

Full length Research Paper

Sheep Production and Marketing System: The Case of Sodo Zuria District Wolaita Zone Southern Ethiopia

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Article history

Received: 03-01-2018

Revised: 15-01-2018

Accepted: 28-01-2018

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Abstract

This study was conducted in Sodo Zuria Woreda, Wolaita Zone, Southern Ethiopia to assess sheep production and marketing system. Six kebeles namely Kokate Mara Care, Dalbo Wogane, Dalbo Atuwaro, Zala Shasha, Bossa Kacha and Damot Waja were selected purposely based on the potential of sheep production. From each Kebele 15 households were purposely selected based on the experience and involvement of sheep production and thus a total of 90 households/ respondents included in the study area. The results of the present study showed that about 65% of the respondents were male headed while 35% were female headed. With regard to education background of the respondents only about 7.2% of the households were illiterate while the majority (92.8%) educated at different level from basic education to collage level. The respondents had a family size of 4 persons per household on average. The average number of sheep per household was 4 and the land holding size per household was 0.75 hectare. About 50% of respondents reported that their purpose of sheep keeping was for sale. The common feed resource for sheep were free grazing; 14.4%, tethered grazing; 17%, crop field; 15.5% and road side grazing; 13.3%, 90% respondents use extensive production system and 10% reported they use free grazing and traditional mating system. About 50 % of the respondents used pipe water as source of water for sheep. All(100%) of respondents use informal market that involves producers to trader. Among the opportunity for sheep production in the study area presence of credit facilities, availability of farm labor and high demand of sheep and sheep products are the major one. However, lack of supplementary feeds 44.4%, shortage of grazing land 32.3% and prevalence diseases were the major constraints to sheep production in the study area. Therefore, extension works are highly needed to improve the current sheep production system to solve the prevailing constraints.

Keywords: sheep production, feed resource, grazing land, sheep products

Introduction

Ethiopia has vast sheep population at about 30.70 million sheep are estimated to be found in the country, out of which about 72.14 percent are females, and about 27.86 percent are males (CSA, 2016). Sheep are owned by smallholder farmers to provide as a source of meat and income. Moreover, it has a higher role in the livelihood of the household in Ethiopia. Addis (2015) indicated that available feed resources of small ruminants are natural pasture, crop residue, cultivated forage and industrial by product and other by feed resources derived from herbaceous forages, trees and shrubs, food crop residues, agro-industrial by products, mineral supplements and other by products. Inadequate feed quality and quantity, diseases, poor breed potentials and inadequate sheep policies of credit, extension, marketing and infrastructure are the major limitation that affects sheep performances of Ethiopia. In Ethiopia, the traditional production system, the natural feed sources and much limitation of sheep productions is the unique characteristics of the country. Ethiopia has favorable opportunities to increase sheep productivity despite of the constraints and owns large and diverse livestock resources which are genetically diverse and this genetic potential is not yet adequately exploited. Some of the breeds have special merits that meet the requirements of certain incentive markets and earn premium prices. For instance, according to Solomon et al. (2010) lowland breeds are in high demand in the Middle East; Menz sheep produce delectable meat; long-fat-tailed sheep breeds are highly prolific; and central highland goats produce branded 'Bati Genuine' leather.

Belete (2009) indicated that, although various research and development activities have been carried out in the past, no significant increase in productivity was achieved. Therefore, improvement programs are necessary to increase productivity and sustainable development of small ruminants in different farming systems of the country in innovative approach so as to meet the demands of the

human population. In Ethiopia sheep represents an important component of the farming system but there are problems in sheep production and marketing system, which may reduce the performance of sheep production. As a result, there has to be a means for the producers to get reasonable benefit from their sheep production. Even though, Sodo Zuria Woreda is one of the potential areas in sheep production among Woliata zone, the production of sheep and marketing is not yet identified and recorded. Therefore, this study was aimed to provide baseline information on sheep production and marketing system in Sodo Zuria District of woliata Zone southern Ethiopia.

