

## Livestock marketing in Turkana District, Kenya: Opportunities and constraints

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### Introduction

This report focuses on the issues surrounding livestock marketing in Turkana District. The report’s authors undertook an extensive

literature review and conducted field work in Turkana in early 2006. They characterized and described the livestock marketing systems operating in the district, identified problems and constraints, and made a series of recommendations intended to increase the number of pastoralists profitably accessing livestock markets. Finally, they identified researchable issues which would enable a better understanding of livestock marketing in Turkana District.

### Turkana District

Turkana is the largest though least developed district in Kenya. Bordering Ethiopia, Sudan and Uganda, the district is classified as arid and semi-arid lands (ASAL). It covers 77 thousand km<sup>2</sup> and is home to around half a million people. With less than 3% of the land suited to growing crops, around two-thirds of the population depends on subsistence-oriented nomadic pastoralism for their livelihoods. Livestock—goats, sheep, camels and donkeys and, in wetter parts, cattle—are also central to local social and spiritual life. Some pastoralists who used to keep cattle no longer do so having lost them in severe droughts, such as the one that occurred in 1980.

### Pastoralism in Turkana: Then and now

Turkana District has a higher livestock population than any other district in Kenya. With a pastoralist tradition going back thousands of years, the Turkana people have developed sophisticated and effective strategies for surviving in this harsh environment, where drought is part of the natural cycle. These included migrating to take advantage of areas which received higher rainfall, herd splitting to spread risk, maintaining a defensive capability and stock raiding to rebuild depleted herds. Although this worked well in the past, changes that occurred in the last 100 years or so threaten these traditional approaches. Drawing up of national borders has limited the extent of traditional migration patterns, and expansion of lands cultivated by agriculturalists and agro-pastoralists has further reduced the area available for livestock.

In recent decades, drought has become both more frequent and severe. This has resulted in catastrophic losses of livestock and owners who sold their animals cheaply during droughts have been unable to restock.

The current study identified drought as the principal threat to livestock oriented livelihoods in the district. Some former pastoralists have lost their entire herds and flocks and are now destitute. As pressure on traditional pastoralist lifestyles increased, exacerbated by increasing human and livestock populations, competition between clans and neighbouring pastoralist tribes also increased. Conflict, stock raiding and violence all became more common and insecurity was identified by this study as the third most important constraint to livestock rearing and trading.

Increased poverty amongst pastoralists has resulted in large-scale humanitarian aid programs, the majority providing food aid which, it has been argued, further exacerbates the problem by maintaining unsustainable human and livestock populations in the district. Previously, pastoralists unable to cope with severe drought or who lost their animals to disease tended to move to more favourable areas where they became settled farmers or traders.

## Failed livestock interventions

From the 1960s, there have been a number of livestock-oriented interventions supported by international donors and implemented by the government and other agencies. These have addressed rangeland rehabilitation, water development, destocking and animal health, as well as livestock marketing. Most are widely regarded as having failed. Typically they were top-down and had weak grass-roots institutional foundations. For a period from the 1970s, the government through the Livestock Marketing Department of the then Ministry of Agriculture, was the principal buyer of livestock in the district but this ceased in the 1980s, since when private traders have taken over.

## How many people and livestock?

To carry out the marketing study, an essential starting point was a reasonable estimate of the human and livestock population and an idea of their spatial distribution.

The last human census in Turkana was carried out in 1999. The researchers worked from this figure, adding 3.3% annually to derive an estimated population for 2005—just under 470 thousand people. They further estimated that this population represented some 74 thousand households, of which 64 thousand owned livestock. The population is not uniformly distributed throughout the district. People are concentrated around main transport routes, in urban centres, along the permanent Turkwel and seasonal Keri rivers, and along the shoreline of Lake Turkana.

