https://www.mediresonline.org/

ISSN: 2836-2187

Open Access

Journal of Microbes and Research

Research Article

Improved Poultry Production and Adoption Intensity in Agro-pastoral Areas of South Omo Zone, Ethiopia

Elias Gonta[1]*

[1]Poultry researcher, Jinka Agricultural Research Center, P.O. Box 96, Jinka, Ethiopia

***Corresponding Author:** Elias Gonta, Jinka Agricultural Research Center, Jinka, Ethiopia.

Received Date: 15 April 2026; **Accepted Date:** 05 May 2026; **Published Date:** 09 May 2026

Abstract

The study aimed at improved chicken production and adoption intensity was conducted in the Hammer and Malle districts. A purposive sampling method was used to select the districts and kebeles, but households were selected randomly. A total of 50 households were used to collect data on improved chicken breed production and adoption intensity. The average flock size was 17.5 chickens of mixed breed and age. About 52% of respondents have the experience of more than seven years and practiced fertile egg sharing, cock sharing, and natural hatching to sustain the breeds. The extension (54%), purchase (26%), gift (14%), and hatching (6%) were the foundation stock sources, but the extension played a major role. The main aim of chicken production was to generate income for immediate use, payments, and upgrading the production. Conditional supplementation was the common production practice and there was no practice of full package. Grains, leftovers, and miller ground waste were the main feed resources. The distributed exotic breeds did not express their full potential due to feed shortage, disease, drug/vaccine scarcity, absence of practice of full package, poor extension, and management. Therefore, the existing production practices should be changed, and attention should be given to suitable production practices to exploit the full potential of breeds and improve productivity.

Keywords: Adoption, Chicken, Improved, Local, and Production

Introduction

About 78.85% of chickens were local whereas that of the improved, and hybrids contribute only 21.14% in Ethiopia [1]. The average flock size/household in the Debub-Ari and Bena-Tsemay districts was 13.22±1.44 chickens [2]. About 67% of chickens in Jinka were temperate breeds and the local ecotypes were dominated by exotic breeds due to their low productivity [3]. The primarily preferred improved breed was Bovan Brown in the Tselemit district due to its high egg production [4]. The Sasso breed was highly distributed in the South Omo Zone, but the Koekoek and Bovan brown breeds are in a fast distribution process currently [3].

Poultry rearing was primarily for the production of chicken meat and egg and the family poultry is the main economic source for the poor households in Ethiopia, and the world [5]. For the rural community, it is a baseline ladder to own large animals, and the household females rear poultry to collect inputs for “Shoporoo”, and “Cheka” and social payments” [3]. Similarly, the primary aim keeping was to generate income (54.67%) in the Debub-Ari and Bena-Tsemay districts [2].

The productivity improvement program of chickens in Ethiopia was primarily targeted on the use of exotic breeds and crossing temperate breeds with locals [6]. To upgrade the genomic potential of local ecotypes different improved breeds were introduced [7]. There were also legally introduced exotic breeds such as Bovan Brown, Isa Brown, Rhode Island White, Babcock, and Fayomi due to their high adaptability and compatibility [8]. The main reason behind the fast distribution of exotic breeds was their superiority over the locals in productivity [3].

Several improved chicken breeds were distributed and adopted to the agropastoral agroecology years ago. However, no scientific research was conducted on their productivity,

status and adoption intensity. So, studying the distributed and adopted breeds productivity, their status and adoption intensity is important to predict the future sustainability, modify the intervention packages and put the right decisions on available breeds. Therefore, this study was targeted with the general objective of improved chicken production, distribution, adoption intensity, their productivity and status in agropastoral areas of the South Omo Zone.

Materials and Methods

Ethical statement

Ethical certificate for this study was got from the respective research center i.e., No. JARC-213-02-07- 00-010/2025. All ethical issues were considered while body weight measuring.

