



Economic contribution of the pastoral meat trade in Isiolo Town, Kenya

Benard Chira Gituku, Oliver Vivian Wasonga and Robinson Kinuthia Ngugi

Country Report

May 2015

Drylands and pastoralism

Keywords:

Drylands, Pastoralism,
Economic resilience

About the authors

Benard Chira Gituku (corresponding author)
Masters degree candidate
Department of Land Resource Management and
Agricultural Technology
Range Management Section
PO Box 29053-00625
Nairobi
www.uonbi.ac.ke
chirabenard@gmail.com

Oliver Vivian Wasonga
Lecturer
Department of Land Resource Management and
Agricultural Technology
Range Management Section
PO Box 29053-00625
Nairobi
www.uonbi.ac.ke
oliverwasonga@uonbi.ac.ke

Robinson Kinuthia Ngugi
Associate Professor
Department of Land Resource Management and
Agricultural Technology
Range Management Section
PO Box 29053-00625
Nairobi
www.uonbi.ac.ke
rkngugi@gmail.com

Produced by IIED's Climate Change Group

The Climate Change Group works with partners to help secure fair and equitable solutions to climate change by combining appropriate support for adaptation by the poor in low- and middle-income countries, with ambitious and practical mitigation targets.

The work of the Climate Change Group focuses on achieving the following objectives:

- Supporting public planning processes in delivering climate resilient development outcomes for the poorest.
- Supporting climate change negotiators from poor and vulnerable countries for equitable, balanced and multilateral solutions to climate change.
- Building capacity to act on the implications of changing ecology and economics for equitable and climate resilient development in the drylands.

International Institute for Environment and Development
80-86 Gray's Inn Road, London WC1X 8NH, UK
Tel: +44 (0)20 3463 7399
Fax: +44 (0)20 3514 9055
email: info@iied.org
www.iied.org

 @iied

 www.facebook.com/theliied

Download more publications at www.iied.org/pubs

Acknowledgements

We thank the International Institute for Environment and Development (IIED) for funding this study and the University of Nairobi for the institutional support given to the authors. The research was guided by Dr. Oliver Wasonga, Prof. Robinson Kinuthia Ngugi and Dr Yazan Elhadi at the University of Nairobi. The synthesis was initiated by Saverio Krätli as a consultant for IIED and concluded with support from Caroline King-Okumu, IIED senior researcher. The report was edited by Lucy Southwood.

Partner organisations

IIED is a policy and action research organisation. We promote sustainable development to improve livelihoods and protect the environments on which these livelihoods are built. We specialise in linking local priorities to global challenges. IIED is based in London and works in Africa, Asia, Latin America, the Middle East and the Pacific, with some of the world's most vulnerable people. We work with them to strengthen their voice in the decision-making arenas that affect them – from village councils to international conventions.

The University of Nairobi is a body corporate established under the Universities Act 2012 of the laws of Kenya and the University of Nairobi Charter. It is a pioneer institution of higher education in the region that offers manpower training in basic sciences, applied sciences, technology, humanities, social sciences and the arts

Published by IIED, May 2015

Benard Chira Gituku, Oliver Vivian Wasonga and Robinson Kinuthia Ngugi. 2015. *Economic contribution of the pastoral meat trade in Isiolo Town, Kenya*. IIED Country Report. IIED, London.

<http://pubs.iied.org/10124IIED>

ISBN: 978-1-78431-153-7

This report is one of a series of reports synthesising the findings of field research conducted by masters' and doctoral degree students at the University of Nairobi, who investigated the contribution of pastoral production to the local economy. The students developed the research to complement their degree studies, with support from the International Institute for Environment and Development.

Contents

Acronyms	2	4 Challenges facing the pastoral meat trade in Isiolo Town	21
Executive summary	3	5 Discussion	23
1 Introduction	4	6 Conclusion and recommendations	25
1.1 Objectives of the study	5	References	27
2 Methodology	6	Related reading	28
2.1 Study site characterisation	7		
2.2 Target population	7		
2.3 Study approach	7		
2.4 Data analysis	8		
3 Results	9		
3.1 Livestock markets and marketing channels in Isiolo	10		
3.2 Actors in the pastoral meat trade channels	11		
3.3 Class and sex of livestock traded in Isiolo Town market	12		
3.4 Number of cattle, sheep and goats traded in Isiolo Town livestock sales yard	13		
3.5 Contribution to employment, income and dependants	14		
3.6 Contribution to revenue in Isiolo Town	16		

Acronyms

DLMC	District Livestock Marketing Council
DLMO	District Livestock Marketing Officer
DLPO	District Livestock Production Officer
DVO	District Veterinary Officer
FHI	Food for the Hungry International
IIED	International Institute for Environment and Development
KLMC	The Kenya Livestock Marketing Council
KSh	Kenya shilling ¹
NDMA	National Drought Management Authority

¹ Exchange rate US\$1= KSh85 from April 2014 (www.oanda.com). This rate can be applied to all costs mentioned in this report.

Executive summary

Pastoralism as a system has been subject to persistent undervaluation, due to inadequate information on its comparative and competitive advantages over alternative land uses. This lack of understanding of pastoralism's contribution to the national economies of the Horn of Africa region is partly to blame for unfavourable policies, scant attention and limited investment in the sector. The age-old mainstream view that pastoralism needs to be modernised has informed most pastoral development projects in the region. This has led to government and international organisation efforts to transform pastoral land tenure, sedentarise pastoralists and introduce competing land uses in traditionally pastoral landscapes.

This study uses a total economic valuation approach to characterise the true economic contribution of pastoral meat production to the economy of Isiolo Town. The study includes a comprehensive literature review to understand the socioeconomic and ecological dynamics of Isiolo County. We used purposive sampling to identify individuals for semi-structured and key informant interviews, including livestock traders, brokers, butchery owners, meat transporters, eatery owners, hide and skin store owners and offal traders.

Our study shows that the pastoral meat trade makes a considerable contribution to the local economy and the county at large:

- It employs 448 individuals who, together with business owners, support 2,665 immediate and extended family members.
- Business owners make an average gross monthly profit of KSh933,315 (about US\$10,975), paying their employees an average of KSh8,932 (about US\$105) a month.
- Businesses contribute KSh8 million in cess (agricultural tax), and slaughter fees: KSh6 million in livestock sales tax, KSh1.5 million in slaughter fees and KSh0.5 million in cess on hide and skin sales.

- The subsector also contributes an annual average of:
 - KSh520,000 to the veterinary department for meat inspection services and certificates for meat transportation
 - KSh420,850 in business licences and transport permits, and
 - KSh354,720 a year to the public health department for individual medical certificates and premises health licences.

The revenue collected shows the subsector's potential in the economy of Isiolo Town. If the county government helps create a more effective and efficient working environment, this can be much improved. Our study found a lack of proper infrastructure in both sales yards and slaughter houses as well as access roads that are in poor state –very dusty when dry and very muddy in the rainy season. Insecurity adds to these challenges and reduces pastoral meat producers' participation in the market. Brokers also exploit traders in the sales yard, take over transactions and cheat on prices.

