

Market chain analysis of live goats

Asaita District, Afar Regional State,
Ethiopia

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

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Acronyms

CR	concentration ratio
EEA	Ethiopian Economic Association
ESAP	Ethiopian Society of Animal Production
GDP	gross domestic productivity
GMMp	producer's gross margin
IGAD	Inter-Governmental Authority on Development
SCP	structure-conduct-performance
TCMM	total cumulative market margin
TGMM	total gross market margin
WoPARD	woreda pastoral agricultural and rural development

Glossary

bekel	small male goat aged 1.5–6 years
birr	Ethiopian currency. Exchange rate US\$1=18.81 birr from October 2013 (www.oanda.com)
deana	female goat aged 1.5-6 years
debila	uncastrated male goat aged 1–2 years
kebele	the smallest administrative unit in Ethiopia. It is part of a woreda , which in turn is part of a zone, which is part of a region.
madakel	hybridising (goats)
motta	small female goat aged 4–11 months
rihideb	female goat aged 1–1.5 years
sanka	castrated male goat aged 2–6 years
timad	hectare
woreda	the third-level administrative division of Ethiopia. A district.

Executive summary

Ethiopia is endowed with many species of livestock, compared to other African countries. Its lowland areas support millions of pastoralist people whose livelihoods rely on livestock and their by-products. Bottlenecks result in inefficient markets, so these production systems have remained oriented to subsistence rather than market economies. This study took place in the lowland pastoralist area of Asaita *woreda*, in Afar regional state and had the following objectives:

- identify the main actors in the marketing of live animal goats and their respective roles
- analyse the live goat marketing channels in terms of market structure conduct and performance
- assess how much value is added in the market chain and how it is distributed along the chain.

Data from primary and secondary sources were complemented through direct observations from the field along the market chain. The primary data were collected from five selected *kebeles* where both traders and pastoralists provided information through structured interviews, focus group discussions and key informant interviews. We analysed data using the market structure-conduct-performance (SCP) framework. The study revealed that the production and marketing chains already support a large number of people and make a sizeable contribution to the regional economy. Reinvesting some of these revenues could further stimulate the market, encouraging pastoralists to participate and produce more goats of the quality that consumers demand.

The study identified the main actors in the production system and its market chain: producers, local collectors, small and medium-scale traders, butchers, hotels and consumers. We identified 16 marketing channels that connect producers to end consumers through other actors. Small traders transferred the most goats from pastoralists to end users, selling the livestock to butchers and hotels. But the most profitable channel for pastoralists was through medium-scale traders, who sold to butchers, hotels and consumers, but also had the capacity to respond to demand from other markets and informal exporters on the border with Djibouti, thus securing better prices.

Our market performance analysis confirmed that the longer the marketing chain, the lower the pastoralists' share in the total cumulative market margin. Pastoralists need support to shorten the marketing chain by increasing the number of activities that they undertake for themselves – from rearing and fattening to transportation and trading. Support services identifying appropriate technologies, offering training on marketing systems and providing information and working capital could help them with this.

The market concentration analysis showed that in Asaita, the goat market structure was a loose oligopoly with a concentration ratio of 44.81, dominated by a small number of formal and informal male traders and butchers. Our analysis of market margins and performance showed that, because medium-scale traders are well connected to markets offering good prices, most producers are obliged to sell their goats through the channels they control. If the producers organise into cooperatives, they could gain greater collective control over the supply of goats to traders and markets.

Introduction



Ethiopia is the richest African country in terms of the value of its livestock population, in both number and diversity (EEA 2004). The livestock sub-sector contributes more than 45 per cent to agricultural GDP and about 12 per cent of total GDP (Behnke and Metaferia 2010) with pastoral livestock accounting for some 40 per cent of the country's total livestock population. It is estimated that pastoralist livestock includes 30 per cent of the nation's cattle, 70 per cent of its goats and sheep and all its camels.

Pastoral areas in Ethiopia, where livestock herders move about in search of feed and water, cover about 0.7 million square kilometres. This area supports some 9.8 million people (12 per cent of the population): 56 per cent are pastoralists, 32 per cent agro-pastoral and 22 per cent urban dwellers (EEA 2004). Pastoralism relies on livestock diversity to exploit and make use of diverse rangeland resources; typical pastoral herds and flocks include grazing cattle and sheep as well as browsing camels and goats.

Although pastoralism plays a significant role in the Ethiopian economy, this sector has been largely marginalised by development policies and strategies (SOS SAHEL Ethiopia 2010). The vast rangeland has been denied necessary economic and social infrastructure, as services and development rarely take account of needs in lowland pastoral areas. Where they have taken place, development interventions have more often been oriented to resource extraction rather than people and the pastoral system, facilitating livestock offtake. This lack of comprehensive pastoralism development strategies and policies stems from the under-valuation of the total economic benefits of pastoralism (SOS SAHEL Ethiopia 2010).

Livestock production in Afar Regional State is dominated by pastoralism. More than 90 per cent of the population of Afar depends on cattle, sheep, goats and camels as a source of food and cash. Production is mainly by smallholders for subsistence. Productivity is very low (Belachew and Jemberu 2003), as is the volume of marketed surplus. Live animals supplied to market by pastoralists do not meet the quality attributes required by market bidders, due to poor links in critical support services for producers and other actors in the chain (Adina and Elizabeth 2006).

Cost-effective marketing channels and coordinated supply chains reduce transaction costs among different actors along the supply chain. These are crucial to ensure food security and improved export performance in the pastoral livestock sector. There needs to be competitiveness among individual firms and efficiency in all parts of the chain – production, processing, handling, distribution and marketing.

This report presents the findings of a field study on the structure, conduct and performance of the goat market in Asaita district, Afar Regional State, Ethiopia. Our study objectives were to:

- identify the main actors in the marketing of live animal goats and their respective roles,
- analyse the live goat marketing channels in terms of market structure, conduct performance, and
- assess how much value is added in the market chain and how it is distributed along the chain.

The study used price spread and commodity chain analysis, which involves mapping the chains involved in particular production sectors, activity types, geographical location and actors in different roles at different levels. The chain encompasses the complete sequence of operations – from raw materials through several stages of transformation or increases in value, to the end product (FAO 2005). Chain actors include direct actors, who are commercially involved in the chain – producers, traders, retailers or consumers – and indirect actors, who provide financial or non-financial support services (Royal Tropical Institute and International Institute of Rural Reconstruction 2008). This study included only the former.

Commodity chain analysis identifies the interrelationships between marketing agents, opportunities and constraints at different levels, interests and power relations that influence how value is distributed (Adina and Farmer 2006). This form of analysis is suited to analysing chains that involve intermediaries who play various roles in the marketing of products overcoming the gaps in time, place and possession that separate the goods from those who want them (Kotler 2003). Intermediaries use their extensive contacts, experiences and scale of operations to offer farmers or firms better prices than they could find for themselves. They are usually also better placed to finance, move and store commodities and disseminate marketing information.

Methods



2.1 Description of the study area

The study took place in Asaita woreda, one of 32 woredas in Ethiopia's Afar region (Figure 1), with field data collection between 1 September and 15 October 2013. Asaita is in southeastern Afar, 70km from the regional town of Semera and 640km from the national capital, Addis Ababa. Asaita has 11 rural kebeles and two town kebeles. Seven of the rural kebeles are agro-pastoralist and have both animal production and crop production areas; the other four are pastoralist kebeles, dedicated to animal production only. The woreda's total land area is 1678.28km² (WoPARD 2004).

Seasonality is an important factor in pastoralist households' marketing decisions, including those in Asaita. Rangelands can support fewer animals during the dry season, so owners sell goats at these times and keep them during the wet season. When drought occurs, forage shortage leads to high livestock mortality, forcing pastoralists to sell their animals to avert this outcome (Barrett *et al.* 2004). The price of goats is usually higher in wet season (October to mid-January), and during Muslim holidays and the breaking of Orthodox fasting periods. Under normal conditions, the price of goats is lower in dry season (April to September).