Description of the Study Area

The study was conducted in the Hammer and Malle districts of South Omo Zone, Ethiopia. The Malle district is located between 4085'-5067' NL and 35075'-36023' EL. The district has a 1,432 km2 land area with a relative altitude of 600-1500 masl. The annual rainfall of the district lies between 800-1200 mms with a relative annual temperature of 18-35ºc. The agroecology of the district comprises 15% midland and 85% lowland. The dominant crops of the district are Maize, Sorghum, coffee, and Sunflower and the dominant livestock of the district are cattle, shoats, chickens, and bee hives. The total human population of the district is 32,115.

The Hammer district is located between 40.50'-50.47' NL & 360.15'-360.90' E L. It covers 696,058 hectares of land with a relative altitude of 371–2084 masl. The annual rainfall of the district is 764 mms with a relative annual temperature of 29ºC-38ºC. The climate of the district comprises 54.45% arid, 37.5% semi-arid, 8% midland, & 0.05% desert type. The dominant crops of the district are Maize, and Sorghum with the dominant livestock species of cattle, shoats, chickens, bee hives, and donkeys. The population size of the district is 68,765 [9].

Household selection

A purposive sampling method was used to select the Hammer and Malle districts based on their potential for improved breed production. Similarly, the Ariya-Keyisa and Irbo kebeles were selected purposively from the Hammer and Malle districts respectively, but households were selected randomly. A total of 50 (2*1*25) households were selected randomly.

Data collection

Before the actual data collection, a questionnaire survey was pre-tested and carried out directly in the residence of agropastoral regarding the chicken flock size, cock/fertile egg sharing, experience on improved breed, breed sources, production aims, production practices, extension services, preference, and production constraints. In addition to the questionnaire data, the shelter provision, feed provision, and available breeds were observed.

Data Analysis

The mean, frequency, and percentage of the data were analyzed using the Statistical Package for Social Science (SPSS) version 16 [10]. The chi-square test was also determined for each data expressed in the forms of frequency and percentages.

Results and Discussions

Flock Composition and Fertile Egg and Cock Sharing

The outlines of chicken numbers/household, breeds, cock/fertile egg-sharing are presented in (Table 1). The average flock size was 17.5 ± 0.2 chickens of different breeds and age classes. About 72% of respondents used the mixed flock of local and improved breeds to sustain the adoption of the pure breeds by hatching the fertile eggs of improved breeds by local hens. A higher flock size value was reported than [2], the average flock size/household was 13.22 ± 1.44 chickens for Debub-Ari and Bena-Tsemay districts, 11.62 ± 0.83 and 9.58 ± 0.72 for North and South Bench zones [11] and 7.40 ± 0.57 for the Western Amhara districts [12].

Variables	Districts			X^2-test	P-value	LS
Parameters	Hammer (N=25)	Malle (N=25)	Average (N=50)			
N of chickens/households	17 ± 0.23	18 ± 0.22	17.5 ± 0.2		0.000	***
Breed types				9.68	0.003	***
Improved Mixed (local with improved)	5 (20) 20 (80)	9(36) 16(64)	14(28) 36(72)			
Habit of sharing exotic cocks				6.48	0.016	*
Yes No	18(72) 7(28)	16(64) 9(36)	34(68) 16(32)			
For how many households	1.8 ± 0.22	1.9 ± 0.24	1.82 ± 0.2		0.006	**
Habit of sharing fertile eggs				008	0.888	NS

Yes No	11(44) 14(56)	15(60) 10(40)	26(52) 24(48)			
For how many households	4.9 ± .67	4.5 ± 0.5	4.65 ± 0.4		0.174	NS
How many eggs	21 ± 2	19.4 ± 1.8	20.3 ± 1.3		0.044	*

*** = significant at p<0.001, ** = significant at P<0.01 and * = significant at p<0.05. N = Numbers of agropastoral. Figures in the table represent the mean, standard error, frequency, and percentage of each parameter, LS = Level of Significance.

