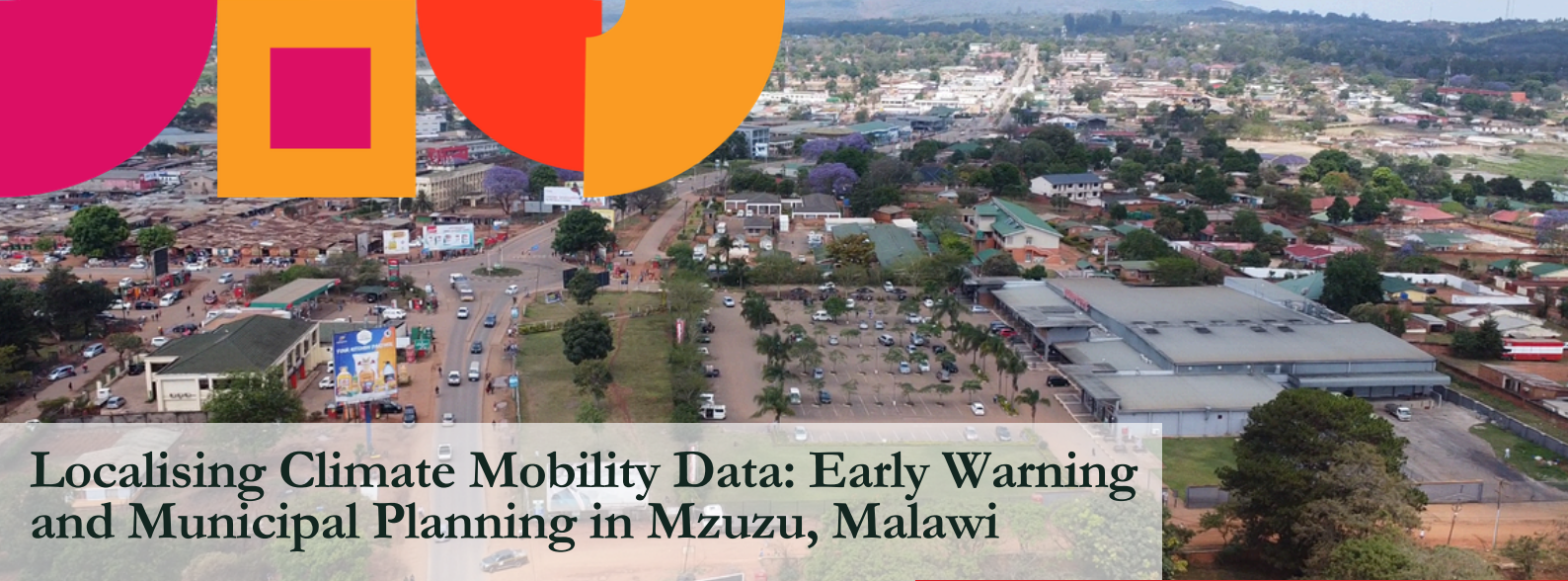




Localising Climate Mobility Data: Early Warning and Municipal Planning in Mzuzu, Malawi

Climate Mobility Context

Mzuzu City, the capital of Malawi's Northern Region, is experiencing rapid urbanisation and the highest intercensal growth rate in the country at 5.4% (NSO, 2019). Rural-to-urban migration is a major contributor to these trends (Riley & Crush, 2023; Riley et al., 2018). Major cities in Malawi, including Mzuzu, have suffered flooding and drought, for example in 2014 and 2016 (UN-Habitat, 2022). Flooding is a recurring issue in poorly drained areas in Mzuzu (e.g., Masasa, Chibanja, Chiputula, Mzilawaingwe, Chibavi East and West, Mchengautuba West and Zolozolo East and West), often resulting in displacement, as well as property and infrastructure damage (Mzuzu City Council et al., 2024). Additionally, floods and dry spells in the rural districts of Karonga, Rumphi and Chitipa have pushed households to Mzuzu in search of improved livelihoods. Many new arrivals settle in informal settlements with limited tenure security, increasing pressure on water, housing, land and health services.

