

*Full Length Research Paper*

# **Assessment of sheep production and marketing system in Shashogo Woreda Hadiya zone, Southern Ethiopia**

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The study was conducted in Shashogo Woreda of Hadiya Zone Southern Ethiopia to assess sheep production and marketing system. For the present study to make representative based on agroecology 4, 2 and 1 Kebeles were selected randomly from “Woina Dega”, “Kola” and “Dega” respectively. Then from each Kebeles 15 households were selected purposely based on the experience and involvement of sheep production and thus a total of 105 house households were included in the study. The results of present study showed that the majority (83.3%) of the respondents were male headed while the rest (16.7%) were female headed. With regarded to the age categories about 48.3% of the respondents were found with the age category between 15-45 years old. Most (98%) of the interviewed households were practicing extensive sheep production system, while the rest (2%) practiced semi intensive system. The common feed resource for sheep was natural grain and browsing (73.3%), crop residues (20%) and household wastes (6.7%). Feed shortage during dry season was the most critical constraints for sheep raised by majority of (66.7 %) of the respondent while the rest (33.3%) also reported they faced with feed shortage during the wet season. Sheep were marketed through formal (88.6 %) and informal (11.4 %) system but the market was constrained mainly by lack of awareness (42.9%). The selling price of sheep in the study area earns more money depending on season and holidays. Accordingly, about 48.67% of the respondents indicated that sheep earns more money during Easter while about 33.3 and 18.1% of the respondents indicated that sheep earns more money during new year and Christmas respectively. The respondents also reported that their sheep selling price is related with age (12%), color (14%), body condition (67%) of the sheep as well the season of selling (7%) of the sheep. In can be concluded that sheep production in the study area was traditional and constrained by different factors. Therefore, different improvement strategies to improve the existing constraints are needed to be employed.

**Key words:** sheep production, feed resource, crop residues, body condition

## **INTRODUCTION**

Ethiopia has the largest livestock population in Africa with estimated number of 57.83 million cattle 28.89 million sheep and 29.70 million goats

respectively (CSA, 2016). Solomon et al. (2010) indicated that the livestock production systems in Ethiopia have evolved largely as a result of the influence of the natural production environments and socio-economic circumstances of farmers/pastoralists rather than market forces. Sheep and goat in Ethiopia and most developing

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countries are kept under traditional extensive systems.

The livestock production a system is of subsistence nature has evolved largely as a result of the influence of the natural production environments and socio-economic circumstances of farmers, rather than market forces in Ethiopia. Like all other livestock species, sheep and goat in Ethiopia are kept under traditional extensive systems with no or minimal inputs and improved technologies, which results in characteristically low productivity (Solomon et al., 2010).

Even though different attempts have been made in the past to improve the performance of sheep, there was no significant increase in the productivity in Shashogo Woreda in particular and Ethiopia in general. For instance, Workneh et al., (2003) indicated that although various research and development activities have been carried out, no significant increase in productivity was achieved. As a result, improvement programs are highly important to improve productivity of sheep in a sustainable manner of the country. However, such development achievement for sheep will only be successful when accompanied by a good understanding of the different farming systems and when simultaneously addressing several constraints: feeding, health control, general management, as well as cost and availability of credit and marketing infrastructure.

Despite the potential of sheep and their contribution to the livelihood of the farmers and the national economy, sheep production in Ethiopia is below its potential due to different factors like feed shortage, prevalence of disease and parasites. In the same manner, Shashogo woreda of Hadiya zone is one of the most potential of sheep production found in southern Ethiopia. The productivity of sheep production in the study area remains low like in Ethiopia despite of the large potential and suitable environment for production. Moreover, sheep has a great economic importance, the production, management and marketing system are not well studied and documented so far at Shasago Woreda Hadiya zone of Southern Ethiopia. Therefore, the present study was designed to determine the existing sheep production and marketing system in Shashogo of Hadiya zone.

## **MATERIALS AND METHODS**

### **Description of the study area**

The study was conducted in Shashogo Woreda Hadiya zone of southern Ethiopia. The woreda is located at 54 km far away from zone town Hossana and 224 km from Addis Ababa. The Woreda has an altitude that ranges from 1900 to 2100 meters above sea level. The annual rain fall of the Woreda ranges 800mm-1100 mm. The minimum and maximum temperature of the Woreda is 22°C and 32°C respectively. Shashogo woreda has a total of 36 "Kebeles" (smallest administrative unit) among which 5, 20 and 11 "Kebele" are high land ("Dega"), mid altitude ("Woyne Dega" and lowland ("Kola") agro-ecology respectively (Shashogo Woreda Agricultural Office, 2004).

