

## Value Chain Analysis of Abergelle Goat Breed, Northern Ethiopia

Lijalem Abebaw<sup>a</sup>, Tewodros Alemu<sup>b\*</sup>, Leulseged Kassa<sup>c</sup>,  
Aynalem Haile<sup>d</sup>, Getachew Legese<sup>e</sup>

<sup>a</sup> Andassa Livestock Research Center, P. O. Box 27, Bahir Dar, Ethiopia

<sup>b</sup>Wollo University, College of agriculture, Department of Animal Science, P.O.Box 1145, Dessie, Ethiopia

<sup>c</sup> International Food Policy Research Institute, Addis Ababa, Ethiopia

<sup>d</sup> International Center for Agricultural Research in the Dry Areas, Aleppo, Syria

<sup>e</sup> International Livestock Research Institute, Addis Ababa, Ethiopia

### ABSTRACT

Goat marketing in Abergelle district of Amhara region (Ethiopia) has involved different actors. This study assessed Abergelle goat marketing challenges and opportunities along the value chain. The study employed collection of primary and secondary data. Focus group discussion and key informant interview was conducted to enrich the data. The data collected was analyzed by using SPSS software and explained by descriptive statistics. The result showed that goat marketing involved producers, collectors, traders, processors and consumers in different marketing channels. The marketing routes and the share volume of goats through the value chain were different (Mekele route took 90% of goats and the rest 10% went to Beyeda, Axum and Shire). The major constraints of goat marketing in the study area were: lack of proper marketing facilities, lack of market information, and seasonality of supply and demand, high mortality and morbidity during transportation, multiple taxation, lack of vertical linkage and weak horizontal linkage. Whereas availability of Abergelle abattoir, Mekele city and Semien Eze defense force were important processors and consumers to maximize the usage from the goats. The policy makers and development practitioners should therefore try to solve the constraints and use the best opportunities efficiently and effectively to maximize the benefit obtained by each of the actors along the value chain of goat marketing in the study area.

**Keywords:** Abergelle goat, Challenges, Marketing, Opportunities, Value chain.

### INTRODUCTION

Agriculture plays a pivotal role in Ethiopian economy through employing 85% of human population. Ethiopian livestock population is the largest in Africa (FAO, 2004). Livestock subsector contributes 47% of agriculture GDP (IGAD, 2010). It contributes the country economy in terms of food, export commodity, draught power, transportation, assets, manure, and other similar benefits. The country goats' population is 29 million (CSA, 2015). From the total annual meat production cattle contributes 63%, sheep 25%, goats 12%. In Ethiopia, sheep and goat account 90% of meat and 92% skin and hide (FAO, 2004).

There are different indigenous goat breeds in the country, although most of them not genetically and morphologically characterized. Abergelle breed is one of the indigenous goat breeds found along

Tekeze River, Waghimera Zone, some parts of Alamata Tigray, East Gonder Zone of Amhara Region (Kassahun & Solomon, 2008). The breed is characterized as adaptive and produce under extreme adverse conditions, i.e., survive under low quality and quantity feed, and water shortage that make the breed suitable under traditional production system (Halima et al., 2012). Wag-Himra Nationality Administration Zone (WHNA) has 536,539 heads of goat while Abergelle district contribute around 24% (127,889 heads) of the Waghimera zone goat population found in Abergelle district (WNAZ, 2012).

Abergelle goats have the highest contribution to farmers' livelihood compared to other agricultural enterprises (Hilali et al., 2016). Goats are important assets for smallholder farmers and their products and byproducts like meat, milk, and butter are important source of food. Live goat, butter, and skin sale are important source of income to

\*Corresponding author: teda2010@gmail.com

farmers, collectors, traders and processors; and source of protein for foreign and local consumers. They are also important source of manure in the crop-livestock mixed farming system.

Goat marketing in Abergelle involves producers, collectors, traders and consumers. These actors link each other either vertically and /or horizontally to maximize their benefit, through different marketing routes and channels. Conducting marketing value chain study on Abergelle goat could help to identify the challenges which are facing and provide this information for development practitioners, policy makers and researchers to build more efficient marketing system in the near future to benefit from the subsector. Therefore this study was initiated with the objective of assessing Abergelle goat marketing challenges and opportunities along the value chain in Sekota district.