Table 1: Flock Size, fertile eggs, and cock sharing

The agropastoral also used cock sharing (68%) to get the cross with superior productivity and they practiced cock sharing on average for two adjacent households. Similarly, they also used fertile egg sharing to sustain the improved breed adoption and shared on average 20 fertile eggs of the pure exotic breed/year. Therefore, using mixed flocks of local and improved and sharing cocks and fertile eggs of improved breeds were common practices of agropastoral to sustain the adoption of pure improved breeds and increase productivity. Similarly, 35% of keepers owned breeding cock, but the remaining practiced sharing cock [13]. Crossing the superior cock (52.79%) was also another way of chicken-mate control [14] and the same author also stated that the egg of the improved breed was primarily preferred for incubation practices.

Production experiences, breeds source and production aims

The experience on improved chicken production, breed sources, and production aims are stated in (Table 2). The experience of the end users is one of the indicators of the technology adoption in an area. More than half of the agropastoral kept the improved breed for seven or more years, but the minimum recorded rearing experience was 5 years. Lower improved breed rearing experience was recorded than [15], the average chicken keeping experience was 11.43 years; due to the remoteness of the area to for technologies and improved breeds.

Variables	**Districts**			**X^2-test**	**P-value**	**LS**
Parameters	**Hammer (N=25)**	**Malle (N=25)**	**Average (N=50)**			
Experience on breed (%)				13.84	0.003	***
Five years Six years Seven and above years	3(12) 9(36) 13(52)	4(16) 8(32) 13(52)	7(14) 18(34) 26(52)			
Source of exotic breed (%)				9.2	0.056	NS
Purchase (market/chicken keepers) Extension (districts/research) Hatching Gift from relatives	9(36) 12(48) 2(8) 2(8)	4(16) 15(60) 1(4) 5(20)	13(26) 27(54) 3(6) 7(14)			
Production aim (%)				6.48	0.016	*
Income generation Egg consumption + chicken sale	19(76) 6(24)	15(60) 10(40)	34(68) 16(32)			

*** = significant at p <0.001, and * = significant at p<0.05. N = Number of agropastoral, LS = level of significance, and NS = non-significant. Figures in the table represent the frequency and percentage of respective variables.

Table 2: Experience breeds sources and aims

Due to the absence of chicken multiplication centers, the agropastoral got the foundation stock from different sources. The primary foundation stock source for exotic breeds was extension (54%). Based on, the extension facilitated the market linkage between the small day-old chicken enterprises and agropastoral by collecting interest from the users. The second foundation stock source of improved breeds was purchase (26%). The agropastoral purchased the improved breeds directly from markets without any history and it might be one of the causes of the high mortality of backyard chickens which attributed backslide of the improved breed production. The other foundation stock source was a gift from relatives by blood, marriage, circumcision, or religion (14%). To show the love and strong relationship among them they shared pullet and fertile eggs of the exotic breed with their relatives. The last foundation stock source of the improved

breed was hatching on farms (6%). The agropastoral used the fertile eggs of improved breeds to hatch through the local broody hen, however; the survival of chicks was very low due to weak management and predators. Likewise, market (68.3%), family (19.9%), and gift (13%) were the main sources of foundation stocks in the Debo district (16), and extension (68.3%), purchase (23.3), and hatching (8.4%) were the main sources of foundation stocks in the Jinka and Malle districts [3]. In addition, 91.7% of respondents got the foundation stock through purchase [17].

The primary aim of improved chicken production was to generate income that meets the daily requirements of households. The income from the sale of eggs and chickens was used to prepare cultural drinks such as "shopporo" and "Cheka". The income from the sale of chicken and eggs was also used to meet social and community payments such as "Edir", funeral services, and land tax. Finally, there was also upgrading to shoats from the poultry production. The second aim of poultry production was for egg consumption with side-by-side selling of chickens. To meet the protein requirements of the family about 32% of respondents practiced egg consumption with the side-by-side selling of chickens. Likewise, poultry production plays a vital role in job creation, supplying cheap protein and empowering the females [5], and [18] also stated that poultry production provides affordable animal protein for nutrition and generates income.

