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**WORKING PAPER**

**Trends in livelihood systems and livestock markets in Karamoja**

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Abstract

The paper describes emerging livelihood trends and livestock market dynamics in the Karamoja sub-region, based on the findings of two studies commissioned by the Karamoja Resilience Support Unit in 2016<sup>1</sup> and 2017<sup>2</sup>. Main findings indicate livelihood shifts directly being associated with protracted insecurity in the past; recurrent droughts; livestock asset losses in the disarmament phase; minimal veterinary services; water shortage and a pro-farming policy by authorities. These anomalies resulted in significant disparities within livestock owning wealth groups<sup>3</sup> that subsequently led to a tenfold increase in cultivated land between 2001-2014 by widows, poor households and youth groups despite evidences showing farming households faring less to shocks (except in the ‘Green Belt’). The shift also includes out migration of youth groups in search of jobs elsewhere. Conversely, the prevailing peace, the formation of new sub-counties and a vibrant trade to Kenya and to South Sudan stimulated the expansion of new livestock markets in the sub-region with estimated annual revenue of \$6-8 million. Given the overwhelming evidence supporting the benefits of livestock production and trade, a policy shift is required principally in strengthening veterinary service delivery and equitable water distribution for livestock, among other things.

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<sup>1</sup> Karamoja Resilience Support Unit (KRSU), Uganda. Livestock in Karamoja: A Review of Recent Literature, June 2016

<sup>2</sup> Karamoja Resilience Support Unit (KRSU), Uganda. Livestock Trade in Karamoja, Uganda. An Update of Market Dynamics and Trends, December 2017

<sup>3</sup> Catley, A. and Ayele, M., 2018. Livestock and poverty in Karamoja: An analysis of livestock ownership, thresholds, and policy implications. Karamoja Resilience Support Unit, USAID/Uganda, UK aid, and Irish Aid, Kampala

## Introduction

This paper summarizes a range of issues impacting livestock production from the perspectives of a literature review on Karamoja covering the period 2010 – 2016 and from field assessment findings on the behavior and performance of Karamoja livestock markets. The paper identifies the main factors that have contributed to emerging livelihood trends in the region either out of desperation or through official pressure and discusses their viability from the perspectives of ensuring resilience building versus the agro-climatic conditions in Karamoja with unpredictable rainfall distribution patterns and also recurrent droughts. The paper also provides a brief assessment on how the prevailing peace in the region and changes in internal administrative boundaries have stimulated a vibrant livestock trade with trends that indicate a growing cross-border livestock trade to Kenya and South Sudan. In conclusion, it is proposed to address the two priority needs of Karamajong herders that have immensely contributed to their continuing impoverishment for far longer time despite the peace dividend brought by the disarmament campaign.

## Research design and methods

The design for reviewing the livestock production system was drawn largely from the literature produced between 2010 and 2016 on Karamoja in general, and more specifically on the livestock sector. Major issues synthesized from the literature review include the followings:

- Types of livelihood systems and their specific attributes in terms of dominant production system, productivity, household income and assets, vulnerability status and propensity for out migration and engagement in alternative livelihoods;
- The impact of cattle raiding and the protected kraal system on household livestock assets;
- The status of animal health services, water provisions and feed availability;
- Livestock production and marketing systems and production constraints; perceptions of the Karamajong on how they define poverty and behaviour towards livestock marketing;
- Major causes for emerging livelihood trends and a review of the policy environment. Additional information was obtained through interviews in Moroto and Kampala for the purpose of triangulation and accessing the most recent information.

The update on Karamoja livestock markets in 2017 was conducted through the following methods. On-spot interviews were carried out on market days in seven major markets of the region. A total of 40 interviews were conducted with market actors. The type of information obtained from the various actors is listed in the following table.

