CLARExchange 2026 Forum

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Marketplace

Poster Booklet

CLARE CLIMATE ADAPTATION & RESILIENCE

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CLARE-ASEAN: Supporting Socially Inclusive CLimate Adaptation & REsilience in ASEAN Cities

FROM PLACE-BASED EVIDENCE TO REGIONAL ACTION

CLARE-ASEAN connects place-based action research across 7 ASEAN Member States and 14 cities, turning evidence into regional priorities for policy and practice

What patterns recur across ASEAN cities?

What remains place-specific?

What can inform policy and practice across ASEAN?

FINDINGS

Urban heat

- Housing types shape heat exposure.
- Indoor heat can persist into the night.
- Low-income households rely heavily on low-cost coping strategies.
- Adaptation must extend beyond household action.

Nature-based solutions

- NbS are delivering measurable local cooling.
- Flood-risk reduction is evident at monitored sites.
- Carbon and biodiversity benefits are emerging.
- Water-quality effects remain uncertain.

Climate finance

- The gap remains in implementation capacity.
- Many cities need stronger project preparation.
- Investment-ready pipelines remain critical.
- Finance must fit local adaptation needs.

Urban planning & governance

- Adaptation needs to enter mainstream urban planning.
- Heat and NbS must connect to land use and infrastructure.
- Budgets are critical to implementation.
- Institutional coordination remains a key condition.

Community and participatory Aaproach

- Co-creation of knowledge enables locally relevant and context-specific solutions.
- Community participation builds ownership and strengthens the uptake of adaptation measures.
- Technical solutions combined with community-based approaches support more sustainable and lasting outcomes.

SIGNIFICANCE

- Connects evidence across cities, sectors, and scales.
- Identifies patterns across diverse ASEAN contexts.
- Distinguishes transferable lessons from place-specific responses.
- Connects heat, NbS, finance, planning, policy, and governance as interconnected components of an urban resilience system with GEI as cross cutting element.

ENABLING FACTORS

- Four Place-based action-research projects across 14 ASEAN cities.
- Synthesis of research evidence, policy, practice, and community knowledge.
- Cross-country comparison without erasing local differences.
- Engagement with ASEAN, national, and city-level actors.
- Regional outreach and contribution towards ASEAN policy processes

OUTCOMES

- Four Place-based action-research projects across 14 ASEAN cities.
- Synthesis of research evidence, policy, practice, and community knowledge.
- Cross-country comparison without erasing local differences.
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Learn about CLARE–ASEAN

MORE INFORMATION:

https://clareprogramme.org/project/clare-asean/
https://youtube.com/playlist?list=PLSj3EJ_fB_UM&si=ocDOmcK3VdZVG3ST

Heat Adaptation for the Mekong Region (HAMR): Bridging Science, Policy, and Sustainable Design in Thailand, Cambodia and Vietnam

In 2023, Southeast Asia, particularly Thailand, Cambodia and Vietnam, faced an unprecedented heatwave, an issue expected to intensify due to climate change. Rising urban temperatures, exacerbated by the urban heat island (UHI) effect, pose a significant challenge for cities, particularly for vulnerable populations. The urban poor, including those living in informal settlements are at heightened risk of heat stress due to low-quality housing, poor ventilation, and limited access to cooling solutions. This project employ **heat modelling techniques** to assess urban heat risks and identify tailored **mitigation strategies** that **integrate both structural and non-structural interventions.** By examining urban heat dynamics in cities across Thailand, Cambodia, and Vietnam, including Nakhon Ratchasima, Phnom Penh, and Hanoi respectively. This research generate insights to **support more inclusive, climate-resilient urban policies.** The findings will inform **practical recommendations for city governments, urban planners, and policymakers, ensuring that heat adaptation strategies are effective, equitable, and inclusive.**



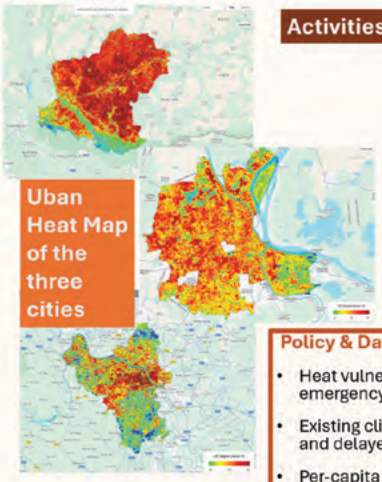
Location map of research areas

General Research Question:
How can urban policy effectively **mitigate urban heat** by supporting the **integration of structural and non-structural measures**, including nature-based solutions (NbS), to increase the **adaptive capacity of vulnerable communities** in Southeast Asian cities?

Objective 1: Assess the extent and distribution of urban heat risk across target cities.

Objective 2: Evaluate the effectiveness of structural and non-structural heat mitigation strategies

Objective 3: Examine the intersection of gender, disability, and social inclusion (GEI) in urban heat mitigation strategies.


Uban Heat Map of the three cities

Activities

Inception Stage: Work Planning & Stakeholder Engagement
- Stakeholder engagement
- Workplan finalization
- Initial consultation
- Capacity building needs assessment

Stage A: Understanding Urban Heat Risks & Evaluating Mitigation Strategies
- **A1:** Data collection, literature review & Field Mission 1 in 3 cities
- **A2:** Produce urban heat map using iGEE
- **A3:** Heat-vulnerability mapping
- **A4:** Community level heat data, consultation and Field Mission 2

Stage B: Synthesizing Results & Engaging Policymakers
- **B1:** Synthesis & capacity building workshop
- **B2:** Development of policy brief and recommendation
- **B3:** Policy engagement and regional dissemination

Findings

Policy & Data Gaps
- Heat vulnerability accumulates incrementally rather than as a discrete emergency, making it **difficult to trigger urgent policy action.**
- Existing climate policies are bottlenecked at the local government level and delayed in national urban planning frameworks.
- Per-capita green space calculations fail to reflect actual cooling availability in dense residential areas.
- Health and epidemiological data on heat illnesses must be made accessible to stakeholders to prove the urgency of heat risks.
- Current vulnerability frameworks insufficiently protect **children older than 5 years.**
- Developed **Urban Heat Maps** for Nakhon Ratchasima, Hanoi, and Phnom Penh, providing policymakers with empirical evidence to pinpoint exactly where extreme heat overlaps with high-density, low-income areas.
- Formulated a specialized **Urban Heat Risk Framework** to act as a structured decision-making tool, allowing planners to translate complex thermal data into immediate, localized policy actions.

Community & Business Responsibility
- Placing vulnerable groups at the core of policy design is essential to close the gap between government intent and real community needs.
- Education campaigns must target **policymakers and urban planners**, not just local citizens.
- Businesses must take formal responsibility to provide adaptive cooling solutions for their workers and supply chains

Finance & Scaling Solutions
- Green financing is severely underdeveloped domestically; private investors strongly favor mitigation projects over urban cooling infrastructure.
- Dedicated financial needs assessments are urgently required to model and mobilize resources for heat adaptation.
- Deploying small-scale **pilot interventions with matched comparison designs** is key to proving cost-effectiveness before national rollout.

Policy Recommendation

City-Level Action
- Mandate municipal planners to use the newly developed **Urban Heat Maps** to prioritize zoning laws, cool roof rollouts, and urban forestry projects directly in high-risk zones.
- Embed the **Urban Heat Risk Framework** into city-level department workflows (e.g., public health, zoning, and transit) to establish standard operating procedures for seasonal heatwaves.
- Replace generic per-capita green space targets with neighborhood-level thermal comfort mapping to prioritize cooling infrastructure where dense, low-income communities need it most.
- Create direct sharing protocols between municipal health centers and urban planning offices to track heat illness trends and establish local triggers for climate emergency responses.
- Introduce local municipal bylaws requiring businesses to provide localized cooling, shaded rest zones, and adjusted shifts for outdoor or factory workers.
- Launch small-scale, district-level cooling projects (such as cool roofs or neighborhood pocket parks) using matched-comparison monitoring to generate quick cost-effectiveness data for city councils.

Regional-Level Action
- Advocate for the **Urban Heat Risk Framework** to be adopted as a standardized tool across ASEAN, ensuring uniform metrics for evaluating tropical urban heat vulnerability.
- Harmonize satellite and thermal mapping methodologies between Thailand, Vietnam, and Cambodia to track regional climate trends.
- Update regional ASEAN or national heat-vulnerability models to include all children under 18, accounting for unique developmental risks across tropical climates.
- Bridge national-to-local implementation gaps by explicitly writing Urban Heat Island mitigation guidelines into national urban development laws and master planning frameworks.
- Bundle localized cooling infrastructure projects across multiple cities to create large-scale green finance portfolios that attract private impact investors who traditionally favor mitigation.
- Establish an inter-city learning network specifically for municipal planners and policymakers across Thailand, Vietnam, and Cambodia to share technical data on combating regional challenges.

Climate Action and Participatory Experiments For Urban Resilience in the Philippines and Vietnam (CAPE)

CAPE, a CLARE-ASEAN project, aims to co-design and initiate urban climate experiments alongside marginalized communities, fostering local ownership and leadership in developing sustainable and transformative solutions.

What do diverse place-based urban climate experiments in Southeast Asian cities look like?

Who and what drives them?

How can they be made more visible, supported, and scaled?

FINDINGS

- **Grassroots urban climate experimentation** in the PH and VN is thematically **diverse**



- **Identification of state-citizen responsibility boundary**: what can be addressed through community organizing from what requires structural government intervention
- **Community storytelling** as research method and as epistemic resistance
- Women and youth-led formal and informal organizations are primary knowers and initiators of experiments, drawing on **lived experience as actionable forms of climate expertise**

SIGNIFICANCE

- Socially inclusive climate resilience is achieved by treating community knowledge, priorities, and institutional proposals as the **starting point** for policy.
- **Adaptation is multi-scalar and socially differentiated.** It strengthens resilience by making livelihood-protecting practices visible and linkable to existing local strategies
- Differentiated vulnerability by gender, migration, and ethnicity becomes the basis for living-lab co-design and more **just adaptive capacity** under extreme weather in the Global South cities





OUTCOMES

- Communities as **co-producers** of knowledge and policy
- A **Policy Co-Lab methodology** that produced 4 community-authored Policy Development Plans
- Shift in **self-understanding** through storytelling workshops
- Clear identification of existing and potential community **networks** to link them to climate adaptation strategies at the city-level





ENABLING FACTORS

- **Relationship-building** with community partners to deepen trust
- The existing base of **organized, active community groups** enabled the project to build on established organizing capacity.
- **Supportive** local government offices and local academic institutions



BeHousing

Beyond Housing Types



Comparative Study of Urban Poor Settlements for Urban Heat Adaptation and Inclusive Urban Future in Southeast Asian Cities

About the Project

The Beyond Housing Types (BeHousing) aims to compare the adaptive capacities of kampung kota and public rental flats, including the kampung susun typology, to understand how housing design, governance, social organization, and these differences influence urban heat vulnerability and the ability of low-income communities to survive, thrive, and adapt to escalating climate risks, particularly extreme urban heat, alongside socio-economic pressures.

All data collection processes were jointly formulated by the consortium, which consists of the **Rujak Center for Urban Studies** in Jakarta**, Kota Kita** in Semarang**, Arkom Indonesia** in Surabaya**,** and **Universiti Kebangsaan Malaysia** in Selangor, where each location conducted a study on its **urban village and public housing**.

Initial Findings

Even though all four cities demonstrate a high level of climate literacy, Rujak Center for Urban Studies team find that most residents have noticed an increase in heat in recent years; **they tend to experience it firsthand before learning about it** from literacy.

Universiti Kebangsaan Malaysia team find that **urban heat vulnerability is not random; it is socially patterned** by gender, age, income, employment, housing design, health, and everday exposure. At all four cities, **housing type determines how heat becomes a risk**.

Case study in Selangor, Malaysia

In low-cost strata housing, 67.6% of households earn ≤RM3,000, while homes remain up to 5.5°C warmer indoors than outdoors in the early morning—combining financial constraints with prolonged nighttime heat exposure. In urban villages, homes cool faster, yet reported heat exhaustion is higher (55.7% vs. 48.9%) and heat-stroke incidence reaches 9.9% vs. 6.5%.

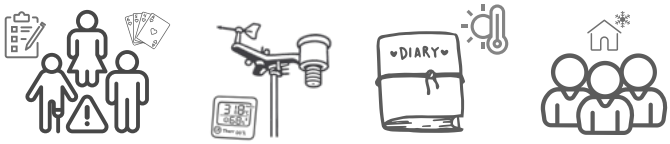
Moreover, this is also evident in the findings of Arkom Indonesia, which show that **cooking and resting/sleeping are the activities most affected** by heat exposure in both types of housing in Surabaya. These two activities show that **the heat is felt not only during the day but also at night**; all four cities showed the same findings.

This situation has led to a predominance of **behavioral, low-cost, household-led adaptation** measures. This is not only because of financial constraints in adapting, but also because of the **limited modifications that can be made** to the building. Kota Kita team find that the status and rule of public housing and urban village determine the adaptation

Therefore, residents cannot adapt to increasing heat through behaviour alone. **Adaptation must move from household coping to housing retrofit, neighbourhood cooling and institutional action**.

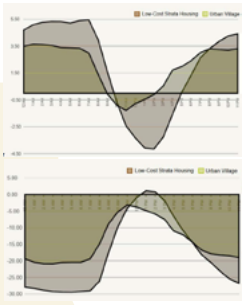
Our Approach

This research aims to compare **the socio-economic vulnerabilities** and **adaptive capacities** of urban poor communities across *kampung kota*, *kampung susun*, and public rental flats facing extreme heat, in order to **identify transferable strategies for climate-resilient housing policy** in Southeast Asian cities. This is achieved through several methods,



Vulnerability Assessment | **Technical Measurement** | **Personal Heat Perception** | **Codesign**

Comparison of Temperature and Humidity in Selangor, Malaysia



Indoor – Outdoor ***Temperature*** *Difference (ΔT)*

Urban Village: Indoor is warmer than the outdoor

Low-cost Strata Housing: Indoor is cooler than the oudoor

Indoor – Outdoor ***Relative Humidity*** *Difference (ΔRH)*

Urban Village: Indoor is more humid than the outdoor

Low-cost Strata Housing: Indoor is drier than the oudoor

Case study in Semarang, Indonesia

Urban villages have a more organic collective capacity for adaptation but are limited by financial resources such as Installing shade in alley/corridor (10 in urban villages vs. 3 in public housing); public housing have a formal structure for adaptation but undermine residents' individual and collective initiatives due to restrictions on renovations. This can be seen their adaptation mostly an internal and non-structural adaptations such as indoor shading (curtains, blinds, etc.) (132 in public housing vs. 41 in urban villages).

Public Outreach

We have engaged communities through, news media, public discussion, and hands-on experiences in **Jakarta (5/6), Surabaya (23-24/7),** and **Yogyakarta (29/8)** that bringing the publics, stakeholders, and experts to the emerging issues on heat.



NbCLARE (Nature-based Climate Adaptation and Resilience): A Framework to Enhance Design and Implementation of Nature-based Solutions through Integration of Evidence-Based Practices and Policies – Monitoring and Assessment of Ecosystem Services

Introduction

All sites are monitoring and assessing a subset of ecosystem services to develop evidence-based guidelines for NbS design. Services include: Flood mitigation; Water quality; Carbon sequestration; Urban heat island mitigation; Biodiversity; User Experience; Sediment quality; Air quality (PM2.5), and Noise.

Benjakitti Park, Bangkok, Thailand



IoT stations measuring air temperature, wind velocity, wind direction, humidity, air pressure, rainfall, thermal index, noise, PM2.5, water depth, pH, conductivity, turbidity, and dissolved oxygen at (a) Wetland Cell 1; (b) Wetland Cell 2; (c) Wetland Cell 3; (d) manual dissolved oxygen measurement; (e) water quality sampling; (f) bed sediment and benthic macroinvertebrate sampling and analysis; (g) manual temperature and noise sampling; (h) manual temperature and noise verification measurements at IoT stations.

Thu Thiem Park, Ho Chi Minh City, Vietnam



PM2.5 and noise monitoring (a); soil core samples for carbon analysis (b); manual sampling for water quality (c); dissolved oxygen measurements (d).

That Luang Marsh, Vientiane, Laos PDR



Water quality sampling (a); noise and temperature monitoring (b); carbon sequestration measurements, allometric approach (c).

Ringlet Lake Catchment, Cameron Highlands, Malaysia



Biomass sampling for carbon sequestration estimates (a); BMP surveys (b); benthic macroinvertebrate sampling (c); allometric carbon measurements (d).

Denpasar City, Bali, Indonesia



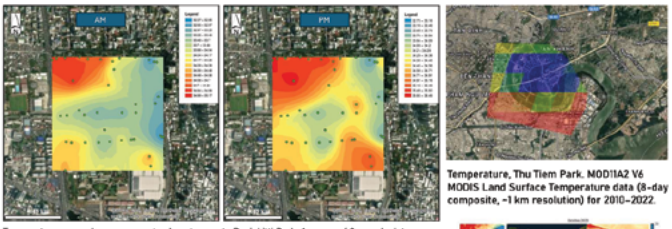
Water quality sampling (a, b); soil carbon sampling (c, d).

Preliminary Results

Preliminary results assessing ecosystem services indicate that NbS features are:

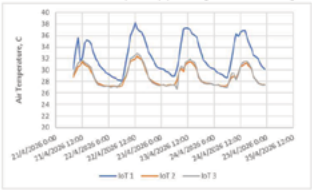
- Locally mitigating air temperature;
- Reducing local flood risk at all sites where flood mitigation is being assessed;
- Positively impacting carbon sequestration;
- Positively impacting habitat and biodiversity;
- Assessment of user experience is ongoing at most sites, but the survey of 422 users at Benjakitti Park, for example, were overwhelming positive about park design and benefits;
- Mitigating PM2.5 and noise levels;
- Water quality mitigation is more uncertain and the teams will require the remainder of the project to complete the monitoring and assessment.

Temperature Trends

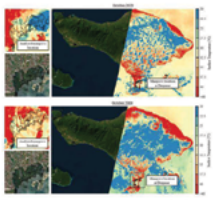


Temperature, manual measurements along transects Benjakitti Park. Average of 8 sample dates, 2 Tuesdays. 2 Fridays, 2 Saturdays, 2 Sundays. The coolest and warmest mean temperatures in the park were 32.3 °C and 35.2 °C, respectively, in the morning (am), producing a maximum cooling effect of 2.9 °C, while in the afternoon (pm) the coolest and warmest mean temperatures were 32.7 °C and 36.5 °C, respectively, producing a maximum cooling effect of 3.8 °C.

Temperature, Thu Tiem Park. MOD11A2 V6 MODIS Land Surface Temperature data (8-day composite, ~1 km resolution) for 2010–2022.

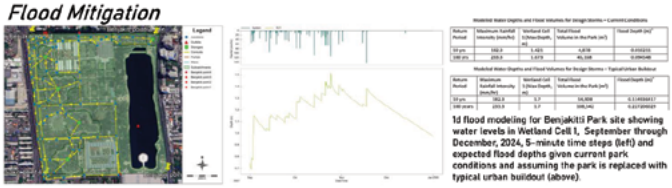


Air temperature time series (hourly averages) for Benjakitti Park IoT stations 1, 2, and 3. Time series patterns match well with the manual transect data (above) where IoT 1 is in the warmer northwest area of the park and IoT2 and IoT3 are in the cooler heart of the park.



Temperature, Denpasar Mangrove, Bali, 2000 and 2020. Manual transect measurements on 4 dates showed a cooling trend moving from urban land use to mangrove.

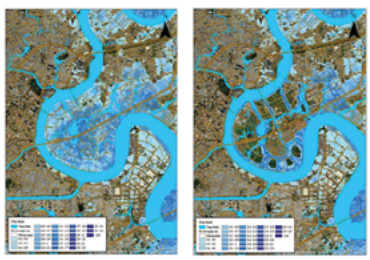
Flood Mitigation



1d flood modeling for Benjakitti Park site showing water levels in Wetland Cell 1, September through December, 2024, 5-minute time steps (left) and expected flood depths given current park conditions and assuming the park is replaced with typical urban buildout (above).

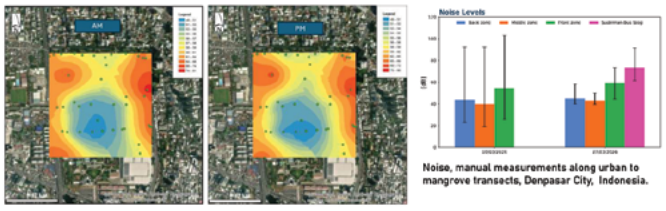


2d flood modeling for That Luang Marsh, Vientiane study site with a 158 mm design storm (above). Limited flooding occurs upstream of the marsh storage area, with no flooding downstream.



Modeled inundation depths for current conditions at Thu Tiem Park, Ho Chi Minh City (near right) and after implementation of additional NbS development plans (far right).

Noise Mitigation (Community Wellbeing)



Noise, manual measurements along transects Benjakitti Park. Average of 8 sample dates, 2 Tuesdays. 2 Fridays, 2 Saturdays, 2 Sundays. Values of <70 dB in the heart of the park are safe.

Noise, manual measurements along urban to mangrove transects, Denpasar City, Indonesia.

