

# Smallholders' Chicken Management System: The Case of Jimma Horro District of Kelem Wollega Zone Western Oromia, Ethiopia

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**To cite this article:**

Soresa Shuma. Smallholders' Chicken Management System: The Case of Jimma Horro District of Kelem Wollega Zone Western Oromia, Ethiopia. *American Journal of Management Science and Engineering*. Vol. 6, No. 4, 2021, pp. 77-86. doi: 10.11648/j.ajmse.20210604.11

**Received:** May 20, 2021; **Accepted:** July 9, 2021; **Published:** July 16, 2021

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**Abstract:** This study was piloted in Jimma Horro District of Kellem Wollega Zone, through the objective of evaluating smallholders' chicken managing system of the area. An organized questionnaire and Participatory Rural Appraisal (PRA) approaches significant to Small holder chicken management were used to collect data. A study stayed piloted on the designated Households relating Small Holder Chicken Controlling Structure. The most leading chicken running classification in the survey part was a survival extensive method which is constructed on native and better chickens with hunting besides periodic additional breast-feeding of home-based particles then home nutrition rejections. As the views of respondent's home chicken is basis of revenue that profits females subsequently around 99.4% poultry coverage of the District are described to be kept through females who remain supposed to be accountable for creation nearly entirely the main directions regarding chicken. About 86.7% of the respondents have no separate chicken household. Serious limitations of the smallholder chicken manufacture in the revision area were moderately due to the dominant lowly supervision observes, in specific disease, predator, absence of appropriate vigor attention, and lowly accommodation. It was decided that exertions have to be finished to move the manufacture standard to semi intensive aiming on business concerned with invention founded on searching with a universal care of facilities such as well-being, covering, delay, credit and selling to make it fruitful and supportable.

**Keywords:** Searching, Chicken Management System, Households

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## 1. Introduction

### 1.1. Background of the Study

Different studies show that similarly to other African countries, village level poultry production contributes to various livelihood outcomes in Ethiopia, including gender equality, income generating, as well as its role in cultural, religious and traditional practices [14, 1, 4]. In Ethiopia poultry are widespread and almost every rural family owns chicken [15]. The chicken population in Ethiopian is estimated to be about 56.87 million [2]. About 97.82% of the poultry production in Ethiopia is traditionally managed [4]. In the rural areas of Ethiopia, most of the farmers have no separate house for their chickens and the chickens live together with the human population within one house. In line to this, the farmers have no planned feeding of their chickens

and scavenging is almost the only source of feed and they have no planned breeding [12, 7].

Local chicken takes the higher percent in the country (95.86%) as well as in the study area of north western Tigray (95.6%) in terms of population [2]. However, the output (egg and meat) is low, have small body size, low hatchability at about 70%, high mortality estimated at about 40-60% of chicks die during their first eight weeks of age mainly due to disease and predators as compared to exotic chicken [11].

To improve the poultry production, several exotic chicken breeds have been disseminated to the farmers over the last 50 years in the country [11] and in the study areas the chicken was distributed for the last 15 years [17]. But the adoption of these exotic chicken breed in most parts of the country is not promising due to its hindrance by a set of factors including sub-optimal management, lack of supplementary feed, low genetic potential and high mortality rate due to diseases and

predators [14, 16]. In the study area there is no any documented study focusing to the chicken management and the perception of farmers on exotic chicken breed. Hence, the objective of this study was to assess chicken management condition and to assess the perception of farmers on the benefits and constraints of producing exotic chicken breed in the study Woredas.

## 1.2. Statement of the Problem

Indigenous and exotic chicken production is they ecotypes intended the pastoral growers at what time observed in expressions of its searching for utmost of its dietary wants [9]. In accumulation, revisions have recognized numerous obstacles obstructing chicken husbandry which contain killers, nourishing and selling [3]. To this end, the restrictions disturbing chicken fabrication in Kelem Wollega and in specific Jimma Horro District make sure not be present considered. Thus, the investigation was supported obtainable to decide the effect of administration on the equal of native in addition exotic chicken manufacture in Jimma Horro District of Kellem Wollega zone of Ethiopia.

## 1.3. Objective(s)

### 1.3.1. General Objective

To assess small holders' chicken management system in Jimma Horro district.

### 1.3.2. Specific Objectives

- 1) To study housing and feeding system of chicken under small holder farmers in Jimma Horro District.
- 2) To identify major disease of poultry manufacturer in ranchers running situations in Jimma Horro District.

## 1.4. Research Question

How is chicken management under small- holder farmers in Jimma Horro district?

## 1.5. Importance of the Study

As studies identified main disease of native and exotic chicken creation and also generate some base line information for future studies.