### **Sampling Techniques and sample size**

Shashogo Woreda has 36 Kebeles. The Woreda is characterized by three agro-ecology namely 'Woina Dega' (mid altitude) "Kola" (low land) and 'Dega' (high land). The number of Kebeles in the Woreda which is characterized by 'Woina Dega', 'Kola' and 'Dega' is 20, 11 and 5 respectively. For the present study to make representative based on agroecology 4, 2 and 1 Kebeles were selected randomly from "Woina Dega", "Kola" and "Dega" respectively. From each Kebeles 15 households were selected purposely based on the experience and involvement of sheep production. Thus, the total number of respondents included in the study was 105 (i.e. 7 Kebeles × 15 house holders).

### **Data Collection**

Both primary and secondary source of data were used for the study. The primary data were obtained through questioner and personal observation. The Primary data like respondents' socio economics characteristics, livestock holdings, sheep production systems and constraints of sheep production from the selected respondents through the pretested semi structured questionnaire. The secondary data were obtained from written documents, journals and Woreda Agriculture office.

**Table 1:** Sex and Age characteristics of the respondents

Variable	Number of respondents (N=105)	Percentage
Sex		
Male	87	82.9
Female	18	17.1
Age category		
<15	4	3.8
15-45	51	48.6
46-65	39	37.1
>65	11	10.5

**Table 2:** Family size and Educational status of the respondents

Variable	Number of respondents (N=105)	Percentage
Family size		
<4	14	13.3
5-8	70	66.7
9-13	21	20
Educational status		
Illiterate	65	62.9
1-6	24	22.9
7-12	12	11.4
Higher education	4	3.8

### Data Analysis

The data were analyzed by using SPSS version 16 (2007) for descriptive statistic such as mean, frequency and percentage. The results were reported using tables and figures.

## RESULTS AND DISCUSSIONS

### Socio-Demographic Characteristic of the Respondents

The socio-demographic characteristics like sex, age categories, family size and education status of the respondents is presented in table 1 and 2. As indicated in table 1, the majority (83.3%) of the respondents were male headed while the rest (16.7%) were female headed. With regard to the age categories about 48.3% of the respondents were found with the age category between 15-45 years old. This presence of high proportion of active working age force may be an opportunity for active participation in agricultural activities and this agrees with reports of

Asaminew and Eyassu (2009). As it is indicated in table 2, the highest (66.7%) of the respondents had a family size of 5-8 persons per households. While those who had less than 4 persons and with 9-13 persons accounted were 13.3 and 20 % respectively. According to the report by CSA (2003) the average national family sizes were 5.2 persons per households and although this result which is within the range (5-8 person) in the household is wide. In general, the presence of high proportion respondents with large family size in the study area may indicate some form of family planning should be encouraged to practice.

It is understood that the presence of high percentage of literate individuals in farming community can be an opportunity for easily training, transfer and adoption of improved farming practice. However, in the present study about 62.9% of the households were illiterates (table 2), and this creates a problem with regard to the above mentioned advantages and therefore, education extensions has to be practiced widely in the Woreda.

**Table 3:** Average numbers of livestock species per house hold in the study area.

Animal species	Number of livestock/household	Mean of livestock /household
Calves	210	2
Bulls	105	1
Cows	52	5
Sheep	1050	10
Goat	945	9
Equines	105	1

**Table 4:** Sheep production system in the study area

Production system	Number of respondents (N=105)	Percentage
Extensive	103	98
Semi-intensive	2	2
Intensive	-	-

### Livestock species composition

Livestock species and the mean livestock number of the respondents in the study area are presented in table 3. According to the information collected from the respondents, the average number per household of cows, sheep and goats was 5, 10, and 9 heads respectively. The present research finding indicated that the population of sheep is slightly higher than Tsedeke (2007) who indicated that the average number of sheep was 7.4 for the sites being dominant in sheep dominating site in Alaba, Southern Ethiopia. The higher number of sheep in study area compared to other livestock species can indicate that the area is potential of sheep production and also its higher importance to the contribution of the livelihood of the community.

### Sheep production system

The production system of sheep in the study area is shown in table 4. As it is evident from table, most (98%) of the interviewed households were practicing using extensive sheep production system, while the rest (2%) practiced semi intensive system. This indicates that the extensive production system is considered to be the most dominant in sheep production system under small holder farmers in the study area. This production system is known to be the low input, management

and finally low output system. Therefore, awareness to the farmer about improved management system of sheep production should be advised.

