

Actors and Their Roles in Small Ruminant Value chain in TahtayAdyabo District, Tigray, Ethiopia.

Abstract

This study was aimed at identifying of small ruminant value chain actors and their roles. Primary data were collected from a randomly selected 138 small ruminant producers, 26 traders, 5 butchers, 7 hotels/restaurants and 11 consumers interviewed through a semi-structured questionnaire and from key informant interview. The result revealed that the major actors in the district being input suppliers, small ruminant producers, farmers, collectors, small traders, large traders, hotels/restaurants, butchers and consumers. The main supporters of the small ruminant value chain in the study area are Office of Agricultural and Rural Development, Office of Trade and Industry, District Administrations, Dedebit Saving and Credit Institution, Shire- Maitsebri Agricultural Research Center and NGO. There are weak horizontal linkage among small ruminant producers and lack of vertical linkage of small ruminant producers to the other market actors. Therefore, there should be an intervention on establishing small ruminant producer cooperatives, discuss with stockholders about major marketing problems, find common solutions and creating market linkage between small ruminant producers and other actors.

Key words: Actors, Small ruminant, TahtayAdyabo, Tigray, Ethiopia

Introduction

Ethiopia is endowed with huge livestock resource, natural resource and diverse agro-ecological zones suitable for livestock production. These potentials make the country prominent repository for animal genetic diversity [1]. Livestock production plays an important role to smallholder farmers and the national economy of the country[2,3,4].

Small ruminants (sheep and goats) are an important economic and ecological niche in the agricultural systems of developing countries as they make a large contribution to household income, especially for the rural poor [5]. They play a key role, especially to the small holders, in the provision of products such as milk, meat, wool, and skin which are important sources of food and income[6].

Despite the fact that Ethiopia is characterized by a high livestock population, its productivity is low, at least in terms of conventional products such as meat and milk and farmers received low benefit for their livestock and livestock products production. This mainly due to poor breeds, inadequate feeds, diseases, poor market systems characterized by lengthy marketing processes, high transaction costs, lack of vertical and horizontal cooperation and linkage among value chain actors. Demand fluctuations, feed shortage, lack of medicines, weak extension service and lack of improved feeds are also among others constraints [7,8]. In addition, the different live animals supplied to the market by farmers do not meet the quality attributes required by diverse markets. This is because of poor link of producers and other actors in the chain to the critical support services [9,10].

The Study focused on actors and their roles in small ruminant value chain becomes necessary to play a substantial role towards the improvement of the market situation. Therefore, this study carried out to identify actors and their roles in small ruminant value chain in Tahtay Adyabo District.

Methodology

Study area: -The study was conducted in Tahtayadyabo district of North Western Zone of Tigray Region.

Data sources: -The data were collected from both primary and secondary sources. Primary data were collected from a randomly selected sample households, large traders, small traders, collectors, butchers, hotels/restaurants and consumers interviewed through a semi-structured questionnaire and from key informant interview.

Sampling Procedure and Sample Size: - Multi-stage random sampling technique was used to select representative small ruminant producer kebeles and sample households. In the first stage, out of 18 kebeles of the district 10 small ruminant producer kebeles were purposively selected based on the level of production. In the second stage, from the 10 small ruminant producers rural kebeles, four sample kebeles namely Adi-Aser, Gemhalo, Mentebteb and Zban-Gedena were selected randomly. In the third stage, total of 138 sample households were selected randomly using probability proportional to population size-sampling technique based on [11] formula.

$$n = \frac{z^2 p(1 - p)}{e^2}$$

Where,

n is the sample size

p is the estimated proportion of small ruminant producers from the total population

$z = 1.96$ and $e = 0.05$

$$n = \frac{1.96^2 \times 0.9(0.1)}{0.05^2} = 138$$

For this study, data from traders were also collected. The sites for the trader surveys were market towns in which a good sample of small ruminant traders are available. A total of 6 large traders, 12 small traders and 8 collectors were randomly selected constituting a total of 26 traders from Sheraro, Tekeze, Adi-Hageray and Shmelba markets. Furthermore, 5 butchers, 7 hotels/restaurants and 11 consumers were interviewed from the district by selecting randomly.

Data analysis: -Descriptive statistics were used to analyze the data collected from small ruminant producers, traders, hotels/restaurants, butchers and consumers. Descriptive statistical methods of data analysis was used for the use of percentages, χ^2 -test and to examining and describing household characteristics, services and marketing functions.

Results and Discussions

In the study area, small ruminant value chain actors are those individuals who exchange money as well as animals or product, which generally increases in value with each transaction.

