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# USAID Nawiri Learning Brief: Natural Resource Management (NRM) Desk Study

## Background

This brief provides an overview of the key findings from a Nawiri desk study that looked at how land access and Natural Resource Management (NRM) policies, institutions and relationships are changing in the Arid and Semi-Arid Lands (ASALs), with what consequences and for whom, and the potential impact on livelihoods, food security and nutritional status.

## Summary Findings and Lessons Learned

- Most land is classified as arid or very arid and is community land; approximately 80% of land is managed under customary rules and tenure, within wider national or county level policy frameworks, illustrating the plurality of tenure regimes and central importance of community institutions and customary rules for ASALs livelihoods. The policy and institutional framework for land and NRM[1] has changed significantly in Kenya since devolution in 2010.
- The dominant land use is livestock production (82% of the total area) followed by mixed crop-livestock production (six%), livestock production with wildlife conservation (four%), wildlife conservation alone (3%) and other (5%)[1].

[1] Ericksen, P., de Leeuw, J., Said, M., Silvestri, S. & Zaibet, L. 2012. Mapping ecosystem services in the Ewaso Ng'iro catchment. *International Journal of Biodiversity Science, Ecosystem Services & Management*, 8:1-2, 122-134. DOI:10.1080/21513732.2011.651487

- Most NRM is critical to rural livelihoods, particularly the dominant pastoral production system, and intersects with various factors that influence food security and vulnerability to shocks.

- If high-value areas of the ASAL landscape are permanently converted to other forms of land use, or if livestock lose seasonal access to them, the viability of the whole pastoral system on which communities depend for their livelihoods and food security is threatened (Tari & Pattison, 2014; King-Okumu, 2015a; Little & McPeak, 2014; Flintan et al., 2013). Further, pastoralists' periodic absence from these areas reduces their visibility to others and complicates their ability to claim or defend seasonal access rights during adjudication processes (Lengoiboni et al., 2011).

- A common theme in the literature on NRM in drylands is the fragmentation of landscapes and the accumulation of boundaries, whether physical or not, created by settlements, changes in land use, state restrictions, or insecurity (Pavanello & Levine, 2011; Tari & Pattison, 2014; Pas, 2018).

- Land and natural resources are thus the bedrock of dryland livelihoods, even for those who have settled, since the informal economy in the towns and settlements of Northern Kenya is intimately connected with the rural economy (MDNKOAL, 2013). Sustainable access to land and natural resources depends on policies, institutions, and relationships that recognize the ecological realities of dryland livelihoods and allow producers the flexibility required to function effectively in environments of high variability and instability.

- The condition of the natural resource base has a direct impact on productivity. For example, high-quality forage results in improved livestock nutrition which in turn improves reproductive performance and consequently the nutritional, social and economic value of the herd to households (Turner & Schlecht, 2019; Dabasso et al., 2012).

- The potential for agriculture in arid areas is constrained by high rates of evapotranspiration, desiccation, salinity and low soil fertility (Avery, 2013). Despite these constraints, however, crop production has increased. The expansion of farming and settlements in areas of dry season grazing in Marsabit means that the wet season areas are now continuously grazed, leading to a decline in important forage plants and the spread of invasive species. This is exacerbated by an increase in charcoal burning and logging (Dabasso et al., 2012).

- Wasonga et al. (2016) and Pavanello & Levine (2011) link the decline in rangeland quality with the breakdown of customary rangeland practices. Wasonga et al. (2016) note that all the factors identified by informants as driving change in natural resources in Isiolo, such as upstream cultivation, restricted access to the national reserves and national park, pressure on water resources and failure to adhere to customary regulations, are exacerbated by weak customary institutions; a weakness which results from their lack of government recognition and disregard by communities.