## MATERIALS AND METHODS

### Description of the study area:

The topography of Abergelle district is 10% plain, 20% undulated, 55% mountainous and 15% valley (AWAO, 2012). This shows the limited availability of land for appropriate crop agriculture and the huge potential for small ruminant production. The soil type is a mixture of sandy and clay. Its color is 55% brown, 30% red, and 15% sandy. The district has rivers like Tekeze and its tributaries like Tirari, Zamra, Tsana, Dina, and Shimsha. These rivers are important source of water for domestic as well as livestock watering. In addition, some of these rivers are also becoming source of water for irrigation. Very recently, the Tekeze Hydropower dam has also created an artificial lake. About 90% of the water body of Tekeze dam lay in the district. The lake is creating a good potential for fishery.

The altitude of Abergelle district ranges from 1150 to 2500 meters above sea level. The temperature varies from 23<sup>o</sup>c to 43<sup>o</sup>c. The annual mean rainfall ranges from 250-750 millimeters, showing the arid/semi-arid nature of the area. Generally, the district's agro-ecology can traditionally be classified as lowland (*Kolla*), which covers about 85% of the district and the remaining as mid altitude (*Woinadega*).

### Experimental design and data collection:

The experiment was laid out in a randomized complete block design with two replications. Sowing was done on the second week of July 2006. About 0.5gm of seed of each landrace was broadcasted on a plot size of 1m x 0.2m. Inter plot and between block distances of 1m and 1.5m were left. Fertilizer was applied at the rate of 41-46 kg ha<sup>-1</sup> N-P on each plot in the form of Urea and Diammonium Phosphate (DAP). Urea was applied in two splits, while the whole dose of DAP was

applied at planting. Weeding and other cultural practices were applied uniformly on each plot.

Data were collected for nine morphological and agronomic traits. The data for traits like days to heading and maturity, grain-filling duration, biomass yield (gm), grain yield (gm) and harvest index (%) were collected on plot basis, while data for plant height (cm), culm length (cm) and panicle length (cm) were collected from five randomly selected plants.

### Socioeconomic characteristics:

In 2011/2012, Abergelle district had a total human population of 47,106, of which 23964 were females and 23,142 were males. There were 15 administrative Kebeles in the district. Nearly all households in the district depend on agriculture for their livelihoods. The farming system can be characterized as mixed crop-livestock dominated by livestock production (Belay, 2008). Because of erratic rainfall and poor soil fertility, crop production is restricted to some pocket areas with more fertile soils and moderate moisture (Dereje, 2004). Currently, Abergelle district has a potential of 35116.6 hectares for crop agriculture of which 16364.05 hectare of land is under cultivation.

### Sampling techniques and sample size:

Participatory Rural Appraisal (PRA) technique was employed for data collection. More specifically, participants were purposely selected together with the development agents for Focus Group Discussions (FGD) and Key informant (KI) to gain more information. The numbers of participants were three focus group discussions which had 33 participants and 12 key informant interviews with experts, officials and farmers were held.

### Type and source of data collected:

Both qualitative and quantitative data were collected from primary and secondary data sources. The qualitative data and/or information include perception and attitude of farmers' about production constraints and opportunities. The quantitative data includes livestock holding, rainfall distribution and volume of available fodders. The primary data were obtained from the FGD and KI using questionnaire. The important sources for the secondary data were annual reports of agricultural offices and research centers. In addition, some secondary data were obtained from published documents in the internet.

### Data collection methods:

Considering the information required, Participatory Rural Appraisal (PRA) technique was employed for data collection. More specifically, Focus Group Discussions (FGD), Key informant Interviews (KII), desk review, and observation/visual

appraisal were the methods used for data collection. Questionnaire, which were prepared for producers and stakeholders of goat production, were used as the main data collection tools.

**Method of data analysis:**

Given most of the data was qualitative in nature and the collection technique was more of informal, descriptive and thematic analysis technique was employed and was analysed using SPSS software version 20. The data was triangulated through crosschecking the data collected using different methods. The information was presented using tables and graphs. The distribution of costs and margins was calculated according Leggesse & Hordofa, (2011). It was calculated as: Gross marketing margin = selling price- buying price; and Net marketing margin = gross marketing margin- marketing cost. The analysis of the marketing costs is based on data collected during PRA with market agents.

