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The Status of Village Chicken Farmers (VCF) and Awareness of Poultry Diseases in South-West, Nigeria

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Abstract **– This study examined the status of village chickens' farmers and their awareness of poultry diseases in South-west (SW), Nigeria. It aimed at mitigating the incidences of high mortality caused by pathogens that reduce the productivity of rural farmers. Structured questionnaire was used to obtain information from 153 respondents across 15 communities in SW. The results were analyzed using frequency table, percentage, bar-chart and pie-chart. Results showed that 59% of the farmers were female and 46% were within the active age of 18-45 years. Forty-four percent of adult female household member takes care of chickens most. Also, 55% of Village Farmers confirmed that selling of chickens was the primary reason of keeping the chickens. The study showed that 40% of farmers attributed diseases as the major causes of chickens' losses and 47% were aware that Newcastle disease is the main disease killing their chickens. Seventy-four percent of the farmers indicated that they have spent money on medications and vaccinations in recent time. It is therefore, recommended among other things that well-planned awareness programs that will improve knowledge of diseases symptoms, nature, prevention and control measures should be institutionalized among village chickens' farmers especially those that practice free-range production system.**

Keywords **– Status, Village Chicken Farmers, Awareness, Poultry Diseases.**

I. Introduction

Poultry diseases remain one of the major threats to poultry production in Nigeria [1]. The major infectious viral disease affecting the chickens are Newcastle disease (ND), Infectious bursal disease (IBD) popularly called gumboro, fowl pox and fowl coryza. Disease outbreak which have caused severe economic losses are usually due to poor biosecurity measures. Revealed that lack of proper care and management, inadequate nutritious feeding and some other factors causes poultry diseases [2]. Defined biosecurity in poultry farming as a set of measures designed to prevent disease causing organisms from coming in contact with resident birds on the farm [3]. These measures are a combination of systems and practices that reduce the burden of any disease producing agent on the farm and therefore prevent the adverse effects of diseases on the farm. Consequently, biosecurity is the implementation of policies and practices that prevent the introduction and spread of disease [4].

Chicken production has a major role in the economy of developing countries and backyard production is particular--ly important to women [5]. Backyard poultry is characterized by small flocks with low biosecurity measures, it represents about 80% of poultry stocks in many developing countries including Nigeria, often consisting of free indigenous unselected breeds of various ages, with various species mixed in the same flock [6]. Traditional system of poultry production however, has a close interaction between humans in the same household and various wild birds, other livestock, small insects and predators.

Revealed that poor or absence of disease control strategies and inadequate management practices result in high levels of mortalities due to predators; rodents, snakes, small carnivores or infectious diseases, like Newcastle Disease (ND), salmonellosis, etc [6]. Poor biosecurity according to [1] reduces the productivity of the sick animals resulting in less meat, less milk or fewer eggs. It is against this background that this study examined the status of poultry disease management among village chickens' farmers in Southwest, Nigeria. The specific objectives are to:

i. Determine the Socio-economic attributes of village chickens' farmers in the study area.
ii. Ascertain the status of poultry diseases awareness in the study area.

II. Materials and Methods

The study was carried out in Ogun, Osun and Oyo states, Southwest, Nigeria. Ogun State has 20 Local Government Areas (LGAs) with an estimated population of 3.7 million [7] and total land area of 16, 762km^2 on latitude 7^{0}N and 7^{0}N; between latitude 3.35^{0}E and 3.58^{0}E. The climate is tropical pattern with mean ambient temperature is about 32^{0}C and the mean annual rainfall varies from 128cm in the south and 105cm in the north. Osun State has 30 LGAs with an estimated population of 3.4 million [7] and land area of 14, 875km^2 on latitude 5^{0}N and 8^{0}N; between latitude 4^{0}E and 5^{0}E. The climate is humid tropical type with mean ambient temperature of about 28^{0}C and a mean annual rainfall over 160cm. Oyo State has 33 LGAs with an estimated population of 5.6 million [7] and land area of 35, 743km^2 on latitude 3^{0}N and 5^{0}N; between latitude 7^{0}E and 9.3^{0}E. The climate is humid tropical type with average temperature between 24^{0}C and 25^{0}C. Rainfall patterns in the state vary from an average of 120cm at the onset of heavy rains to 180cm at its peak in the southern part of the state to an average of 80cm to 150cm at the northern part of the state.

