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Full Length Research

Economic Analysis of Quail Farming in Southwest Nigeria

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This research work examined the economics of quail production in Southwest, Nigeria. Multistage sampling technique was used, with the selection of two States (Ondo and Ekiti States), snowball was used in getting the respondents in the communities selected from each of the two States. A total of eighty (80) respondents were used. Data were collected with the aid of well-structured questionnaire. Information was collected on respondents' socio- economic characteristics, economic potentials of the business, its profitability and constraint to its expansion and development. Descriptive statistics and Gross Margin Analysis were used to analyze the data collected to achieve the objectives of the study. The result obtained from the descriptive analysis revealed that the respondents from the study area were predominantly male and over 90% of the respondents possessed one level of education or the other while the remaining 10% had no formal education. The descriptive statistics also revealed the economic potentials of quail farming especially its usefulness in the area of medicine, as a means of cure and preventive medicine for most human ailments. Gross Margin Analysis revealed the huge returns and profit from the quail farming, a net farm income of ₦87,243.71 was realized annually by a farmer that engaged in quail production in the study area. The mean and standard deviation also showed the constraints affecting the expansion of the quail farming business, among all the constraints listed, it was revealed that lack of awareness about the benefit of quail with mean value of 3.76, inadequate capital (3.57), size of the egg (3.30) and low demand (3.14) were the most prevalent constraints facing the expansion of quail despite its various fascinating attributes. In conclusion, this research revealed that quail production has great economic value and just the economic value alone, it also revealed the medicinal potentials of quail because their eggs are used as cure various human ailment.

Keywords: Quail farming, Gross Margin, Constraints.

INTRODUCTION

The Japanese quail (Coturnix Quail) is virtually the smallest of the avian species reared for its egg and meat in the world today. (Panda and Singh, 1990). It is also believed that quail is a laboratory animal worldwide. In India the scientific research on Japanese Quails began in 1974 at the Indian Veterinary Research Institute. This research was taken further by the Central Avian Research Institute, using the genetic samples obtained from America. As a result of constant research different quail varieties were developed for both meat and egg. Afterwards veterinary colleges as well as animal husbandry departments played a vital role in the promotion of quail breeding as a farm enterprise.

The relevance of protein in human and animal nutrition cannot be over emphasized. In recent times, there has been a significant short fall between the production and supply of animal protein to feed the ever increasing population. The human population projection for the Sub-Saharan Africa is put at about one billion by the year 2020 (Winrock, 1992).Nigeria at present with a population of over 140 million (NPC, 2006) is expected to contribute a significant percentage of anticipated population growth. This means greater pressure on feeding the populace. The present rate of growth in the

agricultural sector is considered slow to match the expected population growth (Abu and Soetan, 2009). Nigeria, notwithstanding the anticipated thick population, is highly deficient in animal protein security with the per capita consumption put at 45.4g/day as against the 53.8g/day recommended by the FAO to be the minimum requirement for the growth and development of the body (Lamorde, 1997; Esobhawan, 2007, Esobhawan, Ojo and Ikhelao, 2008). Many families especially those that live in the rural areas which constitute about 80% of the population, cannot afford diets rich in protein especially those from animal source, one out of five persons is unable to meet his/her daily needs in Nigeria today especially in the southwestern Nigeria.

This implies that only about 27.35% of the minimum requirement in animal protein intake is secured in Nigeria. To arrest this unacceptable trend, efforts have been directed towards boosting the animal industry with micro-livestock having prolific tendency, short gestation period, short generation interval and rapid growth. Among the micro-livestock animals is the Japanese quail (*Coturnix coturnix japonica*) which falls within the above description, and also it was evaluated that the quail egg has a high crude protein content of 18.2%, hence the evaluation on Japanese quail husbandry as a means of increasing animal protein base in Southwestern Nigeria. Also Quail egg is consumed across all age ranges and gender (Wikipedia, 2013).

Quail begins to lay their egg at about 5-6weeks of age, their small body size, a very rapid growth which coupled with early laying of egg helps the farmer that want to embark on the quail farming business with a very little capital outlay and the generation of income start in earnest and very quick since they reach maturity just over a month, it is also one of the alternatives to unemployment. (Ani, Okeke and Emeh, 2009).

RESEARCH METHODOLOGY

Area of study: The research was carried out in the southwestern part of Nigeria. The southwestern region is made up of six States, which are Ekiti, Ondo, Osun, Ogun, Oyo and Lagos state.

Sampling technique: The type of sampling technique used is multistage sampling. Two states were selected, which are Ekiti and Ondo States after which two communities were selected from the two the States, and finally snowball was used in getting the respondents in the communities selected, a total of eighty(80) respondents were used.

Instrument for Data Collection: A structured interview schedule with simple questions were used as instrument for data collection. The interview schedule contained both open and closed ended questions that were designed around the objectives of the study.

Source of Data: The sources of data were primary and secondary sources, the primary source of data for this study, is a well-structured questionnaire used to interview (80) respondents from two towns each of the two selected States based on the objectives of this study. Secondary sources of data include relevant materials obtained from published journals, magazines, newspapers and past project books etc.

Analytical tools: The data analyses were Descriptive Statistics that shows the frequency count, percentage and cumulative percentage. Gross margin analysis was used to analyze the profitability of quail farming. Mean and standard deviation was used to analyze the constraints to quail farming.

