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Evolving information needs for rangeland resource management among borana and rendille pastoralists in northern kenya

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Abstract

Accurate, timely and culturally relevant information remains central to the sustainability of pastoral livelihoods in Kenya's arid and semi-arid lands. Among the Borana and Rendille communities, effective rangeland management, livestock health and migration decisions rely on local knowledge systems developed over generations. While these systems remain highly valued, evolving environmental, socio-economic, educational and technological contexts are expanding pastoralists' information needs and prompting the incorporation of locally grounded knowledge alongside external sources of information. This study aimed to examine the evolving information needs of pastoralist communities and assess how socio-technological changes are reshaping both access to, and the relevance of information.

Data were collected from November 2024 to March 2025 in Sololo (Borana) and Lower Laisamis (Rendille) using narrative interviews (19), focus group discussions (30), and semi-structured interviews (32) with both young pastoralists and knowledgeable elders across 22 sites covering diverse ecological and social settings, including areas of increasing urban growth and increasing social diversity due to migration and settlement patterns.

The findings indicate that pastoralists are increasingly seeking information beyond topics directly related to livestock management such as water, pasture, and animal health, expanding to areas like land tenure changes, climate anomalies, cross-border trade, invasive species, infrastructure projects and preservation of cultural knowledge. Elders continue to provide crucial guidance through their expertise in observation, ecological interpretation, and sky gazing and with their knowledge still deeply respected. However, the introduction of formal education, expanding urban influence and mobile technologies has broadened access to information, presenting both opportunities and challenges. While the exposure of pastoral communities to a wide range of information sources, including mobile phones and radios, has improved information dissemination, access remains uneven, and much of the content is not adequately localised for pastoral needs.

The study concludes that pastoralists' information needs become more diverse and complex. Strengthening rangeland management can be facilitated through the use of Information and Communication Technology (ICT) tools that address these evolving needs. To achieve this, it is essential that communities are actively involved in defining the information they require, while simultaneously contributing to the preservation and transmission of local knowledge.

Keywords: Information Systems, local knowledge, pastoralism, socio-technological changes