

Analysis of goat value chains in Yabello district, Borana zone, Ethiopia

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Acronyms

BPDO	Borana Pastoral Development Office
CCPP	Contagious caprine pleuropneumonia
COMESA	Common Market for Eastern and Southern Africa
CRP	Consortium Research Program
CAHWS	Community Animal Health Workers
EBR	Ethiopian birr
FEWSNET	Famine Early Warning Systems Network
GTP	Growth and Transformation Plan
HABP	Household Asset Building Program
ICARDA	International Center for Agricultural Research in the Dry Areas
ILRI	International Livestock Research Institute
NGO	Non-Governmental Organization
OCSI	Oromia Credit and Saving Institution
PRA	Participatory Rural Appraisal
PSNP	Productive Safety Net Program
SNNPR	Southern Nation, Nationalities and Peoples' Region
TLU	Tropical Livestock Unit
USAID	United States Agency for International Development
UAE	United Arab Emirates
USD	US dollar
VCA	Value chain analysis

Foreword and acknowledgements

In mid-2012, stakeholder discussions and planning for the Livestock and Fish small ruminant value chain development project were initiated by the International Center for Agricultural Research in the Dry Areas (ICARDA), the International Livestock Research Institute (ILRI) and national partners.

After selecting eight research sites meeting various criteria, the first step was to conduct rapid value chain assessments in each site. In November 2012, national teams were formed and trained to carry out these assessments (including for the associated 'safe food fair food' project). Field implementation of the rapid value chain analysis took place in December 2012 and January 2013 with mixed teams comprising staff from CGIAR and national organizations. The teams used a toolkit developed through the Program and undertook focus group discussions with farmers using checklists and participatory methods as well as key informant interviews with local experts, traders, butchers, livestock researchers, transporters, veterinarians and NGOs.

The preliminary reports from these assessments were reviewed at three multi-stakeholder workshops held in March and April 2013. In these workshops, participants from research and development partners validated the value chain analysis and formulated initial 'best bet' intervention plans for each of the sites.

These activities are documented at <http://livestockfish.cgiar.org/category/countries/ethiopia/>

The following people contributed to this process

- Barbara Rischkowsky ICARDA
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Introduction

The small ruminant population of Ethiopia, including expert estimates of the pastoral areas, is about 66 million head, of which about 35 million are sheep (Negassa et al. 2011). They provide 46% of national meat consumption and 58% of hide and skin production (Awgichew et al. 1991). Small ruminants have many advantages over large ruminants for most smallholder farmers: lower feed costs, quicker turnover, ease of management and appropriate size at slaughter (Wilson 1991; Abegaz 2002; Donkin 2005). They also suffer far less mortality during periods of drought than large ruminants (Galal 1983; Wilson 1991).

In addition, subsistence farmers prefer small ruminants because the risk of large ruminants dying is higher (Sölkner et al. 1998). Livestock also play economic and cultural roles. Goats have a very important role in contributing to food security and mitigating environmental risk due to their unique adaptation to arid and semi-arid areas. Goats are primarily used for milk and meat production for home consumption. They are the major sources of income for pastoralists and farmers to meet the immediate cash needs of the household. With the increased drought cycle and environmental degradation related to climate change, the pastoral community is expanding goat production as an adaptation strategy. The increase in international demand for meat in general and the high demand for goat meat in the Middle Eastern countries is another incentive for the increased goat production in the area.

The lowland areas are home to over 12 million pastoral people who are highly dependent on livestock for their economy and social well-being. The 'lowlands', which include areas below 1500 metres above mean sea level (AMSL) account for 75% of the goat population (Kassahun et al. 1991). The southern lowland pastoral areas of Ethiopia host a huge population of Borena goat, preferred in the Middle East especially. Nevertheless, under the traditional system, their productivity is low due to a slow growth rate and high kid mortality from inadequate animal health services. Current economic trends significantly affect the genetic resource-base through early disposal of better animals for market and negative selection. Therefore there is an urgent need to increase productivity of pastoral goats to bridge the gap and improve pastoral income to meet the demand of the growing human population.

Cost-effective marketing channels and coordinated supply chains that reduce the transaction costs among different actors along the supply chain are needed. As such, there is a need for better understanding of market performance and business linkages, as well as constraints and opportunities along the goat value chain.

This study

This study contributes to the Ethiopian small ruminant value chain development project of the CGIAR Research Program (CRP) on Livestock and Fish. It is being implemented in eight target districts throughout the country. For each site a team was formed to conduct a rapid value chain analysis (VCA) using a toolkit developed by an ICARDA-ILRI team and researchers from the partner centers (<http://livestock-fish.wikispaces.com/VCD+Ethiopia>). In addition to the site reports, the national team prepared a synthesis report incorporating the findings from all eight sites (<http://livestockfish.cgiar.org/focus/ethiopia/>). The synthesis report also includes the

conceptual framework and describes the general methodology applied for the rapid value chain analysis.

Objectives

The major objective of the study was to characterize the goat value chain in order to identify best-bet interventions. Specific objectives were:

- To identify the opportunities and barriers that influence development of goat value chain.
- To identify best-bet research, development and policy intervention options for facilitating the development of the goat value chain in the study area.
- To document important elements and modalities of market strategies for developing the sheep value chain.

The study area

The pastoral rangeland of Borana is located in the southern part of Ethiopia in Oromia regional state. It shares borders with Guji zone, SNNPR (Southern Nation, Nationalities and Peoples' Region), Somali regional state, and Kenya to the north and south. This study focused on two districts: Yabello and Dire.

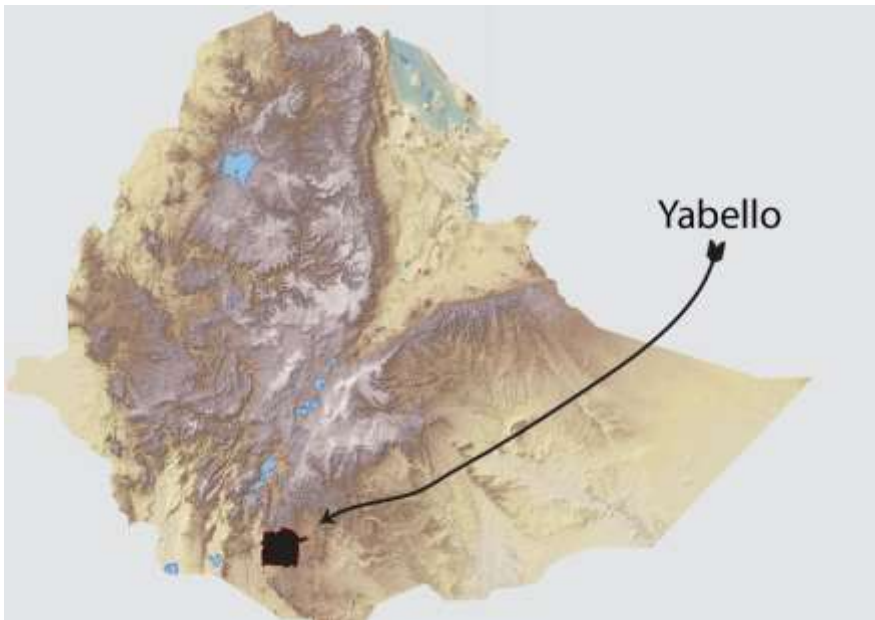


Figure 1. The study area

The Borana rangeland is semi-arid with highly variable rainfall between 300 and 900 millimetres (mm) a year, with high spatial and temporal variability. The main rainy season extends from March to May, whereas the short rainy season lasts from October to November followed by the long dry season. The actual length of the rainy season is getting shorter over time and the area is prone to drought. The short rains are unreliable. Variable rainfall results in greater variability in forage productivity. Seasonal distribution of rainfall is more important than the annual total rainfall in influencing forage production from rangelands. Shortages of forages and feed occur

during periods of low rainfall leading to lower livestock productivity and higher production losses (Cossins and Upton 1988).

Livestock production is the mainstay of the pastoral and agro-pastoral communities of the Borana people. The major livestock reared are cattle, camels, goats and sheep. The livestock population in the area is estimated at nearly 1.8 million cattle, nearly 1.5 million sheep and goats, 500,000 camels, 5.6 million donkeys, 1.5 million horses, and 6,000 mules. The average-stocking rate in Borana rangelands is approximately 15.6 TLU/ km² (Cossins and Upton 1988).

Although livestock production is the dominant mode of production, crop production is also practiced and is expanding from agro-pastoral to pastoral areas. The main cropping season is from mid-February to mid-May during the main rainy season; short rainy season cropping extends from mid-September to mid-November. Unpublished reports from the Borana Zone Rural and Agricultural Development Coordination Office show that cultivated land constitutes 16% of the total land area of the zone. Coppock (1994) also showed that crop production is a recent experience for most pastoralists of the southern rangelands, but was practiced around towns, where cultivation was initially introduced by migrants from the highlands.

Data collection and analysis

Both primary and secondary data were used in this study. A combination of different techniques was applied in collection of the data required to analyze the goat value chain in the Yabello district of Oromia regional state. Participatory Rural Appraisal (PRA) tools, focus group discussions and key informant interviews and visual observation were used to collect primary data. Secondary data was collected from different district offices. In addition, relevant literature and documents were reviewed to provide theoretical background. Each of the tools used for data collection are described below.

Focus group discussions were conducted with two groups of up to 12 men and women in each of the kebeles, mainly with sheep and goat producers. Two were conducted with 25 participants.

Key informants interviewed were experts in livestock extension, livestock marketing, cooperative promotion, abattoir managers, traders, and meat supermarket managers, butchers, livestock researchers, transporters, veterinarians and NGOs. A total of 20 key informants were interviewed.

The data collected from the field through focus groups, interviews and personal observations were analyzed using a thematic analysis approach. Quantitative data were analyzed using descriptive statistical analysis techniques to calculate the distribution of costs and margins along sheep and goat value chain.

Results: Core functions in the goat value chain

The core functions in goat value chains of Yabello district consists of input supply, production, marketing, processing and consumption are illustrated below in Figure 2.

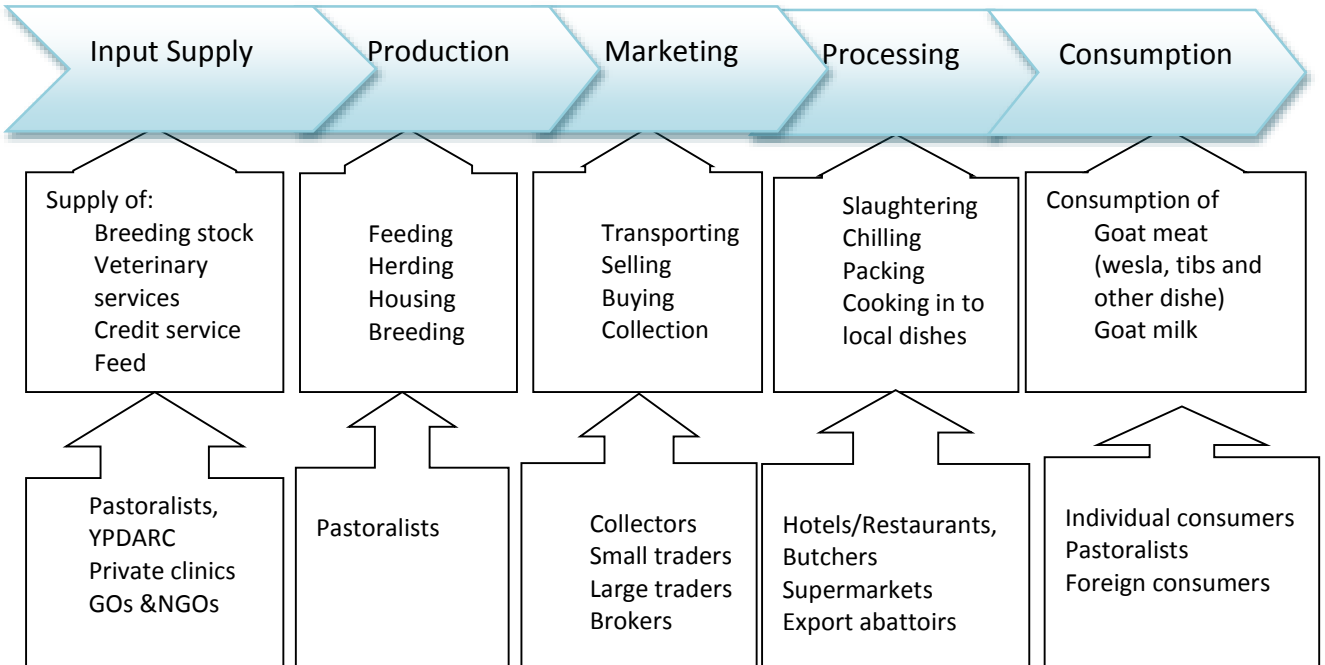


Figure 2. Core functions, activities and actors along the goat value chain in Yabello district

Input supply

Supply of breeding stock

The goat-breeding stock in the study areas are obtained from pastoralists from the Borana pastoral community, markets outside Borana (such as Konso and Guji), and the Yabello Research Center. The pastoralists buy breeding stock from the surrounding markets, or maintain female goats as replacement stock. The important thing here is that Boren pastoralists always go for local breeds. The other important source of breeding stock in the Borana area in general and Yabello district in particular is the restocking program after severe drought seasons in the rangeland. Government and NGOs purchase breeding stock from the market and distribute them to households that are badly affected by the drought. These can be bought either from markets in Borana or neighboring areas such as Konso and Guji. Hence different breeds of animals could be introduced into the rangeland in this process.