Figure 1. Map of study site

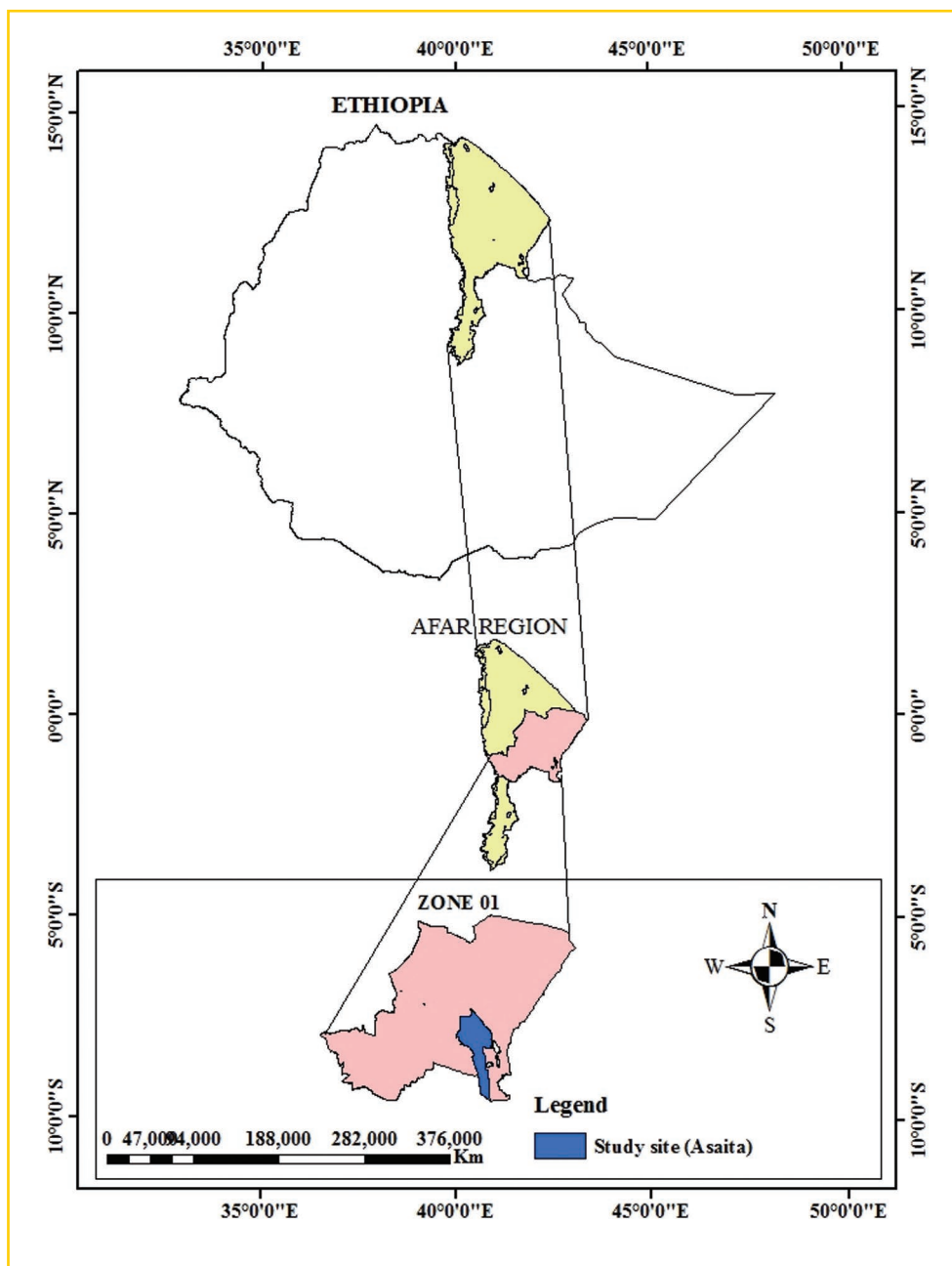


Table 1. Reasons pastoralists sell their goats in Asaita

REASON GIVEN	FREQUENCY (N=169)	%
Demand for consumption	98	58
Fear of drought	39	23
Maturity	17	10
Market price	15	9

Source: Own survey (2013)

In Asaita, goats are usually sold to meet family needs for cash income (ESAP 2003) to buy food grains and products such as clothing for social activities and ceremonies. At the time of study, the most common reason for selling goats was to fulfil household consumption needs (Table 1). Fear of drought motivated 23 per cent of the goat sales.

2.2 Data and sampling techniques

This study used primary and secondary data sources. The latter included district and zone finance and economic development offices and district agriculture and rural development offices. We collected primary data through a structured and pretested questionnaire, focus group discussions, key informant interviews, field observations and market assessments. We used two independent questionnaires to collect data from goat producers and traders (see Appendix 1 and 2).

We used a three-stage sampling strategy to select goat producers for the study:

- Stage 1 Purposive sampling to select the districts
- Stage 2 Random sampling to select the kebeles including pastoralist and agro pastoralist kebeles
- Stage 3 Random sampling to select individual households for survey.

Three agro pastoralist kebeles and two pastoralist kebeles were selected.

The sampling strategy for the goat traders was complicated by their mobile nature. A very limited number of goat traders are permanently stationed in the study area, so we randomly selected available traders at each market location.

For one-to-one key informant interviews, we selected six individuals from each sampled kebele who had lived in the area for a long time, had knowledge of goat production and were active in their localities. Selection was based on administrative recorded data.

We held two focus group discussions with six women and men in each kebele. The groups were separated by gender because we expected levels of interest in goat production and marketing and financial requirements would be different for the two groups. We selected experienced goat producers who had been using pastoral production strategies for a long time to discuss specific issues related to the purpose of the study and the various circumstances of goat production and trading in the area.

2.3 Data analysis

2.3.1 Market performance

Marketing margin

Marketing margin is the difference between the amount that the consumer pays for the final product and the amount that the producer receives (Hays 1975). At each intermediary level, it is the difference between the price received on resale and the purchase price (Mejeha *et al.* 2000). Marketing margins reflect the costs and profits of middlemen (Olukosi and Isitor 1990). The main costs incurred are in time, form, place and possession –for example, these could include payment for all initial assemblage, storage, processing, transporting, warehousing and retailing (Barallat *et al.* 1987). The profit range accruable to market participants gives an indication of market performance (Achoga and Nwagbo 2004).

Marketing margin has remained an important tool for analysing marketing system performance. Costs and profit margins that make up marketing margins can be indicators of both efficiency or inefficiency in marketing systems. The benefits that accrue to individual participants may be incentives or disincentives to continue in the business. Proper computation, understanding and interpretation of marketing margin value in relation to prevailing circumstances can reveal a lot about performance in different marketing channels.

Marketing margin can be analysed using the price difference of the actors in the market chain. The **producers' share** in the marketing margin can be expressed algebraically as:

$$P_s = \frac{P_x}{P_r}$$

where:

P_s = producers' share

P_x = producers' price

P_r = retailers' price

Total gross marketing margin (TGMM) is the final price paid by the end consumer, minus the producers' price, divided by the consumers' price and expressed as a percentage. The TGMM is useful to calculate the producer's gross margin (GMMp), which is the portion of the price paid by the consumer that goes to the producer. The total cumulative market margin (TCMM) is the total value added from the combination of margins from all the actors at all stages in the marketing chain.

2.3.2 Market structure, share and concentration

Our analysis of the market's major structural characteristics focused on the degree of market concentration: the number of buyers and sellers in the market, their distribution along the market chain and barrier conditions for entry into or exit from the market (Gebremeskel *et al.* 1998).

Market share can be analysed using the equation:

$$MS_i = \frac{V_i}{\sum V_i}$$

where:

MS_i = market share of buyer i

V_i = amount of product handled by buyer i

$\sum V_i$ = total amount of product

Market concentration can be analysed using the equation:

$$C = \sum_{i=1}^r S_i$$

where:

C = concentration ratio handle

S_i = percentage share of i^{th} firm

r = number of largest firm for which the ratio is going to be calculated

The concentration ratio CR_x (as expressed by Kohls and Uhl 2002) refers to the percentage of the market sector that is controlled by the biggest X number of firms. A ratio of four firms (CR₄) is the most typical concentration ratio for judging market structure. A CR₄ of more than 50 per cent indicates a tight oligopoly; CR₄ between 25 and 50 per cent is generally considered a loose oligopoly; and a CR₄ of less than 25 per cent is a competitive market.

We analysed the degree of market concentration ratio for all sampled traders in the study area, measuring the percentage share of the volume of goats bought by the largest four traders annually.

