

Short Communication

An overview of the health and management challenges of rural poultry stock in North Central Nigeria

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ABSTRACT

Objectives: Poultry production in rural areas is considered as an important source of livelihood for most rural communities. The objective of the present study was to investigate the major factors affecting production of rural poultry in three senatorial districts in North Central Nigeria namely Kwara Central, Kwara South and Kwara North..

Materials and Methods: The major factors affecting production of rural poultry were investigated using structured questionnaire to gather data on health and management practices between January to December 2014.

Results: The socio-economic characteristics of respondents showed that majority of rural poultry farmers are women and illiterate, that sourced fund from their personal savings, relations and friends. The study also showed that seasonal variation and disease significantly influenced poultry production and its marketability.

Conclusion: There is the need to put in place enabling environment to encourage commercialization of rural poultry production in Nigeria and globally.

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KEYWORDS

Challenges, Health, Management, Poultry stock, Rural

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INTRODUCTION

Poultry production in rural areas is an important source of livelihood for most of the people living in the rural areas. The poultry is used for using as a source of meat and ready cash in emergency needs, thus giving food and economic securities to rural people (Gueye, 2001; Gueye, 2002; Onubuogo et al., 2013). About 70% of the poultry products and 20% of animal protein intake in most African countries are originated from this sector (Kaiser, 1990; FAO, 2011; Byarugaba et al., 2012).

The poultry production systems in Africa are based on husbandry of indigenous chickens found in virtually all villages and households in rural communities characterized by low output per bird. The types of poultry that are commonly reared are chicken, duck, guinea fowl, turkey, pigeon, amongst which the domestic fowl (chicken) predominate (Das et al., 2008; Daniel, 2009; Adedeji et al., 2013).

Rural poultry are reared mainly on extensive system (scavenging). The scavenging system dominate the rural poultry sector of most African countries with very small number kept under semi intensive system (Bagnol, 2001; Sokolowicz et al., 2009). Rural poultry production is an hobby with about 85% of rural household in Sub-Sahara Africa rearing domestic fowl (chicken) or a mixture of chicken and other types of poultry while still engaging in other vocation such as trading, farming, fishing, and hunting (Gueye, 2002; Ezeokeke, 2008; Heinke, et al., 2015).

Due to inadequate care, rural poultry are exposed to theft, diseases, poor nutrition and vagaries of weather and environment, poor management practices and marketing (Omotsho, 1997; Heinke et al., 2015).

MATERIALS AND METHODS

Study area: This study covers three senatorial districts in North Central Nigeria namely: Kwara Central, Kwara South and Kwara North. Which lie on latitude 8°31N and longitude 4°35E with an average human population of 2,371,089 (FGN, Official gazette, 2007).

Ethical issue and data collection: Necessary consent was taken from the respondents before collecting data. The profile of the rural poultry owners were obtained by local interview with the respondents. Questionnaire (Annex-I) was designed to elicit data on the following (a) socio-economic factors, (b) health management practices (c) sales/marketing of rural poultry products. The individual interviewed was the one that owned the birds and was responsible for all major decision affecting the

birds such as sales, culling for use in the homes, purchase of feeds and veterinary drug (if any).

About 985 rural poultry owners/households were randomly selected and visited in order to collect data through the use of structured questionnaire, the duration of this study was three months. Information obtained were analyzed and processed in descriptive statistical analysis which involved the use of statistical tool to generate frequency, distribution and percentages.

RESULTS AND DISCUSSION

The results of the studies are as shown in **Table 1-4**. Generally rural birds scavenge around farms, compounds or households. A handful of grains, household waste or wheat bran was thrown out to the birds as supplement every morning, but the newly hatched chicks were usually better cared for, than the adult ones (Justus et al., 2013). They were often given broken maize and other grains apart from what was made available to the other birds. Water was provided adlibitum in plastic containers or pots around the household. Most respondents provided housing at night only, nesting places for laying birds were also frequently provided. In most cases, houses provided were either wooden, coops or baskets made with locally available material such as bricks, bamboo, cereal stovers and wood. Others allowed rural birds to roost on trees, under timber boards or under piles of firewood (Sokolowicz et al., 2013).

Table 1. Socio-economic factors of rural poultry farmers.

