

# The Impact of Credit on Poultry Farm Productivity in Oyo State, Nigeria

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**Target Audience:** Banks, Informal Lenders, Poultry farmers, Academic and Policy makers.

## Abstract

The study examined the impact of credit constraint on the productivity of poultry farmers. The sources of credit and the amount demanded by the farmers in the study area were assessed. A random sample of farmers was taken in Ibadan metropolis. Primary data was collected on their socio-economic characteristics, sources of capital and credit, quantities and prices of their farm inputs and outputs. The data was analyzed using descriptive statistics and regression analysis. Results show that informal sources of credit are still preferred and more than half of the respondents are credit constrained. The statistically significant factors that affect farm productivity include value of feed, quantity of water, numbers and age of birds, training and the credit constraint condition of farmers. Credit constraint will reduce farm's productivity. It shows that access to credit is not sufficient to improve productivity but the credit must be adequate to ensure sufficient working capital. Both commercial and development banks should be encouraged to extend adequate credit to this sub-sector. This could be effectively carried out through their cooperative societies. The transaction cost of credit should also be reduced by extending credit to farmers through these societies. This will encourage more farmers to obtain loan from formal sources. There is the need for a thorough appraisal of poultry projects as it will assist in the correct assessment of the credit needs of loan applicants.

**Keywords:** poultry, credit constraints, formal and informal lenders, productivity

## Description of Problem

Poultry production serves as a rich source of animal protein whose importance is crucial in human nutrition. Recently, animal protein production in Nigeria is reported to be about 4.5 gram per caput per day (Olutayo, 1998). The total protein requirement per person on a daily basis is about 65 gram per caput, of which animal protein should be 35 gram per caput per day as recommended by the Food and Agriculture Organization (FAO). Commercial poultry production has been on the downward trend since 1982. Some of the reasons for this include high cost of feed, inavailability of adequate capital and importation of frozen poultry

products which makes local ones non-competitive. Lately in 1997 and 1998, the Federal Office of Statistics reported that an increase of 1.3 percent in the output of poultry products was recorded in the country. This is still far below the demand for the product as evidenced by the massive illegal importation of poultry products in the last few years until the recent ban.

Nwago (1989) opined that agricultural credit if well applied will increase farm size and productivity. It is believed that credit will facilitate adoption of improved farm practices, encourage capital formation, improve efficiency and smoothen farm family's consumption expenses through the year.

The input supply credit needs of the small-holder poultry farm may be equated to the seasonal credit requirements of the crop farmer, with an important distinction. In crop production, there is generally a single production cycle per annum, whereas in livestock production, it is a continuous or batch process. In traditional poultry production, there is little demand for credit, however, for improved production, the producer, large or small, will generally require either trade or institutional credit to cover the cost of regular supplies of feed. Ogunfowora *et al* (1972) showed that unless production credit is made available in suitable terms, majority of the farmers would be seriously handicapped in producing profitably. Because of the risks involved, there has been little development of supplier credit in Nigeria to support the small holder poultry farms; even the large commercial poultry units do incur costs to obtain bank credit.

This study examined the impact of credit on the poultry enterprise in Ibadan metropolis of Oyo state. The specific objectives are to:

1. identify sources and size of credit demanded by poultry farmers,
2. identify farmers that are credit constrained and,
3. determine the relationship between farmer's credit constrained condition and their productivity.

In this study, farmers were considered credit constrained if they already obtained a loan that is less than what they requested for but are still willing to get more if offered, or if their loan request was not approved at all.

### Materials and Methods

The study was conducted in Ibadan metropolis. A random sample of farmers was taken in the study area. A total of 120 respondents were selected out of which only 93 gave consistent responses. Primary data were collected using structured questionnaires. Data was obtained on socio-economic characteristics of the respondents and the quantities and prices of farm inputs and outputs.