Results

3

3.1 Pastoralists' annual cash income from goat sales

Annual income from goat sales in the agro pastoralist kebeles of Handeg, Berga and Kerebuda mostly ranged from 6,000 to 6,999 birr (about US\$320–370)¹ (see Table 2). In the purely pastoralist kebeles of Keredura and Rumaitu income was mainly between 7,000 and 7,999 birr, showing that households in pastoralist kebeles are more reliant on income from this source.

The average cash income from goat sales among the 169 surveyed households was about 7,537 birr a year during the survey period. Total annual income from goat sales for all surveyed households is: 7,537 birr * 169 households = 1,817,010 birr.

Considering that all households in the woreda have similar circumstances, we can use the same calculation to estimate the average annual cash income from goat sales for the 3,417 households in the woreda: 7,537 birr * 3,417 households = 36,738,012 birr.

3.2 Live goat market chain analysis

We identified the following agents in the local goat marketing chain.

Producers/pastoralists: Of the 169 sampled pastoralist households, 68 joined forces with other pastoralist households to herd their goats together for feeding and searching for water. This meant that the households employed 135 shepherds (see Table 3).

When the pastoralists require cash, they either sell their goats at their farm gate to local collectors or trek them to market (average distance to Asaita market is 2.10 hours). They sell:

- 23 per cent of their goats to local collectors in the local or village market
- 30 per cent to small-scale traders at the local market town
- 15 per cent directly to butchers and hotels
- 9 per cent directly to local consumers
- 23 per cent to medium-scale traders.

Local collectors: These are part-time traders who live in rural areas as pastoralists or come from nearby town markets. They collect goats from pastoralists in bush markets and resell them to retailers, butchers, hotels, restaurants and household consumers in Asaita, Logia and Dbuti. Twenty local collectors in the district market chain connect pastoralists with traders, playing an important and active role in the market chain despite the financial constraints they face. They are familiar with the pastoral producers who have goats available in remote areas. They sell about 38 per cent of their goats to small-scale traders in the market town.

Small-scale traders: These market actors are in the upper middle part of the chain. About 18 small-scale traders buy goats from pastoralists or local collectors at Asaita market on official market day *Maksegno Gebeya*, usually retailing them the same afternoon at the center of Asaita town – known as *Segno Gebeya* – to butchers, medium-scale traders, hotels and end consumers.

Table 2. Pastoralists' annual income from goat sales, by kebele

INCOME RANGE (BIRR)	HANDEG (N=52)		BERGA (N=39)		KEREBUDA (N=31)		KEREDURA (N=23)		RUMAITU (N=24)	
	N	%	N	%	N	%	N	%	N	%
4,000–4,999	4	7.7	1	2.6	2	6.5				
5,000–5,999	14	26.9	1	2.6	4	12.9				
6,000–6,999	20	38.5	21	53.8	11	35.5	6	26.1	4	16.7
7,000–7,999	10	19.2	10	25.6	4	12.9	8	34.8	7	29.2
8,000–8,999	2	3.8							4	16.7
9,000–9,999	2	3.8	6	15.4	4	12.9	6	26.1	5	20.8
10,000–12,740					6	19.4	3	13	4	16.7

Source: Own survey (2013)

¹ Exchange rate US\$1=18.81 birr from October 2013 (www.oanda.com). This exchange rate can be applied to all costs mentioned in this report.

Medium-scale traders: These actors are in the middle of the market chain. There are around 12 medium-scale traders, who are financially strong and have management know-how of all aspects of business activity and actors in the chain. They source goats from producers, small-scale traders and local collectors. Medium-scale traders have many opportunities to sell their goats, mainly to butchers and hotels as well as end consumers. They also play a large role in transferring goats from Asaita market to other marketplaces – including Logia, Dbuti, Dichiotto and Galafi and informal exporters on the border with Djibouti – in response to demand. Around 57 per cent of their total sales are to butchers and hotels. They create jobs on a weekly basis for at least two truck drivers who transport the goats to other markets and two drovers who travel with the goats to ensure their safety.

Butchers and hotels: These are the final links in the commodity chain before the end consumer. There are around 50 butchers and hotels in the study area, who also create jobs for 50 temporarily employed slaughters and 150 hotel staff. They are regular buyers, except for Orthodox butchers during the fasting time. Most of the Orthodox butchers close until fasting is broken, but Protestant and Muslim butchers remain open. Butchers buy goats from pastoralists, collectors, small-scale and medium-scale traders, and sell goat meat directly to consumers for 90–120 birr a kilo at Asaita market place.

Consumers: These are individual actors who buy goats for their own consumption directly from producers or via local collectors, small and medium-scale traders or butchers.

Overall, goat trading has created 439 job opportunities in the study district (see Table 3).

The minimum daily wage for a labourer in the region is 50 birr a day. So the total daily income generated by the 439 jobs in the goat trade is: $439 * 50 \text{ birr} = 21,950 \text{ birr}$ and total annual income would be: $21,950 \text{ birr} * 365 \text{ days} = 8,011,750 \text{ birr}$. Goat trade employees each supported many family members with this income.

3.3 Marketing costs, margins and market performance

Comparing average marketing costs for different actors in the goat market channels, we found that pastoralists, at the start of the chain, have the lowest marketing costs and medium-scale traders have the highest (see Table 5). Pastoralists' costs for fodder, water and ropes amounted to three birr per goat, which is less than the costs borne by other actors. Costs for local collectors, medium and small-scale traders, butchers and hotels commonly included expenses for watching, warding, fodder, grass, telephones and ropes.

When demand is low, small-scale traders incur higher costs as they have to keep the goats overnight, feed and water them before selling them on the next market day. When transporting goats from Asaita to Logia and Dbuti marketplaces, costs to medium-scale traders included loading and labour for transportation.

Table 3. Jobs created by goat market

JOB OPPORTUNITY CREATED FOR:	NUMBER OF JOB OPPORTUNITY CREATED
Shepherds (employed by sampled households)	135
Local collectors	20
Small-scale traders	18
Medium-scale traders	12
Drivers and drovers (employed by medium-scale traders)	4
Butchers and hotels	50
Slaughterers	50
Hotel staff	150
Total	439

Source: Own survey (2013)

Table 4. Marketing costs, by agent

COST	COST IN BIRR PER GOAT, PER DAY					
	Pastoralists	Local collectors	Medium-scale traders	Small-scale traders	Butchers and hotels	Mean
Watching and warding	–	1	1	5	1	1.6
Transportation	–	–	15	–	–	3
Loading	–	–	3	–	–	0.6
Taxes	–	–	1	1	1	0.6
Fodder, grass and water	2	3	3	15	3	5.2
Rent for cattle grid	–	–	3	3	–	1.2
Rope	1	1	1	1	1	1
Slaughter fee	–	–	–	–	15	3.75
Telephone expense	–	0.5	1	0.5	1	0.75
Personal transport other expenses	–	–	5	–	–	1.25
Total marketing cost	3	5.5	33	25.5	22	

Source: Own survey (2013)

The study identified 16 possible marketing channels for pastoralists (Table 5). Marketing margins from the sale of goats vary according to the sequence of actors in the marketing channel. The pastoralists' share of the total consumer price is highest in Channel 5, where they sell directly to consumers and therefore retain 100 per cent of the selling price. Although they earn the most through this channel, it does rely on them having direct access to consumers, which is rare.

Channel 6 (producer > small trader > consumer) secures the next highest share for pastoralists, who receive around 78 per cent of the total price paid by the consumer. Channel 4 (producer > medium-scale trader > consumer) gives producers the next largest share of TCMM. Although their share is a lower proportion of the TCMM, producers receive a better price and the medium-scale traders take a higher margin because the end consumers pay more.

As the value chain becomes longer and involves more transactions between different actors, the pastoralists' share of the final price diminishes, an effect that has been observed in previous studies (Onyango 2013).

The largest number of goats are sold through Channel 1 (pastoralists > small-scale traders > butchers and hotels > consumers). Pastoralists receive around 67 per cent of the final price paid by consumers; hotels and

butchers receive 28 per cent and small-scale traders take around 7 per cent.

The average value added from TCMM of the 16 market channels was about 257 birr a goat. When this is extrapolated by the total number of goats supplied by the sampled households during the year, we calculated the total annual value added to pastoralists' production as: 257 birr * 2,056 goats = 528,392 birr.

