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Market Linkage between Community-Based Goat Breeding Cooperatives and Export Abattoirs

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1. Introduction

Small ruminant population of Ethiopia, including expert estimates of the pastoral areas, is about 66 million heads of which about 35 million is sheep (Negassa et al., 2011). Small ruminants provide about 46% of the national meat consumption and 58% of the value of hide and skin production (Awgichew et al., 1991). Small ruminants have many advantages over large ruminants for most smallholder farmers, including among others: less feed costs, quicker turnover, easy management and appropriate size at slaughter (Wilson, 1991; Abegaz, 2002; Donkin, 2005). They also suffer far less in mortality during periods of drought than large ruminants (Galal, 1983; Wilson, 1991). In addition, subsistence farmers prefer small ruminants as the risk of large ruminants dying and leaving them with nothing is too great (Sölkner et al., 1998).

Goats are the major sources of income for pastoralists and farmers to meet the immediate cash needs of the household. They also provide important source of animal protein (milk and meat) in pastoral areas. With the increased drought cycle and environmental degradation because of the effects of climate change, the pastoral community is expanding goat production as a means of adaptation strategy.

Ethiopia is home to genetically diverse goat populations that are widely distributed across agro-ecologies (Hassen et al., 2012, Mekuria 2016).

Community based small ruminants breeding program that has conducted some successful works on local sheep breeds (Gutu et al., 2015) is expanding to the major goat producing areas of Ethiopia targeting genetic improvement of the various indigenous breeds. This breeding program is a collaborative initiative between ICARDA, ILRI and National Research Institutes. It was started after detailed characterization of the production and marketing system in different agro-ecologies of the country (Gizaw 2010, Hassen et al., 2012). According to Mueller et al (2015). Community based breeding programs are promising tools for livestock genetic improvement under smallholder tropical conditions. Improving the production and marketing of livestock including goats offers rural producers with an opportunity to market high value products to urban consumers (Delgado et al, 1999) and to support the national economy through export of meat. The increase in national and international demand for meat in general and the high demand for goat meat in the Middle east countries is a very good incentive for efforts in genetic improvement to support increased goat production in Ethiopia in order to satisfy both the domestic and international demands.

Efforts in improving genetic performance through community based breeding programs will be sustainable if and only if genetic improvement and increased production is supported with efficient marketing system. Producers will be encouraged to sustainably increase production if they get good price for their animals and off-take increases over time. This in turn requires identifying marketing bottlenecks and creating strong market linkages. The purpose of this study is thus to identify important challenges for goat marketing in Konso area and create market linkage between goat producers and major consumers.

1.2. Objective

The major objective of this study is to identify challenges in marketing of small ruminants and linking Konso goat producers to feasible and sustainable markets.

2. Methodology

Creating a feasible market linkage between producers and various consumers requires understanding the different factors affecting the nature of demand and supply of products. We tried to understand the characteristics and potential of goat producers in order to create market linkage between producers and export abattoirs. We made rapid assessment of the marketing situation to identify the major constraints in the marketing system. For this purpose, we used participatory rapid market assessment tools such as focus group discussions, key informant interviews, informal discussions and observation of community practices. Key informant interviews were made with government officials in the Meat and Dairy Industry Development Institute, woreda officials (administrators, office of livestock and fish, cooperatives promotion agency and offices of industry and trade promotion), big and small traders supplying animals to export abattoirs, collectors, goat breeding cooperative members (goat producers) and leaders. We made repeated extensive discussions with Alana export slaughterhouse management to develop feasible market linkage between the slaughterhouse and goat producers. Focus group discussion was made with members of Baide Goat Breeding Cooperative. We observed the market infrastructure and goat marketing practices in Konso area. Informal discussion was made with different actors including collectors, transporters and tax collectors.

