



Information Needs of Indigenous Chicken Farmers in Enugu State: Implications for Agricultural Extension Service

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Authors' contributions

This work was carried out in collaboration between all authors. Author JMC designed the study and wrote the first draft of the manuscript. Author IJI performed the data analysis. Author CIO managed the literature search and collected the data. Author IAE read the first draft of the manuscript while all authors read and approved the final manuscript

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ABSTRACT

Aims: The study ascertained the information needs of indigenous chicken (*Gallus domesticus*) farmers.

Study Design: Multistage sampling technique was utilized in selecting respondents.

Place and Duration: Nsukka and Enugu-Ezike agricultural zones of Enugu State, Nigeria between November 2012 to May 2013.

Methodology: Simple random sampling technique was used to select four blocks from each of the two agricultural zones and five cells from each of the selected blocks. This gave a total of twenty cells. One hundred indigenous farmers were then selected across the twenty cells. Interview schedule was used to collect data. Descriptive statistics such as percentages, frequency counts and mean scores were used in presenting data. The statistical package used for data analysis was SPSS.

Results: Majority (93.0%) of the respondents were females, married (67.0%). About 42.0% had no formal education while up to 95% had no extension contact for the past one year. Sixty one percent of the respondents had no access to credit and majority (89.0%) participated in rural social

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organizations. The respondents indicated that they needed information on the specification of drugs, availability of day old chicks, pests and disease control and methods of vaccination, among others. Also, respondents carried out management practices such as provision of supplementary feeding, drinking water, use of various disease control measures and reared their chicken using the extensive system of production. Seventy percent of the respondents sourced information on indigenous chicken management practices. Out of the 70%, 58% and 10% sourced such information from family/friends and other farmers, respectively. Adequate information on poultry production practices should be disseminated by extension agents so as to improve indigenous chicken production.

Keywords: Agriculture; indigenous chicken; information needs; information sources.

1. INTRODUCTION

Poultry production represents an appropriate approach to feed the fast growing population and also plays an important role in household food security. In spite of her numerous human and natural resources, Nigeria still remains among the least consumers of animal protein in Africa. Ike [1] reveals that an average Nigerian consumes 10 g of animal protein which is below the FAO recommended level of 36 g/head/day.

Indigenous chicken (*Gallus domesticus*) production is regarded as one of the most economical means of providing protein food as the system tries to close the gap between animal protein supply and requirement [2]. Indigenous chicken meat as indicated by Kperegbeji [3] is increasingly on demand as consumers prefer their meat to exotic chickens for its hard and tasty meat. Although requiring low levels of inputs, indigenous chicken production contributes significantly to food security, poverty alleviation and ecologically sound management of natural resources. It also provides employment and income for resource-poor small farmers, especially women [4;5]. Furthermore, indigenous chicken are closely linked to the religious and socio-cultural lives of several million resource-poor farmers in Nigeria.

In spite of its significant contributions to food security, indigenous chicken production has been neglected by farmers and is considered as an insignificant occupation when compared to other agricultural activities as a result of its low productivity [6]. The low productivity of indigenous chicken has been attributed to genotype, poor feed conversion efficiency and low adoption of modern technologies [7]. The situation is worsened by the fact that most farmers lack the required husbandry skills, training and opportunity to effectively improve the productivity of indigenous chicken [8]. The main

reason for this may be due to farmer's lack of information on the current information and technologies related to indigenous chicken production.

Generally, indigenous chicken farmers are seldom considered by extension agents for visit to motivate them on the need to improve their level of production, provide trainings that would augment their potential capabilities and information on technological advancement regarding indigenous chicken production that would aid improvement in their output [9]. Farmers have an inevitable need for information on improved management practices so as to increase indigenous chicken production effectively. Hence, it is essential for rural farmers to be equipped with need-based, accurate, reliable and timely information. Based on the foregoing, it is imperative to ascertain the information needs of indigenous chicken farmers in Enugu State. Specifically the study describes the socio-economic characteristics of respondents; ascertain the farmers' management practices in indigenous chicken production; identify sources of information for indigenous chicken farmers; and ascertain the information needs of indigenous chicken farmers.