Table 1. Information provided by various market actors

Information source	Type of information provided
Domestic and cross-border traders	Types and number of animals they purchase, destination markets and routes, transportation costs, customers they sell to; views on livestock prices, taxation, movement permits, and price fluctuations by seasons;
Tax collectors and movement permit issuers (vets)	Seasonal variations of supplies, origins of traders, destination markets of transit and terminal status; main conductors of livestock transactions in the markets; data on the species and numbers of livestock supplied and sold in 2016 and 2017 across the nine major markets; revenue generated from livestock transaction taxes and livestock price estimates by months for both years
Route managers and truckers	Information on the specific route they take and why; problems they face on the routes; amount they charge by source and destination markets by species; which markets they target and reasons; and how they coordinate inbound and outbound trips for transporting commodities and livestock to cover expenses and make profit.
District planners, M&E officers, vets, commercial officers	Livestock market trends in the specific locality; future plans on the establishment of new markets or those to be upgraded

## Results

### General trends, poverty indicators and livestock ownership

Karamoja is sub-divided into five livelihood zones, three of which are dominated by livestock production. This includes the *Central Sorghum and Livestock Zone*, home to some 60% of the population (FAO, 2015a). Although unpredictable in spatial and temporal terms, Karamoja receives an average of 500-700 mm in Central Lowland areas and 700-1000mm in wetter Western areas (Mugerwa, S, *et al*, 2015), which is far higher than the amount of rainfall received in the pastoral areas of neighboring countries. Yet, nearly all assessments reviewed imply that Karamoja is the poorest region in Uganda and the most food insecure. IGAD's (Inter Governmental Authority on Development) poverty indices tend to support this assumption.

Table 2. Comparison of poverty indices in Karamoja Vs the national average

Welfare and development indicators	National average	Karamoja
Population living in absolute poverty (World Bank 2006)	31%	82%
Maternal mortality rate per 100,000 births (DHS 2011)	438	750
Infant mortality rate per 1,000 live births (UNICEF/WHO 2011)	54	105
Under-five mortality rate per 1,000 live births (UNICEF/WHO 2011)	134	153
Global acute malnutrition (UNICEF/WFP 2012)	6%	11%
Access to sanitation facilities (UNICEF 2008)	62%	9%
Access to safe water (UNICEF 2008)	63%	30%
Literacy rate (DHS 2004)	63%	21%
Life expectancy (UNDP 2013)	59.2 years	47.7 years

Source: compiled by IGAD (2015)

Poverty and food insecurity in Karamoja have been largely driven by a host of internal, external and also natural factors. For long, the region had been besieged by persistent cattle raiding, robbery and conflicts. This was followed by the disarmament campaign (2006-2011) that congregated large numbers of livestock in protected kraals. The combined effects of these phenomena have been accounted as the major causes of poverty, more than natural causes, in numerous studies. Huge livestock losses occurred in these periods due to raids, theft and restricted access to water, pasture and markets and also importantly due to a series of disease outbreaks in confined areas. Cattle raids and theft also led to livestock wealth inequality between different pastoral wealth groups. According to the Ugandan Bureau of Statistics' (UBOS) census in 2002, the Tropical Livestock Unit (TLU) per person decreased from 2.7 in 1959 to 1.3 in 2002. The Census also reported high proportions of households owning no livestock in Kotido, Moroto, and Nakapiripirit districts. Between 32 and 57 percent of households owned no cattle, 49 and 64 percent no goats, and 59 and 68 percent no sheep, depending on district. Similarly, livestock numbers were thought to decline during the period of protected *kraals* from 2006 to 2011, indicating a further decline in livestock holdings per household. Surveys in 2015 reported that 40 percent of the population did not own livestock (WFP/UNICEF/GoU, 2014). Similarly, Burns *et al* (2013) reported a change in per capita TLU from 2.69 in 1959 to 1.62 in 2008 by an approximate computation of the growth in human and livestock population figures between the two periods. Other recent reports also indicate falls in livestock holdings including which households were more affected. For example, between 2012 and 2014 there was a decrease in livestock holdings among very poor and poor households, but with gains made by middle and better-off households (FAO, 2015a).

