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Chicken Production Systems, Performance and Associated Constraints in North Gondar Zone, Ethiopia

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Abstract: Survey was conducted in three districts (Quara, Alefa and Tache Armacheho) of Amhara region northwestern Ethiopia. Semi structured questionnaire, participatory rural appraisal and ranking trials were used. Extensive production systems is the dominant management practices of chicken with small feed supplementation. Three peasant associations from each districts and a total of 180 households were selected using multistage simple random samling techinique based on chicktn potential. Farmers were interviewed using semi-structured questionnaire and additional data was obtained from key-informants through group discussion. This investigation revealed that average flock size/household was 16.11 for Quara, 16.33 for Alefa and 16.73 chickens for Tache Armacheho district. About 90% both in Quara and Tache Armacheho and about 2.4 % in Alefa districts of chicken owners are constructed separate shelter for chickens. The average eggs laid/clutch/hens is 16.88, 14.23and 11.9 eggs for Quara, Alefa and Tache Armacheho districts, respectively. Annual egg production of local hens is 60.20, 55.87 and 36.94eggs/hen for Quara, Alefa and Tache Armacheho districts, respectively. Seasonal outbreaks of diseases and predation were the two major causes for loss of chickens. Women are responsible in managing chickens in all the study sites. Therefore, emphasis should be given in availing production technologies including breeding systems, organizing input supply system for chicks, feed, vaccines and veterinary drugs for chicken and eggs. The influential bodies should consider the importance of indigenous genetic resources and struggle to develop appropriate technologies at conserving the unique genetic resources and improving village flock production and productivity.

Key words: Chicken production · Constraints · Performances

INTRODUCTION

In Ethiopia, the agricultural sector is a corner stone system is known to possess desirable characters such of the economic and social life of the people [1]. At national level in Ethiopia, 99% of the total, 56.5 million, estimated chickens are contributed by village management of village poultry production in rift valley of poultry production while only 1% is from intensive exotic breed maintained under intensive management system [1]. Poultry is the largest livestock species worldwide [2], accounting for more than 30% of all animal protein consumption [3]. Chickens largely dominate flock composition and make up about 98 % of the total poultry (chickens, ducks and turkeys) population kept in Africa.

The sector as thermo tolerant, resistant to some disease, good egg employs 80-85 percent of the population and contributes and meat flavor, hard eggshells and high dressing 40 percent to the total GDP [4]. Therefore, all most all rural and many peri-urban families keep small flock scavenging local chickens [2]. Imagining about 80% of the chicken populations in Africa is reared in free scavenging production systems [5]. In African countries, the rural chicken population accounts more than 60% of the total national chicken population [4]. However, in Ethiopia chicken populations were estimated about 49.3 millions of which 97.3%, 2.32% and 0.38% were indigenous, exotics and hybrid breeds, respectively [7].

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Still these large population indigenous chickens are found in traditional production systems. But, they are well adapted to the tropics, resistant to poor management, feed shortages, tolerate to diseases and provide better test of meat and eggs than exotic chickens [8]. Furthermore, short generation interval, high rate of productivity, easy to transport in different areas and easily consumed by the rural poor are the major opportunities of chickens comparing with other farm animals [4].

So comprehensive assessment of production system in the remote districts of northern Gondar zone in general, identification of production systems and associated constraints in these particular areas was unquestionable; therefore, the objective of this study were;

- To evaluate the performance of chickens and production system in the study area
- To identify the most important problems and constraints associated with chicken production system in north Gondar zone.

MATERIALS AND METHODS

Description of the Study Area: The study was conducted in randomly selected three districts of north Gondar zone (Quara, Alefa and Tache Armacheho) of Ethiopia. The altitude of the zone is ranged from 528-4620 meter above sea level (masl) and rainfall of 880-1772 mm with the temperature of 44.5°C to -10°C. Quara district is located western part of north Gondar Zone between 11°47' and 12°21 and latitude and 35°16' and 35°47'E longitude. It is 1123 km far from Addis Ababa and 324 km from Gondar town and elevation ranging 528 - 654 meter above sea level. The annual temperature ranges 25-44°C with mean annual rainfall of 600-1000 mm [8]. The same source indicated that Alefa district is located at 162km in southwest of Gondar town and 909 km from Addis Ababa with the temperature of 25-30°c and annual rainfall of 900-1400mm. Armacheho district is also found 814 km northwest of Addis Ababa and 65km North West of Gonder town with the altitude of 600-2000 masl with the temperature of 25-42°c and with annual rainfall of 800-1800 mm [5].