The Borana community has a self-help culture known as busa gonofa, in which households affected by drought will be selected after each drought season and given a replacement stock of goats, cattle and other animals contributed by better-off households.

The busa gonofa system has a council of elders that screens households that lost their herd because of drought and are eligible to get the replacement stock. Busa is willingness to share. It

is mostly expressed by provision of milk during severe drought to those who are extremely affected by the drought and lost their milking cows and goats by the drought. Gonofa is a forceful act by clan leaders. Busa gonofa is a fundamental metaphor of assistance based on kinship, or any other social relationship, in time of serious need. It is a type of post-disaster recovery and rehabilitation mechanism. This system has several advantages over the re-stocking programs run by government and NGOs. It does not encourage dependence on external aid but since it depends only on the contribution of animals by its community members rather than purchases from the market – helps maintain local goat breeds. Busa gonfa also implies a high level of trust all round.

The other source of breeding stock is the Yabello Research Center, which provides crossed Boer-Borana bucks to the pastoral community. This is part of the program that was promoted by the Ministry of Agriculture and the USAID-financed Ethiopian Sheep and Goat Productivity Improvement Program. Since the number of bucks distributed is not sufficient to reach the entire pastoral community, their offsprings are used for breeding.

Feed supply

Goat production in Yabello district relies entirely on pasture and browse. Though there are efforts made to supply supplementary feeds such as hay, straw, wheat bran/middling and oilseed cakes during severe droughts, these feeds are aimed at cattle rather than goats; goats and camels can tolerate drought and survive by browsing what's available. Since a shortage of water does not allow pastoralists to grow forage, supply of forage seeds is not common.

Veterinary services

Animal health services in the study area are provided by public veterinary clinics available in the district capital and small towns, at health posts, from community animal health workers (CAHWS) and from private vets and pharmacies. The kebeles selected for this study have health posts where one veterinary health assistant is assigned to each community. There are also CAHWS working in these areas.

There is not said to be a shortage of drugs. Oromia has allocated over 40,000 birr as a revolving fund for procurement of veterinary drugs for each district in the region. A shortage of vaccines for diseases such as pasteurellosis (sombessa in local language), coenurosis and contagious caprine pleuropneumonia (CCPP) is, however, reported to be the major problem. Maintenance of cold chains for transporting vaccines is major challenge; animals often end up being given spoiled vaccines.

Private clinics and pharmacies complement public ones, for those who can afford them at least.

Credit services

Pastoralists in the study area get credit from three sources: the Oromia Credit and Saving Institution (OCSI), the Household Asset Building Program, and their own Credit and Saving Cooperatives. OCSI is a group-based loan that pastoralists take by forming groups of up to seven households. This group provides collateral: if one of the group fails to repay, the rest are responsible. This credit can be used both for crop and livestock, but the terms and conditions do not take into account the nature of animal production activities that need longer grace period as compared to crops. The maximum amount a pastoralist can get from this source is 2000 birr in

the first round, increasing to 2400 if the pastoralist repays the first loan without difficulty. Interest is 15% p.a.

Household Asset Building Program (HABP) credit is extended to Productive Safety Net Program (PSNP) households to enable them to invest when they leave the program. This credit is administered by financial institutions such as OCSI, with follow-up by the offices of pastoral development. To be eligible for this credit, pastoralists produce a business plan with extension-agent support. Credit is given after the approval of the business plan by the district steering committee. The maximum amount that a pastoralist can get from the HABP credit is 4000 birr; interest is set at 10% p.a.

The credit and savings cooperatives are established by the community members. The source of their finance is members' contributions as share capital. Some NGOs supporting the community also provide seed money. They are more flexible in serving the community as compared to OCSI and other institutions, but usually have a shortage of capital to address the credit needs of their members.

The most important issue with regard to rural credit services is the level of understanding of the community about its terms and conditions. Since credit institutions do not have sufficient staff to make the community aware of all terms and conditions. But most of the pastoralists are not clear what type of credit is available, and what they have to do to get access to credit.

Production

Goats and camels are becoming very important components of livestock production in Borana pastoral community. This is mainly because of the climate change that is shortening the drought cycle and increasing the impact of drought. The pastoralist expects a drought every three years and develops coping mechanisms, especially livestock that can tolerate drought stress. Since goat and camel are drought-tolerant, they can provide the pastoral community with milk, meat and cash during the drought seasons. The pastoralist uses goats as the major source of cash for grain and other food items, and for slaughter during cultural ceremonies and as gifts to relatives. The major goat production activities are described in this section.

Breeding

Three types of local goat breeds: Borana, Konso and Guji are available in the study area. Borana breeds are very local, but Konso and Gui breeds are introduced mainly through re-stocking programs. According to the information obtained from focus groups, the Boren breeds have a brown colour, good mothering ability, a larger body size and better market demand as compared to Konso and Guji breeds. Besides their body size, the pastoralists prefer Boren breeds due to their drought tolerance, but they worry about their lower prolificacy.

Half-Boer half-Borana goat bucks were recently introduced. The idea behind distributing Boer breeds is to promote fast-growing goats that can attain slaughter weight quickly and increase the supply of export-quality goats to abattoirs. But the number of bucks being distributed is insufficient, and some feel the initiative may cause dilution of the local genetic resources.

Despite the fact that Borena pastoralists have a wealth of experience in livestock breeding, it was found that they do not select breeding bucks for goat herds. This is mainly due to the high market demand for young male goats (yearlings) that fetch good prices. Pastoralists take yearlings regardless of their physical performance and the history of parents with respect to milk yield, prolificacy and other attributes. Thus there is a general shortage of breeding bucks in the flock. One buck serves the herds of several households for up to four years and inbreeding occurs because of this practice, a problem poorly understood by pastoralists. Bucks are mixed with does and there is no attempt to control mating.

Feeding

As indicated above the major sources of feed for goats in pastoral areas is browse. Pastoralists do not have a history of collecting and preserving either the naturally grown feeds nor growing forage. The usual practice is to reserve the naturally grown grasses and browse for calves and kids for dry seasons. While men migrate long distances with their animals in search of grass and water during the dry seasons, women and children keep kids and calves around their temporary residential areas. They also provide acacia leaves and pods to goats during dry seasons.

The availability of browse and grazing pasture depends on rainfall. There are two rainy seasons in the Borana lowlands: the long rainy season (March–May) and the short rains (September – November). As indicated in Figure 3 below, browse and pasture are more abundant during the long rainy season. Grasses rejuvenate immediately after the first rains and the availability of feed improves quickly in rain. The grasses and browse grown during the rainy season will support the livestock for some months after the rain stops. However this feed cannot support livestock year-round and pastoralists have to move to survive. This happens when feed and rainfall are almost nil, as shown in Figure 3.

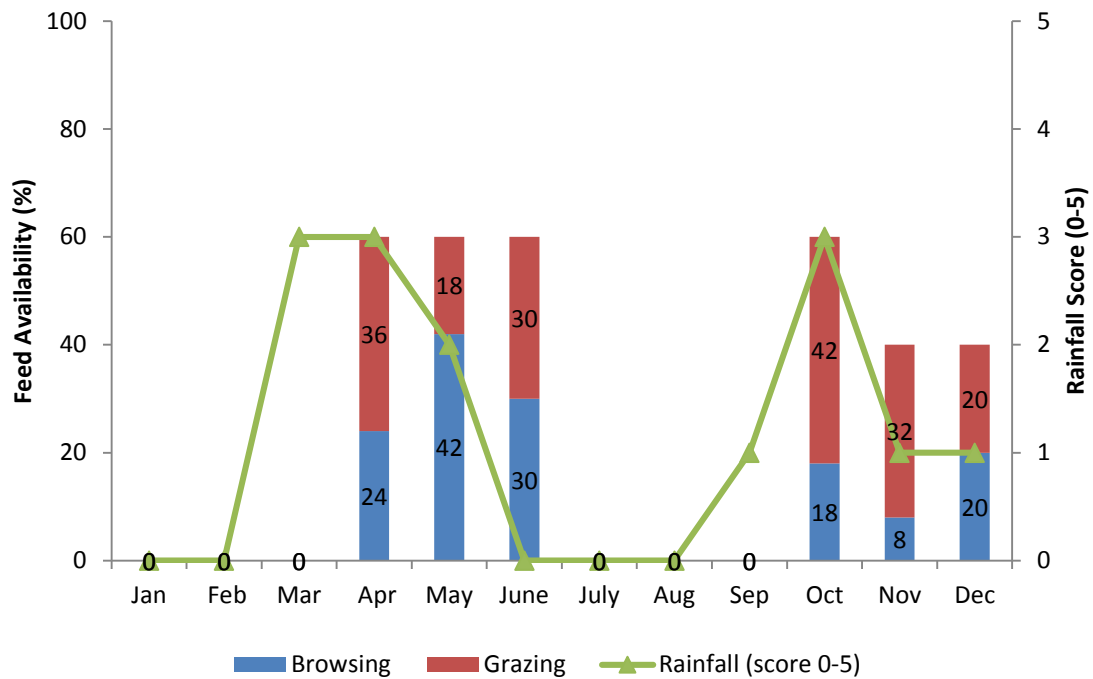


Figure 3. Seasonal distribution of feed resources relative to the rainfall pattern

As indicated earlier, pastoralists reserve standing pasture for calves and kids to be used during dry seasons. But whatever feed is reserved, it will never be used to supplement goats. Best practice in goat feeding is the provision of acacia leaves and pods during the dry seasons. For this purpose, pastoralists spread acacia seeds when they leave the area in search of feed and water, hoping to find it later when they return.

Housing

Goats in the study areas are usually kept in the open and fenced in. All types of animals except kids are kept in one house which is usually a fence with no roofing. Pastoralists build separate kids houses known as Dhokoba in the local language (Figure 4). Kids are kept in Dhokoba in order to protect them from being trampled and damaged by other animals, including bucks and does. Since they are producing milk it is serves to isolate the kids to prevent suckling so that they will get the morning milk. Households that have small goat herd size (five on average) keep them within the main house in order to protect them from predators and thieves.

The barns/houses are cleaned daily by women and children to prevent parasites such as mites and lice. The pastoralists understand that poor housing has a negative impact on the productivity of animals. But they do not understand the severity of damage created as a result of housing different species of animals of different ages in one house.

Milk production

Goat-milk production in Borana is primarily for household consumption. According to the information obtained from focus groups with Dharito and Elweye producers, they about a third of a litre of goat's milk a day. Women are responsible for milking goats and handling the milk.

After milking there is filtration to remove the hair, and then they boil it with tea. Goat milk is used for children younger than five when there is no cow's milk. Sometimes all household members use goat milk if they have large flock size, especially by boiling it with coffee.

Marketing

Marketing includes all of the activities necessary to move a product from producer to consumer. The livestock market in Borana is known across Ethiopia for its sheep and goats, cattle and camel, especially for export. This section describes marketing activity in the study area.

Buying

Pastoralists buy goats to replace old does for breeding or slaughter at cultural festivities. They usually buy young female goats for replacement and yearlings for slaughtering. But they do not buy bucks from the market. The usual practice with breeding bucks, if they decide to maintain one, is to keep a male lamb born in their own herd. The major sources of animals for the pastoralist are brokers, collectors and pastoralists (Figure 4).

