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Management and Marketing System of Local Chicken in Boloso Sore Woreda, Wolaita Zone, Southern Ethiopia

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Abstract

The study was conducted in Boloso Sore Woreda Wolaita Zone, Southern Ethiopia to assess local chicken management and marketing system. A stratified random sampling technique was used to stratify the agro-ecological zones to select 6, 20 and 3 from (high lands ("Dega"), mid altitude ("Woyna dega") and lowland ("Kola") respectively. Fifteen households from each kebeles were selected purposively based on the intensity and experience of poultry production.
The result of the study indicated that about 85.92 and 14.08% of the respondents were males and females headed respectively and about 82% were married. The average chicken holding per household was 3.79 heads. The chickens were kept for subsistence (home consumption), income generation and both for subsistence and income generation according to 19.25, 25.25 and 55.5% of the respondents respectively. Furthermore, the majorities (79.5%) of the respondents were kept their chickens in free scavenging system and majority did not supplement their birds before they go for scavenging. The common supplements used in chicken feeding were maize, wheat, kitchen wastes according the rank obtained from the respondents. Majority (79.5%) of the respondents provide water to their chicken free of choice. However, the respondents' ranked shortage of feed was the first constraints challenging poultry production. Similarly, prevalence of disease, predators, lack of capital and veterinary service are the major constraints affecting their chicken production and productivity in the order of rank. Therefore, improved management technologies to overcome shortage of feed and disease control should be introduced in order to increase the productivity of the local chicken.

Keywords: Free scavenging, Local Chicken, Production system, Management, Disease

Introduction

In Ethiopia chicken production is an important economic activity in terms of social, cultural and family nutrition benefits. The chicken population of Ethiopia is estimated to be 56.53 million of which about 94.33%, 3.21% and 2.47% of the total poultry were reported to be indigenous, hybrid and exotic, respectively (CSA, 2016). Despite of the huge number of chicken, its productivity as household and national economy is relatively very low. The estimated total number of eggs produced during 2006 is about 127.57 million (CSA, 2016). Chickens found in Ethiopia are the most suitable to adapt the rural family environment. Tadelle *et al*. (2003) indicated that the local ecotypes have the genetic ability to produce if properly managed. The growth performance of ecotypes studied underlines the rather large difference between ecotypes with some exhibiting a remarkably higher performance levels than the other ecotypes. Scavenging represents the major source of feed for village poultry in Ethiopia (Tadelle and Ogle, 2000). In the same manner, the nutritional management practiced in the study woredas is predominantly scavenging with some sort of supplementary feeding (Fisseha *et al*., 2010).

Indigenous chicken provide major opportunities for increased portion production and income for small holders (Taddele et al., 2003). The study conducted by Dessie and Ogle, (2001) revealed that the production systems were mainly low-input and small-scale, with 7-10 mature birds per household, reared in the back yards with inadequate housing, feeding and health care. In the same manner poultry meat and eggs were generally accepted and appreciated in all three villages in the central highlands of Ethiopia. In addition to the small amount of cash income they provide, scavenging chickens have nutritional, cultural and social functions. The flock composition, price of poultry and poultry products, disease outbreaks and hatching of chicks were strongly affected by season. Disease periodically decimated the flocks, and consequently, about 50% of the eggs produced were incubated in order to replace the birds that had died. According to CSA (2016) data the country Ethiopia has 94.31, 3.21 and 2.49 percent of the total poultry were reported to be indigenous, hybrid and 21 exotic breed, respectively.

Moges et al. (2010) indicated that use of poultry in Ethiopia is well known and local chicken and eggs are preferred by most consumers because they are tasty and suitable to make traditional sauce (called "Doro Wote" in Amharic) and eggs due to their deep yellow coloured yolks. This shows that there is a great potential of market for local chicken producers and in fact marketing of chickens and eggs is common by smallholder chicken producers. The productive and reproductive performances of the local chickens in Wolaita Zone, south Ethiopia were low and this calls introduction of different improvements strategies (Gebreegziabher Zereu and Tseraye Lijalem, 2016). Since Boloso Sore Woreda is one of found in Woliata zone, southern Ethiopia, it is expected the same challenges in poultry production. Although, the Woreda has a huge potential of poultry production, there is no well documented data so for with regard to poultry production practices by assessing its potential and constraints. Therefore this research was aimed to assess the existing management and marketing of local chicken in the study area.