**RESULTS AND DISCUSSION**

**Goat marketing route:**

The marketing route for Abergelle goats tends to be complex (Fig. 1). As Abergelle district is bordered by different districts within ANRS and TNRS, there were different outlets. Some of the outlets are interlinked while the others are independent. For instance, there is live goat outflow towards North Gondar, Mekelle, Yechilla, Korem, Maichew and Adigrat. Taking Finarwa as the central market for Abergelle district, the dominant outflow-marketing route however is towards Mekelle (Fig. 1).

There are three major outlets of Abergelle goat from the district, i.e. Beyeda in North Gonder, Axum and Mekelle towns. Beyeda route takes a small proportion (10%) of volume of goats from Abergelle; Axum route takes the second proportion of volume of goats; and Mekele route takes the largest share. From the total number of goats take off from Abergelle district, 70% percent went to Finarwa market, 20% went to Yechila market and 10% went to Beyeda. About 95% of goats sold in Finarwa market were transported to directly to Mekele town and the rest 5% was taken to Yechila (Fig. 1).

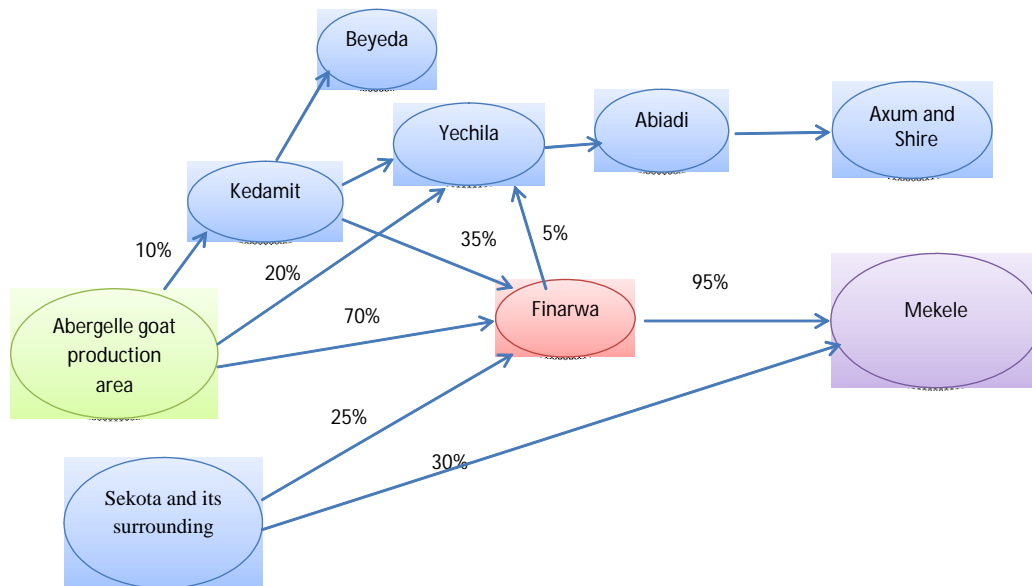
**Marketing channel/route:**

In this process, there are different actors, which are individuals, institutions involved in production, marketing, processing and consumption. Abergelle goat marketing starts from the farm get out flow to different channels to reach consumers. The study identified five major outlets channels. To reach these major channels, Abergelle goats pass through different channels to reach the end market.

Abergelle goats reach the final consumers through several channels. However, we considered only six major ones based on the volume of live goats channeled

**Market channel one: Producers → Collectors → Small traders → Individual Consumer:**

This is a channel in which individual consumer’s (both small town dwellers and rural community) buy goats to slaughter for their household consumption. Such consumers usually buy slaughter goats in special festivities such as



**Fig. 1: Abergelle goat marketing routes (Source: FGD discussion, 2012)**

Ethiopian New year, Christmas, Easter, Ramadan and Arefa. Some households also buy slaughter goats for special occasions such as wedding and other ceremonies. The type of animals bought by individual consumers depends on the income of the consumer and the type of occasions for which the animal is needed. Generally, well-off households buy fattened, castrated goats while a relatively lower income group buys male yearlings.