The last livestock census in the district was carried out in 1998. Since then district livestock and veterinary officers adjust the figure up or down each year, based on prevailing conditions; in 1999, a drought year, they estimated the population of cattle, sheep and goats decreased by a quarter; during the period 2000–2004, when there were good rains, the populations were assumed to have increased; during 2005 and 2006, when drought occurred, the livestock population would be expected to decrease again. Using this approach, the best estimate of the livestock population in 2005 is: 2,021,000 goats, 1,054,000 sheep, 197,900 cattle and 173,400 camels. Using this figure, together with the estimated number of livestock owning households, the researchers calculated the average household livestock holding as: 34 goats, 17 sheep, 4 cattle and 2 camels. However, in fact cattle are found only in the wetter, northerly parts of the district.

## Is Turkana District overstocked?

The concept of carrying capacity of rangeland is a highly controversial subject. Nonetheless, for the present study the researchers used this concept to come to an informed opinion as to the current stocking density of the district. They used data generated in 1995. For this, Turkana District was divided into 25 rangeland units and recommended stocking densities were computed for each. Building on these figures, the current researchers calculated the total carrying capacity for the district for the four major livestock species: goats, sheep, cattle and camels. They then compared these figures to the estimates of the actual livestock populations (see Table 1).

**Table 1.** *Estimated district carrying capacity for different livestock species and year that capacity was exceeded*

Species	Estimated district carrying capacity	Year carrying capacity exceeded
Goats	1,251,628	Before 1995
Sheep	1,187,375	Not yet exceeded
Cattle	146,898	Before 1995
Camels	79,801	Before 1994

The conclusion of this exercise was that, overall, Turkana District is heavily overstocked with livestock.

Further analysis showed that the northern part of the district has a higher carrying capacity than the south, especially for sheep and cattle; this was also true for hills along the western and southern boundaries. This makes sense as these areas enjoy higher rainfall and have different vegetation compared to the remainder of the district. Finally, the researchers used their figures to produce maps showing projected livestock numbers in each of the rangeland blocks of Turkana District.

## Reluctance to sell or slaughter

In general, pastoralists do not like selling their livestock. Their primary objective is to build up large herds and flocks,

which they value for the cultural prestige this brings but also as a means of accumulating wealth, paying dowries and as a drought coping mechanism. And in fact, they usually have no better alternative investment option.

When cash is needed, for example to pay school fees or buy food, clothes or tobacco, pastoralists sell a sheep or goat, often bartering for goods with itinerant traders or local shopkeepers. Lacking knowledge of the relative value of their animals, the exchange rates tend to be low. One group of pastoralists described to the researchers their dry season survival strategy: during a normal season, each household would sell one goat a month for the four month duration of the dry season, and they would also slaughter a goat for home consumption during the fourth month. Most pastoralists prefer never to sell large stock. Only *in extremis*, when they were very hungry and had not eaten for a long time, would all but the wealthiest consider slaughtering a camel.

## Livestock marketing and consumption in Turkana

The livestock marketing system in Turkana District operates on a number of tiers. Some pastoralists trek their animals for sale at secondary (local) or primary (larger) markets. Also, small-scale itinerant traders visit pastoralists in the interior of the district and purchase or barter for sheep and goats. These are then trekked to secondary or primary markets and resold to either local butchers for slaughter or larger scale traders. Sometimes the traders will keep the animals they purchase, along with their own animals, to fatten them up and sell when the price is good. The secondary markets also provide pastoralists with replacement breeding stock.

Some pastoralists trek their small stock, sometimes long distances, to sell them directly to butchers or shop or kiosk owners, either in exchange for goods or cash. In trekking animals long distances, however, they are exposed to the risk of losing their stock due to theft or disease en route.

Local, middle-level traders buy livestock from secondary markets and deliver them to primary markets, usually trekking them but occasionally using trucks. Animals are purchased on the basis of individual negotiation. These middlemen lack the capacity and knowledge to function in the terminal markets, such as those in Nairobi. And finally, traders from outside the district visit the primary markets and purchase truck-loads of animals (250 goats, 25 cattle) for cash and transport them to terminal markets in Nairobi or other major urban centres. Table 2 summarizes some features of the district's main primary markets.