The subsector has great potential for improving the economy of Isiolo Town and the lives and livelihoods of the county's population. The county government can help create an effective and efficient working environment by improving policy, regulatory and institutional frameworks, technical and technological interventions and infrastructure (markets and feeder roads). This will increase government revenue and improve the earning power of participants, enabling the sector to support an even larger population, in the town and the wider county.

Introduction



For years, many have viewed Africa's pastoral production systems as economically inefficient and environmentally destructive (Hesse and MacGregor 2006). These perceptions have continued to inform policy formulations and development interventions in the vast pastoral areas of the Horn of Africa. The current lack of supportive policies and inadequate allocation of resources for pastoral development are typical reflections of traditional stereotypes and decision makers' misunderstanding of pastoral systems. Governments and international organisations have sought to transform pastoral land tenure, sedentarise pastoralists and introduce competing land uses in traditionally livestock-dominated landscapes, with grazing lands converted to croplands, protected areas and conservancies across the region. Governments are introducing these changes without due regard to the contribution pastoralism makes to the region's economy – for example, more than 90 per cent of meat consumed in East Africa comes from pastoral herds.

In Kenya, the pastoral sector is estimated to be worth US\$800 million, yet existing national statistics still fail to capture its total economic value to the national economy (Hesse and MacGregor 2006 and 2009). As a system, it has been persistently undervalued and information on its comparative and competitive advantages over alternative land uses is inadequate. For example, Kenya's beef production in 2000 was estimated at 290,000 tonnes; 19 per cent of this was raised in pastoral systems, but this figure was not given a monetary value in the national accounts (Hesse and MacGregor 2006). This lack of understanding of pastoralism's contribution to the region's national economies is partly to blame for the unfavourable policies, scant attention and limited investment it receives in national budgets (Davies 2007).

Identifying and valuing the direct and indirect benefits of pastoralism could help policymakers formulate better informed decisions. Previous studies in Ethiopia (Behnke 2010, Behnke and Metaferia 2011), Tanzania (Letara *et al.* 2006) and Kenya (Behnke and Muthami 2011) reveal the pastoral system's economic potential, but there is a lack of site-specific data disaggregated by livestock species and their products.

This paper presents a synthesis and discussion of key findings from a University of Nairobi study on the contribution of pastoral meat to the economy of Isiolo Town. It is a step towards identifying and valuing the benefits of pastoral systems. Benard Chira Gituku is currently finalising the MSc Thesis from this study. We believe that our findings can help guide Kenya's new government's decision making at local level, informing livestock development interventions and other important decisions.

1.1 Objectives of the study

Our main study objective was to contribute to a total economic value of pastoralism by assessing the economic contribution of the pastoral meat trade in Isiolo Town. We intended to provide empirical evidence on employment, income and revenue generated by the trade to guide the newly created Isiolo County government. This information should provide a basis for sound decision making on resource allocation, formulation of livestock-related policies and investments in sustainable production and pastoral livelihoods.

The study specifically aimed to:

- characterise pastoral meat marketing channels in Isiolo Town and their linkages with other towns
- determine the pastoral meat trade's contribution to employment, and the income of actors and their dependants in identified marketing channels, and
- determine the pastoral meat trade's contribution to the revenue of Isiolo Town.

We use the total economic valuation approach as applied by Hesse and MacGregor 2006 and Davies 2007. This approach offers a framework to value assets that are priceless and a platform to compare with market assets for a more balanced representation of value in decisional processes (Krätli 2013).

Methodology

2

2.1 Study site characterisation

This study took place in Isiolo Town, Isiolo County, in Kenya's former Eastern Province. The county covers 25,700km² and is predominantly flat, with low-lying plains that rise gradually from an altitude of 200m above sea level at Lorian Swamp in the north to about 800m above sea level at Merti Plateau. The Ewaso Nyiro River dissects the county. Isiolo is classified as 100 per cent arid and semi-arid land, and includes three agro-climatic zones: semi-arid (5 per cent), arid (30 per cent) and very arid (65 per cent) (Herlocker *et al.* 1993; Sombroek *et al.* 1982). The climate in the towns of Isiolo and Kinna is semi-arid, with a median annual rainfall of 400–600mm. The arid region stretches from Oldonyiro to Archers Post and Garbatulla, with an annual rainfall of 300–350mm. The very arid zones cover Merti and Sericho, with an annual rainfall of 150–250mm (Jaetzold and Schmidt 1983). The county is hot throughout the year, with mean annual temperatures of 24–30°C (Herlocker *et al.* 1993).

A number of ethnic communities live in Isiolo County. The County Statistics Office reported a population of 112,364 in 2001, which according to the national census had grown to 143,294 by 2009 (Saafo and Kaarhus 2011). The county's main livelihood zones are: pastoral (67 per cent of the population), agro pastoral (26 per cent) and firewood and charcoal (7 per cent) (Government of Kenya 2013a). Pastoral production contributes over 70 per cent of household income (Government of Kenya 2012a).

This study considers pastoralism as a way of life and essential source of livelihood and employment for more than three million Kenyans. In pastoral production systems, at least 50 per cent of gross household revenue comes from livestock or livestock-related activities (Government of Kenya 2004). The majority of inhabitants in Isiolo County are pastoralists from the Borana, Samburu, Somali and Turkana ethnic groups. A fifth ethnic group, the Meru, are by tradition sedentary farmers. Individuals from all these ethnic groups rely on small-scale commerce and/or wage-based employment for their livelihoods; many pastoralists are also engaged in small-scale agriculture. Traders from the Somali – and increasingly Meru – communities have tended to dominate large-scale and long-distance trade, while the Borana hold most local administrative and political positions. The Borana are the county's largest ethnic group (Saafo and Kaarhus 2011).

2.2 Target population

The study focused on traders who are directly or indirectly involved in pastoral meat trade, including those who trade live cattle, sheep and goats and their meat, skins and hides. Pastoral meat traders include:

- brokers, buyers and sellers in the Isiolo livestock sales yard
- butchers
- the Isiolo Town slaughter house, which offers slaughter and meat inspection services
- meat transporters (to butcheries from the slaughter house)
- offal traders, and
- hotels and restaurants.

2.3 Study approach

We used a snowballing sampling approach to identify potential relevant interviewees. This included a combination of data collection methods, including:

- semi-structured questionnaires for individual interviews with identified actors in the pastoral meat trade
- a comprehensive literature review to understand the socioeconomic and ecological dynamics in Isiolo County
- nine key informant interviews to help identify the actors (individuals and businesses) involved in the pastoral meat trade and map the connections between and among them, and
- secondary information from the relevant offices – the National Drought Management Authority (NDMA), the Kenya Livestock Marketing Council (KLMC), District Livestock Marketing Council (DLMC), the District Veterinary Office (DVO), the District Livestock Production Office (DLPO), the District Livestock Marketing Office (DLMO), the County Revenue Office and the County Licensing Office – to supplement the primary data we collected from individual interviews.

