

# Evaluation of Indigenous Chicken Rearing Practices in Selected Districts of the Silt'e Zone, Central Ethiopia

Eyob Tagesse Habdollo\*

## Abstract

*Indigenous chickens are important for rural life in Ethiopia because they provide income, animal protein, and social and cultural benefits. But village chickens still do not produce much because of old-fashioned management systems and other problems with production. This study examined traditional methods of raising chickens and found major problems with production in some districts of the Silt'e Zone in Central Ethiopia. A cross-sectional survey was carried out employing a multistage sampling method, encompassing 150 households. Data were gathered via structured questionnaires, field observations, and focus group discussions, and subsequently analyzed using descriptive statistics. The average number of birds per household was  $9.9 \pm 2.5$ , and hens made up the largest part of the flock. Most people kept chicken to make money (55%), and the next most common reason was to eat eggs at home (30%). Most farmers used scavenging-based feeding systems and added grains and leftovers from their own homes. Most of the time, the housing was bad, and chickens were often kept in kitchens or family homes instead of separate poultry houses. Newcastle disease was found to be the most common disease that affected chickens in the area being studied. Other big problems were not enough food, attacks by predators, and not enough veterinary care. Many reports have come out of Ethiopia and other developing countries about similar problems that are hurting village poultry production. The research indicates that the production of native chickens in the examined region remains predominantly traditional and constrained by inadequate management practices. Improving feeding strategies, housing systems, disease control measures, and extension services could greatly improve the productivity and long-term viability of village poultry production systems.*

**Keywords:** Native chickens, production problems, scavenging system, village poultry, central ethiopia

## INTRODUCTION

In many developing countries, raising chickens in villages is a big part of improving rural livelihoods, food security, and household income. Indigenous chickens make up most of the poultry population in sub-Saharan Africa. They are especially important for smallholder farmers because they can adapt to different environmental conditions, do not need much input, and can obtain food on their own [1, 2]. Ethiopia has one of the largest poultry populations in Africa, with more than 60 million birds. More than 80–90% of these birds are native chickens raised in traditional extensive management systems [3, 4].

### \*Author for Correspondence

Eyob Tagesse Habdollo  
E-mail: eyobtage@gmail.com

Associate Poultry Researcher, Central Ethiopia Agricultural Research Institute, Worabe, Ethiopia

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Indigenous chickens are a big part of the diet of many families because they provide eggs and meat. They are also an easy way for rural families, especially women and young people, to make money [5, 6]. Most rural areas do not need a lot of money to start raising chickens, and they can make money quickly compared to other types of livestock. Also, native chickens are well-suited to harsh environments, are resistant to disease, and are excellent at brooding. This makes them a viable choice for low-input production systems that are common in rural Ethiopia [7].

Indigenous chicken production systems in Ethiopia are important for the economy and society, but they have many problems that make them less productive. Some of these problems are bad housing, not enough food, a lot of diseases, attacks by predators, and lack of access to veterinary care [8, 9]. Chickens in most traditional production systems obtain most of their food by scavenging, with little extra food. Such behavior often leads to slow growth and poor egg production [10].

To come up with beneficial ways to help village poultry production, you need to know how smallholder farmers manage their farms. Research done in different parts of Ethiopia has shown that the way people raise chickens is completely unique depending on the agro-ecological zone, the socio-economic conditions, and the culture [11, 12]. Consequently, localized evaluations are essential to discern the distinct challenges and opportunities inherent in each production system.

In Central Ethiopia's Silt'e Zone, mixed crop and livestock farming systems are common. Indigenous chickens are an important part of rural households' livelihoods. But little is known about native chicken care, production goals, or issues in this area. To create effective poultry improvement plans, we need accurate information on these issues.

This study aimed to examine the methods employed by residents in specific districts of the Silt'e Zone in Central Ethiopia for raising native chickens. This study's results should help us understand how things are currently run, what problems there are with production, and what opportunities there are to improve indigenous poultry production in the area.

While there have been numerous studies on village chicken production systems in Ethiopia, the majority have focused on broader regional or national levels rather than specific locations. Depending on the local agro-ecological conditions, cultural traditions, market access, and the socio-economic status of the household, the way indigenous people raise chickens can be completely unique. Because of these differences, it is not always possible to directly apply findings from other areas to specific local situations.

There are not many real-world studies that look at how indigenous people in the Silt'e Zone raise chickens. Most of the research that has been done on poultry production in Ethiopia has been about genetic characterization, evaluating the performance of improved breeds, or looking at how poultry is raised in other parts of the country, like Tigray, Amhara, and Oromia. Therefore, there is not much written evidence about the management practices, feeding systems, housing conditions, breeding practices, disease control measures, and major production problems that affect indigenous chickens in the Silt'e Zone.

Furthermore, earlier research has not looked at how raising chickens in this area helps people make money and get enough food. Without this kind of localized information, it is challenging for policymakers, extension services, and development programs to discover effective solutions that work for the farmers in the area.