Materials and methods

Description of the study area

The study was conducted in Sodo Zuria Woreda Wolaita Zone Southern Ethiopia .It is located at 390 km from Addis Ababa and its altitude ranges from 1950 above sea level with average rainfall 1800 mm. The minimum and maximum temperature of the area is 16 C⁰ and 28C⁰ respectively. The study Woreda has a total of 30 kebeles which are distributed in two agro ecologies (10 Kebeles in high land (“Dega”) and 20 “Kebeles” in mid altitude (“Woynadega”) SZWLF (Sodo Zuria Woreda Livestock and Fishery Office, 2012). Crop and livestock production are the major sources of income and livelihood of people in the woreda. Livestock is also important part of the production system in the woreda. Production of Cattle, Sheep, Goat, Horse, Donkey, Mule and Poultry are a very common practice. Information obtained from the woreda agriculture office reveals that a total of 9,440(22.53%) hectare land is used for grazing (Soddo Zuria Woreda agricultural office, 2012). The total number of sheep in the study area was about 20384 out of exotic were 256 cross bread were 751 and local bread 19377.

Sampling techniques and sample size

A stratified random sampling technique was used to stratify the agro-ecological zones (high lands (“Dega”) and mid altitude (“Woynadega”). Sodo Zuria Woreda has 30 Kebeles from which 4 kebeles from *Dega* and 2 kebeles from *Woynadega* totally 6 kebeles (*Kokate Mara Care, DalboWogane, DalboAtuwaro, ZalaShasha, BossaKacha and DamotWaja*) were randomly selected for the study. From each Kebeles 15 households were purposely selected based on the experience and involvement of sheep production .Thus the total number of the households involved in the study was 90 (i.e., 6 Kebeles x 15 households).

Data collection

Both primary and secondary sources of data were used for the study. Primary data were collected via interviewing using pretested semi structured questionnaire while secondary data were collected from different offices, published and unpublished material and journals.

Data Analysis

The data were analyzed by using SPSS version 16 (2007) for descriptive statistic such as mean, frequency and percentage. The results were presented in the form of table and graphs.

Results and Discussions

Socio economic status of the Respondents

As it is indicated in table 1, about 65% of the respondent were male headed and 35% were female headed. The present finding is slightly higher than Tsedeke (2007) who indicated that about 57% of the household members were males while 43% were females in the study of Halaba special woreda, southern Ethiopia. With regard to education background of the respondents 7.2% of household were illiterate while the rest 92.8% educated at different level from basic education to collage level. The percentage of illiterate households in the present level is lower compared the 23.3% of illiterates reported by Shewangzaw and Adis (2016) from North Gondar Zone of Amhara Region, Ethiopia. The presence of large proportion of literate respondents in the present study could be an advantage in accepting and practicing the new technology in the area to improve sheep productivity. The majority (68.8%) of the respondents falls in the age category between 20-40 years old and this age category is considered as active working group which is the main source of farm labor.

Livestock and land holding size in the study area

The average number of livestock per household is indicated in table 2. Accordingly, the number of cattle, sheep and equine was 2.8, 4.0 and 1.0 head respectively. From the present study, sheep is the largest average number of livestock possessed in the study area. This finding is similar with Ermias (2014) who indicated that the average number of sheep was 4.0 in Damot Gale Woreda of Wolaita Zone south Ethiopia. Land holding size is the determinate factor for small holder farmers to undertake different agricultural activities. The overall mean of total land holding size in the present study was 0.75 ha, ranging from 0.625-0.875 ha (table 2).

Purpose of sheep keeping in the study area

The purpose of sheep keeping in study area is presented in table 3. Accordingly, about 50 and 31.7% of the respondents reported that their main reason of keeping sheep is for sale and as saving respectively .This implies that the sale of sheep to generate cash income and saving is very crucial and could help in insuring food security of the farmers. However, none of the respondents were reported to use sheep as source of milk in the study area. In support of the present result, Solomon et al. (2010) reported that sheep could

provide 30.5% of cash income in the study of Alaba special woreda, southern region of Ethiopia. The respondents in the present study also reported that they keep sheep for meat production (20.2%), manure (4.9%) and social & cultural values (4.3%).