The secondary markets tend to be located along an east–west axis, alongside minor roads and the primary markets are located every 100 kilometres or so along the main north–south highway.

The researchers estimated that 97%, by number, of livestock sold or slaughtered in the district are sheep and goats, 2.8%

cattle and just 0.2% camels. Combining official slaughter statistics (covering only animals slaughtered at local council facilities) with findings from discussions with pastoralists (to capture home slaughter data), it was estimated that around 220 thousand goats are slaughtered annually. Far more goats were slaughtered for local consumption than exported live out of the district: the latter accounted for less than 10% of off-take.

**Table 2.** Summary of some features of local primary markets

Market	No. LMA members	Features of livestock trade
Lokichoggio	+/- 90	Sheep and goats sourced from Turkana Up to 90% of cattle from Sudan: 100–200 per month Volume higher in dry season
Kakuma	+/- 90	High local demand for goats: 475 per day Refugee camps consume 300 goats per day
Lodwar	677	Very few cattle traded: 3 per day Local demand for goats 300 per day 375 goats traded per day Good road link to AMREF meat processing factory Surplus traders, operate as cartel Each animal can pass through 10 separate transactions within sale-yard
Lokichar	80–100	Wide catchment area—lack of other local markets Market throughput: 120 goats per day Of this, 15 for local consumption, rest for export to Nairobi

The number of animals slaughtered for home consumption varied with herd size, which is a good proxy for wealth. The very wealthiest families would slaughter up to four male camels a year for consumption by family and friends. Cattle would very rarely be slaughtered by any pastoralist. For wealthy households with more than 300 goats, up to six goats a year would be slaughtered for each wife and her children (Turkana are polygamist, with wealthy men commonly having three wives). If flock size was below 50, no animals would be slaughtered as the priority then would be to rebuild the flock. Pastoralists whose flocks had decreased to 10 or fewer goats were considered by their peers to no longer be viable.

From studying movement permits issued by the District Veterinary Officer, the numbers of livestock exported from the district for the 12 months 2004/05 were calculated: these were found to be 20,433 sheep and goats (compared to 220,000 consumed locally) and 1352 cattle. To put these figures in perspective, they represent less than 1% of the district's livestock population.

Comparison of export figures between selected years showed that the numbers exported decreased by around half in years

following droughts. This is not surprising: at such times livestock would be in poor condition and therefore less attractive to buyers. In addition pastoralists' priority would be to rebuild their herds and flocks.

For the present study, movement permits were examined to determine where Turkana livestock were being exported to. For 2004, this showed that 80% of sheep and goats were being sent to the main Nairobi goat market (Kariobangi). Although officially, cattle from Turkana can only be exported to Dagoreti market, on the outskirts of Nairobi for immediate slaughter in the adjacent slaughterhouses (due to the on-going CBPP quarantine), the actual situation was confused. The movement permits indicated cattle were exported to all three Nairobi cattle markets, whilst another independent study suggests 80% of cattle were exported to markets other than Nairobi, such as Kitale and Eldoret.

Efforts were made to collect and compile data, obtained from a number of sources, on price of goats as they proceeded along the marketing chain. This information is summarized in Table 3.

**Table 3.** Goat value chain

	Bottom end (Dry season/grade 3)		Top end (Wet season/grade 2)	
	Price	gross margin	Price	gross margin
Farm gate/ pastoralist	300		1000	
Secondary market	650	} 350	1500	} 500
Main market	1000	} 350	2000	} 500
Terminal market	1700	} 700	2800	} 800

Data from several sources were also collected for cattle prices. These showed that a 300 kg steer fetches between KES 6000 and 12,000 in Turkana, whereas in Nairobi the same animal is worth KES 12,000 to 20,000. However, Turkana pastoralists sell very few cattle and even fewer camels.