We used information from interviews with the following key informants – county revenue officer, district livestock marketing council coordinator, district veterinary officer, district livestock production officer, district livestock marketing officer and district licensing officer – as well as 38 sheep, goat and cattle traders, 17 butchers, 3 offal traders, 25 eatery owners, 9 meat transporters and 20 brokers to develop:

- a map of livestock sources and movement routes to various market destinations
- a summary of revenue contributions to county
- the number of employees and their dependants
- the income earned from the pastoral meat trade in Isiolo Town, and
- a list of businesses trading in pastoral meat.

Interviews with the county drought coordinator (NDMA), KLMC/DLMC, officials from the county council revenue office, the DVO, the DLPO, DLMO and pastoral meat traders helped us develop an in-depth understanding of the cattle, sheep and goats markets, marketing channels in Isiolo Town and their interactions. This includes information on the actors involved and the volume, prices and movement of animals traded.

We obtained data from the County Revenue Office on taxes or cess² paid to the county council and other forms of revenue related to licences and fees paid by businesses and individuals in the pastoral meat trade. A key informant interview with the revenue officer provided further information. During individual interviews, we asked respondents for details of taxes, fees and cess they had paid to the county government and other state agencies.

2.4 Data analysis

We summarised the data collected using the Statistical Package for Social Sciences, version 20 and used primary and secondary data to determine the pastoral meat trade's contribution to the revenue of Isiolo Town.

We multiplied various revenue categories by the number of businesses we interviewed that trade in pastoral meat – hotels, restaurants and butcheries – to work out their total contribution to revenue.

For gross incomes and the trade's contribution to actors' income, we multiplied the amount of meat or livestock sold with their respective selling prices. We supplemented information from interviews with sellers and buyers in the Isiolo livestock sales yard with secondary data from the veterinary department to derive the volumes of cattle, sheep and goats traded.

In the survey, we asked owners and employees of pastoral meat businesses in Isiolo Town about their dependants and used this information to compute the number of people who benefit from the pastoral meat trade.

²This is tax on the movement of agricultural produce raised by local authorities in Kenya. The tax applies to all farm agricultural produce, livestock and products marketed in all outlets managed by local authorities and on transit by road within the country. The rate at which and how it is administered is arbitrary, and it changes from time to time at the discretion of the respective local authority in question (www.businessadvocacy.org/issue009a.html).

Results

3

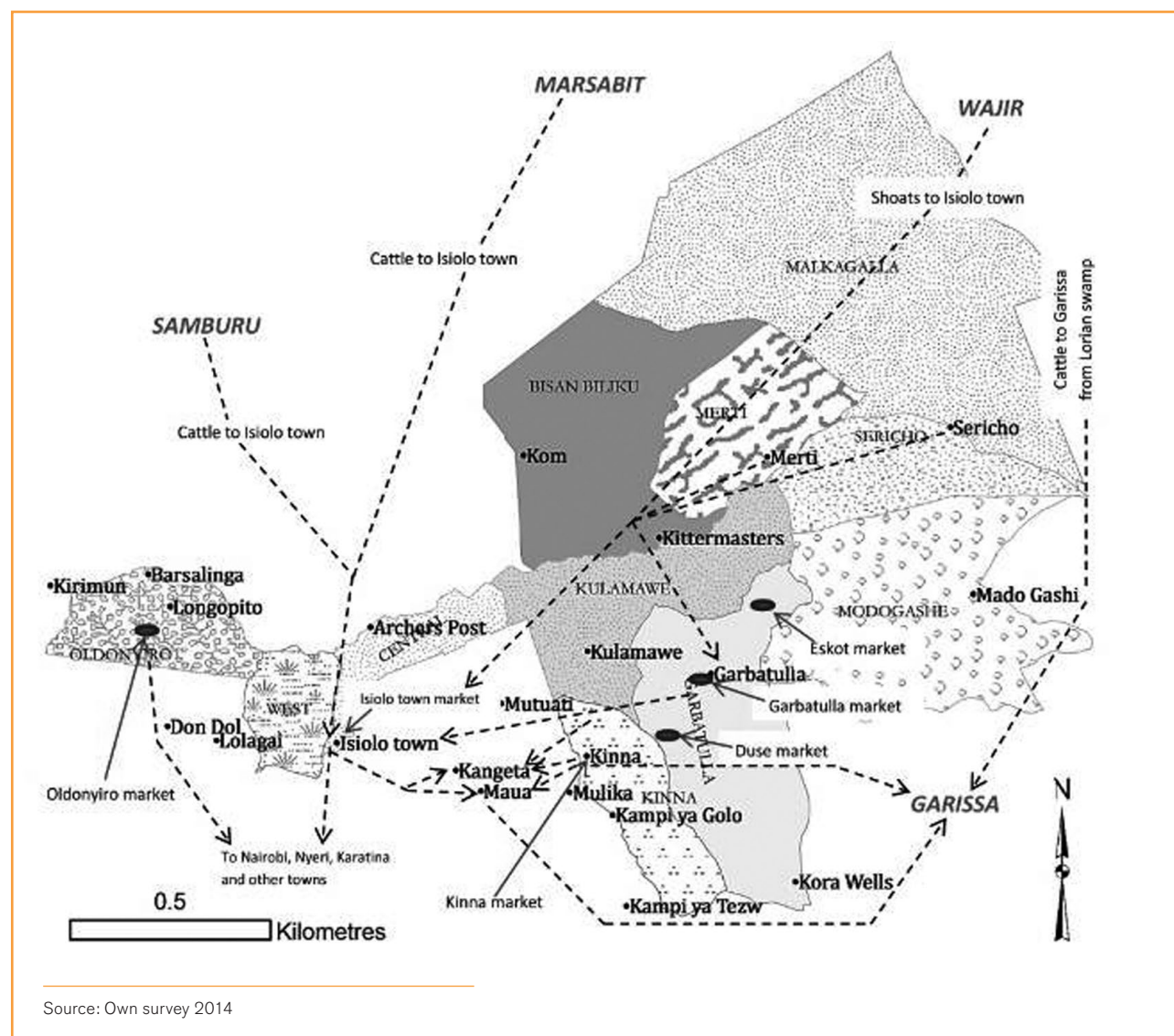
3.1 Livestock markets and marketing channels in Isiolo

Cattle, sheep, goats and camels are traded at Isiolo Town market. The cattle come from all over Isiolo County, surrounding counties including Samburu, Turkana, Wajir, Marsabit, Moyale and Garissa and across the border from Somalia. The goats and sheep come mainly from within the county, with some brought in from Wajir County (see Figure 1).

Isiolo Town livestock sales yard is a kilometre out of town. The market operates mainly on Monday, Wednesday and Friday, although sheep and goat trading takes place daily except on Sunday. There are many other markets in the county, with varying levels of infrastructure.