Table.1 Socio economic status of the respondents

Demographic attribution		Number of respondent (N=90)	Percentage (%)
Sex			
Male		59	65
Female		31	35
Education status			
Illiterate		8	7.2
Basic education		10	9
Primary (1-6)		28	25.5
Junior (7-8)		21	18.9
Secondary (19-10)		20	18
College diploma		3	2.7
Age			
<19		-	-
20-40		62	68.8
41-60		28	31.2
>61year		-	-
Family size (No of person)			
2		12	13.3
3		26	28.8
4		27	30
5		15	17
6		10	10.9

Table 2. Livestock and land holding size in the study area

Parameters	Kebeles						Overall mean
	Kokat m/chare	Delbowo gane	DalboAti waro	Zalashas ha	BossaK acha	Damotiw aja	
Live stock size	Mean	Mean	Mean	Mean	Mean	Mean	Mean
Cattle	3	2	3	3.5	3	2.5	2.8
Sheep	4	4	3.5	4.5	3	3.5	4
Equine	1	1	1	1.5	1.5	1	1
Land hold (ha)	0.625	0.75	0.875	0.875	0.625	0.625	0.75

Table.3. Purposes of sheep keeping in the study area

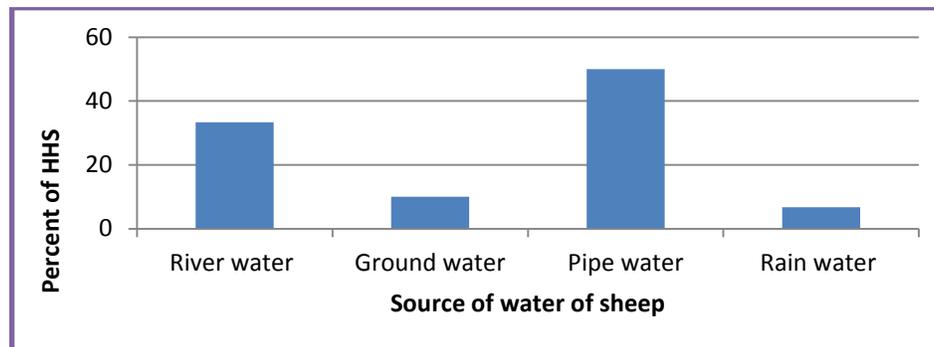
Purpose	Number of respondent N=90	Percentage
Sale	45	50
Meat	10	11.1
Saving	29	32.2
Social and cultural Values	6	6.7

Feed and water sources for sheep in the study area

As it is indicated table 4, the major feed resources for sheep include tethered grazing (17%), crop field (15.5%), free grazing (14.4%), road side (13.3%), feeds from communal grazing (12.2), cut and carry system (6.5%), hay (9%) and concentrate (12.1%) are used to feed sheep by the respondents. This finding is in line with Tsedeke (2007) who indicated that the major feed resources for sheep and goats includes grazing on crop stubble (13.4%), private pastures (13.3%), road sides (13.2%) as well as weeds from crop fields (11.6%) in Alaba woreda southern Ethiopia. The respondents indicated that the availability of feed depends on the season of the year. For instance, when the land is covered with the crop producing season either (“meher” or “belg” season), the respondent mainly used feed resources for their sheep in crop fields. According to the information gathered from the respondents, they use leftover grains and mineral (common salt) and “Atela” as supplementary feed for their sheep. According to figure 1, the respondents use different water sources for their sheep including pipe water (50%) river water (33.3%) ground water (10%) and rain or temporary stored water (6.7%). Since the Woreda is near to Sodo town accessibility of pipe water is commonly used for their livestock.

Table 4. Feed resources for sheep in the study area

Feed source	Number of respondent (N=90)	Percentage
Free grazing	13	14.4
Road side	12	13.3
Tethered grazing	15	17
Crop field	14	15.5
Communal pasture	11	12.2
Cut and Cary system	6	6.5
Hay	8	9
Concentrate	11	12.1

**Fig 1.** Water sources for sheep

Sheep production systems

The housing, feeding and breeding systems of sheep in the study area is presented in table 5. Two types of sheep production systems namely extensive and semi-intensive. According to the data collected from the respondents the dominant (90%) sheep production system practiced was extensive system while only 10 % of the respondents practice semi intensive sheep production system. The extensive system of sheep in the study is characterized with no or minimum inputs and improved technology which results low productivity. Majority (72.2%) of the respondent accommodate their flock in the main house with the family member, while (20%) reported they keep sheep together with other animals and only (7.8%) reported they have separate houses for sheep (table 5). With regard to the feeding system of sheep in the study area, the majority (90%) of the respondents used grazing alone while the rest 10% used grazing with supplement. The respondents practice both natural mating and cross breeding. According to the information collected from the respondents 90 and 10% practiced traditional mating and cross breeding respectively as a means of breeding system.