The share of profit along the goat value chain was also estimated by dividing net profit made by capital invested. Unfortunately, the pastoralists' production costs are not known so it was not possible to work out whether or not they were making a profit. For the remainder of the value chain, it was shown that traders in Turkana made a return on their capital investment of around 18.5%, while traders in the terminal market made a return of 24%. The highest costs were incurred by the traders who transport livestock to Nairobi. On a capital investment of up to KES 627,500, a trader could make a profit of up to KES 72,500; an average rate of return of 12%, which is regarded as low in view of the level of risk exposure. The enterprise was only considered to be worthwhile because large numbers of goats

can be exported at one time. A similar exercise undertaken for cattle suggested that traders exporting cattle from Turkana to Nairobi derive a similar rate of return as for goats.

## Problems associated with livestock marketing in Turkana

The researchers identified a long list of problems associated with livestock marketing in Turkana District. These included pastoralists' subsistence orientation, lack of marketing infrastructure or institutional capacity, high transport costs, insecurity, fees, taxes and corruption, trader cartels, lack of market information, lack of cash, savings and credit, and low and variable producer prices.

### *Subsistence orientation*

Although there has been a long tradition of pastoralists bartering animals for trade goods such as beads or food, selling animals for cash is a very recent development. Pastoralists, including those in Turkana, however, increasingly need cash—to pay school fees and hospital bills, for example or to buy food during drought.

Livestock off-take rates in Turkana remain low. Pastoralists prefer to accumulate livestock, and this is increasingly being recognized to be a sound strategy in drought-prone areas: the more animals one has before a drought, the more are likely to survive and from which one can rebuild ones flock afterwards. Where animals are sold, the majority are males; females are retained whenever possible for breeding and for milk production—milk constitutes an important component of pastoralists' diets.

Sales are dampened by a number of other factors. If animals are sold and converted into cash, there are very few alternative options for investment and deposits in bank accounts are eroded by high bank charges. Banks are also few in number and distant from the majority of pastoralists.

The social support mechanism of pastoralists in Turkana also acts as an impediment to individuals accumulating surplus cash or building-up their herds and flocks. Households with surplus cash will be beset by claims for assistance from poorer family and friends, and complex safety nets require that surplus livestock are loaned or given to others in times of need.

### *Marketing infrastructure*

In general, infrastructural development in the district is poor. With the exception of the main road from Lodwar (the district capital) to Lokichoggio, all roads in Turkana District are poor and often impassable during the rains. This increases the cost of transportation to terminal markets.

Where market facilities exist, local pastoralists have generally lacked the managerial capacity and financial resources to run them properly. Recently, however, the Kenya Government's Arid Lands Resource Management Project (ALARMP) and Vétérinaires

Sans Frontières Belgium (VSF-Belgium) have helped initiate and support traders groups, which now operate in all 12 functioning livestock markets in the district.

The collapse of the Kenya Meat Commission (KMC) in Nairobi in 1987, which previously provided a guaranteed market and stable prices for livestock, destabilized livestock markets in Kenya, more especially those in remote and marginal areas.<sup>1</sup>

### *Transport*

The poor state of the district's roads discourages truck owners from operating in many parts of the district, especially the interior, because of the unacceptably high maintenance costs they incur. Transporting livestock out of the district is costly: it can cost KES 300 to truck one goat and KES 2500 to truck one steer to Nairobi. With a journey time of three days, high mortality rates and loss of condition along the way make transporting even more expensive. Traders mostly rely on trucks making the return trip from the refugee camps of Lokichoggio to Nairobi, which otherwise would be returning empty.

Trucking livestock out of the district is, however, a relatively small-scale operation, with only several hundred sheep and goats and some tens of cattle trucked to Nairobi weekly. Within the district, livestock are trekked, sometimes long distances, to secondary and primary markets. But trekking is not an option for the journey to Nairobi due to security problems and the sheer distance involved.