Data Collection Methods: In addition to semi-structured questionnaires participatory rural appraisal (PRA), focus group discussion and field observation were employed to dig up the required information. All 180 household chickens owner respondents, 60 per district were considered for semi-structured questionnaires.

Data Collection Methods*:* From the present investigation both qualitative and quantitative data were considered. Qualitative data included household socio-economic characteristics, husbandry practices and flock structure and production constraints of the chickens. Whereas, quantitative data included flock size, family size, performance of chickens and land size.

Questionnaires: Performance data like productive and reproductive ability of chickens' husbandry practices, flock size, flock structure, family size, household socio-economic characteristics and land size of respondents were documented through semi-structured questionnaires adopted from [8].

PRA Tools

Group Discussion: One focus group discussion members (12) per ecotype were inhaled to generate information other than the individual interviews. Members of the focused groups were communally known to have a good understanding in animal production, people believed to be knowledgeable about past and present social and economic status of the area, community leaders and story tellers.

Ranking Trial: Ranking trial was used to study major constraints of farmers. Participants were asked to rank their first, second, third fourth and fifth major constraints. The respondents were mentioned so much reasons. But, only five mentioned reason were taken based on their current production mode and future improvements.

Data Management and Statistical Technique: Data was managed both in hard and softcopies. All collected data were entered and managed using Microsoft Excel computer programme. More over data were analyzed by SAS, 2002 version 9. Indexes were used to calculate for data collected from rankings with the formula: Index = sum of (5 for rank 1 + 4 for rank 2 + 3 for rank 3 + 2 for rank 4+ 1 for rank 5) given for an individual reason divided by the sum of (5 for rank 1 + 4 for rank 2 + 3 for rank 3 + 2 for rank 4+ 1 for rank 5) [8].

RESULTS AND DISCUSSION

Socio-Economic Characteristics of the Area: The majority of the respondents in this study area were females accounted about 57.8%. These larger female respondents might be absent of traditional restrictions observed women approaching to outsiders.

Table 1: Average land and family size/hh (Mean ± SE) in the study area (n = 90)

	Study area				
Variables	Quara	Alefa	TacheArmacheho	P-value.	Overall- mean
Family size/hh	5.77±0.57	6.10±0.44	6.73±0.48	0.3816	6.20±0.28
Land size/hh	5.20±0.90[a]	1.7±0.25[b]	3.76±0.71[ab]	0.0019	3.55±0.42

The same row with different superscripts are significantly different (P<0.01)

However, smaller result was reported by Mekonnen [9] who showed that only 66.7% of the respondents were married. From interviewed respondents most information was generated from females which indicated that mainly women are culturally responsible for rearing of chicken. According to [3] in sub Saharan Africa from the total family size about 80% of the chicken flocks were owned and largely controlled by women. Similar result was also reported by many researchers such as [9 and 10]. Moreover, about 73.3 % of the average interviewed farmers were illiterate while 16.7 % can read and write. About 6.7% and 3.3% were literate respondents who had gone through primary first cycle (1-4) and primary second cycle (5-8), respectively. Finally illiterate those who read and write educational status of the interviewed farmers in the recent study were slightly similar to southern Ethiopia (67.8 % and 18.9 %) as reported by Mekonnen [9]. Thus, lower educational background obtained in the study area might be lack of security, access and location to the main town.

Average family size of Quara, Alefa and Tache Armacheho districts were 5.77±0.57, 6.10±0.44 and 6.73±0.48 persons, respectively with overall mean family size of 6.20±0.28 (Table 1). These results were almost smaller than southern Ethiopia (6.95 persons) reported by Mekonnen [9] and higher than the national average of 5.2 persons [11]. Moreover, land holding characteristics of the respondents are presented in Table 1. Total land holding size/household was showed as a significant difference among the three districts. Such as recorded average land holding/household was highest 5.20±0.90 ha from Quara and lowest 1.7±0.25 ha from Alefa district. The result was also significantly higher than 1.01, 0.75 and 1.2 ha land holding/hh at national, Amhara regional state and north Gondar zone. Further recent result showed the average size 1.28 and 1.23 ha /hh was reported from northwest Amhara by Halima Hasen 10] and Fisseha *et al* [[12], respectively.

