

Uganda Supporting Evidence from Flood and Drought Case Studies in Katakwi and Kasese Districts

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Case study manuscripts

Namakula, J., Aryaija-Karemani, A., Sseviiri, H., Twinomuhangi, R., consortium, P. A. R. E. S., Mayhew, S., & Ssengooba, F. (2025). Community Resilience to Cholera Epidemics in Uganda: A Realist-informed review of Vulnerability and Intervention mechanisms. *NIHR Open Research*, 5, 79.

Twinomuhangi, R., Sseviiri, H., Mayhew, S. H., & Sahani, M. K. (2026). Examining the effects of climate and environmental hazards on vector and water-borne diseases in Eastern Uganda. *Discover Environment*, 4(1), 104.

Aryaija-Karemani A., Namakula J., Sseviiri H., Twinomuhangi R., Mayhew S., Ssengooba F., PARES Consortium “They Are Not Here for the Camera”: Community-level Strategies for Building Climate-Resilient Health Systems in Response to Floods in Uganda. *Submitted*, PLOS Global Public Health

Twinomuhangi R., Sahani M.K., Sseviiri H., PARES Research Group, Mayhew S.H. “Impacts of Climate Hazards and Environmental Shocks on Livelihood in Eastern and Northeastern Uganda” *Submitted* Regional Environmental Change Journal (Springer Nature)

Twinomuhangi, R, Sseviiri, H., Namakula, J., Aryaija-Karemani, A, Mayhew, S., Ssengooba, F. Drought and health in rural Uganda: A review of impacts and community resilience mechanisms in agrarian and pastoral communities. *Submitted* Geo journal.

Twinomuhangi, R, Sahani, M, Sseviiri, H., PARES Research Group, Mayhew, S. Impacts of climate hazards and environmental shocks on livelihoods in Eastern and Northeastern Uganda. *Submitted* Journal of regional environmental change.

Namakula J., Aryaija-Karemani A. Sseviiri, H, Twinomuhangi, R, Balabanova, D, Mayhew, S, PARES Consortium., Ssengooba, F. Negotiating Indigenous and scientific knowledge for climate resilience: Insights from two climate-affected districts in Uganda. *Submitted* Frontiers in Climate - Climate Risk Management

Sseviiri H., Twinomuhangi R., Mukwaya P.I., Mayhew S.H., Alencar P.A., Buyana K. Ssengooba F., Namakula. J., and Lwasa. S., “Living with floods: Urban Residents' Realities of Climate Change in Greater Kampala Metropolitan Area and Kasese Municipality, Uganda” *Submitted Journal of Natural Hazards or Journal of Hydrology.*

Twinomuhangi, R, Sahani, M, Sseviiri, H., PARES Research Group, Mayhew, S. *In Preparation* Drought and health in rural Uganda: A review of impacts and community resilience mechanisms in agrarian and pastoral communities.

Sseviiri et al., *In Preparation* Local-centric proxies/intermediaries for climate resilient health systems in low-income urban settlements of Kampala city region and Kasese municipality, Uganda.

Sseviiri et al., *In Preparation* Tactical vernacular/popular governance for climate action, health and wellbeing outcomes in informal settlements of Kampala city region.

Sseviiri et al., *In Preparation* The overlapping and yet overlooked burden of crises: Mental health and disease burdens in flood-affected populations of GKMA and Kasese municipality.

Data Collected

In Kasese and Katakwi Districts:

46 key informant interviews (Kampala/Kasese municipalities and Kasese & Katakwi districts); 12 focus group discussions (Kasese and Katakwi) in 2023; dissemination and validation workshops with c.60 stakeholders in February 2026.

In Greater Kampala Metropolitan Area (GKMA) and Kasese Municipality:

NB: These data are still being analysed; the qualitative data informed the case studies below, but Case Study summaries incorporating the quantitative data are not yet available

Household survey with 939 people in Greater Kampala Metropolitan Area (GKMA) focusing on Kampala city (Kawempe, Nakawa and Makindye Divisions), Kira, Nansana and Makindye-Ssabagabo municipalities (part of the city region) and Kasese Municipality focused in all divisions i.e, Nyamwamba, Central and Bulembia divisions.

