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ORIGINAL ARTICLE

Level of Awareness of Poultry Diseases and Management Practices by Poultry Farmers in Maiduguri Metropolis, Borno State, Nigeria

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SUMMARY

Poultry industry in Nigeria constitutes an important agricultural enterprise. The study was conducted to determine the awareness of disease and management practice by poultry farmers in Maiduguri metropolis. A total of 94 structured questionnaires were retrieved from the farmers. Majority of the respondents kept layers 47 (50.00%), and most of them 34 (36.17%) source their birds from Obasanjo's farm. High number of the respondents 59 (62.77%) partially vaccinated their birds and 78 (82.98%) practice intensive system of management. Commercial feed was the most widely used 81 (86.17%) and 51 (54.26%) of them feed their birds twice a day. Disease awareness indicates that 24 (25.53%) are conversant with newcastle disease, whereas chronic respiratory disease and ectoparasitism had a low awareness 3 (3.19%). Based on constraints in management of birds; cost of feed and diseases with 59 (62.76%) and 23 (24.47%) respectively are indicated as the most severe constraints. Majority of poultry farmers in the study area kept layers, practice intensive system of management, are aware of the common preventable diseases affecting birds and faced with major management constraints of cost of feeds and diseases. It is recommended that awareness program be put in place by the Borno State Government to educate poultry farmers on the need of consulting professionals, and vaccinate their birds to avoid disease outbreaks.

Key words: Poultry farmers, awareness, disease, Maiduguri.

INTRODUCTION

Poultry is applicable to chicken or domestic fowl which are a group of domestic birds reared for different purpose; either as source of egg or meat (Smith, 1990; Pagani *et al*., 2008). Poultry keeping is an important contribution to the livelihood of most vulnerable rural households in developing countries and they make significant contribution to meeting the rapidly growing demand for poultry products (FAO, 2011). The poultry industry in Nigeria constitutes an important agricultural enterprise, contributing substantially to the Gross Domestic Products (GDP) of the nation

(Akidarju *et al.*, 2010). The Nigerian population is in need of an adequate supply of essential food components, which must include protein in the diet. Poultry production can achieve this goal when properly harnessed. Federal Department of Livestock and Pest Control Services noted that poultry production is increasing very rapidly and the consumption is increasing faster than that of other kinds of meat besides beef (FDLPCS, 2002). Nigeria's chicken population is about 150.682 million of which 25% are commercially farmed, 15% semi-commercially and 60% in backyards (AICP, 2009).

Animal protein is one of the most important components of human meals and its consumption varies from place to place. In the developed countries, average per person daily intake stands at over 50 grams, while in the developing countries like Nigeria, it is only between 12 and 20 gram; 3 to 4 times lower (FAO, 2009). In Nigeria, poultry industry is attracting the interest of many agro-business investors. The enormous increase in human population especially in developing countries such as Nigeria has necessitated the need for increase in animal production more especially poultry to meet the increasing need for protein requirement (FAO, 2011). Small holder poultry farmers that operate various production strategies provide the bulk of poultry meat and eggs for the populace (Eduvie, 2002). Poultry serves as an important source of income and animal protein for many households, but a setbacks associated with poultry production among farmers are diseases and management practices (Mapiye *et al.*, 2008; Hening *et al.*, 2009). Diseases caused by agents such as parasites, bacteria and viruses result in losses due to mortality and morbidity limit poultry production in Nigeria (Biu and Etukwudo, 2004; Luka and Ndams, 2007). Abdu *et al.* (1992) identified diseases as major constraints in the development of the poultry industry in Nigeria thus causing a huge loss to farmers. Most of previous studies conducted in the study area are mainly yearly prevalence of case reports in Veterinary Hospitals where the farmers are not directly involved in the process. Therefore, the present study was aimed to determine the level of awareness of diseases and management practices by poultry farmers in Maiduguri metropolis, Borno State, Nigeria and then suggest possible ways of handling such constraints.

MATERIALS AND METHODS

The study was conducted in Maiduguri, a city situated between 11° 32'N and 11° 40'N and longitudes 13° 32'E and located between the Sudan savannah and Sahel savannah vegetation zones (Udo, 1981).

One hundred structured open ended questionnaires were administered to the various individual poultry farmers within Maiduguri metropolis to assess poultry health and production problems and ninety four (94) of the questionnaires were retrieved from the farmers. During the exercise, the following parameters were recorded; types of birds kept, sources of flock, vaccination schedules, type of management system, type of feed used, frequency of cleaning of their cages or litters, common diseases encountered and major constraints in the management of poultry. Also included in the questionnaire are the constraints in the management of birds such as; cost of feed, inadequate veterinary services, inadequate extension services, cost of water and diseases.

In the presentation and analysis of the data, simple percentage and analytical Tables were used.

RESULTS

Out of 94 structured questionnaires retrieved from poultry farmers in Maiduguri metropolis; most of the respondents 50.00% kept layers, followed by broilers 29 (30.85%) and low number of them kept cockerels 18 (19.15%) as shown in TABLE I. Based on the source of their birds, 34 (36.17%) obtained their birds from farm Obasanjo's

farm, 30 (31.92%) from ECWA while low numbers of them 5 (5.32%) got their birds from other sources. Highest percentage of respondent 59 (62.77%) partially vaccinated their birds while only 35 (37.33%) observed strict vaccination schedules (TABLE I).

Based on management system, majority of the respondents 78 (82.98%) practice intensive system of management, 13 (13.83%) practice semi-intensive system and 3 (3.19%) still practice free range system. Commercial feed was the major type used by most respondents 81 (86.17%) and 51 (54.26%) feed their birds twice a day, whereas few of them 5 (5.31%) mixed their feeds and feed birds once a day as shown in Table I.

