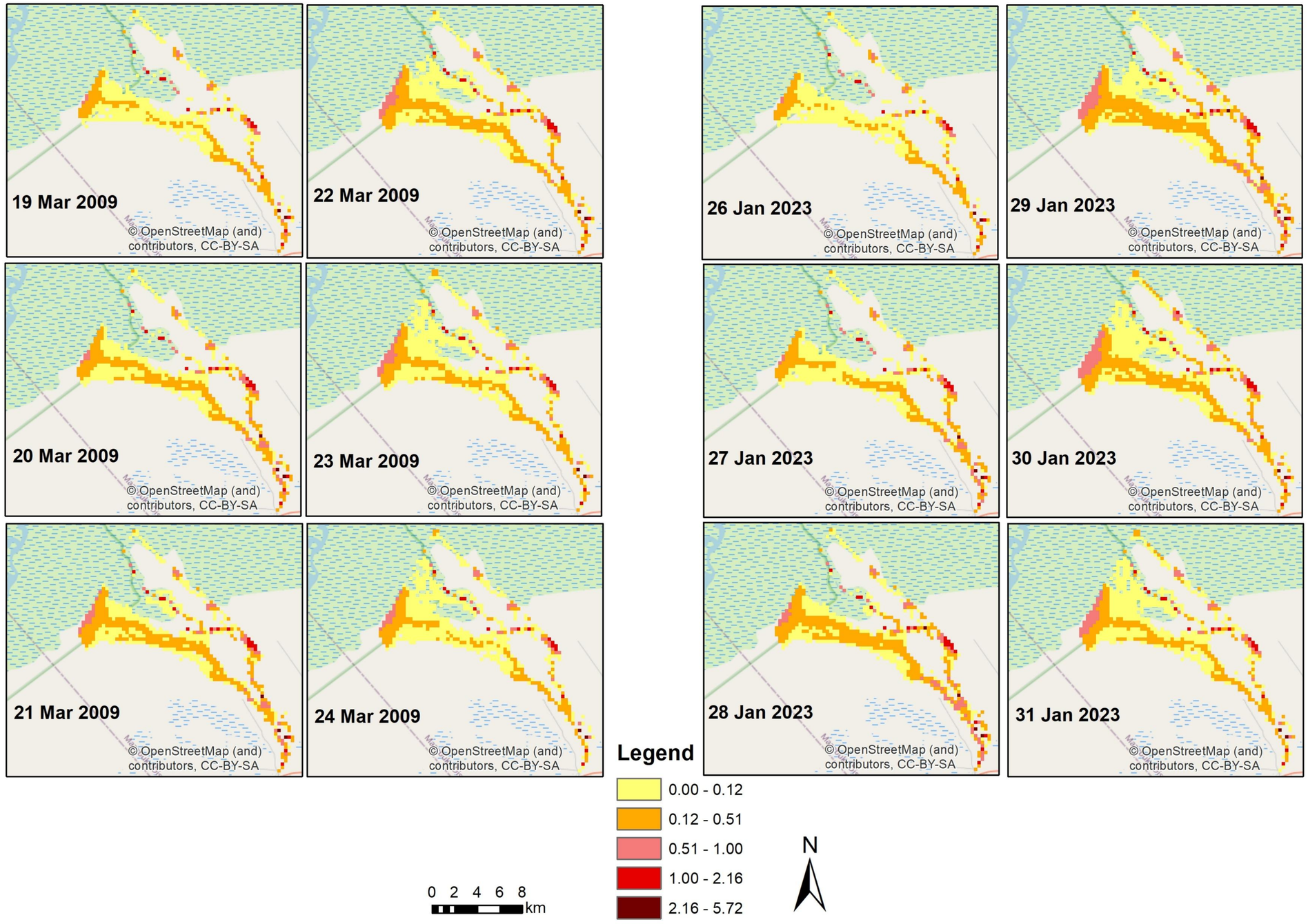
- WARMA data from Magoye River at Chimbumbu's Farm station
- Data is calculated based on the stage-discharged relationship
- Data available from 2021 to the present, but model was developed for three wet season, 2007/8, 2008/9 and 2022/23 (Red Rectangle).