Parameter	Frequency	Percentage
Sex		
Female	837	85
Male	148	15
Education		
Literate	217	22
Illiterate	768	78

Brooding of eggs occurred in the kitchen of most respondents or in especially elevated places above coops or in secluded places where hen and egg could be protected from rain and predators. Consumption of poultry product was limited to festive occasion, live chicken and eggs are sometimes sold at local markets when in need of cash. Due to lack of care, the rural poultry are exposed to theft, diseases, poor nutrition and vagaries of weather and environment (Adene, 1990; Akilu, 2007; Onubuogo et al., 2013; Heinke et al., 2015).

There were 985 respondents, majority (85%) were female, 78% were illiterates with an average flock size of 50-120 birds. About 90.36% had mainly domestic fowl (chicken).

Most respondents reared poultry as hobby which is in agreement with the findings of Sonaiya (2005). The study also revealed that scavenging system was mostly practiced by rural poultry owners with little feed supplement. It was reported by the respondents that the highest mortality rate (chicken death) was observed during raining season. This finding is similar to the work done by Halima (2007).

Table 2: Rural poultry management systems.

Parameter	Frequency	Percentage
Management		
Extensive	955	97
Semi-intensive	30	3
Bird type		
Domestic fowl	890	90.36
Others	95	9.64
Source of labor		
Family	985	100
Hired labor	-	-
Source of fund		
Personal saving	954	97
Relative	21	2
Friends	10	1
Causes of mortality		
Diseases	904	91.8
Predator	75	7.6
Accident	6	0.6

Table 3: Health management practices for owners.

Parameter	Frequency	Percentage
Health management practices		
Poultry owner	952	96
Others	33	4
Bird vaccination		
Yes	4	0.34
No	981	99.6

Table 4: Sales of rural poultry products.

Parameter	Frequency	Percentage
Period of high demand		
Festive period	965	97.96
Any other time	20	2.04
Marketing		
Self	982	99.7
Retailer	3	0.3

Health interventions were discovered to be mostly done through traditional means. The medical services were mostly rendered by rural poultry owners who hardly call in veterinarians. Majority of the birds were never vaccinated making them vulnerable to diseases which was the highest cause of mortality ahead of predators and others causes of death.

CONCLUSION

Rural poultry have adapted very well to the environment in which they are found. This positive feature helps to conserve and maintain them. Also, rural poultry thrived despite lack of adequate medical care suggesting presence of a rare trait which may be used for future improvement of rural poultry stock through research. In order to sustain rural poultry and increase animal protein and income of the rural poultry owner's effort should be geared toward improvement of management and health status of rural poultry thereby promoting livestock production, development and creating wealth. Regular Vaccination, medication and deworming of rural poultry stock would promote rapid growth of rural poultry industry. Formation of Co-operative Societies of rural poultry owners to promote their interest would boost the growth of rural poultry industry. Record keeping by rural poultry farmers is urgently needed and feed supplement usage should greatly be encouraged to improve the growth of rural poultry. Rural poultry owners should be encouraged to purchase exotic cockerels (for cross breeding purposes) to be kept around the homesteads to upgrade the performance of the rural poultry stock.

CONFLICT OF INTEREST

The authors declare that they have no competing interest.

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Nothing to declare.

REFERENCES

- Adedeji OS, Ajayi JA, Amao SR, Aiyedun JO (2013). Extent of commercial poultry production in Saki West local government area of Oyo State. *Transnational Journal of Science and Technology*, 3: 68-81.
- Adene DF (1990). An appraisal of the health management problems of rural poultry stock in Nigeria. In proceedings of international workshop on rural poultry development in Africa IWRPDA. Ile-Ife, Nigeria. 13-16 November, 1989.
- Aklilu HC, Mekinders MA (2007). Poultry management, consumption and marketing in relation to gender, religion festivals and market access. *Tropical Animal Health and Production* 39; 165-177.
- Bagnol B (2001). The Social Impact of Newcastle disease control in; Alder R.G and Spradbrow P B (eds) SADC. Planning Workshop. Maputo, Mozambique 6-9 March 2000. ACIAR proceeding No 13 pp 60-75.