Flock Sizes and Structures: The dominant flock structures of chicken in the study area were chicks followed by hens. Overall average flock size and structure of chickens kept per household were 9.07±0.59, 2.79±0.26, 2.47±0.26, 1.02±0.15 and 1.11±0.11 for chicks, hens, pullets, cockerels and cocks, respectively with a total flock size of 16.43±0.92. This result was in lined with [3] who reported that the flock sizes generally ranged from 5 to 20 fowls per African village households. However, lower results were also conducted by Mekonnen and [9] and Fisseha *et al* [12] from Awassa Zuria and Dale district with mean flock size of 8.8 and 9.2 chickens/ household, respectively. Furthermore, similar report was carried out on the average flock size per household of 16 in the central parts of Ethiopia and in the Kwale district of the south coast of Kenya [13]. Furthermore, two fold lower reports from current findings were carried out on the average flock size per household of 7.1 [14]. But, from the current investigation the flock size per household was not significant different among ecotypes (Table 2). The same number of flock sizes observed in different districts might be adaptation ability of the dominant ecotypes from their own production environment. Finally, the respondents noted that flock size is not always the same mainly due to chicken used as source of immediate farmers' expense, occurrence of diseases and presence of predators. The lower proportion of the cockerels and cock within the indigenous chicken population were observed. Since cockerels and cocks are used for immediate expense and sharing of breeding males for that small number of hens in the village.

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Table 2: Flock size and structure of indigenous chickens in North Gondar zone

	Study sites				
Chicken Category	Quara	Alefa	Tache Armacheho	P - value	Overall means
Chicks	8.40±1.20	8.83±1.00	9.97±0.86	0.5627	9.07± 0.59
Pullets	2.93±0.42	2.83±0.48	1.67±0.40	0.0912	2.47±0.26
Cockerels	1.03±0.26	1.13±0.27	0.90±0.25	0.8208	1.02± 0.15
Hens	2.63±0.31	2.60±0.27	3.13±0.41	0.4417	2.79± 0.19
Cocks	1.33±0.20	0.93±0.14	1.07±0.20	0.1825	1.11±0.11
Over all	16.11±0.11	16.33±1.44	16.73±1.49	0.9495	16.43±0.92

Table 3: Feed resources, feeding practices and feeding frequency of indigenous chicken.

	Percentage of the respondents in the districts/ (%)			
Parameters	Quara	Alefa	Tache Armacheho	Overall
Frequency of feeding (%)				
Morning, afternoon and evening	26.67	13.33	43.33	27.78
Any time during the day	6.67	6.67	NA	4.44
Morning and afternoon	NA	NA	NA	NA
Morning and evening	26.67	23.33	13.33	18.89
Afternoon only	NA	10. 00	3.33	4.44
Morning only	30.00	40.00	33.00	34.44
Evening only	NA	NA	NA	NA
No feeding	10.00	6.67	6.67	7.78
Over all	100	100	100	100
Feeding practice (%)				
Throw on the ground	93.33(28)	98.00	100	96.67
On feeding trough	6.67 (2)	2.00	NA	3.33
Source of the feed (%)				
From the house	100 (30)	100	100	100
Purchased	NA	NA	NA	NA
Purchased and from the house	NA	NA	NA	NA
Way of supplementation (%)				
Separate to different classes	NA	NA	NA	NA
Together for the whole group	100	100	100	100

on the average flock size per household of 16 in the central parts of Ethiopia and in the Kwale district of the south coast of Kenya [13]. Furthermore, two fold lower reports from current findings were carried out on the average flock size per household of 7.1 [14]. But, from the current investigation the flock size per household was not significant different among ecotypes (Table 2). The same number of flock sizes observed in different districts might be adaptation ability of the dominant ecotypes from their own production environment. Finally, the respondents noted that flock size is not always the same mainly due to chicken used as source of immediate farmers' expense, occurrence of diseases and presence of predators. The lower proportion of the cockerels and cock within the indigenous chicken population were observed. Since cockerels and cocks are used for immediate expense and sharing of breeding males for that small number of hens in the village.

