Early Warning Systems

HUSIKA

An ICT Solution for Strengthening Early Warning Systems in Drought Management

Summary

HUSIKA goes beyond being a digital tool for communications, it represents a new model of resilience-building in the Horn of Africa. By ensuring that smallholder farmers and pastoralists receive timely, accurate, and accessible early warning information, HUSIKA empowers communities to make informed decisions, reduce risks, and protect livelihoods in the face of worsening droughts and climate change.

The Need for "Last Mile" Solutions

An effective Early Warning System (EWS) in the Horn of Africa must prioritize the "last mile" to ensure farmers and pastoralists—those most directly affected by drought—receive timely and actionable information. Too often, warnings remain at institutional or national levels, failing to reach communities in formats, languages, and channels they can use. Without clear, localized communication, smallholder farmers and pastoralists cannot make informed decisions to protect their crops, livestock, and livelihoods. Strengthening last-mile delivery means tailoring messages to local contexts, using trusted communication networks, and ensuring two-way feedback so communities can validate and respond to alerts. By focusing on the last mile, an EWS becomes not just a monitoring tool but a lifeline that helps households anticipate risks, adapt practices, and build resilience against worsening climate shocks.

About DRESS EA

Funded by the Adaptation Fund and implemented by the Sahara and Sahel Observatory (OSS) and the Global Water Partnership (GWP), the DRESS-EA (Drought Resilience in East Africa) project supports countries in developing proactive drought management plans through capacity building, stakeholder engagement, and applied research. It promotes integrated, community-centered approaches to enhance resilience, reduce vulnerability, and strengthen early warning systems across drought-prone regions in East Africa.

What is the HUSIKA Multilayered Information Management System (MIMS)?

To strengthen the resilience of smallholder farmers and pastoralists to climate-related risks, particularly drought, the Global Water Partnership Eastern Africa (GWP-EA), in collaboration with the Sahara and Sahel Observatory and the Adaptation Fund, is implementing the DRESS-EA project in the IGAD region. A central component of this effort is strengthening the 1st version of HUSIKA Multilayered Information Management System (MIMS).

The idea for HUSIKA emerged in July 2022 during a two-day hackathon organized by ICPAC, in collaboration with UNDP, Safaricom, and IGAD. Eleven youth-led teams from Uganda, Kenya, and Ethiopia competed to design innovative ICT solutions for disaster resilience. The winning solution came from Bunifu Technologies, a Kenyan-based team of young IT developers, who proposed HUSIKA IMS.

HUSIKA is a functional, agile, and robust information management platform that integrates web applications, mobile apps, and SMS-based communication to deliver timely and user-friendly early warning information. It is designed to overcome the systemic weaknesses of current EWS by enhancing information flow, collaboration, feedback, and user engagement, which was further upgraded to version 2 with support from GIZ.

How does HUSIKA work?

HUSIKA operates on a tiered structure:

- National Hydro-Meteorological Agencies in DRESS-EA participating countries (Djibouti, Kenya, Sudan, and Uganda) administer the platform and upload data and alerts onto it.
- Regional and local users adapt and disseminate this information.
- End users – smallholder farmers and pastoralists – receive curated, localized, and actionable information via SMS, mobile app, or web platform.

Key features include:

- **Real-time alerts and forecasts:** Weather updates, drought warnings, and risk advisories.
- **Two-way communication:** Users can reply to messages, providing ground-level feedback and enabling crowd-sourced data collection.

- **Multilingual support:** Content available in English, Swahili, French, Arabic, Amharic, and more local languages in development.
- **Inclusive design:** Options for audio-visual messages, infographics, and icons for low-literacy users.
- **Collaboration tools:** Organizations subscribing to HUSIKA can add users and share tailored information through the platform.

By combining top-down early warning data with bottom-up community feedback, HUSIKA enhances trust, responsiveness, and adaptive action in drought management.

Current Status and Key Priorities Ahead

HUSIKA is currently in its second round of user testing (Version 2), which was officially launched as part of the DRESS-EA and GIZ projects rollout. User feedback has shaped key improvements and identified priority actions to be implemented:

- Training journalists to disseminate information in areas with no internet access.
- Mass-scale rollout across the IGAD region.
- Partnerships with telecom providers to enable free bulk SMS services (currently a paid service).
- Rollout in Sudan pending stabilization and acquisition of SMS sender IDs.
- Further local language expansion (Kalenjin, Luo, Kikuyu, etc.).
- Incorporating audiovisual and infographic-based alerts using the Common Alerting Protocol (CAP).
- User customization – allowing sign-up preferences for country/region-specific updates.
- Geofencing – enabling location-based alerts (e.g., flood warnings for specific areas).
- One-time login system – simplifying user access.
- Cross-platform readiness – screenshots and UI optimization for iOS and Android devices.

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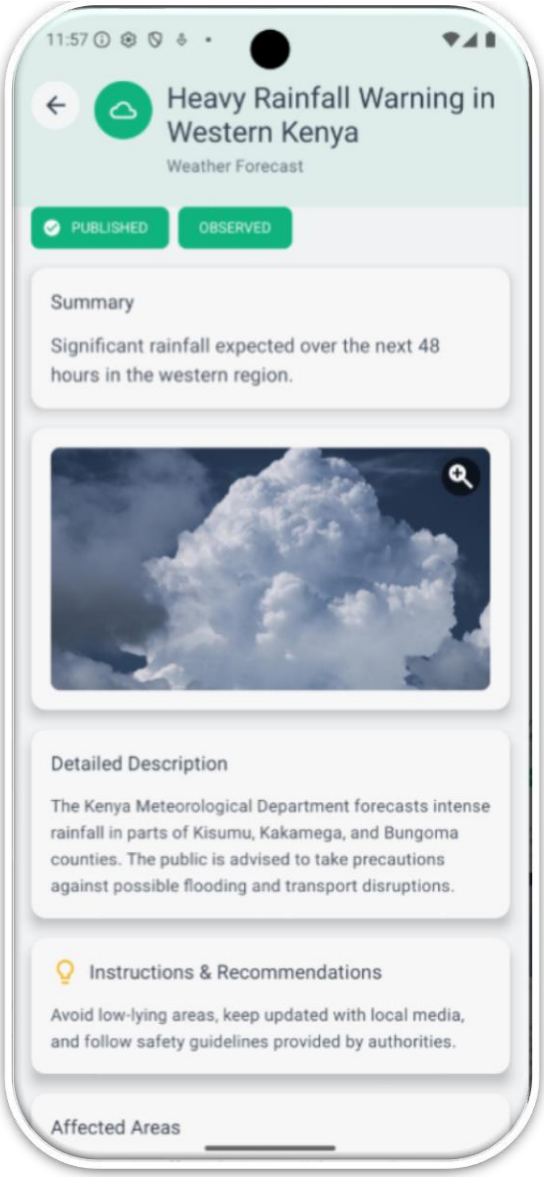

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