### *Insecurity*

The threat of raids by livestock rustlers and armed bandits is a major impediment to both livestock production and marketing. The situation is particularly bad in the northeast of the Turkana, where cross-boarder raids are a frequent occurrence. Insecurity has created 'no-go' zones for traders and transporters: there have been instances where trucks have had their tyres shot-out and drivers have even been killed. One impact of the security situation is that livestock prices are depressed as traders have to factor in possible losses from theft. Moving cash is also risky in this lawless environment.

### *Taxes and bribes*

A range of official and unofficial charges further add to the cost of marketing livestock from Turkana District. These include fees levied by local councils for use of sale-yards, slaughter slabs, loading ramps and other facilities, and also for business licences. In some cases, the Local Marketing Associations (LMAs) collected the fees on behalf of the council; in others the LMAs levy charges in their own right. The effect of these charges is to drive livestock trade away from the officially designated areas. Additional costs are also incurred during transportation: drivers have to pay a cess to each local authority whose area

they pass through. One truck owner interviewed admitted he also budgeted KES 5000 per truck for bribes paid to police at roadblocks along the route to Nairobi.

### *Trader cartels and brokers*

Livestock trade in Turkana is dominated by cartels formed along ethnic lines; for cattle, these are predominantly members of the Burji, Boran and Gabra communities. The cartels are said to be a response to concerns over insecurity and high transaction costs. They are recognized to reduce transaction costs and promote trade but at the cost of some market exclusions and distortions. The informal social networks that characterize the trader cartels are a major source of capital: less than 20% of traders rely on banks. Livestock traders tend to be wealthy; their wealth allows them to withstand the risks and challenges associated with this business: volatile prices, insecurity, poor market information and weak infrastructure. A characteristic of traders is their ability to speak several local languages, which enables them to bridge ethnic barriers.

In some terminal markets, powerful brokers impede marketing of livestock from Turkana due to ethnic divisions. This seems to be especially the case in the major Nairobi goat market.

### *Information*

Lack of market information creates huge disparities between buyers and sellers and contributes to lower producer prices. Although many pastoralists reported having good knowledge of prices in local markets, they had no idea of prevailing prices in distant terminal markets. For local market information they relied on word-of-mouth from those who had just sold their animals. Some LMAs, however, reported they were in touch with Nairobi traders and received regular market updates.

The need for pastoralists to have better access to a wide range of information, encompassing not just market prices but also rangeland condition, disease outbreaks, water availability and conflict hot-spots, is widely recognized. A recent USAID-funded project (Livestock Information Network & Knowledge System; LINKS) aims to provide this information through the use of new information and communication technologies, such as mobile phones.

### *Lack of cash*

Lack of cash or access to credit is regarded as a major barrier to livestock marketing. For middle-level and itinerant traders, it severely limits the number of animals they can buy at one time. Likewise, for pastoralists a weak capital base diminishes their bargaining power. Formal credit is largely lacking in the district; only credit provided by families is commonly available, although where strong business relationships have developed, some transporters will accept payment after the load of goats has been sold.

### *Low and variable producer price*

1. KMC was revived in 2006 although this occurred too late to be included in this study.

Many factors have been identified which contribute towards low and variable producer prices for livestock in Turkana. These include low throughput in markets, high transport costs, poor infrastructure, insecurity, lack of commercial orientation of producers, poor quality of animals and poor disease control. There is also seasonal oversupply; pastoralists sell animals during droughts when their herds' milk yields decline and food grain prices increase. On the positive side, Turkana goats are said to be preferred by some Nairobi traders because of their tender meat.

### *Quarantine restrictions*

Turkana has been under permanent quarantine restrictions due to the cattle disease contagious bovine pleuro-pneumonia (CBPP) since colonial times. Officially, cattle from the district can only be exported directly to Nairobi for immediate slaughter, or alternatively they need to be subject to testing which takes three months. The district is also periodically subjected to quarantine restrictions for other diseases, such as contagious caprine pleuro-pneumonia (CCPP) and lumpy skin disease (of cattle). The effect of the quarantine restrictions is to further reduce producer prices as it limits opportunities for marketing.