12 FGD in Kasese municipality and GKMA (6 in each)

26 KIIs were conducted; 8 in Kasese, 12 in GKMA and 6 KIIs at National Level

Quantitative geo-data: Geospatial data on: Key infrastructure & Satellite imagery data to generate spatial data layers.

Quantitative health data: Ministry of Health's (MoH) District Health Information Software 2 (DHIS2) data from 2022 to end 2025.

Identified mechanisms by which community engagement & involvement can build resilience

Case study 1: Uganda – Flood – Knowledge Systems Integration

When scientific early warning information was aligned (by multiple stakeholders working together) with indigenous ecological knowledge and communicated through trusted community actors, communities perceived flood risk as credible and acted earlier.

Vignettes: #1, #3 and #4

Case study 2: Uganda – Flood and Drought – Social Capital and Collective Action

When credible risk warnings are received, communities activate existing collective structures such as Village Savings and Loan Associations (VSLAs), Savings and Credit Organisations (SACCOs), and water committees to mobilize resources and coordinate preparedness and recovery actions.

Vignettes #2, #5, #6, #7, #8

Case study 3: Uganda – Flood and Drought – Multistakeholder Collaboration

When coordination occurs through existing community and district governance structures, collaborative partnerships between local leaders, government actors, and NGOs enable more coherent preparedness and response to climate shocks that can be sustained in the long term.

Vignettes #1, #3, #4, and #9

Case study 4: Uganda – Flood and Drought – Embedded and Equitable Partnerships

Long-term partnerships between locally embedded NGOs, community leadership structures, and district authorities strengthen local learning and adaptive capacity to respond to climate shocks.

Vignettes #3, #4, #5 and #9

Case study 5: Uganda–Drought–Trusted Leaders and Intermediaries

When early warning information is communicated through socially legitimate and trusted leaders who interpret both indigenous and scientific signals, communities are more likely to recognize risk and mobilize collective preparedness actions.

Vignettes #1 and #9

Vignettes Case Evidence

Vignette 1: Trusted Community Communication Triggers Early Action

In Katakwi and Kasese districts, communities rely on trusted local communication networks to interpret early warnings about floods and drought. Village disaster committees review environmental signals alongside forecasts from district authorities, while LC1 leaders, VHTs, and NGO volunteers disseminate warnings through meetings, door-to-door visits, and local media.

Because messages come from trusted actors, households respond quickly by reinforcing homes, adjusting planting calendars, protecting livestock, or temporarily relocating.

However, expectations of relief aid sometimes shape responses to warnings. As one participant explained: *“Some community members tend to stay or return during the day so that they are captured as vulnerable and receive relief aid.”* (FGD, Kasese).

Despite these complexities, trusted communication remains critical for translating early warning information into community preparedness.

Vignette 2: Collective Community Action Protects Homes and Infrastructure

Communities frequently mobilise collective labour to prepare for and recover from floods. Households reinforce homes using locally available materials and adopt improved building designs promoted by NGOs.

Preparation is often coordinated by local leaders when environmental signs indicate approaching storms. As one respondent noted: *“People begin reinforcing each other’s homes... they know, in a few days, a windy, stormy rain will come.”* (KII, NGO TEDDO, Katakwi).

Similarly, another participant explained: *“We don’t wait for the government. Once we see the signs, each man begins preparing his house. You help your neighbor, too.”* (FGD, Kasese).

After floods, communities also repair damaged infrastructure together: *“We come together and fix it, cut logs, broken brick, and anything that can get to fix the roads... sometimes we collect some money from well-wishers... each family participates.”* (FGD, Katakwi).

These collective efforts help communities recover more quickly and restore access to services.

Vignette 3: Negotiating Knowledge Systems Improves Climate Preparedness

Communities combine Indigenous ecological knowledge with scientific climate forecasts when preparing for floods and drought. Elders observe environmental indicators while NGOs and government actors provide technical guidance and training. For example, NGOs introduced flood-resistant housing models that integrate local building practices with improved materials. *“For us here in Katakwi, the Red Cross had a project... teaching those in the lowlands how to make flood-resistant houses... the huts were called ‘post flood resistant huts’.”* (FGD Women, Katakwi Town Council).