Chicken production practices

The chicken production system is summarized in (Table 3). The most dominating chicken production practice was conditional provision of feeds (54%), followed by regular provision (46%) of grains or farm leftovers. No respondent applied the full poultry production package, but less than half of the chicken keepers used some elements of the package such as breed, and locally constructed poultry house. Comparably, 95.3% of chicken keepers used the scavenging-based production practice with supplementation [16] and all the chicken keepers used a free-range production system with feed provision [11]. The dominating chicken production system was an extensive production system with conditional/seasonal supplementation [19].

The reason for non-use of the full poultry package was not the same among the households. The primary reason was the in-availability of some elements of the packages (54%) such as veterinary drugs, vaccines, and commercial feed. Due to the far-ness of the National Veterinary Institute and commercial feed processing plants, most of the chicken keepers did not use the full package, which attributed to the chicken's death and less expression of genomic potential. The next reason for the non-use of the full package was a lack of awareness on the use of the full package and its advantages [28], and this is one of the reasons for the lower productivity of improved breeds under backyard production. The other reason for the non-use of the full poultry package was a shortage of capital (18%) to fulfill the full production packages. The shortage of capital on the one hand and the absence of credit services, on the other hand, limited the use of expensive elements of production packages such as commercial feed, best-laying breeds, and vaccines, causing the non-commercialization and business-oriented ness of the sector.

Variables	**Districts**			**X^2-test**	**P-value**	**LS**
Parameters	**Hammer (N=25)**	**Malle (N=25)**	**Average (N=50)**			
Production system				0.32	0.671	NS
Conditional supplementation Regular supplementation	12(48) 13(52)	15(60) 10(40)	27(54) 23(46)			
Reason for non-use of production package				10.36	0.006	***
Lack of awareness In-availability of some packages Lack of capital	5 (20) 16 (64) 4 (16)	9(36) 11(44) 5(20)	14(28) 27(54) 9(18)			
Available supplemental feeds				3.64	0.162	NS
Grain feeds Leftovers (kitchen/miller/farm) Both grain and leftovers	9(36) 5(20) 11(44)	8(32) 6(24) 11(44)	17(34) 11(22) 22(44)			

*** = significant at $p < 0.001$. NS = non-significant, N= number of agropastoral, and LS = level of significance. Figures in the table represent the frequency and percentage of respective variables.

Table 3: Chicken production practices

Different locally available feed sources such as leftovers of kitchen/farm/miller (22%), grains (34%), and both grains and leftovers (44%) were used due to the absence of commercial chicken feed. There was a problem of delay for the first egg lay and less expression of genomic potential due to the use of poor-nutrient enriched grains and leftover-based feeds. Coherently, the common feed resources were kitchen leftovers (7.6%), grains (13.8%), and both (73.9%) (16), and maize, Sorghum, wheat, and household scraps were the main supplement feeds [11].

Extension services

The extension service is stated in (Table 4). About 70% of the producers got weak/conditional extensions that serve advice and facilitate access for exotic breeds, however, the packages such as drugs, vaccines, and commercial feeds were the serious problems. Primarily, the weak extension approach was due to the favoring of crops/large animal disciplines over the poultry sector. Secondly, was due to the far-ness of the extension service centers that attributed weak connection between chicken keepers and development agents. Similarly, [12] the weak extension service was the main constraint of chicken productivity in the western Amhara region, the extension service is critical to advance backyard chicken production [20], and the main constraint that affected the productivity and future expansion of chicken production was the absence of a strong extension approach in the districts [2].

Variables	**Districts**			**X^2-test**	**P-value**	**LS**
Parameters	**Hammer (N=25)**	**Malle (N=25)**	**Average (N=50)**			
Access to extension				8	0.007	**
Yes No	19(76) 6(24)	16(64) 9(36)	35(70) 15(30)			
Reason for no access				0.6	0.607	NS
Farness of extension center Service is not regarding poultry	2(33.3) 4(66.7)	4(44.4) 5(55.6)	6(40) 9(60)			
Forms of extension service				0.257	0.735	NS
Advice Improved breed provision	11(57.9) 8(42.1)	8(50) 8(50)	19(54.3) 16(45.7)			

** = significant at p < 0.01. NS = non-significant, N = the number of agropastoral, and LS = level of significance. Figures in the table represent the frequency and percentage of respective variables.

