Global Disaster Preparedness Center

Executive Summary

Community-developed early warning and early action systems: The case of South Omo communities in Ethiopia

Authors:

Tirsit Sahledingle and Desalegn Amsalu
Institute of Ethiopian Studies, Addis Ababa University

This material has been funded by UK International Development from the UK government; however, the views expressed do not necessarily reflect the UK government's official policies.

Background

This study investigates community-developed, or otherwise Indigenous, early warning and early action systems among diverse ethnic communities of South Omo in Ethiopia. The study explores these communities' spiritual, ecological, and technical approaches to disaster prediction, preparedness, and response, by focusing on flood disasters. It explores the strengths and weaknesses of these systems and their potential integration with the formal systems. Even though South Omo is the host of at least fifteen indigenous ethnic communities, the study focuses only on communities that are directly and frequently affected by Omo River and Lake Turkana flooding, i.e. Daasanach, Karo, and Nyangatom. These communities practice

livestock rearing and crop production in flood-prone areas near the Omo River and Lake Turkana bordering Kenya.

Methodology

A qualitative research approach was employed, involving Daasanach, Karo, and Nyangatom communities, local government offices, and a federal office in Addis Ababa. Data were collected in two rounds in March and June 2024, with 72 key informants participating in focus group discussions. Informants included community members and representatives from local and zonal administrations and the Ethiopian Disaster Risk Management Commission. A literature review supplemented the findings with academic and policy insights.

Key Findings

The study's findings show a multifaceted approach employed by the communities in South Omo to predict, prepare, and respond to flood hazards, which incorporates spiritual, ecological, and physical mechanisms.

Spiritual Practices

Beginning with spiritual practices, **Indigenous communities in South Omo lean on spiritual leaders and their divination methods for predicting and preventing hazards.** These age-old practices not only function as early warning systems but also play a significant role in nurturing a sense of unity within the community through shared rituals and ceremonies. Furthermore, the study highlights the evolving landscape of disaster preparedness strategies, noting the impact of newer religious influences, like those brought by Protestant pastors, on shaping the community's approach to anticipating and responding to disasters. This intersection of traditional and contemporary spiritual beliefs underlines the dynamic nature of disaster preparedness within Indigenous communities in South Omo.

Ecological Understanding

The study communities also possess a deep-rooted understanding of the environment to predict hazards. **Through a blend of ecological awareness passed down through generations, community members keenly interpret subtle environmental cues as precursors to natural calamities**. These individuals monitor the rapid growth and blossoming of specific plant species along the Omo River and Lake Turkana, viewing these occurrences as harbingers of impending floods. Moreover,

their acute observations extend to the gradual rise of river levels and the interpretation of wind patterns, with mystical qualities attributed to the whispers that signal approaching storms and heavy rainfall.

Ecological Understanding

In addition to spiritual parties such as rituals conducted to prevent hazards, in South Omo, **local communities ingeniously construct physical infrastructure like check dams and terraces to combat the detrimental effects of floods**. These landscape-based interventions serve as protective barriers shielding homes and vital infrastructure from the ravages of inundation. Such adaptive strategies not only demonstrate the community's resilience and proactive approach to disaster risk reduction but also emphasize the importance of dynamic and flexible infrastructure development in the face of shifting climate patterns and environmental uncertainties in the region.

Warnings Dissemination and Communication

In the Indigenous communities of South Omo, **traditional communication methods come to the forefront during emergencies, involving practices such as utilizing gunshots or loudspeakers.** Additionally, crucial information regarding imminent hazards is disseminated swiftly through the informal yet highly effective network of word of mouth. Here, **community members act as vital conduits of information, swiftly spreading warnings and instructions among themselves**, ensuring that critical messages reach every corner of the community with remarkable speed and accuracy. This oral tradition of sharing knowledge not only reinforces the communal bonds and collective responsibility within these societies but also reproduces the efficiency and reliability of this age-old communication approach in navigating the challenging terrains and swiftly responding to emergencies in South Omo.

Strengths and Limitations of Indigenous Practices

The study has also identified the strengths and limitations of these Indigenous EWS. To start with their strengths, **the mechanisms have their cultural relevance, enjoy community ownership, are holistic in approaches, have rapid response capabilities, and the fostering of social cohesion among community members**. These characteristics not only enhance the effectiveness of the EWSs but also underline their significance in disaster risk reduction efforts. However, the study also indicated a set of limitations that these systems face, **including issues related to reliability, scalability, dependence on specific individuals for operation, lack of formal documentation of traditional knowledge, inadequate infrastructure, existing gender disparities in access and participation, and financial constraints.**

Formal System Gaps

The study also **pinpointed shortcomings within the formal disaster management system in the region**, revealing critical deficiencies such as ineffective early warning prediction mechanisms, communication breakdowns leading to delays in response efforts, and inadequate support for the displaced populations post-crisis. Despite the recognition of community mobilization as a cornerstone of disaster risk prevention and mitigation within Ethiopia's policy framework, a notable gap persists where the inherent strengths and value of the indigenous early warning and response systems are not explicitly acknowledged or integrated.