2. METHODOLOGY

The study was conducted in Nsukka and Enugu-Ezike agricultural zones of Enugu State. Multistage sampling technique was used in selecting respondents for the study. In the first stage, two blocks were randomly selected from each of the two agricultural zones using simple random sampling technique. This gave a total of four (4) blocks (Nsukka, Uzo-Uwani, Igbo-Eze North and Igbo-Eze-South). In the second stage, five (5) cells were selected randomly from each of the selected blocks using simple random sampling technique giving a total of twenty cells. Five (5) indigenous chicken farmers were then

selected from each of the cells, using simple random sampling technique to give a total of one hundred indigenous chicken farmers who constituted the sample size for the study. Structured interview schedule was used to elicit responses from the respondents. To ascertain the respondents' management practices for indigenous chicken production, farmers were requested to indicate if they carry out management practices such as; feeding, watering, cleaning, health care, marketing etc. To assess their information needs on indigenous chicken production, the farmers were required to indicate if they needed information on the specification of drugs, the availability of day old, pests and disease control and methods of vaccination. Data was presented by use of descriptive statistics.

3. RESULTS AND DISCUSSION

3.1 Personal and Socio-economic Characteristics of the Respondents

Data in Table 1 revealed that greater percent (25%) of the respondents were within the ages of 61 to 70 years with an average age of 52.7 years. This indicates that older adults dominated indigenous chicken production in the study area and as such may have inadequate knowledge and information on appropriate management techniques of indigenous chicken production. According to Swatson, Nsahlai and Byebwa [8] older farmers lack the required skills, training and opportunity to effectively improve on indigenous chicken production.

The youths who are the productive group in rural areas migrates to urban centers leaving behind the aged and children who are weak and cannot engage in farm work. Thus, agriculture and rural development suffer setback as a result of the youth migration. According to Chikire et al. [10], in most rural areas, the impact of rural-urban migration is a rapid deterioration of the rural economy leading to chronic poverty and food insecurity. This will seriously affect the sustainability of indigenous chicken production. Therefore, for any meaningful development to take place in indigenous chicken production, the youths who are educated and active need to remain in the rural areas to initiates ideas that will lead to the progress and development of

indigenous chicken production. The government should therefore provide job opportunities, social amenities, good schools and healthcare systems in the rural areas which are the major reasons while youth leave rural to urban areas.

Also, majority (93%) of the respondents were females. This indicates that raising indigenous chicken is mainly carried out by women in the study area. Okitoi et al. [11] reports that women are the predominant owners of indigenous chicken. Majority (67.0%) of the respondents were married. Hence, they are likely to have labour for poultry production activities, like getting assistance from family members in feeding and catering for the birds. Furthermore, about 42.0% of the respondents had no formal education. This indicates that the respondents generally have low educational level and this could impact negatively on indigenous chicken production. This is because education would enable the farmers to acquire, comprehend, accept and use information on indigenous chicken production. The average household size was 6 persons. Greater proportion (44.0%) of the respondents had spent between 1 and 10 years in indigenous chicken rearing. They would therefore need adequate information from extension so as to enable them get the desired improvement in their production tasks. Also, majority (95.0%) of the respondents indicated that they had not been visited by extension agents in the last one year. This implies that there may be reduced chances of the farmers having access to information on better techniques for indigenous chicken production and this could affect the production management and quantity of chickens raised. Majority (61.0%) of the respondents did not have access to credit and 89.0% of them were members of social organizations. Among those who were members of social organizations, 80.0% and 5.0% were members of isusu (Thrift) and farmers group, respectively. Two percent each were members of fadama, age grade and religious organization. The findings show that the farmers participated in rural social organization. Participation in social organization has an advantage of enabling the farmers to exchange ideas about indigenous chicken production as well as some management strategies that can be employed in the production of indigenous chicken.