The 169 surveyed households supply about 2,056 goats to market each year, an average of 12 goats per household. If we extrapolate this to the level of the 3,417 households in the woreda, the total number of goats supplied by the 3,417 households each year would be: 12 goats * 3,417 households = 41,570 goats. We can then estimate the annual value added, based on the average TCMM as 257 birr * 41,570 goats = 10,683,490 birr.

Amounts vary according to the age, sex and type of goat. Figures presented so far refer to *deana* goats (1.5 to 6-year-old female goats) (see Appendices 3–7 for similar calculations for other types of goat).

Table 5. Market performance of *deana* goats, by marketing margin, actor and channel

ACTORS	PRICE (BIRR) OR MARGIN (%)	CHANNEL							
		1	2	3	4	5	6	7	8
Producers	Selling price	640	660	660	660	670	640	630	630
	Pastoralists share %	66.86	69.41	69.41	77	100	78	66.16	66.16
	TGMM %	33.14	30.59	30.59	23		22	33.84	33.84
Local collectors	Selling price							650	690
	Margin							20	60
	Marketing margin %							3.08	8.70
	TCMMc %							6.21	18.63
Small traders	Selling price	690					821	680	
	Margin	50					181	30	
	Marketing margin %	7.25					22.05	4.41	
	TCMMs %	15.77					100	9.32	
Medium size trades	Selling price			720	857				
	Margin			60	197				
	Marketing margin %			8.33	22.99				
	TCMMm%			17.09	100				
Butchers and hotels	Selling price	957	951	951				952	952
	Margin	267	291	291				272	262
	Marketing margin %	28	30.59	30.59				28.57	27.52
	TCMMb%	100	100	100				100	100
Final consumer price	957	951	951	857	670	821	952	952	
TCMM	317	291	291	197		181	322	322	

continues

Table 5. Market performance of *deana* goats, by marketing margin, actor and channel (cont.)

ACTORS	PRICE (BIRR) OR MARGIN (%)	CHANNEL							
		9	10	11	12	13	14	15	16
Producers	Selling price	630	630	640	640	630	630	630	630
	Pastoralists share %	66.16	77.21	67.44	74.8	73.41	76.56	73.41	66.16
	TGMM %	33.84	22.79	32.56	25.2	26.59	23.44	26.59	33.84
Local collectors	Selling price	665	816			665	650	650	650
	Margin	35	186			35	20	20	20
	Marketing margin %	5.26	22.79			5.26	3.08	3.08	3.08
	TCMMc %	9.94	100			15.35	10.36	8.77	6.21
Small traders	Selling price			690	680		823	680	680
	Margin			50	40		173	30	30
	Marketing margin %			7.25	5.88		21.02	4.41	4.41
	TCMMs %			16.18	18.51		100	13.16	9.32
Medium size trades	Selling price	720			856	858		858	720
	Margin	85			176	193		178	40
	Marketing margin %	11.81			20.56	22.49		20.75	5.56
	TCMMm%	24.15			100	100		100	12.42
Butchers and hotels	Selling price	952		949					952
	Margin	232		259					232
	Marketing margin %	24.37		27.29					24.37
	TCMMb%	100		100					100
Final consumer price		952	816	949	856	858	823	858	952
TCMM		322	186	309	216	228	193	228	322

Key:

TCMMb butchers' and hotel's share of total cumulative market margin
 TCMMc local collectors' share of total cumulative market margin
 TCMMm medium-scale traders' share of total cumulative market margin
 TCMMs small-scale traders' share of total cumulative market margin

Source: Own survey (2013)

3.4 Market concentration

The concentration ratio (CR_4) of the four largest traders was 44.81 per cent, indicating that the goat market could be categorised as a loose oligopoly (see Table 6) (after Kohls and Uhl 2002). This market structure violates the principle of equity between traders and livestock keepers, because the larger share of the market gains remain with the traders at the end of the chain, giving them more control than individual producers.

Table 6. Concentration ratio of goat market at Asaita Woreda

Number of traders (A)	Cumulative frequency (B)	% of traders $(c = \frac{A}{27})$	Cumulative % of traders (D)	Quantity purchased in number (E)	Total quantity purchased in number $F=(A*E)$	% share of purchase	% cumulative purchase C=
1	1	3.70	3.70	273	273	13.62	13.62
1	2	3.70	7.40	242	242	12.08	25.7
1	3	3.70	11.10	207	207	10.33	36.03
1	4	3.70	14.80	176	176	8.78	44.81
1	5	3.70	18.50	144	144	7.19	52
1	6	3.70	22.20	128	128	6.39	58.39
2	8	7.41	29.61	55	110	5.49	63.88
4	12	14.81	44.42	51	204	10.18	74.06
5	17	18.52	62.94	40	200	9.98	84.04
4	21	14.81	77.75	35	140	6.99	91.03
6	27	22.22	100	30	180	8.98	100
		100			2,004	100	

Source: Own survey (2013)

Discussion and recommendations

4

Traders and producers reported that the lack of basic facilities and infrastructure is the major constraint on progress and/or functioning of the goat market. Provision of services – including credit services for new traders, veterinary facilities, watering stations, roads and updated market information – would improve the performance of the marketing system in the area.

Our market performance analysis confirmed that the longer the marketing chain, the lower the pastoralists' share in the TCMM. The main actors in goat production and marketing in the study area are producers, local collectors, small and medium-scale traders, butchers, hotels and end consumers. The study identified a total of 16 different market channels, involving different configurations of actors, through which live goats travel to reach the end consumer.

Pastoralists can shorten the marketing chain by cutting out the intermediaries and increasing the number of activities they undertake themselves – such as rearing, fattening, transportation and trading. But while such vertical integration could bring benefits, adding activities to the pastoral production system also adds costs and risks for pastoralists. Support services to identify appropriate technologies and provide training on marketing systems, information and working capital could help alleviate some of these risks.

Our market concentration analysis showed that in Asaita, the goat market structure was a loose oligopoly with a concentration ratio (CR_4) of 44.81, in which a small number of formal and informal male traders and butchers were able to dominate the market. The analysis of market margins and performance showed that this was because the medium-scale traders were well connected to markets offering good prices and most producers were obliged to sell their goats through the channels they controlled. But if producers were to strengthen inter- and intra-group linkages by organising into cooperatives rather than acting as individuals, they could have greater control over the supply of goats to the markets.

Conclusion

5

The study revealed that goat production and marketing chains already support a large number of people, making a sizeable contribution to the regional economy. Reinvesting some of these revenues could help further stimulate the market, encourage pastoralists to participate and produce more goats of the quality consumers demand.

Although the livestock production system of smallholder pastoralists in Afar Regional State mainly focuses on subsistence and is not a market-based system, the study identified opportunities to improve performance. Investments in support services could help pastoralists produce the quantity and quality of goats demanded by the market. Healthcare services and systems for creating market connections and increasing awareness of demand in remote areas would also help pastoralists respond better to market demand.