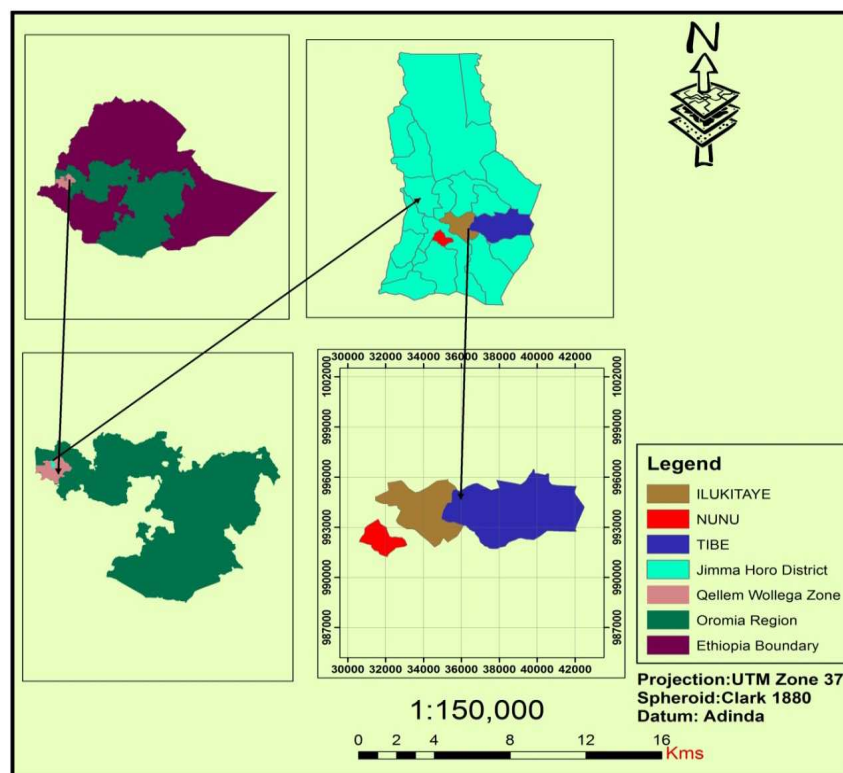


Figure 1. Map of Jimma Horro District (Study areas).

## 2. Materials and Methods

### 2.1. Description of Study Areas

The study was conducted in Nunu, Tibe and Ilu kitaye Kebeles of Jima Horro District of Kellem Wollega Zone. Jimma Horro district is located at 641 km West of Addis Ababa. The altitude of the district ranges between 1400 and

1800 meters above sea level, with average annual minimum and maximum temperature of 18°C, and 27°C, respectively while the annual rainfall ranges from 700 to 1000 mm (Ethiopian Digital Elevation Model, 2018). In the study area livestock and crop farming is the major economic activity of the district. The livestock resource of the study district comprises of 66267 cattle, 19421 sheep, 13647 goats, 257 horses, 6809 mules, 9873 donkeys, and 68401 chickens [5]. The total human population of the district is about 56403, of

which 50% is reported to be male (Ethiopian Digital Elevation Model 2018).

## 2.2. Selection of the Study Areas and Method of Data Collection

### 2.2.1. Selection of the Study Areas

The three Kebeles Nunu (lowland), Ilu kitaye (mid altitude) and Tibe (highland) were purposively selected based on the representativeness, accessibility and availability of exotic and indigenous chicken ecotypes.

### 2.2.2. Households Sampling Techniques

A rapid informal field survey and discussion with the District livestock and fishery office experts were made to know accessibility and availability of exotic and indigenous chicken ecotypes in study areas. After further discussion with the district agricultural development agents and key informants, a total of 9 kebeles (3 from Tibe, 3 from Ilu Kitaye and 3 from Nunu) were selected and discussion was conducted with them.

After all the chicken owners of the selected Kebeles were listed during the reconnaissance study then the total numbers of the households to be interviewed were estimated according to Yamane [18] with 92% confidence level. After knowing the total number of farmer's selection was done randomly.

$$n = N/1+N(e)^2.$$

Where; n = sample size

N = total number of households

1 = probability the event occurring

e = maximum variability or margin of error = 8 (0.08)

### 2.2.3. Data Collection

#### Primary Data Source

Data was generated by administrating a structured questionnaire, employing field measurements, organizing group discussion and from secondary sources. Basically the study was composed of Chicken Management System.

The questionnaire was translated in to Afaan Oromo. It was pre-tested before administration and some re-arrangement and correction was made in accordance with respondents' perception. Information's gathered through questionnaires were: socio economic characteristics of the respondents like sex, age, education level, household size, livestock possession, socio economic benefit of chicken production and major production of egg and meat, constraints; reproductive performances like age at first egg, purpose of keeping chicken, feed and feeding situations, like major feed sources, supplementation, water source; major diseases of chicken in the areas.