3. Results

3.1. Challenges Identified in Konso Goat Value Chain

3.1.1. Gap in understanding consumers behavior

There are variations in demand for goats due to differences in the characteristics of consumers and the purpose for which they need the animals. For instance, export abattoirs need young, uncastrated male goats with 15-25 kg live body weight. These animals should not be skinny and they need to be healthy and have good body condition. On the other hand, domestic consumers usually need fattened goats with larger body condition. Hotels on the other hand need barren ewes that have larger dressing percentage and are cheaper in price. Producers need young female goats for breeding purposes. There is also increasing demand for selected breeding bucks in different parts of the country. Understanding behavior of these different buyers enables producers to target their animals to different buyers at different times of the year. This means, there is a need to have different business models for marketing of different types of animals that smallholder producers supply to the market. For instance, we understood that members of the community-based goat breeding cooperatives want to sale all the male goats uniformly as breeding bucks/sires. However, not all the male animals born in the selection program become sires. Only selected animals will be used for breeding while others will be culled and sold for slaughter purposes. The breeding bucks get certified and sold at premium prices while the culled male goats are sold at market prices. However, members of the CBB cooperatives insist selling all male animals at the price of certified, breeding bucks. This happens at times when producers are asked to sale their animals through cooperatives to the export slaughterhouses. We understood that members of the breeding cooperatives need through awareness creation works and entrepreneurship skill to understand the nature of livestock marketing especially consumer demands and intrigues in marketing of animals.

3.1.2. Seasonality of demand

Livestock marketing in Ethiopia is characterized by seasonality of both demand and supply of products (Legese et al, 2008; and Legese and Fadiga, 2014). There are seasonal variations in the demand for small ruminants in general and goats in particular. The demand for animals among domestic consumers increases during certain festival seasons (New-year, Christmas, Easter and Ramadan). This means producers have to wait for such seasonal pick demand seasons in order to get better prices. Even though seasonality is observed in the meat export

value chain too, the demand for animals in this value chain is high throughout the year as compared to the domestic consumers.

The number of export abattoirs has more than doubled (increased from 7 to 15) in the last ten years. These abattoirs have an installed capacity to produce over 200,000 tons of meat a year, but the maximum achieved production volume so far is only 20,000 tones (only 10% of the installed capacity) a year mainly because of shortage of sufficient number of export quality animals. Assuming a carcass weight of about 10 kg per animal on average, export slaughterhouses can absorb about 20 million male sheep and goats per annum. However, official statistics from the Central Statistical Agency of Ethiopia (2021) shows that our production system supplies only 50% of the number of animals that can satisfy the installed capacity of the existing slaughterhouses (Table 1). This demand can be satisfied though better production practices to produce animals that can attain slaughter weight in less than 6 months of age and better awareness of producers to market their male animals at younger age. To this end, we observed that male animals produced in the community-based breeding program can attain the slaughter weight requirements of export abattoirs at their 3 months of age. This means, significant number of animals considered “under the slaughter weight” and non-marketable in Table 1 can be supplied to the market if the breeding practices of CBBP are widely adopted. The marketing behavior of producers to sell their animals at younger age rather than keeping them to fatten for a long period of time can be attained through developing their entrepreneurship skills. One important thing in this case is working on the economics of selling animals at younger age to maximize the benefits of producers through higher turn over versus keeping them for a long period of time as indicated in Table 1.

Table 1: Total population of sheep and goats of Ethiopia and number of animals in different age groups

Type of animals		Sheep		Goats		Total	
		Number (millions)	%	Number (millions)	%	Number (millions)	%
Total population		42.9		52.5		95.4	
Male animals	Total number	12.4	29%	16.0	30%	28.4	30%
	Below 6 months (1)	4.2	34%	4.6	29%	8.8	31%
	6 months- 1 year (2)	2.2	17%	2.7	17%	4.9	17%

1 year-2years (3)	2.4	19%	3.2	20%	5.6	20%
Above 2 years (4)	3.7	30%	5.5	34%	9.2	32%
Total animals of market age (2+3+4)	8.2	66%	11.4	71%	19.6	69%
Animals that can be supplied to export abattoirs (2+3)	4.5	36%	5.9	37%	10.4	37%

In a nutshell, the government of Ethiopia is pushing hard the meat exporters to increase their export volume. This is a year-round market opportunity for small ruminants producers. Goat producers need to understand to whom to sell the different types of animals they supply to the market because of the seasonal nature of demands in different market segments. Even though domestic consumers pay better price to fattened, male goats, the demand for such animals is seasonal in nature and waiting for such seasonal demands halts the market participation of producers and may also influence the nature of livestock production practice itself.

