Project Summary

Developing Risk Awareness through Joint Action (DARAJA)

Introduction

Developing Risk Awareness through Joint Action (DARAJA) was a project under the WISER programme that aimed to improve access to, and enhance the use of, relevant weather and climate information by residents of informal settlements in Nairobi, Kenya and Dar es Salaam, Tanzania in East Africa.

An inclusive forecasting service which operated at city scale was further localised, and an early warning service, co-designed with community members, enabled residents to be more resilient and better prepared to take adaptive measures.

City authorities also used this system for better urban management.

The project took place between April 2018 to September 2020.

Supported by: Fund manager: Delivery partners:

Production of weather and climate services between the weather providers and the end users

DARAJA took a systems-wide, co-production approach and brought together disparate actors to work together for the first time, including the National Meteorological and Hydrological Services (NMHSs) and community development organisations.

The aim was to co-design interfaces and services for Weather and Climate Information (WCI) that addressed the needs of the residents of informal settlements.

Co-producing the service between users and producers was intended to increase the knowledge and uptake of WCI. A common language/terminology and shared understanding of the purpose was established at the start of the process in order to increase understanding of WCI and engender a sense of ownership in the community, thereby increasing the demand for, and use of, WCI.

Similarly, this process, which included feedback loops between the community and the NMHS, was designed to better align the forecasting services with community needs so as to create a more tailored and actionable forecast. This will not only improve climate resilience at the individual, community and city level, but also improve trust between residents and the NHMS.

Improved collaboration and provision of weather services to urban communities

Urban residents operated inside a complex and interconnected system. However, often, various actors in the city-system operated in fragmented ways. To effectively service the WCI needs of residents at a community and a city scale, a dynamic systems-wide, co-production approach was required.

Historically, NMHSs have focused on developing Weather and Climate Information Services (WCIS) for sectors such as agriculture, aviation and marine.

As urban cities are growing rapidly, leading to the increased need for WCIS, NMHSs need to work with urban communities to co-develop WCIS that are relevant for urban spaces.

Who was involved and what were their roles?

DARAJA was coordinated by Resurgence. It was implemented by Kounkuey Design Initiative (KDI) in Nairobi, Kenya and by the Centre for Community Initiatives (CCI) in Dar es Salaam, Tanzania. They played the key role of convening the stakeholders (community residents, media and city authorities as well as national and international aid agencies), facilitating the collaboration process and implementing the pilot services and other project activities.

The aforementioned stakeholders, in collaboration with *Kenya Meteorological Department (KMD) and the Tanzania Meteorological Authority (TMA)*, co-produced new, localised, daily forecasts and also improved aspects of other forecasting products, such as more intuitive

weather icons. Mass media channels have a unique insight into effectively communicating at scale.

Thus, city-wide and community radio stations played a significant role in co-producing the reference and impact description guides and in co-designing the radio pilot.

What was co-produced?

- **An inclusive communication system** to disseminate localised, regular and early warning forecasts at different scales (settlement-wide and city-wide).
- **User-centric weekly and daily forecasts** which included intuitive graphics and icons, city forecast zones designating target settlements, and expected impact descriptions when relevant.
- **New DARAJA pilot services** which used channels (SMS, radio, social media and community gatherings) and actors (community leaders and members, school students and teachers) for communicating weather forecasts and early warnings. Such channels and actors have been identified as being the most effective and preferred by the community.

The project co-designed pilot projects in each city through highly interactive, co-design workshops with media stakeholders, community members and city authorities. The stakeholders and project consortium worked intensively with the NHMSs to co-design awareness campaigns and communication systems that included dissemination and feedback.

This was done to ensure that weather forecasts and early warnings would reach the most vulnerable communities and to create feedback loops back into the forecasting centres of each weather agency. This process was supported by data to help create a shared understanding of the problem and the system.

Feedback channels created between all the stakeholders led to increased responsiveness, trust and an improved forecast from the NHMS.

Lesson learning, improved monitoring and evaluation involving stakeholders and end users

The improved WCI services were piloted for a period of time at city and settlement scale. In Nairobi and Dar es Salaam, the co-designed pilot services ranged from daily weather broadcasts on local radios and TV, to training school students and community leaders to interpret and communicate weather conditions.

Solid partnership commitments are key to effective engagement, especially with public agencies, including the NMHS. A memorandum of understanding was established between the DARAJA consortium and each NMHS.

Often, multiple key persons from different levels of seniority within the same agency need to be engaged and need to work together. Establishing a solid partnership takes time and should be incorporated in project design. The amount of time required varies based on the

organisational culture of the agencies involved and other factors, such as elections or any national or regional events.

Support from WISER in connecting with the right people in the agencies was a useful starting point. KMD and TMA designated one person from within their respective agencies as a point of contact for DARAJA, which enabled more streamlined and effective communication.

These lessons were periodically assessed with stakeholders through meetings, and requisite adjustments, such as trialling different radio show formats, were made to the pilot services. Finally, opportunities for scaling up these services were assessed, and learnings shared, at different fora, such as the Greater Horn of Africa Climate Outlook Forum (GHACOF) and Global Resilience Partnership (GRP).

Conclusion

Residents through DARAJA services now access advanced and accurate weather, early warning and climate information (typically reserved for those in the agriculture and maritime sector). In Nairobi's informal settlements access has risen from 56% to 93% within 18 months.

98% of surveyed residents now take action to avoid household loss (e.g. clearing community drains) as a result of accessing DARAJA services.

72% of surveyed residents state that they avoided personal damage and loss due to early warning weather information provided via DARAJA (e.g. saving income, protecting their household, clothing, beds, furniture etc).

The net potential economic benefits to both Nairobi and Dar es Salaam over the 2 year project, in a new report by a UK Met Office consultant economist, are estimated over 10 years to be approximately US$20 million against a total project cost of under US$1 million.

In 5 years, the scaled- up DARAJA service aims to be available for 250 million residents of informal settlements in 30 cities across the globe.