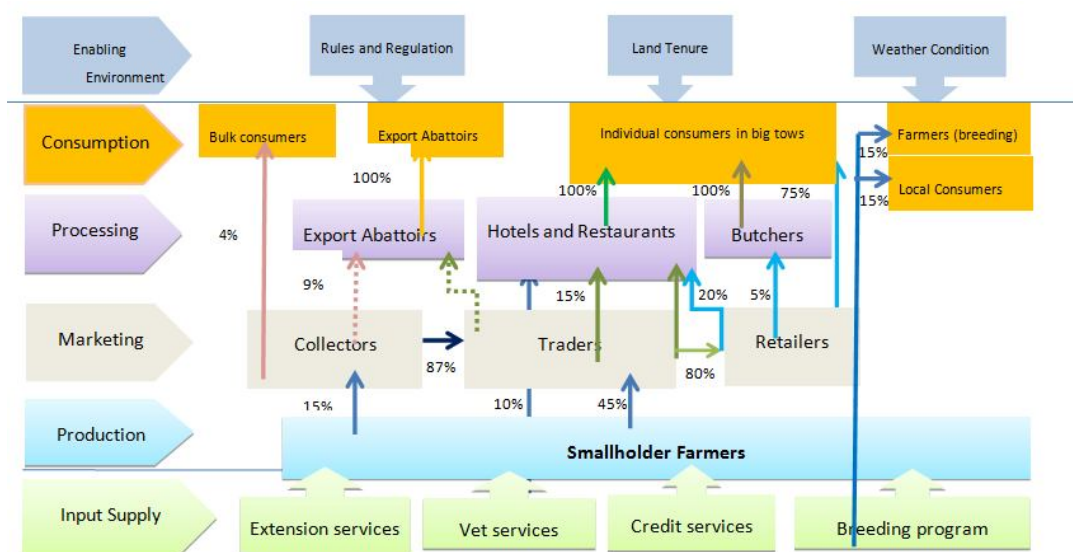
**Market channel two: Producers → Collectors → Small traders → Retailers → Individual Consumers in big cities:**

Individual consumers in big cities such as Mekele, Axum and Shire do not have a chance to buy animals from producers. Rather, the animal passes through a chain of collectors, small traders and retailers before it reaches the final consumer. Because of this, the transaction costs and margins of each actor over the long chain inflate the final price of the animal when it is sold to the final consumers. As indicated in channel two, the type of animals bought by individual consumers varies according to the income of the household. However, most of the consumers in big cities

they do not have one in their herd. They buy goats in primary markets such as Fenarewa, Tsetseka, Nueraque. The farmers assess the goat historical background such as prolificacy, color, meat and milking potential either by interviewing the seller or neighbor farmer who knows the goats breeding character. Price setting is done in negotiation between the two parties. The farmers mostly buy yearling female goats though sometimes buy bucks for breeding purpose.

**Market channel four: Producers → Collectors → Small traders → Bulk consumers**

Bulk consumers in the study area are Ethiopian defense forces (*Semien eze*). They buy goats at Fenarewa, Nueraqe, Yechela markets from local collectors, traders and farmers. However, the major suppliers to such bulk consumers are the small traders that can supply them large number of animals at a time. In order to collect the required number of animals, traders use a network of collectors. They buy goats of different types such as infertile does, aged bucks and yearlings. They transport the animals using trucks that load up to 200 heads of goats at a time.



**Fig. 2: Abergelle goat marketing channels (Source: Focus group discussion, 2012)**

usually go for fattened goats relative to those in the smaller towns. As a result, traders from different parts of the region transport fattened goats to Mekele during the markets immediately before the festivities mentioned above.

**Market channel three: Producers → Farmers (for breeding purposes)**

Farmers usually buy young female goats for breeding purposes. Some farmers also buy slaughter goats for their household consumption if

**Market channel five: Producers → Collectors → Export abattoir**

Abergelle abattoir is the only export abattoir found in Mekelle. It exports shoit and beef to different international markets including North Africa and Middle East countries (MENA) and other African countries such as Angola and Comoros Islands. It buys goats from collectors and small traders from fenarewa, nueraqe, tsetsequa, yechela, sekota markets. The abattoir needs male,

un-castrated yearling goats. However, currently the firm has stopped exporting meat because local market price of goats and cattle is very high and the abattoir could not be competitive in international markets.