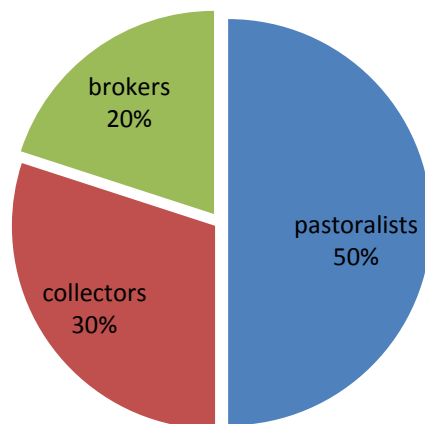


Figure 4. Sources of goats for pastoralists

As indicated in Figure 4, pastoralists buy from each other as often as not. Since they mainly buy replacement stock (young female goats), they go for animals from known locations to be sure the animal is free from disease. They consider similarity of the agro-ecology and feed availability of the source area with their own location, so that the goats can easily adapt.

One characteristic of pastoralists is that they buy animals during the rainy seasons and when they expect rain. Borana pastoralists usually buy breeding stock in January or February and they never sell animals during the rainy season unless they face serious cash shortage or are offered an exceptionally high market-price. This is mainly because they know that better availability of water and feed during such seasons will enable the animals to improve their body condition and fetch better prices later on.

Selling goats

Pastoralists usually sell their goats to meet cash demand for different purposes without affecting larger animals (cattle and camels). They consider goats as cash in hand since they can easily sell them. Pastoralists in Yabello district sell their animals in the bush, villages or towns such as Elweye, Yabello or Harobeke (Figure 5). Though it is not common for pastoralists to go to markets like highlanders, focus groups suggest the majority of pastoralists want to sell their animals there. Collectors also sometimes buy animals on the road or in the bush before they get to market.

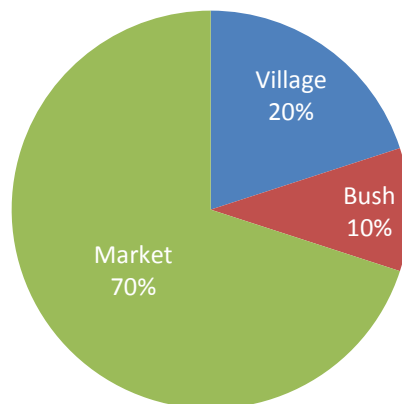


Figure 5. Places where pastoralists sell their animals

When selling in the market, brokers mediate between buyers and sellers, usually charging 10 birr per animal from each buyer and seller. The price of goats varies with the place of sale (Table 1). Focus groups indicate they get better prices when they sell goats in markets compared to the farm gate, bush, etc. The price difference is 30–50 birr. For farm gate/village selling, the main buyers are collectors and primary cooperatives. At this point, the price of a goat is 50–100 birr less than the market. Producers sell on the spot in villages if too far away from market, if they need cash or when the animal is sick.

Table 1. Summary of goat prices at different locations, according to focus groups

Types of goat	Price		
	In the market	Bush	Village/farm gate
Yearling males	600	570	550
Does	800	760	750
Fattened males	1000	970	950
Kids	400	370	350
Young female	550	530	500

Pastoralists sell animals to other pastoralists, hotels and restaurants, collectors and – the buyers of choice – small traders (Figure 6a), who reputedly offer better prices for some animals. Young female goats, for example, are in high demand by pastoralists and NGOs buying them for restocking and fetch good prices. Hotels and butchers need old does and individual consumers need fattened (castrated male goats). Hotels and butchers perceive that does have better dressing percentage as compared to yearlings (Legese et al. 2008) and are cheaper.

Table 2: Preference of different goat types by buyer types, according to focus groups

Buyer type	Animals of preference	Purpose of buying
Small and large traders	Male yearlings	Reselling
Individual consumers	Fattened male	Household consumption
Hotels and restaurants	Does	Slaughtering and processing into different dishes
Butchers and supermarkets in the highlands	Does/Fattened males	Slaughtering and selling meat
Pastoralists	Does	Reproduction
Collectors	All types of goats	Reselling

Small and large traders usually buy male yearlings to sell to export abattoirs and pastoralists usually sell such animals (Figure 6b). The highest proportion of goats sold in Yabello markets are male yearlings followed by old does and fattened males. The old does are sold as a mechanism to cull them when they are older to continue serving the breeding purposes. On the other hand, the proportion of kids and young female goats sold in the market is smaller relative to others. This is because pastoralists use them as replacement stock rather than buying from outside. The highest proportion of young male goats sold in the market is because of very high demand for such types of animals especially by export abattoirs. Since abattoirs need male yearlings with good body condition, pastoralists always sell fast-growing male yearlings rather than keep them for breeding. As a result, goat herds tend to lacking breeding bucks. Once they maintain one buck in the herd, they keep it for over five years, causing some inbreeding.

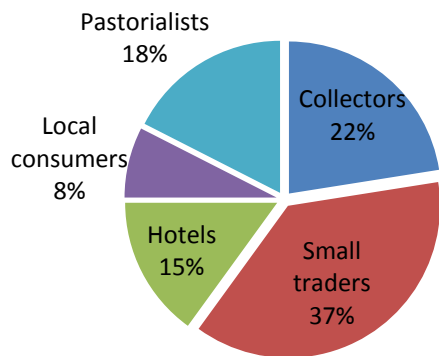


Figure 6a. Buyers of goats from pastoralists

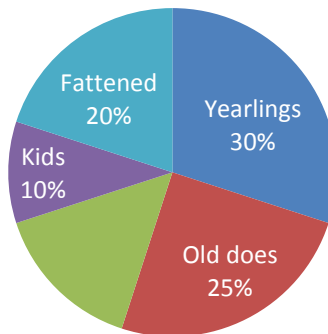


Figure 6b. Types of marketed goats (pastoralist estimates)

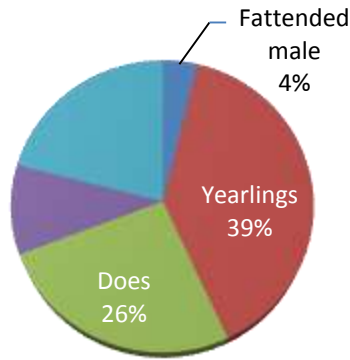


Figure 7a. Proportion of goats supplied to Yabello

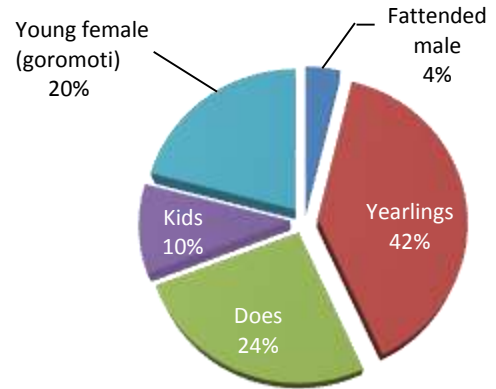


Figure 7b. Proportion of goats sold in Yabello market

(Source: 2006 data obtained from Borana Office of Pastoral Development.)

To triangulate focus group results, we made use of weekly data collected from Yabello market in 2006 by the Borana Pastoral Development Office (BPDO). Except for the time factor, this data confirms that the majority of goats supplied and sold in the market were male yearlings followed by old does (Figures 7a and 7b). The difference is in the proportion of fattened males and young female goats supplied to and sold in the market. The proportion of fattened males has significantly increased, while that of young females has decreased. This could be because of the increased demand for fattened lowland goats by the highland butchers and supermarkets.

Supply seasonality

Pastoralists usually sell their goats for cash, but there are governing factors such as climatic condition in the area that influence the selling decision and supply of animals to the market. Pastoralists sell animals during dry seasons and maintain them during the rainy seasons (Figure 9).

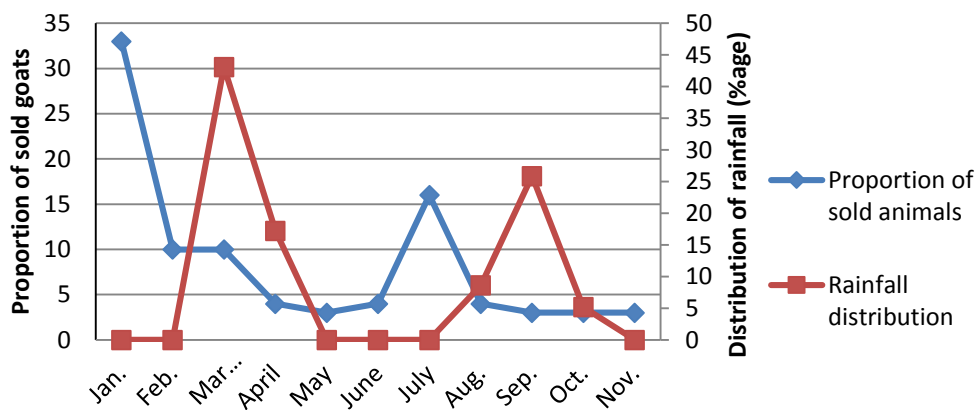


Figure 8. Seasonality of supply of goats to the market Processing

Processing

Processing of goat meat in Yabello district is mainly carried out by hotels and restaurants. Dishes include key wat (stews), tibs (roasted meat), dulet (fine chopped offals and red meat mixed with spices and butter), and wasla (a traditional Borana arosto). The area is the major source of slaughter goats for export abattoirs in the Bishftu and Modjo areas. The export abattoirs slaughter the goats, remove the skins, chill the carcasses, wrap them with cotton fabric, and transport the meat to Bole airport.

In addition, they export different organs such as testicles, penis, brain, intestine, kidney and liver to different countries. There are firms specializing in the processing and export of intestines to different countries. The butchers in Addis Ababa, Hawasa and other big towns slaughter Borana goats and sell either the roasted or raw meat on the premises or as a takeaway. Addis Ababa supermarkets slaughter Borana goats and sell either the whole carcass to the hotels and restaurants or individual cuts.

Consumption

Goat meat is consumed by domestic and foreign consumers, and 80–90% of meat exported to different countries is goat. Ethiopian goat meat is exported mainly to the Middle East and North Africa. Because of the limited processing capacity of Ethiopian meat exporters, only chilled carcasses and organs are exported to these countries, targeting the lower income migrants. This is mainly because well-off people go for better quality meat that is either freshly slaughtered on the spot or imported from Australia and elsewhere. Domestic consumers buy either raw meat from butcheries and supermarkets or live goat and slaughter at home. The domestic hotels and restaurants serve domestic consumers with different dishes made from goat meat.

Support services

Extension services

The Oromia Pastoral Area Development Commission has zonal offices in all pastoral areas of the region. Yabello has a well-staffed district office of pastoral development. The kebeles identified for this intervention, Dharito and Elweye, also have three extension workers each. There are animal health assistants and community animal health workers supporting the pastoralists in awareness, provision of vaccines and treatment of diseases. The livestock extension workers provide technical support to the pastoralists but focus more on cattle and less on small ruminants. The work of extension agents on small ruminants focuses on Boer-Borana cross-bred bucks as a mechanism to improve the genetic potential of the herd more than feeding and husbandry. The extension agents lack marketing knowledge and pastoralists rely on their own.

Transportation

According to World Organization for Animal Health, animals should be transported in special trucks and provided with rest, food and water en route. Regular veterinary inspections and culling should be done to minimize the suffering of sick and injured animals.

However, this is not respected in Ethiopia, where many animals trek all or most of their way (Kano 1987). The supply of live animals to all kinds of markets (primary, secondary and terminal

markets) and slaughterhouses is mainly carried out either by trekking or trucking, or a combination of both.

Trekking is the predominant means of transporting animals from farm gates to market. Though the primary livestock markets are closest to producers, the distance varies from place to place. In some places, producers trek up to three hours to arrive at the primary markets to sell their animals. From the two study sites, for example, people have to trek up to 20 km to arrive at livestock markets, taking up to three hours.

Most of the animals sold at the secondary markets are transported to the terminal markets and slaughterhouses in ordinary trucks that are unsuited for loading, unloading and transporting animals.