Information was collected from individual farmers, extension officers, key informants and village group using both indigenous and exotic production. The exercises was aimed at assessing the perspectives of the chicken management system including intra household dynamics (division of labor, access to and control over of resources and decision making on resources), Information on indigenous

and exotic breeds of chicken including; flock characteristics and ownership, and flock performance, use pattern, off take and loss of chicken and all aspects of chicken managements were collected.

Secondary sources: secondary data were collected from district livestock and fishery resource office and the respective kebele offices of livestock and fishery resource to complement the distribution, number of chicken across the different kebeles and management system.

Finally, closer visits in and around the residential quarters of the villages were made in order to obtain first hand observation on different aspects of chicken management from individual households and to involve women in the households since their participation in the village meetings and other data collection activities is expected to be rather restricted.

## 2.3. Statistical Analysis

The result of collected data were analyzed using analysis of variance (ANOVA) following the General Linear Model Procedure of the Statistical Analysis System [10] at  $\alpha=0.05$ . Mean separation was done for results with significant variations.

Data collected through questionnaire, observation, and interviews were analyzed by descriptive statistics using Statistical Package for Social Sciences [13] version 20.

## 3. Results and Discussion

### 3.1. Characteristics of Respondents

Household characteristics of respondents in study areas were illustrated in (Table 1) below. Of the interviewed households, about 72.1% and 27.9% were male and females respectively. About 93.3% were married and the remaining 2.4%, 2.4% and 1.8% were single, divorced and widowed, respectively. Education plays great role in transferring technology to farmers and to initiate their willingness to adopt technologies. Higher percentages of respondents in the study areas were educated (elementary to high school and college) and While only 23.6% were illiterate. The presence of educated farmers in the study district could be an opportunity in management of chicken and other livestock production.

In relations of their employment, popular of the defendants (91.5%) were ranchers. The popular of the surveyed families drop in age under 60 percent years old, showing that the creative work essential for upkeep, running of chicken was main in the household. The mean household scope were  $6.16 \pm 0.2$ ,  $5.76 \pm 0.3$  and  $5.87 \pm 0.2$  for Tibe, Ilu Kitaye and Nunu kebeles, respectively whereas the overall family sizes per house hold of the study areas was  $5.9 \pm 0.2$  ranging from 1-11 persons.

About 75% of the defendants remained Protestant while the left over 14.5% and 10.3% are Orthodox and Muslim, individually. Nearby 83.6% and 16.4% of the defendants described to have practice of 2 to 14 and 15 to 40 years in chicken rising, individually.

**Table 1.** Demographic appearances of respondents in the study areas.

Variable	Kebeles			
	Tibe (N=55)%	Ilu Kitaye (N=55)%	Nunu (N=55)%	over all (N=165)%
Sex of respondent				
Male	67.3	75.5	74.5	72.1
Female	32.7	24.5	25.4	27.9
Marital status				
Single	0	1.8	5.5	2.4
Married	100	96.4	83.6	93.3
Divorced	0	1.8	5.5	2.4
Widowed	0	0	5.5	1.83
Educational level				
Illiterate	18.2	25.5	27.3	23.6
Read and write	45.5	31	23.6	33.3
Grade 5-8	20	30.9	14.5	21.8
Grade 9-12	12.7	12.7	21.8	15.8
College and above	3.6	0	12.7	5.5
Major occupation				
Farmers	90.1	96.4	89.1	91.53
Traders	5.5	2.5	0	2.66
Depend on mining activity	0.8	1.1	0	0.63
Fisher men	0	0	0	0
Government worker	3.6	0	11.9	5.16
Age of households				
> 60 years	7.00	7.00	8	7
Between 35 and 60 years	63.70	58.80	59.64	60.71
Between 19 and 34 years	29	34.00	32.00	32
Average family size/household (Mean $\pm$ SE)	6.16 $\pm$ 0.266	5.76 $\pm$ 0.308	5.87 $\pm$ 0.229	5.93 $\pm$ 0.167
Age of Respondents	45 $\pm$ 0.984	43.13 $\pm$ 0.778	42.64 $\pm$ 0.676	43.59 $\pm$ 0.479

N= Number of defendants, %=Percent, SE= standard error.

### 3.2. House hold and Livestock Holdings

#### 3.2.1. Land-living Scope and Land Practice

Lad size and land practice of defendants in survey areas were described in (Table 2). The mean plot holding of the study *kebeles* was 2 $\pm$ 0.2, 1.9 $\pm$ 0.1 and 0.8 $\pm$ 0.1 for Tibe, Ilu kitaye and Nunu *kebeles* respectively with the overall mean 1.53.