**Market channel six: Producers → Collectors → Small traders → Hotels and Restaurants**

Hotels buy slaughter animals either directly from farmers or from small traders. As indicated in Fig. 7, their major suppliers are small traders. Hotels and restaurants buy infertile does and castrated goats because they have relatively high quantity of meat than yearling goats and such goats also have better body fat coverage which make the *wat* of better 'quality'. The hotels and restaurants process goat meat into *Keywot*, *Tibes*, *kikil* and *dulet* and sell to their customers.

**Actors in the value chain**

**Producers:** Smallholder farmers were the only

and doe for reproduction (Fig. 3). Farmers sale 45 percent of the total volume of goats to small traders, followed by 15% for collectors and 15% for farmers for reproduction and the list 5% for farmers used for home consumption (Fig. 4).

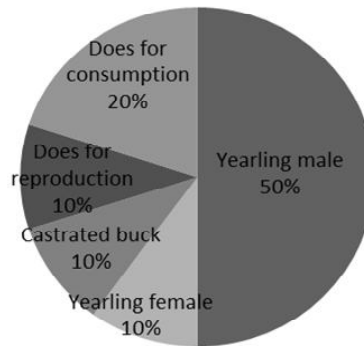
**Collectors:** These buy up to 20 goats at a time and sell to traders, Abergelle export abattoir and defense force in bulk at Finarwa market.

**Small traders:** These traders buy 30-50 goats at a time and sell in Mekele and fenarewa markets.

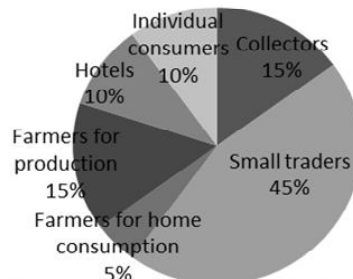
**Big traders:** These traders buy up to 100 goats at a time.

**Retailers:** They buy animals from small and big traders in bulk and retail to individual consumers, butcheries, hotels and restaurants in Mekele terminal market.

**Export abattoir:** Abergelle abattoir is the only export abattoir found in Mekele. It exported chilled



**Fig. 3: Percentage share of goat types sold to traders and consumers (Source: Focus group discussion, 2012)**



**Fig. 4: Percentage share of actors bought from volume of goats sold by formers (Source: Focus group discussion, 2012)**

producers. Farmers sold to traders and consumers 50 of goats were yearling male, 20 percent were doe and rarely sell yearling female, castrated goat

carcasses to the Middle East countries (Saudi Arabia, United Arab Emirates, Dubai and Bahrain).

**Butchers:** Butchers are found in Mekele town.

**Table 1: Production and marketing costs and percentage proportion to different actors**

Cost category per head	Producers		Collectors		Trader		Mekele retail Market		Hotel		Butcher		Export Abattoir	
	Cost	%	Cost	%	Cost	%	Cost	%	Cost	%	Cost	%	Cost	%
		TC		TC		TC		TC	t	TC		TC		TC
Feed cost	165	97	-	-	-	-	6	85	-	-	-	-	-	-
Trekking	-	-	1	50	-	-	-	-	-	-	-	-	-	-
Trucking	-	-	-	-	15	92	-	-	-	-	-	-	-	-
labor cost	4.5	2.7	-	-	-	-	-	-	15	6	25	15.6	-	-
Housing	-	-	-	-	0.25	1.5	0.75	10.6	-	-	-	-	-	-
Water cost	-	-	-	-	-	-	0.3	4.3	-	-	-	-	-	-
Spices and injera	-	-	-	-	-	-	-	-	234	94	135	84.4	-	-
Tax	-	-	1	50	1	6.2	-	-	-	-	-	-	-	-
Total	170	100	2	100	16.3	100	7.05	100	249	100	160	100	-	-

The cost is in Ethiopian birr

**Hotels and Restaurants:** They prepare *keywot*, *tibs*, *kikil* and *dulet*, and sell to their customers.

**Individual Consumers:** These are those market actors that buy for their household consumption.

**Transporters:** For trekking goats, transporters were paid 5-6 Ethiopian birr per head from Finarwa to Mekele (3 days). For trucking, cars transport from Finarwa and Sekota market places to Mekele and defense force (*Semien Eze*).

