

ANALYSIS OF PROFIT OF BROILER PRODUCTION IN OWERRI AGRICULTURAL ZONE OF IMO STATE.

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ABSTRACT

The study was carried out to evaluate the profit of broiler production in Owerri rural agricultural zone, Imo State, Nigeria. Data were collected using a set of structured questionnaire forms from 120 broiler farmers who were selected through two stage sampling techniques. Data were analyzed using descriptive statistics and net income model. The results of the socio-economic characteristics showed that majority of the farmers were old, with a mean age of 53 years, married, female dominated, mean farm experience of 6.42 years, mean household size of 11, mostly educated, average stock size of 696.3 birds per farmer and a mean mortality rate of 3.59. The results show that the net income earned by the broiler farmers was ₦3323.97/bird, gross margin of ₦4004.16/bird, a total cost of ₦2613.03/bird was incurred and total return of ₦5937/bird was realized from sale of dressed birds while the rate of return to investment was 1:1.27. The study identified disease infestation (24.56%), high cost of feed (13.16%), high cost of vaccine (6.14%) and lack of regular power supply (5.26%) as the major constraint militating against broiler production in the study area, these constraints increase the mortality rate of the broilers and reduce the profit of the farmers. The study recommends the need to enhance the access of rural broiler farmers to high quality and standard drugs as there are lots of sub-standard drugs in the market and as well as improved broiler chicks.

Keyword: Socio-economic, net income, constraints, broiler production.

INTRODUCTION

Rural areas are often characterized by highly dispersed, harder to reach communities, weak infrastructure, low levels of economic activity, and financial service providers with limited capacity and a narrow range of products (Eleke, 2005). The only predominant occupation of the people is agriculture (FAO, 2007). A vast majority of the rural people derive their livelihood from farming activities and the growth of African economy can be projected in line with the contribution of agriculture to the socio-economic lifestyle and standard of living of the population. Therefore, it can be said that the most direct and effective means of improving the standard of living and reducing poverty level, hunger and malnutrition is by increasing the productivity and incomes of small-scale farming especially in the rural areas.

Poultry industry has continued to be one of the fastest growing agricultural industries worldwide and

contributes significantly to employment, income, nutrition, and national and international trades (FAO, 2008). Broiler production is a very important sector of poultry enterprise and constitutes more than 18% of animal proteins consumed in urban area with more than 28% produced in the urban area (Eleke, 2005). Broiler production is efficient in ensuring food security and poverty reduction through possession of the following characteristics; super-efficient converter of feed to meat, large number of birds requires small space, marketable at different ages, ease of operation, gives quickest turnover, the meat is palatable, easily digestible and low production cost per unit relative to other livestock (Ishaka, *et al*, 2007).

In Nigeria and many Sub Saharan Africa, the rural farmers are challenged with difficulties in broiler production and such problems include lack of skills and equipment to produce more efficiently and lack of information on local markets. Eleke (2005) opined that the major issue with broiler production is the high cost of production that tend to reduce the profit of broiler production. Broiler production involves the keeping of chickens of heavy meat breeds for the purpose of getting good quality meat products usually sold live or processed at eight to twelve weeks of age (Amos, 2006). Broiler production is carried out in all parts of the country with no known religious, social or cultural inhibitions associated with their consumption. Specifically, investment in broiler enterprises is attractive because the production cost per unit is low compared to other types of livestock. Broiler meat is very tender, and the enterprises have short production cycles (Nwajiuba and Nwoke, 2000). The high demand for broiler products, the success of exotic breeds and the ease of mastering the techniques of broiler production among other factors has made it developed to the status of agribusiness in Nigeria as distinct from subsistence production (Nwajiuba and Nwoke, 2000; Sani *et al.*, 2000).

According to Okonkwo and Akubo (2001) show that about ten (10) percent of Nigerian populations are engaged in poultry production, mostly subsistence with small or medium sized farms. Broiler production in addition contributes to the nation's gross domestic product (GDP), it provides gainful employment and income to sizeable proportion of the populace (Rahman and Yakubu 2005). The major problems militating against the production of broiler range from poor market access, high feed and chick costs, untimely delivery of farm inputs, inadequate capital and poor extension services (Rahman and

Yakubu2005). Broiler farmers have faced several constraints which have affected the volume of the output. In this study, the major constraints the broiler farmers encountered in the study area are pests and diseases infestation, lack of regular power supply, high cost of feed, high cost of vaccine among many constraints. In line with these challenges, the broad objective of the study is the analysis of profit to broiler production in Owerri agricultural zone, Imo state. The specific objectives are: to identify the socio-economic characteristics of broiler farmers, to determine the net returns earned by the broiler farmers and to isolate the major constraints facing broiler farmers in the study area.