Table 1. Distribution of respondents by socio-economic characteristics

Variables	Percentage (%)	Mean
Age (years)		
21 – 30	15.0	
31 – 40	15.0	
41 – 50	12.0	52.7
51 – 60	23.0	
61 – 70	25.0	
71 and above	10.0	
Sex		
Male	7.0	
Female	93.0	
Marital status		
Single	6.0	
Married	67.0	
Widow	36.0	
Divorced	1.0	
Educational level		
No formal education	42.0	
Primary school attempt	18.0	
Primary school completed	7.0	
Secondary school attempt	4.0	
Secondary school completed	17.0	
OND/NCE holder	6.0	
HND/First degree holder	6.0	
Years of farming experience		
1 – 10 years	44.0	19.0
11 – 20 years	13.0	
21 – 30 years	25.0	
31 and above	18.0	
Household size		
1 -5 persons	54.0	6.0
6- 10 persons	41.0	
11 persons and above	5.0	
Extension contact		
Yes	5.0	
No	95.0	
Access to credit		
Yes	39.0	
No	61.0	
Participation in social organization		
Yes	89.0	
No	11.0	
Types of social organization n=91		
Farmers group	5.0	
Fadama	2.0	
Isusu	89.0	
Religious organization	2.0	
Age grade	2.0	

3.2 Management Practices of Indigenous Chicken Farmers

Table 2 shows the various management practices carried out by indigenous chicken farmers. All (100%) the farmers indicated that they allowed their indigenous chicken to scavenge for food. This might be due to the fact

that the indigenous chicken is known to have higher scavenging ability. Lul [12] reports that local chicken generally are raised on free range and backyard system or subsistence system. Majority (97.0%) of the respondents provided supplementary feed in addition to scavenging. Farmers reported that they provided feed supplement in small quantity and this is done

mostly during harvesting periods. This is because total free-range system without supplementary feeding will lead to poor development of the birds [6]. Ninety two percent of the respondents provided supplementary feed such as cereals (bran, maize, maize husk, and whole grain), while 69.0% provided supplementary feed such as kitchen leftover. Also, 20% of the respondents provided commercial feed to their chicken. Majority (80.0%) of the respondents provided their chicken with drinking water from boreholes, while 15.0% gave them drinking water that was used for domestic chores. Halima [13] points out that to produce well and have good resistance against diseases, chicken need adequate quantity of clean water. The results further show that majority (82.0%) of the respondents did not provide house for their chicken. This may be because farmers are ignorant of the fact that indigenous chicken could be provided houses. Extension should educate farmers on the need for houses for their birds which will result to ultimate production. Furthermore, majority (82%) of the respondents did not clean their chicken house. This could expose chickens to diseases and pest infestation. Greater proportion (33.0%) each of the respondents cleaned the chicken house daily and more than once a week, while 17.0% each of the respondents cleaned weekly and monthly. When the houses are well cleaned, disease causing organisms (pathogen) are prevented or destroyed; hence the chickens are saved from disease infection. All (100%) the respondents did not keep records of indigenous chicken. This could affect farmers' ability to give appropriate account of the farm business. The results suggest the need for extension programmes aimed at teaching indigenous poultry producers about the importance of keeping records to improve productivity. The result also shows that majority (70.0%) of the respondents treated their birds, while 30.0% did not treat their chickens. Among those who treated their birds, majority (97.0%) administered drugs to the birds by themselves, while 3.0% invited a veterinary doctor to administer drugs to the birds. Farmers administering drugs to the birds by themselves might be due to the fact they might not have enough capital to finance veterinary services or they might not even have access to them. Based on the system of production used, majority (93%) of the respondents reared their indigenous chicken under extensive system, while 7% reared their birds under semi-intensive system of production. The system of production used by majority of the

respondents exposes the chicken to diseases and predators as the chicken move freely in search of food. Therefore, extension agents should educate farmers on the importance of rearing chickens under intensive system of production which will result in increased production. Also, majority (86%) of the respondents prevent spread of disease in the farm by separating sick ones from healthy ones, while 30% used traditional herbal remedies from ground barks or leaves of plants to prevent diseases. About, 10%, 8% and 6% of the respondents used provision of good drinking water, vaccination and frequent cleaning of chicken houses respectively in preventing diseases of chicken. This shows that farmers have the knowledge of disease prevention techniques and could reduce infection/infestation rate of disease and parasite in their farms which may increase production.

