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Gerald J. and Dorothy R. Friedman
School of Nutrition Science and Policy
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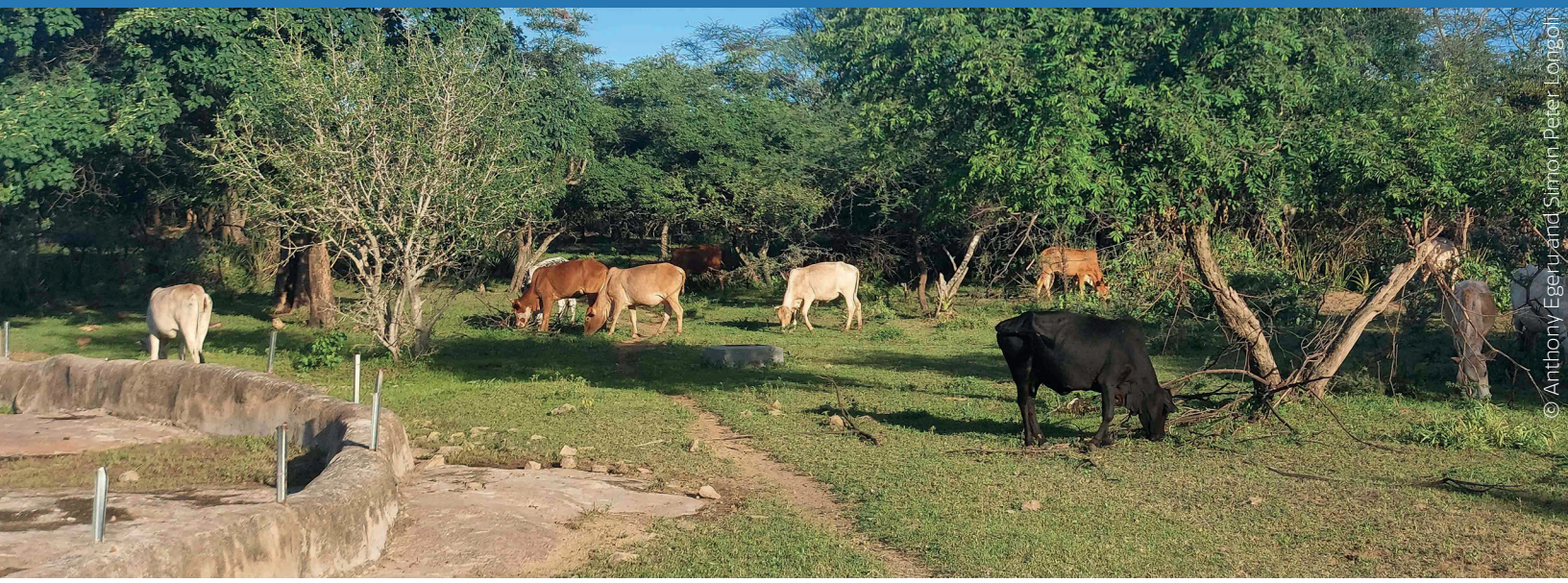
Karamoja Resilience Support Unit

Briefing Paper



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Localized Water and Rangeland Management in Karamoja: Lessons from a participatory review

Introduction

Water and rangeland resources are the basis for livestock production in pastoralist areas of Africa and therefore have major impacts on pastoral livelihoods. Households with insufficient access to water or productive rangeland experience suboptimal herd growth and production, with associated negative impacts on the income and nutritious foods that livestock provide. In common with other African pastoralist and agropastoralist areas, Karamoja has experienced various water and rangeland development projects over many years. In 2023 the Karamoja Resilience Support Unit conducted a participatory review of rangeland and water issues and facilities in Karamoja, including an assessment of the functional status of introduced water facilities, and the extent to which the indigenous and the newly introduced water and grazing resources management systems were integrated. The review was qualitative in nature but was supported by long-term analysis of rainfall and vegetation data. The review covered 20 villages in Amudat, Kotido, Moroto, and Napak Districts, and involved 490 participants.