**Table 2.** Average plot field (ha) and land practice of the respondents in the survey areas.

Variable	Kebeles			
	Tibe (N=55)	Ilu Kitaye (N=55)	Nunu (N=55)	Over all (N=165)
	Mean $\pm$ SE	Mean $\pm$ SE	Mean $\pm$ SE	Mean $\pm$ SE
Total land	2 $\pm$ 0.20	1.9 $\pm$ 0.10	0.8 $\pm$ 0.10	1.53 $\pm$ 0.10
Annual crop	1.01 $\pm$ 0.10	1.04 $\pm$ 0.10	0.41 $\pm$ 0.04	0.82 $\pm$ 0.10
Perennial crop	0.61 $\pm$ 0.10	0.5 $\pm$ 0.004	0.27 $\pm$ 0.03	0.46 $\pm$ 0.03
Grazing	0.34 $\pm$ 0.10	0.3 $\pm$ 0.30	0.19 $\pm$ 0.10	0.27 $\pm$ 0.03
Fallow	0.04 $\pm$ 0.20	0.08 $\pm$ 0.20	0.01 $\pm$ 0.10	0.04 $\pm$ 0.10

N= Number of respondents, %=Percent

The highest average land holding of (2 $\pm$ 0.2) ha was recorded in Tibe (highland) *kebele* while the smallest average land holding (0.8 $\pm$ 0.1 ha) was recorded in Nunu (lowland) *kebele*. The overall mean plot field per family of the survey wereda was (1.53 ha).

#### 3.2.2. Livestock Holding and Composition

The livestock holding and livestock structure is depicted on (Table 3) below.

Regarding the livestock holding, local breed are the dominant in the experimented families of survey district.

**Table 3.** Livestock stock and arrangement of in study areas.

Variable	Kebeles			
	Tibe (55)	Ilu Kitaye (55)	Nunu (55)	Over all (N=165)
	Mean $\pm$ SE	Mean $\pm$ SE	Mean $\pm$ SE	Mean $\pm$ SE
Cow	2.8 $\pm$ 0.2	2.6 $\pm$ 0.3	1.25 $\pm$ 0.2	2.2 $\pm$ 0.1
Oxen	1.8 $\pm$ 0.2	2 $\pm$ 0.3	0.78 $\pm$ 0.1	1.53 $\pm$ 0.1
Calf	1.98 $\pm$ 0.2	1.8 $\pm$ 0.2	0.73 $\pm$ 0.1	1.5 $\pm$ 0.1
Heifers	1.85 $\pm$ 0.9	1.96 $\pm$ 0.3	0.67 $\pm$ 0.1	1.5 $\pm$ 0.1
Bull	1.53 $\pm$ 0.2	1.73 $\pm$ 0.2	0.64 $\pm$ 0.2	1.3 $\pm$ 0.1
Sheep	3.07 $\pm$ 0.3	2.35 $\pm$ 0.3	0.62 $\pm$ 0.2	2 $\pm$ 0.2
Goat	0.15 $\pm$ 0.1	0.4 $\pm$ 0.1	0.6 $\pm$ 0.1	0.4 $\pm$ 0.1
Donkey	0.73 $\pm$ 0.1	0.58 $\pm$ 0.1	0.31 $\pm$ 0.1	0.54 $\pm$ 0.1
Chicken	15.78 $\pm$ 1.9	13.75 $\pm$ 1.5	6.6 $\pm$ 0.7	12.04 $\pm$ 0.1

The average number of chicken was found to be higher ( $15.778 \pm 1.9$ ) in highland kebele compared to the lowland ( $6.6 \pm 0.7$ ) kebele of the study areas. This result was advanced than the middling herd scope of 9.2 chickens/ household described by Mekonnen [6] for Dale Wereda in Ethiopia.

### 3.3. Chicken Herd Organization and Features

#### 3.3.1. Herd Organization

Flock structure is designated in positions of the numeral and percentage of the unlike age collections and sexual

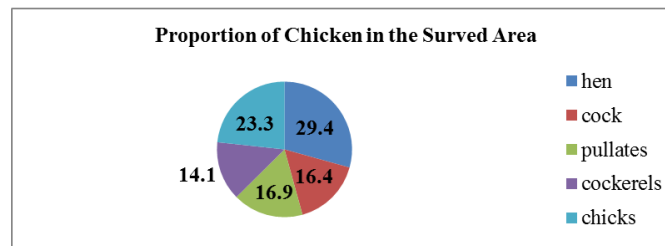
category in a group. The total numbers of chicken available in the study area was 1986 of which 868, 755 and 363 were in Tibe, Ilu Kitaye and Nunu *kebeles*, respectively.