Market information

Before selling their animals, pastoralists search for information about market conditions by going to the markets themselves, or asking neighbours and traders. They search for information on types of animals (yearlings, does, young female, etc.), colour, age, weight and body condition of animals selling briskly. The information is from the previous week's market day, so producers tend to bring animals that were sold in large then.

Though the Ethiopian Livestock Market Information System was tested and launched using the information collected from the markets in the study area (Elweye and Harobeke), this system could not be sustained because of the weak institutional arrangements for data collection and transmission to the central system. The system was initiated and developed from externally funded projects, and data collectors and transmitters were recruited from government offices. The projects were paying additional money to the data collectors and transmitters on top of their regular government salary. But this could not be sustained after the projects were phased out and the data collection and transmission activity ceased.

If the system is to be re-started, there are issues that should be considered in terms of the dissemination of market information. That is, it has to be disseminated in the local dialects using FM radio.

Analysis of end markets

End markets determine the characteristics – including price, quality, quantity and timing – of a product or service. End market buyers have a powerful voice and incentive for change. They are important sources of demand information, can transmit learning, and in some cases are willing to invest in firms further down the chain (Campbell 2008). End market goats could be broadly classified as 'domestic' and 'export'. The domestic market demand could be categorized into demands by individual consumers, hotels and sheep and goat butchers and supermarkets.

Domestic markets

An important development is the opening up of sheep and goats butchers and retail sheep and goat meat in the supermarkets of major towns. Goat meat was usually consumed in the lowland areas of the country, while highlanders used to focus on lamb. But sheep and goat butchers in Addis, Adama, Hawasa and other big urban areas have started serving goat meat and are expanding to smaller towns. The supermarkets are also retailing sheep and goat meat. This is a

very good opportunity for sheep and goat producers since it creates continuous demand for fattened sheep and goat. The butchers and supermarkets are slaughtering fattened male goats. According to discussions held with a meat supermarket owner and manager, Addis Ababa consumers still prefer lamb to goat meat and the supermarkets slaughter more sheep.

The other important segment is the sheep and goat butchers. The butchers slaughter more of fattened male goats. The price of goat meat is up to 160 birr/kg in butchers, while it is 90–95 birr/kg in supermarkets, because of the service cost at butchers and their selecting cuts depending on consumer preference. Supermarkets, on the other hand, retail pre-packed bundles of meat.

Export markets

Analysis of data from the Ethiopian Revenue and Customs Authority shows that 12 Middle Eastern countries are the major market outlet for meat and live animals exported from Ethiopia. The lion's share of meat was exported to Saudi Arabia and the UAE. Other destination markets for Ethiopian meat are Egypt, Yemen, Kuwait, Oman, Bahrain, Congo and Democratic Republic of Congo, Turkey, Vietnam, Angola, Comoros Islands and India. Egypt, Angola, DRC and Congo and Comoros Islands are beef markets; Vietnam and Turkey import offal.

As indicated above, the most important markets for Ethiopian chilled sheep and goat carcass are UAE and Saudi Arabia, which have specific requirements in terms of the carcass weight. The UAE market needs goat carcasses of 5–10 kg, which necessitates slaughtering animals of 13–25 kg in live weight. Saudi Arabia needs larger goat carcasses of 7–12 kg, which means slaughtering goats of 16–30 kg in live weight. In general, although quality requirements vary, the goat export market generally requires animals having the following characteristics: male, young (1–2 years) and with a live weight of 12–30 kg. The export market prefers non-castrated goat with lower proportions of fat; the domestic market prefers castrated males or female animals (Getachew et al. 2008).

Despite the challenges of repeated trade bans, the Gulf states and Egypt are currently the primary target destinations for Ethiopian meat exports. Within these countries, competing exporters include Australia, New Zealand, Brazil, India and Pakistan. Ethiopian meat sells at the lower end of the market in the importing countries. The market is segmented according to incomes, with higher-income consumers preferring freshly slaughtered meat; lower-income people (particularly low-income expatriates) opt for low-cost meats that are usually frozen. This is the segment of the population that consumes chilled Ethiopian goat carcasses.

Marketing routes

The study area supplies live goat to the export market both through the formal and informal channels. The formal channel is the one that passes through Yabello and Harobeke to export abattoirs in Modjo/Bishoftu. The live animal exports pass through Adam to Djibouti port. As indicated in Figure 9, the study sites supply live goats to Yabello market, and goats from this market are transported to the secondary market at Haro Beke, from where traders transport animals either to tertiary markets such as Addis Ababa or export abattoirs in Modjo, Bishoftu and Adama. Live goats produced in Borana rangeland are also informally transported to Kenya and Somalia.

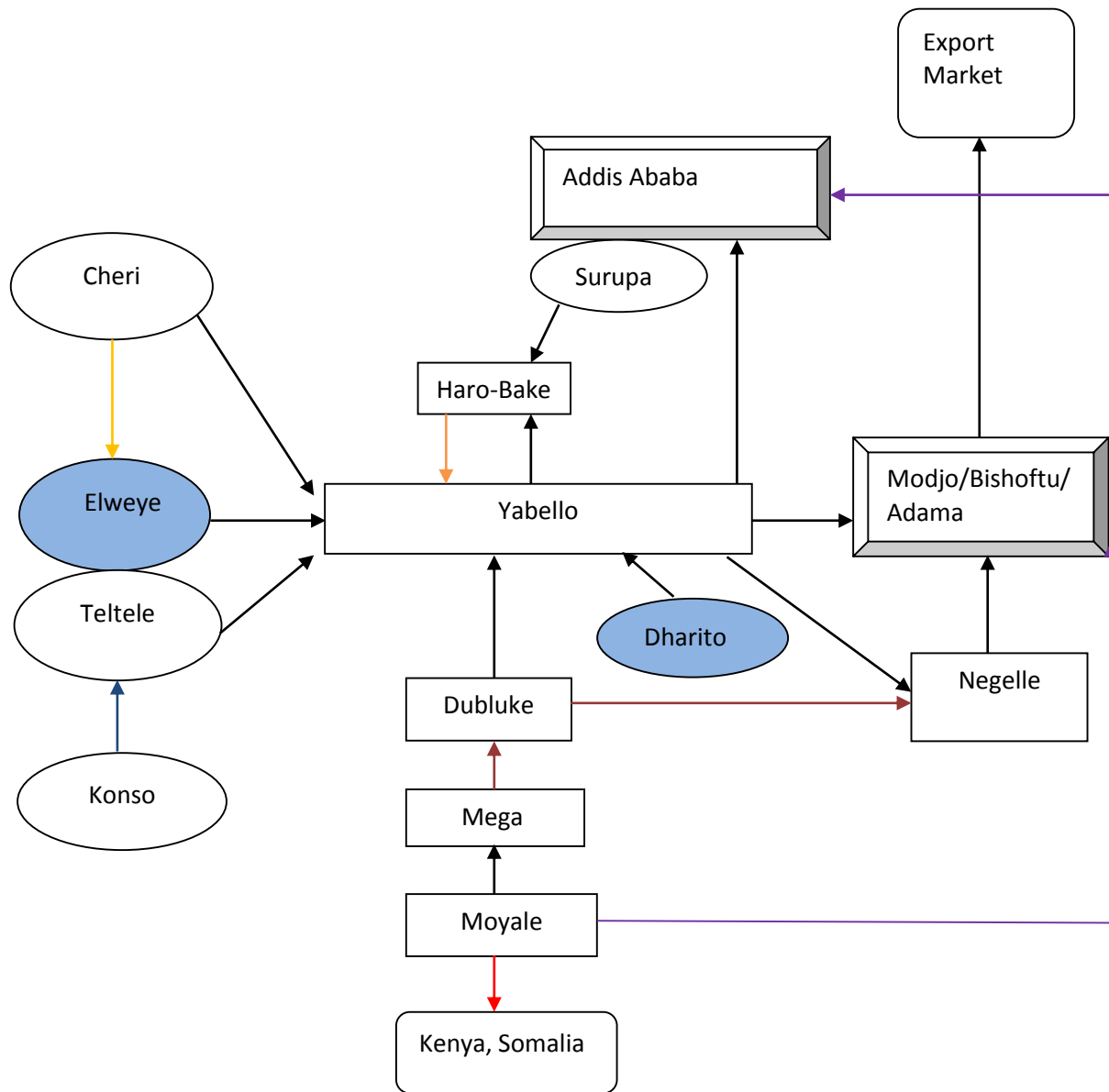


Figure 9. Marketing routes for Borana goats

Marketing channels

A marketing channel is an organized network of agencies and institutions which perform all the activities required to link producers with consumers (Bennet 1988, as cited by Jaleta 2011). Only a small portion of the goods and services is consumed at the point of production, and only a small fraction of any output is purchased by the ultimate consumers directly from the final producers (Jaleta 2011). Thus the channel is a marketing process which performs several functions by bridging the gap between production and consumption. The analysis of marketing channels provides a systematic knowledge of the flow of goods or services from their production areas to the final market or end users.

Marketing of goat in the study area starts with the collection of goat of different classes and ages from production areas moving on to the 'end markets' (Figure 10). In the process, animals pass on successively through different market actors before they reach end-users. The number and type of market participants are different along the different market channels. The different channels represent available outlets in the areas through which goat moves from different directions of the production areas to end-users. Eleven major goat marketing channels are identified in the area:

Major marketing channels for domestic consumers:

- Channel 1: Producers → Local hotels
- Channel 2: Producers → Collectors → Local hotels
- Channel 3: Producers → Producers (for breeding purposes)
- Channel 4: Producers → Collectors → Individual consumers
- Channel 5: Producers → Collectors → Small traders → Supermarkets and butchers

Major marketing channels for goat meat exports:

- Channel 1: Producers → Collectors → Small traders → Large traders → Export abattoirs
- Channel 2: Producers → Collectors → Small traders → Export abattoirs
- Channel 3: Producers → Collectors → Large traders → Export abattoirs
- Channel 4: Producers → Small traders → Export abattoirs

Major marketing channels for live goat exports:

- Channel 1: Producers → Collectors → Small traders → Large traders → Live sheep and goat exporters
- Channel 2: Producers → Collectors → Small traders → Live sheep and goat exporters
- Channel 3: Producers → Collectors → Live sheep and goat export

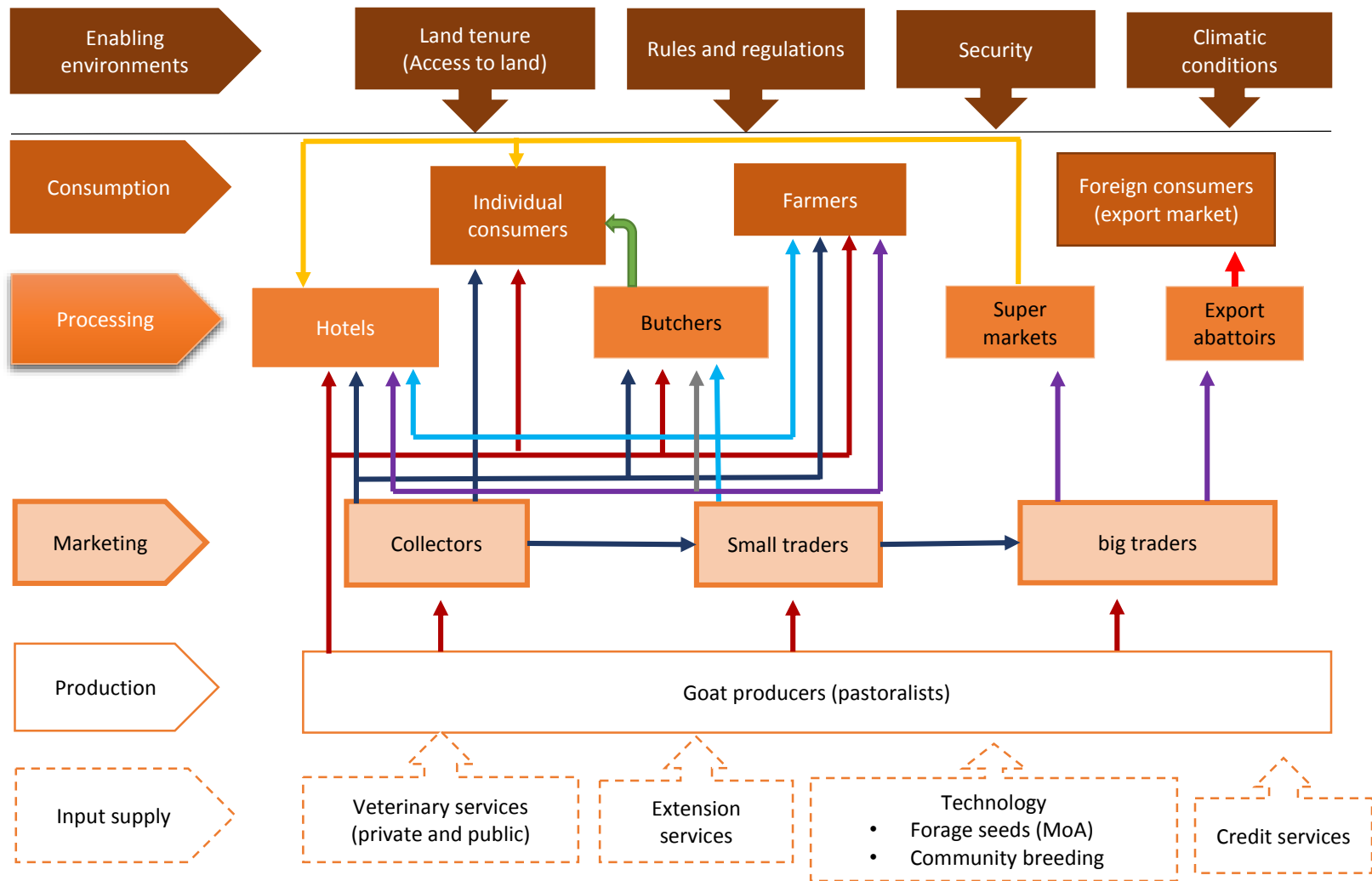


Figure 10. Map of Yabello Goats Value Chain

The major marketing channels for animals from the study area can be categorized into three groups:

Channel 1: Producers → Local hotels

Local hotels and restaurants are one of the few actors who can buy live goats from pastoral producers. They can either buy at Yabello market or rural markets. Both producers and hotels benefit – since there are no intermediaries the margin they share is correspondingly greater.

Channel 2: Producers → Collectors → Local hotels

In this channel, collectors are involved in selling goats to hotels either in the market or at the hotel gate. Collectors can make 20–50 birr and the marketing cost is mainly the tax paid at the market if they buy animals there.

Channel 3: Producers → producers (for breeding purposes)

As indicated in the input supply section, the pastoralists get replacement stock from the market. They usually buy from producers whom they know, so they get the animal's history. After drought seasons, collectors and small traders collect animals that could be used for restocking purposes and sell them to NGOs that will distribute them to pastoralists.

Channel 4: Producers → Collectors → Individual consumers

Individual consumers in the study area have also a chance to buy directly from producers. However, since the consumption pattern of individual consumers is seasonal or corresponds to religious holidays, they usually buy from collectors, who offer a substantial number of animals at these times.

Channel 5: Producers → Collectors → Small traders → Supermarkets and butchers

Some meat supermarkets in Addis have permanent suppliers from Borana markets, usually small traders who supply animals to export abattoirs. They buy bigger goats in good condition to supermarkets, and similar animals to butchers in bigger towns including Addis Ababa and Hawasa.

Major marketing channels for goat meat exports are:

Channel 1: Producers → Collectors → Small traders → Large traders → Export abattoirs

This is a channel where some export abattoirs provide premium prices to large traders that can supply thousands of animals a week and establish a huge countrywide network of small traders and collectors. Small traders hand over to large traders since they cannot get a premium price if they supply directly to abattoirs.

Channel 2: Producers → Collectors → Small traders → Export abattoirs

This is the channel in which export abattoirs buy from any supplier who can provide at least a truckload of animals at the factory gate. In most cases, two or more small traders buy goats and share a truck to take them to the abattoirs. No premium is charged in this channel since abattoirs have to deal with a number of small traders.

Channel 3: Producers → Collectors → Large traders → Export abattoirs

Some large traders in Yabello have a network of collectors who buy goats on a commission basis and supply thousands of animals a week to export abattoirs. These traders are also supply exporters of live animals. They provide advance payment to collectors so that they collect large

number of animals at once. The collectors working for these traders are usually relatives and trusted long-standing customers.

Channel 4: Producers → Small traders → Export abattoirs

As indicated in Figure 10, pastoralists sell about 37% of their marketed animals directly to small traders. These traders sell 16% of their goats to export abattoirs. As indicated in channel 2 above, two or more of such traders fill the truckload and send the animals to export abattoirs.

Major marketing channels for live goat exports are:

Channel 1: Producers → Collectors → Small traders → Large traders → Live sheep and goat exporters

This is the longest channel to live sheep and goat exporters, involving many intermediaries. Some live animal exporters establish a network of collection in different parts of the country assigning all traders and collectors. This is used to collect the required number of animals quickly. Since the operation is usually to collect animals that will be used for sacrifice at the hajj ceremony, exporters have to collect a huge number of animals.

Channel 2: Producers → Collectors → Small traders → Live sheep and goat exporters

Some small traders with sufficient capital and a strong network of collectors buy animals on their own and supply them to live-animal exporters. This involves more risk since the traders keep the animals to themselves and there is high mortality. However, they tend to gain weight as they keep animals longer.

Channel 3: Producers → Collectors → Live sheep and goat exporters

The live animal exporters also establish their own network of collectors besides what they buy from small and large traders.

Actors in the goat value chain

'Actors' in the value chain refers to those individuals or entities who engage in a transaction which moves a product from initiation to end-user. They must exchange money (or another store of value) as well as a product, which generally increases in value with each transaction (Campbell 2008). The primary actors common to the livestock value chains in the study areas are producers (farmers), brokers, collectors, small and large-scale traders, hotels, supermarkets, sheep and goat butchers, export abattoirs and individual consumers. Analysis of the characteristics of these actors and their marketing strategies helps in designing intervention measures to reduce transaction costs and other factors that depress the proportion of the final price that reaches producers.

Export abattoirs

Yabello district is one of the major sources of goats for export abattoirs at Bishoftu and Mdjo towns. Five out of the seven export abattoirs found in the country are located in these towns and they buy animals at the factory gate. Their suppliers are mainly small and large traders, but they can buy from anyone who can supply a minimum of 100 goats at a time. In order to deal with few suppliers and to encourage supply of large number of animals per trader, some export abattoirs provide premium prices to customers who can supply thousands of animals a week. Each of the export abattoirs slaughters 2000 goats a day on average and exports chilled sheep and goat carcasses to the Middle East and North Africa. Some of them have opened domestic

outlets for their meat in Addis, but their major outlet is export. In order to encourage suppliers, export abattoirs provide transportation services at cost for animals that are supplied to their plants, using ordinary Isuzu trucks. Some abattoirs pay immediately while others pay within two weeks.

Live animal exporters

Live animal exporters sell sheep and goat mainly to Saudi Arabia during the Arefa season for sacrifice at the hajj. They need male uncastrated sheep and goats. Unlike the export abattoirs, live animal exporters need animals of a larger live weight, collecting them from all corners of the country and exporting through Djibouti. Since the temperature in Djibouti and all along the way to Saudi Arabia is very high, live animal exporters need animals from the hot lowlands, so pastoral and agro-pastoral areas are major sources. The collection of animals from these areas is through a network of traders and collectors, out to remote areas. Such traders and collectors can go into neighbouring countries such as Kenya in search of export-quality animals.

Butchers

The butchers both in the study area and bigger cities such as Addis Ababa, Hawasa, Shashemene and Adama slaughter goats and sell raw meat or roasted takeaway meat. They prefer fattened, castrated goats of 40–45kg body weight. They do not slaughter female goats because of their higher fat coverage that makes their meat lighter relative to meat from male goats. They buy animals from small traders and retailers, and the number bought varies according to their market size.

Supermarkets

Meat supermarkets are mainly found in big cities like Addis Ababa. Apart from sheep and goat meat, supermarkets sell beef, chicken, pork and dairy products. They slaughter animals of different live weights, depending on their customers' needs. They mainly slaughter male sheep of 40–45 kg. In addition to packed meat supermarkets sell carcasses to restaurants and hotels on a contract basis. Their prices are usually less than butchers, increasing according to carcass weights. Supermarkets charge higher prices for carcasses of larger weight, selling carcasses of over 12 kg to restaurants.

Supermarkets slaughter animals in municipal slaughter houses and do the cutting and packing on the premises. Since meat cutting and packing needs special skill, they hire one or two skilled persons (in cutting and packing for retail outlets) who train others. They also have cold rooms, filleting and packing facilities.

Hotels and restaurants

Hotels and restaurants in the study area and in bigger towns and cities buy mainly female goats and process them into different dishes. They mostly go for old does because they are regarded as having a larger proportion of meat (Legese et. al 2008) and are cheaper. Hotels and restaurants in the study areas slaughter male yearlings to process them into wesla (the Borana traditional aristo). Hotels and restaurants buy from pastoralists and collectors. However the ones outside Borana buy mainly from small traders and retailers in bigger cities such as Addis Ababa. Hotels and restaurants in Addis buy carcasses from supermarkets on contractual basis.

Individual consumers

Individual consumers are livestock market actors that buy either live animals or meat for their own consumption. They buy live goat from traders, collectors and pastoralist producers. They buy raw meat from butchers and supermarkets by weight. Individual consumers buy live goats to slaughter for the Ethiopian New Year, Christmas, Easter, Ramadan and some special occasions. Though it varies with income, they usually go for fattened male goats (mukit). Colour preference is an important criterion for individual consumers when selecting goats in the market. Most prefer white or brown, not black. There is a price difference of up to 100 birr per animal because of colour. Individual consumers usually want to buy from producers. Those found in the study area buy from pastoralists. They know the price of animals is lower when buying from producers. In the bigger cities, individual consumers buy from any seller. Pastoralists are both the buyers and sellers of Borana goats. They usually buy young female goats for breeding and sell male yearlings, old does, and fattened goats to different actors. The average goat holding size is 55 head per household in Dharito area, and 100 head in the Elweye area. Well-off pastoralists can have over 200 heads of goat; a poor family may only own as few as 15.

Pastoralists normally sell goats to meet immediate need for cash. But during drought seasons or when they expect drought, they first sell young cattle (bulls, steers and heifers) since they are the most affected by drought. Goats are sold during severe droughts to buy food and feed for larger animals.

Market information is scarce among pastoralists. In order to get market information, at least one person (a family member or neighbour) has to go to the market. Though it is not reliable, pastoralists try to get information from collectors (usually also pastoralists). Though collectors go to villages to buy goats, pastoralists prefer to sell to traders at market who offer better prices than collectors.

Collectors

These are important livestock market actors collecting animals from their own and remote pastoral areas, even reaching neighbouring countries. They are usually also pastoralists and do business as a sideline. They have better social ties with pastoralists and serve as sources of market information, which they may distort for personal gain.

Collectors operate using their own capital, but face financial constraints and try to get advance payments from small and large traders (customers). They collect up to 20 animals at a time and sell to small and large traders. They usually achieve a margin of 50 to 100 birr depending on the place of purchase and season. They get a higher margin if they buy animals from remote areas that do not have access to market. Ramadan and Arafa seasons are when collectors get better margins and a high turnover because of demand.

Small traders

Small traders are those market actors that supply hundreds of animals every week either to large traders or to export abattoirs. They also supply to hotels, butchers and retailers in Addis Ababa and have their own network of collectors. There are fewer small traders than collectors and more than large traders. They usually operate using their own capital and sometimes

receive advance payments from buyers (large traders). Most of the small traders in the Yabello area are doing sheep and goat trading as a sideline and are involved in cattle trading and other business activities in addition. They go to primary and secondary livestock markets and buy from pastoralists and collectors. Trade between small traders and collectors is based on trust, not contracts.

Large traders

Large traders are those livestock market actors that supply thousands of goats a week to export abattoirs, using their own capital and suppliers, and sometimes in exchange for premium prices. This limits the number of suppliers the abattoirs have to deal with and simplifies administration. Large traders in turn arrange a supply network with many small traders and share the premium price – a win-win situation for abattoirs and all traders.

Large traders simply stay at Modjo, communicate with small traders, transfer money to their suppliers (small traders and collectors) through banks, receive animals from different corners of the country, let the animals rest for two or three days and hand over them to the abattoirs. They go to secondary markets in order to coordinate the activity of their suppliers, and provide market information about price, type and number of animals required.