References

- Achoga, F O and Nwagbo, E C (2004) Economic assessment of the performance of private sector marketing of fertilizer in Delta State, Nigeria.
- Adina, S and Farmer, E (2006) Livestock value chain report for Afar and Northern Somali region of Ethiopia. ACDI/VOCA.
- Barallat, J E *et al.* (1987) Alternative methods for modelling potato marketing margin behaviour in Spain: private and public implications. ISHS Acta Horticulturae 203: IX Symposium on Horticultural Economics. Leuven, Belgium.
- Barrett, C *et al.* (2004) Constraints limiting marketed off-take rates among pastoralists. Research brief 04-06-PRIMA. GL-CRSP, University of Davis, USA.
- Behnke, R and Metaferia, F (2010) The Contribution of Livestock to the Ethiopian Economy – Part II. IGAD LPI working paper No. 02–11.
- EEA Ethiopian Economic Association (2004) Industrialization and industrial policy in Ethiopia. Report on the Ethiopian economy, Vol. III 2003/04.
- ESAP Ethiopian Society of Animal Production (2003) Challenges and opportunities of livestock marketing in Ethiopia. In: Jobre, Y and Gebru, G (eds) *Proceedings from the 10th annual conference of the Ethiopian Society of Animal Production (ESAP) held in Addis Ababa, Ethiopia, August 22–24, 2002.*
- FAO Food and Agricultural Organization (2005) Commodity chain analysis. Constructing the commodity chain functional analysis and flow charts. Rome.
- Gebremeskel, D *et al.* (1998) Market structure, conduct, and performance: constraints on performance of Ethiopian grain markets. Working paper No 8. Grain market research project, MEDAC, Addis Ababa. See <http://ageconsearch.umn.edu/bitstream/55597/2/wp8.pdf>
- Hays, H M Jr (1975) The marketing and storage of food grains in northern Nigeria. Samaru miscellaneous paper No 50, Zaria ABU.
- Hurrissa, B and Eshetu, J (2003) Challenges and opportunities of livestock trade in Ethiopia. In: *Proceedings of 10th annual conference of the Ethiopian Society of Animal Production held in Addis Ababa, Ethiopia, August 22–24, 2002.*
- Kohls, R L and Uhl, J N (2002) Marketing of agricultural products. 9th Edition. Prentice-Hall of India PLC, New Delhi.
- Kotler, P (2003) Marketing management. 11th edition. Pearson Education Inc, USA.
- Mejeha, R O *et al.* (2000) Analysis of rice marketing in Umuahia Zone. In *Proceedings of the 33rd annual conference of the Agricultural Society of Nigeria held at National Cereals Research Institute, Baddegi, Niger State, April 2001.*
- Olukosi, J O and Isitor, S U (1990) Introduction to agricultural marketing and prices: principles and applications. Living Book Series, Abuja.
- Onyango, C O (2013) Analysis of structure, conduct and performance of small ruminant stock market participants of Isiolo-Nairobi trading market, Kenya. Masters thesis. Egerton University.
- Royal Tropical Institute and International Institute of Rural Reconstruction (2008) Trading up: building cooperation between farmers and traders in Africa.
- SOS SAHEL Ethiopia (2010) Pastoralism in Ethiopia: its total economic values and development challenges.
- WoPARD (2004) Baseline survey made on constraints and opportunity on the production system of Asaita woreda of Afar Regional State. Asaita Woreda Pastoral Agricultural Rural and Development.

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>

Gituku, B C, Wasonga, O V and Ngugi, R K (2015) Economic contribution of the pastoral meat trade in Isiolo Town, Kenya. Country Report. IIED, London. <http://pubs.iied.org/10124IIED.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, Anmut, 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>

Appendices

Appendix 1: Producers' interview schedule

Remark: Personal profiles obtained from respondents will be kept confidential and will not have any consequence on the respondent in any way. The purpose of this interview is to bring a solution to the bottleneck problems of the goat market to improve benefits to pastoralists from their products. Please give correct answers to the following questions.

General instructions to enumerators

- Make brief introductions before starting the interview: introduce yourself to the pastoralists, greet them in the local way; find out their name; tell them yours, the institution you work for; and make clear the purpose and objective of the study.
- Please ask each question clearly and patiently until the pastoralists understands (gets your point).
- Please fill in the questionnaire according to the pastoralists' reply (do not put your own opinion).
- Please do not try to use technical terms while discussing issues with pastoralists and do not forget to record the local unit.
- During the process put each respondent's answer in the space provided and circle the choice.
- Please use Amharic or English to fill the questionnaires.

Identification number (code) _____

Peasant association name _____

Name of enumerator _____ signature _____

Date of interview _____

Region _____ Woreda _____

Kebele _____ Village _____

I. General information

1.1 Name of respondent _____

1.2 Sex:

1. Male 2. Female

1.3 Age (in years): _____

1.4 Is the respondent head of the household

1. Yes 2. No

1.5 If the answer to question 1.4 is no, how is the respondent related to the head of household?

1. Spouse 2. Son 3. Daughter 4. Daughter-in-law
5. Grandson 6. Granddaughter 7. Mother 8. Father
9. Brother 10. Sister 11. Other (please specify) _____

1.6 Marital status of head of household:

1. Single 2. Married 3. Divorced 4. Widowed
5. Other (please specify) _____

1.7 Education status of the head of the household:

- 1. Did not complete any school
- 2. Traditional or religious schooling completed
- 3. _____ years of formal education
- 4. College education completion
- 5. Other (please specify) _____

1.8 How many members of your family current live in your household, including yourself? ___

1.9 Are you member of a cooperative?

- 1. Yes
- 2. No

1.10 Distance of residence to the nearest all main road (walking time): ___hours ___minutes.

1.11 Distance of residence to the nearest market: _____hours _____minutes.

II. Resource ownership and income source

2.1 Livestock owned

Type of livestock	Number owned at the beginning of 2013	Number sold at the end of 2013	Cash income from sell
Cows			
Oxen			
Sheep			
Goats			
Donkeys			
Horses			
Poultry			
Bee colonies			

2.2 Experience and revenue from _____activities

Activities	Did you participate in activities 1=yes 0=no	Years of experience	Annual income (birr)
Farming			
Gum resin collection			
Non-farming activities			
Selling firewood			
Hired employee			
Daily labourer			
Petty trade			
Other (please specify)			

2.3 Do you have your own grazing land?

- 1. Yes
- 2. No

2.4 If the answer to question 2.3 is yes, how many hectares (timad) do you own? _____

III. Production

3.1 Production of food grains in 2013 (add other types of crop as appropriate)

Types of crop	Area (timad)	Quantity produced (qt)/	Quantity consumed (qt)	For seed	Quantity sold (qt)	Average selling price (birr/qt)
1	Maize					
2	Sorghum					
3						
4						

3.2 What were the inputs for or spending on goats and their sources in 2013 (add other inputs as appropriate)?

Inputs used for goat production	Weight (kg)	Number in litter	Price per kg	Price per litter	Source	Rank the source
Fodder					1. Common grazing land 2. Crop residue 3. Purchased fodder 4. Private grazing land 5. Other (specify)	
Vaccination treatment					1. Bought from governmental sources 2. Bought from private sources 3. Bought from non-governmental organisation 4. Got from donors free of charge 5. Other (specify)	
Other (specify)						

5.2 From which market and supplier did you buy goats in 2013?

Market location where goats were bought	Seller	Quantity bought on market day (number)	Average price of goats		Terms of payment 1= Cash 2= Credit 3= Advance payment
			Goat type	Price	
	1. Pastoralists		1. <i>Deana</i> : female, aged 1.5–6 years		
	2. Brokers		2. <i>Debila</i> : uncastrated male, aged 1–2 years		
	3. Local traders		3. <i>Rihideb</i> : female, aged 1–1.5 years		
	4. Collector		4. <i>Sanka</i> : castrated male goat aged 2–6 years		
	5. Don't Know		5. <i>Bekel</i> : small male, aged 4–11 months		
			6. <i>Motta</i> : small female, aged 4–11 months		

5.3 How do you get market price information on goats? _____

5.4 Did you know the market prices before you sold your goats in 2013?

1. Yes 2. No

5.5 Did you know the nearby market price before you sold your goats?

1. Yes 2. No

5.6 What is the price trend in the last five years?

Goat type	Price trend (Tick Ö)			If increasing, why?	If decreasing, why?
	Increasing	decreasing	Same		
1. Deana				1. Good quality goats	1. Quality of goats is decreasing
2. Debila				2. Fewer goats on the market	2. Number of goats is increasing
3. Rihideb				3. Decrease in number of goats in the hands of pastoralists	3. Fall in number of traders year on year
4. Sanka				4. Shifting of pastoralists' livelihood system	4. Other (specify) _____
5. Bekel				5. Other (specify) _____	
6. Motta					

5.7 How many of your goats sold in the market have the best quality desired by your major customer?

1. Very few 2. Few 3. About half
4. Many 5. All

5.8 What changes can improve the quality of the goats you supply, to earn a higher price and increase your income from goat sales? _____

5.9 What changes are important to reduce the cost of production?

1. Increased availability of fodder and water access
2. Lower priced drugs and vaccination treatments
3. Decrease in conflicts between and among clans on rangeland
4. Other (specify) _____

5.10 What kind of activities are important to reduce the cost of marketing?

1. Increasing road access
2. Access to information on how to link with buyers
3. Access to information access on current price of goats
4. Eliminating brokers to decrease commission fees
5. Other (specify) _____

5.11 What interventions are important to increase the number of goats you can supply to market?

1. Raising awareness on saving money
2. Creating a high price for goats on the market
3. Information on the occurrence of future drought in the future
4. Information on future price falls in the future
5. Other (specify) _____

5.12 What intervention would increase the quality of goats, so you could sell them at a higher price?

1. Maintaining the health of goats
2. Hybridising (madakel) with other productive goats
3. Switching to other, more productive goat stock
4. Focusing on quality rather than quantity
5. Others (specify) _____