Materials and Methods

Description of the study area

The study was conducted in Boloso Sore Woreda Wolaita Zone, Southern Ethiopia. The Woreda is located 6^0 40' 52'' N latitude and 37^0 46' 82'' E longitude with an attitude ranges 1500-2200 m.a.s.l and 300k.m south of Addis Ababa. The study area has 29 kebeles of which 6 kebeles are high lands ("Dega"), 20 kebeles are mid altitude ("Woyna dega") and 3 kebeles are lowland ("Kola"). The mean annual rain fall of the Woreda is 1538 m.m with bimodal distribution. About 80% of the woreda has medium to warm climate with mean minimum and mean maximum air temperature of 14.48 and 26.2 respectively (BSWBA, 2017).

Sampling techniques

A stratified random sampling technique was used to stratify the agro-ecological zones (high lands ("Dega"), mid altitude ("Woyna dega") and lowland ("Kola"). Boloso Sore Woreda has totally 29 Kebele of which 6, 20 and 3 kebeles are "Dega", "Woyna dega" and "Kola" respectively. The numbers of kebeles surveyed were randomly selected from each agro ecology on proportional base to the size of the woreda. Thus, 2, 1 and 6 kebeles were selected randomly from ''Dega'', ''Kola'' and ''Woyna-dega'' respectively. Fifteen households from each kebeles were selected purposively based on the intensity and experience of poultry production. Thus, a total of 135 (9 Kebele * 15 households were involved in the study.

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 Discussion

Socioeconomic Characteristics of the Respondents

The Socioeconomic characters of the interviewed local chicken owners are presented in table 1. Accordingly, from the result of the present study the majority about 85.92 were male headed and only 14.08 female

headed. This finding is in line with Gebreegziabher Zereu and Tseraye Lijalem (2016) who indicated that the majority (85.9%) of the respondents were males, while the rest (14.1%) were females in the study of Production and reproduction performance of local chicken breeds and their practices in Woliaita Zone, south Ethiopia. Out of the interviewed respondents majority (81.48%) were married. About 60.74% of the respondents had an age of 18-45 years old but 35% of the respondents that had age above 45 years old. This result indicates the proportion the active working force which involve in different agricultural activities is relatively higher.