**Distribution of costs and margins:**

Marketing costs are total costs incurred by each actor while marketing of the produce. It is defined as, the sum of costs incurred for any marketing activity such as costs of transportation, and cost of capital invested in trading and transaction costs including charges paid to intermediaries, agents for entry and exit of animals.

The costs indicated (Table 1) are proportions of average costs that have been estimated by respective market participants as their costs. Hotels and Restaurants incur the highest market cost than the other market participants in the marketing

system. *Injera* and spices are the major costs (98%) while hotels and restaurants marketing the produce in the channel. Marketing costs of collectors were labour used for trekking and tax. Collectors trek goats from primary markets and farm get markets. These market areas were not accessible to roads, hence they trek goats to secondary markets; therefore, they pay for labourers who trek goats and pay tax. Traders highest cost was transport cost which was around 92% of the total cost incurred. These retailers wait up to three days to sell goats individually to consumers; at this time they incur cost for housing, water and feed. Butchers charge least cost only for slaughtering goats and slicing meat.

**Marketing margins as hotels and restaurants buy goats pass through collectors, traders and retailers:**

The highest net marketing margin was gained by hotels and restaurants 216.37 birr followed by collectors 28 birr, traders 18.75 birr and retailers 12.95 birr. Table 2 shows that producers share of the final price from collectors was 93% while from hotels was 42% this is due to the fact that as the

**Table 2: Analysis of costs and margins goats sell to hotels and restaurants**

Categories	Producers	Collectors	Traders	Retailers	Hotels and restaurants
Production cost	169.5	-	-	-	-
Selling price	400	430	465	485	950
Marketing cost	-	2	16.25	7.05	248.63
Marketing margin	-	30	35	20	465
Net marketing margin	-	28	18.75	12.95	216.37
Producer's share of final price (%)	-	93.02	86.02	82.5	42
Value added	230.5	28	18.75	12.95	216.37
Proportion of value added (%)	45.5	5.5	3.7	2.6	42.7

actors in the chain increases the share of the producers from the final price decreases.

**Marketing margin as butchers buy from retailers, goats pass through collectors and traders from producers:**

As Table 3 depicted along this channel, the highest proportion of value added was by producer’s 46.5% and the second by butchers 41.4% where as the least proportion of value added was by traders 3.8 % and retailers 2.6%. This is therefore, butcher

rate was on average two goats per ISUZU truck load. One truck load was 70-100 goats. The transport cost per head of goats was 20 Ethiopian Birr. Mortality rate was high when animals were transported by ISUZU trucks than trekking

**Processing:** Butcheries, hotels and restaurants were involved in processing goat meat for domestic consumers. These actors slaughter and prepare meat for consumption as raw meat, *wat* (It is a sauce that is prepared either from meat, pulses

**Table 3: Analysis of costs and margins soled to butchers**

Categories	Producers	Collectors	Traders	Retailers	Butchers
Production cost	169.5	-	-	-	-
Selling price	400	430	465	485	850
Marketing cost	-	2	16.25	7.05	160
Marketing margin	-	30	35	20	365
Net marketing margin	-	28	18.75	12.95	205
Producer’s share of final price (%)	-	93.02	86.02	82.47	47.06
Value added	230.5	28	18.75	12.95	205
Proportion of value added (%)	46.5	5.7	3.8	2.6	41.4

channel as compared to channel hotels and restaurants channel both of them pass through collectors, traders and retailers the farmers’ share of final price in the butchers channel is greater than the hotels and restaurants channel. That means selling goats through butchers channel for producers is better than hotels and restaurants channel.

**Analysis of end market**

**Domestic market:** Both the domestic and export markets are growing and the demand for goats is increasing from time to time. The domestic market demand for goat is growing because of the increase in both urban and rural population.

**Export market:** The lion’s share of meat volume was exported to KSA and UAE. In general, although quality requirements vary, the shoat 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 shoat with lower proportions of fat, whereas the domestic prefers castrated males or female animals (Getachew, 2008).