Chicken Production Systems: The major feed resources, feeding practices and frequency of giving to eat in the study area indicated by the respondents showed (Table 3). All respondents kept only pure indigenous chickens and managed extensively under traditional production systems. Almost all respondents practiced supplementary feeding of local chickens' spring on the ground. Whereas, confined management of chickens with commercial feeding is not known at all districts. Similarly, many researchers such as [12]; [9]; [10] and [11] about 95 %, 98.1 %, 99.28 % and 96.3 % of the poultry

producers in Awassa Zuria, Dale Woreda, Northwest and central Ethiopia were offered supplementary feed to their chickens, respectively. Additionally, related result showed that there was no purposeful feeding of rural chickens in Ethiopia and the scavenging feed resources were almost the only source of feed [6]. Farmers believe that chickens provided with supplementary feed hens lay more eggs and chicks grow faster. Nevertheless, farmers had no cleared idea in terms of the quality and quantity of supplementary feeds. The major source of chicken feed was obtained from their house and cereal grains of maize (Julla) and sorghum (*Rifa*) were the most important supplementary feeds. Similar research result was found from Gomma woreda of cereal grains were important supplementary feeds [15].

Water Resources and Watering of Chickens: Water plays an important role for feed digestion and metabolic activity of chickens. Almost all of the respondents in the study district provide water ad libitum for their chickens. In Alefa 19.8% of the respondents provide water to their chickens only during the dry season and the remaining (79.2%) offered throughout the year. The major sources of provided water in Alefa district is obtained from river (56.67%), spring (26.67%), locally constructed underground water (3.33%) and hand operated pipe water (13.33%). However, all respondents together with equal proportion from Quara and Tache Armacheho district provided water for their chicken both in dry and wet season. In Quara the water sources are river (26.67%), spring (16.67%), locally constructed underground water (10%) and hand operated pipe (46.67%). Whereas, in Tache Armacheho district river (33.33%), springs (20%) and hand operated pipe water (46.67%) were the major sources of households, supplied water for their chickens. About 98%, 96% and 58% of the respondents haven't standard watering troughs in Quara, Tache Armacheho and Alefa district, respectively. In Alefa, clay material (47.3%), wooden trough (32.7%) and troughs made of plastic (18.2%) were the most widely used watering troughs, whereas in Quara clay material (77.3%) and wooden trough (22.7%) and in Tache Armacheho district clay materials (92.5%) and wooden trough (7.5%) were used. Concerning to the frequency of cleaning watering trough in Alefa district was about 23.33% and (76.67%) of chicken owners were cleaned every day and never cleaned, respectively. In Quara and Tache Armacheho districts the respondents washed the containers randomly during changing of hot water twice per day.

Chicken Housing Practices: As usual poultry house protects chickens from predators, theft, rough weather (rain, sun and wind and temperatures) and provide shelter for egg layers and broody hens. In Alefa district about 97.6 % of the respondents kept their chicken at night sheltering places within the family house and placed on the floor covered by ventilated bamboo made materials. The main reasons for not constructing separate chicken houses in Alefa district was small flock size, lack of awareness and risk of predators. However, almost all equal proportion of respondents in Quara and Tache Armacheho districts more than 90% of the respondents were constructed separate perches. The reasons for constructing of chicken houses in Quara and Tache Armacheho districts were presence of predators specially snicks and suffocations. While, only 3% and 2% of the respondents were allowed their chickens to roost enclosed baskets hanging in the trees and in the family house whereas 5% and 2% of chickens were roost on the trees and enclosed baskets hanging in the trees from Quara districts, respectively. Smaller research result was reported from north western part of Ethiopia [9] and from Fogera [16] who revealed that 50.77% and 59.7% of farmers kept their chicken outside the house, respectively whereas ……[9] reported that there is no specific separate poultry house in Dale Wereda.

Marketing Systems: During data collection the communities were sold live chickens and eggs from the ordinary day is presented in Table 4. Respondents confirmed that chickens prices are not always constant. Therefore, in the usual market chicken owners were obtained better prices from matured chickens 82.83±2.14 and 67.87±2.24 from Quara 77.00±2.76and 52.50±1.74 from Tache Armacheho than 53.27±1.74 and 40.33±1.42 from Alefa districts with the average prices of 71.03±2.14 (n = 180) and 53.56±2.24 (n = 90) birr per matured cocks and hens, respectively. The prices obtained in this finding were significantly higher as compared to….. [8] who reported 21.74±0.54 (78) and 13.95±0.43 (78) as well as ……[13] who reported that the price of matured cocks and hens were 21.5 (30) and 13.4 (30) birr, respectively. This finding is still higher than that of …..[17] who reported 27.24 and 15.51 birr for matured male and female chickens, respectively in the study made around Awassa Zuria. Market and road accessibility in particular, phenotypic nature of an animals, seasons and holydays in general play important role for the variations of chicken price in the study area. Whereas, average price per unit egg was 1.70±0.05 (n = 180) birr. Due to lack of marketing