Addressing Climate Vulnerability through Nature-Based Solutions using Transdisciplinary Engagement of Wetland Communities (AV-STEC)

Project Partners: Centre for Biodiversity and Conservation Research, University of Ghana; Naturama, Burkina Faso; York University, Canada; Stockholm Environment Institute, USA

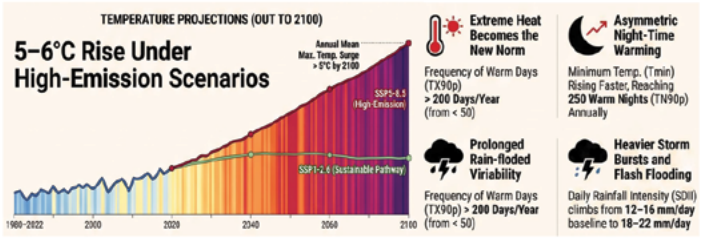
SCAN for more information on AV-STEC

Project Aim

AV-STEC seeks to create safe spaces for sharing information and best practices between researchers and local communities in a just and equitable manner, supporting local communities in adapting to the risks of climate change. The long-term goal is to foster the establishment of locally owned and driven management structures that are equitable, effective and sustainable. To achieve this, the project defines six specific objectives: 1. Collecting Baseline Data on the current state of affairs; 2. Identifying Hindering and Enabling Factors of Adaptation; 3. Co-design Resilient Adaptation Strategies; 4. Co-develop Pilot Interventions; 5. Strengthen Capacity Building & Climate Literacy; 6. Identify Best Practice in Knowledge Mobilisation, Scalability, & Policy Formulation.

Key research findings

Climate analysis reveals hotter, more variable, and more exposure to compound risks

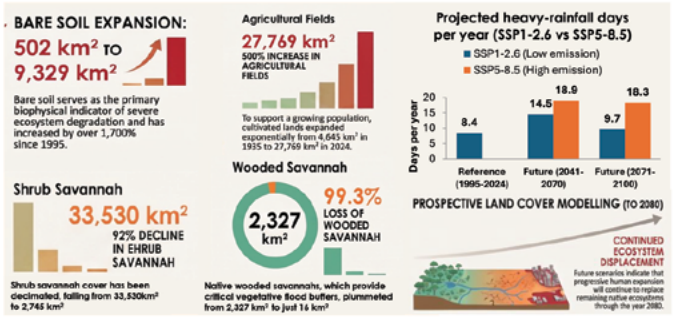



Flooded farm


Drought Conditions


Community Stakeholder Consultation 22nd January 2026, Bolgatanga

Anthropogenic Change in the Nakambé Basin (1995-2024)





	Internal	External
Enablers	• Excellent co-operation between project partners. Use of a transdisciplinary approach. • Involvement of Government agencies.	• Ownership of project activities by local communities. • Effective consultation and validation of interventions
Barriers	• Distance to project site. • Shortened project time-line and reduced budget for activities.	• Operation of the Bagre Dam, dependent on rain in basin. • Geographic coverage of the project

Critical Factors Influencing the Project

Emerging Project Outcomes

- **Establishing an Evidence Base for Climate Risk Planning:** Transitioning regional climate strategy from anecdotal to evidence-based planning by introducing peer-reviewed, intersectional baseline data. Stakeholders now have actionable metrics to target interventions by gender and other disaggregation factors.
- **Catalysing the Restoration of Transboundary Water Governance:** Ongoing efforts are re-establishing dialogue in transboundary water management and early-warning cooperation between Ghana and Burkina Faso after the collapse of the joint bilateral technical committee in 2011.
- **Towards reducing vulnerability, poverty and improved resilience of communities** through the establishment of co-designed dry-season solar-powered irrigated agro-ecological systems with local communities to bypass rain-fed agricultural vulnerabilities.

Significance for Socially Inclusive Climate Resilience

- Climate adaptation policies cannot be gender-neutral; failure to address gender roles may worsen disparities.
- Women's financial independence allows them to support their households, emphasising the need for gender-transformative policies that provide access to credit facilities and business training to women.
- The biophysical findings suggests that downstream emergency responses (like relief distributions) are superficial and unsustainable. Policies must pivot to Nature-Based Solutions, such as catchment reforestation, green belts, and wetland restoration, to restore the basin's natural sponge capacity.

Enabling Conditions

- **Transdisciplinary Integration:** Merging social sciences (disaggregated surveys) with biophysical and natural sciences for a holistic view and evidence.
- **Gender-Segregated Safe Space Focus Groups:** Ensuring cultural sensitivity for women to express vulnerabilities in a more power-balanced environment.
- **Shared Transboundary Issue:** The transboundary nature of the problem necessitates cooperation between Ghana and Burkina Faso.
- **Community Readiness:** An overwhelming 89.0% of local community members expressed willingness to participate in flood mitigation and nature-based adaptation initiatives.

CLARE is a flagship research programme on climate adaptation and resilience, funded mostly (about 90%) by UK Aid through the Foreign, Commonwealth and Development Office (FCDO), and co-funded by the International Development Research Centre (IDRC), Canada. CLARE is bridging critical gaps between science and action by championing Southern leadership to enable socially inclusive and sustainable action to build resilience to climate change and natural hazards.
"The views expressed herein do not necessarily represent those of the UK government, IDRC or its Board of Governors. Learn more about CLARE: www.clareprogramme.org"

CLARE CLIMATE ADAPTATION & RESILIENCE

Global Research and Technology Development Funded by UK Government

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AWARD African Women in Agricultural Research and Development

Accelerating African Women's Leadership in Climate Action

AWARD Climate Action Fellowship | Capacity strengthening for gender-responsive climate adaptation in Africa

Benin • Cameroon • Ghana • Kenya • Malawi • Senegal

100 Climate Fellows | 6 countries | 2 cohorts

1 OUR FOCUS AND HOW WE WORK

More African women leading climate action

Stronger capacity to develop gender-responsive climate research and innovation for women smallholders

Leadership & negotiation + Mentoring + Gender-responsive climate adaptation learning + Peer & network learning + Application: CRIPs + ToT

2 EVIDENCE OF CHANGE

Fellows are applying strengthened capacity through leadership, climate action, research and innovation.

69% are leading or co-leading climate-related projects.

59% have taken on new or expanded institutional leadership responsibilities.

71% have developed, led or contributed to climate adaptation research or innovation concepts.

3 APPLIED CAPACITY: TWO RESULTS THAT MATTER

Research & innovation capacity

Climate Research and Innovation Projects (CRIPs)

54 concepts reviewed across two cohorts → **12** competitively selected for catalytic funding

CRIPs show Fellows can turn learning into locally grounded, gender-responsive climate research and innovation.

- Climate-smart agriculture & food systems
- Forest & ecosystem restoration
- Climate information & nature-based resilience
- Water & pastoral systems
- Agroecology & technology adoption
- Circular economy & post-harvest resilience

Institutional multiplier

Training of Trainers (ToT) on Gender-Responsive Climate Adaptation

36 Expressions of interest → **15** Fellows selected → **15** Fellows completed practice-based ToT

A face-to-face ToT added repeatable practice, feedback, reflection and action planning.

Practice → institutional transfer → wider professional reach

4 WHAT WE ARE LEARNING ABOUT EFFECTIVE CAPACITY STRENGTHENING

Applied skills need practice-rich, face-to-face reinforcement

Virtual learning built knowledge; practical facilitation and application improved through face-to-face practice, feedback and reflection.

Application needs to be deliberately built into the pathway

CRIPs move learning into research and innovation; ToT action planning supports institutional transfer.

Mentorship supports professional agency, networks and opportunity

Mentorship supports confidence, professional networks, collaboration and readiness to pursue leadership, research and career opportunities.

5 CONTRIBUTION TO LONGER-TERM CLIMATE RESILIENCE

Women shaping research, influencing institutions and developing locally grounded adaptation solutions.

Women leading climate action → Gender-responsive research & innovation → Institutional transfer & influence → Stronger foundations for socially inclusive climate resilience

Project background

Scan to view the CLARE project page

BAOBAB – Synthesis program for African research on climate change

LESSONS FROM BAOBAB

1. **Adaptation evidence needs to be locally grounded and decision relevant.**

   Evidence is more likely to influence adaptation when it responds to the questions, priorities and decision contexts of African institutions and communities.

2. **Synthesis is most powerful when it connects evidence to decisions and action.**

   Producing synthesis is not enough, impact requires deliberate pathways from **evidence - interpretation – engagement – decision – action.**

3. **Climate resilience requires crossing disciplinary and knowledge boundaries.**

   BAOBAB shows the value of **team science and transdisciplinary synthesis**, bringing researchers together with policy makers and practitioners.

4. **African researchers need capacity to broker evidence, not just produce it**

   Evidence alone does not change decisions – **people, trust and teamwork do.**

   Adaptation capacity must include the ability to **translate, communicate, broker and build trust around evidence**, enabling researchers to move from knowledge production to influence and action.

MOST SIGNIFICANT OUTCOMES FROM BAOBAB

1. **A scalable African model for evidence synthesis has been demonstrated**

   BAOBAB enabled ASCEND to test and refine a model for hosting multiple geographically distributed synthesis teams, including the systems for team science, mentorship , knowledge brokering & impact tracking.

2. **African capacity to produce and influence climate evidence was strengthened.**

   BAOBAB created a pipeline of early-career researchers, with **29% of team members being ECRs.** Several BAOBAB ECRs have taken significant roles in **IPCC AR7**, including Chapter Scientist and Lead Author positions.

3. **Evidence can empower groups that are often marginalised in adaptation decisions**

   The strongest illustration is the EIA for Climate Justice team, which used its synthesis and engagement with mining-affected communities, faith organisations and civil society to provide knowledge and tools for vulnerable groups to influence decisions and hold powerful actors accountable.



“Bringing policymakers and practitioners into synthesis changes who shapes adaptation knowledge”



ASCEND
African Synthesis Centre for Climate Change, Environment and Development

CLARE CLIMATE ADAPTATION & RESILIENCE

Global Research and Technology Development Funded by UK Government

IDRC · CRDI Canada

Classification - Public / Public



The BASIN Project

BEHAVIOURAL ADAPTATION FOR WATER SECURITY AND INCLUSION

EXAMPLE CASE STUDIES AND ACTIVITIES

Sustained engagement of community champions for local adaptation and water security



Champions in Malawi inspect a community water tank

Scan for the working paper

Background

NGOs and governments widely rely on local volunteer 'champions' from communities to deliver adaptation. Champions can catalyse local action in communities if engagement is sustained. Yet their engagement with activities commonly erodes after initial recruitment, leading to unsustainable adaptation programming. Champion behaviour is understudied in water or adaptation research, and most 'volunteering' behavioural evidence comes from the Global North.

Why it matters

Community champions play a critical role in gathering and spreading climate information, mobilising collective action, promoting climate-smart agriculture, enforcing environmental by-laws, supporting early warning dissemination, and encouraging uptake of adaptation practices. Understanding what enables long-term champion engagement helps governments, NGOs and development partners design programming that builds local ownership rather than temporary project participation. Sustained engagement is particularly important in climate-vulnerable communities where adaptation requires continuous action beyond the lifespan of individual projects.

Findings

We interviewed 158 champions from seven active champion-led adaptation projects across six countries and analysed qualitative responses using the COM-B behavioural framework. Responses converged across diverse contexts and champion identities, suggesting transferability. Champions tend to report:

- Adequate physical and psychological capability, supported by initial training
- Strong reflective motivation: prosocial commitment, knowledge gains, pride, personal benefit
- Automatic motivation: positive emotion from helping and learning
- Prominent barriers in physical and social opportunity - tools and materials; physically moving around to do activities; ongoing support from practitioners

Opportunity constraints to engagement persist despite champions' strong motivation, in turn negatively influencing motivation. This reflects structural resource scarcity in marginalised settings.

Behavioural implications for programme design

- Designing for champion motivation alone is insufficient, contrary to common assumptions in programme design.
- Local champions' opportunity barriers must be lowered to unlock their existing motivation to deliver sustainable water security.
- Multi-component support is required – tools, materials, transport, communication – to unlock champion motivation, improve sustainability and more justly distribute responsibility.

Example outcomes

- Communities developed champion action plans, Village Natural Resource Management Plans, and lobbying efforts to address climate adaptation in Malawi
- Champions in Tanzania re-engaged with co-designed toolkit and training
- Behavioural tools for champion social visability and recognition co-designed and tested using Behaviour Centred Design and creative service providers in Burkina Faso

Unlocking political action on water security and climate change adaptation



Scan for the Policy Brief

Whose behaviour needs to change to address the underling drivers of vulnerability to climate change?

Behavioural research has most often been applied to address individual behavioural challenges (e.g. handwashing). It has been accused of 'tinkering around the edges' of societal problems.

To consider the underlying drivers of vulnerability to climate change and water insecurity and to avoid individualising responsibility for adaptation, we have been more critically considering – whose behaviour needs to change?

Policy processes are a critical entry point for behavioural research

Adaptation policy challenges in the water sector have appeared relatively intractable to date.

Practitioners wanted to unlock the action-orientation of behavioural research and behaviour change traditions in the policy space

"How do we get policy makers to do what we need them to?" - NGO team member during co-design

A new Multi-Actor BEhaviour Journey methodology

- Developed a new methodology 'Multi-Actor BEhaviour Journey' (MABEJ) for analysing adaptation and water security policy processes – which are complex, multi-actor, multi-scale, value-laden and political.
- We created MABEJ to make policy processes diagnosable and actionable.
- Inspired by journey mapping it traces behavioural dynamics across the steps of a policy process, to identify obstacles and opportunities for change.
- It incorporates power as well as behaviour.
- It can be used to identify strategies to influence a policy outcome tailored to the positionality of those applying it.

Unlocking flood and drought preparedness in national budgeting processes

- LSE and Shahidi wa Maji applied MABEJ to assess why flood and drought preparedness continues to be poorly provided for in national budgets in Tanzania despite high level policy commitments.
- We defined core behaviours for enhancing flood and drought preparedness at each step of Tanzania's national budgeting process.
- We identified behavioural drivers determining current under-prioritisation.
- And we identified leverage points for change that our NGO partners can act on – read our policy brief to find out more!

Addressing safe waste disposal at Lake Bassotu



Background

Bassotu village is located in Hanang District, Manyara Region, Tanzania. The BASIN case study examines behavioural adaptation for climate-resilient water security around Lake Bassotu. The lake supports irrigation farming, livestock, domestic water use and other local livelihoods. Formative research identified multiple behaviours contributing to lake degradation, from which two priority behaviours were selected: ***safe disposal of household and commercial solid waste and safe disposal of empty pesticide containers.***

Why it matters

Lake Bassotu is an important ecological and socio-economic resource for surrounding communities. However, improper waste disposal, unsafe pesticide-container management, farming close to the lake, erosion and other pressures are threatening water quality and ecosystem health. Protecting the lake is therefore not only an environmental issue, but also a water-security, health and livelihood priority. Sustainable change requires *behaviour-change interventions* to be supported by functioning waste-management systems *and institutions*.

Significant outcomes

- 72.3% of households rely on farming as their main livelihood.
- 62.8% of farmers use fertilisers or pesticides.
- 93% reported increasing temperatures.
- More than 55% reported declining rainfall.
- 80.1% considered Lake Bassotu water unsafe for drinking.
- Around 2,000 people use the weekly lakeside market, increasing pressure on an area with inadequate sanitation and waste-management infrastructure.

Findings

- Household, market and agricultural waste is frequently disposed of close to or into Lake Bassotu.
- Pesticide containers are disposed of unsafely because appropriate collection and disposal options are lacking.
- Bassotu has no formal waste collection, transportation or final disposal system.
- There are no adequate community bins, designated disposal sites or hazardous-waste collection points.
- Weak enforcement, limited awareness, and lack of practical alternatives reinforce unsafe disposal practices.
- A community-led organic-waste initiative at Bassotu Market demonstrates local willingness to participate, but requires technical, financial and institutional support.

The most critical enabling factors

- Accessible waste infrastructure: bins, collection points, transport, hazardous-waste facilities and a safe final disposal site.
- Strong local leadership and accountability: clear responsibilities and consistent enforcement of waste-management by-laws.
- Sustainable financing: resources for waste collection, operation, maintenance and behaviour-change activities.
- Community engagement and capacity: practical training, trusted local influencers and inclusive participation.
- Monitoring and coordination: reliable waste data, reporting systems and collaboration among communities, local government and technical institutions.

Linking irrigation and electrification for climate resilience in Tanzania



Background

Smallholder farmers in Tanzania are vulnerable to climate shocks, and especially to prolonged dry spells. Adopting irrigation, and particularly groundwater irrigation, makes them more resilient to climate variations. In spite of ongoing efforts, only a fraction of the potential irrigation area is actually irrigated. In Shambarai and Mbuguni wards in northern Tanzania, farmers are increasingly using groundwater for the irrigation of cash and food crops, which has created a new energy-water-food nexus and raises questions on what drives this irrigation adoption behaviour.

Why it matters

Understanding irrigation adoption behaviour and the main drivers and barriers for farmers to practise irrigated agriculture, creates opportunities to effectively support climate resilient smallholder agriculture. It provides entry-points for governments and development partners to design policies and interventions that serve farming communities and contribute to national development goals.

Findings

- Access to affordable and reliable energy is key in households adopting groundwater irrigation.
- Rural electrification efforts have pushed the adoption of electric irrigation.
- Electricity is up to 9 times cheaper than diesel and petrol alternatives.
- Fears and anxiety over high electricity bills and untransparent tariff systems are holding some farmers back.

Implications

- Rural electrification can be a major – previously disregarded – factor in irrigation adoption.
- Irrigation can push rural electricity use, thereby making grid expansion more cost-effective and increasing the development benefits of grid expansion.
- Need for the integration of rural electrification and irrigation planning at a national and regional level.
- Need for a transparent and farmer-friendly tariff system.

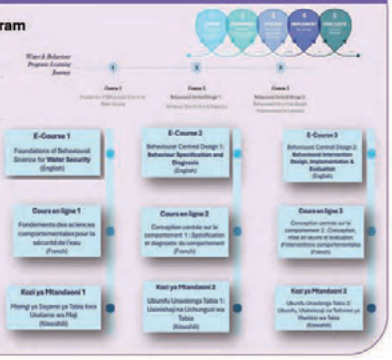
Outcomes

- Workshops with ministries, utility, regulator, commissions in the field of agriculture, irrigation and energy to co-produce a technical white paper with recommendations for policy integration, tariff adjustments, and improved coordination.
- Shared understanding of the issue among government actors who previously did not collaborate.
- White paper currently being championed by the National Irrigation Commission to start the integration of energy and irrigation policy at the national level.

Capacity Building

Water & Behavioural Science Program

- Co-designed UNU-INWEH's Water and Behavioural Science Programme, delivering three complementary online courses to strengthen capacity in behavioural approaches to water security
- Strengthened climate adaptation capacity through knowledge products, including insight briefs and peer-reviewed publications
- Creating a Palgrave Pivot volume and accompanying learning resources to translate BASIN research into practical knowledge for adaptation stakeholders



Scan for the program page

Develop

Practitioner Guide (English)

Promotions only work as well as the marketing.

Beyond Climate Prediction Precision: From Climate Information to Early Action in Tanzania



A farmer in Mpwapwa District who participated in the project

Background

BASIN research identified behavioural and institutional barriers limiting farmers' and pastoralists' use of climate information. **Climate-information seeking behaviours were limited**, access to timely and locally relevant information was uneven, and trust in information sources was not always strong. Coordination among government institutions was also constrained by institutional roles and **power dynamics.** Consequently, information did not consistently translate into understanding, preparedness or timely action, contributing to climate-related losses and damages.

Shahidi wa Maji worked with **TMA, local government and community structures**, strengthening existing systems rather than creating parallel ones. The approach connected **TMA FarmSMS, district disaster-management structures, ward and village extension systems and community communication channels** to local decision-making, while promoting appropriate information-seeking behaviours and confidence in credible information sources.

The Strengthened Pathway

Climate Prediction
↳ Information Seeking
↳ Access to trusted information
↳ Understanding
↳ Decision-making
↳ Early action

The Pathway through **FarmSMS made 8,000 people access EW** information that ultimately benefited **20,000+ people**, including **farmers, pastoralists and fisherfolk**, across **7 villages.**

Key Lessons

Climate forecasts reduce risks only when people actively seek and trust credible information, can access and understand it in locally relevant forms, and have clear pathways to act early.

WaterAid · WATER WITNESS · SHAHIDI WA MAJI · UNU INWEH · KULIMA · LSE · Grantham Research Institute on Climate Change and the Environment

Early warning and response for climate-sensitive waterborne disease outbreaks in Benin (BENIN-HEALTH)

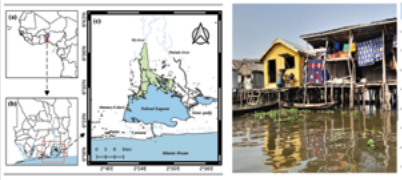
From climate-health evidence to community action: integrating environmental forecasting with community-led surveillance and response

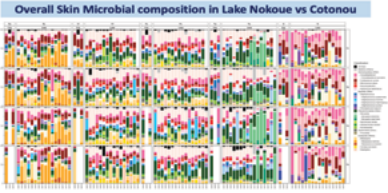
PI: Prof. Anders Dalsgaard (adal@sund.ku.dk) ; Co-PI: Assoc. Prof. Gildas Hounmanou; Local Coordinator: Prof. Victorien Dougnon;
Project Manager: Dr Arnaud Soha (arnaud.soha@gmail.com)

WHAT DID WE LEARN?

Integrated One Health approach: social science, environmental monitoring, microbiology / genomics, aquatic ecology, epidemiology, predictive modelling and community co-design.

- **Faecal contamination is widespread and strongly seasonal**: *E. coli* contamination was persistent in water, sediment and fish; ~46% of variation explained by seasonality, highest in the rainy season.
- **Environmental conditions provide advance warning of disease risk**: +1°C lagoon temperature predicted +17.2% diarrhoeal incidence after 3 months; salinity predicted +6.6% after 2 months.
- **Climate-health vulnerability is socially differentiated** : Exposure and adaptive capacity differed by gender, age, occupation, livelihood, isolation and healthcare access.
- **A One Health approach revealed interconnected environmental and pathogen dynamics:** Genomics/metagenomics strengthened One Health surveillance: Benin *V. cholerae* O1 clustered within *AFR12*; metagenomics supports human–environment microbial analyses.
- Seasonally-influenced acquisition and loss of climate-sensitive taxa on the skin of lake dwellers compared to populations living outside the lake zone.