## Recommendations

The researchers made recommendations to improve livestock marketing and pastoralists' livelihoods in Turkana District under four main headings: transport, insecurity, information and creating opportunities for pastoralists to sell livestock.

### *Transport*

A major investment is required by the government and development partners to upgrade the district's road network. This would not only benefit livestock marketing, but also help to improve security and promote other non-livestock livelihood options. Other options to reduce transport cost include subsidized transport schemes, although it is recognized that these are highly vulnerable to abuse. Efforts would have to be made to minimize fraud and ensure benefits flowed to local middle-level traders and pastoralists. A different approach could be to provide loans to LMAs so they could purchase and operate their own trucks.

### *Insecurity*

Every effort should be made to ensure that the Kenyan Government acts on its obligation to the people of Turkana by enhancing security in the district. This is especially important along the borders with Uganda, Ethiopia and Sudan as well as along the boundary between the Turkana and West Pokot tribal groupings. Improved security would enable better use to be made of the entire rangeland and would reduce the 'risk premium' traders impose to protect themselves against losses.

### *Information*

Better access to market information would greatly improve livestock marketing systems in the district. Both pastoralists and local traders would benefit from regular access to prices and traded volumes in the distant terminal markets. The LINKS scheme should provide this information, once it is fully operational. Access to improved information on rangeland conditions would also be invaluable, helping pastoralists to make strategic decisions on livestock migration and informing de- and re-stocking initiatives.

### *Creating opportunities*

There is considerable demand for the creation of new sale-yards in areas where such feeder markets are lacking. VSF-Belgium and OXFAM have already initiated development of these facilities in northeastern Turkana.

There is considerable opportunity for greater exploitation of local markets: the UN refugee camps in Lokichoggio and Kakuma and the new African Medical Research Foundation (AMREF) meat processing factory in Lokichoggio all create local demand. It is recommended that these are prioritized ahead of pursuing more distant opportunities.

Other recommendations under this heading include introducing livestock auctions, reducing the dominance of the cartels, promoting Turkana goat meat as a regional speciality, strengthening LMAs and creating livestock producers associations, improving access to credit and providing training for local traders and pastoralists (animal production and health; market-based drought mitigation, response and recovery; livestock marketing, and business skills—perhaps delivered using a Farmer Field School approach).

### *Policy recommendations*

In addition, the researchers made a number of policy recommendations:

- Government of Kenya (GoK) and international donors should be lobbied to make significant improvements to the road infrastructure in Turkana
- GoK should be lobbied for a review and justification of current quarantine restrictions in Turkana District
- GoK should be lobbied to improve security along the West Pokot, Ugandan, Sudanese and Ethiopian borders
- A review should be initiated to analyse and justify the structure of County Council livestock marketing fees.

### *Research needs*

Finally, the researchers identified a number of research needs related to livestock marketing in Turkana District. First, they considered it essential to assess impacts of previous interventions to guide the design and implementation of new ones. Past interventions include creation of sale-yards, promotion of LMAs and the AMREF-supported meat processing factory. The impacts

of these needs to be assessed, not just in terms of direct impacts on pastoralists' livelihoods and livestock marketing, but also in terms of spill-over effects on micro-enterprises, such as kiosks, shops and hotels.

There is considered to be a need for better understanding of animal health constraints to profitable livestock marketing, as well as the potential role of women: currently more than 93% of livestock traders in the district are men.

As the institutional capacity of Turkana increases, it is essential to assess the role of institutional structures in the promotion of efficient, effective and sustainable livestock production and innovative livestock marketing systems in the district. And last, but not least, it is essential to investigate how pastoralists can make the transition from a traditional, subsistence-based livestock economy to a fully integrated market one.

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