MATERIALS AND METHODS

The study was carried out in Owerri Agricultural zone of Imo state. The zone comprises of eleven (11) Local Government Area;with a total population of 401,873 people (National Census, 2006). The zone has a relative humidity of 90% and an average rainfall of 2000mm/amm. The study adopted a twostage sampling techniques in selecting the broiler farmers who served as the respondents to the study.

In the first stage, four (4) Local Government Areas were purposively selected from the eleven local government areas of the zone(Owerri-North, Owerri-West, Ezinihite-Mbaise and Aboh-Mbaise). The local government selected have highest number of registered broiler farmers in the state. Each local government selected with their list of broiler farmers constitute the sample. Owerri North and Aboh Mbaise has a total of 162 and 148 registered broiler farmers, respectively while Ezinihitte Mbaise and Owerri West has each 145 registered broiler farmers. A total of 600 registered broiler farmers was used to draw the respondents of this study.

Due to unequal number of broiler farmers across the local government areas already selected, a proportion of 20% of the farmers were selected across the local government areas was used for the study. This gave about 32 and 30 randomly selected broiler farmers from Owerri North and Aboh Mbaise, respectively and 29 broiler farmers each from Ezinihitte Mbaise and Owerri West. A total of 120 broiler farmers were used in the study.

The study adopted a descriptive statistics such as mean and relative frequency as well as costs and returns model. The cost and returns model will analyze the gross and net margin of broiler production. This is expressed as:

(A)GM = TR – TVC1

Where

GM = Gross margin of broiler production

TR = Total Revenue (₦)

TVC = Total Variable Cost (₦)

The total revenue can be expressed as;

TRi = PqiQi2

Where Pq = unit price per quantity of broiler produced

Q = quantity of live birds produced (kilogramme)

i = type of products (1=live birds, 2=dressed birds)

TVC = Total variable cost, which comprises of labour, feed, drugs, water and chemical

TVC= $\sum_{i=1}^n PxiXi$ 3

Where Pxi = unit cost of each variable input

Xi = the variable input used in broiler production

(B) The net margin is expressed as;

NR(π)=GM-TFC4

Where Gross margin (GM) and Total fixed cost (TFC) are as discussed above.

RESULTS AND DISCUSSION

Table 1 shows the socio-economic characteristics of the broiler farmers. The result shows the mean age of the farmers in the study area is approximately 53 years, implying that majority of the farmers are above the youthful age of production and may not be able to withstand the stress involved in broiler production and this could lead to low net return to investment in the rural areas. This is not synonymous with the findings of Nkematu,(2005) who reported a mean value of 27.8 years on poultry production in Imo State of Nigeria, implying that the bulk of the farming population were energetic, able-bodied and active group that are not only enterprising but would supply the much needed farm labour in the farm enterprises.

The results further shows that majority of the farmers were mostly females covering about 54.17% of the total population. This is attributable to the less intensive labor demand of Sex Frequency Percentage (%) of poultry farming which the female gender could afford. More so, females are found to be more caring as is required by broiler rearing than males and can lead to increase net return. Moreso, the results shows that 74.17% of the total population of the broiler farmers in the study area were married, with a mean household size of approximately 11 persons per household, this implies that the farmers in the study area have large household size and can affect the net return as most of the income will be used to carter the need of family. Majority of the farmers attained tertiary level of education (44.17%), secondary education(33.33%) and no formal education(5.83%). This implies that the farmers are aware of the importance of education to enhance increase net return. This agreed with Ehirim et al. (2006), that improved level of education enhances the farmers to improve profitability. The results further shows that the mean farm experience was 6 years, this shows that the farmers are experienced. Also the mean stock size was 696.3 birds per batch. This shows that the farmers were operating in medium scale size. In addition, the results shows that

the mean mortality rate of broiler production was 3.59, this implies that the mortality rate in broiler production in the study area is low, 4 birds per a return.

batch of 600; this could be as a result of the farmers' adequate experience in broiler production which invariably bring about improved net

The Socio-economic Characteristics of the Farmers are represented in Table 1
Table 1: Socio-economic characteristics of the broiler farmers in the study area

Age (year)	Frequency	Percentage (%)
29-36	22	18.33
37-44	30	25.00
45-52	38	31.67
53-60	14	11.67
61-68	16	13.33
Mean	52.59	
Sex		
Male	55	45.83
Female	65	54.17
Marital status		
Married	89	74.17
Single	11	9.17
Others	20	16.67
Household size		
3-6	24	20
7-10	36	30
11-14	35	29.17
15-18	19	15.83
19-22	6	5
Mean	10.73	
Level education		
No formal education	7	5.83
Primary education	20	16.67
Secondary education	40	33.33
Tertiary education	53	44.17
Farm experience		
1-5	64	53.33
6-10	42	35
11-15	6	5
16-20	5	4.17
21-25	2	1.67
26-30	1	0.83
Mean	6.42	
Stock size		
1-500	21	17.5
501-1000	91	75.83
1001-1500	8	6.67
Mean	696.3	
Mortality rate		
0.01-5.0	100	83.33
5.01-10.0	18	15
10.01-15.0	0	0
15.01-20.0	0	0
20.01-25.0	2	1.67
Mean	3.59	

Field Survey Data, 2019.