Study sites and environmental sampling locations around Lake Nokoué / Sô-Ava

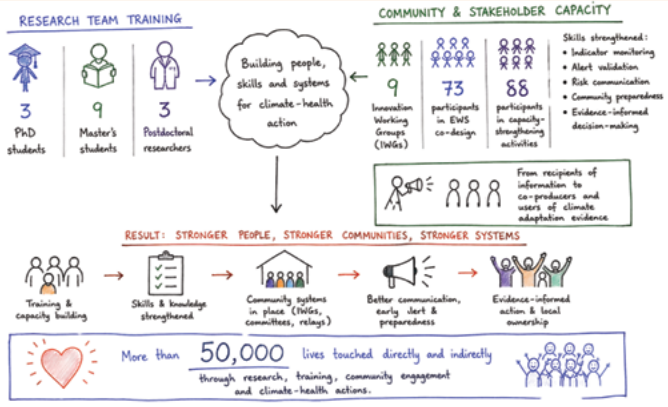
FROM EVIDENCE TO ACTION

Integrated dual-layer Early Warning and Response System (EWRS) co-developed, tested and locally operated

- **Scientific layer:** ARIMAX model forecasting links environmental indicators with diarrhoeal risk – 2 months proactivity accuracy
- **Community layer:** health, water, hygiene, social and communication indicators monitored by Innovation Working Groups and crisis committees.
- **Alerts:** Green 0–24 routine; Orange 25–48 enhanced monitoring and sensitization; Red 49–72 Critical WASH Actions taken.



WHAT CHANGED & WHAT WILL LAST?



- 9 IWGs and crisis committees established and trained.
- 4 community-designed adaptation innovations: safe water, floating toilets, fish hygiene and access to medicines.
- 15 researchers supported: 3 PhD, 9 MSc and 3 postdocs.
- 1 integrated One Health platform linking communities, surveillance, genomics, epidemiology and modelling.
- Community numbers: 117 participants

HOW DID WE GET THERE?

Co-production

Communities helped identify risks, define locally observable warning indicators and develop response mechanisms and adaptation solutions.

Social inclusion

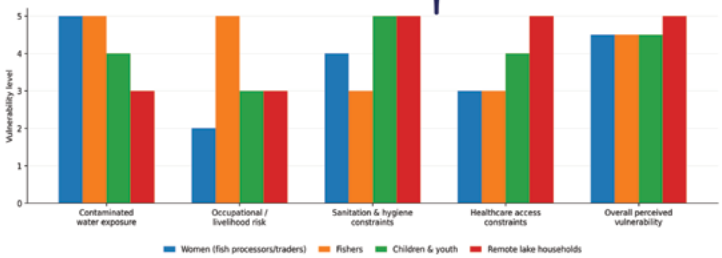
Women, youth and livelihood groups participated in consultations, IWGs and co-design; research identified differentiated vulnerabilities by gender, occupation, age and geographic isolation.

Adaptive learning

Stakeholder engagement transformed a model-based concept into a dual-layer system combining scientific forecasting and community surveillance.

Southern-led interdisciplinary partnership

Beninese institutions led local coordination, field implementation and stakeholder engagement, complemented by specialized expertise and partnerships in Denmark.



KEY LESSON FOR CLIMATE-HEALTH ACTION

Climate-health early warning is most useful when predictive science, local knowledge and community decision-making are designed together.

Impact was enabled by co-production, adaptive learning, interdisciplinary collaboration and sustained capacity strengthening.

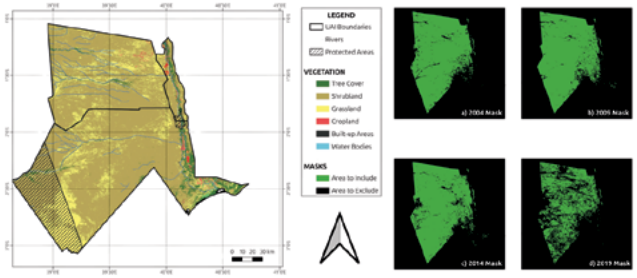
BIMA

IMPROVING LIVESTOCK INSURANCE TRIGGER MECHANISMS AND GENDER RESPONSIVE PRODUCTS FOR DROUGHT-AFFECTED (AGRO-)PASTORALISTS IN KENYA

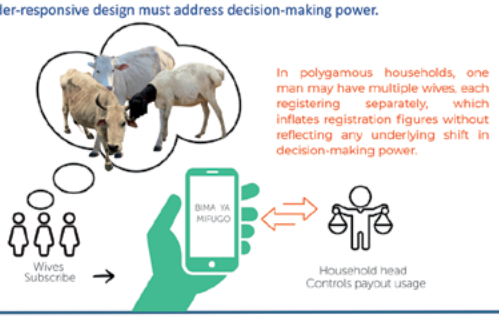
PROJECT FINDINGS

01 Better data can improve trigger credibility
Combining satellite indicators, field observations, and socioeconomic information can produce more robust and locally relevant insurance triggers.

02 Dynamic landscapes require dynamic indices
Combining stable landscape features with changing environmental conditions can make IBLI indices more ecologically realistic.



03 Registration does not equal women's agency
Women may be registered yet still have limited control over re-enrolment and payout use. Gender-responsive design must address decision-making power.



04 Machine learning can strengthen trigger design
Machine-learning approaches can integrate multiple drought indicators and capture nonlinear relationships while retaining indicators stakeholders understand.

MACHINE LEARNING

PROJECT OUTCOMES

Climate information informing decisions
Localized weather information helped communities plan grazing and livestock movement.

Greater understanding of livestock insurance
Co-creation, data collection, and simulation exercises improved understanding of how IBLI works and how it supports climate-risk management.

Evidence informing county drought planning
BIMA evidence and partnerships are helping connect improved insurance design with county drought-risk planning in Tana River.

Institutions committed to co-development
County and national partners contributed expertise, data, and institutional knowledge to refine the IBLI model.

A pathway from research to scale
Follow-on investment is creating opportunities to advance and scale community-centred livestock insurance innovation.

Significance
By linking inclusive co-development with institutional partnerships, policy processes, and climate information services, BIMA offers a potentially transferable model for strengthening adaptive capacity among climate-vulnerable pastoral and agro-pastoral communities across the global South.



"UNDERSTANDING THE CHANGES IN DROUGHT SITUATION HELPS US ADDRESS THE FAMINE SITUATION... WE EDUCATE FARMERS ON TAKING UP INSURANCE.AS A PASTORALIST, IT ALSO HELPS ME TO PLAN IN TERMS OF MIGRATION. KNOWING WHEN AND WHERE TO GRAZE AND BUYING THE RIGHT LIVESTOCK"
Weather Observer, Makere

ENABLERS

Strong institutional partnerships
Government and private-sector partners contributed technical expertise, data and time.

Multi-stakeholder coordination mechanism
A structured platform enabled consultation, data sharing and joint learning.

Community co-development and participation
Communities helped define problems, priorities and solutions.

Trust and established relationships
Existing relationships supported access, participation and responsiveness.

Local knowledge and technical expertise
Pastoral knowledge complemented scientific and technical evidence.

CONSTRAINTS

Staff turnover
Changes in government and technical personnel can disrupt continuity and institutional memory.

Local data limitations
Livestock, climate, vegetation, and mobility data remain fragmented and uneven in quality and resolution

Community participation constraints
Migration, livelihood demands, insecurity, and expectations can constrain sustained participation.

Limited local technical capacity and resources
County institutions need adequate personnel, equipment, funding, and technical capability.

Climate Adaptation and Resilience In Tropical DrYlands (CLARITY)

CLARITY supports communities, governments and other stakeholders in climate-stressed tropical drylands to make informed, adaptive decisions. Across four Transformation Labs in peninsular India, Tanzania, and the Central Sahel of Niger and Nigeria, residents, practitioners, agencies, and researchers work together to identify and co-create equitable, renewable hydro-social pathways. These collaborative spaces bring hydrological science and local knowledge together to understand how water systems respond to climate change and local water use, strengthening socially inclusive and climate-resilient water governance.

Cross–T-Lab Research Contributions

Strengthening the Evidence Base and Scaling

Strengthened evidence from local monitoring networks of groundwater responses to intensified rainfall, pumping, and surface flows guide community and government decisions and provide ground-level insight into regional hydro-climatological trends. Observations from Tanzania and the Central Sahel show how extreme rainfall is increasing groundwater storage, consistent with GRACE data (Fig. 1) that show rising trends in terrestrial water storage across tropical Africa; these observations challenge narratives of "global water bankruptcy".

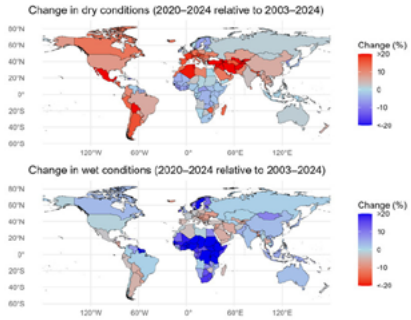


Figure 1. GRACE (satellite) terrestrial water storage anomalies in terms of a Standardised Terrestrial Water Storage Index (STWSI), comparing a recent period (2020–2024) with the long-term baseline (2003–2024); country-level aggregated percentage change in the frequency of (a) low STWSI indicating dry conditions (< -1.5) and (b) high STWSI indicating wet conditions (> +1.5).

Building Local Capacity

Community Hydrologist training has enabled community members and *parahydrologists* across T-Labs to collect, interpret, and use water data while articulating local priorities. The Government of Karnataka has adopted the Raichur curriculum into its Farmer Water Schools, positioning citizen-generated water knowledge within state practice.



Figure 2. Community Hydrologist training in Maradi-Katsina, Dodoma and Raichur T-Labs.

'Adapting to Extremes, Managing the Shallow'

Extreme seasonal-to-daily rainfall shapes decadal water budgets in tropical drylands, while over-pumping in weathered hard-rock aquifers risks water access and ecosystems. Adaptive strategies capture episodic extreme rainfall through conjunctive use of surface and groundwater and reduce demand so communities can rely on more predictable and renewable, shallow groundwater..



Figure 3. CLARITY researchers assessing soil infiltration capacities using an infiltrometer in the Chintamani T-Lab.

Enablers

Our approach combines **community-driven research, groundwater modelling** informed by local monitoring, and **participatory pilots** that build trust and surface lived experiences. Together, these have created shared understanding, generated **scalable evidence**, and demonstrated practical methods that partners can adopt or expand, including in the Maradi-Katsina T-Lab (Fig. 10).

Mobilising local partners, co□funding, and government engagement anchored activities, has enabled pilots and monitoring, embedded science into policy, and reinforced cross□border cooperation (Fig. 11).



Figure 10. Visioning exercise and Community hydrology training in Raichur and Maradi-Katsina T-Labs.



Figure 11. Sustained government and community-level engagement helped CLARITY build relationships and trust and root research.

Dodoma T-Lab (Tanzania)

Embedding Transdisciplinary Knowledge



Figure 4. CLARITY researchers informing policies on groundwater withdrawals in the Dodoma T-Lab.

Government departments are using T-Lab evidence when issuing drilling permits, emphasising that **"going deeper doesn't assure water."** Deep boreholes sometimes perform well, but deeper drilling is often linked with lower yields. Agencies and community organisations increasingly draw on T-Lab's **transdisciplinary insights** to guide water source management (Fig. 4), strengthening trust between research and decision-making.

Central Sahel of Niger (Maradi) – Nigeria (Katsina)

Transboundary Water Monitoring

Establishment of a **transboundary monitoring network** across the Niger–Nigeria border (Figs. 5 & 6) has revealed how seasonal and extreme river discharge, including dam releases, drives groundwater recharge. CLARITY brought together community representatives and officials from Maradi and Katsina who, for the first time in decades, can now communicate directly on dam releases. This coordination is improving understanding of flow risks and informing opportunities for freshwater capture.



Figure 5. CLARITY researchers measuring groundwater levels in Katsina (Nigeria).



Figure 6. CLARITY researcher, Boukari Issoufou Ousmane, expanding and rehabilitating hydrological monitoring infrastructure in the Maradi region of Niger.

Raichur T-Lab (India) Improving Water Access for Farmers



Last mile irrigation pilot has increased farmer control over irrigation, reducing uncertainty and improving water access during critical crop stages (Fig. 7). As of June 2026, more than 50% of the area has shifted from paddy to other crops (Fig. 8).

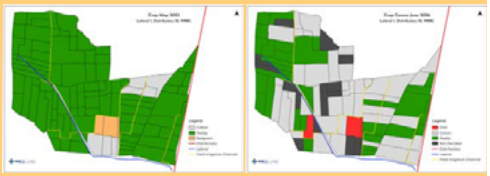


Figure 7. Photos of pipe-to-Figure 8. Maps showing crop selection changes in the Raichur T-Lab field pilot in Raichur T-Lab. from 2023 to 2026.

Chintamani (India) Strengthening Drinking Water Security

Through a **scalable lake-rejuvenation framework** grounded in **Integrated Urban Water Management**, the T-Lab is supporting district planning and long-term water security. The collaborative work aims to make Chintamani more water secure and drought resilient by improving groundwater recharge, and expanding access for vulnerable groups (Fig. 9) aligned with CLARITY's *Adapting to Extremes, Managing the Shallow* framework.



Figure 9. Rejuvenation of Lake Mallapalli led by CLARITY in the Chintamani T-Lab.

To read more about our work, scan the code

CLARE Climate Adaptation Resilience

Global Research and Technology Development

IDRC-CRDI Canada

Climate Resilient Futures

UNDERSTANDING AFRICAN UNIVERSITIES' CAPACITY FOR CLIMATE ADAPTATION RESEARCH: CO-CREATING AND IMPLEMENTING A CLIMATE-FOCUSED ORGANISATIONAL CAPACITY ASSESSMENT TOOL (CO-CAT) USING A LIVING LAB APPROACH

Association of African Universities (AAU), Association of Commonwealth Universities (ACU), Liverpool School of Tropical Medicine (LSTM)

WHY STRONGER INSTITUTIONS MATTER

Climate adaptation capabilities require more than climate knowledge. Institutions that are able to generate, support, connect, communicate and translate knowledge into action are imperative.

Strengthening institutional systems increases the ability of universities and research institutions to produce relevant research, connect evidence with policy and practice, respond to emerging climate challenges and build long-term organisational resilience.

Institutional capacity strengthening must reflect diverse experiences and perspectives and recognise how gender and other dimensions of inclusion shape institutional experiences and opportunities.

Stronger institutional capacity → Stronger climate adaptation research → Higher quality, relevant & useful knowledge → Better-informed adaptation decisions → Stronger foundations for socially inclusive climate resilience

INSIGHTS FROM THE VIRTUAL LIVING LAB SESSIONS

1 From Technical Capacity to Institutional Systems

Capacity is shaped by leadership, governance, structures, culture, communication, partnerships, and the ability to respond to change.

2 From Participation to Co-Creation

Institutions become stronger when they define challenge, co-create solutions, exchange experiences and generate knowledge together.

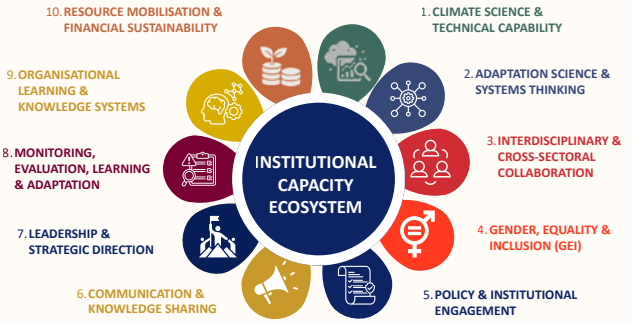
3 From Knowledge Production to Knowledge Translation

Institutions must interpret, communicate and translate knowledge into policy, decisions and practical action.

4 From Measuring Capacity to Enabling Institutional Transformation

Assessment supports reflection, learning and improvement, becoming the beginning of transformation.

CO-CAT INSTITUTIONAL CAPACITY ASSESSMENT FRAMEWORK DOMAINS



WHAT DROVE THE CONTRIBUTION

- Living Lab Approach
- Co-creation and participatory decision-making
- Institutional Engagement
- Cross-institutional Collaboration and Peer-learning
- Complementary Expertise
- Multilingual Engagement
- Iterative Learning
- Systems Thinking Tools

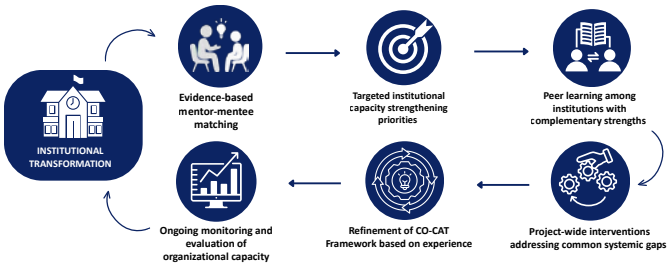
INSTITUTIONAL CHANGE THROUGH EVIDENCE

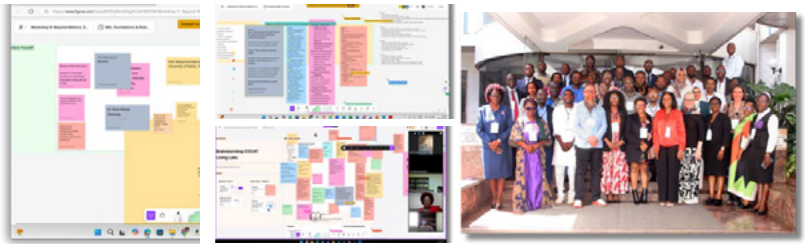
- Transdisciplinary understanding of organizational capacity for climate adaptation research
- Stronger ownership and active participation in identifying and responding to individual and institutional climate-related capacity needs
- Cross-institutional engagement for peer learning, experience exchange, mentorship, collaboration, and policy informed decision-making
- Evidence that enables context-responsive interventions, institutional planning, mentorship, indigenous knowledge generation, and continuous organizational development

WHAT THE INSTITUTIONAL ASSESSMENT REVEALED

- **Diverse Functional Capacities:** A ladder of institutional maturity.
- **Systemic Gaps:** Resource mobilisation and financial sustainability remain key challenges irrespective of geopolitical context.
- **Complementary Strengths:** Different institutions excel in different competency domains and sub-domains of the framework.
- **Evidence for Action:** The tool must be diagnostic and developmental (give clear actionable steps).

FROM ASSESSMENT TO ACTION





PARTICIPATING INSTITUTIONS

- University of Science and Technology Houari Boumediene
- Makerere University
- Sokoine University of Agriculture
- Masinde Muliro University of
- Science and Technology (MMUST)
- Mekelle University - Institute of Climate and Society
- The University of Bamenda
- Université du Lac Tanganyika
- Official University of Semuliki
- University of Goma - School of Volcanology and Disaster Risk Management
- University for Development Studies
- University of Abomey-Calavi
- University of Lagos
- University of Botswana - Okavango Research Institute
- University of Namibia (UNAM)
- University of Gabes
- University of Lomé

Explore the CO-CAT Project

Lead Partner

Association of African Universities

Implementing Partners

The Association of Commonwealth Universities

LSTM Liverpool School of Tropical Medicine

Contact

rdickson@aau.org

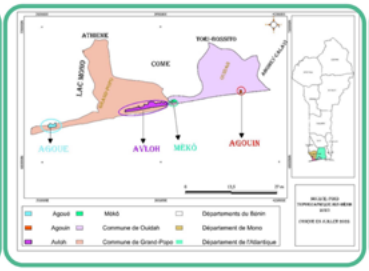
itahinakwa@aau.org

CoHeRe : CULTURES AND HERITAGE FOR CLIMATE RESILIENCE

Sacred heritage, environment and resilience in coastal communities of Southern Benin

1 CONTEXT

Southern Benin faces growing climate changes that threaten sacred heritage, livelihoods and the cultural identity of coastal communities.



Grand popo (Avlo and Agoué) and Ouidah (Agouin and Meko)

KEY SURVEY FIGURES (210 SURVEYS)

- **97%** Recognize the existence of heritage sites in their community
- **99%** Perceive climate changes in their living environment

KEY RESULTS & ANALYSIS

2 A DIVERSE AND VALUED SACRED HERITAGE

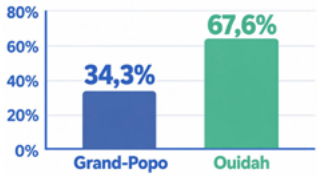
87,5 % of identified sites are sacred, historical or ancestral heritage sites, including forests, ponds, marshes and ritual spaces.

- **47** SACRED SITES (10 Agouin, 8 Meko, 18 Agoué)
- **8** SITES OF HISTORICAL IMPORTANCE (1 Agouin, 6 Meko, 1 Agoué)
- **7** PUBLIC SPACES OF ANCESTRAL VALUE (2 Meko, 5 Agoué)



ENGAGEMENT IN SACRED HERITAGE PROTECTION

97% Perceive climate changes in their living environment



Ouidah communities are more engaged in heritage protection than those of Grand-Popo

64% Some Ouidah communities consider themselves better able to adapt to climate change

3 CLIMATE HAZARDS: DIRECT IMPACTS ON HERITAGE

Sacred heritage, often located outdoors, is highly vulnerable to climate change, threatening its sites, resources and the continuity of rituals and community practices.

FLOODS · STRONG WINDS · AIR SALINITY · SEA LEVEL RISE · EXTREME HEAT · RAINFALL SCARCITY





4 SACRED HERITAGE: A LEVER FOR ADAPTATION AND RESILIENCE

RITUALS AND SPIRITUALITY
Fá consultations and traditional rituals help interpret signs of nature and anticipate climate events to better prepare for them

SACRALIZATION OF ECOSYSTEMS
Limits overexploitation (overfishing, mangrove cutting) and preserves biodiversity, fish resources and ecosystem services.

ANCESTRAL PUBLIC SPACES
Promote mutual aid, collective resource management and the transmission of values.