Despite this, city planning and disaster response in Mzuzu have historically relied on fragmented data from national agencies, with limited real-time, disaggregated data on human mobility and climate risk at ward level. A 2024 study by the Initiative for Climate Action and Development (ICAD) on mainstreaming human mobility into Malawi's National Adaptation Plan (NAP) process identified three data gaps in Mzuzu (ICAD, 2024):

- **No city-level mobility data:** The City Council lacked data on who is moving to Mzuzu, from where, and why. This limits targeted service delivery.
- **Delayed hazard information:** Communities in flood-prone wards received warnings 24 to 48 hours late, after damage had already occurred.
- **Gender-blind data:** Women, youth, and persons with disabilities were disproportionately affected by displacement but were under-represented in municipal databases.

Approach

From 2024 to 2026, ICAD piloted a data management approach in three wards of Mzuzu: Masasa, Zolozolo and Mchengautuba. The approach had three components:

- **Community Climate and Mobility Monitors:** Training of 30 community monitors (10 per ward, 60% of whom are women) covering 200 households per ward and around 2,600 people in total. The community monitors collect monthly data on rainfall, flood points, new arrivals, shelter conditions, and service gaps using simple tools. Data is validated with Area Development Committees and Ward Councillors and plans are in place to engage city stakeholders, the private sector and academia.



- **Mzuzu City Climate Mobility Dashboard:** ICAD is mobilising partners to support the development of a dashboard that will aggregate community data with weather data from the Department of Climate Change and Meteorological Services (DCCMS). The dashboard, which is currently in its planning phase, will provide monthly maps of flood hotspots and migration trends to inform the City Disaster Risk Management Committee. Additionally, findings will be passed to the national level to inform policy and decision-making. ICAD is advocating for climate mobility to be mainstreamed in the 2026/2027 Mzuzu City Development Plan, using data from the pilot.
- **Gender-Responsive Data Protocols:** Introduction of data collection protocols that capture gender, age, disability, and reason for movement. This allows the city to plan targeted interventions, for example safe spaces for women in evacuation centres.

“Without timely, localised, and gender-disaggregated data, decision-making on relocation, infrastructure, and social protection remains reactive. In this context, ICAD is working with Mzuzu City Council to scale this model to all 14 wards and integrate it into the City’s Climate Change Management and Disaster Risk Reduction Plans.”

Gift Richard Maloya

Migration Governance and Climate Mobility Expert, The Initiative for Climate Action and Development (ICAD)

Funding

To date, ICAD’s work has been implemented through internal resources and volunteer monitors. Additional resources are required to fully operationalise the city’s climate mobility dashboard, sustain monthly hotspot and mobility mapping, and cover other project needs.

Impact to Date

- **Faster response:** During the January 2025 floods, early alerts from community monitors enabled timely community action and pre-positioning of relief to affected areas.
- **Policy uptake:** Data and lessons from Mzuzu inform ICAD’s ongoing input to Malawi’s NAP process (including through a briefing note on climate mobility in urban informal settlements that is under development and draws on evidence from Mzuzu).
- **Community ownership:** Community-collected information is now discussed in various development meetings with different stakeholders and the City Council, leading to visible actions and follow-ups on matters such as drainage clearing and planning. Community monitors are recognised as trusted focal points, fostering increased proactive information sharing from residents. This feedback loop has strengthened trust, accountability, and ownership.

Learnings

- **Community-generated data works:** Local data collected by communities is timelier and more actionable for municipal decision-making than national datasets alone.
- **Link data to budget and planning:** Data only drives action when it is linked to City Council planning cycles and budget lines.
- **Gender and inclusion need explicit protocols:** Without them, mobility data will miss the most vulnerable.

This case study was presented as part of the South-South-Dialogue Series organised by the GIZ Global Programme on Human Mobility in the Context of Climate Change and facilitated by Clima Trust (formerly SLYCAN Trust). If you want to learn more about HMCCC please check [here](#).

For specific questions and further inquiry on the case study, please contact Gift Richard Maloya at gift.icad@gmail.com.

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