3.1.3. Reliance of export abattoirs on low-land goats

As per our discussions with export abattoirs, 80-90% of their slaughter animals are goats. These animals are sourced from low land pastoral areas of the country. There is huge domestic demand for animals in the highland markets and export abattoirs cannot successfully compete with domestic consumers in the highlands due to high prices especially during festival seasons. As a result, they rely on low land markets.

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3.1.4. Low level or no awareness about efforts of breed improvement

Efforts of community-based breeding programs to improve the performance of indigenous sheep and goat breeds is not widely known among non-producers. Promotion of the efforts made in genetic improvement may create a good opportunity for farmers engaged in community based breeding programs in terms of price and all year round market for their animals. Since obtaining good quality slaughter animals is a plus for exporters, this might create a win-win situation for producers and consumers.

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3.1.5. Complaints of darkening color of Konso goats meat

According to our discussions with export abattoirs and traders supplying slaughter animals to export abattoirs, there are complaints of darkening of the meat color of animals sourced from Konso area. As a result, goat producers in Konso area get lower prices for their animals as compared to those in the neighboring Borana lowlands. The effect of this information is reflected not only on price of animals, but also reluctance of traders to buy Konso goats at normal marketing seasons when they get good supply of animals from other sources. Efforts are being made to make sure whether the meat color complaint is based on the actual fact on the ground.

Efforts have been made for the last couple of years to prove if the darkening of meat is a real problem for Konso goats. ICARDA has made tremendous efforts to do test slaughter of Konso goats at export abattoirs. Results of the test slaughter and feedback from consumers in the end markets have been communicated to relevant stakeholders including community-based goat breeding cooperative leaders, cooperative members, traders and government officials.

3.1.6. Long marketing chain between producers and final consumers

Animals change over four hands until they reach the final consumer. When animals go through the different actors, each actor has to get margins and the final price that consumers pay for a given animal becomes high. This makes consumption of goat meat by the domestic consumers unaffordable and also escalates the price of slaughter animals to export abattoirs. This means, meat exporters become less competitive due to high domestic prices limiting the growth of export volume and eventually affecting demand for animals and income of producers.

3.1.7. Low level of experience in selling to export abattoirs:

Goat producers often sell their animals to collectors after which the animal may change three hands to arrive the export abattoir. Selling animals to export abattoirs involves collecting animals (bulking) and transporting at least a truckload of animals to abattoirs, which may cause risks of body weight loss and mortality. Producers and their cooperatives have a problem in taking these risks and becoming successful to reap the benefits which they could have obtained from their products. In order to increase producer's margin, it is essential to build the capacity of producers not only in breeding animals but also linking them with actors in the upper end of the value chain (destination of their animals). It is also important to think of the possibility of linking cooperatives and their members to big traders that are working with export abattoirs.

This will reduce the number of intermediaries between producers and export abattoirs. It will also ease the burden of taking risks of weight loss and transportation as well as the transaction costs incurred due to travel to Modjo/Bishoftu where export abattoirs are located.

3.1.8. Focus on breeding program relying only on sales of the breeding bucks:

The breeding cooperatives in Konso area focus only on production of breeding bucks that fetch them premium prices. Marketing of non-breeding bucks is not given due attention. However, not all bucks are selected for breeding and culled animals from the breeding system need to be sold at market prices all over the year in order to encourage farmers in the breeding program. As indicated above, this may need developing a feasible business model for marketing of culled animals.

3.1.9. Lack of minimum weight at which animals will be sold for breeding purposes

As indicated above, extra breeding bucks that are not required for service in the breeding cooperative/group are sold to outsiders at premium prices. However, the cooperatives do not have minimum weight below which the bucks will not be sold. Taking this as an advantage, buyers always go for smaller size bucks in order to get selected breeding bucks at lower prices. This is a loss for the breeding cooperatives/groups. Fixing the floor selling weight for selected breeding bucks increases the profitability of the breeding cooperatives and makes membership in such cooperatives attractive and rewarding.