Developing Index Based Parametric Insurance (IBPI)

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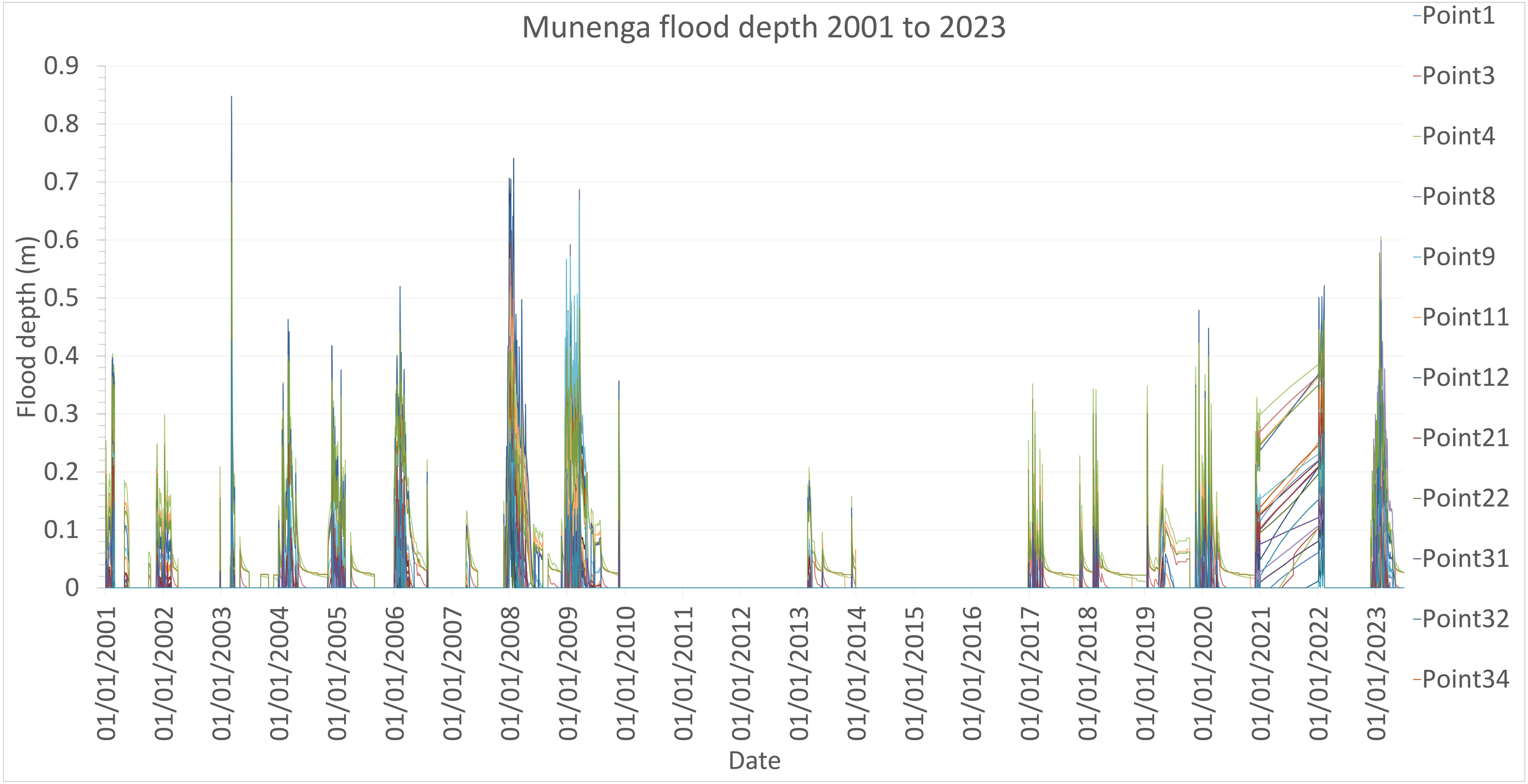
Flood model simulation using observed flow data from WARMA

- Flood depth propagation along the valley
- Close to upstream location flood depth greater than 1 m, with narrow flood extent, confined to the river reach
- As flood propagates downstream section, flood spreads with flood depths less than 1 m.