3.3 Sources of Information on Indigenous Chicken Production

Data in Table 3 revealed that seventy percent of the respondents sourced for information on indigenous chicken production, 86.0% of the respondents who sourced for information got it from their family and friends. Also, 10.0% sourced information from other farmers. This shows that the farmers sourced information on indigenous chicken management mainly from their family and friends, probably because they have easier access to them than other information sources [13]. Munyua [14] reported that lack of information by farmers not only leave them in the dark but also drive them to the urban centres in search of formal employment, as the only option for survival. Anyanwu et al. (2002) in Sadaf, Javed and Luqman [15] opines that farmers used more of non-professional interpersonal sources of information such as friend/neighbour and other farmers than professional interpersonal sources of information.

3.4 Information Needs of Indigenous Chicken Farmers

Table 4 shows that majority (91.0%) of the respondents need information on the appropriate drugs to be used and methods of vaccination. Also, 86.0% each need information on the availability of day old chicks, pests and disease control, quarantine and vaccination of birds, while 43.0% of the farmers need information on feeding and feed formulation for birds. This

implies that majority of the respondents need needed to improve indigenous chicken information to be able to derive strategies production [16,17].

Table 2. Percentage distribution of respondents by management practices

Variables	Percentage
Feeding	
Scavenge	100.0
Supplementary feed provided	
Yes	97.0
No	3.0
*Forms of supplementary feed provided	
Cereals (bran, maize, maize husk, whole grain)	92.0
Kitchen leftover	69.0
Commercial feed	20.0
Sources of water (n = 94)	
Borehole	80.0
Stream water	5.0
Used water	15
Housing	
Yes	18.0
No	82.0
Cleaning of chicken houses	
Yes	18.0
No	82.0
*Frequency of cleaning (n = 18)	
Daily	33.0
Weekly	17.0
More than once a week	33.0
Monthly	17.0
Record keeping	
No	100
Treatment of birds	
Yes	70.0
No	30.0
Drug administrator	
Self	97.0
Veterinarians	3.0
*Disease control measures	
Vaccination	8.0
Separation (culling of sick birds)	86.0
Use of traditional herbal remedies	30.0
Frequent cleaning	6.0
Provision of clean drinking water	10.0
Production system	
Extensive system	93.0
Semi-intensive	7.0

**Multiple responses*

Table 3. Percentage distribution of respondents by sources of information on indigenous chicken production

Variables	Percentage
Access information	
Yes	70.0
No	30.0
Sources of information	
Family/friends	85.7
Other farmers	14.3

Table 4. Percentage distribution of respondents by information needs for indigenous chicken production

Variables	Percentage %
Information on appropriate drugs and methods of vaccination	91.0
Information on feeding/feed formulation for birds	43.0
Information on pests/disease outbreak, control, quarantine and vaccination of birds	86.0
Information on the availability of day old chicks	86.0

4. CONCLUSION AND RECOMMENDATIONS

More women than men were engaged in indigenous chicken production with majority of the farmers being above 50 years of age. Although farmers allowed their indigenous chicken to scavenge for food, they also provided supplementary feed. Respondents did not keep records for their chicken production activities and majority did not provide house for their birds. Farmers who sourced information on chicken production got it from their family and friends and they however, needed information on appropriate drugs to be used/methods of vaccination, availability of day old chicks, pests and disease control, quarantine and feeding and feed formulation. The major sources of information identified shows that interpersonal interaction in the rural areas were still of relevance to the dissemination of agricultural information. Farmers were not exposed to modern information and communication technology (ICT). Majority of the respondents indicated that they had not been visited by extension agents in the past one year.

Based on these findings, the following recommendations are made:

1. Adequate information on appropriate management practices of indigenous chicken should be disseminated by extension agents so as to assist farmers to improve indigenous chicken production.
2. Since women dominate indigenous chicken production, extension agents should focus their attention on disseminating such information to rural women.
3. The government in collaboration with the private sector should put in place measures such as adult literacy educational programmes that will ensure better provision of sound education to rural farmers so that their literacy levels will increase. This would help them to

comprehend and apply information on indigenous chicken production.

4. The government should provide social amenities, good schools and healthcare systems in the rural areas which are the major reasons while youth leave rural to urban areas. With these amenities in place many youth will not find any reason to move to urban areas.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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