Table 4: Extension services

Agropastoral Preference and Production Constraints

The preferences and constraints of improved chicken production are stated in (Table 5). The preference for the improved chicken breeds was highest (88%) due to the genomic priority of the breeds over the local. However, little attention was given to shelter provision, disease precaution, feed supplementation, and waste disposal. Although there was a preference, the management interventions used for the local ecotype were still applied for the improved breeds. Likewise, the improved chicken breeds were preferred due to their productive performance, fast age of sexual maturity, high feed conversion ability, and manageability[21] and the genomic potential difference between the breeds was enforcing the keepers to replace the local by improved [2].

The primary constraint that affected the productivity of the improved breed was scarcity of feed (26%). Due to the shortage of rainfall, the probability of getting scavenging materials such as worms, insects, and green leaves is lowest, and the chickens need sustainable supplementation. Similarly, the production of grain feed was not satisfactory due to climate change and attributed to lower productivity of breeds. Coherently, primarily the adoption of the improved chicken production was affected by the scarcity of feed [3]. Shortage of supplemental feed was the second challenge of chicken production [17] and the supplemental feed shortage was the most limiting factor of chicken production [14].

The second factor that hindered the productivity of the sector was the presence of poultry diseases (24%). Due to the absence of careful disease precautions and intensive production, the outbreak of the disease was highest and caused massive mortality. In addition, the susceptibility of temperate breeds was also another cause of mortality and economic loss. Consistently, the disease was the second hindering factor of chicken production in the Western Amhara region [12], weak management practices caused the high exposure to diseases [19] and the awareness of chicken keepers was also another constraint of improved chicken production [7].

The third factor that affected the productivity of the sector was the scarcity of veterinary drugs and vaccines (16%). The absence of scheduled vaccination practice, the absence of live vaccines, and the scarcity of veterinary drugs played a significant role in the expansion of chicken disease and mor-

tality. Likewise, no chicken keeper practiced a regular vaccination schedule [13], [22] the veterinary service was the main poultry production factor in Ethiopia and the mortality of chicken was due to the ineffectiveness of the vaccines and drugs [23].

The 4th constraint that retarded the productivity of the sector was the absence of best-performing breeds (14%). In addition, the absence of a chicken multiplication center and the high price of the breeds also retarded the chicken production which increases income and food security. Similarly, the availability of breed was the main factor of chicken production [24] and the absence of the best-performing breed was the 1st constraint in the West Amhara region [12].

Variables	**Districts**			**X^2-test**	**P-value**	**LS**
Parameters	**Hammer (N=25)**	**Malle (N=25)**	**Average (N=50)**			
Interest in keeping improved breed				28.88	0.000	***
Yes No	24(96) 1(4)	20(80) 5(20)	44(88) 6(12)			
Production constraints				7.36	0.195	NS
Feed Disease Predator Veterinary drug and vaccine Absence of improved breeds Poultry house	8(32) 5(20) 4(16) 3(12) 3(12) 2(8)	5(20) 7(28) 2(8) 5(20) 4(16) 2(8)	13(26) 12(24) 6(12) 8(16) 7(14) 4(8)			

*** = significant at p < 0.001. NS = non-significant, N = the number of agropastoral, and LS = level of significance. Figures in the table indicate the frequency and percentage of the respective variables.

Table 5: Preference and production constraints

The 5th factor that affected the productivity of the sector was the predatory animals and birds (12%), due to the presence of better ground for the hideaway of predators. In addition, the foolishness of the improved breeds was also another factor for the predator attack. Clearing the hideaway of predators and limiting the movements of chickens is the main measure to minimize the incidence of the problem. Likewise, predatory animals and birds (19.28%) were the 3rd factor of chicken production [14], and the predator was the main and economically important challenge of chicken production in Southwestern Ethiopia [11].