5.13 What are the problems of marketing in 2013? Rank horizontally

Items	Lack of market	Low price	Lack of transport	Lack of market information	Brokers hinder fair sales	Tax	Others (specify)
Goats							_____

1= most severe 2= second most severe, etc

5.14 How did you make decisions about when to sell your the goats in 2013?

1. Maturity
2. Fear of drought
3. Market price
4. Demand for consumption
5. Others (specify) _____

5.15 Did you negotiate the sale price for the goats you sold in 2013?

1. All are sold for the price given by buyers
2. Most are sold for the price given by buyers and few are negotiated
3. Most are sold negotiated and few are sold for the price given by buyers
4. All are sold negotiated
5. Most are sold for the price I call to the buyer and few are negotiated
6. Others (specify) _____

5.16 Average return of goats at market for individual pastoralists

Item	Selling price per goat (Birr)	Total cost per goat (birr)						
		Transport	Broker	Fodder	Vaccination/ treatment	Other costs (specify)	Taxes	revenue
1. Deana								
2. Debila								
3. Rihideb								
4. Sanka								
5. Bekel								
6. Motta								

5.17 What problem/s did brokers create in 2013?

- 1) Took goats to limited clients
- 2) Cheated on weighing scales
- 3) Charged high brokerage fee
- 4) Wrong price (market) information
- 5) Others (specify) _____

5.18 On average, how long did it take you to sell your goats?

- 1. Bush market _____ hrs/ _____ days
- 2. Local market _____ hrs/ _____ days
- 3. Town market _____ hrs _____ days

5.19 Did you face any difficulty in finding buyers when you wanted to sell goats?

- 1. Yes
- 2. No

5.20 If yes to question 16, was this due to:

- 1. Inaccessibility of market
- 2. Lack of information
- 3. Low price offered
- 4. Others (specify) _____

5.21 What did you do if you did not get the expected price for your goats?

- 1. Took them back home
- 2. Sold at a lower price
- 3. Took them to another market on the same day
- 4. Sold them on another market day

5.22 When did you get the money after you sold to local collectors in credit?

- 1. As soon as I sold
- 2. On other days
- 3. After some hours
- 4. Others (specify)

5.23 How often did people who buy on credit fail to pay the money at the right time?

- 1. Not at all
- 2. Very few times
- 3. Often
- 4. Most often
- 5. If any, specify _____

5.24 How often did those who bought on credit fail to pay the money in full?

1. Not at all 2. Very few times 3. Often
4. Most often 5. If any, specify_____

5.25 When did you get the money after you sold to cooperatives on credit?

1. As soon as I sold 2. On another day 3. After some hours 4. Others (specify) _____

5.26 How often did the cooperatives fail to pay at the right time ?

1. Not at all 2. Very few times 3. Often 4. Most often

5.27 How often did the cooperatives fail to pay the money in full?

1. Not at all 2. Very few times 3. Often 4. Most often

End of the interview

Thank you very much for responding to the questions.

Enumerator's name: _____

Date of interview: _____

Appendix 2: Traders' interview schedule

Remark: Personal profiles obtained from the respondents will be kept confidential and will not have any consequence on the respondent in any way. The purpose of this interview is to address the main problems of the market improve benefits to you. Please give correct answers to the following questions.

Instructions to enumerators

- Make brief introductions before starting the interview: introduce yourself to the traders, greet them in local ways, and make clear the objective of the study.
- Please fill the interview schedule according to the traders' replies (do not put your own feeling).
- Please ask each question clearly and patiently until the traders gets your point.
- Please do not use technical terms and do not forget local units.
- Put the answer on the space provided.

I. Sociodemographics

- 1.1 Name of trader _____ Sex _____ Age _____ Educational level _____
- 1.2 Marital status of trader
1. Single 2. Married 3. Divorced 4. Widowed
- 1.3 Family size _____
- 1.4 What languages do you speak?
1. Afarigna 2. Amharic 3. Oromiffa 4. Tigrigna
- 1.5 Other _____

II. Area information

- 2.1 Woreda _____ Name of market _____ Village market
Others (specify) _____
- 2.2 Distance from home to market _____ km /walking time in hour /minutes
- 2.3 Main occupation
1. Wholesaler 2. Pastoral trader 3. Village collector 4. Retailer
5. Urban assembler 6. Processor 7. Other (specify) _____
- 2.4 At what period of the year do you participate in the goat trade?
1. Year-round 2. When purchase prices are low
3. When supply is high 4. Other (specify) _____
- 2.5 Of the total goats you sold in 2013, how many did you sell on the local market?
1. All 2. Half 3. A quarter
4. A third 5. Other (specify) _____
- 2.6 How many did you sell on the domestic market in 2013?
1. All 2. Half 3. A quarter
4. A third 5. Other (specify) _____
- 2.7 How much was your initial working capital when you started the live goat trade business? _____ birr.
- 2.8 What was your working capital in 2013? _____ birr.
- 2.9 What was the source of your working capital?

1. Own 2. Loan 3. Gift
4. Share 5. Others (specify) _____
- 2.10 If it was loan, from whom did you borrow?
1. Relative/family 2. Private money lender 3. NGO
4. Friends 5. Other traders 6. Microfinance institution
7. Bank 8. Others (specify) _____
- 2.11 Why did you take out the loan?
1. To extend goat trading. 2. To buy goat transporting vehicles
3. Others (specify) _____
- 2.12 What was the repayment schedule?
1. Monthly 2. Semi-annually 3. Quarterly
4. When you can 5. Others (specify) _____
- 2.13 Has there been change in your ability to access finance for the goat trade?
1. Improved 2. Deteriorated 3. No change
- 2.14 Who bought goats from you in 2013?
1. Local wholesaler 2. Large traders 3. Exporters 4. Household consumers
5. Brokers 6. Others _____
- 2.15 Where did you buy goats in 2013?
1. From village (specify name of village) _____
2. From market (specify name of market) _____
- 2.16 For whom do you purchase goats?
1. Yourself 2. For others
- 2.17 How did you sell your goats in 2013?
1. Directly to the purchaser 2. Through a broker
3. Other (specify) _____
- 2.18 Who or what set the prices you sold your goats at in 2013?
1. Mostly me 2. Mostly by demand and supply 3. Mostly buyers
4. About half me 5. About half by demand and supply 6. About half buyers
7. Some me 8. Some by demand and supply 9. Some buyers
10. Other(specify) _____
- 2.19 How often and when did you set the prices?
1. Mostly in advance 2. Mostly when negotiating delivery
3. Mostly at time of delivery 4. Sometimes when advance was paid
5. Sometimes when negotiating delivery 6. Sometimes at time of delivery
7. Others (specify) _____
- 2.20 If purchasing price was set when an advance was paid, was your agreement:
1. Oral 2. Written 3. Other (specify) _____

2.21 When did you get the money after sale?

- 1. As soon as you sold
- 2. After some hours
- 3. The next day
- 4. Other (specify) _____

2.22 What did you do if the goats were not sold on time?

- 1. Took them back home
- 2. Took them to another market
- 3. Sold them at a lower price
- 4. Sold them on another market day.

2.23 How do you attract suppliers?

- 1. Giving them a better price
- 2. Visiting them
- 3. Fair scaling /weighing
- 4. Other _____

2.24 Who bought the goats for you in 2013?

- 1. Yourself
- 2. Broker
- 3. Commission agent
- 4. Family members
- 5. Friends
- 6. Others _____

2.25 What are the activities/actions that traders use when selling goats to intermediaries?

III. Purchase practice

3.1 From which market and supplier did you buy goats in 2013?

Market location where goats were bought	Seller	Number of goats bought on market day	Average weight per goat (kg)	Average price per goat		Terms of payment 1= Cash 2=Credit 3= Advance payment
				_____	_____	
				goat	kg	
Where	1. Pastoralists					
	2. Brokers					
	3. Local traders					
	4. Collectors					

3.2 How do you measure your purchase?

- 1. By number
- 2. By weight (kg)
- 3. Other (specify) _____

3.3 Was obtaining sufficient supply a problem in 2013?

- 1. Yes
- 2. No

3.4 From which market (s) did you prefer to buy most of the time in 2013?

From _____ market.