**Transport:** In order to deliver goats purchased from producers to consumers in different areas, traders use two modes of transportation viz, trucking and trekking (Fig. 5). Larger traders who collect in bulk use ISUZU trucks for transportation.

Finarwa was the major market place. The distance from Finarwa to Mekele is 80 kms. The mortality

or vegetables, oil/butter and different spices) to be eaten usually with *injera* (fermented baked local bread), *kikil* and *tibs* (It is roasted meat with spices and butter). Export abattoirs are involved in



**Fig. 5: Abergelle goats transported by trekking and trucking (Source: Leulseged kassa)**

slaughtering, removing the skin, chilling, wrapping the carcass in the cotton linen and exporting the chilled carcass by maintaining its cold chain.

**Consumption:** Households in the study area consume either whole goat milk or milk products. They usually process it into butter, skimmed milk (*Awsa*), whey (*aguat*) and cheese (*ayib*). According to the farmers, goat milk is considered as a good medicine as goats browse different types of grass and leaf. However, due to cultural reasons women's are not allowed to drink whole milk.

Meat is the rarely used product by farmers. Unless it is a religious holiday or cultural festival, farmers rarely slaughter goats for home consumption (Dereje, 2004). Goats are the primary source of income to farm households in the study area. Farmers sell their goats in order to meet their cash demand and to cover stationery and clothing for their children, procure agricultural inputs, cover medical costs for their households. Moreover, in times when farmers face food shortages goats serve as important source of cash for grain purchases (Dereje, 2004).

According to interview of the export abattoirs, goat meat is exported mainly to Middle East and North African (MENA) Countries in the form of chilled carcass. Importers can sell the carcass as it is or after processing it into different products. In these countries, there are different segments to which different products are targeting (ibid). The major segments are the local elite class that consumes fresh shoaat meat (slaughtered on the spot), the middle class that consumes better quality meat imported from Australia, and other western countries and the immigrants that are residing in these countries in search of better job opportunities that usually go for cheaper priced food staff. Since the Ethiopian shoaat carcass is classified among the lower quality, cheap products, it is mainly consumed by low-income group of the society mainly the immigrants.

#### **Marketing constraints**

**Lack of proper livestock marketing facilities:** There is no livestock marketing yard in the district with proper facilities such as proper fencing of the marketing yard, facilities such as vet clinics, watering and feeding troughs, loading and unloading ramps and toilets.

**Lack of market information:** There is no formal institute providing livestock marketing information to smallholder producers. Most farmers get market information from their neighbors who sold goats a week before but this does not show the possible price in a better precision. This would constrain farmers to get the right benefit from their products. This is in agreement with findings of Kebede & Rey (1992) who reports producers usually sale

with the trader prices for their immediate cash needs.

**Seasonality of supply:** Goat supply increases during August, September, November and January related to improvement of body condition of goats and increase in demand and correlated to holydays like New Year and Christ Mass. This agrees with report of Tesfaye (2009) who indicated marketing of sheep and goats is characterized by strong seasonality and subject to fluctuation. However, during April, May and June the farmers do not sell their goats because the goats lose their body weights due to serious shortage of feed. To the contrary, market demand during April and May is increased because of Easter and *Ginbot ledeta* (St. Merry birth day) Holydays. Hence, the farmers and other actors could not benefit due to such seasonality of supply.

**Seasonality of demand:** Similar to supply of animals, demand for goats and other meat animals varies with seasons of fasting. Since the majority of the population in the area is follower of Orthodox Christianity, demand for goats varies with the fasting seasons. Demand for goats decreases during the fasting seasons when the followers of Ethiopian Orthodox Christianity do not consume any animal source food. Such a seasonal demand is a real challenge for the development goat value chain.

**High mortality and morbidity during transportation:** The mortality and morbidity rate of the animals during trekking was minimal, i.e., 1% and 2%, respectively. On the other hand, trucking was done using ordinary ISUZU trucks that are not designed to transport animals. The mortality rate of the animals was 2.4% and the morbidity rate was 5% during trucking. Thus, there was high mortality of animals due to over loading and high drive speed of ISUZU trucks during trucking. The high morbidity of animals during trucking was because animals were not provided with feed and water during transportation. The result is similar with the finding of Judith (2006) who indicated heat stress and elevation change during long transportation results in animal death and weakness.