### Feed resources and feeding management of sheep

The available feed resource and feeding frequency of sheep in the study area is indicated in table 5. Grazing of sheep in different forms is the dominant feed resources for sheep in the study area. Accordingly, about the major (73.3%) of the respondents use natural grazing and browsing land to feed their sheep, but none of them provide concentrate feed to their animals. In agreement to the results of the current study, Belete (2009) reported that Communal grazing land, roadside grazing, riverside grazing and aftermath grazing are the major types of grazing for sheep and goats. From the interviewed Households, 59.4%, 23.5%, 19.4% and 32.1% of them utilize communal grazing, roadside grazing, riverside grazing and grazing aftermath, respectively. Although there is difference in utilization across months of the years, communal grazing lands are utilized throughout the year in Goma District of Jimma Zone, Western Ethiopia Majority of (66.7%) of the respondents faced feed shortage during dry season, while the rest (33.3%) reports feed shortage occurs during the

**Table 5:** Feed sources and feeding management of sheep in study area

Parameters	Number of respondents (N=105)	Percentage
Feed resource	77	73.3
Natural grazing	21	20
Crop residue	7	6.7
<b>Season of feed shortage</b>		
Dry season	70	66.7
Wet season	35	33.3
<b>Frequency of feeding</b>		
Once a day	70	66.7
Twice a day	35	33.3

**Table 6:** Marketing system, Marketing constraints and Season of demand

Marketing system	Number of respondents (N=105)	Percentage
Formal	93	88.6
Informal	12	11.4
<b>High season demand of sheep</b>		
New year	345	33.3
Christmas	19	18.1
Ester	51	48.6

wet season (table 4) with respect to feeding frequency most (66.7%) feed their sheep once a day. In this case the products let out their animal to grazing/browsing area at the Moring and this type of feeding system is common in the extensive sheep production system.

### Sheep marketing system and marketing constraints

The marketing system and season of high demand of sheep area are shown in table 6. According to the data collected from the respondents, majority (88.6%) sheep were marketed through formal while only (11.4%) sheep were marketed through informal systems. According to the data collected from the respondents about 48.6% of the respondents indicated that there is a high demand of sheep in the market during Easter holiday. In the same manner, about 33.3 and 18.1% of the respondents indicated that the price of sheep is high during New Year and Christmas. As it is indicated in figure 1, marketing of sheep was constrained by different factors including lack of awareness (42.9%), lack of marketing channels (37.1%) and

distance from marketing place (20%). The respondents also reported that sheep selling price are related to age (11.4%), colour (13.3%), body condition (66.7%) of the sheep as well as the season of selling (8.6%) of sheep (table 5). The performance of sheep based on their body condition could indicate that the buyer have an understanding on the condition the animal.

### CONCLUSION AND RECOMMENDATIONS

The study was conducted in Shashogo Woreda of Hadiya Zone southern Ethiopia to assess sheep production and marketing system. According to the information collected the majority (83.3%) of the respondents were male headed while the rest (16.7%) were female headed. The result of the present survey study showed the dominant (98%) of sheep production systems was the extensive system. Sheep production was common in study area and average numbers per households were 10 heads. The common feed resource for sheep was natural grazing and crop residues and house hold wastage. Feed shortage during dry season was the most critical constraints for sheep raised by majority (66.7%) of the respondents. The most

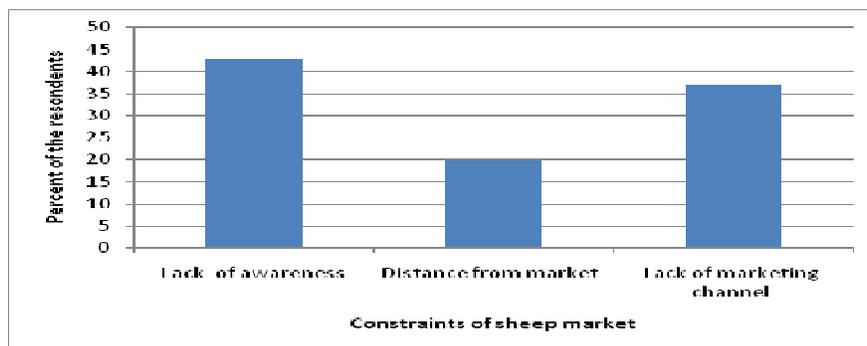


Figure 1: Marketing constraints of sheep

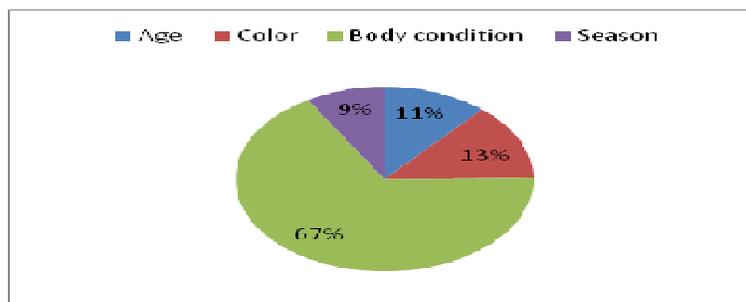


Figure 2: Determents of price of sheep

common (66.7%) feeding frequency of sheep was once a day. Sheep are marketed through formal (88.6%) and informal (11.4%) systems, but this was constrained by factors such lack awareness, lack of marketing channels and distance from marketing place. Based on the above conclusion the following recommendations are for wards.

- Strong extension work must be done to alleviate the problems associated with production and marketing constrains of sheep.
- Attention should be given to create awareness about improved sheep production system.

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