Table 5 Sheep production, housing, feeding and breeding systems

Parameters	Number of respondent (N=90)	Percentage (%)
Sheep production system		
Extensive	81	90
Semi intensive	9	10
Intensive	-	-
Housing system		
Together with family	65	72.2
Together with other livestock	18	20
Separate	7	7.8
Feeding System		
Grazing alone	81	90
Grazing with supplement	9	10
Breeding system		
Natural mating	81	90
Crossbreeding	9	10

Sheep marketing systems and marketing constraints

The marketing system and marketing constraints in the study area are shown in table 6. In the study area, sheep marketing involves producer to trader (66.7%) and trader to local market (33.3%). According to the respondents, absence of market oriented production

system (50%) lack of market information (24.4%) and seasonality of market price (25.6%) were the major constraint for sheep production in the study area.

Table 6. Sheep marketing systems and marketing constraints

Perimeters	Number of respondents (N=90)	Percentage
Producer to trader	60	66.7
Trader to local market	30	33.3
Marketing constraints of sheep		
Lack of market information	22	24.4
Absence of market oriented production system	45	50
Seasonality of market price	23	25.6

Opportunities for sheep production

The respondents in the study area indicated that there is presence of credit facilities (table 7) in addition to this availability of farm labor and high demand of sheep and sheep products are among the opportunities for sheep production in their locality. One of the most important strategies of the government today has credit facility to provide rural society and urban societies to increasing income of households. Many farmers used credit facilities from Omo. Micro finance (57.8%) household asset building program (HABP) (26.6%) and cooperative association (15.6%) to increase income and food security for their household numbers.

Table 7. Type of credit facilities available for the respondents

Credit facility	Number of respondent (N=90)	Percentage (%)
Omo-micro finance	52	57.8
House hold asset building (HABP)	24	26.6
Cooperative association	14	15.6

Constraints to sheep production

The constraints of sheep production in the study area are presented in figure 2. Accordingly, lack of supplementary feeds (44.4%) shortage of grazing land (32.3%) and presence of disease (23.3%) were the major constraints. the present finding is different from the previous finding by Tadesse et al. (2015) who indicated that the sheep production in southern Ethiopia is constrained by shortage of grazing land (23.3 %), recurrent drought (17.5 %), disease and parasite (15 %), marketing (10.8 %), water shortage (9 %) and other constraints including predators and lack of input, capital and lack of extension service. From the present study it can be said that shortage of feed contributes the higher challenges for the production of sheep in Sodo Zuria District of woliata Zone southern Ethiopia. Therefore, different interventions should be made to alleviate the problem. This may be introducing improved forage species and training how to use the crop residue which is produced after the main crop cultivation.

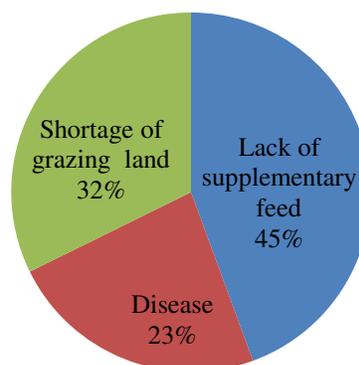


Fig 2. Major constraints of sheep production

Conclusion and Recommendations

The study was conducted in Sodo Zuria Woreda Zone Southern Ethiopia to assess the production and marketing system of sheep. Sheep were kept for different purposes including sale, saving, meat production and social and cultural values. About 50% the respondents indicated that their purpose of sheep production for sale. Sheep were feed on different feed resources, the common being free .grazing (14.4%) tethered grazing (17%) crop field (15.5) and road side grazing (13.3%) Extensive production system was the dominate sheep production system. Sheep marketing was constrained by the absence of market oriented production system, lack of

market information and seasonality of market price. Presence of credit facilities, availability of farm labor and high demand of sheep and sheep products were among the major opportunities for sheep production in the study area. On the other hand, lack of supplementary feeds shorting of grazing land and prevalence disease were the major constraints to sheep production. Based on the above concussions the following recommendations were made. Based on the findings and conclusions of the present study the following recommendations were made:

- As the sheep production system is predominantly traditional, improved sheep production methods should be practiced.
- Training should be given to the farmers with regard to feed improvement.
- Awareness on marketing system should be introduced in the study area.

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