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EGG FARMING BUSINESS IN KWARA STATE, HOW PROFITABLE?

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ABSTRACT

The study examined the socio-economic characteristics of egg farmers and the profitability of egg production in Kwara State. The sample composed eighty randomly selected egg farmers from population of one hundred and five registered farmers in the state. Costs and returns analysis was employed as analytical tool. The study revealed that all the sampled egg farmers were literate with over seventy percent of them having post secondary education. Farmers, though literate were found not to keep proper farm records of their operations. Egg farming enterprise was found to be profitable in the state, with net farm income per annum of ₦ 253, 578, ₦ 848,022 and ₦ 5,857, 601 for the small, medium and large -scale farms respectively. It was recommended that farmers for proper planning should keep proper farm records. Also effort by farmers to increase their flock size would result in increased net farm income and profitability.

Keywords: Egg production, profitability, small, medium, large, Ilorin.

INTRODUCTION

Although food availability has increased with the growing human population during the last 30years, there are still 800 million people in the world suffering from malnutrition. This problem is due not only to insufficient food production and inadequate distribution but also to insufficient income of the poor to acquire food in adequate quantities and qualities to satisfy their needs (FAO, 1993).

Nigeria is regarded as largely a protein deficient country (Okuneye 2002). The animal protein consumption in Nigeria is below the United Nations/ Food and Agricultural Organisation recommended minimum of 20 grammes for developing countries as against the 75 grammes optimal daily requirement for normal growth and development (FAO, 1992). However, according to Olayemi, et.al. (1986), the average animal protein intake per caput per day in Nigeria was a mere 7.6 grammes. Given the fact that the GDP per capita in Nigeria has fallen over the years, the level of animal protein consumption per head would have similarly declined.

The effect of this deficit is manifested in the prevalence of various forms of protein caloric malnutrition diseases (Aletor, 1983). Egg is however an excellent rich source of animal protein of high biological value in respect of lipids, vitamins, phosphorus and other nutritionally important substances it contains (Oguntona, 1997). The importance of egg as a cheap source of animal protein therefore necessitates a costs and returns analysis of its production in Kwara State, to ascertain its profitability for a would be egg farmer.

Various empirical studies have been carried out using costs and returns as analytical tool in determining the profitability of livestock production. Olayemi (1992) considered the structure of costs and returns as probably the most significant aspect of livestock production. He opined that the net income from livestock production is a function of total output of products, the price of the outputs, the total level of feeds and labour employed and their prices.

Adedayo(1993) made a comparative study of commercial poultry production in a government owned farm and two private farms. He found out that labour constitutes a sizeable proportion of the total cost of production followed by feed cost. He stressed further that the cost structure indicated that the level of efficiency of the farms, and the availability and quality of production inputs affect to a large extent production in these farms. Comparing government farms with private farms might however give false conclusion since government farms are mostly over staffed and thus incur huge labour cost than is necessary.

Kupoluyi, (1975) in an earlier report, examined the costs and returns to a private farm in Ibadan and identified some problems a would be investors should find solution to, so as to ensure profitability. Makinde,(1992) had a more global look on the costs and returns to egg farming

enterprise of large scale farms in order to determine their profitability. He used gross margin analysis to achieve this objective.

METHODOLOGY

Source of Data

The information used in this study was obtained through a structured questionnaire. The questionnaire was administered to egg farmers in Kwara State between October 2001 and June 2002. Matters relevant to the study but not covered by the questionnaire were obtained orally from the officials of Agricultural Development Project (ADP) and members of Poultry Association of Nigeria (PAN), Kwara State branch. Seventy-six registered farmers were randomly selected from the total of one hundred and five farmers registered in the state. Four non-registered farmers were also interviewed.

The study adopted the classification of Akinwumi, *et. al.* (1979), a farmer who maintains at least 5000 birds is classified as a large scale producer, while farmers with between 500 and 4999 birds are medium scale producers any producer with less than 500 birds are on small scale. Data was obtained on socio-economic characteristics of farmers. Information was also obtained on input-output relationships and on cost and returns of egg business in the State.

Method of Data Analysis

Both descriptive and analytical techniques were employed in analysing the data obtained from the survey. The descriptive techniques involve calculations of such parameters as the means, and percentages of various resource inputs to facilitate effective comparison. To determine the profitability of egg production costs and returns analysis was used. The profit made by each farm was obtained by subtracting each farms total annual production cost from their total annual revenue. Total annual cost is made up of total variable cost plus total fixed cost.

