Determinants of Mortality in Broiler Production in Oriire Local Government Area, Oyo State

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Abstract **- This study evaluated determinants of mortality in broiler production in Oriire Local Government Area, Oyo State. Multi stage sampling technique was used. Multistage sampling technique was used to select the respondents. The first stage was simple random sampling of two (2) wards out of the 10 wards in the Local Government Area. The second stage involved snow balling method for the selection of 25 farmers from each of the selected wards. A total of fifty respondents were interviewed. The descriptive statistics and ordinary least square regression were used in the analysis of the data. The mean age of the respondents was 41 years. Disease was the highest (26%) cause of mortality in broilers farming. The coefficients of age of respondents was negative and significant at 1 percent. However, the coefficients of household income and participation in broiler farming were significant and positive at 1 percent level. It is concluded from the findings of this study that disease was the highest cause of mortality in broiler farming. An increase in the age of farmer reduced mortality of poultry birds. Also, participation in pullet farming reduces mortality of poultry birds.**

Keywords- **Broiler, diseases, mortality, poultry farming.**

I. INTRODUCTION

The need to produce more animal protein in the country has become increasingly urgent in view of the ever rising population. The human population in Nigeria is projected to grow at an annual rate of 2-5% to the year 2025 (Effiong and William, 2015). Therefore, low mortality in poultry production could prevent the rising population from suffering hunger and/low protein consumption.

Records of mortality during the first seven days of brooding have been used to assess the quality of chicks in the broiler industry (Chou *et al*., 2004). In layer-type production, mortality plays a major role in determining profit from egg production (Farooq *et al*., 2002). Apart from genetic characteristics, disease, management and nutrition have been known to play a role in chick quality and to result in early chick mortality. Newcastle diseases (ND) is a major problem in laying birds due to huge losses encountered as a result of poor quality eggs, reduction in egg production and mortalities (Achoja and Okpara, 2016). All the strains of this virus are encountered in this population of poultry with varying degrees of disease severity and losses. Moreover, in this study Newcastle diseases could be a threat to poultry birds

The objectives are to;

- Examine the socio-economic characteristic of the respondents in the study area.
- Examine the causes of mortality of the poultry birds in the study area.
- Estimate the factors influencing mortality of the poultry birds in the study area.

H_{01}: Selected characteristics do not have significant effect on poultry mortality rate.

II. METHODOLOGY

The study was conducted in Oriire Local Government Area of Oyo State. It is located around latitude $8^0 3^0$'N of the equator and longitude $3^0 54$'S of the Greenwich meridian. It as population of about 150, 628 (NPC, 2006). The headquarters are in the town of Ikoyi. The land area is 2,116 km^2.The mean temperature is 26.2^0C,lowest temperature of 24.300C while highest temperature is 28.70^0C. Oriire Local Government Area is in derived savanna climatic zone where agricultural products such as yam, melon, cashew, mango, shea-butter, cocoa, kola nut, palm-oil etc can be found. Most of the inhabitants engaged in farming as their major occupation while some are hunters, traders, fish farmers, etc. (Jelili *et al.*, 2015). It is inhabited by over 100 communities such as Tewure, Iluju, Apiko, Saamo, Igbori, Odun-Ifa and Olokoto among many others. The Local Government Area has 10 wards.

The population for this study comprises of all poultry farmers in Oriire Local Government Area of Oyo State.

Multistage sampling technique was used to select the respondents. The first stage was simple random sampling of two (2) wards out of the 10 wards in the Local Government Area. The second stage involved snow balling method for the selection of 25 farmers from each of the selected wards. A total of fifty respondents were interviewed. The descriptive statistics and ordinary least square regression were used in the analysis of the data.

The tools and procedure that were employed elucidated the objectives of the study: this includes the following.

Method of Data Analysis:

Descriptive statistical quantitative methods was used to analyze specific objectives one and two. The descriptive statistics that was used includes; frequency distribution and tables. The Ordinary Least Square (OLS) regression was used to analyze the third objective.