There is a clear lack of research on how people in the Silt'e Zone raise native chickens in a systematic way. To fill this gap, we need to obtain basic information that will help us make better management plans, support programs for sustainable poultry development, and make native chickens more productive and valuable to rural households.

This study's goal is to fill this gap by giving a full picture of how indigenous chickens are raised in certain districts of the Silt'e Zone. The results will help us learn more about how poultry is currently managed and will help us identify ways to improve productivity, farmer income, and nutrition in the region.

## OBJECTIVES

### General Objective

- To look at how people in the Silt'e Zone of Central Ethiopia raise native chickens and determine the most significant problems with production in certain districts.

### Specific Objectives

- To look at the social and economic traits of families that raise indigenous chickens.
- To look at how indigenous chickens are cared for, including how they are fed, housed, bred, and kept healthy.
- To find out how many indigenous chickens live in a village and how productive they are.
- To identify the major problems that hinder indigenous chicken production in the study area.
- To find out how indigenous chickens help families make money and stay fed.

## MATERIALS AND METHODS

### The Study Area

The research took place in the Dalocha, Silti, and Wulbareg districts of the Silt'e Zone in Central Ethiopia. The zone is in the southern part of the country and is known for its mixed crop and livestock farming systems. There are many different types of agro-ecological conditions in the area, including midland and highland environments.

The average temperature ranges from 15°C to 25°C, and the average yearly rainfall is between 900- and 1200-mm. Crop production is the main type of farming, but raising animals, like poultry, is also an important way to make a living.

Indigenous chickens are often raised in traditional scavenging systems that do not need a lot of outside help.

### Study Design

A cross-sectional survey study design was utilized to gather data on indigenous chicken production systems and management practices.

Structured household questionnaires, field observations, and group discussions with farmers were used to gather both quantitative and qualitative data.

### How to Sample

We used a multi-stage sampling method.

- *Step 1:* Choosing a district: Three districts (Dalocha, Silti, and Wulbareg) with a lot of native chickens were chosen on purpose.
- *Step 2:* Choosing Kebeles: Five kebeles were chosen at random from each district.
- *Step 3:* Choosing a Household: Systematic random sampling was used to choose 10 households from each kebele, for a total of 150 households.

### Finding Sample Size

The formula below was used to figure out the sample size:

$$n = Z^2 P(1 - P) / d^2,$$

where n is the size of the sample,  
Z = 1.96 (level of confidence: 95%),  
P = 0.5 and d = 0.05.

So, the survey included 150 homes.

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## Ways to Collect Data

### *A Structured Questionnaire*

We used a questionnaire that had been tested before to get information on:

- Features of the household.
- The size and make-up of the flock.
- How do you feed them.
- Systems for housing.
- Ways of breeding.
- Taking care of health.
- Goals for production.
- Ways to market.
- Limits on production.

### **Observation in the Field**

We made direct observations to make sure:

- Living conditions.
- Providing food and water.
- Cleanliness and health.

### **Group Discussions**

We talked with farmers and extension workers in groups to find out what the biggest problems and chances are in raising native poultry.

### **Data Analysis**

We put the data into SPSS (Version 25) and used descriptive statistics to look at it.

We did the following analyses:

- How often and what percent.
- The average and the standard deviation.
- An index for ranking production limits.

We used the following formula to figure out the ranking index:

$$\text{Index} = \sum (\text{Rank} \times \text{Number of responses}) / \text{Total score}.$$

## **RESULTS AND DISCUSSIONS**

This study examined indigenous chicken-rearing practices in specific districts of the Silt'e Zone, Central Ethiopia. The results indicate that village poultry production constitutes a significant livelihood activity conducted within traditional scavenging systems, relying on minimal external inputs. The average family size in this study ( $8.03 \pm 2.8$  people) shows that families in the study area are relatively large. This could mean that people will want more foods that come from animals, like eggs and chicken. In different parts of Ethiopia, village chicken production systems have reported similar household sizes. Chickens are essential for making sure that families have enough food and for making money [13, 14]. This study found that the average flock size was  $9.9 \pm 2.5$  birds per household. This is like what has been found in other village poultry systems in Ethiopia, where flock sizes usually range from 6 to 12 birds per household (Tables 1, 2 & 3) [15, 16].

Most of the flock was made up of hens. This pattern shows how village poultry systems work: hens are kept mostly for laying eggs and naturally incubating them, while cocks are often sold or eaten sooner. It has been shown that village systems for raising chickens in Ethiopia and other sub-Saharan African countries have similar flock compositions [16]. The socio-economic characteristics of the

respondents indicate that smallholder farmers engaged in both crop cultivation and livestock rearing predominantly oversee poultry production. Most of the people who answered the survey did not have much formal education. This could affect how they learn to take better care of their chickens, which could make their chickens less productive and healthy, ultimately leading to lower income and food security for their households. Other research in Ethiopia has also shown that people who raise chickens do not read or write very elegantly. This problem is often caused by not having access to technical knowledge and extension services [1], which limits the ability of chicken farmers to improve their practices and ultimately affects the health and productivity of their flocks (Tables 4 & 5).