Table 4: Mean prices birr of live chickens and eggs in ordinary market days (Lsm±SE)

	Study sites				
Chicken Category	Quara	Alefa	Tache Armacheho	P - value	Overall means
	(LSM ±SE)	(LSM ±SE)	(LSM ±SE)	95%	(LSM ±SE)
Cock	82.83±2.14[a]	53.27±0.74[b]	77.00±2.76[a]	0.0012	71.03±2.14
Hen	67.87±2.24[a]	40.33±1.42[c]	52.50 ±1.74[b]	0.0011	53.56±2.24
Cockerel	41.90±2.59[a]	23.78±0.93[b]	38.83±2.03[a]	0.0013	34.90±2.59
Pullet	33.36±2.01[a]	17.36±0.85[c]	25.46± 1.32[b]	0.0015	25.40±2.01
Unit egg	1.97±0.07[a]	1.12±b0.04[b]	2.02±a0.06[a]	0.0016	1.70±0.05

a, b, c means in the same row with different superscripts are significantly different (P < 0.01), SE = Standard Errors

Table 5: Rating of major constraints of chicken production in the study area

Major Constraints	Quara	Alefa	Tache Armacheho	Weighted value
Extension service	0.27(2)	0.26(2)	0.18(4)	0.22(3)
Water problem	0.14(4)	0.06(5)	0.23(2)	0.21(4)
Predators	0.26(3)	0.16(4)	0.22(3)	0.23(2)
Disease	0.28(1)	0.28(1)	0.27(1)	0.25(1)
Market	0.05(5)	0.24(3)	0.10(5)	0.09(5)

Ranks of constraints within a column bearing different numbers are different from each other. The importance of constraints was rated based attributed to productions by individual respondents; most important = 1, least important = 5

place and access to main road in Alefa as like as live weight of chicken the price of egg was lower than the two districts. Smaller result was also reported by Mekonnen [9] with the average price of 0.57 birr (n = 156) and ……[13] 0.46 birr per egg (n = 30) around southern Ethiopia and Debrezait Zuria, respectively.

Major Constraints of Chicken Production: Major constraints of chicken production are presented in Table 5. Among the reported constraints of chicken production prioritized by the respondents in the study area were disease, predators, market problem, lack of water and extension together with veterinary services. Most respondents were frequently mentioned diseases as the first ranked chicken production constraint in all districts whereas predators like snicks were the third problems in Tache Armacheho and Quara district. Market facilities including access to main road were the bottleneck of chicken production in Alefa where as poor veterinary and lack of extension services were identified as a common limitation in all districts. Constraints were not different from those reported by others in Ethiopia such as Bogale Kibret[18] who reported that the main constraint of traditional chicken production system was disease. This result is in lined with Fikre Abera [19] who reported that the bio-security of the backyard poultry production system is very poor and risky, since scavenging birds live together with people and other species of livestock.

Chicken Diseases and Control Measures: In the study area the respondents believed that all chicken diseases were considered as NCD and it was the most prevalent and economically important disease that destroys village chicken population. These observations could be lack of attention and effect of poor extension and veterinary services. ……[10] and…… [18] also reported that the major cause of death in local chicken is seasonal outbreak of NCD. Even if not mentioned by respondents based on clinical sign and veterinary expert discussions other disease like coccidioses and fowl pox were other existed diseases. About 36.67% and 33.33% of the respondents from Quara revealed that the main sources of chicken disease were incoming and own flocks, respectively. Whereas, 26.67% and 46.67% from Alefa, 66.67% and 30% from Tache Armacheho district in the same order incoming and own flocks were the main sources of disease.