3.2. Efforts made to create market linkage

3.2.1. Discussions with EMDIDI

- The Ethiopia Meat and Dairy Industry Development Institute is working closely with the export abattoirs and livestock traders. The institute is working on alleviation of the marketing bottlenecks along the value chain in order to increase the meat export performance of the country. With the recent increase in the number of export abattoirs and the problem of supply shortage of slaughter animals, EMDIDI has made rapid market assessment in the source markets and tried to take measures to resolve the problems observed during the rapid assessment. The institute made a visit to Konso markets and understood their supply potential. According to the discussions we made with a senior official of EMDIDI, abattoirs such as

Alana showed interest to establish goat ranches in Konso area and they also had purchasing agents in these markets. In this regard, EMDIDI has been supporting Alana and other abattoirs to set up strong market linkages with suppliers in Konso markets and was considering supporting them in establishing ranches in these areas. The institute initiated carcass based marketing between live goat suppliers and export abattoirs in order to overcome problems of over feeding and watering animals at the time of handing over to the abattoir and transform the marketing system into more transparent system that benefits both buyers and sellers.

3.2.2. Market assessment

Rapid market assessment was made in Konso market in order to understand the characteristics of goat market in Konso area. Accordingly, we understood that producers sell their animals to collectors that wait them on their way to the market. Such collectors sell to small traders that keep the animal for a number of days expecting weight gain and hand them over to big traders that supply animals to export abattoirs. Goats supplied to export abattoirs from this area are collected from Konso woreda and markets far from Konso. The major markets supplying goats to Konso traders are: Key Afer, Turmi, Weyto, Dimaka, Erbore, Ale, Fasha, Kolome, Kalaya, Gato, Turo, Dimago, Teltele, Segen and South Omo. The big traders that supply animals to export abattoirs indicated that goats supplied from Konso markets are considered as second grade animals next to those supplied from Borena markets. The price for Konso goats is also lower than the price of Borena goats. When supply is plenty, export abattoirs give priority to Borena goats.

3.2.3. Market linkage

Based on information obtained from EMDIDI and traders, we made extensive discussions with Alana export abattoir. This was with the intention to making use of their huge demand for slaughter animals and their increasing market share. As expected, the Alana management showed us the interest to absorb animals collected from community based goat breeding cooperatives in Konso woreda. They were very happy with the efforts of community based goat breeding program and they agreed to dedicate their live animal transportation trucks to collect animals from Konso markets. The Alana management also explained the problem of darkening meat of Konso goats and they agreed to make test slaughters to identify if this is

really the problem with Konso goats. They also expressed their willingness and determination to develop ‘premium Konso goat meat’ after making test slaughters and introducing meat produced from Konso goats to their customers in different countries. Taking these as background and communicating with experts in Konso district livestock development agency and cooperative leaders, we agreed with Alana export abattoir to work towards supply of at least one truckload of animals every other week from community-based goat breeding cooperatives.

The first attempt in supply of animals from community based breeding programs was through collection of animals by the cooperative leaders and handing over the animals to the agents of the abattoir at Konso market. This was not possible because the agent for the export abattoir was not willing to cooperate with this initiative. He rather considered the initiative as something we were doing against the live animal traders in the area. We also understood that collecting animals at farm gate from farmers and sending the sells proceeds to farmers after the animal is slaughtered (because transaction with the abattoir is on carcass weight basis) is accompanied with other complications. This is mainly associated with problem of accounting the weight loss and mortality during transportation. Each farmer expects the value of her/his animal based on the live weight taken at the farm gate and it is extremely difficult to convince the weight loss and mortality issue. As a result, it was necessary either to enable the cooperative to buy animals from its members and do the business with the abattoir taking all the risks involved in the process. However, the breeding cooperatives were not in a position to jump into such a business at the time of our intervention. The other option was to link the cooperatives with selected big traders that buy-in the idea of product development and cooperate with the initiative. Accordingly, we convinced one trader and he agreed to buy animals from the breeding cooperatives and supply these animals to the abattoir without mixing them with animals from other locations. The idea was communicated to the cooperatives, woreda officials and the export abattoir. According to the agreement, the cooperative leaders and enumerators will help in collecting animals and the trader buys the animals going to the cooperative site. However, this could not happen because of lack of coordination between the researchers involved in the breeding program, the cooperative leadership and the enumerators. The first excuse was that timely selection of breeding animals was not carried out and it was not possible to identify and sell non-breeding male goats to traders. We pushed the researchers to speed up the process and selection was carried out after some delays. However, the transaction did not happen to realize even after selection was done. In order to understand the