**Table 1.** Socio-economic characteristics of respondent households.

| Parameter         | Category       | Silti         | Dalocha       | Wulbareg      | Overall        | $\chi^2$ |
|-------------------|----------------|---------------|---------------|---------------|----------------|----------|
| Sex (%)           | Male           | 25.0          | 27.5          | 25.0          | 25.8           | 0.1      |
|                   | Female         | 75.0          | 72.5          | 75.0          | 74.2           |          |
| Age group (%)     | 15–30 years    | 17.5          | 25.0          | 15.0          | 19.2           | 5.4      |
|                   | 31–60 years    | 77.5          | 75.0          | 85.0          | 79.2           |          |
|                   | Above 60 years | 5.0           | 0             | 0             | 1.7            |          |
| Education (%)     | Illiterate     | 42.5          | 40.0          | 45.0          | 42.5           | 2.4      |
|                   | Read & Write   | 25.0          | 25.0          | 27.5          | 25.8           |          |
|                   | Grade 1–4      | 17.5          | 27.5          | 17.5          | 20.0           |          |
|                   | Grade 5–8      | 15.0          | 10.0          | 10.0          | 11.7           |          |
| Family size       | Mean $\pm$ SD  | 8.2 $\pm$ 2.9 | 8.1 $\pm$ 2.8 | 7.8 $\pm$ 2.4 | 8.03 $\pm$ 2.8 | 0.8      |
| Farmland size (%) | < 0.5 ha       | 30.0          | 0             | 7.5           | 18.3           | 9.1      |
|                   | 0.5–1 ha       | 45.0          | 55.0          | 65.0          | 55.0           |          |
|                   | 1–2 ha         | 25.0          | 27.5          | 25.0          | 25.8           |          |
|                   | 2–3 ha         | 0             | 17.5          | 2.5           | 0.8            |          |
| Wealth status (%) | Medium         | 17.5          | 27.5          | 37.5          | 27.5           | 4.0      |
|                   | Poor           | 82.5          | 72.5          | 62.5          | 72.5           |          |

Note:  $\chi^2$  = chi-square.

**Table 2.** Flock structure and purpose of keeping indigenous chickens.

| Parameter                          | Category                  | Silti (mean $\pm$ SD) | Dalocha (mean $\pm$ SD) | Wulbareg (mean $\pm$ SD) | Overall (mean $\pm$ SD) |
|------------------------------------|---------------------------|-----------------------|-------------------------|--------------------------|-------------------------|
| <i>Flock composition</i>           |                           |                       |                         |                          |                         |
| Chicks                             |                           | 1.6 $\pm$ 2.1         | 2.2 $\pm$ 2.4           | 3.1 $\pm$ 2.6            | 2.3 $\pm$ 2.1           |
| Cockerels                          |                           | 0.4 $\pm$ 0.7         | 0.5 $\pm$ 0.8           | 0.4 $\pm$ 0.6            | 0.4 $\pm$ 0.7           |
| Pullets                            |                           | 0.8 $\pm$ 1.1         | 0.8 $\pm$ 1.0           | 0.7 $\pm$ 1.0            | 0.7 $\pm$ 1.1           |
| Cocks                              |                           | 1.0 $\pm$ 0.6         | 1.1 $\pm$ 0.6           | 1.4 $\pm$ 0.7            | 1.2 $\pm$ 0.6           |
| Hens                               |                           | 5.3 $\pm$ 1.3         | 5.4 $\pm$ 1.2           | 5.2 $\pm$ 1.3            | 5.3 $\pm$ 1.3           |
| Total flock size                   |                           | 9.1 $\pm$ 2.5         | 9.9 $\pm$ 2.6           | 10.7 $\pm$ 2.6           | 9.9 $\pm$ 2.5           |
|                                    |                           | (%)                   | (%)                     | (%)                      | (%)                     |
| <i>Purpose of keeping chickens</i> | Income generation         |                       |                         |                          | 55                      |
|                                    | Household egg consumption |                       |                         |                          | 30                      |
|                                    | Meat consumption          |                       |                         |                          | 13                      |
|                                    | Cultural purposes         |                       |                         |                          | 2                       |

The study area primarily depended on scavenging for sustenance, augmented by locally available feed resources such as grains, kitchen scraps, and agricultural by-products. Even though all the people who answered said they gave their animals extra food, the kind and amount varied a lot from one household to the next. This finding corroborates earlier studies that demonstrate village chickens in