III. RESULTS AND DISCUSSION

Socio-economic characteristics of the respondents were stated in table 1. Eight percent of the respondents were females while 92% were males. The percentage of the males was greater than that of the female Farmers. This was an indication that females were minority. The mean age of the respondents was 41 years. This was an indication that the respondents were still in their productive years. The married (84%) constitute the major segment of the respondents. The main educational status of respondents includes; secondary (14%) and tertiary (86%). This result is an indication that the respondents were well educated. Education could increase the adoption and sustainable participation in improved poultry farming technologies. The mean income of respondents was ₦ 28, 480. This amount of money may not adequately cater for an average nuclear family. This result is an indication that poultry farmers were low/poor income earners.

Table 1: Socio economic characteristics of respondents

Characteristics	Frequency	Percentage
Sex		
Male	46	92
Female	4	8
Age (years)		
≤ 30	13	26
31- 40	8	16
41- 50	24	48
> 50	5	10
Mean = 41		
Marital Status		
Single	8	16
Married	42	84
Divorced	0	0
Educational Status		
No Formal Education	0	0
Primary	0	0
Secondary	7	14
Tertiary	43	86
Income (₦)		
≤ 20, 000	19	38
20 001- 30 000	16	32
30 001- 40 000	8	16
> 40 000	7	14
Mean = 24 480		

Source: Field Survey, 2018.

The causes of mortality of the broiler were stated in Table 2. Disease was the highest (26%) cause of mortality in broiler farming. This was probably due to poor funding of the venture. Farmers needs fund to pay veterinary doctors and to buy drugs for the diseased broilers

Diseases could lead to 100% mortality in poultry birds if they are not treated by qualified veterinary personnel.

Table 2: Causes of Mortality of Broiler

Characteristics	Frequency	Percentage	Frequency	Percentage
Low capital			**Attendance Carelessness**	
No	41	82	No	37
Yes	9	18	Yes	13
Harsh Weather			**Poor Feeding**	
No	41	82	No	41
Yes	9	18	Yes	9
Change in Environment			**Starvation**	
No	42	84	No	41
Yes	8	16	Yes	9
Diseases			**Cannibalism**	
No	37	74	No	41
Yes	13	26	Yes	9
Wrong Medication			**Poor Housing**	
No	50	100	No	50
Yes	0	0	Yes	0
Use of Quack Doctor				
No	50	100		
Yes	0	0		

Source: Field Survey, 2018.

The result in Table 3 stated the determinants of mortality of broilers. The coefficients of age of respondents was negative and significant at 1 percent. Therefore an increase in the age of farmer reduced mortality of poultry birds. However, the coefficients of household income, participation in chick farming and participation in broiler farming were significant and positive at 1 percent level. This means an increase in household income led to an increase in mortality. This is surprising because increase income is expected to reduce mortality of poultry birds. Increase in the income of farmer is expected to empower them to cater properly for their poultry birds. Participation in broiler and chick farming increased mortality of the broilers.

Table 3: Determinants of Mortality of Broilers

Characteristics	**Coefficients**
Age	-5.969***
Farming Experience	2.901
Years of Formal Education	-0.945
Household Income	0.001***
Participation in Chick Farming	174.928***
Participation in Broiler Farming	64.722***
Constant	100.567***
N	50
Adjusted R^2	0.76
Prob >F	0.00

*** 1 percentage level, ** 5 percentage level, * 10 percentage level

Source: Field Survey, 2018.

Hypotheses:

H_{01}: Selected characteristics do not have significant effect on poultry mortality rate.

Table 3 shows that, age of farmer, household income, participation in chick farming farming and participation in broiler farming were significant at 1 percentage level of significance. Thus, the null hypothesis that stated that selected characteristics do not have significant effect on broiler mortality rate was rejected.

IV. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

It was concluded from the findings of this study that, females were marginalized in comparison to their male counterparts in their poultry farming enterprise. The respondents were still in their productive years and they were well educated. Poultry farmers were low/poor income earners. Disease was the highest cause of mortality in broilers farming. An increase in the age of farmer reduced mortality of broilers.

It was recommended from the findings of this study that, that women should be encouraged in their poultry farming pursuit like their male counterparts. Young and educated individuals should be encouraged to participate in poultry farming. Government and non-governmental organization should give no interest loan to farmers in other to improve their agribusiness and standard of living. Broiler farming should be encouraged. Causes of high mortality in poultry farming should be prevented and control by consulting qualified veterinary and animal science experts. Participation in viable poultry farming should be encouraged.

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