A recent analysis by the KRSU examined raw data from a livestock demographic survey in 2017, based on 2,729 households (Catley and Ayele, 2018). This analysis also estimated a "livestock threshold" for agro-pastoralism in Karamoja, being the minimum per capita livestock holding needed for viable agro-pastoralism. This study concluded that 56.5% of households were below the livestock threshold of 3.3 TLU/capita and so could be categorized as "livestock poor". The study also reported a skewed ownership of livestock towards wealthier households. For example, the wealthiest 30% of

households owned 69.3% of livestock in terms of TLU. Among poorer households (those below the 3.3 TLU/capita livestock threshold), livestock ownership was skewed away from the threshold. For example, 47% of these households owned only 1.2 TLU/capita or less.

#### Constraints to livestock production

Outside of cattle raiding and conflicts, the three major constraints affecting livestock productivity are, in terms of priority: livestock diseases, water shortages, and seasonal pasture shortages around water points (FAO, 2014, 2015b; Burns *et al.*, 2013; RLP, 2016;). These three problems have been reported for many years, at least since the late 1980s (e.g., Sandford, 1988). The significance of livestock diseases in causing livestock losses has been reported as the second most important reason after cattle raids for out migration by Stites *et al.*, (2012). Surprisingly, drought was never mentioned as a factor for out migration. A 2016 FAO seasonal food security assessment also reported that ‘while the late rains replenished water sources and improved pasture conditions, the prevalence of endemic livestock diseases have pinned down household livestock holdings below the expected levels’. Kurt (2016) summarizes the situation by stating that ‘the government system of surveillance, movement restriction and vaccination is simply not working’ because of poor resources, mobility constraints and shortage of technical people. For example, it took almost a year for vaccines to arrive after the outbreak of FMD in 2013 due to the requirement for extra budget approval from the parliament.

Of other natural causes, water shortage remains the second major constraint to livestock production (Mugerwa *et al.*, 2014; RLP, 2016; Burns *et al.*, 2013). Mugerwa *et al.* (2014) identifies six types of water sources for livestock for alternate seasons in Karamoja while RLP (2016) states that there seem to be only 30 permanent livestock water sources in the region, which include 26 dams, but with only 2 of these (Kokebe and Nackicumet) holding sufficient water to last the dry season. Of the 257, 260, and 317 functioning boreholes in Kaabong, Abim, and Kotido respectively (mainly for human use), there were well over 100 broken or non-functioning boreholes in each district (Burns *et al.*, 2013, citing OCHA, 2010). Another anomaly is the disproportionate location of valley dams and tanks in selected sub-counties, suggesting that the decision of water sources is influenced by factors other than need and not done on an equity basis. Apparently, water shortage in the dry season forces herders to congregate their livestock in numbers around valley tanks, dams, and other open water sources, which leads to localized pasture shortage. Dam peripheries ‘depict a very high percent exposure, a very high grazing intensity, and existence through the presence of rills, gullies, and litter dams’ (Egeru *et al.*, 2015b). Pasture shortage is also evident around *manyattas*, since the available pasture is grazed throughout the year by resident livestock (RLP, 2016). However, livestock productivity is critically affected principally by livestock disease prevalence followed by water shortage rather than pasture scarcity, except in the dry season around water points.

Emerging livelihood trends in Karamoja have been dictated by a host of endogenous factors (mentioned above). Exogenous factors include: the protected kraal system; the gazettement of national parks and mining concessions; policies that promote settled agriculture; land speculation by outsiders; and, service provisions in urban areas. Noticeable changes brought by desperate measures are, according to Levine (2010) and Stites, *et al* (2014):

- Growing urbanization: permanent and temporary adult and youth migrants; some may return to rural areas after achieving economic goals; some like widows and abandoned women may stay;
- Engagement in wage labour; charcoal and firewood production; artisanal mining and working in mining concessions;

- Emergent and continued growth of agricultural settlements and farming by victims of raids (especially widows with no herds); children and young men forcibly removed from urban centres and young men taking advantage of the seasonal labour;
- and, the parcelling of peri-urban and rural land to developers and speculators.