- Eskot market is about 60km northeast of Garbatulla Town and operates every Saturday. It is a big bush market with no infrastructure. Participants come from the Somali community in neighbouring Garissa County, and trade is dominated by sheep and goats, with a handful of cattle.
- Duse market is about 30km southwest of Garbatulla Town and operates every Tuesday. It also has a livestock sales yard and better infrastructure than Isiolo Town, installed by Food for the Hungry International (FHI). Sheep and goats still dominate, but there is some camel and cattle trade.
- Oldonyiro and Kipsing markets in Oldonyiro trade in small stock and cattle. Oldonyiro also has a livestock sales yard with better infrastructure than Isiolo Town. These markets operate fortnightly on Tuesdays and Fridays.

Figure 1. Livestock markets and marketing channels or routes in Isiolo County



- Kinna market also benefitted from the FHI intervention, but despite having good infrastructure, is never used. Traders take their livestock to the neighbouring towns of Maua and Meru, which they say offer better prices and where traders are assured of sales.
- Belgesh is a primary bush market with no infrastructure.
- Other markets in the county include Bulesa, Biliku, Merti town, Bibi, Korbasa, Madogashe, Sericho, and Malka Daka.

Cattle, sheep and goats bought from Isiolo are destined for slaughter or breeding purposes in various towns within Kenya, including: Athi River, Baringo, Buuri, East Isiolo, East Pokot, Garbatulla, Gilgil, Igembe, Imenti North, Imenti South, Kajiado, Kangeta, Kiambu, Kieni, Kirinyaga West, Laikipia East, Laikipia West, Laisamis, Limuru, Marigat, Mashuru, Mathira East, Maua, Mbeere, Merti, Meru South, Mogotio, Moyale, Nyeri, Nairobi, Nakuru, Nyahururu, Nyandarua, Othaya, Ruiru, Samburu, Taita Taveta, Tigania, Voi and West Pokot.

3.2 Actors in the pastoral meat trade channels

Various players are involved in the trade of live cattle, sheep and goats and their meat. They include:

- service providers – veterinary officers, agrovet shops and extension agents – who offer animal healthcare, extension services and supplements for livestock
- pastoral meat producers, or pastoralists, who produce and sell cattle, sheep and goats to traders
- traders (can also be producers) who sell to butchers or hotels and eateries, directly or through brokers
- market brokers, who sometimes act as traders
- meat transporters (from Isiolo slaughter house to butcheries, hotels and restaurants)
- live animal transporters or trekkers
- butchers, who sell meat to consumers
- Isiolo Town slaughter house, which offers slaughter services to butchers
- hotels, restaurants and other eateries, which sell meat to consumers, and
- regulating institutions – Isiolo Town Council, the veterinary and public health departments.

In all the market interviews, respondents said that brokers, who facilitate buying and selling activities in the market, exploit the traders. Brokers negotiate on behalf of traders at a fee of KSh200 a head of cattle or KSh40 a head of sheep/goat.

Isiolo Town Council collects cess in the market for every animal traded, usually KSh200 a head of cattle and KSh60 a head of sheep/goat.³ The council issues business licences to meat transporters, butcheries and hotels/restaurants. The veterinary and public health departments work together on meat inspection in the slaughter house. The public health department also issues health permits to the meat transporters, hotels and butcheries.

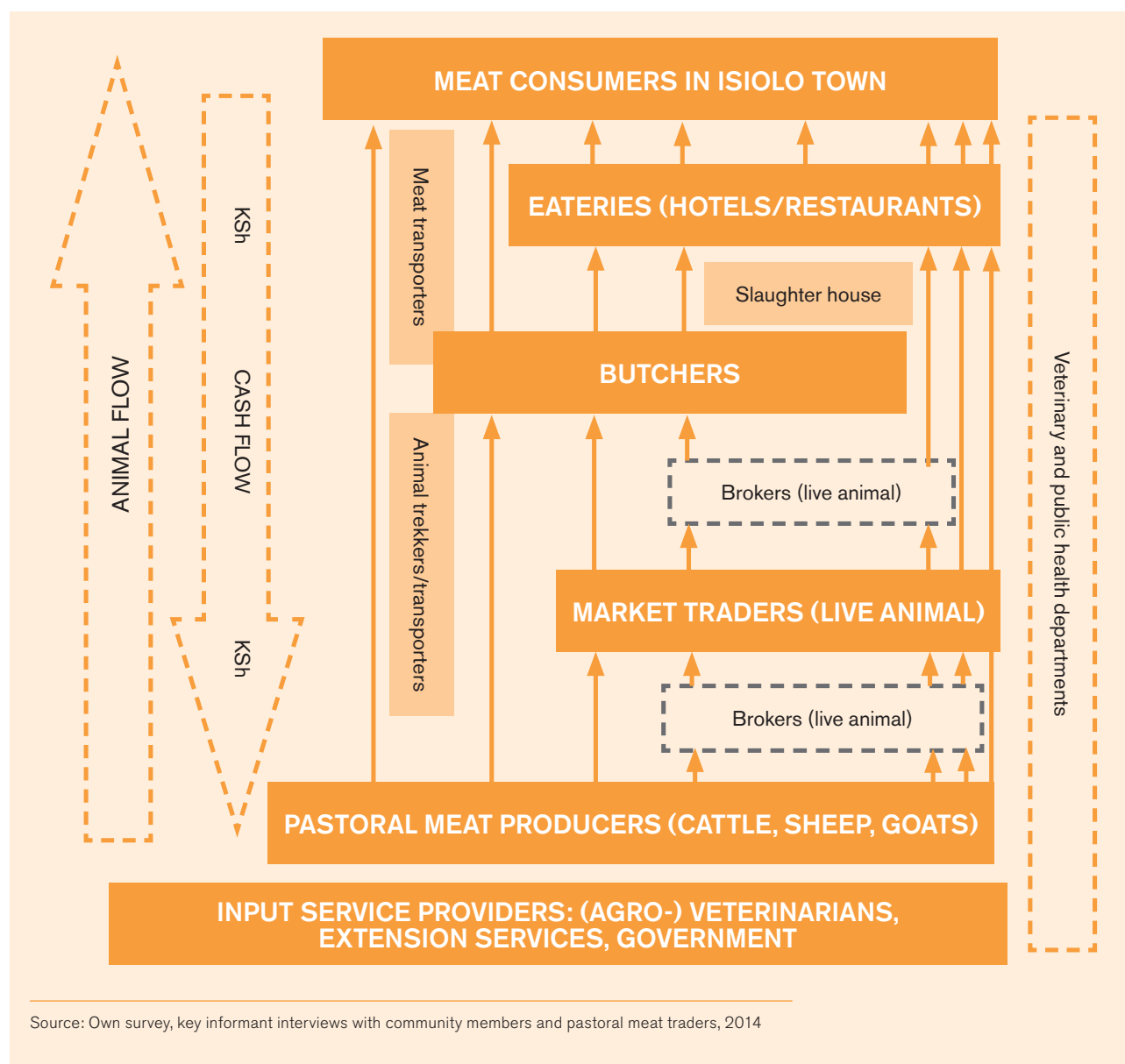
Producers can sell their livestock and their meat via different channels (see Figure 2):

1. Live animals directly to the consumer, for meat or breeding purposes.
2. To a butcher – either directly or through a broker, who slaughters the animal and sells the meat:
 - directly to the consumer
 - to hotels/restaurants, which sells it on to the consumer.
3. To a hotel/restaurant – either directly or via a broker – who slaughter the animals and serve the meat to their customers.
4. To a trader – either directly or via a broker – who consequently sells the live animal – again, either directly or through a broker – to:
 - the consumer
 - a butcher, who slaughters the animal and sells the meat directly to consumers or to hotels/restaurants, which serve the meat to their customers, or
 - to a hotel/restaurant, who slaughter the animal and serve the meat their customers.