Ethiopia predominantly depend on scavenged feed resources, supplemented occasionally based on household resource availability [17, 18]. Because they rely on scavenging feed resources, they often end up with nutritional deficiencies, which can slow their growth and egg production. The study found that supplementary feeds could be maize, wheat, leftover food from the home, like “*injera firfir*,” or byproducts from processing grains. Rural families often use these locally available feed resources because they are easy to obtain and cheap. Other village poultry systems in Ethiopia and Africa have also reported similar feeding practices [19, 20]. But the study area’s irregular feeding frequency shows that feeding management is mostly based on chance rather than a plan. People who kept indigenous chickens usually did not have a satisfactory job of housing them. Instead of putting their chickens in separate poultry houses, most farmers kept them in the kitchen, animal houses, or inside the family home. A small number of people who answered said they had a separate chicken house. These kinds of homes put chickens at risk from predators, diseases, and dirty conditions. Previous studies in Ethiopia have indicated that village chickens are often kept in kitchens or homes because there are not any special buildings for chickens (Table 6) [21, 22].

**Table 3.** Source of chickens, marketing, and future expansion plans.

| Parameter                   | Category                 | Silti (%) | Dalocha (%) | Wulbareg (%) | Overall (%) | $\chi^2$ |
|-----------------------------|--------------------------|-----------|-------------|--------------|-------------|----------|
| Source of foundation stock  | Gift from family/friends | 0         | 0           | 5.0          | 1.7         | 4.8      |
|                             | Hatched at home          | 40.0      | 32.5        | 30.0         | 34.2        |          |
|                             | Local market             | 60.0      | 67.5        | 65.0         | 64.2        |          |
| Source of replacement       | Hatched at home          | 92.5      | 90.0        | 92.5         | 91.7        | 6.5      |
|                             | Local market             | 7.5       | 10.0        | 7.5          | 8.3         |          |
| Intent to expand production | Yes                      | 97.5      | 97.5        | 95.0         | 96.7        | 0.5      |
|                             | No                       | 2.5       | 2.5         | 5.0          | 3.3         |          |
| Barriers to expansion       | Lack of proper housing   | 82.5      | 85.0        | 90.0         | 85.8        | 0.9      |
|                             | Other reasons            | 17.5      | 15.0        | 10.0         | 14.2        |          |
| Who sells eggs?             | Women                    | 100.0     | 100.0       | 100.0        | 100.0       | 0        |
| Marketing problem           | Demand seasonality       | 100.0     | 100.0       | 100.0        | 100.0       | 0        |
| Price of egg (Birr)         | At household             | 3.5 ± 0.4 | 3.5 ± 0.3   | 3.6 ± 0.3    | 3.5 ± 0.3   |          |
|                             | During off-season        | 3.0 ± 0.4 | 3.1 ± 0.3   | 3.1 ± 0.3    | 3.0 ± 0.3   |          |

Chicken can become sick, not work industriously and die more often if they live in poor housing. The results indicated that diseases are the main thing that limits the production of native chickens in the area studied. Most respondents indicated that Newcastle disease (NCD) was the most prevalent. This finding is consistent with several studies conducted in Ethiopia and other developing countries, which identify Newcastle disease as the most significant threat to village chicken production [22, 23]. The high number of NCDs in traditional poultry production systems leads to many deaths and lowers productivity. Farmers did not know how to take care of their health very well. Some people said they used modern veterinary medicines, but many of them used traditional remedies, like herbal treatments and combinations of ingredients that were easy to find in their area, which may not always be effective in treating the high number of NCDs that lead to deaths and lower productivity in poultry. In rural Ethiopia, where veterinary care is hard to get and commercial medicines are expensive, traditional medicine is often used to raise chickens in villages [1]. Along with diseases, predators were also a big problem for native chicken farming. Aerial and terrestrial predators are known to attack birds in traditional poultry systems where they can scavenge during the day [14]. People who rely on native chicken farming are more likely to be preyed upon if they live in inadequate housing and do not have any way to keep predators away. This can lead to big economic losses and less food security. Despite these challenges, rural residents depend on native chickens for their livelihood. In the country, chickens are a source of food, money, and social value. Families make some money by selling live chickens and eggs, and eggs and meat are beneficial for their health. Many places in Ethiopia and sub-Saharan Africa have written about the same social and economic roles that village chickens play [12]. The lack of

substantial differences among the three study districts in most parameters indicates that indigenous chicken production systems are fairly uniform across the districts examined. This could be because the Silt'e Zone has households with similar agro-ecological conditions, farming systems, and socio-economic traits. The findings of this study indicate that indigenous chicken farming in the examined area remains predominantly traditional, constrained by insufficient management, disease outbreaks, and limited access to veterinary and extension services. Enhancing feeding management, housing conditions, and disease control measures could significantly boost the productivity and sustainability of village poultry production in the area (Table 7).