FAO (2015b), states that ‘Rainfall distribution (in Karamoja) is more often than not inadequate for optimal crop production, and there is typically a lull in the middle of the rainy season; however, rainfall levels are almost never inadequate for pasture and browse’. Yet, despite the risks associated with unpredictable rainfall distribution patterns, the amount of cultivated land is on the increase. This trend has been significant amounting to a tenfold increase of croplands in the 13 years preceding 2014, according to Egeru, *et al's* (2014) land cover and land use change analysis in Karamoja. The authors attribute the increase in croplands to interventions by the Government and development partners to promote food security in Karamoja. FAO (2015b) also acknowledged the expansion of croplands (despite poor harvests) and attributed the expansion to improved security enabling farmers to access land. Others, like Bushby and Stites (2016) and Levine (2010) concur that the shift to crop cultivation was promoted by the central government following the loss of livestock under the protected Kraal system. The expansion of cultivation has been such that a Household Economy Analysis (HEA) conducted by FAO (2015a) took notice of the substantial increase in crop production beginning 2012 raising a concern about the validity of the then six livelihood zones identified by FEWS-NET. FAO in consultation with FEWS-NET and other partner organizations then realigned the livelihood zones in the region to five.

#### The growth of livestock markets

On the other hand, emerging market opportunities have promoted a growing and vibrant livestock trade in Karamoja engaging an increasing number of market actors in livestock transaction business. In their market assessment report, Kurt, *et al* (2016) underline the rational marketing behaviour of Karamajong herders. The authors imply that when the herders’ objective of selling animals is to ‘meet cash needs’, the supply of animals is price inelastic and when the objective is to ‘trade up’, price is a prime consideration - such as selling slaughter bulls (high value/low potential growth assets) in order to buy heifers (high potential growth assets). They further add that, ‘as a Karamojong producer/trader increases livestock and cash holdings, they may reach the point where livestock trade is more important in terms of household income than livestock production’. This is consistent with the KRSU 2017 livestock markets update assessment.

One emerging trend is the commissioning of new livestock markets (including other commodities) mainly by the new sub-counties to raise revenues. New road expansions have also contributed to the commissioning of such markets. There are now about twenty livestock markets in the region, excluding the small ones providing ease of access to local and external market operators. Karamoja markets slow down between January and June and become vibrant between July and December, when animal conditions improve and prices pick up. Within Uganda, Karamoja livestock are supplied to some twenty transit and terminal markets between Teso and Jinja and beyond, with a total sales value of US\$5,381,296 in 2016 and US\$4,389,272 in 2017 (excluding sales revenue in November and December 2017) across the nine markets for which data was obtained. Meanwhile, if the other eleven markets are assumed to generate at least 50% of the revenue raised by the nine specified markets, the total revenue from Karamoja markets may be in the region of US\$6 to 8 million per year. With ongoing road improvements and increased demand for meat, the annual sales revenue may rise to US\$10 million in the coming few years.

Destinations for Karamoja livestock also include Juba and Turkana and a new vibrant trade route is also linking the livestock markets of Amudat and Karita with the Dagoretti terminal market in Nairobi. The supply route to Dagoretti commands an estimated annual transaction of about US\$ 1 million. Livestock supplies and transactions in Karamoja markets are conducted by numerous local traders, who also act as brokers and/or value adders. Most buy animals directly from kraals in the

bush to sell at any given market. Those with better financial resources condition animals for few months in the rainy season and sell for profit. Some are engaged in buying heifers from Teso to swap with bulls in Karamoja. This is because, for most part of the year, producers are located far away from market centres and the only way they can dispose animals is through these traders who regularly scout the remote kraals for buying animals. Even when the herders move closer during the rainy season, most still prefer to sell at homesteads rather than in the formal markets. Even at this opportune time, the proportion of producers attending livestock markets is estimated at around 10%, who come mainly for selling bulls and buying heifers, according to market tax collectors and movement permit issuers. This implies that the larger proportion of animals transacted in Karamoja livestock markets are supplied by local traders, whose numbers is proliferating, with the growth and expansion of livestock markets in the region.