Key review findings

Important findings from the review were:

- There is still a substantial and unmet demand for reliable, well-sited, and safe water facilities in the four districts of Karamoja visited by the review team.
- The overarching challenge with water development is that although new water facilities are localized in terms of being physically present at community level, they are not well localized in terms of community or joint ownership, or community or comanagement.
- Despite the existence of well-established traditional management systems and rules in place for indigenous water resources, these are not being transferred to introduced water facilities because communities do not have a full sense of ownership or responsibility for these facilities. The net result is the limited functionality of introduced water resources and limited community commitment or capacity to maintain these resources.
- Water development has focused on "hard inputs" such as construction with less emphasis on "soft inputs"

and meaningful participatory processes to ensure community involvement from planning, establishment, and building local capacity for maintenance.

- There is a general preference for water facilities that supply water all year-round. Further, a key priority for agropastoral and pastoralist communities is to secure access to rangeland and water during the dry season and droughts. Within this continuum, three important challenges are evident:
  - Access to substantial areas of good quality rangeland is restricted by insecurity; these resources become unused while accessible areas become overgrazed. Conflict management is critical for maximizing the use of the rangelands that are currently available but not accessible.
  - There are several dry season rangeland areas with high potential to provide grazing resources, but these were underused because of limited water availability; in terms of the siting of new facilities to support efficient rangeland access, water development projects were not well aligned with pastoralists' priorities.
  - Grazing resources over the region are variable but are generally better in the southwestern and western plains of Karamoja. However, there is an overall trend of declining forage resources and declining access to grasslands over the subregion traceable; this is evident from remote sensing data (Figure 1) and is corroborated by indigenous knowledge (e.g., Figure 2).
  - The drivers of this trend were declining rainfall, increased and unregulated settlement and farming, and conflict. At the time of the review, access to productive rangeland was further hindered by disarmament strategies that include the forced containment of livestock near military barracks, cessation of livestock mobility, and localized land degradation. Participants noted that when similar strategies were used in the previous disarmament program, from 2000 to 2009, outcomes included substantial livestock mortality, with associated impacts on human livelihoods and nutrition.
- Communities had detailed and accurate indigenous knowledge on local water and grazing resources. They described the temporal and spatial use of these resources, enumerated them, and explained the pros and cons of each type of water resource. The human health benefits of clean water were well-known locally. Drawing on their own systems and practices, local people were also very familiar with important concepts such as ownership, management, and payment in relation to water and rangeland resources; in some locations, people contributed to the cost of borehole maintenance. Despite this, there

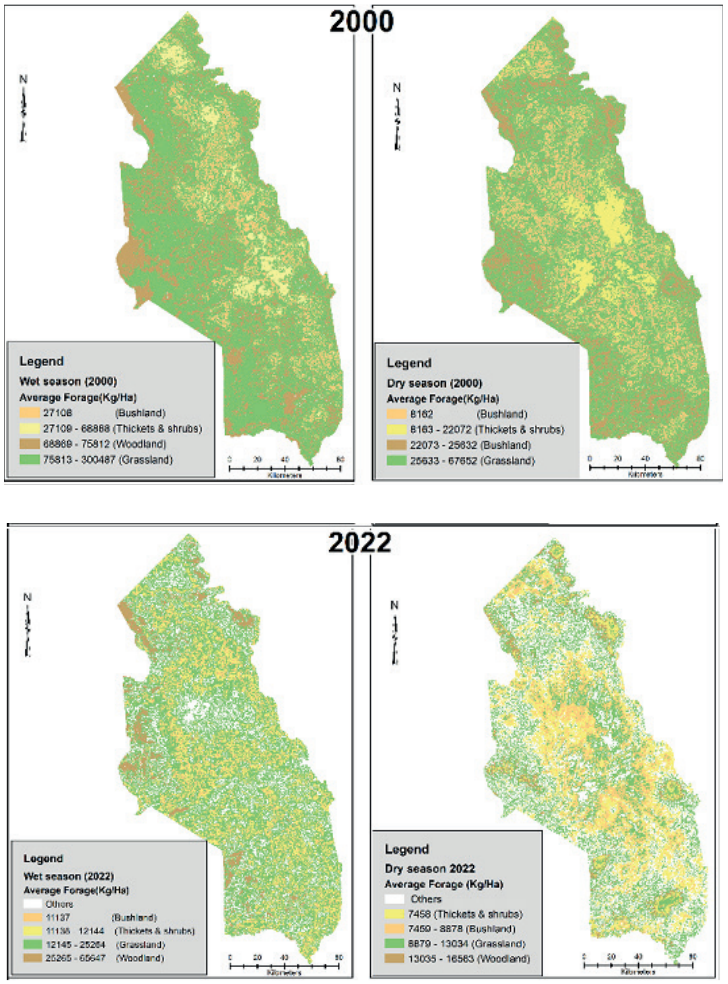

Figure 1: Changing wet and dry season forage availability in Karamoja, 2000 to 2022.