Table 1: Demographic characteristics of the respondents

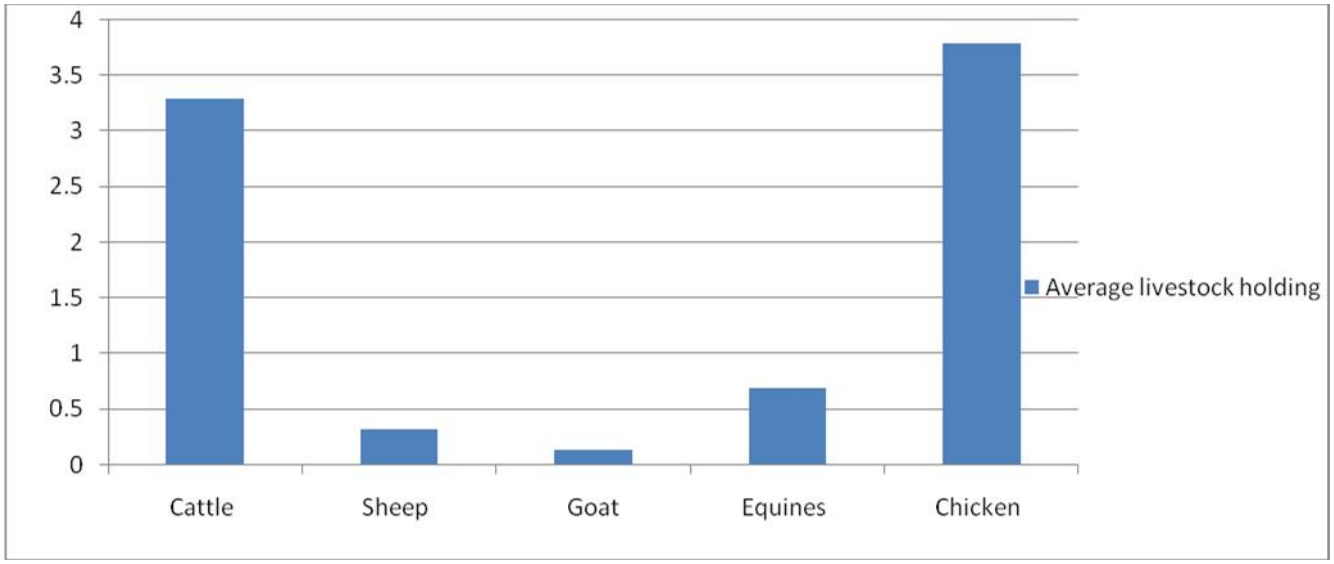
Parameters		Number of respondents N=135	Percentage
Sex	Male	116	85.92
	Female	19	14.08
Marital status	Single (Unmarried)	20	14.81
	Married	110	81.48
	Widowed	5	14.28
	Divorced	-	-
Age category (Years)	<18	6	0.44
	18-45	82	60.74
	>45	47	34.81
Educational status	Illiterate	2	1.48
	Writing reading only	97	71.85
	Grade 5-6	28	20.74
	Grade 9-12	5	3.70
	Grade 12 completed	3	2.22
	Diploma and above	-	-
Family size	<4	27	20
	4-7	101	74.8
	>7	7	5.2

As it is indicated in table 1, With regard to the educational status of the respondents most (71.85) were writing and reading while a few of were illiterates (table-1). The presence of large proportion of literate households may be an opportunity for easily training and accepting of improved management practice of poultry as supported by (Tassew and Saifu, 2009). The presence of large proportion of literate in present study could therefore a advantage but there is no enough knowledge and training through practice in this sector. About 20, 74. 8 and 5.2% of the respondents reported that they had the family size of lower than 4 persons, 4-7 persons and more than 7 persons, respectively.

Average livestock holding of the respondents

The mean number f livestock holding per household in study area is shown in table-2. The mean number of livestock per households was 3.29 heads of cattle, 0.3 heads of sheep, 0.133 heads of goat and 0.68 heads of equines and 3.79 heads of chicken. It can be understood that the area has a potential of poultry production having a higher proportion than the other livestock species.

Figure 1: Average livestock holding respondents



Chicken Husbandry and Management System

As indicated in table 2, chicken are managed in the study area for different purpose. According to the information gathered from respondents about 19.25%, mainly keep poultry for home consumption. In the same manner about 25.25% keep for income generation and about 55.5% keep both subsistence and income generation respectively. The finding of the present study is in line with Halima et al. (2007) who indicated that, income generation and household consumption are the main production objectives of keeping village chicken in Ethiopia. All the respondents (100%) were kept their chickens in free-scavenging system.

Table 2: Purpose of chicken managing and production system

Parameters	Number of respondent (N=135)	Percentage
Purpose of chicken managing		
Subsistence	26	19.25
Source of income	34	25.25
Both	75	55.5
Chicken production system		
Free scavenging	135	100
Semi intensive	-	-
Housed (intensive)	-	-

Chicken Feeding and watering

In the present study only 20% of the respondents supplement their free scavenging chickens while majority (79.5%) did not supplement their bird before they go for scavenging. It can be concluded that lack of feed supplementation is one of the main characteristics of free ranging chicken management used in the study area. The present finding contradicts the previous study Abera and Hussen, 2016 who indicated that all (100%) of the respondent farmers practiced in providing supplementary feed to chicken, which is usually offered 80% supplement with cereal grain like wheat and corn, 15% with mill by products and the remaining 5 % provide concentrate during early in the morning and late in the afternoon. In the same manner according to table 3, about 45.92, 31.11, and 22.97 % of the respondents provide maize, kitchen waste and wheat as supplementary feed for their chicken respectively.