**Table 4.** Feeding and water management practices.

| Parameter                       | Category                                  | Silti (%) | Dalocha (%) | Wulbareg (%) | Overall (%) | $\chi^2$ |
|---------------------------------|-------------------------------------------|-----------|-------------|--------------|-------------|----------|
| <i>Feeding system</i>           | Scavenging only                           |           |             |              | 57          |          |
|                                 | Scavenging + grain                        |           |             |              | 31          |          |
|                                 | Semi-intensive                            |           |             |              | 12          |          |
| <i>Supplementation practice</i> | Yes                                       | 100.0     | 100.0       | 100.0        | 100.0       | 0        |
| <i>Type of supplements</i>      | All types (grain, concentrate, leftovers) | 67.5      | 67.5        | 65.0         | 66.7        | 2.0      |
|                                 | Grain + leftovers                         | 20.0      | 17.5        | 12.5         | 16.7        |          |
|                                 | Grain + concentrate                       | 12.5      | 15.0        | 22.5         | 16.7        |          |
| <i>Method of feed provision</i> | Throw on ground for adults                | 10.0      | 0           | 0            | 3.3         | 13.9     |
|                                 | Container for young/nursing               | 10.0      | 7.5         | 0            | 5.8         |          |
|                                 | Both methods                              | 80.0      | 92.5        | 100.0        | 90.8        |          |
| <i>Frequency of feeding</i>     | All times (morning, noon, evening)        | 42.5      | 47.5        | 15.0         | 35.0        | 11.5     |
|                                 | Morning and noon                          | 42.5      | 32.5        | 55.0         | 5.0         |          |
|                                 | Morning only                              | 15.0      | 20.0        | 30.0         | 60.0        |          |
| <i>Limitations to feeding</i>   | Unavailability of feeds                   | 82.5      | 85.0        | 80.0         | 82.5        | 8.8      |
|                                 | Lack of cash/credit                       | 10.0      | 10.0        | 0            | 6.7         |          |
|                                 | Lack of awareness                         | 7.5       | 5.0         | 20.0         | 10.8        |          |
| <i>Water source</i>             | River                                     | 42.5      | 32.5        | 32.5         | 35.8        | 1.2      |
|                                 | Tap/pipe                                  | 57.5      | 67.5        | 67.5         | 64.2        |          |
| <i>Type of drinker</i>          | Plastic                                   | 80.0      | 70.0        | 67.5         | 72.5        | 10.6     |
|                                 | Clay                                      | 0         | 2.5         | 7.5          | 3.3         |          |
|                                 | Stone                                     | 10.0      | 17.5        | 25.0         | 17.5        |          |
|                                 | Wooden                                    | 10.0      | 10.0        | 0            | 6.7         |          |

**Table 5.** Housing systems and hygiene management.

| Parameter                    | Category                  | Silti (%) | Dalocha (%) | Wulbareg (%) | Overall (%) | $\chi^2$ |
|------------------------------|---------------------------|-----------|-------------|--------------|-------------|----------|
| <i>Housing type</i>          | Separate poultry house    | 5.0       | 2.5         | 7.5          | 7           | 13.9     |
|                              | Kitchen/animal house      | 57.5      | 75.0        | 87.5         | 73          |          |
|                              | Perch inside family house | 25.0      | 12.5        | 5.0          | 20          |          |
| <i>Night enclosure</i>       | Kitchen/animal house      | 57.5      | 75.0        | 87.5         | 73.3        | 13.9     |
|                              | Room inside main house    | 25.0      | 12.5        | 5.0          | 14.2        |          |
|                              | Purpose-built house       | 5.0       | 2.5         | 7.5          | 5.0         |          |
|                              | Handwoven material        | 12.5      | 10.0        | 0            | 7.5         |          |
| <i>Frequency of cleaning</i> | Everyday                  | 90.0      | 87.5        | 95.0         | 90.8        | 1.4      |
|                              | Every three days          | 10.0      | 12.5        | 5.0          | 9.2         |          |