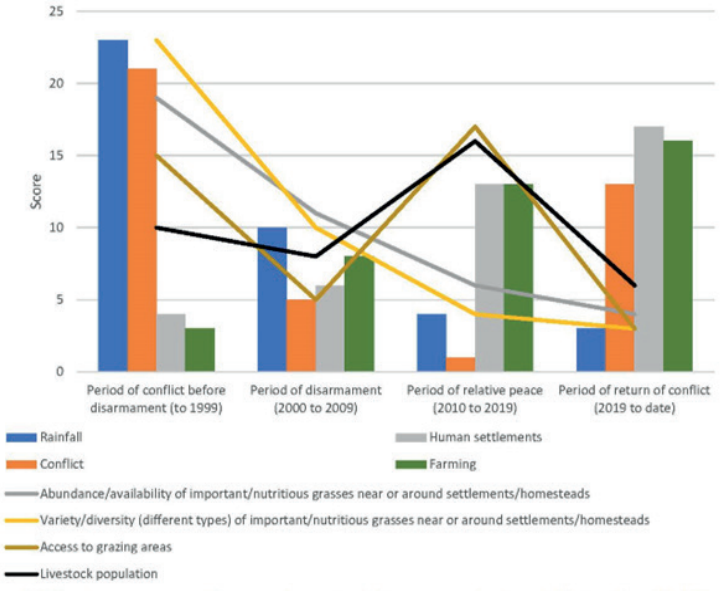

Figure 2: Grazing resources patterns and perceived drivers through time, Naklesia village, Kotido District, pre-1999 to 2023.

Notes: Trends are derived from participatory scoring. The lines show changing grazing resources and access over time, and livestock population. The bars represent the drivers of these changes

was limited community involvement in selecting appropriate types of water facilities, and in the design, siting, and management of new water facilities. Water development was mainly a "top-down" process.

- Although commonalities existed across communities and areas in terms of preferences for introduced water facilities, there was also considerable variation in the use and access of different indigenous resources. This related to variations in local geography and topography, and the physical presence of some natural water resources in some areas and not others.
- Traditional systems of managing water and rangeland were well-established. In the case of water, specific traditional resources could be owned by a community or household, and ownership carried the responsibility for management. The implication for newly introduced facilities is that if communities feel no sense of ownership, they also feel no responsibility for maintenance.
- Community preferences for specific types of introduced water facilities were partly guided by the extent to which a facility was seen to be working. Overall, many water facilities that were intended to supply water during the dry season or drought had limited functionality, e.g., due to management challenges, especially linked to the need for de-silting. To illustrate the functionality issue, boreholes were the most common type of water facility introduced in Katabok sub-county, Amudat District, but only 5 out of 27 boreholes were rated as fully functional at the time of the assessment (Table 1).
- Communities described in detail the pros and cons of different introduced water facilities. For example, boreholes are praised for providing safe water and reducing waterborne diseases, but are faulted for high maintenance costs, high user fees, and poor management. High maintenance costs and unavailable local skills for repair are associated mainly with boreholes fitted with solar pumps and windmills, and these boreholes provide water only when there is enough sunshine and wind respectively. Despite these issues, there is a strong preference for solar-powered boreholes, especially among women. This is explained by the relatively high functionality of these boreholes and, when fitted with taps, easy extraction of the water.
- Similarly, the benefits of surface water facilities such as valley tanks and earth dams are well recognized locally, but are prone to siltation and water contamination, and are associated with high desilting costs. Communities are also aware of major problems with the technical design and construction of some water facilities, such as insufficient holding capacity and poor engineering.
- A general model for water and rangeland development has included the introduction of local committees. However, these groups seem only to work effectively when they are strongly but informally reinforced by traditional systems. Despite this, formal integration of indigenous and conventional management systems is negligible, and people are not being empowered to actively engage in management structures and processes.