**Multiple taxation:** Abergelle goats are produced in Amhara regional state (Abergelle district), are sold and transported to towns in Tigray regional state. However, traders are obliged to pay taxes in markets of Amhara region and again when they enter Tigray. This will increase the unproductive costs and reduce the competitiveness of live goats and goat meat especially in foreign markets. The sky rocketing price of animals due to such unproductive costs will also threaten the purchasing power of domestic consumers and their access to animal source protein foods.



**Lack of vertical linkage:** Farmers in the area do not have any permanent customer to whom they supply goats when they go to markets to sell animals. Every time they go to the market, they sell the animal to any buyer who pays them better prices. They also do not have any market actor that can provide them either reliable market information or advance payment for their animals. Thus, farmers in the area do not have any vertical linkage with other actors in the market.

**Weak horizontal linkage:** Farmers in the area do not share breeding bucks to their neighbors. They also keep their herd separately. Moreover, the farmers do not have marketing or producers' cooperatives that could benefit its members through negotiating the market price of goats and sell in contractual bases to bulk consumers such as defense force and Abergelle export abattoir. This shows Abergelle goat producers have weak horizontal linkages among themselves.

#### **Processing constraints**

**Shortage of supply of quality goats:** Some of the market actors such as export abattoirs need animals of specific quality parameters. As indicated above, they need male, un-castrated yearlings of specific weight range for specific destination markets. However, such types of animals are not available in sufficient quantity by the time they are needed. This creates a condition of lower demand and the associated high price that makes meat exporters non-competitive in international markets.

#### **Marketing opportunities**

**Availability of abergelle abattoir:** It slaughter, remove the skins, chill the carcass and wrap it with cotton fabric and transport it to cargo plane. It exported chilled carcasses to the Middle East countries (Saudi Arabia, United Arab Emirates, Dubai and Bahrain). Therefore, it would help the producers/ farmers to sell in a better price.

**Availability of mekele town:** Mekele town is the capital of Tigray regional state, which has huge number of urban dwellers whom demand goat meat and most of Abergelle goat sell in this town. Therefore, it could be an opportunity for market actors to sell in a better price.

In conclusion, Abergelle goat marketing involved producers, traders, processors and consumers as actors and they performed different activities and finally benefit different percentage of share from final destination (reaches to consumers). Mekele was the major market destination. Goat marketing had faced challenges such as lack of information; lack of vertical and horizontal linkage, lack of market facilities, high mortality and morbidity rate and multiple taxation that constrain Abergelle goat marketing. Traders, brokers and processors benefit more than the producers due to lack of market

information by the producers. In order to improve Abergelle goat marketing the following recommendations are given. Organize forums for goat marketing stakeholders and policy dialogue on multiple taxation and licensing issues:- to create common understanding on tax and licensing of animals as they cross regional check points, licensing and transportation of goats forums should be organized at zonal, regional and national levels.

**Organizing youth cooperatives:** traditional Abergelle goat production and marketing would constrain its productivity and production. However, there are unemployed youths in the woreda. Hence, organizing producer and marketing cooperatives would help to improve the traditional production and marketing system; shortening the bargain and benefit more the producers. Construct rural road: - collectors and farmers trek goats from each village and primary markets. In most of the areas there is no roads constructed. Hence, constructing rural roads would help to transport via trucks to market places. Empowering the producers with the market information system and try to link to the end market for more profitability, establishing cooperatives of goat farmers is demanding in the area. Transport Service: - from the total goats, marketed two third was transported via trekking. Moreover, one of the major constraint traders mentioned was death of goats due to over loading of ISUZU trucks. To alleviate this problem there has to be transport service accessibility (i.e. more ISUZU trucks) serve in transporting goats

#### **ACKNOWLEDGEMENTS**

We would like to Acknowledge International Center for Agricultural Research in Dry Areas (ICARDA) for its initiation and financial support and Sekota Dryland Agricultural Research Center for its vehicle and material support. The appreciation also goes to focus group discussants and key informant interviewees for their unreserved effort to provide genuine information.

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