The results of net return of the broiler farmers is presented in Table 2

The cost elements in calculating cost and return in broiler production as shown in Table 2 were broiler chicks, feeds, drugs, labor, water, fuel, dressed birds and land. Land was given in a depreciated average rental value of ₦ 239.01. The common tools used by the farmer were depreciated on average values of ₦ 441.18. A total of

19650 day old birds were stocked at an average of ₦ 340.40 each and were used in the production cycle. Therefore, calculating other variable cost elements, a total variable cost of ₦ 1932.84 was incurred. A total of 388 man-day at ₦ 1463/ man-day at an average value of ₦ 345.28 were used to produce 18714 life birds' broilers and 4636 dressed birds at 2.71kg each. A total of 18714 life birds (3.60kg each) at ₦ 3004 was reared and 4636 dressed birds (2.71kg each) were sold at an average market value of ₦ 21560 at ₦ 2001.60/bird. Moreso a total of 20kg of 50bags of poultry litter were sold at ₦ 763. These brought the total returns to ₦ 5937. A total cost of ₦ 2613.03 was incurred. Taking away the total variable cost from returns generated, a gross margin of ₦ 4004.16 was realized from broiler production. Moreso, deducting total cost from total returns, a net income of ₦ 3323.94 was realized. The return per investment was 1:1.27 which implies that in every ₦ 1 invested in broiler production ₦1.27 was realized. The result concurs with Ume, et al. (2012) who made similar finding among broiler farmers in Enugu urban of Enugu state, Nigeria.

Table 2: Costs and Returns Analysis of Broiler Production

Items	Details	Mean Amount (₦)/Bird
Returns		
Life Birds	18714 Life birds at table size (3.60kg each) @ ₦3004	3018.00
Dressed Birds	4636 Dressed Bird (2.71Kg each) @ ₦ 2,001.60each	2156.00
Poultry Litres	20 (50kg) bags of poultry litres	763.00
(A) Total Returns		5937.00
Cost		
Day old Birds/Stock	19650 day old chicks @ ₦340.40 each	340.40
Labour	388 manday of labour @ ₦1463/manday	345.28
Feed	321250kg of feeds @ ₦136.63/kg	234.30
Vaccines and Drugs	655liters of vaccine @ ₦1817.54/litre	724
Water	-	102.67
Fuel	344litres of Kero @ ₦252/litre	52.72
Poultry litre	-	186.87
(B) Total variable cost		1932.84
Fixed Cost		
Depreciation	-	441.18
Rent	-	239.01
(C) Total Fixed Cost		680.19
(D) Total Cost (B+C)		2613.03
(E) Gross Margin (A-B)		4004.16
(F) Net Broiler Income		3323.97
Rate of Returns to Investment		1 : 1.27

Source: Field Survey 2019

The results of the multiple responses of the major constraints facing broiler farmers is presented in Table 3

The table below shows the constraints associated with broiler production in the study area. Multiple

responses showed that pests and diseases, high cost of feed, high cost of vaccine and lack of regular power supply. This agreed with majority of constraints identified by (Seth *et al*, 2013).

Table 3: Constraints to broiler production

Constraints	Frequency	Percentage %
Disease infestation	28	24.56
High cost of feeds	15	13.16
Poor transportation	7	6.14
Poor storage facilities	6	5.26
High cost of labour	10	8.77
High cost of vaccines	13	11.40
Lack of electricity	25	21.93
Illiteracy	4	3.51
Inadequate land	6	5.26

Field survey, 2019

CONCLUSION

The study analyzed the profit of broiler production in Owerri rural agricultural zone. The major socio-economic factors that determine the net income of broiler farmers in the study area were; level of education, farming experience, marital status, stock size and mortality rate. In addition, the cost and return analysis shows that Broiler production is a profitable enterprise with positive net farm income of ₦ 3323.97 with rate of return to investment of 1:1.27. Furthermore, the major constraints to broiler production were pests and diseases, high cost of feed, high cost of vaccine and lack of regular power supply.

RECOMMENDATION

There is need to enhance the access of rural broiler farmers to high quality and standard drugs as there are lots of sub- standard drugs in the market and as well as improved broiler chicks.

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