The cash flow arrow in Figure 2 shows the stream of money from livestock and meat buyers to sellers, eventually reaching the pastoral meat producer.

³KSh100 from seller and KSh100 from buyer (cattle and camels); KSh30 from seller and KSh30 from buyer (sheep and goats)

Figure 2 Marketing channels in the Isiolo pastoral meat trade



3.3 Class and sex of livestock traded in Isiolo Town market

Livestock of all ages, classes and sexes are sold and bought in this market, depending on demand and buyer preference. Prices are affected by season, holidays and events such as back to school and the animals' sex, body condition and size.

Our study found that during the rains, stock selling prices are usually high, due to low market supply. At such times, producers tend to hold onto their livestock

because pasture is abundant and having come from a dry season, they hope to build their herds and fatten the animals to fetch better prices. The bad state of the roads, which are normally impassable during the rains, may be another reason for minimal market participation at such times, as trucking and trekking of livestock is difficult.

In the dry season, supply is high and prices may be half what they were in the wet season, creating a dilemma for producers. This is also true during back to school times after the holidays, when parents sell some animals to pay school fees. During the holidays and festive seasons, increased demand for meat pushes livestock prices up, and traders and producers take advantage of this time to sell cattle, sheep and goats at higher prices.

3.4 Number of cattle, sheep and goats traded in Isiolo Town livestock sales yard

According to data from the livestock sales yard in Isiolo market (Table 1), 19,740 heads of cattle, sheep and goats were sold in 2010, 45,352 in 2011, 36,264 in 2012 and 36,014 in 2013. In total, 15,899 goats, 8,299 cattle and 11,816 sheep were traded in the sales yard in 2013.

Livestock sales volumes were much higher in 2011, when the first nine months were hot, windy and dusty.

Forage and water availability deteriorated and there was marked livestock movement within the county and influx of livestock from the neighbouring counties of Garissa, Marsabit and Wajir. Several cases of conflict were reported and livestock trade took place outside sales yards. The large volumes of animals and prolonged dry period might be the reason why the year recorded an increase in livestock sales, as pastoralists could not afford to lose their livestock to starvation (Government of Kenya 2012b).

Table 2 shows how livestock sales prices vary, with cattle prices ranging from KSh15,000–60,000, sheep from KSh2,000–7,000 and goats from KSh2,000–11,000.

Table 1. Traded volumes of livestock in Isiolo Town, 2010–2013

YEAR	SPECIES	NUMBER PRESENTED FOR SALE	NUMBER SOLD
2010	Cattle	25,076	7,066
	Goats	22,296	5,018
	Sheep	26,496	7,656
	Total	73,868	19,740
2011	Cattle	44,497	17,083
	Goats	40,186	14,000
	Sheep	39,628	14,269
	Total	124,311	45,352
2012	Cattle	26,875	9783
	Goats	50,516	15908
	Sheep	25,167	10573
	Total	102,558	36,264
2013	Cattle	22,563	8,299
	Goats	28,783	15,899
	Sheep	19,115	11,816
	Total	70,461	36,014

Source: Annual livestock production reports from Isiolo veterinary department, Isiolo

Table 2. Livestock sale prices in Isiolo Town

LIVESTOCK TYPE/CLASS	PRICE IN THOUSANDS (KSh)
Bull	50–60
Yearling	15–20
Immature	20–25
Middle-sized female	30–40
Mature female	40–50
Sheep	2–7
Goats	2–11

Source: Own survey 2014

Table 3. Average monthly number of animals traded in Isiolo Town market, by season

N=38	CATTLE		SHEEP		GOATS	
	Total	Monthly average per trader	Total	Monthly average per trader	Total	Monthly average per trader
Wet season	1,732	45	640	17	1,780	46
Dry season	2,440	64	540	14	1,868	49

Source: Own survey 2014

3.5 Contribution to employment, income and dependants

The business owners we interviewed for the study support 1,284 dependants, who benefit directly from the income earned in pastoral meat trade businesses. These businesses' 448 employees support a further 1,381 dependants, bringing the total number of beneficiaries to 2,665 (see Table 4).

On average, live animal and meat sales in Isiolo Town contribute KSh933,315 a month to each employer's income. We computed this figure as gross profit, since we could not capture all costs – for example, production costs – due to a lack of record-keeping culture among pastoral meat producers and traders.

The sum of all monthly average wages of all the employees in the pastoral meat trade businesses is KSh8,932 – that is 11.48 per cent of their employers' total annual income (see Table 5). The flow of money to pastoral meat producers and actors in the meat trade value chain sustains families and pays hospital and school fees. Producers also use their income to pay for veterinary services, herding, trekking/trucking stock to the market and security from the Kenya Police Reservists during stock transportation.

Table 4. Employees and beneficiaries of the pastoral meat trade in Isiolo Town

ACTOR	RESPONDENTS (BUSINESS OWNERS)	BUSINESS OWNERS' DEPENDANTS	NUMBER OF EMPLOYEES	EMPLOYEES' DEPENDANTS
Market traders	38	462	74	301
Butchers	17	129	24	123
Eateries	25	207	282	921
Offal traders	3	24	–	–
Brokers	20	162	–	–
Meat transporters	9	59	–	–
Slaughter house	2	224	56	–
Hide and skin stores	3	17	12	36
Total	117	1,284	448	1,381

Source: Own survey 2014

Table 5. Contribution of pastoral meat trade to incomes in Isiolo Town

ACTOR	CONTRIBUTION TO EMPLOYERS' INCOME (Ksh) (N=115)			CONTRIBUTION TO EMPLOYEES INCOME (KSh) (N=392)	
	N	Monthly total	Monthly average/ actor in category	Monthly total	Monthly average/ employee in category
Market traders	38	94,822,000	2,495,316	503,000	6,797
Butchers	17	3,282,900	193,112	180,600	7,525
Eateries	25	5,299,200	211,968	2,740,000	9,716
Offal traders	3	8,400	2,800	N/A	N/A
Brokers	20	3,322,920	166,146	N/A	N/A
Meat transporters	9	86,800	9,644	N/A	N/A
Hide and skin stores	3	509,000	169,666	78,000	6,500
Overall average individual monthly income		933,315*		8,932*	

Source: Own survey 2014

3.6 Contribution to revenue in Isiolo Town

Our study captured the contribution of the pastoral meat value chain to the town's revenue, from the point of sale of live animals, which includes revenue from the following:

- market cess
- transport permits
- slaughter house charges
- cess from skins and hides
- business licences, and
- medical certificates.