IMPORTANCE FOR RESILIENCE

- Strengthen cultural identity and social cohesion
- Support ecosystem conservation (mangroves, etc)
- Promote sustainable livelihoods (responsible fishing, etc)

5 ARCHAEOLOGICAL HERITAGE: A FOUNDATION FOR SUSTAINABLE RESILIENCE

SITES AND REMAINS
Strengthen identity and memory while supporting adaptation to climate crises and diversifying livelihoods

SITE PROTECTION AND VALORIZATION
Preserve heritage and natural resources (ecotourism, handicrafts)

SUSTAINABLE TOURISM & LOCAL DEVELOPMENT
Diversify incomes and boost the economies of communities and sites.



By valuing archaeological sites and salt mounds, we create economic alternatives to declining fisheries while preserving unique heritage and strengthening community resilience

SUCCESS FACTORS

- Recognition of the role of heritage by communities
- Redefinition as traditional practices
- Collaboration with traditional leaders and local authorities
- Inclusive governance and collective engagement

KEY RECOMMENDATIONS

- Strengthen community protection of sacred sites
- Integrate heritage into local climate change adaptation plans
- Promote archaeological sites for sustainable economic activities
- Develop heritage education programmes for young people

PRESERVING HERITAGE MEANS STRENGTHENING CLIMATE RESILIENCE

clareprogramme.org/fr/cohere/

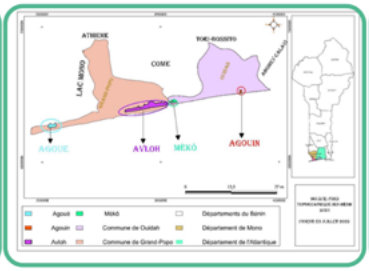
Scan me! To learn more about the CoHeRe project

CoHeRe : CULTURES ET PATRIMOINE POUR LA RÉSILIENCE CLIMATIQUE

Patrimoine sacré, environnement et résilience dans les communautés côtières du Sud Bénin

1 CONTEXTE

Le Sud Bénin fait face à des changements climatiques croissants qui menacent les patrimoines sacrés, les moyens de subsistance et l'identité culturelle des communautés côtières.



Grand popo (Avlo et Agoué) et Ouidah (Agouin, Meko)

CHIFFRES CLÉS DE L'ENQUÊTE (210 ENQUÊTES)

- **97%** Reconnaissent l'existence de sites patrimoniaux dans leur communauté
- **99%** Perçoivent des changements climatiques dans leur milieu de vie

RÉSULTATS CLÉS & ANALYSES

2 UN PATRIMOINE SACRÉ DIVERSIFIÉ ET PRISÉ

87,5 % des sites identifiés sont des sites sacrés, historiques ou à valeur ancestrale, incluant forêts, étangs, marais et espaces rituels.

- **47** SITES SACRÉS (10 Agouin, 8 Meko, 18 Agoué)
- **8** SITES D'IMPORTANCE HISTORIQUE (1 Agouin, 6 Meko, 1 Agoué)
- **7** PLACES PUBLIQUES À VALEUR ANCESTRALE (2 Meko, 5 Agoué)



3 ALÉAS CLIMATIQUES: IMPACTS DIRECTS SUR LE PATRIMOINE

Le patrimoine sacré, souvent en plein air, est fortement vulnérable au changement climatique, qui menace ses sites, ses ressources et la continuité des rituels et pratiques communautaires.

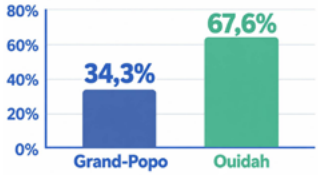
INONDATIONS · VENTS FORTS · SALINITÉ DE L'AIR · AVANCÉE DE LA MER · CHALEUR EXCESSIVE · RARETÉ DES PLUIES





ENGAGEMENT DANS LA PROTECTION DU PATRIMOINE SACRÉ

- **97%** Rerçoivent des changements climatiques dans leur milieu de vie



Les communautés de Ouidah sont plus engagées dans la protection du patrimoine que celles de Grand-Popo.

- **64%** Des communautés de Ouidah estime mieux la capacité à s'adapter aux changements climatiques

4 PATRIMOINE SACRÉ : LEVIER ADAPTATION ET RÉSILIENCE

RITUEL ET SPIRITUALITÉ
Les consultations du Fá et les rituels traditionnels permettent d'interpréter les signes de la nature et d'anticiper les événements climatiques pour mieux s'y préparer.

SACRALISATION DES ÉCOSYSTÈMES
Limite la surexploitation (pêche abusive, coupe des mangroves) et préserve la biodiversité, les ressources halieutiques et les services écosystémiques.

ESPACES PUBLICS ANCESTRAUX
Favorisent l'entraide, la gestion collective des ressources et la transmission des valeurs



IMPORTANCE POUR LA RÉSILIENCE

- Renforcer l'identité culturelle et la cohésion sociale
- Soutenir la préservation des écosystèmes (mangroves, etc)
- Favoriser des moyens de subsistance durables (pêche responsable, etc)

5 LE PATRIMOINE ARCHÉOLOGIQUE : BASE D'UNE RÉSILIENCE DURABLE

SITES ET VESTIGES
Renforcent l'identité et la mémoire, tout en soutenant l'adaptation aux crises climatiques et la diversification des moyens de subsistance.

PROTECTION ET VALORISATION DES SITES
Préservent le patrimoine et les ressources naturelles (écotourisme, artisanat).

TOURISME DURABLE & DÉVELOPPEMENT LOCAL
Diversifie les revenus, dynamise l'économie des communautés et des sites.



En valorisant les sites archéologiques et les buttes de sel, on crée des alternatives économiques au déclin de la pêche, tout en préservant un patrimoine unique et en renforçant la résilience des communautés.

FACTEURS DE SUCCÈS

- Reconnaissance du rôle du patrimoine par les communautés
- Redéfinition comme pratiques traditionnelles
- Collaboration avec leaders traditionnels et autorités locales
- Une gouvernance inclusive et un engagement collectif.

RECOMMANDATIONS CLÉS

- Renforcer la protection communautaire des sites sacrés
- Intégrer le patrimoine dans les plans locaux d'adaptation au changement climatique
- Valoriser les sites archéologiques pour des activités économiques durables
- Développer des programmes d'éducation patrimoniale pour les jeunes

PRÉSERVER LE PATRIMOINE, C'EST RENFORCER LA RÉSILIENCE CLIMATIQUE

clareprogramme.org/fr/cohere/

Scannez-moi! Pour en savoir plus sur le projet CoHeRe

CLARE Capacity Strengthening Hub (CS HUB)

Strengthening the capacity of researchers, projects and institutions across CLARE to produce and use climate adaptation research.





Most significant outcomes

450+

Researchers and practitioners within CLARE participated in CS Hub-led activities, 42% in at least two

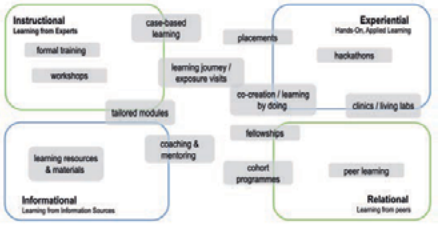
Researchers adopted **more participatory, inclusive and impact-oriented research practices and methods**

after participating in trainings

Projects tested and monitored a **diversity of CS approaches**

across 12 Responsive and GEI Fund projects

Diversity of CS Approaches



Most significant capacity strengthening lessons

01

Capacity strengthening appears most consequential when it is **embedded** in ongoing research, implementation or decision-making processes

02

Capacity strengthening develops through **sustained learning, application and follow-up** rather than one-off activities alone

03

Meaningful capacity outcomes encompass **confidence, agency, leadership, relationships and collective organisation**, alongside technical capabilities.

Significance for socially inclusive climate resilience

Having a better understanding what makes for a 'good' climate adaptation researcher
By exploring the competencies needed

Exploring the pathways through which research facilitates change
By looking into different impact pathways incl. policy



What enabled and constrained contributions

	INTERNAL	EXTERNAL
Enabled	• Balancing demand assessment with proactive planning • Complementary organisational strength/expertise • Ability to connect and sequence different modalities	• Long-term partnerships with R4I Hub and CLARE-ASEAN • Willingness of projects to engage and share their experiences • On-ground hosts in Cape Town, Nairobi and Bangkok
Constrained	• Very high level of responsiveness in first half of project • Limited capacity for systematic follow-up	• The lag between activity and observable outcomes • Project capacity and competing priorities

for more info on CS Hub

ECONOGENESIS

Understanding the gender equality and social inclusion implications of the economics of climate change and adaptation

Aims. Climate change will lead to high economic costs in developing countries. These impacts will not be experienced equally, with higher relative impacts for the poorest and most vulnerable. ECONOGENESIS has investigated these issues. It has also assessed the costs and financing of adaptation.

Findings. The key findings of the project are:

The costs of adaptation for developing countries are likely to be several hundred $billion/year by 2035. The ECONOGENESIS project has developed new modelled estimates of the global costs of adaptation (finance needs) for developing countries, with disaggregated analysis by sector and country.

Households in Rwanda, Nepal and Tanzania already experience severe economic costs from extreme weather events. The project undertook detailed household surveys in these countries to collect data on current economic costs (market and non-market impacts). When extrapolated to the national level, these equate to several % of annual GDP.

These climate impacts are unequally distributed. Female-headed households typically experience higher impacts relative to income, and have slower income recovery, revealing significant gender disparities. The poorest households experience the highest impacts relative to income and have higher exposure to extreme events. Climate extremes push households in Rwanda further into poverty.

Adaptation can reduce these impacts, and it has high economic benefits. Analysis of proposed adaptation actions in all three countries find high economic returns from investing in adaptation, relative to costs. However, the financial returns of adaptation are lower, providing challenges for financing.

There are opportunities for developing bankable adaptation projects, including ones that are gender-targeted. The project reviewed a large number of potential private sector adaptation projects and identified several project concepts that would provide financial returns and be gender positive.

Significance for socially-inclusive climate resilience. The findings of the project have several inter-linked implications. First, they highlight that climate change is already leading to large economic costs in the Global South. Adaptation can reduce these climate impacts, but it has a cost, which will be significant. Countries need to integrate these impacts and adaptation costs in climate-resilient development, including national development and medium-term expenditure planning as well as into budgeting. This is especially important given the likely limits to international public finance, and the need for domestic and private finance. The results also show that these climate impacts have strong distributional patterns: female headed and low-income households bear the highest relative costs and recover slower after shocks. This highlights the need to ensure adaptation is targeted to these groups, including the development of equitable bankable projects.

Enabling factors. The critical factors on the project included:

The use of a codesign approach. The project developed the research questions and case studies with policy makers. This helped to increase the relevance of the research and increased the uptake and use of the results (research to impact). This approach was iterative and provided flexibility that allowed changes during the research: a good example was the pivot to assess L&D which only emerged half-way through the project.

Relationship building. The project maintained strong linkages with external individuals and organisations, through a managed approach that involved regular check-ins and discussion. This also benefited from existing relationships built up over time in the key focus countries, highlighting the benefits of institutional memory and long-term research.



Paul Watkiss Associates

VANGUARD ECONOMICS







United Nations
Framework Convention on Climate Change

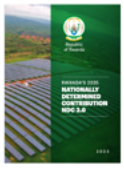
FCCC/PA/CMA/2023/L.17

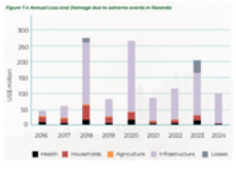
Distr.: Limited
13 December 2023

Original: English

68. *Also highlights* that the adaptation finance needs of developing countries are estimated at USD 215–387 billion annually up until 2030, and that about USD 4.3 trillion per year needs to be invested in clean energy up until 2030, increasing thereafter to USD 5 trillion per year up until 2050, to be able to reach net zero emissions by 2050;[6]







FRLD
Fund for responding to Loss and Damage



Key Outcomes

ECONOGENESIS directly contributed to a flagship international climate publication – the UNEP Adaptation Gap Report – leading the finance chapter every year from 2023 to 2026 and raising awareness of the CLARE research project.

The ECONOGENESIS results were influential in the global climate negotiations, and its estimates of the costs of adaptation were directly cited in the UNFCCC negotiation text, in the COP28 UNFCCC Global Stocktake and the COP30 Baku to Belem Roadmap to 1.3 Trillion Report.

The results of the ECONOGENESIS project provided key information on Loss and Damage. In Rwanda, the results were used in the L&D Chapter of the NDC3.0. The project results were then used as the basis for Rwanda's proposal to the Fund to Responding to Loss & Damage (FRLD). The project team supported the government in the preparation of the NDC chapter and the FRLD proposal.

Innovative Facilitation Fellowship
Programme for Resilience



Developing and co-creating learning tools for candid dialogue
Exploring innovative facilitation practice

Key Lessons

Iterative learning in climate fellowship programmes is powerful, transformative, and inclusive



- *Builds individual capacity and communities of practice.*
- *Encourages deep learning, collaboration, and co-creation.*
- *Supports new ways of responding to complex climate challenges.*
- *Creates lasting impact for participants and their organisations.*

Combining theory, practice and mentoring accelerates capacity development



- *Blends learning, practice, and real-world application.*
- *Strengthens skills through mentoring and hands-on experience.*
- *Builds supportive communities of practice.*
- *Expands capacity for effective climate dialogue and action.*

Innovative facilitation creates space for meaningful dialogue

- *Creates inclusive spaces for diverse perspectives.*
- *Encourages trust, participation, and collaboration.*
- *Supports co-production and multi-stakeholder engagement.*
- *Enables collective problem-solving and shared solutions.*

"Collaboration, locally-led solutions and inclusive leadership in addressing climate challenges are key. The programme strengthened my facilitation, communication, and critical thinking skills, while also helping me connect climate justice, gender inclusion, and community knowledge in a more practical way."

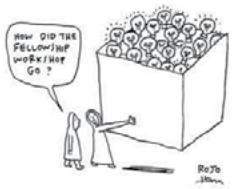
Climate Fellow



Outcomes

Building Innovative Facilitation Capacity in Africa and Asia

The fellowship programme brought together 20 fellows from Africa and 20 fellows from Asia. Participants completed a learning journey that included two in-person retreats, a virtual curriculum, practical assignments, and a structured mentoring programme. Together, these elements helped strengthen facilitation skills and build a supportive community of practice.



Designing and Sharing Innovative Learning Tools Globally

During the fellowship, participants co-created a range of open-access learning tools that are now being used by fellows and partner organisations around the world. These resources include climate games, a cartoon-based facilitation guide, experiential learning exercises, and an innovative facilitation curriculum. By making these tools widely available, the programme extends its impact far beyond the fellowship itself.



Transforming Dialogue for Climate Action

The fellowship promoted new approaches to dialogue that value diverse forms of knowledge and lived experience. By creating inclusive spaces where different perspectives can be heard and respected, participants are better equipped to co-create solutions to current and future climate challenges. Taking a systems perspective and embracing diverse viewpoints leads to more inclusive, resilient, and effective responses to the climate crisis.

Significance for enabling socially inclusive climate resilience

Climate resilience requires the inclusion of diverse perspectives, knowledge, and experiences. Meaningful and equitable climate action depends on creating spaces where all voices can be heard, especially those of vulnerable and marginalised groups. This requires skilled facilitation that fosters trust, encourages participation, and supports the co-creation of solutions.



Recommendations for facilitators of complex climate dialogue

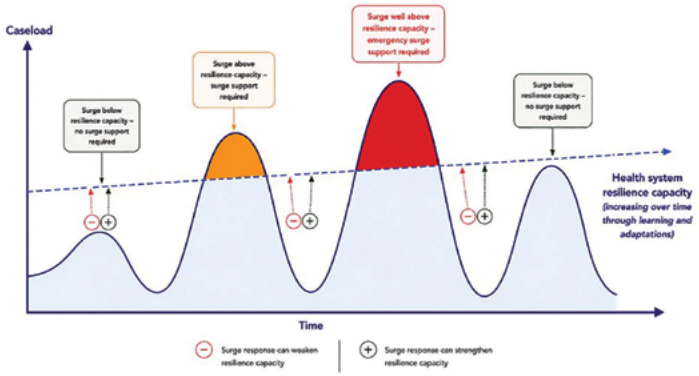
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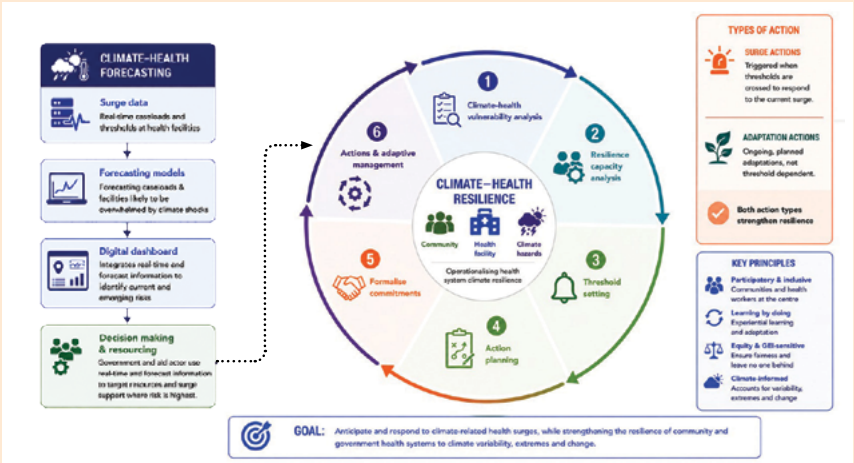
Health System Resilience to Climate-related Surges (HERCS)

1. BACKGROUND

- Climate hazards increase incidence of disease and malnutrition in arid and semi-arid lands.
- This drives surges in demand for health services while placing additional pressure on already fragile health systems.
- Strengthening health facilities and communities' ability to act early and manage such climate-related health surges is key to strengthening the resilience of health systems to climate change.
- The HERCS project pioneered participatory methods with health workers and communities, combined with machine learning surge forecasting, to enhance the climate resilience of the Kenya health system.



2. THE CLIMATE-HEALTH SURGE APPROACH



Key innovations

- Empowers health workers and communities to self-diagnose their health resilience to climate change and plan actions together.
- Integrates climate and resilience thinking and tools into an established health system innovation – the CMAM/IMAM Surge Approach.
- Combines threshold-triggered actions in response to specific surges with planned ongoing adaptations to strengthen health system climate resilience.
- Machine learning that forecasts malnutrition admissions to enable resources to be targeted where risk is highest.
- Facilitates collaboration among formal and informal health system actors and connected system actors (e.g. WASH, rangeland management).
- Gender-sensitive approach.

3. OUTCOMES

- A new participatory approach to climate change resilience assessment and adaptation in health systems (to be published in handbook).
- Approach ready for testing in other contexts with potential to scale up.
- Kenya ownership of the Approach nurtured through co-development with Ministry of Health, Marsabit and Turkana county government, NDMA and other partners.
- Participatory methodologies generated evidence to address critical knowledge gaps on the determinants of health facility and community climate resilience in ASAL.
- 121 participants (61 men, 60 women) engaged in Marsabit, with a comparable cohort planned in Turkana to co-develop action plans for strengthening health system resilience across nine communities and five facilities.
- Advanced machine learning methodologies for forecasting malnutrition surges and identifying critical surge drivers.



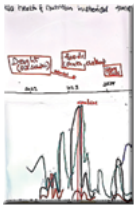
Seasonal calendar of climate and health factors.



Mapping causes of malnutrition and disease and their links to climate hazards.



Mapping relationships and power among health system and community actors.



A historical timeline of climate hazards and disease and malnutrition trends.



Gendered scoring of climate hazard impacts on community health capacities.

4. ENABLERS AND CONSTRAINTS

	Internal (CHC/HERCS)	External
Enablers	• Deep technical expertise. • Contextual knowledge. • Extensive organisational network. • Transdisciplinary expertise. • Organisational flexibility. • Collaboration with local research partners.	• Supportive stakeholder environment at national and sub-national level.
Constraints	• Short project duration.	• Bureaucratic load.

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Centre for Humanitarian Change | What Works
University of Exeter
CLARE CLIMATE ADAPTATION & RESILIENCE
Global Research and Technology Development Funded by UK Government
IDRC · CRDI Canada

Understanding Climate Risks Through an Intersectional Approach (iCRA)

Action research to advance integration of intersectional approaches in adaptation processes and policies

PROJECT GOAL

To strengthen the evidence base on intersectional approaches to climate change adaptation for climate change practitioners and policy-makers.

PARTNERS

International Institute for Sustainable Development

In Nepal: Prakriti Resources Centre, Tewa – Women's Fund of Nepal, and Community Development & Advocacy Forum Nepal

In South Africa: Urban Earth, Triangle Project, and the Western Cape Association of and for Persons with Disabilities

IMPLEMENTATION PERIOD

January 2025–December 2026

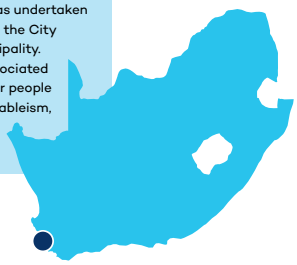
Nepal

In Nepal, the case study focused on Mardhar, a rural community in Mithila municipality in the Terai region. The CRA explored how flooding and drought affect people who experience the intersections of caste- and gender-based discrimination and ageism.



Cape Town, South Africa

The case study in South Africa was undertaken in Elsies River, a neighbourhood in the City of Cape Town Metropolitan Municipality. Here, the CRA unpacked risks associated with drought and extreme heat for people experiencing intersecting racism, ableism, and discrimination against LGBTQI+ communities.



Research Findings

Key findings from the research include:

- Intersectionally marginalized groups in the case study communities are at higher risk from the impacts of climate change due to structural barriers that exacerbate their vulnerability and, in some cases, increase their exposure.
- Structural barriers that increase vulnerability of our targeted groups include social and cultural norms that drive discrimination, resulting in landlessness, inaccessibility of infrastructure and services, and insecurity in public spaces among others.
- The existing adaptive capacity of intersectionally marginalized groups is grounded in peer support networks, collective action, and services provided by non-governmental organizations.