There are two distinct Agro-ecological zones in the three states; humid forest and derived savannah. Major crops found in these states as reported by [1] are yam, cassava, maize, rice, vegetables, and cash crops like rubber, cocoa, kolanuts and citrus. Rural households in the study areas rear

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sheep, goats, village chickens and pigs. As well, intensive rearing of cockerel, layers and broilers have become popular in the study area.

The primary data were obtained with the aid of well-structured questionnaire validated by Agricultural Experts. The item captured;

i. Socio-economic characteristics of village farmers in terms of gender distribution, age, educational status, source of income, household population, household member that cares for chickens most, primary reason for keeping chickens, frequency of types of chickens in flock and numbers of chicken consumed in the past 3 months.
ii. Poultry disease awareness, like, causes of chicken loses, main diseases killing chickens, awareness of poultry disease vaccines, knowledge and practices about chicken vaccination and vaccination on chickens.

A multistage sampling technique was employed in selecting the VCFs in the study areas. The first stage was the purposive selection of Ogun, Osun and Oyo out of the six states of the Southwest, Nigeria based on the proximity of the communities and villages from each other. The second stage involved the purposive selection of five communities in each of Ogun, Osun and Oyo States. The convenient selection of the communities from each state was based on population density and location proximity among the towns and the adjoining villages. The third stage was random selection of sixty VCFs who holds at least five village chickens in the selected communities of each state. Responses were obtained from 45, 56 and 52 farmers from Ogun, Osun and Oyo states respectively. Consequently, data used for the study inferences were obtained from one hundred and fifty-three (153) farmers using pre-tested structured questionnaire. The data was analyzed through simple descriptive statistics; average, percentage and presented in a tabular form.

III. Result

A. *Status of Village Chickens' Farmers*

The results in Table 1 show the status of village chickens' farmers in the study areas. Female gender (59%) were involved more in village chicken production system as livelihood than their male counterpart. 46% of the farmers were in their active age and 58% had higher educational qualification ranging from Secondary School Certificates up till Graduate School Certificates. However, 75% of the respondents have other occupations outside agriculture to support their main household income and 37% had between six and eight household population. Within the households surveyed, 44% adult female members are the ones talking care of chickens. 54% of the respondents have consumed average of two chickens per household in the past three months. However, 55% of the respondents confirmed that selling of chickens was the primary reason of keeping/ rearing village chickens. Figure 1 shows the frequency of types of chickens in a flock. Majority (64%, 70%, 80% and 82%) holds between 0-10 chicks, growers, hens and cocks respectively in their flock.

Table 1. Status of village chicken farmers.

Items	Category	Proportion (%)
Gender	Male Female	41 59
Age	<18 18 – 45 46 – 60 >60	02 46 36 16
Educational status	Illiterate Literate without formal school Primary school High school	 06 08 29 58
Source of income	Work outside agriculture Paid work in agriculture Growing own crops Raising own flock	75 04 07 14
Households population	0 - 2 3 – 5 6 – 8 9 – 11 12 – 14	10 35 37 14 04
Household member that cares for chickens most	Adult male Adult female Boys from the family Girls from the family	38 44 14 04
Numbers of chicken consumed in the past 3 months	0 – 2 3 – 5 6 – 8 >8	54 27 11 08
Primary reason for keeping chickens	Consumption of chicken eggs Consumption of chickens Selling chickens Selling eggs	05 38 55 02

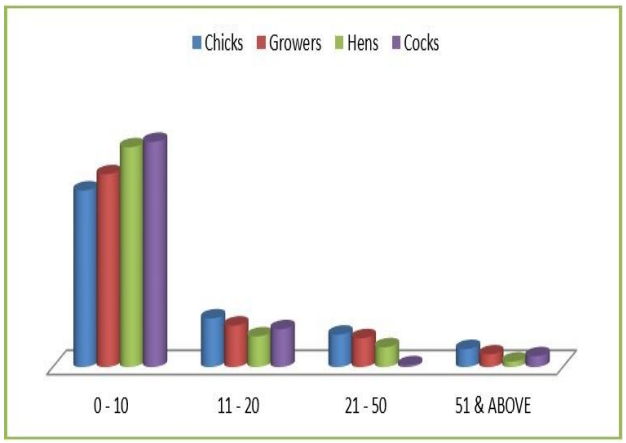

Fig. 1. Types of chickens in a flock.