The data was analyzed based on the responses of the 93 farmers using descriptive statistics and regression analysis. The descriptive statistics include frequencies and

percentage. These were used to analyze the socio-economic characteristics of the farmers and their credit status. A multiple regression model was specified to estimate the relationship between the productivity of poultry farmers and some socio economic characteristics including farm characteristics. The model is specified as

$$Y = f(X_i, U)$$

Y = productivity measured as number of eggs produced per month

X<sub>1</sub> = Number of layers

X<sub>2</sub> = Age of birds in weeks

X<sub>3</sub> = Number of years of schooling

X<sub>4</sub> = Experience in years

X<sub>5</sub> = Value of feed consumed in ₦

X<sub>6</sub> = Cost of Veterinary services in ₦

X<sub>7</sub> = Quantity of water used by birds in litres

X<sub>8</sub> = Number of workers on the farm

X<sub>9</sub> = Credit constrained condition of farmer 1 if credit constrained, 0 otherwise

X<sub>10</sub> = Gender (1 if male, 0 if female)

X<sub>11</sub> = Number of training programme attended.

U = Error term

The model was analyzed using the ordinary least squares estimating procedure

### Results and Discussion

The socio-economic analysis reveals that there are more male in poultry production than female. About 77.3 percent of the farmers were male. This result agrees with the findings of Alimi and Ologun (2001). The study also shows that 72.7 percent of the farmers are within the ages of 31 and 60 years which signify that most poultry farmers are middle aged and are still within their active and productive years. This enables them to stand the stress of poultry production. Besides, they can take risk more than the older farmers. A total of 88.9 percent of the farmers are married with a mean family size of six. More than half of the respondents (61.4 percent) expressed that their relatives assist them on their farms. All the farmers were literate with about 74 percent of the farmers having spent about six years in school which was mainly for their primary education while 26 percent had post primary education. Moreover, 61.4 percent had been in poultry business for about 10 years and are well experienced.

### Sources of Capital to Farmers

About 38.71 percent of the respondents depend on personal savings only for their capital while 61.29 percent demanded for credit from other sources, both formal and informal, in addition to their equity capital. Table 1 shows the credit status of respondents. Only 36.84 percent of the

farmers that demanded for credit got not less than they requested for while 63.16 percent got less than they wanted or were not granted. The group of farmers whose requests were not adequately met is referred to as being credit constrained. In this study non of the farmers did not have his demand for loan granted.

**Table 1: Number of Credit Constrained and Non-Credit Constrained Farmers**

Sources Of credit	Number of credit constrained farmers	Percent of credit constrained farmers	Number of non-credit constrained farmers	Percent of non-credit constrained farmers	Total Number of Respondents that demanded for credit.
Bank	6	10.53	-	-	6
ACGSF	2	3.51	-	-	2
NACB	2	3.51	-	-	2
Money Lenders	5	8.77	16	28.07	21
Cooperative	7	12.28	5	8.77	12
Friends	14	24.56	-	-	14
Total	36	63.16	21	36.84	57

Source: Field Survey, 2002

The table shows that majority of the farmers obtained credit from money lenders. This indicates that most farmers patronize informal sources of credit more than formal sources of credit, inspite of the former's high interest rate. This agrees with the position of Sokenu (2002) who opined that ordinary people are not worried about interest rates but want the money on time and in large quantity. If money is made available

for use when needed, farmers will be able to turn it over and pay back. Friends and cooperative societies followed. From the sampled farms, only 17.55 percent obtained loans from formal sources which include commercial banks, Agricultural Credit Guarantee Scheme Fund (ACGSF) and Nigerian Agricultural and Cooperative Bank (NACB). All these farmers stated that it is less stringent to get loan from informal sources than formal sources.

**Table 2: Loan Size Demanded and Obtained by Respondents**

Amount of Credit Demanded (₦)	Frequency	Percent	Amount obtained (₦)	Frequency	Percent
10,000-100,000	19	33.33	10,000-20,000	11	19.30
101,000-200,000	11	19.30	21,000-40,000	17	29.82
201,000-400,000	13	22.81	41,000-80,000	12	21.05
401,000-500,000	10	17.54	81,000-120,000	9	15.79
Above 500,000	4	7.02	Loans not granted	8	14.04
Total	57	100	Total	57	100