Project Outcomes

Key outcomes from the project include:

- A tested methodology for an intersectional approach to CRA that combines climate science, expert knowledge, and lived experience to understand how climate risks affect intersectionally marginalized groups.
- New evidence generated on the ways in which intersecting systems of inequity exacerbate vulnerability to climate change.
- All partners have a better understanding of climate risks for intersectionally marginalized groups and increased ability to apply intersectional approaches in their work.

Significance for Socially Inclusive Climate Resilience

The project has innovated in both inclusive CRA and the application of intersectional approaches. The results demonstrate that:

- An intersectional approach to CRA generates insights into exposure and vulnerability to climate change that do not emerge from a typical CRA.
- Working with frontline social justice organizations as expert informants and co-researchers supports a rights-based, trauma-informed approach in the CRA process.
- Intersectional CRAs support the identification of adaptation pathways that address the specific needs of intersectionally marginalized groups, while also confronting the structural barriers that place them at higher risk.

Enablers and Constraints

	Internal	External
Enabling factors	• Strong local partners with established relationships of trust in communities • Culture of learning and iteration within the project team	• Interest from decision makers in research findings • Anti-discrimination laws and policies in place
Challenges/ constraints	• Complexity of both intersectional approaches and climate change adaptation	• Limited data and information available on the systems of focus • Political sensitivity of naming and confronting persistent systems of inequity, despite anti-discrimination laws and policies

The iCRA project is implemented with support from the Climate Adaptation and Resilience (CLARE) program.

CLARE is a flagship research program on climate adaptation and resilience, funded mostly (about 90%) by UK Aid through the Foreign Commonwealth and Development Office, and co-funded by the International Development Research Centre, Canada. CLARE is bridging critical gaps between science and action by championing Southern leadership to enable socially inclusive and sustainable action to build resilience to climate change and natural hazards.

Improved anticipation of floods on the White Nile (INFLOW)



Co-Principal Investigators:
Prof Liz Stephens
Dr Modathir Zaroug

Project Manager:
Dr Ross Maidment

Partners:
University of Reading,
IGAD Climate Prediction and Applications Centre,
Red Cross Crescent Climate Centre,
Makerere University, Uganda Red Cross Society

Collaborators:
South Sudan Ministry of Water Resources and Irrigation,
Médecins Sans Frontières, World Food Programme, FEWSNET

Research Findings

1. Improved understanding of the hydrological timeline

The conventional wisdom around a 4-5 month lag time between Lake Victoria and the Sudd wetlands couldn't explain why flooding in South Sudan peaked in 2022. An analysis of flood wave transit times in the catchment showed that hydrological memory was actually over a year.

2. Improving accuracy and sustainability of satellite flood detection

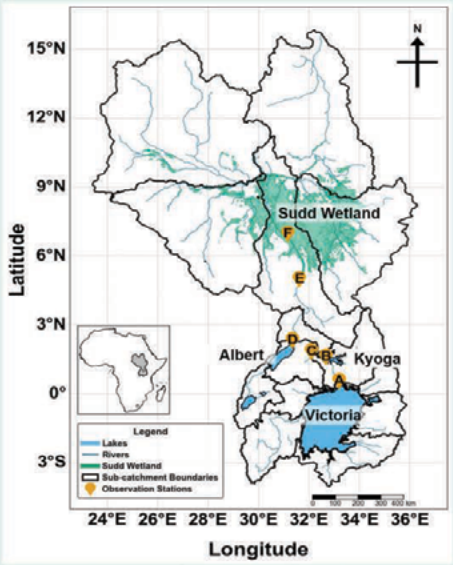
Remote sensing is critical for monitoring flood extent in data-sparse regions. Our analysis is quantifying and interpreting differences seen between different satellite-derived flood products.

3. Improved flood forecasting for South Sudan

The commonly-used flood forecast models were failing to predict the flooding of the Sudd wetlands. Using the new hydrological knowledge and satellite-derived flood extent maps, a new AI forecast model was developed which utilises satellite-derived flood extent, upstream lake levels and rainfall estimation to **accurately forecast flooding up to 60 days ahead.**

4. Early warning and decision-making are not gender neutral

Research in refugee settlements in northern Uganda found that women have less access to early warning information because community structures are male-led. There are also important differences in who makes decisions and who takes the practical actions, with contrasts between male and female-headed households. **This has implications for how warnings and anticipatory actions are designed and targeted.**



The White Nile basin and Sudd Wetlands (Credit: Douglas Mulangwa)

Project Outcomes

New operational flood forecasting capability for the White Nile basin, including GeoSFM river-flow forecasts at ICPAC and INFLOW-AI forecasts of Sudd wetland extent, with a pathway towards sustained regional ownership

Expert insights feeding into South Sudan's fortnightly Flood Task Force and MSF operations

Development of Early Action Protocols for the South Sudan Red Cross, with pre-agreed funding of CHF220k to reach 20000 people.

Enabling Factors

Humanitarian partners at the heart of the project, allowing everyone to understand decision-making context

Record levels of Lake Victoria in May 2024 mobilised the stakeholder community at a critical time, and provided a natural entry-point for INFLOW to have additional impact

What next?

Building flood resilience in South Sudan requires joined up thinking across timescales, from anticipatory action to long term adaptation. This challenge is explored in the Future Fit report.

INFLOW
Background

Papers:
White Nile Hydrology
INFLOW_AI

Blogposts:
Hydrological memory
The Conversation

Reports:
Future Fit

At CLAREExchange2026:
Liz Stephens LinkedIn

CLARE CLIMATE ADAPTATION & RESILIENCE
Global Research and Technology Development
IDRC · CRDI Canada

Enhancing inclusive global south participation in the IPCC Special Report on Climate Change and Cities (Inclusive SR Cities)

SMU College of Integrative Studies

CLARE Climate Adaptation & Resilience | Global Research and Technology Development Funded by UK Government | IDRC · CRDI Canada

INTRODUCTION

- The Intergovernmental Panel on Climate Change (IPCC) assesses the science related to climate change and plays a crucial role in providing policymakers with regular scientific assessments on climate change, its impacts, future risks and options for adaptation.
- The IPCC's 7th Assessment cycle (AR7) is producing major scientific reports that guide policymakers on climate impacts and solutions. Such large-scale reports rely on Coordinating Lead Authors, supported by Chapter Scientists who manage references, coordinate efforts and facilitate diverse contributions.
- Participation in this global effort is often hindered by funding constraints, particularly for Chapter Scientists (CS) - early-career researchers who support senior scientists in coordinating research and analysis. Without external funding, many from the Global South struggle to take a prominent role in the assessment process, limiting the diversity of voices shaping climate action.



AREAS BRIDGED

- **Financial support & experiential learning**
  - Funding for travel and subsistence allowance to attend all external meetings
  - IT equipment and software support
- **Multidisciplinary knowledge & valuable skillsets**
  - Mentoring and networking sessions with past chapter scientists and authors
  - Training sessions for applied skills, peer learning
- **Outreach with local organisations & CLARE Community**
  - Call for contribution of expertise on IPCC SR Cities

LESSONS LEARNT

- Growth pathway from Chapter Scientists to Contributing Authors (CA)
  - 10 out of 16 CS nominated to be CA, spread across 5 chapters
- Significant participation in Lead Author Meetings - 6 out of 7 CLARE CS attended the first LAM, and full attendance by the second LAM and subsequent LAMs.
  - Early participation provided CS with more time to adjust to the role and provided more context
- Support for CS conditional travel to their CLA country when necessary, however still a challenge due to visa unpredictability and planning administration involved
- Global south CLAs also had support to attend additional meetings for the development of the First Order Draft

NEXT STEPS

- Completion of final capacity building activity
- Sharing of lessons learnt with International Centre for Theoretical Physics (ICTP) & Wellcome Trust UK for AR7 Chapter Scientists
- Equip SR Cities CS for Approval Plenary in March 2027
- Manuscript on learnings from SR Cities Chapter Scientists from 7th assessment cycle
- Support for SR Cities Chapter Scientists on their career

OBJECTIVES

There are four main objectives:

- Ensure effective and equitable participation of Global South Coordinating Lead Authors through recruitment and funding
- Strengthen capacity and leadership potential through tailored training, peer exchange and networking opportunities
- Enhance inclusion of Global South expertise through targeted training
- Enable Global South Chapter Scientists to play an active role in knowledge brokering to engage with relevant global south stakeholders (i.e. policymakers, government agencies) on the content, key findings and recommendations

PROFILES

- 16 Chapter Scientists in total across 5 Chapters, of which 7 CS are CLARE-funded
  - CLARE CS are from Argentina, Brazil, South Africa, Kenya, India, Philippines
  - Early to mid-career researchers and practitioners (Masters, PhD, Post-docs and <5 years working experience)





CAPACITY BUILDING ACTIVITIES

- **Learners**: Chapter Scientists first experience in IPCC processes
- **Modalities**:
  Hybrid virtual and in-person workshops & seminars, self-paced courses, peer learning, mentoring
- **Trainers**:
  Engaged in-house by the Working Group II Technical Support Unit, expert trainers CLARE community and local organisations with expertise related to the skillset

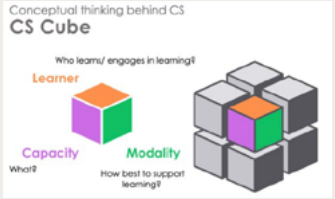


Figure: Capacity Strengthening (CS) Cube (Source: CLARE Capacity Strengthening Hub, 2024)

- **Capacities**:

Individual (Early Careers) & Organizational (Chapter Scientists group)

  - *Technical Skills & Knowledge*: AI use, coordination, reference management, knowledge brokering, data synthesis
  - *Interpersonal Skills*: Leadership, communication, stakeholder management, project management
  - *Intrapersonal Skills*: Confidence, commitment, motivation

Acknowledgements
Project Coordinator, SMU/CLARE: Graces Ching
IPCC Technical Support Unit Working Group II: Samantha Thian (Deputy Head of Operations) Sherine El-Wattar (Science Network Officer)
IPCC Working Group II Co-Chairs: Professor Winston Chow (SMU), Professor Bart van den Hurk (Deltares)

Connect with us!
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www.tinyurl.com/wg2mailinglist

Methods to Enhance Capability in High-resolution information for AdaptatioN: Initial Case Studies (MECHANICS)

Background

Can high-resolution kilometre-scale climate information aid real-world evaluation of adaptation decisions?

MECHANICS explores this by targeting specific decision contexts in South Africa and Lusaka (Zambia) whilst growing the community of scientists and users of such information to inform real-world decisions.

Scan for more!

Key findings

Lusaka

- **Flood risk in Lusaka is fundamentally a governance and coordination challenge, not only a technical one.** While climate and infrastructure factors are important, effective adaptation depends on addressing institutional fragmentation, communication gaps, and power dynamics, alongside strengthening community–institution interfaces and enabling more coordinated, anticipatory responses to risk.

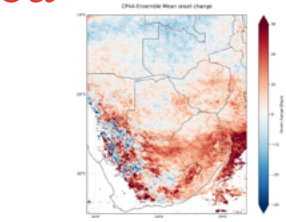


Field excursions undertaken by project partners, community leaders, local authority, civic leaders in Kanyama to assess flood risk and engage the community on impact of the floods.

- **Embedding climate information within lived experience and decision contexts is critical for impact.** High-resolution climate information only becomes actionable when it's aligned with:
  - Lived experience of flooding
  - Real-world decision-making processes

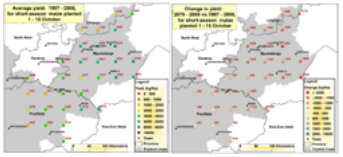
South Africa

- **Km-scale climate projections strengthen evidence that delayed onset of the rainy season is a robust climate change signal.**
- Delays of 10 to 30 days in the summer rainfall region, particularly across the eastern encampment, interior and Lesotho highlands.



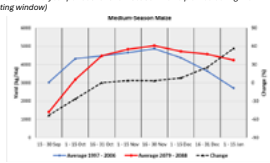
CP4A ensemble mean rainfall onset day of year (doy) projected changes (Note: Blue (Red) shades show earlier (delayed) onset)

- **Future maize yields are likely to decrease across all varieties with current practices**
- These findings are consistent across all types of maize (short-, medium- and long-season maize).



Average (a) Historical, (b) Future change of simulated maize yield (kg/Ha) per simulation point over the 10-year periods for short-season maize planted during the 1 – 15 October planting window)

- Planting later in the planting season with a medium-season variety is a robust adaptation and may also lead to increases in crop yields in the future



Simulated yields for medium-season maize in kilograms per hectare, as an average over all simulation points, per planting window as indicated, for historical (blue line) and future (red line) periods. The change in average yields, as a percentage of the simulated historical yield average, is also indicated (broken black line, secondary y-axis)

Inclusivity

Strong, locally embedded partnerships and Southern leadership are foundational to impact. MECHANICS demonstrates that only trusted relationships between researchers, practitioners, and communities enable the uptake of climate information, yet are often under-resourced in conventional projects.



An inclusive transdisciplinary approach throughout is essential, e.g. Learning labs. Through sustained facilitation and trust-building, these inclusive spaces allowed residents and local leaders to articulate lived experience, connect this with scientific evidence, and co-create action plans with climate researchers. Our experiences, in MECHANICS and 8+ prior years of engagement during FRACTAL highlight that trust is built incrementally through repeated interactions, shared learning, and sustained presence within decision contexts, rather than through isolated projects or short-term engagements.



Engaging stakeholders
In South Africa pre-existing relationships with The National Agrometeorological and Crop Committees and others in trusted spaces allowed showcasing the application of high-resolution climate information to enable the co-exploration of adaptation options.

PAN-AFRICAN AND TRANSDISCIPLINARY LENS ON THE MARGINS: TACKLING THE RISKS OF EXTREME EVENTS (PALM-TREES)

Findings: Heat stress

01 There is a need to focus on heat stress and not only temperature. This provides more useful information to stakeholders toward reducing associated negative effects.

02 High indoor temperatures are becoming "dangerous" in Accra, Ghana to "extremely dangerous" in Durban, South Africa and Turkana County, Kenya. Causing "great discomfort" in Accra and reaching indoor heat stroke thresholds in Durban and Turkana.

03 Temperatures indoors can be significantly different from temperatures outdoors.

04 Different housing types can modulate this difference and how long the temperature difference will persist.

05 Greater awareness of heat stress conditions among those impacted does not necessarily translate into their reduced vulnerability.



Adaptation resource provision: Solar- powered borehole and watering cans provided to Ogudu Barracks Farmers, Lagos, Nigeria



i-button installation
University of Nairobi (Dan Mutua and Joseph Mutemi)
Kitui County, Kenya

Findings: Gender, equality and inclusion

01 Heat stress conditions can have negative health effects including skin and circulation problems, heart complications and dangerous conditions for pregnant women.

02 It is important to consider all the different dimensions of socio-economic identity.

03 Communities are the experts in their own lived realities and their inclusion in adaptation processes influences the effectiveness of associated investments, including their access to resources supporting adaptation efforts.

04 Adaptation efforts must focus on understanding and shifting gendered, unequal climate impacts including local norms that influence who participates, speaks and benefits.

Findings: Reframing extremes

01 Considering the combined effect of temperature and rainfall on drought: the length of dry spells is becoming extreme (White Volta Basin, Ghana, 2026).

02 Compound events: wet including rain and soil moisture compound events (influenced by antecedent conditions) and dry heatwave flash drought and precipitation deficit flash drought (Central Africa, 2026).

03 Social vulnerability is modulating impact with some of areas with the most physical hazards being less impacted (White Volta Basin, Ghana, 2026).

04 Methods include multi-criteria flood hazard mapping, regression-based attribution modelling, GIS-based overlay analysis to combine hazard, exposure, and vulnerability; flood modelling that merges community-based social impact metrics; strucutral equation modelling merging reframed physical metrics with social vulnerability.



Monitoring weather diaries in Guider, Cameroon

Significance

Across Sub-Saharan Africa, climate risk interacts with multiple layers of vulnerability and security risks to create complex hazards.

Communities face immediate and long-term consequences from extreme events, including lingering impacts on mental health, well-being, life satisfaction, cognitive performance, and inequality among exposed populations. Limited access to resources, aid, and services during and after climate shocks push communities towards the margins of society and the limits of their ability to adapt.

PALM-TREEs strives to empower individuals, communities, and institutions with the awareness, knowledge, skills, resources, and agency needed to design, implement, and sustain responses to compound and cascading climate risk and differentiated vulnerability.

Outcomes

- Enhancing the capacity of researchers in particular early career researchers to do and use research for climate adaptation action.
- Improving the abilities of government officials, practitioners, communities, private sector representatives and other key stakeholders to practically engage research in support of climate adaptation action.
- Building the capabilities of communities against extreme weather and climate change.

Contribution

- Trans-disciplinary methodology
- Reframing climate hazards through lived realities
- Centering gender equality and differentiated vulnerability
- Co-producing actionable risk narratives
- Dedicated capacity-building
- Co-design and co-piloting of adaptation solutions



Cassava processing in Mbanza-Ngungu, Democratic Republic of the Congo

For more information on PALM-TREEs

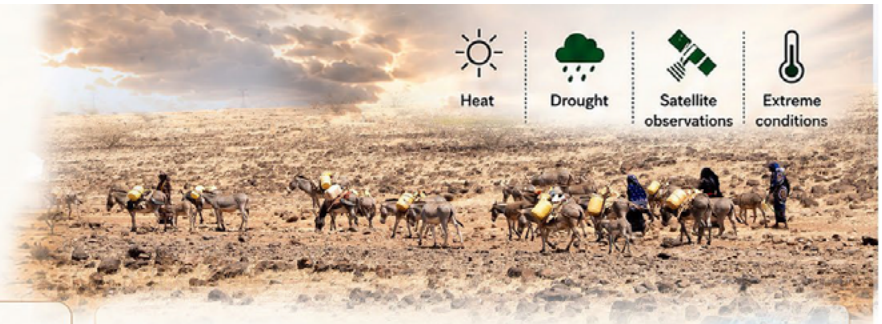
CLARE CLIMATE ADAPTATION & RESILIENCE

Global Research and Technology Development Funded by UK Government

IDRC · CRDI Canada

PASSAGE

Strengthening Pastoralist Livelihoods in the Greater Horn of Africa through Effective Anticipatory Action



PROJECT OUTCOME

INCREASED ADOPTION OF ROBUST AA SYSTEMS BY PASTORAL COMMUNITIES AND INSTITUTIONS TO BETTER PREPARE FOR THE IMPACTS OF EXTREME CLIMATE EVENTS IN THE CROSS-BORDER REGIONS.



5	3	11+	9
Countries	Cross-border clusters	Partners	Postgraduate researchers

OUR APPROACH

CLIMATE SCIENCE
- Weather & seasonal forecasts
- Heat analysis
- Vegetation & water information

INDIGENOUS & LOCAL KNOWLEDGE
- Local indicators
- Risk histories
- Livelihood insights

KNOWLEDGE LEARNING HUBS
Bringing together communities, scientists and institutions

CO-PRODUCTION OF RISK NARRATIVES
Understand risks, vulnerabilities and opportunities together

We understood trusted communication channels

DECISION-SUPPORT APPROACHES
- FOLA
- EVCA

INSTITUTIONAL DECISION-MAKING
Evidence informs planning, policy and resource allocation

LOCALLY LED ANTICIPATORY ACTION
Timely, inclusive and context-specific actions before shocks escalate

PROJECT PRODUCTS

- Climate forecasting & seasonal outlooks
- Extreme heat mapping
- Vegetation Condition Index (VCI)
- Water resources mapping & monitoring
- Forecast to Local Action (FOLA)

RESEARCH FINDINGS

Pastoral household economic analysis generated livestock-related indicators to inform drought risk analysis, early warning, and anticipatory action.

Drought risk profiling produced composite drought risk indices to contribute to ex-ante risk assessment and anticipatory decision-making.

Ex-ante economic analysis generated benefit–cost ratios and break-even thresholds to inform investment prioritisation and resource allocation.

Integrated water sensor observations with remote sensing and modelled groundwater and terrestrial water storage estimates provided an evidence base for drought monitoring and anticipatory action.

KEY CHANGES

- Communities became co-producers of climate information.
- Scientific and indigenous knowledge informed shared risk analysis.
- Knowledge Learning Hubs strengthened dialogue between communities and institutions.
- Regional evidence informed GHACOF and Sub-COFs.
- Capacity for anticipatory action strengthened across institutions and communities.
- Capacity of early researchers has been strengthened.

POLICY INFLUENCE – EXAMPLE: NDMA, KENYA

Partnership with NDMA: Technical training, co-production and policy support.

Review of Kenya Drought Response Guidelines: Inclusion of anticipatory action, forecast-based financing, community-defined thresholds and GESI. Draft validated and moving to ministerial launch.

Pre-alert Drought Classification: NDMA introduced a 'pre-alert' category in monthly bulletin to enable earlier preparation and budgeting.

Vegetation Forecasts in Bulletins: Supported by University of Sussex (UoS). NDMA now uses satellite-derived Vegetation Condition Index (VCI) in routine drought bulletins.

Earlier Anticipatory Action: Improved timing, relevance and inclusivity of drought responses for pastoralist communities.

PASSAGE LEGACY

- Operational climate information systems and products
- Decision-support approaches (FOLA, EVCA, Action Plans)
- Stronger institutional and technical capacity
- A new generation of researchers advancing drylands resilience
- Policy and practice products influencing decision-making
- Regional partnerships for resilient pastoral systems

OUR PARTNERS

IGAD · IFRC · University of Sussex · CeRID · WFP World Food Programme · Maseno University · University of Nairobi · virridy · NDMA · CLARE Climate Adaptation & Resilience · Global Research and Technology Development · IDRC · CRDI Canada

SCAN TO LEARN MORE ABOUT PASSAGE

> "Locally led anticipatory action begins when scientific evidence, indigenous knowledge and institutions work together."