3.5 Why did you prefer this market?

- 1. Better quality
- 2. High supply
- 3. Shortest distance
- 4. Other (specify) _____

3.6 Which are the months when prices are lowest?

3.7 Which are the months when prices are highest?

4.18 What kind of intervention would increase the quality of goats, so you could sell them at a higher price?

1. Maintaining the health of goats
2. Hybridising (madakel) with other productive goats
3. Switching to other, more productive goat stock
4. Focusing on quality rather than quantity
5. Other (specify) _____

V. Marketing services

5.1 Did you pay tax on the goats you purchased in 2013?

1. Yes
2. No

5.2 Did you pay tax on the goats you sold in 2013?

1. Yes
2. No

5.3 On what basis did you pay tax on the goats you purchased in 2013?

1. Per goat _____ birr
2. Per kg _____ birr
3. Fixed payment _____ birr
4. Other (specify) _____

5.4 On what basis did you pay tax for the goats you sold in 2013?

1. Per goat _____ birr
2. Per kg _____ birr
3. Fixed payment _____ birr
4. Other (specify) _____

5.5 What do you think of the marketing fee you paid in this market, compared to your transaction ?

1. Low
2. High
3. Average
4. Don't know

5.6 Do you need a license to trade goats in your locality?

1. Yes
2. No

5.7 If yes, how do you see the procedure to get the license?

1. Complicated
2. Easy

5.8 Do you have a goat trade license?

1. Yes
2. No

5.9 How much did you pay for your license initially? _____birr

5.10 How much is the annual renewal payment? _____birr

5.11 Did you keep the goats before you sold them in 2013?

1. Yes
2. No

5.12 If yes for question 11, for how long did you keep the goats before you sold them?

Maximum for ___weeks or/days.

5.13 How many of your goats died in 2013? Number_____

5.14 What was the cause of death of your goats during the 2013 trade process?

1. Disease
2. Overcrowding inside the track
3. Shortage of fodder on the transport
4. Other (specify)_____

5.15 What measures did you take to decrease the death of goats in 2013?

5.16 Are you a member of any of the following organisations?

Organisation	1=yes, 0=no	Option set for benefits	Option set for benefits
Social association			1. Access to credit 2. Encourage to save
Trade association			3. Facilitate joint marketing 4. No benefit
Marketing cooperative			5. Access to market information 6. Coordinate purchase and sale 7. Credibility 8. Other (specify)

End of the interview

Thank you very much for responding to the questions.

Enumerator's name: _____ Date of interview: _____

Appendix 3: Market margin of debella goats in Asaita

		CHANNEL							
Actors	Price in birr	1	2	3	4	5	6	7	8
Producer	Selling price	650	670	670	670	680	650	620	620
	Pastoralists' share %	72.58	71.81	71.81	77.69	100	78.11	65.40	65.40
	TGMM %	27.42	28.19	28.19	22.31		21.89	34.6	34.6
Local collectors	Selling price							655	680
	Margin							35	60
	Marketing margin %							5.34	8.82
	TCMMc%							9.64	18.87
Small traders	Selling price	700					832	690	
	Margin	50					182	70	
	Marketing margin %	7.14					21.86	10.14	
	TCMMs %	20.33					100	19.28	
Medium size traders	Selling price			710	862				
	Margin			40	192				
	Marketing margin %			5.63	22.27				
	TCMMm %			15.21	100				
Butchers and hotels	Selling price	896	933	933				948	948
	Margin	196	263	223				258	258
	Marketing margin %	21.87	28.19	23.90				27.22	27.22
	TCMMh %	100	100	100				100	100
Final consumer price		896	933	933	862	680	832	780	948
TCMM		246	265	263	192		182	328	328

continues

Appendix 3 (cont.)

		CHANNEL							
Actors	Price in birr	9	10	11	12	13	14	15	16
Producer	Selling price	620	620	620	620	620	620	620	620
	Pastoralists' share %	65.40	77.09	69.12	70.84	70.84	71.43	70.84	65.40
	TGMM %	34.6	22.91	30.88	29.16	29.16	28.57	29.16	34.6
Local collectors	Selling price	685	804			685	655	655	655
	Margin	65	184			65	35	35	35
	Marketing margin %	9.50	22.89			9.50	5.34	5.34	5.34
	TCMMc%	18.68	100			25.49	14.11	13.73	10.67
Small traders	Selling price			700	700		868	700	700
	Margin			80	80		213	45	45
	Marketing margin %			11.43	11.43		24.54	6.43	6.43
	TCMMs %			50	31.37		100	17.65	13.72
Medium size traders	Selling price	710		710	875	875		875	710
	Margin	25		10	175	190		175	10
	Marketing margin%	3.52		1.41	20	21.71		20	1.41
	TCMMm %	7.18		6.25	100	100		100	3.05
Butchers and hotels	Selling price	948		780					948
	Margin	258		70					238
	Marketing margin%	27.22		8.97					25.11
	TCMMh %	100		100					100
Final consumer price		948	804	780	875	875	868	875	948
TCMM		328	184	160	225	255	248	225	328

Source: Own survey (2013)

Appendix 4: Market margin of rihideb goats in Asaita

		CHANNEL							
Actors	Price in Birr	1	2	3	4	5	6	7	8
Producer	Selling price	585	620	607	607	620	549	540	540
	Pastoralists' share %	67.16	72.02	70.21	74.91	100	75.91	60.91	60.91
	TGMM %	32.84	27.98	29.79	25.09		24.09	39.09	39.09
Local collectors	Selling price							565	620
	Margin							25	80
	Marketing margin %							4.42	12.90
	TCMMc %							7.20	23.05
Small traders	Selling price	635					723	600	
	Margin	50					174	35	
	Marketing margin %	7.87					24.07	5.83	
	TCMMs %	17.48					100	10.08	
Medium traders	Selling price			650	810				
	Margin			43	203				
	Marketing margin %			6.62	25.06				
	TCMMm %			16.67	100				
Butchers hotels	Selling price	871	861	865				887	887
	Margin	236	241	215				287	267
	Marketing margin %	27.09	28	24.86				32.36	30.10
	TCMMb %	100	100	100				100	100
Final consumer price		871	861	865	810	620	723	887	887
TCMM		286	241	258	203		174	347	347

continues

Appendix 4 (cont.)

		CHANNEL							
Actors	Price in Birr	9	10	11	12	13	14	15	16
Producer	Selling price	540	540	540	540	540	540	540	540
	Pastoralists' share %	60.91	74.66	60.91	72.31	72.31	74.43	72.31	60.91
	TGMM %	39.09	25.34	39.09	27.69	27.69	25.57	27.69	39.09
Local collectors	Selling price	580	723			580	565	565	565
	Margin	40	183			40	25	25	25
	Marketing margin %	6.90	25.31			6.90	4.42	4.42	4.42
	TCMMc %	11.53	100			19.32	13.44	12.08	7.20
Small traders	Selling price			595	595		726	595	595
	Margin			55	55		161	30	30
	Marketing margin %			9.24	9.24		22.18	5.04	5.04
	TCMMs %			15.85	26.57		100	14.49	8.65
Medium traders	Selling price	650		650	747	747		747	650
	Margin	70		55	152	167		152	55
	Marketing margin %	10.77		8.46	20.34	22.36		20.35	8.46
	TCMMm %	20.17		15.85	100	100		100	15.85
Butchers hotels	Selling price	887		887					887
	Margin	237		237					237
	Marketing margin %	26.72		26.72					26.72
	TCMMb %	100		100					100
Final consumer price		887	723	887	747	747	726	747	887
TCMM		347	183	347	207	207	186	207	347

Source: Own survey (2013)

Appendix 5: Market margin of sanko goats in Asaita

		CHANNEL							
Actors	Price in Birr	I	II	III	IV	V	VI	VII	VIII
Producer	Selling price	905	935	914	914	950	905	860	860
	Pastoralists' share %	73.35	76.25	74.22	77.91	100	78.73	69	69
	TGMM %	26.65	23.75	25.78	22.09		21.27	31	31
Local collectors	Selling price							900	935
	Margin							40	75
	Marketing margin %							4.44	8.02
	TCMMc %							10.36	19.43
Small traders	Selling price	955					1149	965	
	Margin	50					244	65	
	Marketing margin %	5.24					21.24	6.74	
	TCMMs %	15.19					100	16.84	
Medium traders	Selling price			965	1173				
	Margin			51	259				
	Marketing margin %			5.28	22.08				
	TCMMm %			25.24	100				
Butchers and hotels	Selling price	1234	1226	1231				1246	1246
	Margin	279	291	266				281	311
	Marketing margin %	22.61	23.74	21.61				22.55	24.96
	TCMMb %	100	100	100				100	100
Final consumer price		1,234	1,226	1,231	1,173	950	1,149	1,246	1,246
TCMM		329	291	317	259		244	386	386

continues

Appendix 5 (cont.)