- Byarugaba DK., Olsen JE, Rwakishaya KE; Production (2012). Management and Marketing Dynamics of the Rural Scavenging Poultry in Uganda. Second FAO/INFPD Electronic Conference on Family Poultry 2002 on Bangladesh Model Retrieved from http://www.fao.org/ag/againfo/themes/fr/infpd/documents/econf_bang/add_paper9.html (Accessed on December 2, 2015).
- Daniel SU (2009). Baseline study of small and medium scale poultry production in Enugu and Lagos state of Nigeria. *World Journal of Agricultural Sciences*, 5: 27-33
- Das SC, Chowdhry SD, Khatum MA, Nishborn M, Ishe N (2008). Poultry production profile and expected future projection in Bangladesh. *World Poultry Science Journal*, 64: 96-117.
- Ezeokeke CT (2008). Effect of prebiotic and probiotic on the local fowl. *Nigerian Journal of Animal Production*, 33: 162-169
- FAO (2011). Food and Agriculture Organization of the United Nation (FAO). Importance of small scale and semi- commercial poultry production in developing countries
- Gueye EF (2001). The role of family poultry in poverty alleviation, food security and the promotion of gender equality in rural Africa. *Outlook on Agriculture*, 29: 129-136.
- Gueye EF (2002). Employment and income generation through family poultry in low income food-deficit countries, *World Poultry Science Journal*, 58: 541-557
- Halima H (2007). Phenotypic and Genetic characterization of indigeneous chicken population in North West Ethiopia. Ph.D Thesis, Department of Animal Wildlife and Grassland Sciences, University of Free State, South Africa.
- Heinke H, Crisan A, Theuvsen L (2015). The poultry market in Nigeria: Market structures and potential for investment in the market. *International Food and Agribusiness Management Review*, 18: 197-222.
- Justus O, Owuor G, Bebe BO (2013). Management practices and challenges in smallholder indigenous chicken production in Western Kenya. *Journal of Agriculture and Rural Development in the Tropics and Subtropics*, 114: 51-58.
- Kaiser R (1990). Commercial Broiler Poultry Production. *World Poultry Science Journal* 43: 78-83.
- Omotosho OA (1997). Towards increasing Research production in Nigeria poultry industry. Proceedings of the first National conference on productivity Ibadan, Nigeria. Macmillian publishers.
- Onubuogo GC, Chidebelu S, Eboh EC (2013). Enterprise type, size and allocative efficiency of broiler production in Imo State, Nigeria. *International Journal of Applied Resources and Technologies*, 2: 10-19.
- Sokolowicz S, Herbut E, Krawczyk J (2009). Poultry production and strategy for sustainable development of rural areas. *Annals of Animal Science*, 9: 107-117.
- Sonaiya EB (2005). The context prospects for development of smallholder rural poultry production in Africa; in CTA seminar proceeding, Thesalonia Kis Greece, 1: 35-52.

Annex-1

QUESTIONNAIRE TO EVALUATE THE HEALTH AND MANAGEMENT CHALLENGES OF RURAL POULTRY STOCK IN NORTH CENTRAL NIGERIA

(PLEASE TICK AS APPROPRIATE)

BROAD BIODATA FOR RURAL POULTRY/OWNERS

1. POULTRY LOCATION: _____
2. STOCK SIZE: 1-20 20-50 50-100 >100
3. BIRD TYPE: DOMESTIC FOWL OTHERS
4. RURAL POULTRY OWNER'S SEX: M F
5. EDUCATION OF RURAL POULTRY OWNER: LITERATE ILLITERATE

MANAGEMENT PRACTICES/CHALLENGES

1. MANAGEMENT SYETEM USED: SEMI-INTENSIVE EXTENSIVE
2. PURPOSE OF KEEPING POULTRY STOCK: SOURCE OF INCOME HOBBY
3. TYPE OF FOOD GIVEN TO POULTRY STOCK: GRAINS OTHERS

4. FEEDING FREQUENCY: MORNING EVENING NOT AT ALL
5. IS WATER PROVIDED FOR THE BIRDS?: YES NO
6. SOURCE OF LABOUR: FAMILY MEMBERS HIRED LABOUR
7. SOURCE OF FUND: PERSONAL SAVINGS RELATIVES FRIENDS
8. WHICH PERIOD DO YOU SELL YOUR POULTRY PRODUCTS?: FESTIVE PERIOD ANYTIME
9. WHO MARKETS THE POULTRY PRODUCTS? SELF RETAILERS

HEALTH PRACTICES/CHALLENGES

1. HAVE THE BIRDS BEEN GIVEN ANY MEDICATION BEFORE?: YES NO
2. WHICH MEDICATION HAVE YOU EVER GIVEN?: TRADITIONAL ORTHODOX
3. CAUSES OF MORTALITY: DISEASES PREDATOR ACCIDENT
4. WHO RENDERS HEALTH/MEDICAL SERVICES?: RURAL POULTRY OWNERS OTHERS (INCLUDING VETS)
5. DO YOU VACCINATE THE POULTRY STOCK?: YES NO