The last factor that retarded the productivity of the poultry sector was the absence of good poultry houses (8%) that protects them from predators and bad weather. The driving force behind the absence of good chicken houses was the weak awareness of keepers; attributed to the loss of chickens by predators and disease. Similarly, the absence of poultry houses caused exposure to predators and disease [25], and the lack of modern chicken-rearing knowledge such as house construction was also another constraint for chicken production [26].

Conclusion

The minimum exotic breed-keeping experience was 5 years with a maximum of 7 years and above. Within these years the less productive local ecotypes were diluted and replaced. The average flock composition was 17.5 chickens of mixed breed/household. Cock sharing, fertile egg sharing, and hatching through the local broody hen were the main practices of chicken keepers to sustain the improved breed production. The extension, purchasing, gift, and hatching were the main foundation stock sources, but the extension played more. The primary aim of chicken production was to generate income that was used to fulfill the raw materials for cultural drinks, meet the social, school, and community payments, and upgrade production. Conditional supplementation was the common production practice and there was no use of a full poultry package. The common supplemental feeds were grains, kitchen leftovers, farm leftovers, miller ground waste, and scavenging materials. Although the preference for the breeds was highest, the management intervention applied for the local breed was still used. Chicken production was affected by the absence of feed, drugs, and vaccines, breeds, the presence of disease, predatory, and the absence of separate poultry houses in addition to weak extension and management. Due to the fundamental constraints and poor management, the genomic potential of breeds was not exploited in addition to the loss of birds due to disease and predators. Therefore, attention should be given to the production system, and the poor management interventions should be changed from backyard to semi-scavenging.

Declarations

List of Abbreviations

CSA, Central Statistical Agency, EL, east Longitude, LS, Level of Significance, Masl, Mean above sea level, N, Number, NL, North Latitude, SPSS, Statistical Package for Social Science, and NS, Non-significant.

Acknowledgments

The authors would like to thank the Low Land Resilience Project for logistics support. The authors also express their great thanks to the Development agents of both districts and chicken-keeping agropastoral.

Author Contributions

Mr. Elias Gonta wrote the paper starting from startup up to the final writ up and edition.

Competing Interests

There is no conflict of interest, and the paper has not been submitted to other journals.