Table 3. Chicken feed supplementation practice and types of feed

Parameters	Number of respondent (N=135)	Percentage
Supplementary feed		
Supplements their chicken	28	20.5
Not supplements their chicken	107	79.5
Types of supplements		
Maize	62	45.92
Wheat	31	22.97
Kitchen wastes	42	31.11

It is known that water is essential for chicken like other species of animals. Access to clan and plenty water determines the productivity and the health condition of chickens. As a result, water should be freely available to chickens. In the present study majority (79.5%) of the respondents do not provide water to their chicken on free of access. Therefore, chicken are forced to search water by themselves from the available source while only 7.75 and 12.75% of the respondents supply water to their chicken twice and once a day respectively (table 4).

Table 4: Watering frequency of chicken in the study area

Watering frequency	Number of respondent (N=135)	Percentage
Once a day	17	12.75
Twice a day	11	7.75
Birds search based	107	79.5

Constraints and Challenges to Chicken Management in the Study Area.

The major constraint raised by the respondents in the study area is presented in table 5. Accordingly, the respondents' ranked shortage of feed is the first constraints challenging poultry production. Similarly, prevalence of disease, predators, lack of capital and veterinary service are the major constraints affecting their chicken production and productivity in the order of rank. The present finding is in opposite to the Abera and Hussen (2016) who indicated that the major constraints of poultry production in the study area were capital, disease, market, predator and feed shortage in the order of rank.

Table 5. Major constraints of chicken management in study area

Constraints	Number of respondent (N=135)	Percentage	Rank
Shortage of feed	55	40.74	1
Prevalence of disease	42	31.11	2
Predators	25	18.52	3
Lack of capital	8	5.92	4
Veterinary service	5	3.71	5

Chicken Marketing

According to the information collected all the interviewed local chicken owners participate in chicken marketing. Although chicken are sold in various places, the woreda town was the major urban markets. Farmers on average travel 10km to reach the Woreda town and sell their chicken in study area. The major reason that farmers often sale their chicken are whenever there is an instant cash need in the house hold, when disease outbreak occurs and during the major crop planting season of the beginning of the maintains to purchase farm inputs such as fertilizer and seed. There is seasonal fluctuation in the prices of chicken, being generally low during the rainy season due to high risk of diseases and shortage of disposable cash by farmers. During dry season price of chicken are high, especially in the months of October, January and April due to observation of more religious holydays, weeding and other social events that require slaughtering of chicken to make the special Ethiopia chicken dish or "Dorowot".

Conclusion and Recommendations

Free scavenging using local chicken is the dominant means of poultry production in the study woreda. All the respondents were practiced free scavenging chicken production systems. The majority (79.5%) did not supplement their bird before they go for scavenging. Lack of feed supplementation is one of the main characteristics of free ranging chicken management used in the study area. About 55.5% if the respondents keep poultry both home consumption and income generation. Majority (79.5%) did not supplement while only (20.5% of the respondents was not provide water to their chicken while 12.75 and 7.75% of respondents provide water once and twice per day respectively. Moreover the current finding showed that shortage of feed, prevalence of disease affecting chicken production greatly in the study area. All the interviewed local chicken owners participate in chicken market. Sell of chicken is an important source of income. There is a seasonal fluctuation in the price of chicken being generally low giving the rainy season due to high risk of disease and shortage of disposable cash by farmers. As a result, the free scavenging or traditional chicken production system should be improved based on feed source and disease control improvement. Based on the above conclusion the feeding system, veterinary service and overall chicken management should be improved.

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