DRIVING RESEARCH-BASED EVIDENCE INTO ACTION

The **R4I Opportunities Fund** is an innovative, demand-led fund which supports the needs of decision-makers in **Africa** and **Asia-Pacific** to adapt to climate change using existing research and evidence towards transformative outcomes.





26
Projects

19
Countries

With over **USD 1 million in funding** distributed across **26 interventions** and **19 countries,** the fund bridges critical gaps between science and action, enabling research uptake to inform science-based decision-making and scaling adaptation to influence policy.

R4I OPPORTUNITIES FUND IMPACT

KENYA

Through the **Kenya Heat Health Exchange** project, following a peer-learning exchange in India, Nairobi City officials now have context-relevant knowledge on developing and **operationalising Urban Heat Early Warning Systems (EWS)**. The city is actively developing a Heat Action Plan (HAP) from this work.



CROSS-COUNTRY KNOWLEDGE EXCHANGE

"We've been in Rajkot to understand their heat action plan, early warning system, what's working, challenges, and how we can borrow from those experiences to design ours at home."

Joyce Kimutai, Kenya Meteorological Services and World Weather Attribution

GHANA

The **Ghana Climate-Evidence project** partnered journalists with researchers, using media to advance climate impact awareness of challenges like heat and flooding. The resulting research-based stories **reached 16,000 readers, 26.5 million monthly radio listeners, and 116 million monthly TV viewers**.



MEDIA-LED PARTNERSHIPS

"Evidence-based policymaking is crucial for long-term sustainable resilience building. With climate evidence, researchers who have spent years working with communities can tell stories in granular form about how they're dealing with climate-change challenges."

Dr Prince Ansah, CDKN Ghana

INDIA

Street vendors account for over 90% of India's workforce. The **Rajkot City Street Vending project** introduced climate-resilient design solutions and gender-sensitive measures like women's health and sanitation, safety, and equal space allocation. The project **influenced policy to reduce climate risks and gender gaps** in street vending zone planning.



SOCIAL INCLUSION

"The importance of integrating gender from the start is key, as female vendors face unique vulnerabilities, and participatory planning ensures buy-in."

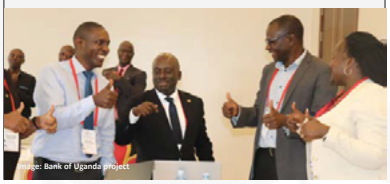
Nitin Macwan, Mahila Housing Trust, Local intermediary supporting Rajkot Municipal Corporation

CRITICAL SUCCESS FACTORS

	INTERNAL	EXTERNAL
ENABLER	Knowledge brokering expertise, including in-country partners	Strong local leadership, engaging facilitation, strengthening relationships between stakeholders
CONSTRAINTS	Lengthy process to develop projects sourcing in-country demand	Real-world challenges, i.e. political uncertainty and climate-impacts (e.g. major floods, extreme heat)

UGANDA

The **Central Bank of Uganda (BoU)** now has access to climate risk information and is better equipped for climate-risk integrated policy and decision-making. With strengthened partnerships between BoU and local scientists (i.e. Uganda National Meteorological Authority) **scaling adaptation through national-level policy influence** can achieve strategic and sustainable outcomes.



POLICY INFLUENCE:

"I learnt a lot about climate risk and its relation to monetary policy, where to find the data and the skills we need to implement its usage."

Project Beneficiary

Project background
Scan for the REBUMAA project page on the CLARE website

Resilience Building through Multi-Stakeholder Engagement in Anticipatory Action for Climate-Induced Disaster (REBUMAA)

Gender-sensitive, forecast-based anticipatory action against riverine flooding · Benin · Nigeria · Togo

3	28	20,000	790+	30+	6
Countries: Benin · Nigeria · Togo	Project communities	Households registered for cash	Volunteers & club members trained	Institutions engaged	Peer-reviewed publications

THE PROBLEM & OUR REFRAMING



Red Cross teams reach flood-affected households during response, Nigeria.

From better forecasts to better governance

- Flood response is still largely reactive despite better forecasts.
- The deficit is governance, inclusion and ownership — not forecast accuracy alone — and it decides whether timely action happens.

"Whether climate information becomes timely action is decided by governance, inclusion, and humanitarian and disaster agencies."

The REBUMAA analytical shift

MOST SIGNIFICANT FINDINGS

1. **Awareness gaps drive inaction**
   Over 70% lacked timely warnings; over half see floods as unavoidable.
   J. Flood Risk Mgmt (2025)
2. **Indigenous knowledge is infrastructure**
   Communities blend ecological signs with radio / phone alerts and refuse relocation.
   under review
3. **Communities can own early warning**
   Low-cost river gauges let residents read thresholds and act locally.
   field result
4. **Five institutional barriers to AA**
   Timeframes, priorities, structures and credibility — co-enacted across actors.
   J. Conting. & Crisis Mgmt (2025)
5. **Green spaces buffer floods**
   Cotonou: runoff −54%, infiltration +31%, erosion −25%.
   Perspectives Plurielles (2026)

MOST SIGNIFICANT OUTCOMES

TRIGGER ACTIVATED — 2026 FLOOD SEASON
Unconditional cash / card transfers under way in Nigeria (Enugu · Ogun · Kwara), Togo and Benin.

1. **National AA frameworks endorsed**
   Nigeria Flood AA framework; Nigeria, Benin & Togo flood EAPs; Benin six-phase governance model + commitments.
2. **Forecast-based financing**
   20,000 households registered across the three countries; physical verification and cash distribution under way.
3. **Community preparedness scaled**
   River gauges, CBDRTs, platforms, school clubs, 9 flood-risk maps.
4. **Inclusion built into the system**
   >60% women in PGI events; SADD monitoring; targeted households.
5. **Evidence shaping policy**
   6 papers feeding environmental, social-protection registry and DRR.

SIGNIFICANCE FOR INCLUSIVE RESILIENCE

Why it matters — with gender equality & inclusion at the core

- Reactive relief → anticipatory, forecast-based preparedness that protects before impact.
- Early warning grounded in community ownership and Indigenous knowledge.
- Protects the most exposed: female-headed, disabled, older, chronically ill and young-child households.
- Women lead structures; SADD makes inclusion measurable; protocols outlast the project.

Gender equality & inclusion is not an add-on — it defines who is protected first.

WHAT WORKED — ENABLING & CONSTRAINING

	Internal — what the project did	External — beyond the project
Enabling	Co-production with Red Cross + universities; action-research; local triggers & river gauges; PGI structures.	Institutional buy-in to FbF; national forecasts (NiMet, ANAMET, Météo Benin); 121 platform; CLARE CS Hub.
Constraining	Short 3.5-yr window drives trigger recalibration; tight post-distribution research timeline.	Coarse / for-cost hydromet data; perception–trigger mismatch → community frustration.

FROM THE FIELD



Beneficiary registration (FbF)



Community river-gauge monitoring



Mothers' Club sensitisation



Inclusive household targeting



Participatory flood-risk mapping



Governance co-design, Bohicon

REBUMAA
Resilience Building through Multi-Stakeholder Engagement in Anticipatory Action for Climate-Induced Disaster

CLARE Programme (IDRC · FCDO)
Selected outputs: Olawuyi et al., J. Flood Risk Management (2025) · Geisemann et al., J. Contingencies & Crisis Management (2025)



Developing an Evidence Base for Policies That Strengthen Resilience to Single-Use Plastic Pollution in Seychelles

This project worked with communities, fishermen, and policymakers to build an evidence base to guide Single Use Plastic (SUP) and Climate Policy development.

Key Research Findings

1 Community

- Bans exist but enforcement fails. Import loopholes and weak customs controls are the main cause.
- Plastic is a climate and health hazard.
- Plastic-clogged drains worsen floods.
- Communities are ready and willing.
- Main barrier is the high cost of alternatives.
- Tourism is both a problem and a solution. Tourists produce up to 4x more waste than locals. The sector must be part of the solution.
- Economic tools are missing. Current policy relies on bans alone.

2 Market

- Retailers tried switching but cite high cost as the main barrier.
- Retailers face supply shortages for alternatives.
- Most accept a modest premium but fear customer resistance.
- Food outlets need phased support; gift shops are near- compliant.
- Sector-specific recommendations emerged from this evidence.






Most significant project outcomes

Policy influence

Drafted a new national SUP Policy Brief and Cabinet Memo.



Amplified comunity voices



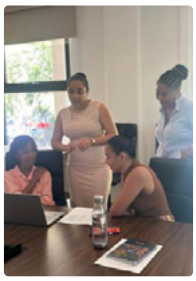
Strengthened climate health integration

Elevating the Climate Health linkage in Policy discourse. Health is an essential stakeholder.



Created tools for wider impact

The project is producing a Stakeholder Consultation Toolkit, an awareness video, and infographics to share lessons widely.



What worked particularly well to enable these contributions?

- Adopting the "Real World Lab" (RWL) Approach
- Using Stakeholder Consensus Tools (Optamos)
- Leveraging Existing Legislative Foundations
- Leveraging Partnerships
- Turning research into action (policy brief, infographic, etc)

Protects Marine Life | **Stronger Communities** | **Climate Resilience**

Prevents Flooding | **Protects Health**

Significance for Climate Resilience

Why it Matters: These findings reframe plastic waste as a climate adaptation crisis, not just an environmental problem.

Critical for building fair and effective climate resilience.

- By listening to the groups engaged, the project ensures policies are not just technical fixes but are equitable and just.
- This approach strengthens the adaptive capacity of the most vulnerable.
- By revising the conversation around traditional knowledge and supporting local enterprise, the project strengthens community self-reliance.

SAY NO to PLASTIC

Reducing plastic pollution is not only about cleaner environments. It is about building fairer, healthier, and more climate resilient communities in Seychelles, and other Small Island Developing States.

CLARE CLIMATE ADAPTATION & RESILIENCE

Global Research and Technology Development

IDRC · CRDI Canada

sustainability for seychelles

UNIVERSITY OF SEYCHELLES

RECOVER Project - Mauritius

Research Team: Prof. S. Singh; Assoc. Prof. M. Gooroochurn; Prof. H. Ramasawmy
Research Assistants: P. Emrith-Jankee; Y. Gooroochurn; S. M. Ramjunun; K. Allagapen

Biomass Flow Analysis & Passive Building Design

Background
Prior research work has shown that solely concrete fabric is not appropriate for thermal comfort of occupants in the tropical context of Mauritius, and this is worsened by poor building design and aggravating summers causing overheating.

Motivation
Improving the thermal performance of building fabric through insulation materials produced from locally sourced biomass and passive design.

CLARE Objective 4
Integrating nature-based solutions with material stocks-flow-service (SFS)

CLARE Objective 5
Engaging stakeholders in Real World Labs (RWLs)

Aim of Study
To develop a supply chain framework for the flow of biomass within the Mauritian territory > as a sustainable source of material for infrastructural purposes

Methodology



STEP 1: Understanding the use of natural fibres in Mauritius through a Conceptual Diagram

STEP 2: Collection of Data for Conceptual Diagram Streams

•Interviewing Business: Toit de Chaume



•Interviewing Business: The Knitting Hub



•Interviewing Business: Handicrafts - Local Markets



STEP 3: Analysis of Data Collected

• Coconut cultivation
Coconuts are mostly grown in the sub-mid zone especially on the coastline.

• Banana cultivation
The area under cultivation grew from 500 ha in 2010 to 800 ha in 2024.
Bananas are mostly grown in the eastern (33%) and southern (43%) regions.



Concluding Note
- To recall, this study aims to bring circularity by applying plant fibres for passive building design.
- Local fibrous biomass was identified
- Survey was done with local businesses to get an insight into the socioeconomic flows.
- Fabrication of the insulation materials in progress and real-world labs with communities to test the fabrics.

Energy Resilience of Mauritius: Understanding Energy Flows

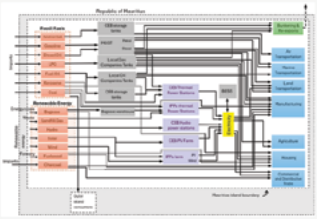
Background
Mauritius is a SIDS with no indigenous fossil energy resources, as a result Mauritius relies heavily on imported petroleum products to meet its energy demand. Climate change, geopolitical disruptions and volatile fuel prices expose our energy system to increasing risks.

Motivation
Improving resilience requires understanding how much energy is used and how energy flows through the country.

Aim of Study
To analyse the Energy Metabolism of Mauritius by quantifying National Energy Flows and identifying Systemic Vulnerabilities and their associated potential Risks

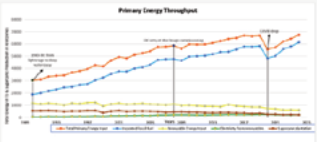
CLARE Objective 1
Evidence-based road map to support a transition from linear to circular metabolism through SMR and risk modelling

Conceptual diagram of National Energy Flow model



Preliminary analysis

The arrows in the Energy Model representation are quantified for the period of 1990 to 2024. The Energy Metabolism is then analysed.



Analysis:
- Primary input doubled
- Imported fossil fuels have tripled over time
- The total energy input curve mirror the imported fossil fuel curve.
- For decades, the majority of Mauritius' renewable energy came from bagasse

More in depth analysis to be done on each section of the Energy Model to identify drivers of increase. The model will then to be subjected to potential stresses to understand vulnerabilities and associated risks.



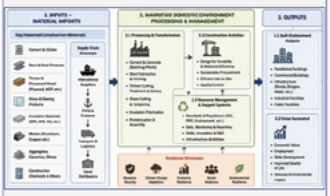
NbS Solutions and Climate Resilient Infrastructures for the Construction Industry

Background
Mauritius is vulnerable to supply-chain disruptions and relies heavily on imported construction materials creating risks to resource security, costs and sector resilience.

Motivation
Identify local and circular material alternatives and develop climate-resilient, CE-based approaches that reduce import dependency, retain material value and strengthen self-reliance in the construction sector.

Aim of Study
To Develop a Resilient and Circular Conceptual Framework for Material and Resource Use in the Mauritian Construction Industry

CLARE Objective 2
Propose climate resilient business models based on circular economy (CE) principles and increase self-reliance on critical resources such as construction materials.



Research Objectives
1. Understand the Construction Materials Flow and Vulnerabilities and Risks to SIDS.
2. Assess Construction Material Import Dependency
3. Identify and Evaluate Local and Circular Material and Construction Alternatives
4. Promote Local Resource Utilisation and Material Value Retention
5. Strengthen Self-Reliance and Resilience of the Mauritian Construction Sector



Preliminary Findings

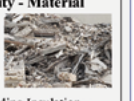
Trend in Construction Material Imports 2021-2025

Data from Customs (SRSA)

Construction Material	Unit	2020	2021	2022	2023	2024
Cement [SITC 661.1]	tonnes	654,742	980,384	1,124,388	1,312,704	1,317,646
Structural Steel [SITC 67]	tonnes	130,630	144,202	165,293	193,093	193,795
Structural Timber [HS 4407]	m^3	—	20,403	48,616	76,191	107,230
Glass for construction [HS 7005]	tonnes	4.7	61.4	11.2	143.6	151.6
Building insulation – glass fibre/glass wool [HS 701912]	tonnes	—	48.9	109.1	130.1	193.2
Building insulation – mineral wool [HS 680610]	tonnes	—	30.5	39.3	39.7	49.1
Copper for Elec. Cables – [HS 740710]	tonnes	—	1.0	7.2	9.1	—
Aluminium profiles [HS 760610]	tonnes	—	5,207.00	5,617.00	5,598.10	6,733.00

Opportunities for Circularity - Material Import Reduction

Construction Demolition Waste (CDW) - Re-Use as Recycled Construction Aggregates (RCA)





Building Insulation - Alternatives proposed for Passive building Design (Coconut and Banana plant stem fibres)

Exploring Circular Opportunities in Small-Scale Fisheries in Mauritius

Background
Mauritius's small-scale fisheries face challenges related to resource losses, fishing gear management and underutilised fish wastes, while opportunities for circularity remain largely untapped.

Motivation
Explore how circular economy practices can be integrated into the sector to improve resource efficiency, reduce systemic vulnerabilities and enhance climate resilience.

RECOVER Objectives
1. Design an evidence-based road map for embedding circularity principles at island scales
2. Engage stakeholders in Real World Labs (RWLs)

Conceptual Framework



Study Coverage & Stakeholder Engagement

Study coverage: 14 Fisheries posts

Stakeholder Engagement:

Artisanal Fishers
Fishmongers
Fishing gears suppliers

Interviews and focus group discussions capture diverse perspectives across the value chain





Preliminary Results

100% of surveyed fishers reported losing fishing gear at least once during the past year. Reported causes varied by gear type and included environmental and human-related factors, as shown below:

75 artisanal fishers + 95 fishmongers surveyed to date + 1 mixed-age focus group discussion



Reported causes of fishing gear loss by gear type

End-of-life management of basket traps (n = 56) - 30.0% reported leaving damaged or end-of-life traps at sea, 48.2% brought them ashore for disposal in bins, while only 1.8% reported dismantling traps to reuse components

Understanding the reported causes of ALDFG is essential for identifying and prioritising targeted management options.

30.2% of fishmongers interviewed reported disposing of fish wastes in bins:
- Estimated average annual waste ~ 16.3 T
- Estimated average fish processed by these fishmongers ~ 66 T

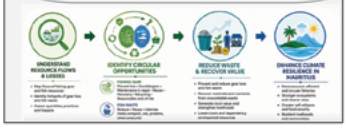
36.4% of fishmongers interviewed reported disposing of fish wastes in the sea:
- Estimated average annual waste ~ 8.8 T
- Estimated average fish processed by these fishmongers ~ 38.9 T
- ~ 23% of fish wastes generated from 31.6 T of fish processed are discarded into the sea



Current Fish waste disposal methods showing the behaviorpractice of the fishmongers

"Every month, we dispose of around 2 tonnes of fish waste in the waste collection truck, and other several fishmongers throw away their fish wastes as well. It would be great if a solution could be found to use this waste to agriculture as biofertilizer or compost." – Fishmongers from Grand Gaube

FROM INSIGHTS TO IMPACT

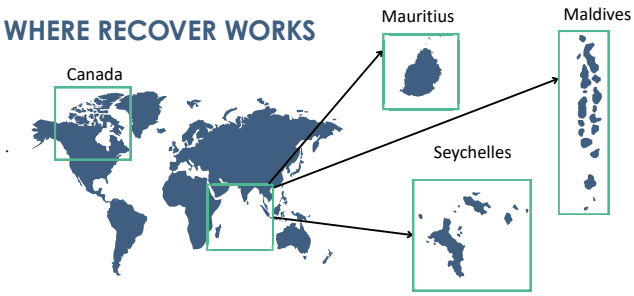


Resilience to Climate Vulnerability and Environmental Risk (RECOVER)

PROJECT BACKGROUND

RECOVER focuses on research, creating tools, generating data, informing policy, and strengthening partnerships that support climate resilience in Small Island Developing States (SIDS).

WHERE RECOVER WORKS



MOST SIGNIFICANT PROJECT FINDINGS

1. **Hard protection measures, accommodation, and retreat dominate adaptation portfolios in SIDS**, creating long term lock-ins that reduce flexibility and heighten socio-metabolic risk.
2. **Decision-making around critical resources is fragmented**, with limited coordination across infrastructure, energy, food, and water systems, weakening long-term resilience.
3. **SIDS have a limited systems-based approach to climate resilience**, resulting in an island metabolism that is out of balance. Current responses tend to be reactive and siloed, addressing individual risks without considering cross-sector interactions.
4. **Underrepresented groups are largely excluded from climate adaptation decisions**, limiting the diversity of perspectives needed to design equitable and inclusive resilience strategies.
5. **Cross-island collaboration remains weak**, despite islands representing 10% of the world's population, ¼ quarter of UN member states, and ⅙ of the world's total area when including their marine economic zones.



Hard infrastructure measures, as seen above in Mauritius, are common responses to climate change



Illustration depicting the Metabolism of Islands, shown by the import and export flows in an island to explain how islands consume resources



The Island Hubs of Innovation fellowship was launched to foster collaboration amongst SIDS professionals



The Metabolism of Islands documentary takes a deep dive into unsustainable resource use patterns on islands

MOST SIGNIFICANT PROJECT OUTCOMES

1. **Centre for Excellence in Mauritius:** To support long-term research and scientific collaboration on biomass-based insulation materials.
2. **Leveraged Funding:** Additional support secured from the Government of British Columbia, the International Society of Industrial Ecology, University of Waterloo, Government of Mauritius, and the University of Augsburg to expand project activities, resources, and tools.
3. **Strengthened Capacity for Systems Approaches:** Enhanced through the Mobility Programme, peer-to-peer learning, and a 10-week online course on Metabolism of Islands.
4. **Policy Intervention Efforts:** Ongoing support for national policy processes, including plastic pollution mitigation in Seychelles and water governance reforms in the Maldives.
5. **Metabolism of Islands Hub & Research Network:** A global database and knowledge hub advancing systems-based research and collaboration across SIDS.

WHAT WORKED PARTICULARLY WELL TO ENABLE THESE CONDITIONS?