**Table 6.** Disease prevalence and health management.

| Parameter                            | Category                                     | Silti (%) | Dalocha (%) | Wulbareg (%) | Overall (%) | $\chi^2$ |
|--------------------------------------|----------------------------------------------|-----------|-------------|--------------|-------------|----------|
| <i>Disease outbreaks experienced</i> | Yes                                          | 100.0     | 100.0       | 100.0        | 100.0       | 0        |
| <i>Most common diseases</i>          | Newcastle disease                            |           |             |              | 71          |          |
|                                      | Coccidiosis                                  |           |             |              | 15          |          |
|                                      | Fowl pox                                     |           |             |              | 11          |          |
|                                      | Others                                       |           |             |              | 3           |          |
| <i>Actions when chicken sick</i>     | Treat with all means                         | 90.0      | 82.5        | 80.0         | 84.2        | 5.4      |
|                                      | Sell immediately                             | 7.5       | 10.0        | 5.0          | 7.5         |          |
|                                      | Call veterinarian                            | 2.5       | 5.0         | 7.5          | 5.0         |          |
|                                      | Other actions                                | 0         | 2.5         | 7.5          | 3.3         |          |
| <i>Type of medicine used</i>         | Traditional/local                            | 55.0      | 62.5        | 50.0         | 55.8        | 6.2      |
|                                      | Modern without prescription                  | 45.0      | 35.0        | 40.0         | 40.0        |          |
|                                      | Modern with prescription                     | 0         | 2.5         | 10.0         | 4.2         |          |
| <i>Season for NCD occurrence</i>     | Short rainy season (Belg)                    | 87.5      | 82.5        | 70.0         | 80.0        | 5.6      |
|                                      | End of rainy season                          | 12.5      | 15.0        | 22.5         | 16.7        |          |
| <i>Local treatment for NCD</i>       | Mixture of enjera, oil, herbs, garlic, lemon | 50.0      | 57.5        | 70.0         | 59.2        | 3.3      |
|                                      | Possible combinations                        | 50.0      | 42.5        | 30.0         | 40.8        |          |
| <i>Major constraints</i>             | Diseases (esp. NCD)                          | 32.5      | 15.0        | 0            | 1           | 17.8     |
|                                      | Both diseases and predators                  | 40.0      | 45.0        | 42.5         | 2           |          |
|                                      | Feed shortage                                |           |             |              | 3           |          |
|                                      | Poor housing                                 |           |             |              | 4           |          |
|                                      | Lack of veterinary services                  |           |             |              | 5           |          |

**Table 7.** Chicken productivity and reproductive performance.

| Parameter                           | Silti (Mean $\pm$ SD) | Dalocha (Mean $\pm$ SD) | Wulbareg (Mean $\pm$ SD) | Overall (Mean $\pm$ SD) |
|-------------------------------------|-----------------------|-------------------------|--------------------------|-------------------------|
| Age at first egg (months)           | 5.8 $\pm$ 0.5         | 5.9 $\pm$ 0.5           | 5.9 $\pm$ 0.4            | 5.8 $\pm$ 0.5           |
| Number of eggs per clutch           | 13.9 $\pm$ 2.2        | 14.4 $\pm$ 1.9          | 14.1 $\pm$ 1.7           | 14.1 $\pm$ 2.2          |
| Clutch number per hen/year          | 3.05 $\pm$ 0.6        | 3.05 $\pm$ 0.5          | 3.05 $\pm$ 0.5           | 3.05 $\pm$ 0.6          |
| Eggs per set                        | 11.3 $\pm$ 1.5        | 11.4 $\pm$ 1.4          | 11.1 $\pm$ 1.3           | 11.2 $\pm$ 1.5          |
| Number of chicks hatched            | 10.3 $\pm$ 1.4        | 10.5 $\pm$ 1.3          | 9.9 $\pm$ 1.5            | 10.3 $\pm$ 1.4          |
| Hatchability (%)                    | 92.3 $\pm$ 11.9       | 93.2 $\pm$ 10.5         | 90.1 $\pm$ 13.7          | 91.9 $\pm$ 12           |
| Number of chicks surviving          | 5 $\pm$ 1.3           | 5.3 $\pm$ 1.2           | 5.3 $\pm$ 1.4            | 5.2 $\pm$ 1.3           |
| Survivability (%)                   | 48.5 $\pm$ 9.6        | 50.2 $\pm$ 8.3          | 52.7 $\pm$ 11.1          | 50.5 $\pm$ 9.6          |
| <i>Frequency of incubation/year</i> |                       |                         |                          |                         |
| Twice (%)                           | 57.5                  | 67.5                    | 82.5                     | 69.2                    |
| Thrice (%)                          | 35.0                  | 25.0                    | 17.5                     | 25.8                    |
| Four times (%)                      | 7.5                   | 7.5                     | 0                        | 5.0                     |
| <i>Incubation material</i>          |                       |                         |                          |                         |
| Wood made with straw (%)            | 77.5                  | 77.5                    | 85.0                     | 80.0                    |
| Clay made with straw (%)            | 15.0                  | 15.0                    | 15.0                     | 15.0                    |
| Other materials (%)                 | 7.5                   | 7.5                     | 0                        | 5.0                     |
| <i>Culling practice</i>             |                       |                         |                          |                         |
| Practice culling (%)                | 0                     | 2.5                     | 25.0                     | 9.2                     |
| Do not cull (%)                     | 100.0                 | 97.5                    | 75.0                     | 90.8                    |
| <i>Reason for culling</i>           |                       |                         |                          |                         |
| For sale (%)                        | 92.5                  | 95.0                    | 87.5                     | 91.7                    |
| For consumption (%)                 | 7.5                   | 5.0                     | 12.5                     | 8.3                     |
| <i>Culling age</i>                  |                       |                         |                          |                         |
| 2 years (%)                         | 97.5                  | 95.0                    | 85.0                     | 92.5                    |
| 2.5 years (%)                       | 2.5                   | 5.0                     | 15.0                     | 7.5                     |

