Developing Risk Awareness through Joint Action: co-designing weather and climate information services in urban informal settlements

Region	**Sub-Saharan Africa**
Award Scheme	**Shanghai Manual**
Themes	**Climate Change** **Environmental Resilience** **Resilience & Risk Reduction** **Risk & Resilience** **Slum Upgrading**
Sustainable Development Goals	**Goal 11 - Make cities and human settlements inclusive, safe, resilient and sustainable** **Goal 13 - Take urgent action to combat climate change and its impacts**

Summary

Initiated in 2018, the DARAJA (Developing Risk Awareness through Joint Action) project focuses on enhancing climate resilience in urban informal settlements in Nairobi and Dar es Salaam through the co-design of weather and climate information services.

Background and Objective

Urbanization in cities including Nairobi and Dar es Salaam has led to rapid growth of informal settlements, where over 70% of the populations live in areas vulnerable to climate-related disasters such as flooding and droughts. Many residents in these communities lack basic infrastructure such as drainage systems and paved roads, making them especially susceptible to extreme weather. Furthermore, traditional weather services tend to provide macro-level data, which is often not localized enough to be useful in informal settlements. DARAJA was established to bridge this gap by co-designing localized weather and climate information services that are tailored to the needs of these communities. The key objectives of the initiative include increasing access to accurate weather information, enhancing community resilience, and fostering the use of this information in local decision-making.

Actions and Implementation

DARAJA's implementation began in 2018 with the involvement of multiple stakeholders, including the Kounkuey Design Initiative (KDI), the Centre for Community Initiatives (CCI), and national meteorological agencies. The project adopted a systems-wide, co-production approach to connect local communities, meteorological agencies, and city authorities. A series of stakeholder consultations, surveys, focus groups, and design workshops were held to understand the specific needs of informal settlements

and co-create tailored climate services. In addition to gathering insights from local residents, the project developed various communication strategies based on feedback, including the use of community radio, television, SMS, and local networks to disseminate weather forecasts. Local youth played a central role in interpreting and sharing climate information, further increasing the reach and accessibility of the service.

Outcomes and Impacts

The DARAJA project has had a significant impact in both Nairobi and Dar es Salaam, reaching over 982,000 residents across informal settlements. The adoption of localized, user-centric weather forecasts has resulted in a substantial increase in access to and understanding of climate information. In Nairobi, the percentage of residents with access to weather information increased from 56% to 93% within 18 months, while in Dar es Salaam, it rose from 74% to 93%. Furthermore, surveys revealed that 98% of residents in Nairobi and 91% in Dar es Salaam actively used the information to prepare for extreme weather events, demonstrating the effectiveness of the initiative in enhancing community preparedness. By promoting behaviour change, such as cleaning stormwater drains and improving household resilience, DARAJA has also contributed to reducing the risk of climate-related damage and improving residents' livelihoods.

Sustainability and Scalability

DARAJA’s approach is built on the principle of co-production, which ensures that local communities, meteorological agencies, and development organizations work together to create and implement climate services. This collaborative model not only strengthens trust between stakeholders but also makes the system more sustainable by fostering long-term partnerships. The project’s success in Nairobi and Dar es Salaam provides a strong foundation for scaling the initiative to other informal settlements across Africa and beyond. By leveraging existing infrastructure including community radio stations and using a variety of communication channels, DARAJA offers a scalable solution that can be adapted to different contexts and urban environments.

Gender and Social Inclusivity

DARAJA has been explicitly designed to be inclusive of vulnerable groups, particularly women, children, the elderly, and persons with disabilities, who are disproportionately affected by extreme weather events. The project ensures that climate information is accessible to all residents, regardless of their socioeconomic background, language, or technological capabilities. In addition, the initiative empowers women and youth by involving them in the co-design process, ensuring that their specific needs and perspectives are considered in the development of climate services. Through targeted outreach and education, the project also fosters a more inclusive and equitable approach to climate resilience in urban

informal settlements.

Innovative Initiative

DARAJA represents an innovative shift in how climate information is delivered to urban informal settlements. By moving away from traditional top-down meteorological services, which often fail to address the specific needs of vulnerable populations, DARAJA promotes a bottom-up approach where communities are actively involved in the co-production of climate information. This approach not only ensures that the information is relevant and actionable but also builds a culture of resilience through continuous feedback loops between local residents, community leaders, and meteorological agencies. The use of diverse communication channels, including community radio, SMS, and local networks, ensures that even the most marginalized groups are reached with tailored and timely climate information.

Resources devoted to delivery

DARAJA has received substantial financial support, totalling over USD 2 million, from various partners, including the United Kingdom Foreign, Commonwealth and Development Office, the German Agency for International Cooperation, UNDP Africa, and Climate KIC. These funds have been used to support the development of weather forecasting models, stakeholder engagement activities, the establishment of communication networks, and the training of local community members. The initiative has also benefited from in-kind support from local organizations, such as KDI and CCI, which have played a pivotal role in facilitating collaboration and implementing the project at the community level.

Conclusion

The DARAJA project represents a transformative approach to building climate resilience in urban informal settlements. By co-designing weather and climate information services with local communities and leveraging diverse communication channels, DARAJA has effectively addressed the unique challenges faced by vulnerable urban populations in Nairobi and Dar es Salaam. The project’s success in increasing access to reliable and actionable climate information, fostering behaviour change, and building community resilience offers valuable lessons for similar initiatives in other parts of the world. Moving forward, the scalability and sustainability of DARAJA hold great promise for strengthening climate resilience in informal settlements and empowering vulnerable communities to take proactive measures in the face of a changing climate.