The prevalence of NCD and chicken mortality are higher during the dry and early rainy season especially from March to June and NCD is chronically affected near to lay and brooding hens than the other flock structures. Similar findings were also reported by Halima Hasen [10] and Fisseha [12] that the major cause of death in local chicken in northwest Amhara and in Ethiopia, respectively were seasonal outbreak of diseases, specifically NCD occurring from April to June. Due to lack of veterinary services about 53.33% in Alefa, 66.67% in Quara and 73.33% in Tache Armacheho district the chicken owners

Table 6: Performance of chicken ecotypes in North Gondar zone

	Major ecotypes				
Parameters	Necked neck	Gasgie	Gugut	P- value	Overall mean
Aafmsm (M)	4.30±0.27[b]	4.85±0.14[ab]	5.13±0.20[a]	0.0212	4.76±0.13
Aaffsm (M)	4.70±0.27[b]	5.50±0.17[a]	6.08±0.20[a]	0.0001	5.43±0.14
Cspy	3.52±0.13[b]	3.97±0.19[a]	3.11±0.13[b]	0.001	3.53±0.10
NEI	15±0.80a	14±0.20[a]	13±0.40[a]	0.0001	15±2.50
ChpI	13.35±0.50[a]	10.77±0.26[b]	10.18±0.38[b]	0.0001	11.44±0.27
Csph	9.60±0.64[a]	7.30±0.40[b]	6.16±0.37[b]	0.0001	7.69±0.32
Dpc	20.97±0.86[a]	16.63±1.01[b]	15.26±0.49[b]	0.0001	17.62±0.54
Epc	16.88±0.80[a]	14.23±0.57[a]	11.9±0.38[b]	0.0001	14.36±2.05
Epy	60.20±4.09[a]	55.87±2.67[b]	36.94±2.05[c]	0.0001	51.08±0.41

have traditionally experienced to treat their sick chickens. Provision of Lemon, garden cress, Genger and Onion to sick chicken was the widely used traditional treatment in all districts. Furtherly, in Alefa some plant materials (sensel) and all districts bleeding around the wing to remove infected blood and punching swell around the neck to remove collected gas were other practices. Poor coverage of veterinary services in all districts could negatively impact the development of poultry production.

Current Performances of the Three Ecotypes: Average productive and reproductive performance of newly identified chickens ecotypes were characterized under traditional production systems conducting through semi structured questionnaire. About 50 %, 18.9 % and 31.1 % of evaluated replacement stocks were obtained in the form of purchased, gift and hatched eggs, respectively. According to the respondents' point of view good performance of chicken could be attributed to non-genetic factors such as supplementary feed and care of farmers to their chickens. The present finding discovered that mean age at first female sexual maturity was 4.70±0.27, 5.50±0.17 and 6.08±0.20 months with average mean age of 5.43±0.14 months and as well as first male sexual maturity was 4.30±0.27, 4.85±0.14 and 5.13±0.20 with average mean age of 4.76±0.13 months in Necked neck, Gasgie and Gugut chickens, respectively. Average productive and reproductive performances of chicken ecotypes and their significant difference were estimated under existing farmers' management condition (Table 6).

In this result average age at first female sexual maturity was much earlier than 6.8 months reported by Tadelle [13] and later than 5 months reported by Halima [9]. The productive performance of the ecotypes obtained from the present study was larger in 3.97±0.19 clutches/hen/year in Gasgie but smaller in 55.87±2.67 eggs/hen/year whereas smaller in 3.52±0.13 clutches/hen/year in Necked neck but larger in 60.20±4.09.eggs /hen/year. Mean annual egg production of the indigenous chickens of necked neck and Gasgie were higher than those reported (55.2 eggs/year from southern Ethiopia [8], (36-42 eggs/year from Ambo [20]. 32 eggs/year from Assela [21] and 36 eggs/year from Fogera [22]. However, higher performance record was reported by …..[18] and….. [23] than Gugut ecotype of 36.94±2.05 eggs/hen/year. This indicated that the better performance of the two ecotypes and existence of variability in egg production could be an indication of the potential for genetic improvement through selection followed by cross breeding with selected indigenous superior chickens [24].

CONCLUSIONS

Chicken production system in the study area was mixed crop-livestock production system using through traditional management of indigenous chickens. The presences of various predators and diseases prevalence were the two major economic important of chicken production constraints. Chickens prices are not always constant which associated with whole days and the fasting situations of the people and festivity of the society. The usual market chicken owners were obtained better prices from matured chickens and from Quara and Tache Armacheho than Alefa districts. The study of performance analysis showed that *Nacked neck* and Gasgie ecotypes were found better in both productivity and reproductive performances than Gugut ecotypes.

Recommendations: Farmers in the study area were fully involved in traditional management of indigenous chickens. However, the feasibility of intensive managements on performances of indigenous chickens needs to be assessed. Further intensive and monitoring studies to be proceed on type and coverage of chicken diseases.

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