## CONCLUSION

This research evaluated indigenous chicken husbandry practices in specific districts of the Silt'e Zone, Central Ethiopia. The results show that raising chickens in villages is an important way to help people in rural areas live by giving them money, food, and social services. Most of the time, indigenous chickens are raised in traditional scavenging production systems that do not use many inputs, which limits their growth and reproductive performance compared to more intensive farming methods. This makes them less productive and healthy than more intensive farming methods, which often provide better nutrition and veterinary care, leading to higher yields and improved overall flock health. The study area had small flocks on average, and most of the flock structure was made up of hens. People usually fed their animals by scavenging and adding grains and leftovers from their homes. Most chickens lived in kitchens or family homes instead of purpose-built poultry houses. This made housing systems generally inadequate. The major problem for native chicken farming was disease outbreaks, especially Newcastle disease. Farmers also said that diseases, insufficient food, predator attacks, and inaccessibility of veterinary and extension services were big problems. Despite these issues, native chickens are still crucial for improving nutrition and income in rural areas. Therefore, better management and stronger poultry extension services could make poultry production in the study area much more productive and long-lasting.

## Recommendations

The results of this study indicate the following recommendations:

- Regular vaccination programs, especially against Newcastle disease, should be put in place to lower the death rate in village chickens. It is also important to make sure that veterinary services are better at the local level.
- Farmers should be encouraged to build simple, cheap chicken houses out of materials that are easy to find in their area. This will protect the chickens from predators, bad weather, and diseases.
- Extension services should use feed resources that are available in the area, like grains, crop leftovers, and by-products of agriculture and industry, to encourage better feeding practices. This will make things more productive.
- Farmers should be taught how to take care of their chickens, including how to feed them, keep them healthy, and breed them. Agricultural extension services should set up programs to do this.
- Governments and development groups should make it easier for people to get credit, better breeds, and supplies for raising chickens to help the industry grow.
- Future research should focus on improving the genetics of native chickens, finding better ways to feed them using feed resources that are available in the area, and creating sustainable poultry production systems for villages.

## REFERENCES

1. Abegaz S, Tadesse D. Village poultry production systems and constraints in rural Ethiopia. *Livest Res Rural Dev.* 2022;34(2):45–54.
2. Alemayehu T, Bruno J, Getachew F, Dessie T. Socio-economic, marketing and gender aspects of village chicken production in Ethiopia. *Trop Anim Health Prod.* 2018;50:197–203.
3. Bekalu M, Taye M, Dessie T, Wondim D, Kebede D, Tenagne A. Selection criteria and husbandry practices of indigenous chicken producers in northwest Ethiopia. *Heliyon.* 2024;10(16):e36094.
4. Birhan K, Alemayehu K, Mengistie T, Kebede A, Wondmeneh E, Dessie T, et al. Genetic diversity of Ethiopian indigenous chickens: A basis for sustainable genetic improvement. *Agric Rev.* 2025;46(6):877–884.
5. Agriculture | Ethiopian Statistics Services [Internet]. Ethiopian Statistics Services. 2024. Available from: <https://ess.gov.et/agriculture/>
6. Chaimiso S. Review on village/backyard poultry production system in Ethiopia. *Pac Int J.* 2018;1(3):105–110.
7. Chaka H, Goutard F, Bisschop SP, Thompson PN. Seroprevalence of Newcastle disease and other infectious diseases in backyard chickens at markets in Eastern Shewa zone, Ethiopia. *Poultry Science.* 2012 Apr 1;91(4):862-9.