Enabling Factors

- **Flexibility** in project management
- Onboarding **Sustainability for Seychelles as a partner**
- Use of **Metabolism of Islands as a common framework**
- **Peer-to-peer learning** and collaboration
- **Trust** within the team and the communities we work with
- **Growing momentum** around climate adaptation in SIDS

Challenges

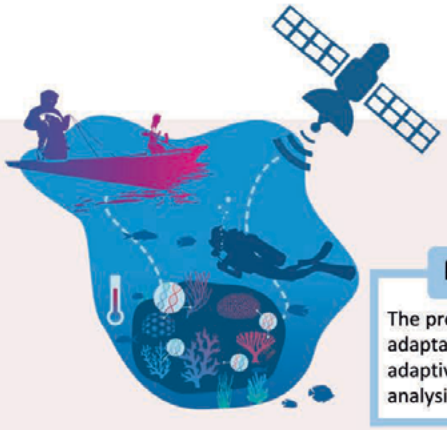
- **Termination of partnership with Fiji**
- **Limited applications** from target audience for Mobility Programme and resulting delays in programme implementation
- **Country-level approval** processes



Peer-to-peer learning session

SIGNIFICANCE FOR ENABLING SOCIALLY INCLUSIVE CLIMATE RESILIENCE

1. Collaboration & Leadership	2. Inclusive & Equitable Decision-Making	3. Equity in Capacity Strengthening
•Strengthening socially inclusive climate resilience through the Island Hubs of Innovation, shifting the narrative fryth om vulnerable islands to leaders of climate action.	•Supporting more inclusive adaptation decisions in SIDS and encouraging policy interventions that prioritize underrepresented groups and address differentiated vulnerability.	•Prioritizing women and underrepresented groups in research and training (e.g., women and Early Career Researchers make two-thirds of the RECOVER team).



ClimateREEFS: integrating risks, evolution and socio-economics for fisheries sustainability on coral reefs

Project's Overview

The project implements social research to identify social climate vulnerability and inclusive adaptation pathways through a gender and social equity lens, geospatial research to detect adaptive reefs from satellite-derived data, and ecological and genomic research to pilot an analysis that tests the interplay of adaptiveness from genes to people.

Read More about our project

Significance Findings

- **Ecology**: Established a baseline database of ecological conditions & resilience
- **Eco-spatial**: Identified ecological characteristics -> greater reef resilience -> identify sites that have higher capacity to persist under increasing climate stress
- **Policy**: Policy = Critical need for multi-level coordination, inter-agency collaboration & institutional reform
- **Gender**: Women and men contribute to adaptation in different but connected ways

Significance Outcomes

- Evidence base for climate SMART MPA design and prioritization
- Policy and institutional recommendations to improve gender integration in fisheries and climate governance
- 1,189 hectares of proposed new marine protected areas benefiting 9,423 small-scale fishers in 6 communities
- Strengthened women's skill, voice, leadership and collective action through trainings
- Local adaptation & management plans being implemented across sites, includes coral restoration, climate adaptation, savings groups and microenterprise development , clean water infrastructure and community surveillance patrols.

Significance Capacity Strengthening Lesson

- Build local trainer pools, peer learning, and cross site exchange
- Co-creation with communities and local governments makes adaptation more usable and sustainable
- Link research evidence to practical action

What worked particularly well to enable these contributions?

	Internal	External
Enabling factors	• Interdisciplinary design • Strong local partnership • Participatory research • Peer learning and mentorship	• Support from local governments and community leaders • Active women's group • Collaboration with partner institutions
Constraining factors/ challenges	• Limited upfront resources • Short project timelines • Limited follow up time in some sites	• Permitting and administrative delays • Unstable weather and fisheries conditions

Significance for enabling socially inclusive climate resilience

Socially inclusive resilience depends on linking ecological evidence with the lived of local coastal communities. Adaptation is more effective when it addresses different vulnerability, value women's contribution, strengthens community voice and leadership, and improves institutional coordination across climate, fisheries and gender agendas.









Indonesia

Women in Tulehu strengthened skills in food diversification, financial literacy, digital communication and climate leadership. Building confidence, livelihoods and collective action.









Local partners use the project's CCVA findings to design marine protected and sustainable-use areas, promote sustainable fishing practices, and develop policy recommendations to improve conditions for women fishers.

The Philippines

This work was funded by UK aid from the UK government and by the International Development Research Centre, Ottawa, Canada as part of Climate Adaptation and Resilience (CLARE) research programme. The views expressed herein do not necessarily represent those of the UK government, IDRC or its Board of Governors. Learn more about CLARE: www.clareprogramme.org

REPRESA: RESILIENCE AND PREPAREDENES TO TROPICAL CYCLONES ACROSS SOUTHERN AFRICA

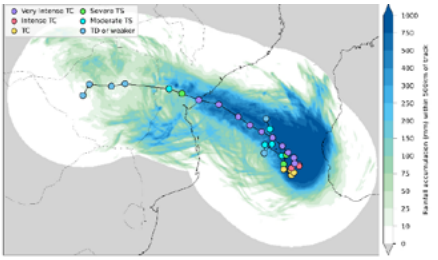
Partners and collaborators: Wits Global Change Institute, Eduardo Mondlane University, University of Bristol, North-West University, University of Reading, Red Cross Red Crescent Climate Centre, UK Met Office, European Centre for Medium Range Weather Forecasting, Instituto Nacional de Meteorologia Mozambique, Météo Madagascar, ARAKE, Department of Climate Change and Meteorological Services Malawi.

REPRESA AIMS AND OBJECTIVES

Future tropical cyclones (TCs) may be unprecedented in intensity and impact in southern Africa and Madagascar. Through pioneering km-scale modelling, REPRESA aims to ensure that these impacts are not also unexpected. We are co-designing with key agents of change Early Warning Systems (EWS) that are climate smart, as well as adaptation options in the context of intersecting vulnerabilities. Our objectives are to:

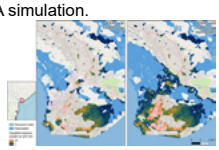
- Quantify the changing attributes of landfalling TCs under future global warming;
- Assess TC flood hazards now and into the future;
- Strengthen multi-hazard impact-based EWS and their uptake in vulnerable communities;
- Formulate adaptation options that enhance resilience to the evolving risks from TCs.

REPRESA WPs 1&2: Projecting tropical cyclones and impacts in a warmer world



Top figure: Unprecedented future Cat 5 (wind speed >252km/h) TC landfall over Mozambique in a Met Office CP4A simulation.

Right figure: TC Idai storm surge exposure in Beira, should the storm have co-occurred with spring tide.



WP1 achieved pioneering km-scale projections of changing TC-attributes in southern Africa and Madagascar in a warmer world, whilst WP2 developed the most comprehensive compound flood hazard modelling capabilities obtained to date for any African region. Key findings include:

- An overall decrease in the number of TCs, but an increase in the most intense TCs.
- There is a greater likelihood of rapid intensification, which results in less warning time.
- Need to be prepared for Category 5 (cat 5) TCs making landfall in the near future.
- Overall TCs will contribute less to seasonal rainfall totals, but peak rainfall from individual TCs will increase.
- Population exposure to pluvial flooding from TCs is projected to increase over western and central Madagascar and across Mozambique and southern Malawi.

REPRESA Living Labs: Stress-testing EWS and developing storylines in the context of unprecedented extremes



The Living Labs work with stakeholder groups to stress-test EWS and adaptation options in the context of future TCs bringing unprecedented hazards to at risk communities:
Living Lab A: Designing EWS to be effective and applicable in local contexts.
Living Lab B: Operationalising multi-hazard impact-based forecasts.
Living Lab C: Next generation stress testing lab.
Living Lab D: Climate smart strategy lab.
Living Lab E: Practice / Policy lab.

REPRESA WPS 3&4: Early Warning Systems for and adapting to tropical cyclone impacts in a warmer world

WP3 has advanced understanding of EWS reliability and uptake, to enhance anticipatory action in Madagascar, Mozambique and Malawi. Extensive field surveys covering thousands of households were undertaken. While EWS for TCs and floods are improving and community responsiveness is increasing, their effectiveness is profoundly limited by resource constraints, technical message complexity, coordination issues, and challenges in reaching remote and vulnerable populations, often creating a disconnect between warnings and the capacity for appropriate, localised action.

WP4 identified adaptation gaps and formulated adaptation options for Malawi, Mozambique and Madagascar, within the context of unprecedented future TC risks. Critical barriers to adaptation have been identified, that need to be overcome to build resilience. These include a lack of access to financial and technical resources needed to adapt, and a lack of extension services and training to inform on adaptation options. Low community participation rates in risk planning coupled with persistent gender disparities across all countries highlight critical challenges in implementing effective adaptation.

REPRESA in Malawi

REPRESA in-country research in Malawi is taking place in the Chikwawa and Nsanje districts, with full endorsement from the district executive committees. Local partnerships were fostered via village meetings. REPRESA research identified key barriers to the uptake of Early Warnings, and from that basis the team worked to strengthen the capacity of community Disaster Risk Management Committees. Early Warning generation and dissemination were enhanced at community levels.



Presentation of REPRESA to the Chikwawa district executive committee in April 2024.

REPRESA in Mozambique

Extensive surveys of the functioning of EWS in Mozambique have been undertaken, leading to options to address critical gaps. Key partnerships were formed at local levels to help expand EWS and develop adaptation options.



REPRESA Co-PI Luis Artur interviewing a school master in the Mossuril district of Mozambique in June 2024.

REPRESA in Madagascar

REPRESA research on EWS and adaptation options took place across several districts in Madagascar. Inclusive, community-based EWS that integrate local knowledge and scientific forecasts have been co-



Children in Namakia, Mitsinjo district, September 2024 (ARAKE's SAP Kiddo project integrates REPRESA data).

BUILDING RESILIENCE IN THE CONTEXT OF RAPID URBANIZATION

A VIEW FROM INFORMAL SETTLEMENTS IN THE PHILIPPINES

ABOUT RURBANISE

Building Resilience in the Context of Rapid Urbanization: A view from informal settlements in the Philippines (RURBANISE), is aims to strengthen effective responses and capacities of vulnerable communities in the Philippines in the worsening impacts of climate change amidst urbanization that acknowledges the life experiences of its residents.

RURBANISE closely works with member communities of Homeless People's Federation Philippines, Inc. (HPFPI) and their partners to deliver inclusive and practical adaptation actions by investigating and understanding differential vulnerabilities in the context of urbanization, the governance of urban resilience, and how to strengthen local adaptation capacities and knowledge.

The project employed mixed research methodologies and showed that adaptation can take on many forms. Depending on the local context of communities, different pathways for adaptation have emerged which assist communities in their decision-making processes - from identifying potential barriers to determining opportunities.



Figure 1. Philippine Map showing the RURBANISE Partner Communities across the country along with their simulated hazards.

TRANSFORMATIVE ADAPTATION OF HPFPI AND COMMUNITIES

Focusing on grassroot experiences (WP3) to analyze how current and future action plans of the **Homeless People's Federation Philippines, Inc. (HPFPI)** and its communities (WP4: HAP) can catalyze transformative adaptation and address the structural roots of differential vulnerabilities. Through planning processes at the federation and community levels, adaptation strategies were created determining a change in approach from a zero baseline in adaptation.

HPFPI National Strategic Plan (NSP)



Community Adaptation Planning









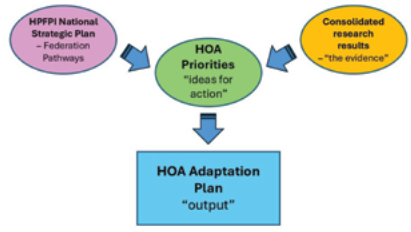


Figure 2. Planning process with RURBANISE partner communities: Review research results from 2023 to present; discuss basic concepts on DRR, Adaptation and Community; determine influences and impacts of hazards to those vulnerable and exposed; and action planning.

Sample of community action plan

Next action points	Strategies	Timeframe	Support needed
Objective 1: Meet up with PCUP for waste management seminar, proper demonstration, and legal advice from environmental committee chairman/waste management officials (all-in)			
2 garbage cages will be given by Barangay emund (15k materials no labor, July")	- prep for possible expenses for labor through HOA members' contributions	July	Welder; SMASH officers and block leaders in charge
3 garbage bins per block (total of 12 bins) for the community (BSN covering 3 bins based on PCUP canvas)	- possible support for the 3 bins from Rurbanise via small scale action project budget - request PCUP of their canvas	parked	additional funds for the remaining 9 garbage bins; possible support from SIDA (line item/fund up for review)
Establish commitment from the Barangay	- letter of commitment strategy for maximizing support from the Barangay		
Objective 2: To conduct initial orientation with SIDA regarding Zero waste management			
Capacity building on Zero waste c/o MEF; aims to replicate it with other communities (city-wide initiative)	- coordination with MEF/TAMPEI of 3 garbage bins asa possible Zero waste initiative - SIDA compose a workplan indicating the targets to ensure that community is prepared and well-informed	Start on July	SIDA to support; Community direct point person: Noy Chavez
Objective 3: To conduct learning exchange with the 12 associations to acquire buy-in and provide a poathway to address drainage network issues			
Inter-HOA exchange for Zero waste social movement	- possible support from SIDA via inter-HOA exchanges - need technical support for conducting the exchanges	Start on July	SIDA/Philippine Alliance
Objective 4: To vacuum out waste along the drainage system to mitigate flooding and ensure clean water flow			
Install flap valve for drainage	- Eng. Carlo has the designs - Consult with TAMPEI regarding status - possible discussion point in TAMPEI midyear planning	July	- needs funding c/o TAMPEI
Not in the short-term plans			
Achieved	**Identified as new priorities**		
University of San Carlos academe flood assessment			

METHODOLOGIES









- HPFPI Organizational Assessment
- HOA Assessment







- Regional Strategic Planning (RSP)









- Community Vulnerability and Capacity Assessment (CVCA)
- Hazard Mapping and Modeling

POLICIES MENTIONED BY COMMUNITY MEMBERS	COUNT OF COMMUNITY MEMBERS WITH EACH SENTIMENT		
	d	n	f
PEACE & ORDER			
Curfew/ Curfew hour-10pm	3		1
Curfew for minor	1		
Videoke hours (10pm)/Videoke curfew	10		2
Bawal magmotor ng maingay like bora bora	1		
Bawal magbabayan ug daghan, pero kung isa lang duha ok	1		1
Cigarette smoking-only designated area			1
Smoking in public places	1		
Gambling-minor not allowed, illegal gambling / Gambling / Bawal magbotang or lotto or sugal	2		1
Bawal naa-sugal / magsugal	4		2

- Community-based Policy Evaluation (CBPE)









- Survey on Differential Vulnerability to Climate-related Hazards

FINDINGS

- **DRR-CCA issues cuts across community priorities.** It might not be fully articulated in their responses and plans, and cannot be added retroactively, but DRR-CCA issues are major factors affecting community actions.
- **Climate and disaster risks feel abstract or secondary** unless they are clearly connected to the community's identified priority issues.
- Community members **do not readily associate increasing disasters with climate-related and systemic issues** such as rising sea levels, intensified rainfall, urbanization pressures, drainage capacity, LGU planning gaps, and land suitability.
- Communities often attribute environmental issues, disasters, and climate-related impacts to **"individual responsibility"** (e.g., waste disposal practices). However, there is an awareness that these challenges are deeply linked to **structural factors and vulnerabilities** such as inadequate drainage, limited LGU services, unsuitable land and housing conditions, historical neglect, and weak government planning.
- The **need of the HOAs/communities for organizational strengthening** were reflected in the responses generated from the workshops in relation to coping strategies.
- Communities can identify and **provide initial information on local policies** that are perceived to have impact on their daily lives, however, **awareness on climate-related policies were not at the top of their mind**.

OUTCOMES

- Community members gained a clearer understanding of risks, learned to identify hazardous areas, vulnerable households, waterways and areas unsuitable for settlement, and improved understanding of community conditions and the importance of systematic data gathering.
- Communities moved from broad discussion of vulnerability toward clearer, documented and prioritized actions; Stronger evidence-informed HOA planning; basis for advocacy, resource mobilization and implementation
- Stronger community participation, cohesion, leadership and organizational confidence.
- Community perspectives and locally identified risks gained greater visibility within the federation.
- Greater integration of climate vulnerability and community evidence into federation thinking.
- New community leaders arise; Development of second-liners
- Improved access to government/technical actors and increased confidence among community leaders in communicating priorities

Enhancing Local Capacities in Socially Inclusive Resilience in Asia (SIRA)

About the Project

The project aims to strengthen the technical capacity of local governments (LGs) and climate practitioners to develop and implement climate-resilient actions that contribute to sustainable urban development in four countries: **the Philippines and Indonesia in Southeast Asia; Nepal and Bangladesh in South Asia.**

Project Objectives

01 **Deliver tailored training modules** and approaches to support socially inclusive climate-resilient urban development.

02 **Enhance the capacity and voice of disadvantaged groups**, especially women, in planning and decision-making.

03 **Scale up and disseminate learnings** through regional or global networks and conferences.

Impact at a glance

993 people reached	**60** LGs across four project countries	**17** activities from May 2025–May 2026
38 early-career women interns	**30+** knowledge outputs	**4** Townhall COPs

Most Significant Project Outcomes

- **Philippine** SIRA fellows had 8 GEDSI-integrated project proposals, 4 community consultations and 8 knowledge-brokering outputs.
- Shifted from mere GEDSI awareness toward institutional intent across all countries, with high-level **Indonesian** government buy-in.
- Developed open-source country materials on GEDSI-integrated resilience, DRR, waste management and nature-based solutions.
- In **Bangladesh**, developing 2 case studies, 3 urban design guidelines, 1 heat hotspot map and 2 project concepts for 3 LGs.
- In **Nepal**, developing 1 Voluntary Local Review, 1 Solid Waste Management Plan, 1 Environment-Friendly Local Governance Framework, 1 Zero Plastic Initiatives Guidelines and Water Vulnerability Assessment.

Most Significant Capacity Strengthening Lessons

- **Sustained** co-creation and engagement outperform one-time knowledge transfer; actionable outputs build ownership.
- Contextualized, **learning-by-doing** improve LG retention.
- Co-developing disability-friendly procedures moves actors **beyond symbolic representation** toward active policy roles.
- Embedded, GEDSI-screened **interns multiply impact** by feeding knowledge into local resilience plans while strengthening women's technical capacity and role in decision-making.

Significance for Socially Inclusive Climate Resilience

- SIRA operationalizes GEDSI through **disaggregated data, gender-responsive indicators and pathways for women to contribute** to local governance.
- These mechanisms help ensure the **differentiated risks** facing women, low-income communities and persons with disabilities shape resilience and adaptation plans.

Challenges

- Difficulty placing interns in distant LGs and coordinating schedules.
- Training modules merged to control implementation costs.
- Political disruption, limited female technical staff, fuel shortages and inflation, particularly in Bangladesh and Nepal.



Successful intervention pathways for migration as adaptation (SUCCESS)/Climate change local adaptation pathways (CLAPs)

Learn more:

Bangladesh Bhutan India Nepal

SUCCESS Work Packages

- WP1 | Narrative change on climate mobility and evaluation methods and tools
- WP 2 | Evaluation of climate-induced planned relocation interventions
- WP 3 | Sustainable in-situ adaptation, including remittances, for remaining populations
- WP 4 | Sustainable adaptations in migrant destinations

Key findings

- Mobility is not inherently a crisis or a failure of adaptation. It can be a strategic adaptation response **when it reduces precarity, builds adaptive capacity, and improves wellbeing**. Treating it as a security threat misguides policy, so reshaping the narrative is as critical as the research.
- Relocation must be a last-resort, it **works best as a deliberate and participatory process, rather than a housing programme alone**; it requires addressing infrastructure, services, livelihoods, culture, and belonging together.
- **Resilient rural futures** require livelihood diversification spreading across farm/non-farm/off-farm options, that would require stronger rural–urban linkages.
- Migration alone does not guarantee successful adaptation, outcomes depend on the **support, services, and opportunities** available in origin and destination areas. Adaptation policies and finance need to connect these locations, rather than address them in isolation.

Finding outcomes

Science

- 14 grantees supported with research capacity and funding
- 6-module MOOC developed; findings integrated into university teaching (Royal Thimpu College); Special Theme Issue in Philosophical Transactions/The Royal Society, UK
- Contributions to IPCC AR7 WGII and Special Report on Cities
- Foresight work across 3 migration corridors

Plans and Policies

- Planned relocation guidelines (Bangladesh); Structural Settlement Plan (Bhutan), Migrant Inclusive Climate Action Plan (India); National Labour Migration Policy (2025) and National Population Policy (Nepal)
- Oral evidence to the UK House of Commons Environmental Audit Committee; briefings to the APPG, Home Office and FCDO Chief Scientific Adviser; contribution to the House of Lords report Before the Border: Climate Migration & UK National Security.

Practice

- Migrant-focused Weather Advisory (India)
- Disaster Evacuation Plan (Bhutan)
- Integration of Migration into School Curriculum (Nepal)
- Migrant registry (India)

Significance of the outcomes

- Visibility of erstwhile unseen marginal population (internal migrants) in plans and policies at different scales
- Narrative changes around climate mobilities through co-created evidence and engagement with stakeholders
- Capacity building of wide range of stakeholders to sustain impact beyond project









	Internal	External
Enabling factors	• Early and continued engagement with wide stakeholders • Co-production approach • Multi-disciplinary team, bringing in regional and global expertise	• Local/National governments' demand for knowledge on internal migration co-created from the project • Flexibility of CLARE program
Constraining factors	• Delays in learning due to implementation of new & innovative methodology (foresight, photovoice) • Delayed scientific publication due to project focus on policy and practice impact	• Limited data/data gaps on migrant population (destination areas) • Limited downscaled climate data, especially for city and sub-city scales

CLAREXCHANGE MARKETPLACE 2026

Spatial Surge Forecasting Using Artificial Intelligence and Community Knowledge for Inclusive and Transformative Early Actions (SURF-IT)

UTTARAN • North South University • Action Against Hunger

20 unions • Assasuni, Shyamnagar and Koyra
Satkhira and Khulna • Coastal Bangladesh

FROM LOCAL OBSERVATION TO EARLY ACTION

Communities observe. AI predicts. Women lead.

Born from community knowledge-based forecasting during Cyclone Yaas, SURF-IT now connects AI with community knowledge, household evidence and local ground-truthing, alongside a Women-Centred Early Action Protocol under development.

LOCAL INNOVATION → MULTIDISCIPLINARY RESEARCH → INCLUSIVE ACTION

OBSERVE → PREDICT → GROUND-TRUTH → ACT EARLY



"Together, we share knowledge, make decisions and lead early action."

— Women's group participant

THREE KNOWLEDGE SYSTEMS, ONE WARNING

Different expertise converges before any warning reaches a household.