3.6.1 Market cess

Buyers and sellers pay the council fees (cess) for each head of cattle, sheep or goat that is sold or bought in the sales yard (see Table 6). Traders also pay transport permits for taking animals out of county.

The supply of livestock to the market is normally low and so is the cess collected by the council. Total revenue from the market varies according to circumstance and time of year. It is higher when there is prediction of a pending drought, during holiday celebrations and at back to school time. During the rainy seasons, livestock sales – and therefore the cess collected from the market – are low.

A large proportion of the county's daily cess collection (Table 7) comes from Isiolo Town livestock market with its three major market days for cattle (Monday, Wednesday and Friday) and daily sheep and goat trade except on Sundays. Oldonyiro market operates fortnightly on Tuesdays, and Eskot market operates on Saturdays only.

Table 6. Market cess charges (KSh/head)

SPECIES	BUYER	SELLER	TOTAL AMOUNT COLLECTED PER HEAD TRADED
Sheep and goats	30	30	60
Cattle and camels	100	100	200

Source: Key informant survey with the revenue officer

Table 7. Revenue from sales yards in Isiolo County

SPECIES	MARKET	REVENUE KSh/DAY
Cattle	Isiolo Town market	20,000–35,000
	Eskot market	10,000–15,000
	Oldonyiro market	30,000–35,000
Sheep and goats	All the markets	28,000
	Non-major market days	15,000

Source: Key informant survey with the revenue officer

Our study found that revenue from cess on live animal sales in Isiolo Town has varied over the years (Table 8). In 2011, live animal sales market cess generated more than KSh5 million, over 85 per cent of total expected contribution of KSh6 million from live animal trade cess for the year. In contrast, in 2013, market cess raised only 50 per cent of total expected revenue collection (see Table 14).

At the time of our survey, the cattle, sheep and goat traders we sampled and interviewed in the market had contributed an average of KSh562,040 in cess a month to Isiolo Town revenue, based on figures for the last dry and wet months (Table 9). Based on these figures, we projected the total contribution for 2014 to be KSh6,744,480 which is above the annual expected figure of KSh6 million (see Table 14).

Table 8. Revenue from Isiolo Town sales yard (2010–2013)

YEAR	SPECIES	NUMBER SOLD	CESS PER HEAD (KSh)	TOTAL CESS (KSh)
2010	Cattle	7,066	200	1,413,200
	Sheep	7,656	60	459,360
	Goats	5,018	60	301,080
	Total			2,173,640
2011	Cattle	17,083	200	3,416,600
	Sheep	14,269	60	856,140
	Goats	14,000	60	840,000
	Total			5,112,740
2012	Cattle	9,783	200	1,956,600
	Sheep	10,573	60	634,380
	Goats	15,908	60	954,480
	Total			3,545,460
2013	Cattle	8,299	200	1,659,800
	Sheep	11,816	60	708,960
	Goats	15,899	60	953,940
	Total			3,322,700

Source: The revenue office, 2014

Table 9. Contribution to revenue from market cess for the last wet and dry months

LAST WET MONTH (DECEMBER 2013)			
Species	Number sold	Cess per head (KSh)	Total (KSh)
Cattle	1,732	200	346,400
Sheep	640	60	38,400
Goats	1,780	60	106,800
Total			491,600
LAST DRY MONTH (JANUARY 2014)			
Species	Number sold	Cess per head (KSh)	Total
Cattle	2,440	200	488,000
Sheep	540	60	32,400
Goats	1,868	60	112,080
Total			632,480
AVERAGE, BASED ON LAST WET AND DRY MONTH (ABOVE)			
Species	Number sold	Cess per head (KSh)	Total (KSh)
Cattle	2,086	200	417,200
Sheep	590	60	35,400
Goats	1,824	60	109,040
Total			562,040

Source: Own survey, 2014

3.6.2 Slaughter house charges

The Isiolo Town slaughter house pays fees for the animals they slaughter – to the council, the veterinary and public health departments and the flayers (see Table 10).

The public health and veterinary departments receive an average of KSh40,000 a month from meat inspections and certificates of transport, or KSh520,000 a year (Table 11). The council collects an average of KSh20,000 a week in tax from the slaughter house; about KSh1.04 million a year. In total, the slaughter house generates revenue amounting to KSh1.56 million every year.

3.6.3 Cess from skins and hides

Although skins and hides are considered to be of lesser value, Isiolo Town's three hide and skin stores employ 12 people and support 53 individuals (Table 4). The cess that the council collects from these stores contributes about KSh1.4 million to the town's revenue every year (Table 12).

Table 10. Slaughter house charges

CHARGES		PAID TO	FEE FOR CATTLE AND CAMELS (KSh)	FEE FOR SHEEP AND GOATS (KSh)
Tax		Council	100	60
Meat inspection, per carcass		Veterinary department	100	25
Certificate of transport		Veterinary department	20	20
Slaughter charges	Killing	Flayers	50	30
	Skinning	Flayers	300	50
	Offal washing	Offal washers	30	30

Source: Key informant interview with slaughter house supervisor, 2014

Table 11. Revenue from the slaughter house

	KSh/ WEEK	KSh/ MONTH	KSh/ YEAR
Council	20,000	80,000	1,040,000
Veterinary department	10,000	40,000	520,000
Total			1,560,000

Source: Key informant interview with Isiolo slaughter house supervisor, 2014

Table 12. Revenue from cess on skins and hides

HIDE AND SKIN STORE	SKINS AND HIDES SOLD/ MONTH	CESS/PIECE (KSh)	MONTHLY TOTAL (KSh)	TOTAL ANNUAL CONTRIBUTION (KSh)
1	6,000	10	60,000	720,000
2	4,200	10	42,000	504,000
3	1,400	10	14,000	168,000
Total	11,600	10	116,000	1,392,000

Source: Key informant interviews, hide and skin store operators, 2014

3.6.4 Business licences and medical certificates

It is a legal requirement for all butcheries and hotels to get a business licence from Isiolo Town Council. Fees are payable according to business size and volume of operation. Table 13 shows the charges paid by the butcheries and hotels/restaurants. At the time of our study, butcheries and hotels paid KSh2,450–3,400 a year for their business licence, but the fees have

since been revised to KSh3,000–5,000 (Key informant interview, Isiolo County revenue officer).

Our study sampled 17 butcheries, 3 hide and skin stores and 25 hotels/restaurants. Health regulations require every individual who handles human food to have a medical examination certificate from the public health department. This costs KSh400–600 per person (depending on the number of tests to be performed) every six months. All business premises also need a health licence, which usually costs KSh400 a year.

Table 13 summarises the contribution to the revenue of Isiolo Town and the public health department from trading licences and medical certificates.

In 2013, the 54 transporters, butchers, eateries and skin stores we sampled contributed a total of KSh392,050 in trade licences to the town council. They also paid KSh354,720 to the national public health department in medical and premises fees. But with the recently devolved government, plans are under way for public health and veterinary departments to submit fees to the council.