B. *Poultry Diseases Awareness by Farmers*

The awareness of poultry diseases was investigated and results in Figure 2 shows that 40% of the respondents were aware of different types of poultry diseases that cause chickens losses within their flock. While 36% and 16% indicated that theft and predators respectively were other causes of losses in their flock. Figure 3 describes the awareness of the respondents to chicken diseases as 47% were aware of Newcastle disease locally known as "*Koli*" or "*yirun-yirun*" as the m*ain* disease killing village chickens.

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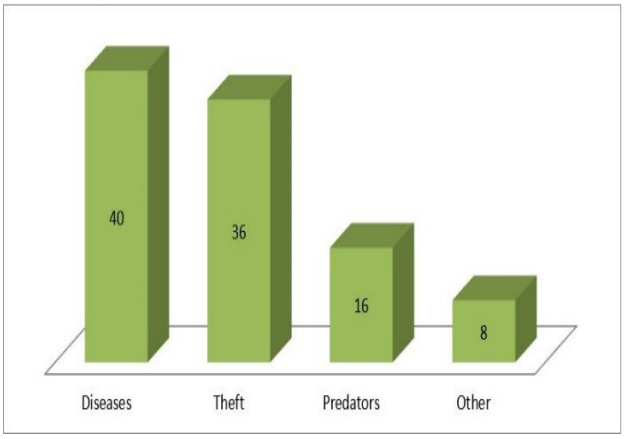

Fig. 2. Causes of chickens' losses.

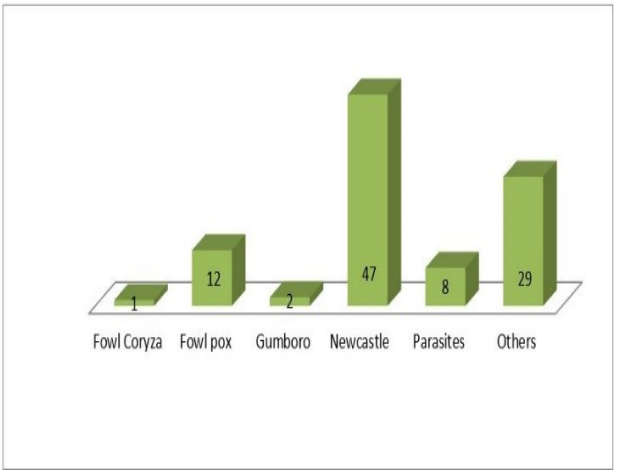

Fig. 3. Main diseases killing chickens.

Table 2 shows the level of awareness of chicken diseases. 90% of farmers were aware of poultry diseases vaccines and 65% of them reported that they have vaccinated against chickens' diseases in the past four months and 75% said they have actually vaccinated against Newcastle disease in the past. In fact, 74% of farmers as shown in Figure 4 confirmed that they have spent money on medication and vaccination in recent time. Consequently, about 83% reported that they have noticed improvement in their chickens' health after using vaccines.

Table 2. Poultry diseases awareness.

Items	Category	Proportion (%)
Are you aware of poultry disease vaccines?	Yes No	90 10
Have you vaccinated your chickens against ? any diseases in the past 4 months ?	Yes No	65 35
In the past, which diseases have you Vaccinated against?	Fowl pox Fowl coryza Newcastle disease Gumboro Never	08 01 75 05 12
Have you noticed improvement in your chickens' health after using vaccines?	Yes No	83 17