1 SCIENTIFIC INTELLIGENCE

Technical leadership • NSU



- AI and satellite forecasting
- Embankment and ERT evidence
- Household loss analysis
- Dashboard and warning tools

2 COMMUNITY INTELLIGENCE

Community leadership • Uttaran



- Ground-truthing local conditions
- Ward and household plans
- Embankment Watch Groups
- Sensor stewardship

3 INCLUSIVE EARLY ACTION

Gender and inclusion leadership • ACF



- Gender and barrier analysis
- Women-Centred EAP
- Local governance roles
- Accessible anticipatory action

CO-PRODUCED KNOWLEDGE → TRUSTED LOCALIZED WARNING → EARLY ACTION

EVIDENCE AT A GLANCE

Scale, model performance and the spread of community preparedness

FORECAST COVERAGE ACROSS 20 UNIONS

≈450,000

people expected to be reached

20 UNIONS

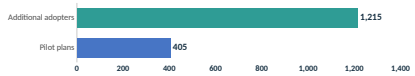
Localized forecasting and early-action information across the project area.

MODEL PERFORMANCE

87.01%

wet / dry classification accuracy

PREPAREDNESS SPREAD 3× BEYOND THE PILOT



27 ward plans • 405 pilot households → 1,215 additional households practising

COMMUNITY MONITORING NETWORK



Common scale: 0–450 members

400+ km of embankment monitored

Community Embankment Watch Groups across 20 unions

MOST SIGNIFICANT RESEARCH FINDINGS

01 AI creates a longer window for early action.

Combining AI with updated metadata enables localized forecasts at least five days in advance; additional data can progressively strengthen model accuracy.

02 Dynamic embankments complicate structural-risk forecasting.

Continuing physical changes make embankment strength difficult to estimate; static condition data can reduce forecast reliability.

03 AI and satellite data sharpen localized risk.

The inundation model reached 87.01% accuracy, supporting finer interpretation of where water may spread.

04 The same surge produces unequal, gendered and intersectional losses.

Gender norms and intersecting barriers shape participation and decision-making, affecting who can prepare, act early and recover.

05 Dynamic infrastructure requires continuous ground-truthing.

Community Embankment Watch Groups detect physical changes and provide a continuous, lower-cost mechanism for keeping model inputs current.

MOST SIGNIFICANT PROJECT OUTCOMES

AI-based Impact Forecasting is Operational

A 5-day impact forecast is now operational, achieving 87.01% inundation accuracy.

Integrated Embankment Monitoring and Forecast Platform

A live embankment map and digital platform is being developed and are progressing towards an integrated live forecast dashboard.

Women-Centred Early Action is Being Drafted

A Women-Centred Early Action Protocol is being developed to translate forecasts into inclusive and practical early actions.

Local Preparedness is Taking Root

27 ward-level plans are translating into household action, expanding from 405 pilot households to 1,620 households.

Stronger Community Government Embankment Surveillance

Community monitoring and engagement with local government have strengthened early identification and reporting of embankment risks.

Inclusive Governance and Institutional Links Advance.

Women and youth participate in local disaster-management structures. integration with FFWC, BWDB, DDM, BMD, CPP and RIMES continue.

WHY THIS MATTERS

- **Inclusion becomes operational** — Livelihood, exposure and gender evidence can target action according to differentiated risk.
- **Maintenance can become preventive** — Hidden structural weaknesses can be addressed before an embankment breaches.
- **Women influence decisions** — Monitoring, warning and local governance change who holds information and shapes action.
- **The model is scalable** — Local knowledge and scientific evidence reinforce each other across scales.

INTERNATIONAL TAKEAWAY

Forecasts become early action when science, community knowledge, women's leadership and institutions work as one system.

Scan to explore the SURF-IT dashboard.

surf-it.net

WHAT ENABLED OR CONSTRAINED PROGRESS

	ENABLERS	CONSTRAINTS
INTERNAL	Integrated disciplines • Uttaran field presence • Community ownership • Iterative data quality assurance	Complex datasets • Explaining uncertainty • Sensor upkeep in saline conditions
EXTERNAL	Co-design from inception: FFWC, DDM, BMD Operational support & expertise: FFWC, BMD, DDM Community & DMC networks Community–government co-learning	Endorsement and handover • Digital and gender barriers • Long-term hosting

LED BY Uttaran WITH

SURF-IT • Southern leadership • Co-produced knowledge • Inclusive early action

Funded by UK aid and IDRC through the CLARE research programme

Developed with FFWC • BWDB • DDM • BMD • CPP • RIMES

TUWE PAMOJA

Let's be together for equitable urban nature-based solutions for climate change adaptation

https://www.pinclab.co.za/tuwe-pamoja

MOST SIGNIFICANT CAPACITY STRENGTHENING LESSONS

Collaboration itself builds collaboration capacity

Multi-actor engagements across Accra, Cape Town, Lusaka and Nairobi developed the trust, confidence, and relational skills needed to keep working on climate adaptation across social and institutional boundaries.

Inclusivity depends on overcoming practical constraints

Time, language and local leadership constraints shaped who could participate in planning nature-based solutions, and thus whose vulnerabilities were made visible.

Responsiveness is key

Methods and framings endorsed at project level, including arts-based approaches, needed local testing and adaptation before they worked in specific settlements.



MOST SIGNIFICANT PROJECT OUTCOMES

Strengthened core capacities for equitable nature-based solutions

Built methodological, relational, technical, and learning capabilities across research teams and city actors by integrating diverse knowledge into urban planning and bridging institutional divides.

Co-designed profiling tools across four African cities

Adjusted tools across Accra, Cape Town, Lusaka and Nairobi, integrating climate risk, nature-based solutions and intersectionality into community-led approaches.

Built multi-actor networks including marginalised residents

Created strong, lasting alliances between academia, local government, NGOs, and community groups, with civil society playing a key mobilising role.

Turned relationships into policy for nature-based solutions

Secured Lusaka City Council's commitment to sign the C40 Urban Nature Accelerator, requiring co-designed nature-based solutions in informal settlements.

Localised climate resilient development pathways

Completed localised climate resilient development pathway planning in all four cities, bringing communities, municipal actors, NGOs and researchers together to strengthen nature-based solutions.

Scaling tools beyond the four project cities

Working to share tools and lessons beyond the four cities, with pathways into the SDI network (30 countries) and C40 Cities network (94 cities).

WHY THIS MATTERS

- Positions city actors to move from isolated interventions toward coordinated, city-wide adaptation planning.
- Shows how existing community data tools can be adapted to surface climate risk and differentiated vulnerability.
- Shows how diverse collaboration can strengthen climate resilience and support lasting, inclusive, locally owned adaptation.
- Demonstrates how sustained relationship-building can drive institutional change.
- Connects community-generated evidence to city planning systems and longer-term development decisions.
- Shows how global networks can bring vulnerability-mapping tools to climate-exposed communities across the Global South.

WHAT ENABLED THESE CONTRIBUTIONS?

A learning-by-doing approach

Sustained collaboration was prioritised over formal teaching, and capacity was strengthened through repeated practice, not a one-off engagement.

Working with NGOs and community-based organisations

This was critical to mobilising local actors and keeping activities ethical and locally grounded.

Being reflexive and responsive

This allowed us to modify activities and tools to suit local contexts and needs.

Sustained relationship-building across scales

Building lasting relationships from community to city government created the conditions for policy uptake.



Funded by

Transformative Research for Adaptation to Climate Change in Informal Settlements (Urban TRACS)

SCAN ME TO LEARN MORE

From lived experience to climate action: Co-producing inclusive resilience in informal settlements.

PROJECT AT GLANCE

Urban TRACS is a transformative research project exploring how community-generated evidence can inform and shape inclusive climate adaptation and resilience interventions in informal settlements.

PROJECT SITES



Sierra Leone
Moyiba, CKG and Susan's Bay



Kenya
Kiamaiko, Mathare 4B, KCC, Bandani and Nyalenda A

WHAT URBAN TRACS FOUND

1. Climate risks are interconnected, but their drivers differ between settlements.
2. Participatory vulnerability analysis can change technical decisions.
3. Land tenure and authority can be more binding than hazard evidence.
4. Different adaptation assets require different forms of governance.
5. Adaptation outcomes must be assessed progressively.





CRITICAL CONSTRAINTS AND LESSONS

- Land tenure, consent, and statutory authority can be more binding than hazard evidence. Site relocation in Mathare 4B, court proceedings in KCC, and landlord/tenure negotiationsacross housing sites delayed implementation.
- Household co-financing can exclude those with the least capacity to contribute, even when contributions are flexible. Inclusive finance must combine grants, labor or material contributions, collective assets, savings mechanisms, external finance and institutional support according to ability to pay.
- Infrastructure creates continuing governance requirements. Drainage, water, housing, waste and resilience facilities need clear arrangements for ownership, billing, operation, maintenance, safeguarding, grievance handling and institutional referral.
- Participation remains uneven. Uncompensated time, caregiving responsibilities, long meetings, and distant or inaccessible venues restricted who could take part and influence decisions.
- Most interventions were completed too recently to support definitive claims about reduced heat or flooding. Seasonal and post-intervention monitoring remains essential.

KEY MESSAGE

Inclusive climate resilience grows when community-generated evidence is connected to technically feasible interventions, representative governance, equitable finance and the public systems needed to sustain and scale them.



KCC Disaster Management Team training or emergency-response activities

SIGNIFICANT PROJECT CONTRIBUTIONS AND OUTCOMES

Implementation and outcome signal	Evidence
Climate-resilient housing in Freetown, Sierra Leone.	CKG: 3 retrofits + 1 rebuild complete; Moyiba: 3 retrofits + 1 rebuild complete; Susan's Bay: 1 retrofit + 1 rebuild complete.
Drainage and sanitation in Kiamaiko, Kenya.	Adaptation investments have connected residents to wider services and finance. The drainage intervention of approximately 450m of the planned 500m corridor was constructed by 26 August (90%); 787 households along the upgraded section were reconnected to the main sewer, beyond the engineered works themselves.
Water access in Bandani, Kenya.	1,770 m of reticulation infrastructure completed; 45 connected households representing 374 people, including 41 connections co-financed.
Community Preparedness applied in KCC, Kenya.	A 35-member Disaster Management Team includes a 17-member water-rescue team; incident records document five people rescued alive from River Malewa.
Early flood-protection observation	After its foundation was raised by about 2m, one Susan's Bay household reported remaining unaffected during the 2026 "Obama" flood, providing household-level evidence rather than a controlled estimate.





WHY THIS MATTERS FOR GENDER EQUALITY AND SOCIAL INCLUSION

Urban TRACS treats gender equality and social inclusion as central to determining whether adaptation is effective, not as an additional activity.

- **Differentiated vulnerability was made visible and acted upon.** Evidence showed how gender,disability, age, tenure, income, location and caregiving responsibilities interact to shape exposure and adaptive capacity.
- **Participation changed interventions.** Women and persons with disabilities identified safety, privacy, mobility, evacuation and accessibility needs that influenced housing and resilience-hub designs.
- **Exclusion within adaptation was identified.** In Moyiba, homeownership-based eligibility criteria unintentionally disadvantaged persons with disabilities, who were more likely to be tenants. This has been identified for correction in future selection processes.
- **Women's roles expanded.** Women moved from participation to negotiation and formal leadership in site engagement, water and waste governance, and disaster-management structures.





Houses before and after construction.

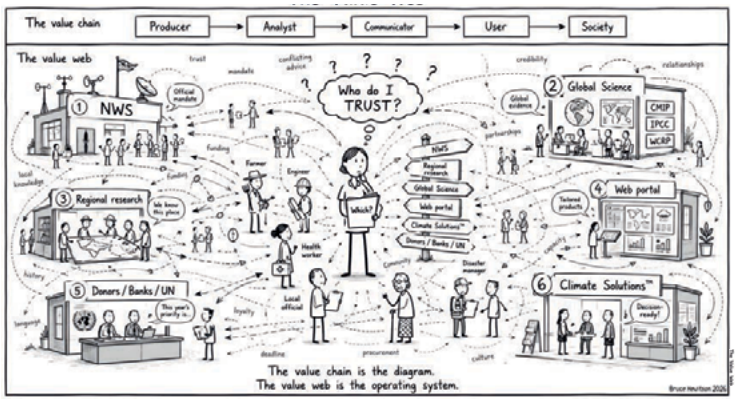
WHAT ENABLED AND/OR CONSTRAINED THE CONTRIBUTIONS?

	Enabling factors	Constraining factors/challenges
Internal: what the	• Built on existing community data and organizing • Used iterative PVRA, mapping, household assessment, photovoice and co-design	• Implementation and documentation progressed unevenly across sites • Some inclusion criteria unintentionally excluded
project did	• Positioned co-researchers as evidence producers and brokers • Combined lived experience with engineering, architectural and climate expertise • Segmented engagement to surface women's, older people's and PWD priorities • Used reflexive diaries, REM and environmental monitoring to learn during implementation	highly vulnerable tenants/PWD households • Participation was constrained by uncompensated time, caregiving, long meetings and inaccessible/distant venues • Technical resources and translation between disciplines were sometimes limited • Several interventions were completed too recently for seasonal performance conclusions
External: beyond the project	• Long-standing community networks, savings groups and committees • Local builders' knowledge and resident labour/material contributions • Utility, municipal/county and ministry engagement • Existing settlement data and prior programme relationships • Community willingness to organise maintenance, monitoring and grievance processes	• Insecure or contested land and housing tenure • Withdrawn site permissions, court processes and slow statutory approvals • Fragmented mandates and limited formal budget/maintenance commitments • High-density development, unstable/reclaimed land and difficult access • Rainfall, flooding and material/transport constraints during construction

ROBUST INFORMATION FOR DECISIONS: AFRICA CLIMATE CHANGE FOCUS (RI-Africa)

From a presumed value chain to the realities of a value web

Climate information does not automatically translate into better adaptation decisions. Value chains are an ideal and seldom function in isolation.



RI-Africa seeks to assess and improve the production, communication, and uptake of robust, actionable climate information across diverse African contexts to support effective adaptation and resilience-building.

Our work aims to understand processes and identify lessons from linking climate information with climate adaptation -starting with CLARE projects.

CLARE Conversation Series

What we did

One of the RI-Africa actions carried out in 2026 consisted of a series of exploratory conversations with CLARE (and other resilience) projects and climate information practitioners. The projects who were asked to participate in this initial round were chosen based on their relevance to our focus area: how information is produced for decision-contexts that is heavily reliant on specific local climate projections in Africa.

We thank the participants from **MECHANICS, Tuwe Pamoja, WOSFER, REBUMAA, CLARITY, FRACTAL, NAP- Senegal and Urban Climate Change Footprint of Greater Cairo projects** for their participation in these conversations. We look forward to extending our sample based on what we learned from running these initial online discussions.

First key findings

Recurring patterns regarding the production and use of climate information for adaptation decisions across Africa:

- **Start with the decision, not the data**
- **Trust is built through relationships**
- **Localization is more than translation**
- **Think differently about scaling co-production**
- **Scientific quality alone is not enough**
- **Climate services need institutional roots**

Postdocs research

Two postdocs lead the CLARE conversations and analyze the outputs, in addition to conducting other interviews and reviewing literature on robust information and co-production in Africa and beyond.

Their ongoing research addresses:

- How participatory and co-productive processes shape legitimacy, uptake, and sustainability of climate information use in decision-making across scales and sectors.
- How multiple sources of climate data and knowledge (from models to observations to local knowledge) are integrated to build confidence, highlight contradictions, and represent uncertainty so climate information supports effective decision-making.

RIfS Africa Task Team

RI-Africa has supported the initial phases of a continent-specific task team under the World Climate Research Programme's Regional Information for Society (RIfS) Core Project: the RIfS Africa Task Team.

This volunteer group of researchers has been active, and helping to guide RI-Africa research directions, since Aug 2025. Its first in person capacity-sharing workshop focused on human-centered design was held in late June 2026.

The RIfS Task Team is part of a lasting legacy from RI-Africa, as it continues its mandate through the coming years.

Pilot studies

RI-Africa has set the stage to launch two pilot studies by the end of 2026, and leverage partnerships to follow their progress over the coming year. Aligned with related actions in a cross-project collaboration, this work seeks to identify shared barriers and challenges across contexts and test scalable approaches for linking science with decision-making.

Possible themes:

- Urban water
- Coastal processes
- Regional water resources
- Disaster Risk management
- National policy development
- Infrastructure
- Energy sector
- Agriculture sector
- Insurance

JOIN THE LEGACY

Join the next **CLARE Conversations** round to explore how knowledge is produced, shared, and used across the continent, and to reflect together on what our projects have taught us.

Hear about the opportunity to test an idea that came up in the course of your project, with small meeting funds for **pilot actions**. Call forthcoming for follow-ons in 2027.

Learn more about the **RIfS Africa Task Team** and how it is carrying forward RI-Africa's legacy by strengthening African leadership and building from local and regional needs.

Contact us at africa@wcrp-rifs.org

CLARE-RIfS partnership
RI-Africa is a collaborative initiative operated under the World Climate Research Programme (WCRP) Regional Information for Society (RIfS) core project and implemented through the CLARE (Climate Adaptation and Resilience) Programme. www.clareprogramme.org / www.wcrp.rifs.org

Scan and know more about the RI-Africa project background

RIfS is a Core Project of: WCRP World Climate Research Programme

The RIfS International Project Office is supported by: Plan pour une économie verte Québec, Ouranos

Transforming Gender Relations, Building Climate Resilience

Emerging outcomes from WOSFER in Katakwi and Lyantonde in Uganda

The Project Team | Florence Kyoheirwe Muhanguzi, PhD, Susan Namirembe Kavuma, PhD, Boonabaana Brenda, PhD, Joab Ezra Agaba, PhD, Restituta Bogere, Peruth Naturinda, Winnie Kobusingye, Collin Ogara, Racheal Kabahinda

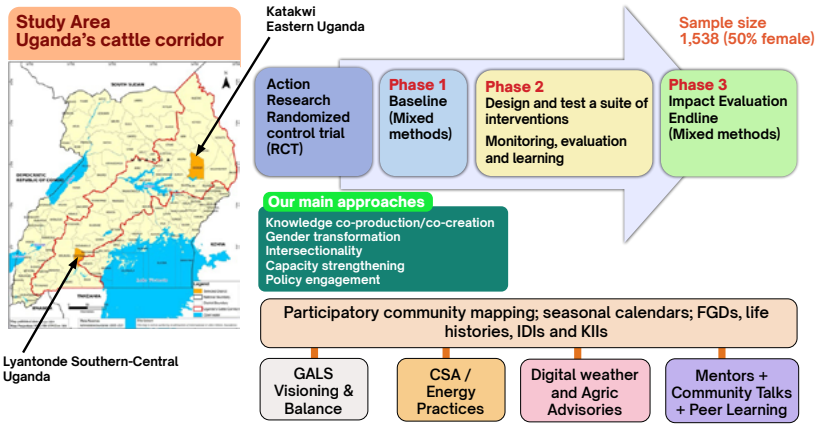
CONTEXT



- Climate change and extreme weather are heightening risks to agricultural production, food security and rural incomes. Women smallholder farmers are especially affected because they depend on climate-sensitive livelihoods while facing unequal access to land, credit, extension services and decision-making power.
- WOSFER strengthens women farmers' empowerment and adaptive capacities as a pathway to climate resilience in Uganda's cattle corridor.

STUDY DESIGN & INTERVENTION ARCHITECTURE

The design created a practical language that shifted the discussion from blame to shared diagnosis, household visioning of dreams, and accountability.



PROJECT OUTCOMES: Four pathways of gender-transformative climate resilience



1 RECOGNITION

Women's contributions and rights are being seen differently

Outcome

Women's knowledge, contributions and rights are increasingly valued, with growing recognition of their role in managing resources and strengthening household resilience.

Voice from the Field

> *"Even my husband now knows that the wife should also have control over household property."*
> ***Woman farmer, Magoro, Katakwi***



2 REDISTRIBUTION

Sharing the work, resources and benefits

Household and farm work, income and productive resources are becoming more shared, reducing women's workload and supporting joint planning and investment.

> *I have witnessed love in our family, I used to think that a woman has to nurse babies, cook and do all the care work alone but I learnt that I can always help her to fetch water or do any chores."*
> ***Man Farmer, Lyantonde Rural, Lyantonde***



3 REPRESENTATION

Women's voices in decision making and leadership have increased

Women are gaining voice in household and community decisions, strengthening leadership, social networks, mobility and connections with institutions and extension services.

> *"I learnt that power and authority begin with me before they go to other leadership in the community."*
> ***Woman participant, Angisa, Magoro***



4 RECONCILIATION

From conflict to cooperation

Dialogue and joint planning are rebuilding trust between couples, improving communication, reducing household conflict and violence, and nurturing more peaceful relationships.

> *Initially, a woman would start demanding things every after harvest, and it could make us fight, but these days we discuss.. That has helped us to be united and thrive together as a household."*
> ***Man Farmer, Mpumudde, Lyantonde***

POSITIONING FOR LONG TERM ADAPTATION

- Leveraging existing local government structures at district level and subcounty e.g Local leaders and extension workers.
- Advocate for integration of Gender Transformative Approaches (GTAs) in government programs that reach out to the rural smallholder farmers e.g Uganda's Parish Development Model.

CRITICAL ENABLING FACTORS

- Involvement of men in women empowerment and resilience strengthening programmes.
- Include mentorship and peer learning component in all capacity strengthening programmes for climate adaptation and resilience.
- Co-create climate adaptation solutions with project stakeholders
- Employ gender and socially inclusive tools in climate adaptation initiatives.

When women are recognized, resources and responsibilities are shared, women's voices count, and relationships become more equitable, families are better able to face climate risks together.

CLARE Climate Adaptation & Resilience | Global Research and Technology Development | IDRC · CRDI Canada | Makerere University | Association of Uganda Professional Women in Agriculture and Environment



CLAREXchange 2026 Forum

Arusha, Tanzania-September 22–25