real problem, we organized a consultation forum involving the cooperative members and leaders, the trader, researchers and woreda officials. After thorough discussion on the consultation forum, we realized that there was a conflict between the cooperative leaders and the enumerators due to issues related to mismanagement of the cooperative finance. The woreda cooperative promotion experts and all concerned bodies involved in the discussion tried to resolve the issue and all parties agreed to proceed with the intended market linkage (supply of animals). We identified next action points and expected the kickoff of the transaction between the cooperatives and the traders. Despite all the efforts and our expectation, there was no transaction between the two parties. As a result, we tried the linkage between the trader another cooperative. This time, the transaction started after some dialogue with the trader. However, the trader reported that animals supplied to him were collected from the market and this does not meet the intended objective of test slaughter at Alana. We had to sort out the problem and proceed with next solutions.

After evaluating all the challenges we faced in creating the intended market linkage, we reinitiated the process. The process was started from the discussion with Alana top management at Addis. In this discussion, we agreed to creating awareness among Konso goat traders based at Karat /the capital of Koso zone/ members of community based goat breeding cooperatives and initiating the marketing of animals by the time when there is high demand for goat meat in the Middle East Markets. Accordingly, we convinced some traders and members of the breeding cooperatives to work with us in order to develop better market for Konso goats. This time, we arranged a collection point in the community based breeding program villages so that traders go to the collection points and buy from individual member of the cooperatives. We also advices cooperative members to delegate three of the cooperative members to do market survey before the traders come to their village for collection of animals. We also tried to get the existing price of live animals (price per kg of live weight). The challenge we faced in this case is the price expectation of cooperative members. Because of the presence of ICARDA and the emphasis given to the issue, farmers expected price of breeding bucks (100 ETB/kg live weight) while the market price slaughter animals was 85 ETB/kg live weight. Despite our plan to effect the collection of 200 culled goats for test slaughter, the trader managed to collect 97 animals. These animals were transported to Modjo for test slaughter at Alana export abattoir.

Results of the test slaughter and feedback from end market consumers

After slaughtering 97 konso goats, the management of Alana export abattoir informed us there was no darkening of the chilled carcass until it was shipped staying for 24 hours in the cold room. As per the requirements of the regulatory authorities and our plan to follow up the condition of the product in the end market, Alana export abattoir marked all the chilled carcass exported to Dubai market. Moreover, the export abattoir requested feedback of consumers on the quality of the carcass with marked codes. Accordingly, the end market consumers sent their feedback with pictures to Alana confirming there was no problem of darkening on all the marked carcasses for which feedback was requested. The management of Alana in turn sent us the following picture (Figure 1) and the positive feedback on the quality of meat. This result is the initial step to prove false allegations were placed on the quality of Konso goats meat. The result is communicated to all actors involved in the process to realize the test slaughter at Alana export abattoir.



Figure 1: Picture of Konso goat meat taken in Dubai

4. The next steps to develop trust of buyers on quality of Konso goat meat and market development

4.1. Repeated test slaughters:

In order to convince buyers that meat darkening is a false allegation on Konso goat meat, it is important to do repeated test slaughters. This is necessary to show the positive result is not by chance. Repeated test slaughter and feedback from end market consumers will also help to develop taste for Konso goat meat. This in turn will also help to initiate the brand development. However, the test slaughter should be done with due care without mixing goats from the CBBP with those without ear tags.

4.2. Publicizing the results of the taste slaughter

Results of the test slaughter should be communicated to the public in all possible mechanisms. The initial result was communicated to leaders and members of CBBP cooperatives, woreda and zonal experts and the trader involved in the process. However, this effort must continue as we do more test slaughters to reach regional and federal livestock and trade authorities, export abattoirs, big and small traders, researchers and other relevant stakeholders.