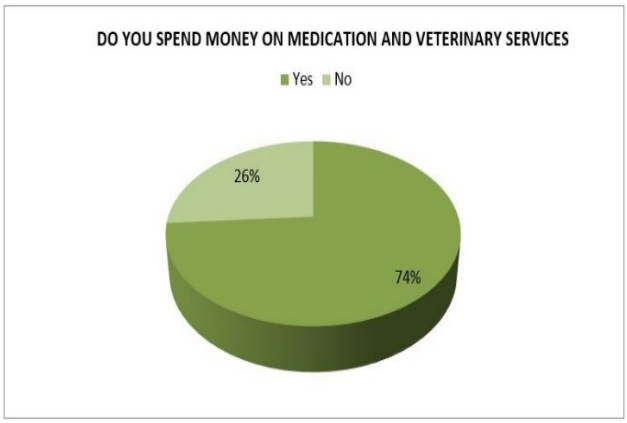

Fig. 4. Expenditure on medication & vaccination.

IV. Discussion

Village chicken production in the study area is characterized by subsistence farming system. It is often practiced as backyard production system where chickens are allowed to free range for feeds and water. Several studies have validated selling of village chickens as the primary reason of keeping the chickens. The cultural practices as gifts to family members during important social activities like naming ceremony, and as a ritual item during traditional rites are also some of the use of the chickens as revealed by the study. Female members of households are involved more in the production than the male in most developing communities as indicated in this study (54%) except in some communities where females are dependent within the households and are not allowed to engaged in livelihood activities, hence, male counterpart are more involved in village chickens' production. The study of [8] revealed that majority (85.5%) of the village chicken farmers in Bauchi State are male. This can be attributed to disparity in cultural belief between the South-west and North-east regions in Nigeria. Traditionally, in the norther part of the country, male gender is responsible for provision of family income and thus, engaged in livelihood activities that will supply all the needed income while leaving the female members to engage in alternative livelihood patterns as support.

Productivity in village chickens is still low due to extensive production system. The major cause of low productivity is attributed to high mortality caused by diseases during the brooding stage of the chicks, particularly during the first six weeks. Theft and predators are other causes of loss in village chickens as revealed in this study. These challenges are amplified by poor housing, feeding and caring systems that these chickens are exposed to. Thus, the studies of [9] and [10] reported that an extra effort in the management of poultry housing, feeding, and animal health care will increase village chicken productivity significantly.

Farmers in this study are aware of Newcastle disease (ND) as the main disease killing their chickens and thus have made efforts in ameliorating them through the use of Ethno-Veterinary products like ginger, garlic and onions. Some farmers use tetracycline, paracetamol and septrin to prevent these diseases. Beyond these, they are making

effort to prevent ND through vaccination. These results are in line with the study of [11] who reported that ND was identified as more popular and economically significant infectious viral disease of chickens in South-West, Ethiopia. The major (50%) causes of death for village poultry production were commonly diseases except for predators (27%), which were listed alongside diseases as major cause of bird's death.

However, this study listed theft as one of the social menaces alongside diseases as major causes of chickens' losses. The incidence of theft is associated with scavenging of the chickens for feeds and poor housing system, thereby, exposing the chickens to thieves who reduces the flocks of the farmers. It was observed through discussions with some of the farmers that, theft is a rising challenge and its might be one of the major causes of chicken loss in the nearer future, hence, the need to develop strategies to ameliorate the incidence of theft in village chickens' production system.

V. Conclusion

The focus in the world today is on consumption of hygienic food that can help sustain great health. This concern can be achieved through holistic effort to improve the skill, knowledge and attitude of the primary producers of quality foods that reside mostly in the rural and peri-urban communities of the world.

Village chickens' production therefore, is one of the traditional livelihood activity of rural farmers that employ either extensive or semi-intensive systems of production to provide meat and eggs as support to nutrient and family income. This system is however faced with low productivity due to losses caused by diseases, theft and predators. Adult females in their active age care most for this chicken with the sole aim of exchanging the products for money.

However, with the level of literacy and awareness of the primary challenges affecting village chickens' productivity, there is therefore need for setting up of well-planned educational programs that will improve knowledge of diseases symptoms, nature, prevention and control in order to meet the focus of food security in the world. Also, support system and linkage facilities are needed to ameliorate the challenges of theft and predation within the family-community settings. With proper orientation on possible inputs like simple housing structure and supplementary feeds, the challenge of theft will be resolved together with community integration for inclusive participation approach.

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