3.6.5 Total contribution to county revenue

Cess on the trade in live animals raises KSh6 million a year, slaughter fees raise KSh1.5 million and hide and skin sales bring in KSh500,000 in cess. This adds up to about KSh8 million, far more than the predicted potential revenue contribution from all single business permits in the whole county which is set at KSh5,975,350.⁴

Table 13. Revenue from meat trade businesses permits and licences in Isiolo Town, 2013

TRADER	N	NUMBER OF EMPLOYEES	PAID TO COUNCIL		PAID TO NATIONAL HEALTH DEPARTMENT	
			TRADING LICENCE	TRANSPORT PERMITS	MEDICAL CERTIFICATES	PREMISES HEALTH LICENCE
Meat transporters	9	–	21,600	21,600	65,160	–
Butchers	17	24	85,000	–	28,160	6,800
Eateries (hotels and restaurants)	25	282	273,450	–	244,600	10,000
Hide and skin stores	3	12	12,000	7,200	–	–
Subtotal			392,050	28,800	337,920	16,800
Total KSh			420,850		354,720	

Source: Own survey, 2014

Table 14. Total expected annual revenue contribution from the livestock sector in Isiolo, 2013

REVENUE CATEGORY	ANNUAL CONTRIBUTION (KSh)
Live animal trade cess	6,000,000
Slaughter fees	1,500,000
Hides and skins cess	500,000
Total	8,000,000

Source: Key informant interview with the revenue officer, 2014

⁴ The author collected the information on single business permit figures from the licensing office

Challenges facing the pastoral meat trade in Isiolo Town

4

The problems facing the pastoral meat trade in Isiolo Town are myriad (see Table 15). From our study, it is evident that the town's trading environment is constrained by a lack of proper infrastructure in livestock markets and the slaughter house. The roads are too muddy during the rainy seasons, inflating transportation costs. Insecurity on the roads also reduces market participation, with vehicles transporting livestock to Isiolo Town's sales yard from the north coming under attack from bandits. Many market traders also complained that exploitive livestock brokers cheat on prices.

Table 15. Challenges facing the pastoral meat trade in Isiolo Town

CHALLENGE	FREQUENCY OF RESPONSES	PERCENTAGE OF RESPONDENTS
Insecurity	46	28.05
Poor roads	31	18.90
Poor market infrastructure	16	9.76
Low water supply and high cost of water	14	8.54
Garbage heaping/sewer leak	11	6.71
Fluctuating prices/lack of price control	10	6.10
Corrupt cess collectors/charge highly	8	4.88
Low livestock supply	7	4.27
Exploitation by brokers	6	3.66
Low meat demand during dry season, leading to losses	5	3.05
Long distances to market	3	1.83
Livestock diseases	3	1.83
Bad state of slaughter house	2	1.22
Electricity blackouts	1	0.61
High premises rent	1	0.61
Total	164	100

Source: Own survey, 2014

Discussion

5

Isiolo Town acts as a funnel which filters livestock from the north through to other towns in Kenya. The town's livestock sales yard is where most of the stock first lands before being bought and ferried to various urban areas in Kenya (AU-IBAR and NEPDP 2006). The Isiolo livestock sales yard is an important transit market connecting northern Kenya (the source area of the livestock) with terminal markets in Nairobi (Ahmed 2002). Our study shows that this stock movement provides employment and livelihoods for a considerable population within Isiolo Town who are involved in trading pastoral live animals and meat.

Addressing the challenges of insecurity and bad feeder roads that impede smooth livestock marketing would improve market participation for pastoral meat producers. Previous studies found that livestock die from congestion and stress on route to Isiolo Town sales yard from Biliqo-Bulesa, due to the rough state of the road (Alexovich *et al.* 2012). Our study found that Isiolo County Council already collects millions of Kenyan shillings in revenue from market cess, trading licences, transport permits and slaughter house services. Alleviating insecurity and bad road infrastructure will only increase cess collection and revenue.

The livestock sector is the mainstay of Isiolo's economy (Government of Kenya 2012a). The county expects to raise KSh8 million a year from live animal trade cess, slaughter fees and hide and skin cess; but if we add the revenue from transport and trading licences (hide and skin stores, butcheries, hotels and meat transporters from the slaughter house) there is potential to raise even more (see Tables 13 and 14). This indicates that the council overlooks some of the obvious sources of revenue – such as trading and meat transport licences – to concentrate on those that they feel are generating more revenue directly, for example, market cess from livestock sales. There needs to be a comprehensive computation of all pastoral meat trade revenue generating points to reflect the full potential of the subsector's contribution to the total revenue raised in Isiolo Town.

Our study reveals that, despite the many challenges it faces, the pastoral meat trade generates an average gross profit of KSh11,199,780 million for every actor involved. They use this money to support 2,665 people in Isiolo Town – that is 14.74 per cent of Isiolo's central urban population (18,077). They use this income to pay for food, clothing, school and hospital fees, to fund inputs for livestock production and invest in other business activities. Increasing support for the subsector and alleviating the challenges it faces would encourage more people to participate in the pastoral value chain, which would lead to more beneficiaries and generate more revenue.

Our study found that although considered a trivial by-product of market, the skin and hide subsector employs 12 people. In total, 53 individuals benefit from the income generated in Isiolo Town's skin and hide stores. This finding corroborates earlier studies (Kagunyu *et al.* 2012). Cess from the skin and hide stores contribute about KSh1.4 million a year to the council's revenue. Each year, the stores in Isiolo Town sell 11,600 pieces of skin and hide to the Alfa Rama Company in Athi River, Nairobi. Building a tannery in the town would add value to skins and hides, create jobs and generate more revenue for the council. Our findings confirm from earlier studies that, despite the small domestic market in Kenya, the hide and skin subsector has a great potential for value addition for export (AU-IBAR and NEPDP, 2006). The first County Integrated Development Plan for Isiolo (2013–17) identified the potential for a tannery as an outstanding project and aims to establish a tannery in every constituency in Isiolo County for local processing of skins and hides (Government of Kenya 2013b). This would create jobs and lead to the establishment of new factories for local leather products.

Conclusion and recommendations

6

Our study shows that the pastoral meat trade in Isiolo Town benefits not only the business owners and employees, but also their dependants. The pastoral sector supports the livelihoods of residents in Isiolo Town and their relatives and friends in the wider county and beyond.

The town council collects KSh8 million in revenue through livestock sales cess, hide and skin cess and slaughter house fees. This figure is higher still when we add the contribution to the revenue from hotel, restaurant and butchery business trading licences. The subsector has great potential for the town's economy, but this can only be realised by addressing the challenges our respondents reported. Only then can we ensure that the pastoral meat trade's contribution to individual livelihoods and town revenue is both efficient and effective.

The county government can help create a more favourable working environment. Creating a policy, regulatory and institutional framework that will improve technical and technological interventions in the pastoral meat trade subsector and market and road infrastructure is essential. A more favourable working environment will increase the number of people involved in the subsector and improve the earning power of all participants. This, in turn, will support a bigger population in the town and the wider county, improving livelihoods accordingly.