There are also large traders in Yabello that have a network of small traders and collectors that operate throughout Borana. They supply goats both to live animal exporters and export abattoirs, and trade cattle and camel depending on market demand. Large traders in Yabello stick to sheep and goats because of a continuous demand for goats by export abattoirs. Traders we talked to indicated that some export abattoirs delay payments and this causes them cash flow problems. They continue supplying these abattoirs because their standards are low.

Brokers

Brokers mediate transactions between buyers and sellers. The activity of brokers in markets depends on the type of transaction. In weight-based transactions of male yearling goats, their task is simply to point sellers at buyers; they do not influence the price.

They set a guide price (for a commission of about 10 birr) in cases where animals are sold on a visual estimation, and sellers have to agree with the terms of the broker; they cannot go to another since brokers do not compete with one another.

Cooperatives

According to the Yabello district office of cooperatives promotion, there are 90 primary cooperatives in Yabello, out of which six are livestock marketing cooperatives. These cooperatives rely on using members' contributions as a share capital. Some of them receive small amounts of money (up to ETB 30,000) as a revolving fund from NGOs. They market goats, cattle and camels depending on the size of their working capital and market demand. They buy both from members and non-members. Some of them are involved in the restocking programs, and there were unsuccessful efforts to engage them in commercial destocking during drought seasons.

The cooperatives are run by a committee elected only from members rather than employed professionals, so they lack entrepreneurial skills while poor market linkages and lack of

managerial transparency are major problems. Heterogeneity of membership and the resulting conflict of interest is another problem hindering development of cooperatives. There are collectors with better skills than other cooperative members and they usually become leaders of the cooperative. As time goes on and they get better linkages and management start doing their own business under the name of the cooperative. Cooperatives also lack of flexibility and their operating costs are very high compared to individual traders, making them less competitive. Market linkages were created between export abattoirs and pastoral livestock marketing cooperatives by several NGOs and government agencies, but none were found to be competitive.

Relationships

Vertical linkages

'Vertical linkages' refers to coordination between players engaged in different functions or different levels of the value chain – critical for moving a product or service to the end market. Vertical cooperation reflects the quality of relationships among vertically linked firms up and down the value chain. More efficient transactions among firms that are vertically related in a value chain increase the competitiveness of the entire industry. In addition, vertical linkages facilitate the delivery of benefits and embedded services and the transference of skills and information between firms up and down the chain.

The general pattern in sheep and goat markets is for producers to sell to different traders each time they go to the market, and for animals to change hands up to six times by the time they reach the final consumer. Thus, there is no vertical linkage between producers and any buyer in the sheep and goat value chain. Even the most frequent buyers in sheep and goat markets do not have any contractual supply agreement with producers. Thus there is no strong relationship of trust between buyers and producers. This is mainly because the production system is not market-oriented and pastoralists are not following demand or the quality requirements of important market actors. This challenges the competitiveness of the entire meat industry. As a result, there is low level of transfer of skills and knowledge from the buyers to producers. This keeps the production system as it is.

The relationship between collectors and small traders, collectors and hotels, collectors and butchers has complementarity of sorts since there is a long-standing mutual relationship between them. These relations are based on trust, without any formal contract. Collectors can sell sheep and goats on credit to small traders and hotels and also take advance payments without any formal signature. This strengthens their relationship and also provides an opportunity for all actors to expand their business activity.

Horizontal linkages

Horizontal linkages – both formal as well as informal – between firms at all levels in a value chain can reduce transaction costs, create economies of scale, and contribute to the increased efficiency and competitiveness of an industry. In addition to lowering the cost of inputs and services, horizontal linkages can contribute to shared skills and resources and enhance product quality through common production standards.

The livestock marketing cooperatives in the study areas are the basis for horizontal linkages among pastoralists. These cooperatives are meant to boost the bargaining power of pastoralists and safeguard the benefit of their members. But because of their weak financial position, lack of

business skills and transparency among most of the cooperatives, they do not achieve targets. They are not strong enough to satisfy the interest of their members. Since they do not have good business skill they cannot win a competition with individual traders. For instance, several of the cooperatives in the area have signed agreement with export abattoirs but cannot meet the terms of the contract and supply animals while individual traders can.

While there is a vertical linkage among traders in the sheep and goat value chain, only a limited level of horizontal linkages is found among the export abattoirs and small trades. The export abattoirs have an association, the Ethiopian Meat Producer-Exporters Association. This is the common platform for the export abattoirs that protects their interests. They set a floor for export prices, lobby for policy changes and better services at the airport, and communicate with the government through their associations. The export abattoirs also share air cargo space which would otherwise have been expensive. On the other hand, export abattoirs are competing with each other on supply of slaughter animals and buyers.

The horizontal linkage among small traders are signified primarily by the use of common trucks for transportation of sheep and goats to the next level of the market. Since they collect a small number of sheep and goats from different markets, it is not economical to hire a truck on an individual basis, so small traders share trucks to transport sheep and goats to either Modjo or Bishoftu.

Governance in the goat value chain

The major buyers of goats in the study areas are traders supplying animals for export abattoirs in the Bishoftu and Modjo areas. These abattoirs buy specific types of animals for different markets, so quality, volume and price are all determined by these export abattoirs catering to the Middle East. They increase prices when they need volume quickly, so market power concentrates at the higher end of the value chain (exports) to influence the types of animals supplied at what price. Pastoralists remain price takers compared to traders.

Gender roles in goat production

The roles of men and women in the production, marketing, sale and consumption of goats and milk and milk products were discussed in focus groups. The main role of women in the production process is taking care of young kids by feeding and watering them. Men are responsible for herding all livestock, including goats, especially when they have to travel long distances in search of feed and water. Goat milking, processing the milk, and selling the milk and butter is also the duty of women.

Since the proceeds obtained from the sale of milk are small, women use them to cover miscellaneous household expenditures. Men are the one who sell goats and also control proceeds from this, but dominance of men over women is not so pronounced in Borana – women have some say in how the proceeds of the sale of their animals are utilized. During the rainy season men and women both clean barns and houses every day.

Constraints along the goat value chain

This study has identified natural, technical, economic, legal and institutional constraints hindering the development of the goat value chain in the study area. These constraints will be described under each stages of the value chain.

Constraints at input supply stage

Shortage of breeding bucks. Yabello district is the major source of slaughter animals for export abattoirs. Young, un-castrated male goats in good condition are the most important animals needed for this purpose and fetch better prices. Pastoralists sell vigorous male yearlings that could be used for breeding purposes, and the herd is usually left without breeding bucks. Since male yearlings fetch better prices and sell quickly, weaker bucks will be left in the herd (leading to negative selection). Pastoralists borrow bucks from their neighbours, and one is expected to serve several does.

No selection of breeding bucks. Though pastoralists in general have a wealth of experience in livestock breeding, we found them giving less attention to the goat breeding aspects. They do not select breeding bucks for their herd. They do not understand the problem of inbreeding and let one buck serve the herd over four years. Bucks of an unwanted colour, body size and those whose mothers had a low milk yield and low prolificacy tend to be forgotten about and are left in the herd.

Shortage of veterinary equipment and drugs. Oromia regional state has allocated a revolving fund for a drug supply to each of its districts, but it is not enough and does not cover clinical equipment, for which there is a series shortage of funds.

Shortage of vaccines for CCPP and sheep and goat pox. Vaccination is one of the most important activities of the district veterinary service unit. They provide the vaccines for different diseases including CCPP, Peste des petits ruminants (PPR) and goat poxes. However the vaccines allocated for the district do not cover the number of animals – possibly because of lack of vaccines produced at national level or problems in the distribution system.

Problems in maintaining cold chain for vaccines and provision of dead vaccines. The vaccines used in the study area are transported for nearly 600 km, supposedly by cold chain. But veterinary professionals expressed concerns about maintaining the cold chain for vaccines. This needs further investigation and appropriate action.

Vaccines provided for unidentified strains. The other major problem with vaccines is proper identification of strains of the different diseases before vaccination. The veterinary professionals we consulted during the field survey indicated that strains of the different diseases are not properly identified. Vaccines provided without pre-identification of the strains have huge chance of failure.

Poor veterinary service regulation and enforcement: informal veterinary drug sellers. Though informal selling of veterinary drugs is illegal, it is common to see informal drug sellers offering drugs to pastoralists in shops, pharmacies and around livestock markets.

Shortage of transportation facilities to reach farmers in areas far from clinics and health posts.

One veterinary health post is built to serve three kebeles and one health assistant is assigned to each. Since the kebeles are very big, some of the pastoralists have to travel up to three hours to reach them. In cases when their animals are very sick and cannot walk, health assistants do not provide mobile services, of if they try to reach somewhere on foot it takes a very long time and this influences regular services at the health posts.

Problems of flexibility of terms, group collateral and loan size. As indicated in the input supply section, credit is available to the pastoralists through the Oromia Micro Finance Institution and Household Asset Building Program (for safety net households). However, micro-finance institutions ask for group collateral and most pastoralists do not want get into such an arrangement for fear of having to pay for defaulters. Moreover, the amount of money obtained from this source is not enough for livestock activities. The repayment modality of this system also does not provide enough grace period for livestock rearing activities.

Constraints at the production stage

Feed shortage in drought times. The pastoral livestock production system relies on pasture for cattle and sheep and browse for goats and camels. Pastoralists practice traditional feed conservation, such as preservation of standing pasture for calves and lambs during the drought season. However they do not harvest these feed resources for use during critical drought seasons. Thus, feed and water shortage in drought seasons is critical and pastoralists need an external supply of feed during such seasons.

Lack of awareness on improved goat production and management practices. Despite the wealth of experience they have in livestock production and management, pastoralists in Yabello district are still using traditional methods. The extension system does not provide any training on improved goat production and management practices. This is one of the major challenges in developing the goat value chain in the area.

Lack of a practice to provide supplementary feed to goats even in drought times. Goat production in the study area relies on browsing of bushes. Though supplementary feeding is becoming a common practice for cattle, especially during drought, this does not apply to goats, which are not provided with any supplementary feed even during droughts.

High incidence of disease and parasites. According to the information obtained through discussion with district office of pastoral development and private veterinary service providers, there is a high incidence of diseases such as CCPP, goat pox, coenurosis and parasites such as ticks, lice, mange mites and *Haemonchus contortus*. The incidence of these diseases and parasites in the area contributes for the low productivity of goats. The government is putting lots of resources into helping the pastoral community protect livestock from these diseases, but given the magnitude of the problem more needs to be done.

Poor/traditional animal housing. Pastoralists in the study area use open top houses/fences for their animals. Goats are housed with larger animals, making them vulnerable to being trampled. This also has an impact on the productivity of goats. The pastoralists only prepare separate houses for kids. Some households share the same house with their goats if the herd is small.

Constraints at the marketing stage

Lack of formal livestock market information. Pastoralists in the study area do not have access to good market information. This used to be collected from Harobeke and Elweye markets and the database was disseminated through SMS. But this has stopped because of problems with institutional arrangements. Data was only collected after payment of a special fee to experts in the same office for “extra effort” and the projects supporting this activity have phased out. There is also limited access to SMS by pastoralists.

High transaction costs due to distance. Livestock markets are widely scattered and pastoralists have to march their animals for over three hours to reach them, causing weight loss and fatigue and depressing prices.

Assessing animals for sale (weight and visual estimation). Weight-based transaction is used for male yearlings that are sold to export abattoirs, while other categories of goat are sold using visual estimation. The problem with weight-based transaction is that it is not uniformly used throughout the value chain. Collectors buy using visual estimation and sell the animal to small and large traders on a live-weight basis. The issue here is that when buying, collectors try to suppress the price as much as possible and keep it under the price when sold on live-weight basis. This impedes the transmission of price incentive from the end market to producers.

Clan conflict. The pastoral areas host various clans and ethnic groups which compete for limited grazing and water. Conflicts usually arise because of these competitions over resources. Whenever there are conflicts, markets get disrupted and the supply of animals to the markets decreases dramatically. On the other hand, buyers feel insecure going to such markets. Figure 11 below shows comparison of recorded sheep and goat transaction in Borana markets during a period with clan conflict (July to December 2006) and without (July to December 2005).