The largest flock size of the study *kebeles* were  $15.78 \pm 1.9$  (Ranging from 3-105) in Tibe (highland) *kebele* as well as  $13.75 \pm 1.45$  (ranging from 2-60) in Ilu kitaye (Mid altitude) and the smallest flock size was  $6.6 \pm 0.65$  (ranging 2-20) in Nunu (low land) *kebele*. The general middling group scope per households stayed 12.04 chickens which ranged from 2 -105.

**Table 4.** Herd scope and ratio of the defendant keeping dissimilar scope of poultry in study areas.

Kebele	Cock Mean $\pm$ SE	Hen Mean $\pm$ SE	Pullate Mean $\pm$ SE	Cockerels Mean $\pm$ SE	Chicks Mean $\pm$ SE	Over all	Range
Tibe	2.9 $\pm$ 0.58	4.05 $\pm$ 0.7	3.29 $\pm$ 0.8	2.95 $\pm$ 0.9	4.35 $\pm$ 0.5	15.78 $\pm$ 1.8	3-105
Ilu Kitaye	2.04 $\pm$ 0.1	3.40 $\pm$ 0.3	2.33 $\pm$ 0.3	1.75 $\pm$ 0.2	2.69 $\pm$ 0.3	13.75 $\pm$ 1.4	2-60
Nunu	0.93 $\pm$ 0.4	3.16 $\pm$ 0.2	0.49 $\pm$ 0.1	0.38 $\pm$ 0.1	1.38 $\pm$ 0.4	6.6 $\pm$ 0.7	2-20
Grand mean	1.96 $\pm$ 0.3	3.54 $\pm$ 0.3	2.04 $\pm$ 0.3	1.69 $\pm$ 0.3	2.81 $\pm$ 0.2	12.04 $\pm$ 0.9	2-105

There were a high proportion of hens which accounted for 29.4% (Figure 2).



**Figure 2.** Proportions of chickens in the surveyed households.

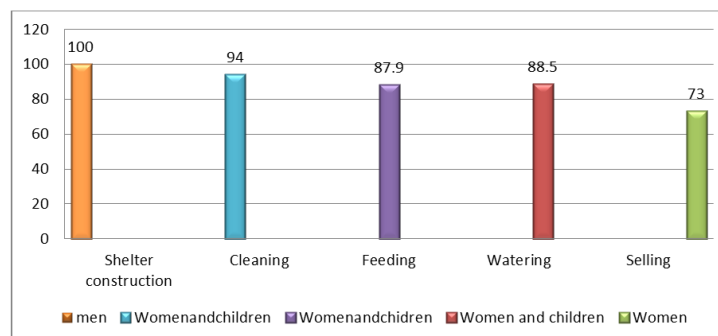
**Table 5.** Plumage color of local chicken of the study areas.

Variables	Kebeles			
	Tibe (N=55)%	Ilu kitaye (N=55)%	Nunu (N=55)%	Over all (N=165)%
Black	30	33	33	32
Red	32.8	34	32	33
Blue	4	7.3	8	6
White	15	10	12	13
Brown	8.5	7.9	9	8
Grew	9.7	7.8	6	8

N= Number of respondents, %=Percent

#### 3.3.2. Flock Characteristics

Color of local chicken in study areas is depicted and summarized in (Table 5). The feathers standards of the indigenous poultry establish in the survey parts were varied (dark, white, red, grey, blue, brown,). Red (33%) plumage was the dominant color followed by black (32) in local ecotype chicken of the study area.



**Figure 3.** Intra household decision-making power among different family members.

### 3.4. Small Holder Chicken Management System in the District

#### 3.4.1. Feedstuff and Serving Applies

As accessible in (Table 6), mainstream (94.5%) of defendants described that the poultry feeding system is scavenging with small additional supplementation of cereals and food refusals of the households. The survey result indicated that type of grain supplement in study area

was both sorghum and barley (95.8%). About 95.8% respondents supplement farm produced feed. Majority (98.2%) of respondents don't use feeding trough or equipment's they simply feed their chicken by spread on ground. In feeding chicken about 99.4% of the homes afford additional feedstuffs for unlike stage clusters organized only about 0.6% offer feed according the age group.