References

1. CSA. Federal Democratic Republic of Ethiopia: Central Statistical Agency: Agricultural Sample Survey. 2021.
2. Gonta Gobena, Elias, and Prof Urge. "Assessment of Smallholder Chicken Production Practices and Evaluation of Local Feed Resources in Two Districts of South Omo Zone, Ethiopia." PhD diss., Haramaya university, 2021.
3. Gonta, Elias, and Tegegn Tesfaye. "Study on the status, adoption, and economic role of disseminated improved chickens and their production constraints." *Journal of Innovative Agriculture* 10, no. 4 (2023): 41-53.
4. Abadi, Teklemariam. "Factors affecting adoption of exotic poultry breeds in smallholder producers in North Western zone of Tigray, Ethiopia." PhD diss., Haramaya university, 2017.
5. Tirfie, Fikadu Wodajo. "Review on poultry production status and economic contribution of the sector in Ethiopia." *Food Science and Quality Management* 109 (2021): 1-9.
6. Dana, Nigussie. Breeding programs for indigenous chicken in Ethiopia: Analysis of diversity in production systems and chicken populations. Wageningen University and Research, 2011.
7. Chaimiso, Shukurala. "Review on village/backyard/poultry production system in Ethiopia." *Pacific International Journal* 1, no. 3 (2018): 105-110.
8. Mengesha, Yizengaw, Ewonetu Kebede, and Ashenafi Getachew. "Review of chicken productive and reproductive performance and its challenges in Ethiopia." *All Life* 15, no. 1 (2022): 118-125.
9. Adicha, Asmera, and Behailu Mengistu. "Determinants of agro-pastoral households' diversification of income in Hamer District, South Omo Zone, Southern Ethiopia." *Journal of Agriculture and Aquaculture* 4, no. 4 (2022).
10. Inc S. SPSS for Windows (version 16.0) Chicago. USA: SPSS Inc. 2007;
11. Bekele, Getachew, Kefelegn Kebede, and Negassi Ameha. "Study of indigenous chicken production system in bench Maji Zone, South Western Ethiopia." *Global Journal of Science Frontier Research: D Agriculture and Veterinary* 16, no. 2 (2016): 21-30.
12. Gebeyehu, Birhan Kassa, Yosef Tadesse, Wondmeneh Esatu, and Tadelle Dessie. "Village Chicken Flock Characteristics and Performances in Western Amhara, Ethiopia." (2020).
13. Asmelash, B., M. Dawit, and E. Kebede. "Characterization of village chicken production and breeding practices of smallholders in Eastern Ethiopia." *J. Vet. Sci. Technol* 9, no. 1 (2018).
14. Addisu, H., M. Hailu, and W. Zewdu. "Indigenous chicken production system and breeding practice in North Wollo, Amhara Region, Ethiopia." *Poult Fish Wild Sci* 1 (2013): 108.
15. Fekede, G., and Y. Tadesse. "Breeding practices and preferred traits of indigenous chicken in Western Oromia region, Ethiopia." *Journal of Livestock Science* 12 (2021).
16. Bekuma, Amanuel, Meskerem Asefa, and Tekalign Tadesse. "Analysis of village chicken productivity, egg quality traits and marketing system in Dedo district, Jimma Zone, South West Ethiopia." *Arch. Anim. Poult. Sci* 1, no. 3 (2019): 52-58.
17. Ayalew, Habtamu, Asmamaw Yinnesu, Godadaw Misganaw, Meseret Molla, Mastwal Birhan, Demissie Chanie, Tigist Kindie, and Desalegn Amsalu. "Performance evaluation and sustainability challenges of tropically adopted exotic chicken breeds in Northwest Ethiopia." *Cogent Food & Agriculture* 9, no. 1 (2023): 2202221.
18. Tamir, Simegnew, Fessiha Moges, Yeshiwas Tilahun, and Molla Hile. "Determinants of adoption of exotic poultry breeds among smallholder poultry producers in North Western Amahara Region, Ethiopia." *Global Science Research Journals* 3, no. 6 (2015): 162-168.
19. Biratu, D. Teshome. "Assessment of chicken production and productive performance in Pawe District, Beneshangul Gumuz Regional State, Ethiopia." *American Journal of Management Science and Engineering* 6, no. 1 (2021): 1-10.
20. Milkias, Matawork. "Review on exotic chicken status, production performance and constraints in Ethiopia." *Journal of biology, agriculture and healthcare* 6, no. 15 (2016).
21. Gonta, Elias, and Mekete Girma. "Adaptation and Performance Evaluation of Layer (Bovan Brown) Chicken Breed in Peri-Urban Areas of Agro-Pastoralist, South Omo Zone, Ethiopia." *Journal of Microbes and Research* 3, no. 1 (2024): 2836-2187.
22. Sime, Abera Geleta. "Review on poultry production, processing, and utilization in Ethiopia." *Int J Agricultural Sci Food Technol* 8, no. 2 (2022): 147-52.
23. Tolasa, Bayesa. "Current status of indigenous and highly productive chicken breeds in Ethiopia." *Advances in Agriculture* 2021, no. 1 (2021): 8848388.
24. Aleme, Melkam. "Review on production and reproduction performance of indigenous chicken in Ethiopia." (2022).

25. Abadi, Teklemariam, Muluken Gezahegn, and Abadi Teklehaimanot. “Analysis of factors affecting adoption of exotic chicken breed production in north western zone of Tigray, Ethiopia.” *International Journal of Economics, Commerce and Management* 4, no. 11 (2017): 127-137.

26. Sisay, Tilahun, Kefeyalew Alemayehu, and Getnet Zeleke. “Trends of exotic chicken dissemination in north western Amhara, Ethiopia: Challenges and opportunities.” *Nutrition and Food Toxicology* 2 (2018): 383-392.

Citation: Elias Gonta. Improved Poultry Production and Adoption Intensity in Agropastoral Areas of South Omo Zone, Ethiopia. *J. Microb. Res*. Vol. 5 Iss. 1. DOI: 10.58489/2836-2187/029