Implications and Recommendations

While it is imperative to acknowledge the limitations inherent in these indigenous methods, it is equally important to appreciate their strengths. These systems, rooted in the deep understanding of the land, its rhythms, and the interconnectedness of all living beings, offer a holistic approach to forecasting and responding to potential threats. **It is useful to tap into this age-old ecological knowledge and integrate it with modern technologies and knowledge. This synergy not only fortifies the resilience of the community but also opens doors to a more effective and sustainable early warning framework**. In light of this general recommendation, the following more specific recommendations can be made.

- To enhance the effectiveness and scalability of indigenous EWSs in South Omo, it is important to develop a framework that bridges traditional practices with modern forecasting systems while fostering collaboration and standardization. It may be important to establish a platform that facilitates the integration of indigenous knowledge with contemporary forecasting technologies, ensuring that local insights complement and enrich broader predictive models. This approach can enhance the adaptability and interoperability of EWSs, enabling them to address flood risks more comprehensively across diverse regions and communities. Additionally, implementing standardized procedures and data-sharing mechanisms is vital to promote coordination with external agencies and organizations, fostering collaboration and the exchange of best practices in disaster management.

- To address the significant weakness within EWSs in South Omo arising from dependency on specific individuals for early warning generation, it is important to transition towards a more structured, collective, and decentralized approach to forecasting and dissemination. It is useful to establish mechanisms that promote knowledge sharing, diversification of expertise, and the cultivation of a resilient system that is less reliant on individual interpretations. Encouraging community-wide participation in the early warning process, fostering a culture of collaboration and information exchange, and formalizing protocols for data

collection and interpretation can help mitigate the risks associated with dependency on specific individuals. Implementing training programs to build capacity across a broader spectrum of community members and integrating traditional knowledge with modern forecasting techniques can enhance the robustness and reliability of the early warning system.

- To address the lack of formal documentation within EWSs in South Omo, it is important to introduce a systematic recording and preservation of traditional knowledge for effective disaster risk reduction. A key recommendation is to establish formal mechanisms for documenting indigenous practices, insights, and response strategies related to flood events. Creating written records and cataloging this valuable information can ensure communities' continuity and transmission of essential knowledge across generations. Documenting Indigenous EWSs not only safeguards cultural heritage but also strengthens the resilience of traditional practices by enabling their integration with modern scientific approaches and the development of standardized frameworks for disaster preparedness and response. This documentation serves as a foundation for building credibility in disaster management collaborations and enhances the ability of communities to adapt to environmental challenges while bridging intergenerational gaps.

- To address the limitations of inadequate infrastructure within Indigenous EWSs in South Omo, it is important to invest in enhancing communication networks, data collection systems, and physical infrastructure. This can be achieved by improving access to reliable communication technologies, implementing robust data collection mechanisms, and developing essential physical structures like flood shelters and evacuation routes. Community training programs can be conducted to empower residents in utilizing EWSs effectively while developing collaborations with external agencies that can provide additional resources and expertise for infrastructure development and capacity building.

- To address the significant gender disparity within Indigenous EWSs in South Omo, it is important to promote gender equality through gender-sensitive training, the promotion of inclusivity in leadership roles, equitable distribution of responsibilities, challenging prevailing power dynamics, and utilizing gender-disaggregated data for tailored response strategies. Empowering both men and women to actively participate in decision-making processes recognizes and addresses gender-specific vulnerabilities, and fostering a culture of inclusivity and respect, South Omo can create more effective and equitable EWSs that leverage the diverse strengths and perspectives of all community members in preparing for and responding to natural disasters.

- To overcome the significant obstacle of securing adequate funding for Indigenous EWSs, it is important to establish mechanisms that ensure the availability of local emergency funds at the village or immediate area level. Building strong connections with intermediary administrative tiers can facilitate the flow of resources from centralized funds to grassroots levels, enhancing the sustainability and effectiveness of EWS initiatives.

- Moreover, it is crucial to emphasize the importance of integrating Indigenous EWSs within formal government structures. This can be achieved through the establishment of a dedicated institutional framework supported by appropriate legal mechanisms to ensure their continuous and effective operation.

Conclusion

The Indigenous communities of South Omo possess rich early warning and action systems that blend spiritual, ecological, and technical knowledge, serving as vital support networks in the absence of adequate formal infrastructure. By recognizing the strengths of these systems and integrating them with modern technologies, communities can enhance resilience and establish a sustainable early warning framework, promoting a more inclusive and adaptive approach to disaster risk reduction.

Follow this link to read the full paper.

This work was part of a multi-country research initiative led by the Global Disaster Preparedness Center of the American Red Cross.