**Table 6.** Feeding practices and feeding system of chicken in study areas.

Variable	Kebeles			
	Tibe (N=55) %	Ilu Kitaye (N=55)%	Nunu (N=55)%	Over all (N=165)%
Feeding System				
Scavenging only	0	0	16.4	5.5
Scavenging with additional supplementation	100	100	83.6	94.5
Regularity of nourishing				
One time in day	1.8	21.8	12.7	12.1
Two times in day	22.6	78.7	87.3	62.9
Trice times a day	75	0	0	25
Category of particle addition				
Sorghum	0	0	12.7	4.2
Both sorghum and barley	100	100	87.3	95.8
Basis of nutrition addition				
Homestead made	100	100	87.3	95.8
Bought	0	0	12.7	4.2
Method of addition				
Giving on lad	94.5	100	100	98.2
By Federer	5.5	0	0	1.8
Form of supplementation				
Separate different class	1.8	0	0	0.6
Together the whole group	98.2	100	100	99.4
Time of feeding				
Afternoon only	0	9.1	40	16.4
Morning and afternoon	94.5	90.9	21.8	69.1
Morning, afternoon and evening	5.5	0	38.2	14.6

N= Number of respondents, %=Percent

**Table 7.** Evening housing, resources used for building households and regularity of washing the household in the appraised houses.

Variable	Kebeles			
	Tibe (N=55) %	Ilu Kitaye (N=55) %	Nunu (55)%	Over all (N=165)%
Night Shelter				
Kitchen	16.4	60	49.1	41.8
Main house	9.1	10.9	7.3	9.1
Perch	36.4	27.3	43.6	35.8
Purposive constructed house	38.2	1.8	0	13.3
Materials used for chicken house construction				
Mad block and thatch	0	0	0	0
Timber and straw	90.9	1.8	0	30.9
Timber and wavy strong	9.1	0	0	3
Rate of washing chicken household				
All time	18.2	0	0	6.1
Each two times	20	0	0	6.7
Each 3-6 time	41.8	0	0	13.9
On one occasion a week	20	100	100	73.3

N= Number of respondents, %=Percent

#### 3.4.2. Shelter Providing System of Chicken

Providing shelter is essential to chicken as it protects them against predators, theft, rough weather (rain, sun, cold and wind) and to provide shelter for egg laying and broody hen.

However, the survey revealed that about 86.7% of the respondents do not have separate chicken house for their chicken. Only 13.3% of respondents construct chicken house purposely (Table 7). This might be attributed to lack of experience and enough bud-gets of the respondents to

construct separate chicken houses. Between the defendants who raised chicken household distinctly around 30.9% of them construct chicken household from timber and straw. Concerning rate of washing the households, around 73.3%, 13.9%, 6.7%, 6.1% of respondents clean their houses once a week, 3-6 days, every two days, every day, and respectively.

### 3.4.3. Provision of Water

H<sub>2</sub>O acting significant portion in the ingestion and digestion of the birds in adding to helping help as a means

to manage certain significant injections. Even though differences in foundations of H<sub>2</sub>O and regularity of spraying, exactly completely of the defendants delivered water for their chickens (Table 8). Nearly completely of the defendants (99%) afford water for their chicken in the district. Concerning the basis of water, 98% of the defendants practice stream water for their chicken. Around 44.8% of the defendants clean intake resources on one occasion a week.