		CHANNEL							
Actors	Price in Birr	IX	X	XI	XII	XIII	XIV	XV	XVI
Producer	Selling price	860	860	905	905	860	860	860	860
	Pastoralists' share %	69	77.40	73.35	76.91	69	74.12	72.43	69
	TGMM %	31	22.60	26.65	23.09	31	25.88	27.27	31
Local collectors	Selling price	895	1111			895	900	900	900
	Margin	35	251			35	40	40	40
	Marketing margin %	3.91	22.59			3.91	4.44	4.44	4.44
	TCMMc %	9.07	100			9.07	13.33	12.23	10.36
Small traders	Selling price			960	930		1160	930	930
	Margin			55	25		260	30	30
	Marketing margin %			5.73	2.69		22.41	3.23	3.33
	TCMMs %			14.36	9.19		100	9.17	7.77
Medium traders	Selling price	965			1177	965		1187	965
	Margin	70			247	70		257	35
	Marketing margin %	7.25			20.99	7.25		21.65	3.63
	TCMMm %	18.13			100	18.13		100	9.07
Butchers and hotels	Selling price	1246		1233		1246			1246
	Margin	281		328		281			281
	Marketing margin %	22.52		26.60		22.55			22.55
	TCMMb %	100		100		100			100
Final consumer price		1,246	1,111	1,233	1,177	1,246	1,160	1,187	1,246
TCMM		386	251	328	272	386	300	327	386

Source: Own survey (2013)

Appendix 6: Market margin of bekel goats in Asaita

		CHANNEL							
Actors	Price in Birr	I	II	III	IV	V	VI	VII	VIII
Producer	Selling price	400	420	409	409	450	391	380	380
	Pastoralists share %	66	70	67.80	75	100	77	62	62
	TGMM %	34	30	32.20	25		23	38	38
Local collectors	Selling price							400	415
	Margin							20	35
	Marketing margin %							5	8.43
	TCMMc %							7.07	29.17
Small traders	Selling price	450					508	465	
	Margin	50					117	65	
	Marketing margin %	11.11					23.03	13.98	
	TCMMs %	24.27					100	22.97	
Medium size retailers	Selling price			450	543				
	Margin			41	134				
	Marketing margin %			9.11	24.68				
	TCMMm %			21.13	100				
Butchers and hotels	Selling price	606	600	603				613	613
	Margin	156	180	153				198	85
	Marketing margin %	25.74	30	25.37				32.30	17
	TCMMb %	100	100	100				100	100
Final consumer price		606	600	603	543	450	508	613	613
TCMM		206	180	194	134		117	233	233

continues

Appendix 6 (cont.)

		CHANNEL							
Actors	Price in Birr	IX	X	XI	XII	XIII	XIV	XV	XVI
Producer	Selling price	380	380	380	380	380	380	380	380
	Pastoralists share %	62	70.44	62	68.61	68.61	74.37	70.44	62
	TGMM %	38	29.56	38	31.39	31.39	25.63	29.56	38
Local collectors	Selling price	440	539			440	400	400	400
	Margin	60	159			60	20	20	20
	Marketing margin %	13.64	29.50			13.64	5	5	5
	TCMMc %	25.75	100			34.48	15.27	12.58	8.58
Small traders	Selling price			426	426		511	425	425
	Margin			46	46		111	25	25
	Marketing margin %			10.80	10.80		21.72	5.88	5.88
	TCMMs %			19.74	26.44		100	15.72	10.73
Medium size retailers	Selling price	450		450	554	554		539	450
	Margin	10		24	128	114		114	25
	Marketing margin %	2.22		5.33	23.10	20.58		21.15	5.56
	TCMMm %	4.29		10.30	100	100		100	10.73
Butchers and hotels	Selling price	613		613					613
	Margin	163		163					163
	Marketing margin %	26.59		26.59					26.59
	TCMMb %	100		100					100
Final consumer price		613	539	613	554	554	511	539	613
TCMM		233	159	233	174	174	131	159	233

Source: Own survey (2013)

Appendix 7: Market margin of motta goats in Asaita

		CHANNEL							
Actors	Price in Birr	I	II	III	IV	V	VI	VII	VIII
Producer	Selling price	360	380	373	373	410	370	345	345
	Pastoralists' share %	64.26	64.26	67.09	77	100	78	61	61
	TGMM %	35.74	35.74	32.91	23		22	39	39
Local collectors	Selling price							365	365
	Margin							20	20
	Marketing margin %							5.48	5.45
	TCMMc %							9.05	9.05
Small traders	Selling price	400					474	400	
	Margin	40					104	35	
	Marketing margin %	10					21.94	8.75	
	TCMMs %	17.32					100	15.84	
Medium size trader	Selling price			400	484				
	Margin			27	111				
	Market margin %			6.75	22.93				
	TCMMm			14.75	100				
Butchers and hotels	Selling price	591	591	556				566	566
	Margin	191	211	156				166	201
	Market margin %	32.32	35.70	28.06				29.33	35.51
	TCMMb %	100	100	100				100	100
Final consumer price		591	591	556	484	410	474	566	566
TCMM		211	211	183	111		104	221	221

continues

Appendix 7 (cont.)

		CHANNEL							
Actors	Price in Birr	IX	X	XI	XII	XIII	XIV	XV	XVI
Producer	Selling price	345	345	345	370	345	345	345	345
	Pastoralists' share %	61	73.34	61	76.24	70.15	70.15	70.15	70.15
	TGMM %	39	26.66	39	23.76	29.85	29.85	29.85	29.85
Local collectors	Selling price	365	470	365		380	365	365	365
	Margin	20	125	20		35	20	20	20
	Marketing margin %	5.45	26.60	5.48		9.21	5.48	5.48	5.48
	TCMMc %	9.05	100	9.05		23.81	13.61	13.61	10.99
Small traders	Selling price				395		492	395	395
	Margin				25		127	30	30
	Marketing margin %				6.32		25.81	7.59	7.59
	TCMMs %				21.74		100	20.41	16.48
Medium size trader	Selling price	400		400	485	492		492	435
	Margin	35		35	90	112		97	40
	Market margin %	8.75		8.75	18.56	22.76		19.72	9.20
	TCMMm	15.84		15.04	100	100		100	21.98
Butchers and hotels	Selling price	566		566					492
	Margin	166		166					92
	Market margin %	29.33		29.33					15.70
	TCMMb %	100		100					100
Final consumer price		566	470	566	485	492	492	492	492
TCMM		221	125	221	115	147	147	147	147

Source: Own survey (2013)

Appendix 8: Checklist for pastoralists' group discussion

Group members should:

- Respect others and their views
- Strive to be honest and transparent
- Recognise and acknowledge social reactions.

The moderator should

- Act as catalyst between individuals of the group
- Strive to enhance the capacity of rural people to analyse problems and opportunities
- Find ways of integrating dominant and quiet people and make sure that all group members are able to express their opinions
- Make sure that the group keeps to the topic, be flexible in handling additional information
- Take care of time management
- Listen carefully to any group member.

1. Evaluation matrix for SWOT analysis

Woreda _____

Kebele _____

Total number of participants _____

Date _____

Strengths of goat production and marketing	Weakness of goat production and marketing
Opportunities of goat production and marketing	Threats to goat production and marketing

2. What solutions do you suggest to rectify the above problems?

3. How do traders influence farmers' participation in goats market/value chain?

4. What are the major problems in marketing of goats?

5. Who is responsible for the above problem?

6. Is the quality trend of goats improving or deteriorating? Who is responsible for this problem? _____

7. How can these problems be solved? _____

8. From whom do you purchase goats at reasonable price?

Appendix 9: Key informant discussion with animal production experts (woreda)

Woreda _____

Kebele _____

Date _____

Name of interviewee _____

Title of the interviewee _____

1. What are the threats to goat extension services and production?

2. What are the most important constraining infrastructures affecting goat marketing and production?

3. What are the possible solutions to correct these problems?

4. What is the role of FTCs on goat production? How do they fulfil this role?

5. What outputs are achieved on dissemination of animal production technologies?

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

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