Communities have also adapted these designs locally: *“Communities are constructing houses that are waterproof because they use kaveera before the bricks... even if the water comes much, it cannot penetrate the house.”* (KII, CDO, Katakwi).

However, some respondents cautioned that excessive reliance on external programs may weaken community initiative: *“There were a lot of NGOs... people are used to announcements. They want free things... now when you train them what to do, they don’t want.”* (KII, Sub-County Leader, Katakwi).

These experiences highlight the importance of integrating external interventions with local knowledge systems.

Vignette 4: Rescheduling Farming Activities and Climate-Smart Agriculture

Farmers in Katakwi and Kasese have adjusted agricultural calendars in response to erratic rainfall, delayed rains, and alternating flood–drought cycles. With training from NGOs such as SOCADIDO and Action Aid, farmers adopt drought-tolerant crops, adjust planting times, and implement climate-smart practices such as agroforestry, backyard gardening, and organic manure use. Local leaders and extension workers help disseminate weather advisories and technical guidance.

These adaptations reduce crop losses and improve yields while strengthening complementary mechanisms such as food banking and savings through Village Savings and Loan Associations (VSLAs).

Vignette 5: Village Savings Groups Enable Household Recovery

Village Savings and Loan Associations (VSLAs) provide financial support that helps households recover from floods and drought. Members contribute savings regularly and access loans to rebuild homes, purchase agricultural inputs, or start small businesses.

NGOs have supported the formation and strengthening of these groups through financial training. As one respondent explained: *“SOCADIDO’s extension workers trained the members of Aduko Tumaini (VSLA group) on financial management and record-keeping. Slowly the community began to see the potential of saving together.”* (KII, NGO SOCADIDO).

Through trust and peer accountability, VSLAs function as important community institutions that strengthen financial resilience.

Vignette 6: Food Banks and Post-Harvest Storage Buffer Food Insecurity

To address food shortages caused by floods and drought, communities have established collective food storage systems. Surplus harvests are stored in communal granaries managed by LC1 leaders and community committees.

These reserves are distributed during periods of scarcity. *“Sometimes external support arrives from SOCADIDO or WFP, supplementing the community’s food bank with additional supplies of maize flour or groundnuts.”* (KII, Local Leader, Katakwi).

Participation is sustained through shared norms of reciprocity: *“Contributions are voluntary, but many see it as a moral duty to participate, especially those who have experienced drought and hunger first-hand.”* These systems help stabilise food availability during climate shocks.

Vignette 7: Livelihood Diversification Reduces Dependence on Rain-Fed Agriculture

Recurrent drought and crop failure have encouraged households to diversify their income sources beyond agriculture. Many families now engage in activities such as brick-making, charcoal production, petty trade, and tourism-related work.

Programs such as the Youth Livelihood Program and Emyooga, along with NGO training, support entrepreneurship and access to start-up capital. Savings groups also provide micro-loans that enable households to start new businesses, reducing dependence on rainfall-based livelihoods and strengthening resilience.

Vignette 8: Water Committees Sustain Water Access During Drought

During prolonged drought, communities increasingly rely on boreholes and protected wells. Water user committees manage these resources by organising maintenance, collecting user fees, and coordinating repairs. As one participant explained: *“We have water committees which maintain the water source. We pay 3000 shillings per month and a committee of five oversees these funds for repairs.”* (FGD Women, Katakwi).

NGOs and district water offices provide technical assistance when major repairs are required. Where communities trust committee leadership and contribute regularly, these systems ensure reliable water access.

Vignette 9: Local Governance Structures Coordinate Disaster Response

Local governance structures play an important role in coordinating preparedness and response to floods and drought. Village disaster committees, LC1 leaders, and district authorities disseminate early warnings and organise relief activities: *“We get to know about shocks through government structures of disaster preparedness that alert people in villages about what is expected to happen.”* (FGD, Kasese).

Local leaders also facilitate reporting and coordination across administrative levels: *“Every LC1 gets a village report and submits to the councillor, who submits it to the sub-county disaster committee.”* (FGD Leaders, Katakwi).

However, some respondents reported concerns about accountability in relief distribution: *“Donations have reached the leaders, but they did not reach us... the name of the one directly affected does not appear on the register.”* (FGD VHTs, Kasese). These governance structures therefore play a crucial role in shaping community resilience.