4.3. Brand development

Assuring the quality of Konso goats should be followed by developing special brand for the product. Alana export abattoir has already promised at the beginning of this market linkage exercise to be engaged in this process. Even though it is a long process to develop a brand, it is good to plan and take the necessary measures towards the target. This will create great market opportunity for Konso goat producers.

4.4. Develop capacity of cooperatives

Smallholder farmers sell their animals to meet their immediate cash demands. This makes it very difficult to get good number of animals for test slaughters at a time. A possible mechanism to collect animals sold by cooperative members is through their cooperatives. Experiences show that cooperatives can buy animals from their members and keep the animal with the seller for a certain time. This will enable both the cooperative and members that have already sold animals to benefit from the wait gain until the animal will be resold by the cooperative.

However, such an arrangement requires building the financial and technical capacity of cooperatives. Hope CBBP cooperatives have gained good experience in handling such things from their marketing of breeding bucks. However, the financial capacity of cooperatives need be evaluated, and necessary measures taken.

4.5. Awareness creation for cooperative members and leaders

Experience show that members of the CBBP cooperatives want to sell all male animals from the breeding program as sires. These animals may have better performance than those collected from outside the breeding program. However, animals of special breeding value are selected through the established process and the culled animals should be sold for slaughter purpose. These animals could be sold to any consumer as long as the producer get a market price. It is essential to let all members and leaders of the cooperatives understand this fact.

4.6. Economics of selling goats of different age groups and develop business models

Data from the Central Statistical Agency of Ethiopia (CSA) shows that large proportion of male sheep and goats produced in Ethiopia are kept for more than two years on farm. This justifies the traditional sheep and goat fattening practice in the country. This means, farmers are keeping a given male animal for more than two years while it is possible to condition the animal in a short period of time (for three months) and obtain the potential benefits from fattening the animal. The major challenge here is we do not have concrete evidence to tell what a producer can get from high turnover of animals with and out fattening within the time interval she/he keeps limited number of animals. Such evidence on economics of selling animals of different age groups and conditions will help us to develop clear business models for these practices.

4.7. Entrepreneurship skill development

It is advisable to develop the entrepreneurship skills of farmers to help farmers develop their livestock marketing practices. This may have multiplier effect on the livelihood of farmers and the national economy.

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Annex 1: Persons contacted for the market assessment and linkage

S.N.	Name	Affiliation
1	Ato Kelifa Hussein	Deputy Director for investment and technology support, EMDIDI
2	Ato Soke Gelabo	Collector
3	Ato Ayele Kensite	Collector
4	Ato Awoke Dinote	Collector
5	Ato Worku	Collector
6	Ato Alemayehu Admasu	Big trader supplying animals to abattoirs
7	Ato Kumlachew Hudeldo	Head, cooperative promotion office
8	Ato Yehualashet Gudeya	Head, office of trade and industry
9	Ato Oda Atoma	Expert, office of trade and industry
10	Ato Simeon	Expert, office of trade and industry
11	Ato Geremew Ayano	Woreda administrator
12	Mesele Megersa	Enumerator, Baide cooperative
13	Kudado Degefu	Chairman, Baide cooperative
14	Kudado Gudelo	Deputy Cahirman, Baide cooperative
15	Hayote Hale	Secretary, Baide cooperative
16	Shagode Guita	Treasurer, Baide cooperative
17	Beyene Berisha	Member of Baide cooperative
18	Megersa Harmeta	Member of Baide cooperative
19	Kudado Binana	Member of Baide cooperative
20	Regassa Tukuro	Member of Baide cooperative
21	Shegote Finjao	Member of Baide cooperative
22	Bizunesh Kaltaito	Member of Baide cooperative
23	Sisay Dubeno	Member of Baide cooperative
24	Dr. Shirsh	Director, Alana export abattoir
25	Ato Gidey	Advisor, Alana
27	Dr. Nanda Kumar	Manager, Alana
29	Alemayehu Kusse	Big trader
30	Gehano soka	Expert, office of livestock and fish resource development
31	Dereje Jeni	Researcher, Arbaminch agri. Research center
32	Sidrak sintayehu	Researcher, Arbaminch agri. Research center

33	Dires Mulugeta	Expert, office of livestock and fish resource development
34	Gumataw Godele	Expert, office of livestock and fish resource development