Table 1: Participatory Likert-scale rating of water source functionality, Napitira village, Katabok sub-county, Amudat District

	Functionality rating				
	Not functional				**Fully functional**
	0	**1**	**2**	**3**	**4**
Boreholes with handpumps (n = 23)	6	2	6	5	4
Boreholes with windmills (n = 1)	0	0	0	1	0
Boreholes with solar pumps (n = 3)	0	0	1	1	1
Valley tanks (n = 11)	2	1	4	4	0
Earth dams (dams) (n=1)	0	0	0	0	1
Ponds (n = 9)	1	2	3	3	0
Burrow pits (n = 7)	2	2	2	1	0
Subsurface/sand dams (n = 1)	0	0	1	0	0
Rock catchments (n = 1)	0	0	1	0	0
Roof catchments (n = 3)	0	1	0	1	1
Total	11	8	18	16	7

Notes: Participants considered a scale of 0 to 4, with 0 representing "not functional" and 4 representing "fully functional." They then assigned numbers of facility type to each level of functionality.

- Integration has generally been minimal, and there is no clear, deliberate effort between the developers of conventional water and grazing resources to tap into the indigenous knowledge systems. Most of the observed integrations that have happened appear coincidental in nature.
- Where apparent success in integration has been registered in water resources management, especially with the larger dams, the motives of noncommunity actors have centered on avoidance of conflict and using community members to manage potential escalation of conflict.

Recommendations

This review was conducted at a time when some international aid donors are moving towards localization strategies and when localization is increasingly seen as an essential aspect of climate adaptation. The review recommendations assume that a localization framing has potential to radically shift the current top-down approaches to water and rangeland development in Karamoja towards community-level leadership, ownership, resource control, and management. In practice, this means developing partnerships between technical experts and communities, and coassessing and codesigning water and rangeland plans and activities. It also means agreeing on long-term roles and responsibilities in terms of the maintenance and management of new facilities or systems. These processes require a mix of indigenous and technical knowledge, as well as hybrid management approaches that combine traditional institutional experience with "formal" approaches. Therefore, the following recommendations are proposed:

- Support forums and dialogue to reach a common understanding among stakeholders of localization principles, and how these principles apply to water and rangeland development in Karamoja while giving opportunity to and enabling full participation of communities in the entire process.
- Develop guidelines and tools to enable practitioners to work closely with communities at all stages of a typical project cycle—initial assessment/design/implementation/monitoring/evaluation—and develop indicators and methods to measure localization at each stage. Additionally, draw on experiences with effective localized approaches to land and water planning from other dryland areas of East Africa when developing these guidelines, as well as experiences with participatory methods for the joint analysis of water and range issues.
- Build the capacity of stakeholders in communities, local and international nongovernmental organizations (NGOs), and local government to use these guidelines and tools; support their coordinated use across areas and programs.
- Support flexible programming that enables variations according to local contexts, community priorities, and long-term commitments.

The review highlights the impacts of insecurity on rangeland access in Karamoja and recommends further efforts to build peace in Karamoja to make best use of rangeland that is currently unused. The review recognizes that the recommendations above will be difficult to apply if insecurity persists, because they require prolonged engagement with communities. Integrated approaches to rangeland management are potentially valuable but will be severely constrained by current disarmament strategies that forcibly limit livestock mobility. It follows that an important role for aid organizations is liaising with government actors to enable communities to regain control over livestock management and movement, and thereby limit excessive loss of livestock

Acknowledgements

This briefing paper is based on a detailed review of water and rangeland resources in Karamoja by Dr. Anthony Egeru, Dr. Raphael Lotira Arasio, and Simon Peter Longoli, available at https://karamojaresilience.org/wp-content/uploads/2023/10/Water-and-Rangeland-in-Karamoja_FINAL.pdf.

USAID Karamoja Resilience Support Unit (KRSU)

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For more information about the KRSU:

- Please visit www.karamojaresilience.org
- Contact Mesfin Ayele, KRSU Chief of Party: Mesfin.Molla@tufts.edu

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