*Table 8. Running of H<sub>2</sub>O in appraised defendants of the study parts*

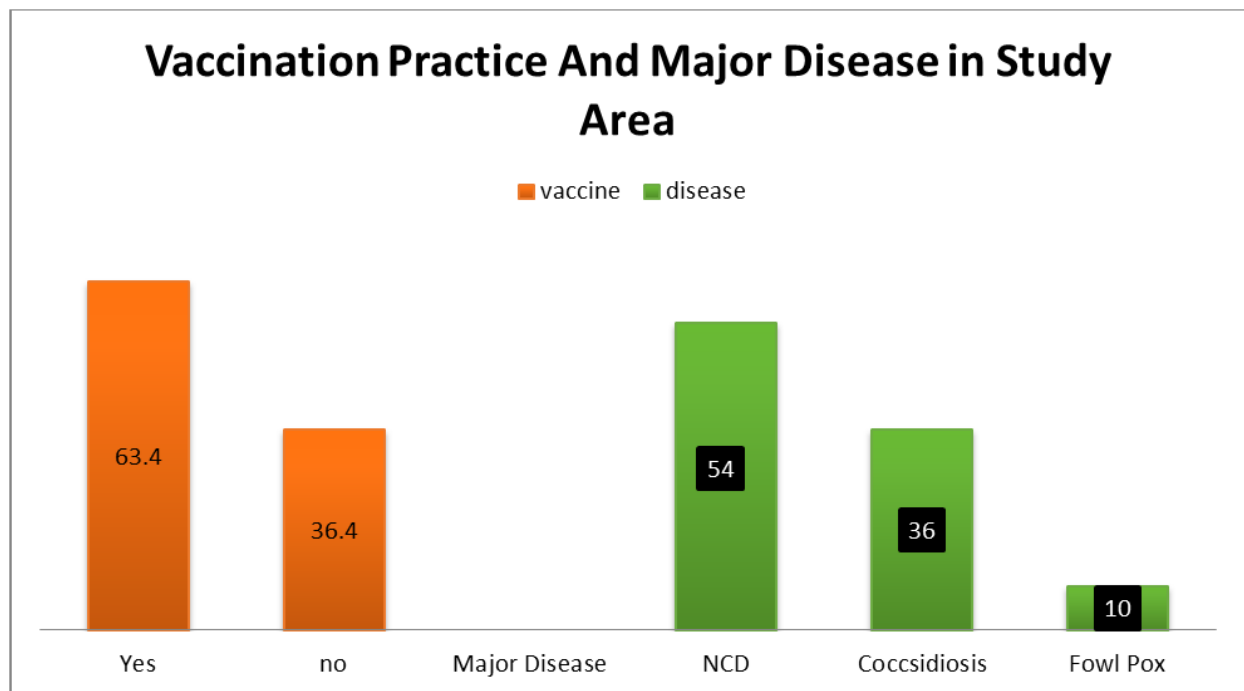
Variables	Kebeles			
	Tibe (N=55) %	Ilu Kitaye (N=55) %	Nunu (N=55) %	Over All (N=165) %
Provision of water				
Yes	100	98.2	98.2	99
No	0	1.2	1.8	1
Source of water				
Bore hole	0	2.4	3.6	2
River water	100	97.6	96.4	98
Drinker made up of				
Wood	47.3	1.8	3.6	17.6
Plastic	57.2	84.8	94.5	78.8
Stone	0	9.1	1.8	3.6
Frequency of cleaning drinker				
One a day	1.8	5.5	7.3	4.8
Every three days	20	10.9	78.2	36.4
Once a week	78.2	43.6	12.7	44.8
Never clean	0	40	2	14

N= Number of respondents, %=Percent

### 3.4.4. Health Management

Health care practices of the defendants in the assessed parts are depicted below in figure 5. In the study areas majority of the defendants (63.4%) vaccinates their chickens. About 54% of respondents replied that the highest disease of

the assessed parts Newcastle and 36% reported to be coccidiosis. Most of the respondents (79%) treat their chicken in consultation with veterinarian while only 10% prepared not receipts any degree when their chicken develops sick.



*Figure 4. Vaccination practice and major diseases in study area.*

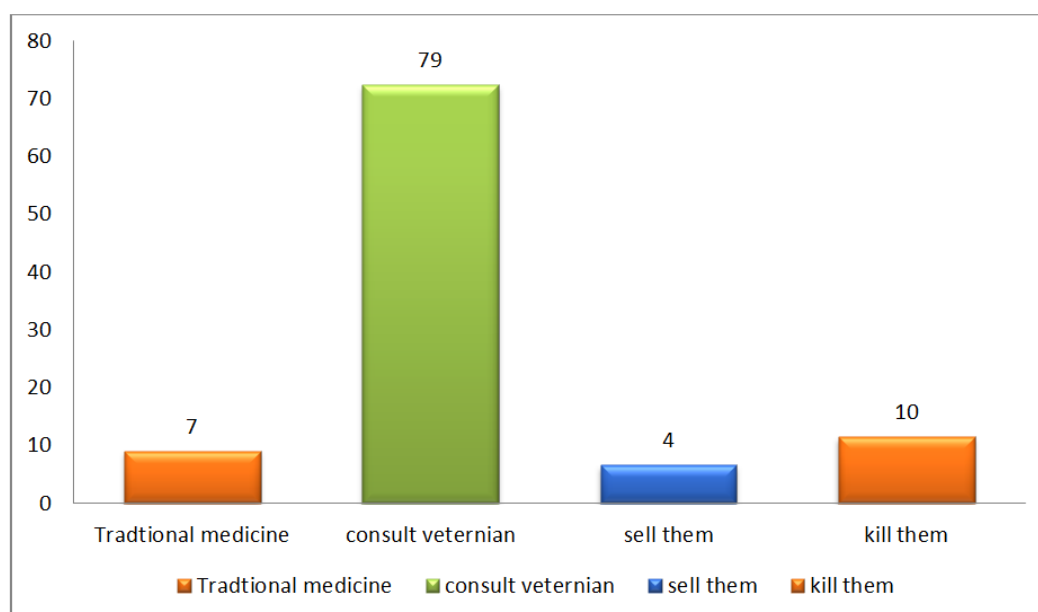


Figure 5. Measurement taken when chicken gets sick.