Gross Margin

The gross margin model used: Gross Margin = TVC – TR.
TVC = Total Variable Cost.
TR = Total Revenues

RESULTS AND DISCUSSION

1. Socio-Economic Characteristics of Farming Households

Results of the socio-economic characteristics of the respondents show that majority (67.5 percent) of the respondents engaged in quail farming were males. It further revealed that 68.8 percent of the respondents were married. The results showed that 70 percent of the respondents were less than 45 years old, implying that they were relatively young. Also, 52.6 percent of the respondents had between 1 and 4 members in their households. It was revealed that only 80 percent of the respondents had tertiary education. Most of the farmers interviewed were new in quail farming, this could be evidenced with 97.5 percent of them indicating less than or equal to 5 years as their years of experience in quail farming. Only 11.2 percent of the respondents practiced quail farming as a full time business and 1.2 percent indicated that food processors did come to buy its eggs for food processing while 100 percent of the interviewees revealed that quail had medicinal use.

2. Gross Margin Analysis for Average Production per Annum.

Average fixed cost per annum (Housing, Feeder and Drinker) = ₦26,296.29
Average variable cost per annum (Purchase of chicks, Medication and Vaccine) = ₦28,250
Average total revenue per annum = ₦141,790
Gross Margin = TR – TVC i.e Total Revenue – Total Variable Cost
GM = ₦141,790 – ₦28,250 = ₦113,540
Net Farm Income = Gross Income – production expenses
NFI = TR – TC
TR = Total Revenue
TR = ₦141,790

Table 1: Socio-economic Characteristics of Farmers in the Study Area

Variables	Frequency	Percentage
Age		
15-25	12	15
26-35	19	23.8
36-45	25	31.2
46 years and above	24	30
Gender		
Male	54	67.5
Female	26	32.5
Marital status		
Single	25	31.2
Married	55	68.8
Education level		
No formal education	1	1.2
Primary education	2	2.5
Secondary school education	13	16.3
Tertiary education	64	80
Primary occupation		
Farming	14	17.5
Trading	14	17.5
Civil service	27	33.8
Artisanal job	6	7.5
Others	19	23.7
Years of experience		
1-5	78	97.5
6-10	2	2.5
Household size		
1	24	30
2-4	26	32.6
5-7	27	33.8
8 members and above	3	3.8
Rearing options		
Full time	9	11.2
Part-time	71	88.8
Choice for food processors		
Users	1	1.2
Non-users	79	98.8
Medicinal use		
Yes	80	100
No	0	0.0

Source: Computed from field survey, 2016.

TC = Total Cost which is Total Fixed Cost + Total Variable Cost = ₦26,296.29+ ₦28,250
Therefore, TC = ₦54,546.29
NFI = ₦141,790- ₦54,546.29
NFI = ₦87,243.71

The above calculations and figures provided show that quail farming production is profitable in the study area. The average total variable cost of production per annum was ₦28,250 and the average fixed cost was ₦26,296.29 while total revenue for the year was ₦141,790. Therefore, the net profit for the year was ₦87,243.71. This indicates that the quail farming business is highly profitable.

From the tables, the constraints with the mean values of 2.5 and above constituted most problems to the expansion of quail farming. The ones with mean values below 2.5, that is having 2.4 and below, were not major constraints as indicated by the respondents. Lack of awareness about the benefit of quail (3.76), inadequate capital (3.57), and size of egg (3.30) were the highest constraints to the expansion of quail farming in Southwestern Nigeria. Low demand for

Table 2: Constraints to quail farming expansion

Constraints	₦	Minimum	Maximum	Mean	Std. Deviation
Inadequate capital	80	1	4	3.75	0.569
Price instability	80	1	4	2.65	1.080
High mortality rate	80	1	4	1.86	0.742
Low demand for quail					
egg and meat	80	1	4	3.19	0.765
High cost of feeding	80	1	4	2.53	0.794
High cost of labour	80	1	4	1.68	0.742
Size of egg	80	1	4	3.30	0.786
Amount of carcass after					
Maturity	80	1	4	2.72	0.763
Lack of awareness about					
benefit of quail	80	3	4	3.76	0.428
Susceptibility to disease					
Outbreak	80	1	4	1.76	0.534
Theft	80	1	4	1.66	0.711

Source: field survey 2014.

quail (3.19), amount of carcass (2.72), price instability (2.65), and high cost of feeding 2.53 also constituted the constraints of quail farming expansion.

CONCLUSION AND RECOMMENDATIONS

From the study, it was revealed that quail farming has great potential of increasing the amount of protein consumed as a result of increase in the amount of sales of quail eggs in the study, and also increasing the income of the people involved in it. There is much room for increase in the production of quail, if more people especially young school leavers and even civil servants can venture into quail farming- this will reduce unemployment, poverty and malnutrition by increasing the protein level in the country.

It is now suggested that there should be awareness campaign on the various benefits of quail production (egg and meat) to mankind. This will continuously increase the level of sales and market availability. Quail farmers' cooperative should be encouraged by the government so as to mitigate the problem of inadequate capital, and will also serve as morale booster for people who want to embark on the farm enterprise especially the youth. Government should help people to embark on the quail farming by providing soft loans for the interested youth and farmers in the production already. There should be adequate dissemination of information by extension agents to bridge the gap between the farmers and the research stations by consistent visitations and education of the people involved in quail production on management practices and veterinary measures to be taken for optimum production. There is need for policy direction aimed at encouraging jobless youths to use their idle time to embark on small scale quail production. Also measures should be put in place to reduce the importation of frozen meat into the country, so as to increase production locally and create employment for the numerous youth in the country.

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