References

- Ahmed, A G M (ed) (2002) Globalisation, democracy, and development in Africa: future prospects. Organization for Social Science Research in Eastern and Southern Africa (OSSREA). Addis Ababa.
- Alexovich, A *et al.* (2012) Rethinking the shoat market. Saïd Business School, University of Oxford.
- AU-IBAR and NEPDP (2006) Kenya livestock sector study: an analysis of pastoralist livestock products market value chains and potential external markets for live animals and meat. USAID-African Union, Kenya.
- Behnke, R (2010) The contribution of livestock to the economies of IGAD member states: study findings, application of the methodology in Ethiopia and recommendations for further work. IGAD LPI working paper 02–10. Djibouti.
- Behnke, R and Metaferia, F (2011) The contribution of livestock to the Ethiopian economy – part II. IGAD LPI working paper 02–11. Djibouti.
- Behnke, R and Muthami, D (2011) The contribution of livestock to the Kenyan economy. IGAD LPI working paper 03–11. Djibouti.
- Davies, J (2007) Total economic valuation of Kenyan pastoralism. WISP-IUCN, Nairobi.
- Government of Kenya (2004) Draft national policy for the sustainable development of arid and semi-arid lands of Kenya. Ministry of Special Programmes, Nairobi.
- Government of Kenya (2005) Isiolo District vision and strategy: 2005-2015. The Arid Lands Resource Management Programme (ALRM), PricewaterhouseCoopers, Nairobi.
- Government of Kenya (2012a) Report of the Inter-ministerial Committee on Conflicts over Management of Conservancies in Isiolo County, August 2012. MoSPAIS, Nairobi.
- Government of Kenya (2012b) Isiolo livestock marketing annual report for the year 2011. DLMO, Isiolo.
- Government of Kenya (2013a) Isiolo County long rains 2013 assessment report, 29 July–2 August 2013. Ministry of Health, Ministry of Education Science and Technology, Isiolo County.
- Government of Kenya (2013b) Isiolo County, First County Integrated Development Plan (CIDP) 2013–2017. Isiolo County government, Isiolo.
- Herlocker, D J *et al.* (1993) Range management handbook of Kenya Volume II, 5. Isiolo District. Republic of Kenya, Ministry of Agriculture, Livestock Development and Marketing, Nairobi.
- Hesse, C and MacGregor, J (2006) Pastoralism: drylands' invisible asset? Developing a framework for assessing the value of pastoralism in East Africa. IIED Drylands issue paper 142. IIED, London.
- Hesse, C and MacGregor, J (2009) Arid waste? Reassessing the value of dryland pastoralism. Briefing. IIED, London.
- Jaetzold, R and Schmidt H (1983) Farm management handbook of Kenya, Vol. II B. Central Kenya. Republic of Kenya, Ministry of Agriculture, Nairobi.
- Kagunyu, A *et al.* (2012) Pathway out of poverty: marketing of hides and skins from northern Kenya. Kenya Agricultural Research Institute, Marsabit, Kenya.
- Krätli, S (2014) If not counted does not count? A programmatic reflection on methodology options and gaps in Total Economic Valuation studies of pastoral systems.
- Letara, J *et al.* (2006) Estimating the economic significance of pastoralism: The case of *nyama choma* sector in Tanzania. RECONCILE-IIED.
- Saafo, R B and Kaarhus, R (2011) Competing claims and contested boundaries: legitimating land rights in Isiolo District, Northern Kenya. *Africa Spectrum* 46, 2, 99–124. GIGA German Institute of Global and Area Studies, Institute of African Affairs in co-operation with the Dag Hammarskjöld Foundation Uppsala and Hamburg University Press, Germany.
- Sombroek, W G *et al.* (1982) The explanatory soil map and agro-climatic zone map of Kenya. Exploratory soil survey report no EI. Kenya Soil Survey, Nairobi, Republic of Kenya.

Related reading

Araya, S T (2015) Impact of camel transportation on pastoralist livelihoods in Ethiopia: findings from Berahle woreda, Afar Regional State. Country Report. IIED, London. <http://pubs.iied.org/10127IIED.html>

Bassa, Z and Woldeamanuel, T (2015) Value chain analysis of the cattle trade in Moyale, southern Ethiopia: an economic assessment in Oromiya Regional State. Country Report. IIED, London. <http://pubs.iied.org/10121IIED.html>

Elhadi, Y A and Wasonga, O V (2015) Economic and nutritional contribution of camel milk in northern Kenya: a field study in Isiolo County. Country Report. IIED, London. <http://pubs.iied.org/10125IIED.html>

Gebremedhin, G G and Tesfaye, Y (2015) Market chain analysis of live goats: Asaita district, Afar Regional State, Ethiopia. Country Report. IIED, London. <http://pubs.iied.org/10120IIED.html>

Hesse, C and MacGregor, J (2006) Pastoralism: drylands' invisible asset? Developing a framework for assessing the value of pastoralism in East Africa. Dossier n. 142. IIED, London. <http://pubs.iied.org/12534IIED.html>

Iruata, M N, Wasonga, O V and Ngugi, R K (2015) Economic contribution of the pastoral meat trade in Isiolo County, Kenya: findings from Oldonyiro and Garbatulla Towns. Country Report. IIED, London. <http://pubs.iied.org/10126IIED.html>

Kebede, S, Animut, G and Zemedu, L (2015) Contribution of camel milk to pastoralist livelihoods in Ethiopia: an economic assessment in Somali Regional State. Country Report. IIED, London. <http://pubs.iied.org/10122IIED.html>

Krätli, S (2014) If not counted does not count? A programmatic reflection on methodology options and gaps in total economic valuation studies of pastoral systems. Issue paper. IIED, London. <http://pubs.iied.org/10082IIED.html>

Mwaura, M W, Wasonga, O V, Elhadi, Y A M and Ngugi, R K (2015) Economic contribution of the camel milk trade in Isiolo Town, Kenya. Country Report. IIED, London. <http://pubs.iied.org/10123IIED.html>

Wako, G (2015) Economic value of camel milk in pastoralist communities in Ethiopia: findings from Yabello district, Borana zone Country Report. IIED, London. <http://pubs.iied.org/10119IIED.html>

This report is one of a series of reports synthesising the findings of field research conducted by masters' and doctoral degree students at the University of Nairobi, who investigated the contribution of pastoral production to the local economy. The students developed the research to complement their degree studies, with support from the International Institute for Environment and Development.

IIED is a policy and action research organisation. We promote sustainable development to improve livelihoods and protect the environments on which these livelihoods are built. We specialise in linking local priorities to global challenges. IIED is based in London and works in Africa, Asia, Latin America, the Middle East and the Pacific, with some of the world's most vulnerable people. We work with them to strengthen their voice in the decision-making arenas that affect them – from village councils to international conventions.



International Institute for Environment and Development
80-86 Gray's Inn Road, London WC1X 8NH, UK
Tel: +44 (0)20 3463 7399
Fax: +44 (0)20 3514 9055
email: info@iied.org
www.iied.org

Funded by:



Knowledge
Products