$\Pi = TR - TVC - TFC$

Where Π = profit from egg production

TR = Total Revenue

TVC = Total Variable Cost

TFC = Total Fixed Cost.

The fixed cost items are converted to annual costs using the straight-line depreciation method. Such items include feeders, battery cages, drinkers, brooder and other capital equipment. Operating costs are incurred annually and these are mainly cost of feeds, transportation, labour costs, cost of day old chicks. Other costs include cost of inputs like drugs, additives, antibiotics, sprays and so on. To enable comparison between the scale of operations, cost incurred, revenue made and profits generated were obtained for different categories of producers and comparison were made accordingly.

RESULTS AND DISCUSSION

Medium scale farmers who keep above 500 birds dominate the poultry industry in the state. They accounted for sixty-eight per cent of the farmers interviewed. The large-scale farmers are few, only ten per cent operate on a large scale. Such farms are managed as business entities with profit maximisation as their main objective. Analysis revealed that 96 per cent out of the sampled farms are solely managed. This explains why most farms in the study area are very small and have low capital base. Departure from this sole ownership will broaden the capital base of the farmer and thus increase

farm size and productivity. Education leads to acquisition of new skills and enhances adoption of innovation and efficient allocation of limited resources. (Mock,1974). Seventy-one per cent of the respondents had university or polytechnic education. This shows high level of literacy of the poultry

farmers. Capital is the life wire of any business, the amount of capital invested distinguishes the large from the small-scale enterprises. More than fifty percent of the respondents obtained their initial capital from personal savings. This probably explains the reason for the low capital base for many of the poultry farmers. Thirty two percent of the farmers obtained some sorts of assistance from Poultry Association of Nigeria for stocking or expansion of their farms. This further emphasised the importance of cooperatives in provision of soft loan to their members. Many of the farmers claimed that lack of collateral prevented them from obtaining credit facilities from banks. Only six percent of the respondents obtained loans from banks. Incidentally these farmers have the largest stocks of birds in the study area.

Thirty –one percent of the respondents used battery cage system of management. The remaining sixty-nine percent adopted the deep litter method of management. Harco breed of pullets are highly preferred by farmers in the study area. The farmers are of the opinion that Harco breed is highly productive and has high resistance to diseases. About sixty –three per cent of the farmers kept the Harco breed, twenty–two per cent kept the Issa Brown, while the remaining six per cent kept the other breeds. Some of the other breeds were kept because they were cheaper.

Ninety- four per cent of the farmers obtained their stock from day old. This, they claimed enable them to know the source of the birds and also to monitor the performance of the birds. They added that buying at day old allow them to administer the required drugs and vaccinate the birds for effective performance at point of lay. The remaining six percent buy at point of lay due to lack of space and time to monitor the birds from day old. On the average, poultry farmers in the study area keep birds for seventy three weeks.

(a) Cost Structure

Cost here is classified into fixed and variable costs. Variable cost, which is an increasing function of numbers of eggs produced, included the costs of day old chicks, feeds,
drugs, transportation, veterinary services, water and electricity. The study revealed variable cost to be a sizeable proportion of the total cost. It is about ninety per cent of the total cost, while fixed cost represent about ten percent for the small-scale category of producers. Also for the medium scale producer variable cost represent eighty – five percent, and fixed cost fifteen percent, and for the large scale operators' variable cost is about eighty–two percent of the total cost while fixed cost is eighteen per cent.

Cost of feed per hen represents the major component of total cost of production. For the small-scale producer, the contribution of feeding cost to total variable cost was 76 per cent, for the medium scale producers, it was found to be 74 per cent and for the large-scale producer, it represents 73 per cent of total variable cost per hen. The contribution of feed to total cost of production in the study area confirmed the earlier reports by Fetuga (1979), and Omotesho and Ladele (1990) who reported that feed contributed between 65-80 per cent of total cost of production. The large-scale producer, in the study area pay an average of ninety five Naira (₦95) per chick while the small holder farmer pay an average of one hundred and five Naira (₦105) per bird.

Cost of labour was found to be the third most important variable after the cost of feed and cost of chicks in egg production. Labour cost per hen for the production cycle was found to be highest for large-scale producer (₦185) and smallest for the small-scale producer (₦144) in the study area. Majority of the small-scale producers utilize family labour and self-effort in production in order to cut cost.