- Conversely, where the traditional *dedha* system[1] is stronger, informants in Isiolo report positive results, such as the recovery of grazing after temporarily closing boreholes to prevent the overuse of pasture. There is further evidence that more effective community based NRM can protect against an extended dry season and deliver benefits in terms of asset protection, milk production and social relations.

[2] The *dedha* system is a community driven institution among Borana pastoralists which assures the rational management of rangelands, to ensure pasture and water for livestock during both the dry and rainy seasons, including drought periods. See: https://www.adaconsortium.org/index.php/ada-resources/news-blogs/ada-blogs/95-blogs/144-using-traditional-methods-to-fight-modern-day-climate-change-challenges

## Applying the Findings and Lessons Learned

- The literature studied suggests an uneven distribution in research focus. Firstly, the geographical imbalance, in that more relevant material was available from Isiolo than from Marsabit, and more still from neighboring counties such as Laikipia and Samburu. Research coverage is also uneven within counties.
- The second bias is institutional, in that the literature focuses on particular models such as community conservancies and group ranches, rather than the customary pastoral systems which operate outside these frameworks but are nevertheless affected by them. The relationship between conservation and pastoralism is a particularly topical subject of research, as is the impact of externally driven investment in Northern Kenya and the likely distribution of its benefits.
- The third bias concerns social differentiation. There appear to be more studies exploring differences in economic status than in social status, with very little examination of how gender roles are changing and the consequences for women and men, girls and boys.
- Finally, there appear to be important gaps in the literature, such as the relationship between devolution and NRM.[1] There is some limited evidence on this from the water sector, but no comprehensive assessment of the consequences of this major policy and institutional reform. County governments are nearing the end of their second administrative term, therefore sufficient time has passed for some conclusions to be drawn about the different paths they are pursuing.
- In light of the study findings, the following questions may be relevant to explore through future research or programming:
  - To what extent can the more transactional and market-based forms of interaction in NRM—which in some parts of the ASALs are replacing previously reciprocal relationships—protect against shocks and, consequently, against food insecurity and acute malnutrition?
  - Under what conditions can customary institutions and mechanisms achieve secure access to land and natural resources, with what benefits and for whom? What internal and external factors are likely to ensure their success?
  - What drought mitigation strategies are proving effective for resource-poor households in a context of growing constraints on migration, changing patterns of household labor and increasing individualization?
  - How are the changes in herd composition and livestock husbandry affecting vulnerability to acute malnutrition, and for whom?
  - What strategies and measures are county governments adopting, either independently or in collaboration with other counties,[1] to protect access to land and land-based resources? What are the likely impacts of these strategies and measures on food security and nutrition, and for whom?

[3] There is more literature on other subjects, such as the interaction between devolution and security.

[4] Isiolo and Marsabit are both members of the Frontier Counties Development Council: https://www.fcdc.or.ke/

| Key Lessons Learned | Adaptation or implication | Link to the DIP or TOC |
|---|---|---|
| 1. The natural resource base is the bedrock of dryland livelihoods and its condition has a direct impact on productivity.<br><br>Livestock production constitutes the dominant land use (82% pure pastoralism, 6% agropastoralism and 12% other). | 1. Prioritize livelihoods interventions that focus on supporting mobile livestock production and marketing.<br>*(a) Support rangeland regeneration and the management of strategic grazing and livestock water points, and invasive species control through community institutions*<br>*(b) Link pastoralists to improved animal health services*<br>*(c) Improve livestock health management and fodder production and preservation* | SP 3.1<br><br>*1a. DIP P4 rows 17-19 & 28-30*<br>*1b. DIP P4 row 12*<br>*1c. DIP P4 row 8* |
| 2. A common theme in the literature on NRM in drylands is the fragmentation of landscapes | 2. Ensure interventions do not contribute to further fragmentation or degradation of the rangelands, or to conversion to other forms of land use | SP 3.1 – |

See the full Nawiri Natural Resource Management and Nutrition in Isiolo and Marsabit Counties, Kenya Report for all sources cited.

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