8. Dana N, Van der Waaij LH, Dessie T, Van Arendonk JAM. Production objectives and trait preferences of village poultry producers of Ethiopia. *Trop Anim Health Prod.* 2010;42:1519–1529.
9. Demeke T. Characterization of village chicken production and marketing systems in Chiro district, Ethiopia. *Adv Biosci Bioeng.* 2020;8(3):56–62.
10. Desta TT, Wakeyo O. Reproductive characteristics of indigenous village chickens under traditional management systems. *Poult Sci Manag.* 2024;1(2):1–9.
11. Amanuel E, Amanuel D, Shanku E. Production system, and egg quality of village chicken reared under traditional management system in Angecha and Damboya districts of Kembata Tembaro Zone, Southern Ethiopia. *BMC Veterinary Research.* 2025 Apr 23;21(1):287.
12. Erdaw MM, Beyene WT. Trends, prospects and the socio-economic contribution of poultry production in sub-Saharan Africa: a review. *World's Poultry Science Journal.* 2022 Jul 3;78(3):835–52.
13. Fentie T, Abebe B, Kassa T. Small-scale family poultry production in north Gondar: characteristics, productivity and constraints. *Livestock Research for Rural Development.* 2013;25(9):161.
14. Fisseha M, Azage T, Tadelle D. Indigenous chicken production and marketing systems in Ethiopia. *Livest Res Rural Dev.* 2010;22.
15. Gueye EF. The role of family poultry in poverty alleviation, food security and gender empowerment. *Worlds Poult Sci J.* 2021;77(2):389–400.
16. Halima H, Naser FWC, Van Marle-Koster E, De Kock A. Phenotypic variation of indigenous chicken populations in Northwest Ethiopia. *Trop Anim Health Prod.* 2007;39:507–513.
17. Hassen H, Naser FWC, De Kock A. Indigenous chicken production and marketing systems in Ethiopia. *Poult Sci.* 2018;97:1743–1750.
18. Abadula TA, Jilo SA, Hussein JA, Abadura SZ. Poultry production status, major constraints, and future prospective. *Journal of World's Poultry Science.* 2022 Dec 25;1(1):22–8.
19. Kassa B, Alemayehu K, Taye M, Kebede A, Esatu W, Dessie T, Hanotte O. Genetic Diversity of Ethiopian Indigenous Chickens a Base for Sustainable Genetic Improvement: A Review. *Agricultural Reviews.* 2025;46(6):877–84.
20. Taye MM. Assessment of Indigenous and Exotic Chicken Production Performance and Production Constraint at Aneded District of East Gojam, Amhara Region, Ethiopia. *American Journal of Agriculture and Forestry.* 2023 Jun;11(3):98–104.
21. Markos S, Belay B, Dessie T. Characterization of village chicken production systems in Western Tigray, northern Ethiopia. *Am J Aquac Anim Sci.* 2024;3(1):9–24.
22. Tenagne A, Taye M, Dessie T, Muluneh B, Kebede D, Tarekegn GM. Management practices, reproductive performances, and production constraints of indigenous cattle in north-western parts of Ethiopia. *NJAS: Impact in Agricultural and Life Sciences.* 2023 Dec 31;95(1):2211533.
23. Melesse A. Significance of scavenging chicken production in rural communities of Africa. *Anim Vet Sci.* 2014;2(4):120–126.
24. Melkam T. Assessment of indigenous and exotic chicken production performance and constraints in East Gojam district, Ethiopia. *Am J Agric For.* 2023;11(3):98–104.
25. Mossie T, Abera D. A compressive review on Newcastle disease virus in Ethiopia. *Journal of Veterinary Science and Technology.* 2024;15(4).
26. Mulatu W, Sahile Z. Indigenous chicken production practices and constraints in central Oromia, Ethiopia. *Trop Anim Health Prod.* 2021;53:245–253.
27. Tamasgen N, Oli S, Gobena G. Productivity of indigenous and exotic chicken, analysis of pooled feed ingredients and egg quality under semi-scavenging in Jardaga Jarte District, Western Oromia, Ethiopia. *Poultry Science and Management.* 2025 Jul 24;2(1):5.
28. Resom M, Belay S. Chicken rearing practices in Tigray region, northern Ethiopia. *Asian J Res Rev Agric.* 2024;6(1):199–214.
29. Moges F, Nega M, Zeleke G. Characterization of village chicken production and marketing systems in selected districts of North Western Amhara region, Ethiopia. *African Journal of Agricultural Research.* 2014 Oct 7;9(41):3091–7.
30. Taye MM. Assessment of Indigenous and Exotic Chicken Production Performance and Production Constraint at Aneded District of East Gojam, Amhara Region, Ethiopia. *American Journal of Agriculture and Forestry.* 2023 Jun;11(3):98–104.

31. Taye M, Dessie T. Characterization of indigenous chicken production systems in Ethiopia: Implications for genetic improvement programs. *J Anim Breed Genet.* 2022;139:276–286.
32. Teklewold H, Dadi L, Yami A, Dana N. Determinants of adoption of poultry technologies in Ethiopia. *Agric Syst.* 2021;190:103097.
33. Tesfaye E, Negussie E. Constraints and opportunities of village chicken production in Ethiopia: A review. *Int J Livest Prod.* 2023;14(2):45–55.
34. Tsadik ET, Tamir B, Sahile Z. Husbandry practices of village poultry technology package and the nutritional quality of majorly used poultry feeds in the Central Oromia Region, Ethiopia. *Livest. Res. Rural Dev.* 2015 May 6;27:74.
35. Mesele TL. Reproduction and production performance of improved chickens, their production constraints, and opportunities under Ethiopian conditions. *Tropical Animal Health and Production.* 2023 Aug;55(4):245.
36. Worku Z, Melesse A, Tadelles D. Indigenous chicken production systems and performance in Ethiopia. *Afr J Agric Res.* 2022;18(5):650–659.
37. Yitbarek MB, Getachew T. Review on village poultry production systems in Ethiopia. *Int J Poult Sci.* 2021;20(1):1–7.
38. Zeleke G, Gebremedhin B. Economic importance of village poultry production for rural households in Ethiopia. *Agric Econ Rev.* 2022;23(1):112–120.