(b) Revenue Analysis and Profitability

There are two major sources of revenue open to the egg producers; these are revenue from the sale of eggs and that from the sale of spent layers. Table 3 highlights the surplus over and above costs incurred per bird. The study revealed that the large scale producers generate more revenue per bird than the lower scale producers.

Table 4 presents the analysis of the costs and returns per farm category in the study area. The small-scale farm category has ₦253,578 as net farm income, the medium farm category has ₦848,022 and for the large farm ₦5,857,601 per production cycle. The average net farm income was found to be positive and substantial for each farm category in the study area. Table 5 makes this comparative analysis more vivid.

CONCLUSION AND RECOMMENDATIONS

Out of the three farm categories, the smallholder farm has the least net farm income. Scale of operation was found to have a positive relationship with net farm income. The large scale producers were found to have the highest net return per hen (₦886.75), as against the small holder (₦666). Efforts by farmers to increase their farm size will ensure effective production and increased net farm income. Egg farming business was found to be a viable venture in Kwara State. There is however the need for farmers to keep good records of their farm operations. This will allow for effective planning of their business.

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Table1 Cost components of egg production/pullet per production cycle in Kwara State .

Scale of operation	Cost of feed per hen (₦)	Labour cost per hen (₦)	Cost of chicks per hen (₦)	Cost of drugs, water, light, per hen (₦)	Depreciation cost per hen (₦)	Total cost per hen (₦)	Average Number of birds
Small	1478.74 (73.3%)	185.36 (9.2)	95 (4.7)	205.32 (10.2)	53.18 (2.6)	2017.56 (100%)	300
Medium	1548.05 (74.65%)	180.43 (8.7)	102 (4.92)	221.82 (10.7)	21.43 (1.03)	2083.73 (100%)	980
Large	1618.8 (76.28%)	144.05 (6.79)	105 (4.95)	235.41 (11.09)	18.81 (89)	2122.07. (100%)	6850

Source: Field Survey 2002.

Table 2. Cost Structure Per Production Cycle.

Farm Categories	Variables Cost (₦)	Fixed Cost (₦)	Total Cost (₦)
Small	574,340 (89.95%)	12,514 (10.11%)	586,954 (100%)
Medium	84.81% (1,805,785)	15.19% (30,050)	100% (1,835,835)
LARGE	(81.98%) 1,2893,848	275,680 (18.01%)	13,169,528 (100%)

Figures in parentheses represent the percentage of total cost

Source: Field Survey 2002.

Table 3. Costs and Returns Per Bird Per Production Cycle.

Scale of operation	Price/bird of spent layer	Returns on Egg/layer (₦)	Total return / layer (₦)	Total cost / layer (₦)	Net return/ Layer (₦)
Small	350	2438.65	2788.65	2122.07	666.58
Medium	350	2454.68	2804.68	2083.73	720.95
Large	360	2544.31	2904.31	2017.56	886.75

Source: Field Survey, 2002.

Table 4. Average Costs and Returns For the Three Categories of Farm.

	Small		Medium		Large	
	₦	₦	₦	₦	₦	₦
Gross Revenue		840432		2,683,857		19,027,129
Variable Cost	574,340		1,805,785		12,893,848	
Depreciation	12,514		30050		275,680	
Total Costs		586,854		1,835,835		13,169,528
Operating Profit		266,092		878,072		6,133,281
Net Income		253,578		848,022		5,857,601
Return on Capital		43.2%		46.19%		44.47%
Ratio of Net Profit to gross Revenue x 100	30.17%			31.6%		30.78%
Operating Ratio x 100	44.15%			46.96%		45.43%
Fixed Ratio x 100	68.33%			67.28%		67.7%
Gross Ratio x 100	1.48%			1.11%		1.44%
Capital Turnover	1.43%			1.48%		1.47%

Source: Field Survey 2002.

Table 5. Average Costs and Returns per farm Category per annum.

Items	Small scale	Medium scale	Large scale	Average Total
Gross revenue	840,432	2,683,857	19,027,129	7,517,139
Variable cost	574,340	1,805,785	12,893,848	5,091,324
Fixed cost	12,514	30,050	275,680	106,081
Total cost	586,854	1,835,835	13,169,528	5,197,439
Operating profit	266,092	878,072	6,133,281	2,425,815
Net income	253,578	848,022	5,857,601	2,319,733

Source: Field Survey 2002