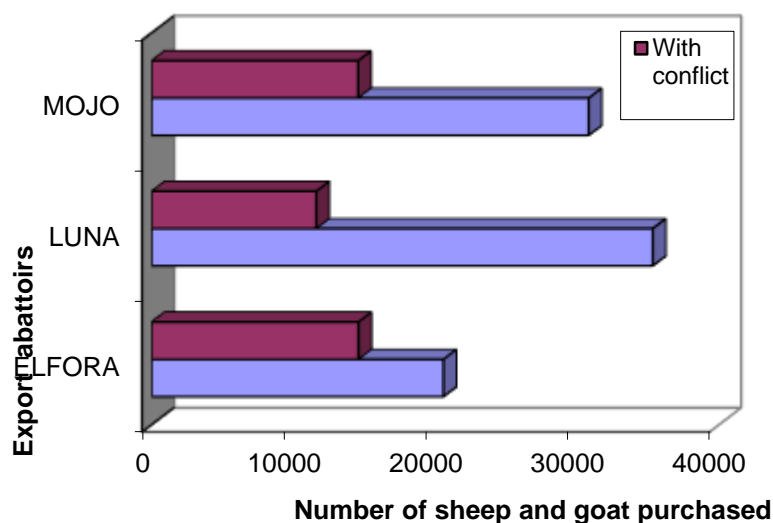


Figure 11. Comparison of sheep and goats transaction with clan conflict (July to December 2006) and without conflict period (July to December 2005). Source: Getachew et al. 2008

During clan conflicts, there was drastic decrease in the number of animals procured from the Borana livestock markets as compared to similar period a year earlier in the same markets without conflict. The difference could be over a 50% reduction in the number of animals procured by some of the export abattoirs. This shows the damage clan conflicts do to livestock markets and the livelihoods of the pastoral community.

Shortage of supply of export quality goats to the market. Most of the export abattoirs are operating at less than 50% of their installed capacity. One of the major excuses for this under capacity is a shortage of export quality animals. On the other hand, pastoralists complain of lack of a market for their animals. This shows the existence of an information gap between suppliers of live animals (pastoralists) and the export abattoirs about what animals are needed, when and in what number.

Seasonality of goats supply and demand. The supply and demand of goats is seasonal. Pastoralists sell their goats when there is a drought, either to save them from the drought or to buy food for the household and feed for larger animals. They normally do not sell their animals during the rainy season unless they have a compelling financial need or the price is very attractive price. Demand for goats increases during Ramadan. Peaks in demand and supply do not usually overlap.

Lack of vertical linkage of goat producers to the other market actors. Whenever pastoralists go to the market they sell their goats or other animals as they can; they do not have relationships of trust with market actors. Traders do not consider pastoralists to be important partners in the markets and hide market information from them and try to depress prices.

Weak horizontal linkage among goat producers. Pastoralists share market information and support each other in several ways, especially in the restocking of herds after drought seasons. However they are not well organized in marketing . Though there are marketing cooperatives in some places, these cooperatives are not strong enough to strengthen the negotiating power of pastoralists. Pastoralists so far have limited entrepreneurial skills and lack the financial clout needed to be actively involved in the market.

Flow of animals to informal cross-border trade. One of the explanations that export abattoirs mention for the shortage of animals to neighbouring countries through informal cross-border trade. Several assessments confirm the flow of Ethiopian livestock to different countries such as Kenya, Somalia and Puntland. The latter two countries are re-exporting Ethiopian animals and it is estimated that about 65% of 3.5 million animals exported every year through Berbera and Bosaso ports are sourced from Ethiopia through informal cross-border trade. In 2011, Ethiopia exported less than nearly 800,000 head of livestock through the formal export system, which means it is exporting only 22% of the animals in cross-border trade.

Constraints at the processing stage

Low level of skill in preparing food in hotels and restaurants. The major problem of hotels in the study area is lack of expertise in preparation of different dishes. Since the area is far from the centre, skilled cooks are reluctant to work there.

Backyard slaughtering. Though there are rules and regulations prohibiting the backyard slaughter of animals, they are enforced only against butchers and the practice is prevalent, involving hotels, restaurants and individual consumers. It has a major negative impact on the quality of meat of skins and hides.

Constraints at the consumption stage

Non-standard meat price. Meat prices in Ethiopia in general and the study area in particular is determined without consideration for quality. No one worries; standards are not enforced. Prices are usually fixed in bigger cities such as Addis Ababa, and smaller towns, including those in pastoral areas where there is better supply of animals, take their lead from them.

Opportunities along the goat value chain

Government's commitment and support to increase export of meat. In its five-year growth and transformation plan, the Government of Ethiopia has decided to increase meat export to 110,000 tons in 2015. The government envisages earning USD 1 billion from the export of meat and live animals by this time and is committed to supporting the private export sector. It is assessing the constraints along the meat export value chain and is ready to take all the necessary measures in order to increase the supply of live sheep and goat to export abattoirs.

Increasing high demand for sheep and goat meat in export markets. The demand for Ethiopian sheep and goat meat has dramatically increased following focused market promotion activities by development projects that have been working in close collaboration with the government. This has created an opportunity for sheep and goat producers to sell more number of sheep and goats at better prices. The country's meat export performance has increased from 870 tonnes in 1991 to 18,000 tonnes in 2011/12. Over 80% of this is goat meat (Getachew et al. 2008).

Accessibility of the intervention areas to export abattoirs and central urban markets. The intervention areas are located on the main Addsi–Moyale road and are accessible to export abattoirs (Modjo and Bishoftu areas). This implies that the cost of transportation for animals procured from these areas is lower. All the export abattoirs are targeting the study area as their first priority sources of animals. So pastoralists in the intervention areas have better market demand for their animals than others.

Construction of new export abattoirs. In addition to the five existing abattoirs, the construction of two new ones is being finalized in the Modjo and Bishoftu areas. This implies the creation of more demand for sheep and goat produced in the intervention areas.

Conclusions

Borana rangeland is endowed with huge livestock resources, including goats. The area is the major source of goats for the export abattoirs and highland markets. The market (especially exports) needs continuous supply of male, uncastrated yearlings in good condition. However pastoralists cannot continuously supply animals of the required quality because of the short drought cycle and traditional production practices.

Goat production in the areas is based entirely on browse of bushes and trees. No supplementary feeds are provided to goats even in drought conditions, so animals taken to the market during dry seasons are skinny and do not fetch attractive prices.

Recurrent droughts threaten the genetic base of Borana goats. Pastoralists are losing most of their animals, either by selling to procure food for their households and feed for larger animals or during droughts. Restocking programs collect breeding stock from neighbouring areas and provide them to the Borana pastoralists. The introduction of non-Borana breed goats to the rangeland is diluting the genetic potential of the original local breeds in terms of drought tolerance and other important traits. These problems have resulted in low productivity of Borana goats. There is a need to look into focused intervention to improve the production and marketing practices of the pastoralists, as well as development of appropriate breeding strategies.

Recommendations

The study has identified the core functions, actors, channels, opportunities and constraints along the goat value chain in Yabello district. The following recommendations are based on the findings the study, categorized by breeding, health, marketing, transportation, etc.

Support improvement in the goat breeding practices through the following interventions:

- Strengthening traditional breeding practices by establishing close relationship with the community to understand the system and identify its gaps.
- Train pastoralists on the need for appropriate breed selection and maintenance of breeding bucks, the dangers of inbreeding and basic selection techniques.

Improve the animal health delivery system through the following interventions:

- Encourage and support the regional government to hire more animal health technicians for the health posts in order to resolve shortage of technicians at health posts.
- Allocate more funds for procurement of veterinary equipment for clinics and health posts.
- Establish more health posts in kebeles to increase accessibility of health services.
- Identify the different strains of diseases for effective vaccination and treatment.
- Allocate sufficient dose of vaccines to the district to ensure full scale vaccination in the district through proper planning and consultation with National Veterinary Institute.
- Provide cold chain facilities that can enable longer shelf life of vaccines including alternative energy sources.
- Provide transportation facilities (motorcycle, mule or bicycle) for animal health technicians at the health posts and clinics.
- Train extension agents, pastoralists, community leaders and managers of respective offices in goat disease prevention and control.
- Support enforcement of the government rules and regulations on informal trade of veterinary drugs.

Improve pastoralists' access to credit services through the following interventions:

- Facilitate discussion forum between credit service providers (Oromia Credit and Saving Institute), political leaders, community members and other stakeholders to resolve problems of access of the pastoral community to credit services.
- Support strengthening/establishment of rural credit and saving cooperatives in the intervention areas through training of leaders in cooperatives management and provision of seed capital.

Improve availability of feeds and the feeding practices of the pastoralists through the following interventions:

- Promote conservation of locally available feed resources through the training of extension agents and pastoralists, demonstration of best practices and facilitate introduction of marketing of such feeds in the rangeland.
- Promote the use of drought tolerant browse such as cactus and acacia. This should also be supported with demonstrations, supply of planting materials and promoting the marketability of such feeds in the area.

- Train extension agents, subject matter specialists and the community in goat production and management with special focus on animal husbandry and feeding using the locally available feed resources and efficient water utilization

Support awareness creation and demonstration on improved goats housing through training and demonstration.

In collaboration with other development partners, resolve problems hindering the smooth operation of national livestock market information system through the following interventions:

- Institutionalize the data collection and transmission from livestock markets in the district so that it will be the responsibility of district office of marketing and trade.
- Link the district with national livestock market information system.

Improve the livestock marketing environment through the following interventions:

- In order to increase off-take of goats from the remote pastoral area that do not have easy access to markets, support establishment of primary livestock markets with all necessary facilities.
- Promote a uniform method of goat transaction (live weight or visual estimation based) throughout the value chain.
- Training pastoralists on the quality requirements of the different buyers of goats in the market (export market, hotels and restaurants, butchers, etc.) and how to attain it.
- Organize regular multi-stakeholder platforms to discuss the major goat marketing problems, find common solutions and create market linkage between pastoral producers and other actors.
- Strengthen/establish goat producer/marketing cooperatives in terms of management capacity and market linkages and finance.
- Support implementation of policy and development interventions that can reduce informal cross border trade.

Improve goat slaughter and meat processing skills in the area through the following interventions:

- Supporting the town administrations so that they will create awareness of hotels and restaurants in using qualified chefs.
- Organizing the unemployed youth in groups and train them in slaughtering techniques and link them to municipal abattoirs.

Support the popularization and enforcement of meat and live animals quality and standards through the following interventions:

- In collaboration with Ethiopian Quality and Standards Authority, popularize use of the Ethiopian live animals and meat quality standards through different electronic and printed media.
- Train live animal and meat graders.
- Lobby for the establishment of appropriate institution to enforce the available grades and standards.
- Support the new institution in the enforcement of graders and standards.

Encourage quality-based meat pricing in order to avoid unnecessary hikes in meat prices regardless of quality.