1. Primary actors

The primary actors in small ruminant value chain in the study area were input suppliers, farmers, collectors, small traders, large traders, hotels and restaurants, butchers and individual consumers.

Input suppliers: - Input suppliers are the first actor in the small ruminant value chain and provide inputs to producers. At this stage of the value chain, there are many stockholders who are involved to supply input like breeding stock and veterinary drugs which are essential inputs in the production of small ruminants in the study area. Currently Office of Agriculture and Rural Development, NGO (Save the Children) and Private veterinary clinics and pharmacies are the main source of input supply. Small ruminant producers also highly participated in this stage especially for supplying breeding stock. With regard to source of breed, farmers obtained breed, from other farmers/neighbors and NGO (Save the Children).

Producers: -small ruminant producers are the major actors who perform most of the value chain functions right from inputs preparation on their homesteads and procurement of the inputs from other sources to marketing. The major value chain functions that small ruminant producers perform include housing, feeding, herding and breeding. Producers usually sell their small ruminants to any buyer in the village, market places and on the road to the market.

Collectors: - collectors are smallholder farmers who buy small ruminant from remote rural markets and villages for the purpose of resell it to small and large traders. They use either their own capital or large and small trader's money and their knowledge of local conditions and relationships to buy animals. Collectors are actors in the small ruminant value chain, responsible for the trading of goats and sheep from producers to small and large traders in the study area.

Small traders: - small traders are intermediate traders who purchase up to 20 small ruminant in a market from collectors and directly from producers and supply them to butchers, hotels/restaurants and consumers in the study area. They purchase small ruminant from producers and sell goats and sheep to individual consumers and bulk consumers such as defense force. They are also responsible for trading of goats and sheep to butchers and hotels/restaurants from producers and collectors in the study area.

Large traders: - large traders are mainly involved in buying up to 60 small ruminants from collectors in the study area. In most cases, they use collectors to buy large number of animals and are actively involved in small ruminant marketing throughout the year. They buy larger number of small ruminant than any other actors use Isuzu trucks to transport small ruminant and are permanent suppliers of big hotels and restaurants in large towns like Shire-Endaslase and Humera. They are responsible for trading of goats and sheep to Shire and Humera hotels/restaurants from collectors in the study area.

Hotels and restaurants: - Hotels and restaurants are important actors in the small ruminant value chain for the study area. They buy to slaughter small ruminants from producers, small traders and larger traders. When buying small ruminant, they give serious consideration to body size and condition. They slaughter small ruminant and process them into different local dishes like *keywot*, *tibis*, *misto*, *minchet*, *kikil*, *dullet* and *gubetkualita* and sell them to their customers.

Butchers: - Butchers are important actors in the small ruminant value chain for the study area and buy to slaughter small ruminants from producers, small traders and large traders. When buying small ruminant, they give serious consideration to body size and condition. They slaughter small ruminant and serve both raw and cooked meat at their premises. In the study area,

butchers sell raw meat for takeaway locally known as “*medeb*” other than on kilogram basis to individual consumers.

Consumers: - Individual consumers are actors that buy either live animals or meat for their own household consumption. They buy live sheep and goats from producers and small traders to slaughter for religious festivals and special occasions. Individual consumers usually buy slaughter goats and sheep for special festivities, such as the Ethiopian New Year, Christmas, Easter, Ramadan and Arefa. Some households also buy slaughter goats and sheep for special occasions, such as weddings and other ceremonies. The type of animals bought by individual consumers depends on their income and the occasion for which the animal is required. Generally, wealthy households buy fattened male sheep and goats (*mukit*), while lower income groups buy male yearlings. Individual consumers in rural areas usually purchase live small ruminant from producers and in the cities, they buy from any seller. Individual consumers in the study area also buy raw meat from butchers locally known as “*medeb*” other than on kilogram basis.

Similarly, bulk consumers in the study area are Ethiopian defense forces. They buy live small ruminant from small traders and producers. The major suppliers to such bulk consumers are small traders, who are able to provide these clients with large numbers of animals at a time. In order to collect the required number of animals, those traders use a network of collectors. Farmers also make important segment of the consumers since they consume part of their produces.

Farmers (for breeding purpose):-Farmers are both producers and buyers of sheep and goat in the study area. They buy young female sheep and goat mainly for breeding purpose when they need to increase their herd size. Their preferred sources of animals are farmers from known locations since they want to make sure whether the animal will adapt to their situation. Regarding the time of purchases, farmers usually buy animals after crop harvesting from the end of October to December. Because they get cash by selling cash crops and other grains and availability of grazing pasture and crop residues.