Source: Field Survey, 2002

Results show that most farmers (33.33 percent) wanted loans that were not more than ₦100,000. This shows that loan volume of not more than ₦100,000 will satisfy at least one third of poultry farmers. About 47.37 percent requested for over ₦200,000. This study contrast the demand for credit by most women where the request made by women was less than ₦20,000 (Adeoti, 2000). The demand for a large amount by poultry farmers is due to the high cost of production in the industry. The result in Table 2 reveals that none of the respondents obtained more than ₦120,000. This emphasizes that supply of credit falls short of the amount

demand and will lead to credit constraint condition of most farmers. About half of the respondents obtained between ₦21,000 and ₦80,000. Only 14.04 percent did not obtain any loan. It shows that while majority can access loans, the problem is with the inadequacy of the loans.

In evaluating the impact of credit constraint condition on farmers' productivity, four functional forms were fitted to the data; the linear form was chosen based the correctness of the signs of the estimated coefficient and the goodness of fit of the model. The result of the regression is given as

$$Y = -166.835_{(516.579)} + 78.515_{(22.251)}^{***} + 15.045_{(6.054)}^{***} + 5.928_{(2.197)}^{***} + 19.005_{(6.206)}^{**} + 0.341_{(0.182)}^* \\ - 120.478_{(180.962)}^{x_6} + 42.014_{(19.385)}^{***} - 80.576_{(147.465)}^{x_8} - 155.810_{(56.385)}^{***} - 195.410_{(200.129)}^{x_{10}} + 446.947_{(212.69)}^{***}$$

$$R^2 = 0.91$$

$$\text{Adj. } R^2 = 0.877$$

$$F \text{ ratio} = 8.96^{***}$$

\*\*\*significant at 1 percent \*\*significant at 5 percent

\*significant at 10 percent

Eleven variables were considered in the model comprising of number and age of layers, four input variables; four social-economic variables of the farmer, and the credit condition of the farmer. The coefficient of determination is 0.877 and it shows that the model has a good fit. The F ratio is 8.96 percent and it is statistically significant at the 1 percent level. This shows that the variables in the model explain well the productivity of the sampled poultry farmers. Seven of the variables were statistically significant at various levels and have positive relationship with farm's productivity. They include number and age of layers, years of schooling, experience of farmer, value of feed consumed, quantity of water used, and number of training programmes attended. This implies that increase in any of these variables will increase farm's productivity. The credit constrained condition of the farmer is also statistically significant at the 1 percent level of significance and it is negatively related to productivity. This underscores the importance of adequate credit volume in granting of credit to assist farmers with their working capital needs. This training is also important to improving

farm's productivity. This shows the importance of periodic arrangement for training for poultry workers. This will enable them update their knowledge of new research findings and technologies in poultry keeping.

The elasticities of the production for feed and water are 0.635 and 0.056 respectively. A 10 percent change in the value of feed will bring about a 6.35 percent change in the number of eggs produced per month. Similarly, a 10 percent change in the quantity of water will change the number of eggs produced per month by 0.5 percent. The optimal feeding of birds will increase the number of eggs produced substantially.

#### Conclusion and Application

Poultry farmers in the study area are mostly male who are young and are still in their economically active years. All the farmers are literate while majority have spent about 10 years in production. The study reveals that informal sources are still the preferred sources of credit. The formal sources of credit should be made more attractive by reducing the transaction costs of obtaining loans and encourage credit delivery

through farmer's cooperative societies. Also, over half of the respondents are credit constrained. The study shows that supply of farm inputs particularly feed and water, with adequate credit are important factors that affect farmer's productivity. This shows that optimal feeding is a sine-qua-non to increasing productivity. The number of years of schooling and number of training attended by farmers are equally important in improving farmer's productivity. The credit constraint condition of farmers has adverse effect on their productivity and this calls for improving credit delivery. Development Banks like the Nigerian Agricultural and Cooperative Bank and commercial banks should be made to comply with government policies with respect to credit delivery to agriculture and particularly poultry farmers. Increased production of poultry products is the way out of illegal importation. Dissemination of new technologies and frequent training by government agencies are equally necessary through extension agents. Most of the extension agents' efforts are focused on the crop sub-sector. Adequate attention must also be paid to the livestock sub-sector and particularly the poultry enterprise.

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