Table 3. Major constraints, suggested interventions, implementing bodies and time horizon

Core function	Identified challenges	* priority	Suggested recommendation	Category of activity(Research/Development)	How to do it	Implementing bodies	Time *horizon*
	Shortage of bucks	2	<ul style="list-style-type: none"> - Training pastoralists on the need for selection and maintenance of breeding bucks - Strengthening traditional breeding practices 	Development	<ul style="list-style-type: none"> - Conduct training need assessment - Preparation - Conduct the training - Follow up the application and impacts of the training - Identify the existing traditional breeding practices - Design gap filling interventions - Resource mobilization, implementation and monitoring and evaluation 	Regional BoA, OPADC District PDO District administration ICARDA/ILRI OARI Farm Africa GAYO PASTORAL INITIATIVE World vision Care Sos sahel AFD	Short term
	No selection of breeding bucks						
Input supply	Shortage of veterinary equipment and Drug supply in animal health centers	1	<ul style="list-style-type: none"> - Allocating more funds for procurement of vet equipment 	Development	<ul style="list-style-type: none"> - Taking inventory of the existing facilities and identification gaps - Allocating resource and procure the necessary equipment and drugs - Monitoring and evaluation 	Regional BoA, OPADC District PDO District administration ICARDA/ILRI OARI Farm Africa GAYO World vision Care Sos sahel AFD	Short term

Core function	Identified challenges	Priority *	Suggested recommendation	Category of activity(Research/Development)	How to do it	Implementing bodies	Time *horizon*
	Shortage of vaccines for CCPP, PPR, Sheep and Goat Poxes	1	Provision of sufficient dose of vaccines(proper planning and consultation with NVI)	Development	<ul style="list-style-type: none"> - Conduct. vaccine need assessment - Consult and plan with NVI for proper allocation of vaccines 	Regional BoA OPADC District PDO District administration ICARDA/ILRI OARI, Farm Africa GAYO World vision Care Sos sahel AFD NVI	Short term
	Problem in maintaining cold chain for vaccines and provision of dead vaccines	1	Provision of facilities that can enable longer shelf life of vaccines including energy sources (looking for alternative energy sources)	Development	<ul style="list-style-type: none"> - Identification of the existing facilities and gaps - Resource allocation and fulfill the missing facilities 	Regional BoA Regional BoA OPADC District PDO District administration ICARDA/ILRI OARI, Farm Africa GAYO World vision Care Sos sahel AFD NVI	Short term

Core function	Identified challenges	Priority *	Suggested recommendation	Category of activity(Research/Development)	How to do it	Implementing bodies	Time *horizon*
	Vaccines provided for unidentified strains	1	- Identification of different strains diseases for effective vaccination example PPR	Research	Following the normal research protocol	Regional BoA OPADC District PDO District administration ICARDA/ILRI OARI Farm Africa GAYO World vision Care Sos sahel AFD NVI	Short term
	Informal vet drug sellers availing vet drugs everywhere (regulations not enforced)	1	Enforcing the government rule and regulation	Development	<ul style="list-style-type: none"> - Identify the root causes of the problem - Identify if there are gaps in the rules and regulations on vet drug import and distribution - Discuss with MoA on the processes of import and distribution of vet drugs - Enforcement of government rules and regulations regarding veterinary services - Community awareness creation - Capacitate health posts and clinics - Training for the community 	MoA MOT Regional BoA OPADC District PDO District administration ICARDA/ILRI OARI	Medium
	Shortage of transportation facilities to reach farmers in areas far from clinics and health posts	1	Provision of transportation facilities(motor bicycle, mule or bicycle) for vet	Development	<ul style="list-style-type: none"> - Taking inventory of the existing facilities and identification gaps/needs - Allocating resource and procure the necessary transportation means 	Regional BoA OPADC District PDO District	Medium

Core function	Identified challenges	Priority *	Suggested recommendation	Category of activity(Research/Development)	How to do it	Implementing bodies	Time *horizon*
			service staffs		- Monitoring and evaluation	administration ICARDA/ILRI OARI Farm Africa GAYO World vision Care Sos sahel AFD	
	Lack of flexibility in the credit system, inconvenience of having group collateral and insufficient amount of credit	3	Facilitate a flexible and individual based credit services	Development	<ul style="list-style-type: none"> - Discussing with Oromia Credit and Saving Institution on issues related to flexibility, problems of group to collateral and the loan size and finds mechanisms in which goat producers can get credit without group collateral - Observing to experience of other regions - strengthening and establishment of community based saving and credit system (financial) 	Regional Bureau of Agriculture District Office of Agriculture District Administration OARI ICARDA/ILRI OCSI	Short

Core function	Identified challenges	Priority *	Suggested recommendation	Category of activity(Research/Development)	How to do it	Implementing bodies	Time *horizon*
	Feed shortage in drought times	2	<ul style="list-style-type: none"> - Conservation of available feed resources - Promote the use of drought tolerant browse 	<p>Development</p> <p>Research</p>	<ul style="list-style-type: none"> - Assessment of the existing feed conservaton practices - Identify gaps/needs - Training Extension Agents and pastoralists on conservation of available feed resources and their efficient utilization - Identification of drought browse/MPT species - Conduct Adaptation trail - Promotionof the adapted species 	<p>Regional BoA</p> <p>OPADC</p> <p>District PDO</p> <p>District administration</p> <p>ICARDA/ILRI</p> <p>OARI</p> <p>Farm Africa</p> <p>GAYO</p> <p>World vision</p> <p>Care</p> <p>Sos sahel</p> <p>AFD</p>	Short and medium
	<p>Lack of awareness on improved goat production and management practices</p> <p>Lack of a practice to provide supplementary feed to goats even in drought times</p>	3	<p>Training extension agents SMS, Community in goats production and management with special focus on husbandry and feeding using the locally available feed resources</p>	Development	<p>Conduct training need assessment</p> <p>Preparation</p> <p>Conduct the training</p> <p>Follow up the application and impacts of the training</p>	<p>Regional BoA</p> <p>OPADC</p> <p>District PDO</p> <p>District administration</p> <p>ICARDA/ILRI</p> <p>OARI</p> <p>Farm Africa</p> <p>GAYO</p> <p>World vision</p> <p>Care</p> <p>Sos sahel</p> <p>AFD</p>	Short term
	High incidence of disease and parasites (CCPP, PPR, Goat Pox, Senorosis, Ticks, Lice, Mengmites,	1	<ul style="list-style-type: none"> - Expansion and strengthening of health posts and training of vet 	<p>Development</p> <p>Development</p>	<ul style="list-style-type: none"> - Conduct training and other interventions need assessment - Preparation of training and other interventions 	<p>Regional BoA</p> <p>OPADC</p> <p>District PDO</p> <p>District</p>	Short

Core function	Identified challenges	Priority *	Suggested recommendation	Category of activity(Research/Development)	How to do it	Implementing bodies	Time *horizon*
	Hemoncus,)		technicians - Training at different level (Extension agents, pastoralists, community leaders and managers of respective offices) in goat disease prevention and control - Diagnosis/identification of important diseases	Research	<ul style="list-style-type: none"> - Conduct the training - Implementing other interventions - Follow up the application and impacts of the training - Following the normal research protocol 	administration ICARDA/ILRI OARI Farm Africa GAYO World vision Care Sos sahel AFD NVI	
	Poor/traditional housing	4	Awareness creation and demonstration on improved housing through training and demonstration	Development	Identify/design appropriate housing Demonstrate Implanting	Regional BoA OPADC District PDO District administration ICARDA/ILRI OARI Farm Africa GAYO World vision Care Sos sahel AFD NVI	Medium

Core function	Identified challenges	Priority *	Suggested recommendation	Category of activity(Research/Development)	How to do it	Implementing bodies	Time *horizon*
	Lack of formal livestock market information	1	<ul style="list-style-type: none"> - Institutionalizing the data collection and transmission from livestock markets in the district (making it the responsibility of district office of marketing and trade) - Linking the district with national livestock market information system 	Development	<ul style="list-style-type: none"> - Discuss with EMDTI, LMD,PRIME,LIVESTOCJ AGENCY, on how make NLMIS information system functional 	Regional Bureau of Agriculture Regional marketing agency District Office of Agriculture District cooperatives office District administration ICARDA/ILRI LMD, PRIME Ethiopian Meat and Dairy Technology Institute	Medium
	Long distance between the production areas and the livestock markets (animals should be trekked for over three hours)	4D	Support establishment of primary livestock markets with all necessary facilities	Development	<ul style="list-style-type: none"> - Undertaking diagnostic survey to understand the density of primary and secondary markets in the area - Discuss the out with stakeholders - Establishing the primary market where necessary 	Regional Bureau of Agriculture Regional marketing agency District Office of Agriculture District cooperatives office District administration ICARDA/ILRI PRIME	Medium

Core function	Identified challenges	Priority *	Suggested recommendation	Category of activity(Research/Development)	How to do it	Implementing bodies	Time *horizon*
	Non uniform method of selling (weighing scale Vs Visual estimation)	5	<ul style="list-style-type: none"> - Awareness creation on the advantage and disadvantages of the two selling methods, - Promoting the method of choice by the community 	Development	<ul style="list-style-type: none"> - Identification of the advantages and the disadvantages of the two selling and buying methods , as well as the community preference - Awareness creation - Promotion of the methods of choice by the community 	Regional Bureau of Agriculture Regional marketing agency District Office of Agriculture District cooperatives office District administration ICARDA/ILRI PRIME	Medium
	clan conflict on feed and water that destabilize the market	7	<ul style="list-style-type: none"> - Assessment of available feeds and water resources - Training the community on efficient feed and water utilization 	Research Development	<ul style="list-style-type: none"> - Following the normal research protocol - Conduct training need assessment - Preparation - Conduct the training - Follow up the application and impacts of the training 	Regional Bureau of Agriculture District Office of Agriculture District administration ICARDA/ILRI PRIME	Long term
	Shortage of supply of export quality goats to the market	3	<ul style="list-style-type: none"> - Training pastoralists on the export qualities standards and how to attain it - Support establishment or strengthening livestock marketing cooperatives to enter into goat 	Development Development	<ul style="list-style-type: none"> - Conduct training need assessment - Preparation - Conduct the training - Follow up the application and impacts of the training - identification of the existing gaps and needs - resource allocation and implementation 	Regional Bureau of Agriculture Regional marketing agency District Office of Agriculture District cooperatives office District administration	Short

Core function	Identified challenges	Priority *	Suggested recommendation	Category of activity(Research/Development)	How to do it	Implementing bodies	Time *horizon*
			fattening/conditioning business and link them to the market			ICARDA/ILRI PRIME	
	Seasonality of goats supply and demand	3	Encourage and support meat processing and export to create non seasonal demand that can also encourage pastoralists to supply animals regardless of seasons	Development		Ministry of agriculture Regional marketing agency District Office of Agriculture District cooperatives office District administration ICARDA/ILRI PRIME	short
	Lack of vertical linkage of goat producers to the other market actors	2	Organizing regular multi stakeholders platform to discuss the major marketing problems, find common solutions and creating market linkage between pastoral producers and other actors	Development	identify the major stakeholders Discuss with relevant administration bodies Define and share responsibility Organize forum	Regional Bureau of Agriculture Regional Bureau of Agriculture Regional marketing agency District Office of Agriculture, District cooperatives office District administration ICARDA/ILRI PRIME	Medium

Core function	Identified challenges	Priority *	Suggested recommendation	Category of activity(Research/Development)	How to do it	Implementing bodies	Time *horizon*
	Weak horizontal linkage among goat producers	2	Strengthening/Establishing goat producer/marketing cooperatives in terms of management capacity and market linkages and finance		<ul style="list-style-type: none"> - Conduct swot analysis on the existing cooperatives - Design interventions - Support the implementation of the designed interventions example preparation business plan - Support the establishment of cooperatives where they are not available 	Regional marketing agency District Office of Agriculture District cooperatives office District administration ICARDA/ILRI PRIME	Medium
Processing	Flow of animals to informal cross border trade limiting number animals coming to the formal market	6	Support implementation of policy and development that can reduce informal cross border trade	Development	<ul style="list-style-type: none"> - Identify the root causes of informal cross border livestock trade - Design /implement policy and development interventions that can reduce the informal cross border trade implement 	Ministry of Agriculture Ministry of Trade Customs and Revenue Authority	Long term
	Low level of food preparation skill in the hotels and restaurants of the area	1	<ul style="list-style-type: none"> - Supporting the town administrations so that they will create awareness of hotels and restaurants in using qualified chefs 	Development	<ul style="list-style-type: none"> - Conduct training need assessment - Preparation - Conduct the training - Follow up the application and impacts of the training 	Ministry of agriculture Regional marketing agency District Office of Agriculture District cooperatives office District	Medium
	Poor slaughtering skill that spoils the quality of meat and skin	2	<ul style="list-style-type: none"> - Organizing the unemployed youth in groups and train 	Development	<ul style="list-style-type: none"> - the training 		

Core function	Identified challenges	Priority *	Suggested recommendation	Category of activity (Research/Development)	How to do it	Implementing bodies	Time *horizon*
	Back yard slaughtering of goat (threat for public health)		them in slaughtering techniques, linking them to municipal abattoirs	Development	<ul style="list-style-type: none"> - Identify the gaps and in the existing rule and regulations - Enforce the rules and regulations 	administration ICARDA/ILRI PRIME	
Consumption	None standard based meat price	1	<ul style="list-style-type: none"> - Encourage quality based meat pricing - Encourage meat quality standard 	Development	<ul style="list-style-type: none"> - Popularize the existing meat quality standards and train quality inspectors - Enforce quality based pricing 	Regional marketing agency District Office of Agriculture District cooperatives office District administration ICARDA/ILRI PRIME	Medium term

NB:

* Interventions are prioritized with in the Priority of the interventions is given with in the stages of the value chain and number 1 indicates the highest priority.

** - short term shows interventions to be implemented within two years

- Medium term shows interventions to be implemented in 2-4 years

- Long term shows interventions whose implementation takes more than 4 years

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