2. Supporting institutions

Supportive institutions are those who provide supportive services including training and extension, market information, veterinary services, financial and research services. Office of Agriculture and Rural Development, Dedebit Credit and Saving Institution, NGO (Save the Children) and Shire-Maitsebri Agricultural Research Center are main supporting institutions who play a central role in the provision of such services in the study area.

Veterinary services

The survey result showed that 58.7percent of sample respondents have got veterinary services (Table 1). Unlike the households nearer to towns, who can sometimes get veterinary service from privet veterinary pharmacies and specialists, majority of the households get veterinary service from Office of Agriculture and Rural Development,.Those sampled farmers got veterinary services from Office of Agriculture and Rural Development, and privet veterinary specialists and pharmacies.

Table 1: Access to services by sample respondents

Variables	Items	Total sample (N =138)		χ^2 -test
		N	%	
credit	Have access	63	45.7	3.4829*
	Don't have access	75	54.3	
Veterinary	Have access	81	58.7	12.94***
	Don't have access	57	41.3	
Market information	Have access	93	67.4	10.59***
	Don't have access	45	32.6	

Note: *** and *are statistically significant at 1% and 10% significant levels respectively.

Credit services

In the study area, Dedebit Credit and Saving Institution and informal lenders have been identified as source for credit on a cash basis. The survey result showed that 45.7percent of sample respondents taking credit (Table 1). With regard to credit source farmers took credit from Dedebit Credit and Saving Institution, cooperatives and from credit and saving groups. Sources of credit for all the interviewed traders, hotels/restaurants and butchers are also Dedebit Credit and Saving Institution.

Market information

Before selling their animals, producers search for information about market conditions through self-assessment by going to the markets and asking their neighbors. The source of the information was information from the previous week's market. The survey result showed that 67.4percent of sample respondents got market information. The sampled farmers got market information from other farmers who are neighbors, friends and through personal observation (Table 1).

Development agents, districtoffice of agricultural and rural development, experts, Shire-Maitsebri Agricultural Research Center and NGO were the main sources of small ruminant extension service in the study area. districtoffice of agricultural and rural development through its development agents is the major actor who provides information and advisory service on small ruminant production. The type of extension service with regard to small ruminant was technical advice and training applied to small ruminant production and marketing.

In the study area, the general pattern in small ruminant market is for producers to sell to different traders each time they go to the market. Producers do not have any longstanding customer relationship with any of these buyers and they sell their products to anyone they can. Even the most frequent buyers of small ruminant in the markets do not have any contractual supply agreement with producers. This indicates absence of vertical linkage between producers and any buyer in the small ruminant value chain in the district. This is mainly because the production system is not market-oriented and producers are not following demand or the quality requirements of important market actors. Similarly, farmers lack strong horizontal linkages with each other and cause their poor bargaining power in the market. The horizontal linkages among

traders are 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.

Generally, in the study area, there are weak horizontal linkage among small ruminant producers and lack of vertical linkage of small ruminant producersto the other market actors. Therefore, there should be an interventionestablishing small ruminant producer cooperatives, discuss with stockholders about major marketing problems, find common solutions and creating market linkage between small ruminant producers and other actors.

Conclusion and Recommendations

Small ruminant value chain analysis of the study areas revealed that the main value chain actors being input suppliers, small ruminant producing farmers, collectors, small traders, large traders farmers (for breeding purposes), hotels/restaurants, butchers and consumers. Small ruminant producers, office of agricultural and rural development, private veterinary pharmacies and NGO (Save the Children) were the main actors and institutions involved in the small ruminant production and input supply activities. Collectors are engaged in buying small ruminant from village markets and sell to small and large traders. Small traders buy small ruminant from producers and collectors and sell to hotels/restaurants, butchers and consumers. Large traders buy small ruminant mainly from collectors and sell to hotels/restaurants and butchers. There are also governmental and nongovernmental supportive institutions that support small ruminant value chain directly or indirectly. Value chain supporters or enablers provide facilitation tasks like creating awareness; provide credit, facilitating building strategy and the coordination of support. The main supporters of the small ruminant value chain in the study area are office of agricultural and rural development, Office of Trade and Industry, District administrations, Dedebit Saving and Credit Institution, Shire- Maitsebri Agricultural Research Center and informal credit suppliers.

There isweak horizontal linkage among small ruminant producers and lack of vertical linkage of small ruminant producers to the other market actors. Therefore, there should be an intervention

on establishing small ruminant producer cooperatives, discuss with stockholders about major marketing problems, find common solutions and creating market linkage between small ruminant producers and other actors.

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