TABLE I: Types of birds, sources and management practices by poultry farmers in Maiduguri metropolis

	Number of respondents	Percentage (%)
Types of birds		
Broilers	29	30.85
Layers	47	50.00
Cockerels	18	19.15
Sources of stock		
Obasanjo's farm	34	36.17
Avian specialist	25	26.60
ECWA farms	30	31.92
Others	5	5.32
Vaccination schedules		
Complete	35	37.23
Partial	59	62.77
Management system practice		
Intensive	78	82.98
Semi-intensive	13	13.83
Free range	3	3.19
Types of feed used		
Commercial feed	81	86.17
Locally prepared feed	8	8.51
Mixed (both)	5	5.31
Source of water		
Borehole	14	14.89
Dam	51	54.26
Tap water	23	24.47
Stream	6	6.38
Frequency of feeding		
Once/day	10	10.64
Twicw/day	51	54.26
Thrice/day	33	35.10
Frequency of litter change		
Once a month	7	7.45
Once in two months	17	18.08
Once in three month	45	47.87
Above six months	25	26.60
Total	94	100.00

Table II: Common diseases encountered by poultry farmers in Maiduguri metropolis

Diseases	Number of respondents	Percentage (%)
Newcastle	24	25.53
Fowl pox	6	6.38
Gumboro	10	10.64
Fowl typhoid	13	13.83
Fowl cholera	5	5.32
Chronic respiratory disease	3	3.19
Helminthiasis	5	5.32
Ectoparasitism	3	3.19
Coccidiosis	19	20.22
Others	6	6.38
TOTAL	**94**	**100.00**

Table III: Major constraints in management of birds by poultry famers in Maiduguri metropolis

Constraint	Number of respondents	Percentage (%)
Cost of feed	59	62.76
Inadequate Veterinary Services	3	3.19
Inadequate extension services	1	1.06
Cost of water	5	5.32
Diseases	23	24.47
Others	3	3.20
TOTAL	**94**	**100.00**

Table II shows that majority of the respondents are aware of the major diseases of poultry. Most of them 24 (25.53%) are aware of Newcastle disease, followed by coccidiosis 19 (20.22%), and low level of awareness of 3 (3.19%) was reported for both chronic respiratory disease and ectoparasitism. The major constraints faced by the most respondents was cost of feeding 59 (62.76%), followed by diseases 23 (24.47%), while the least constraint was inadequate extension services 1 (1.06%) as shown in Table III.

DISCUSSION

This study indicated that poultry farmers in Maiduguri metropolis are aware of common diseases affecting poultry and highlighted hindrances/constraints face in management of birds.

The results of this survey showed that more poultry farmers kept layers as compared to broilers which are obtained from Obasanjo's farm, this is in agreement with the findings of Onyeyinka *et al*., (2011) in Oyo State who also reported similar findings. We attribute this to the fact that keeping layers in the study area by poultry farmers is more profitable than broilers and cockerels. This is because most people in Maiduguri metropolis rely solely on meat from other sources as cattle, camel, sheep and goats that are cheaper and readily available even during festive periods. Majority of the respondents partially follow the vaccination schedules even with the fact that most of them practice intensive system of management. The result agrees with the report of Nwaogwugwu and Lemea, (2016) who also reported more farmers practiced intensive system in Rivers State. This explained why cases of vaccinable diseases like newcastle disease more prevalent in the study area couple with the fact that the birds are confined in a particular area.

More respondents used commercial type of feeds and feed their birds twice in a day. This

is to ensure that the birds are feed with balanced diet to enhanced maximum production of eggs and high yield of quality meat.

Pertaining disease awareness, only 25.53% are aware of Newcastle disease while there was low awareness of chronic respiratory disease and ectoparasitism. This finding agrees with the earlier reports of Ambali *et al.* (2003) and Nwanta *et al.,* (2006), who reported high prevalence of this viral disease as the major constraints that hindered the success of poultry industry in developed countries. However, Newcastle disease which has a higher prevalence in this report is considered the most economically important avian viral disease in the world including developing countries due to its devastating effect on the poultry industry (Zeleke *et al.*, 2005; Wakawa *et al.*, 2012). Major diseases of poultry in Nigeria that have been predominantly identified in commercial poultry are Newcastle disease, Infectious Bursal disease (Adene, 1996) one of which is also the viral disease identified by the respondents in this study.

Major constraints in management of birds shows that cost of feed and diseases were the most severe constraints. These factors had a serious negative effect on poultry production in the study area. Also inadequate extension service is not a severe constraint, this is because poultry farmer are educated on keeping birds through the media, workshops and seminars that are frequently organised by both public and private sector as a way of poverty alleviation. Contrary to this study, Nwaogwugwu and Lemea, (2016) reported that poor farmer-extension agent contact is a constraint in poultry production. This is because extension agents were supposed to influence farmers' knowledge in every critical aspect to improve the farmers' productivity. Awareness on policies that affect their operations could be critically enhanced if adequate farmer- extension agent contact is maintained. This is also buttressed in (Ifenwe, 2009) who found that extension agent to farmer ratio in Nigeria is 1:1722 which creates a serious setback in dissemination of agricultural information.

In conclusion, majority of poultry farmers in the study area kept layers, practice intensive system of management, used commercial feeds, are aware of the common preventable diseases affecting birds and faced with major management constraints such as cost of feeds and diseases. Based on these findings, it is recommended that awareness program be put in place by the state government to encourage, educate poultry farmers on the need of consulting professionals, and to vaccinate their birds to avoid disease outbreaks. Also palliative measures be put in place by providing soft loans through microfinance and agric banks to cushion the effects of cost of feed and treatment.

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