## Discussion and conclusion

Livestock production has been the main source of livelihood for the Karamajong for centuries. Of the five livelihood zones in Karamoja, the 'Green Belt' in the Western Mixed Crop Farming Zone, where 20% of the population lives and receives the highest amount of rainfall (800-1000 mm) is the only livelihood zone in the region that can meet most of its food consumption in a good year (FAO, 2015b). This implies that the other zones are not capable of meeting their food consumption needs from crop production without external food aid.

Conversely, FAO/GoU (2014) assert that households that rely on livestock as a major livelihood (in the *Southeastern Maize Cattle Zone* and Amudat district specifically) were found to have coped better to the effects of dry spells experienced than those in the predominantly crop production. The report also claims that this zone generates more cash than all other zones in good years (because of livestock sales). Furthermore, the report adds that livestock dependent communities' respond by offering more animals to markets, whereas crop dependent communities use a variety of desperate options, some of which are harmful to the ecology and the environment. Burns et al (2013) concurs to this notion by stating that, 'in several of the villages assessed, when participants were asked how best could the growing inequality between the rich and poor be addressed, they suggested that peace and improvements in animal health would ultimately lead to a reduction in inequality as herd growth would eventually allow the rich to marry more daughters from poor households allowing for a redistribution of wealth through dowry payments'. This finding implies that livestock production is not only an economic activity but intrinsically embedded in the socio-cultural fabric of the Karamajong, since communities associate wealth primarily with livestock ownership followed distantly by cropland; it also underlines that livestock diseases are the major drivers of livestock wealth inequalities, more than natural shocks such as drought. Levine (2010) stresses this point further by stating that 'both from the perspectives of increasing income and resilience both at household and community levels, pastoral and agro-pastoral livelihoods are more viable in Karamoja than crop farming even in bad years'. He also emphasizes that with limited alternatives, complete crop failure events lead to environmental destruction.

For many years, development policy and programs in Karamoja have been dominated by the notion that sedentary crop farming is more viable and productive than mobile livestock production. At times, cattle have been described as "the curse of Karamoja". However, a policy shift may be occurring: a new Regional Pastoral Livelihoods Resilience Project (RPLRP), currently covering Uganda and Kenya and Ethiopia, has a clear pro-pastoralist framing. The government's initiative to develop the 'beef industry' following its success in the milk sector, could also bring to light the necessity of supporting the pastoral/agro-pastoral production system to achieve this objective, although this intention could also attract commercial investments to the region, which could cordon large tracts of pastoral land. To summarize, the peace dividend prevailing in the region provides a good opportunity to capitalize on developing the pastoral and agro-pastoral livestock production system by addressing the major two constraints – animal health problems and access to water sources, through the following measures.

- Review veterinary service delivery in Karamoja and develop a single strategy to which Government and NGO activities should be aligned. These actions should be complemented by review of the strategies for controlling specific livestock diseases. Strategies need to be technically feasible, affordable and acceptable to local stakeholders, with clearly defined roles for the public and private sector.
- As suggested by Mugerwa, *et al* (2014), water developers need to address equitable water distribution by focusing on three fundamental issues: (i) an understanding of the rangeland context for effective planning; (ii) rehabilitation and development of water sources, with sensitivity to rangeland dynamics and pastoralists needs; and (iii) an emphasis on securing access through capacity building, user contributions, and strengthening and using customary institutions and practices.
- Explore the potential for market-oriented livestock production (value addition) in Karamoja—feed processing, fodder production, feedlots, and trade linkages—followed by other projects

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