### 3.4.5. Broody Hen Management

The total Mother Nature of the broody fowl managing of the plotted part is illustrated in Table 9. Ordinary development is the greatest usually practiced system for substituting and growing the proportions of groups. A bird frequently needs a shady and moderately home in the household for putting seeds. Later the seed were harvested; planters correct pot place for broody birds. Regularly they practice bamboo finished bags and they agree the fowl to take a seat simply on the surface land. Agriculturalists are identical aware and worried in the planning of suitable shell packets for development of moody fowl. Chicken produces usually concede brooding with upright feedstuff resources

and suitable environment for developing poultry. Around 92.1% of the defendants practiced to hatch and brood their bird through the hot periods. Nearby 7.9% of the defendants ensure not require several exact optimal of period for development. A fowl has to brood after leaving eggs so that it would hatch, hatch the eggs and advance their early chickens. Yet, as contrasting to marketable level homesteads which choice in contradiction of pensiveness, growers (93.1%) in the survey area area ended choice near broodiness grounded on unlike principles counting preceding presentation of the bird (22.6%), form scope (66.2%) and plenty feathers (11.3%). Likewise, assed by [8] presented that 66.7% of the defendant's usage great form scope as a choice condition.

Table 9. Broody hen management in study areas.

Parameter	Kebeles			
	Tibe (N=55)%	Ilu Kitaye (N=55)%	Nunu (N=55)%	over all (N=165)%
Criteria for broody hen selection				
Pervious performance	21.4	22.2	24	22.5
Large body size	67.79	70.5	60.5	66.2
Ample plumage	10.9	7.3	15.5	11.3
Position of egg while incubating				
Do not mind position	100	100	100	100
Basis of egg for development				
Laid in the house	100	100	100	100
Period of egg development				
Hot period	92.7	90.9	92.7	92.1
Rainy period	3.6	3.6	3.6	3.6
Whichever period	3.6	5.5	3.6	4.2
Shell containers for thoughtful fowl				
Earthen container	61.8	41.8	21.8	41.8
Cartoon	36.4	30.9	74.5	47.3
Bamboo made brooder	-	-	3.6	1.2
On the ground	1.8	27.3	-	9.7
Management of brooding fowl at period of development				
Feedstuff and H <sub>2</sub> O close to brooding shell and protect challenge	100	94.5	74.5	89.7
No special management other than usual	-	5.5	25.5	10.3

N= Number of respondents, %=Percent



**Table 10.** The major reasons for culling of chickens in the Assed parts.

Factor for removing of fowls	Kebeles			
	Tibe (N=55)%	Ilu Kitaye (N=55)%	Nunu (N=55)%	over all (N=165)%
Sickness	43.6	58.2	47.3	49.7
Lack of broodiness	36.4	23.6	23.6	27.9
Old age	12.7	7.3	29.1	16.4
Poor productivity	7.3	10.9	-	6

N= Number of respondents, %=Percent

## 4. Summary, Conclusions and Recommendation

### 4.1. Summary

The outcomes of the survey indicated that the average group proportions per home of the Jimma Horro District were 12.04 poultry the worth of which is greater than the countrywide middling. Poultry of the Locality are reserved below searching situation with addition. A massive figure of family females and families actively participate in chicken management by means of their individual indigenous and improved breed and native awareness of chicken controlling to create revenue and/or to accompaniment the protein necessity of the families. The greatest prevailing chicken management structures in the survey part were the extensive and semi intensive classifications built on the native and improved birds and searching with chance and periodic additional nourishing of home-based particles and home nutrition rejections with no exact chicken households.

The major chicken nourishing exercise in assessed district was searching with extra addition..

### 4.2. Conclusion

Newcastle disease followed by killer attack was the main limitations to chicken manufacture in the study area. Additional restraints involved absence of money and credit facility to increase their chicken manufacture, lowly controlling follows on nourishing, covering and infection switch, absence of practical evidence. Together, these factors resulted in decreased direct benefit of the farmers.

### 4.3. Recommendations

Consequently, the behind endorsements are advised built on the assessment outcome and the below real opinions.

- 1) Furthermore, running of systematic sickness preclusion instrument and suitable injection package will absolutely decrease death.
- 2) Shifting the yield of searching fowl in the assessed part by improving controlling methods that encourage expansion in output and diminish death.
- 3) Modest household building mainly planned for chicks by means of immediate accessible resources can easily save from injury.
- 4) A minute practical funding on growers' skill or information of additional nourishing and watering might advance efficiency of chickens.

5) There is a solid requirement to build up on the creativities of farmer's development in the part of facility of supportable recognition system and growers exercise package.

6) To expand the condition the Office of Livestock should fill the gaps with respect of inputs like Extension services and sets for improved operation of fowl expansion plan.

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