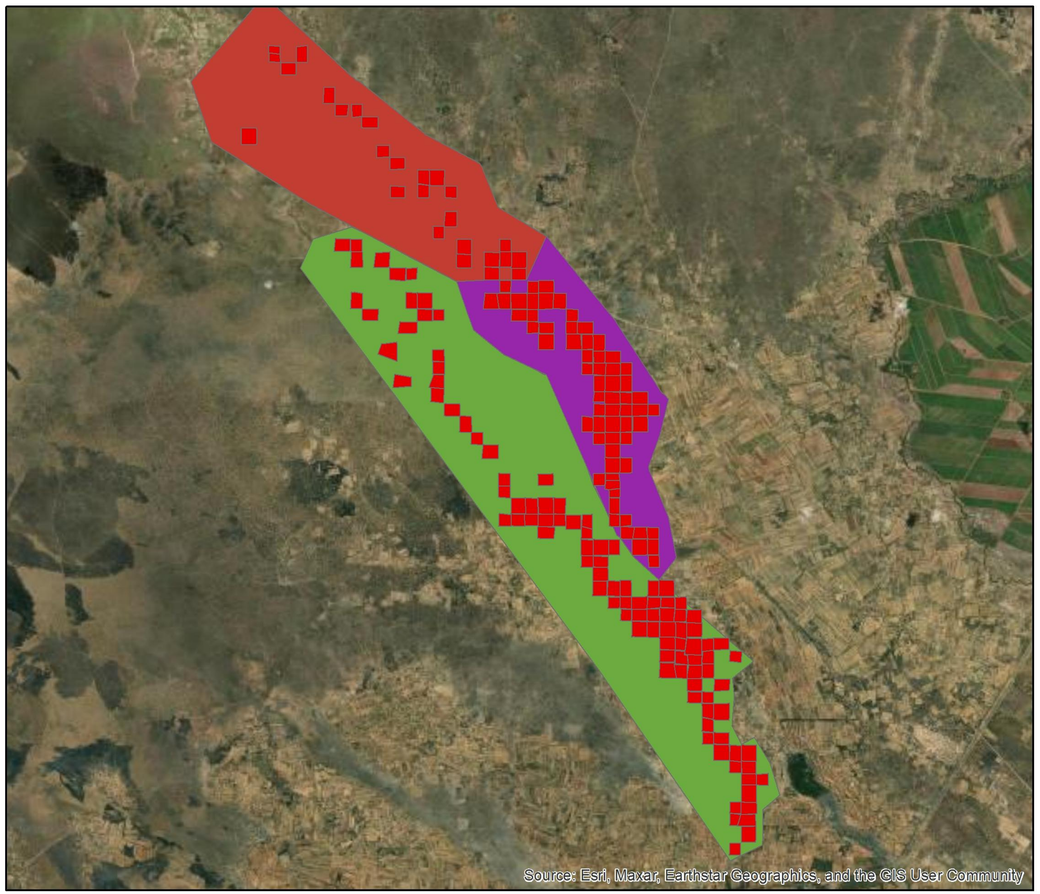


Developed Flood depth

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IBFI- Pilot locations, Mazabuka District, Southern Province, Zambia



Legend

Flood index_Grid locations

Pilot Villages

Mwanachingwala

Munenga

Itebe

0 2 4 6 8 km

N

The coverage is multi-tiered to address different levels of flood severity:

Level of Flooding	Percentile for Trigger Setting	Maximum Coverage
Minor	80%	25%
Moderate	85%	50%
Major	95%	75%
Catastrophic	99%	100%

PROPOSAL FOR FLOOD INDEX INSURANCE: SEASON 2024-2025

This proposal outlines the details of a flood index insurance product designed to cover flooding events based on flood depth data for the specified target area in Zambia.

Target Locations	Mogove, Catchment, Southern Province, Zambia
Perils Covered	Flooding (based on Flood Depth Data)
Mode of monitoring	Flood Depth Data
Unit Area of Insurance (UAI)	Pixels along River Mogove

IWMI International Water Management Institute

Opportunities and Challenges

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Under AICCRA-Zambia and soil accelerator projects, we are planning to scale up the product in partnership with ACRE Africa, focusing on areas vulnerable to excessive rainfall, Flash floods, and river floods leading to crop failure and damage.

From the Pilot Work in the Mazabuka District:

- 250 farmers from the three Villages will cover for this year's floods
- Scalability: This work can apply in different parts of Africa, currently being implemented in South Sudan, planning to implement in Malawi and Ethiopia.
- Affordability challenge for smallholder farmers—the insurance premiums are simply too high
- The scale of impact is too low, and piloting for a Large area is expensive.

To address this, we see an opportunity to bundle the insurance with the **accelerator program** you are running in Zambia. This approach could provide several key benefits:

1. **Reducing the financial burden on farmers** by integrating premiums into existing bundle structures (Agricultural inputs such as Seeds, Fertilizers, Agri Loans program, …).
2. **Lowering implementation costs** by leveraging existing financial mechanisms.
3. **Ensuring the sustainability of the innovation** by creating a more accessible and scalable model.
4. **Scale up the product to reach out to more farmers**

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I would like to discuss the following with you:

- **How does parametric insurance align with your scaling work?**
- **How do you see the potential for partnership to bundle this risk solution in Zambia and potentially Malawi?**