JOURNAL OF AGRICULTURAL ECONOMICS, EXTENSION & SCIENCE ISSN (Print) 2545-5179, ISSN (Online) 2714-5018
Official Journal of the College of Agricultural Economics and Extension JAEES Vol. 10 No. 1 2024, Pages 64 - 79
www.jaees.org
www.uam.edu.ng

IMPACT OF GENDER ON THE PERFORMANCE OF MALE AND FEMALE POULTRY ENTREPRENEURS IN CROSS RIVER STATE, NIGERIA

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ABSTRACT

This study analyzed the impact of gender on the performance of male and female poultry entrepreneurs in Cross River State, Nigeria. The specific objectives were to examine the socio-economic characteristics of the male and female poultry entrepreneurs, examine their performance and estimate the determinants of the performance of the male and female poultry entrepreneurs, and the impact of gender on the performance of the poultry entrepreneurs in Cross River State. Data collected from 120 respondents, through a simple random sampling technique were analyzed using descriptive statistics, Net return analysis, regression analysis, and Chow's test statistic. The results showed that the mean age of the male poultry farmers was 34.97% and 32.64 for the female poultry farmers. The study also shows that a greater (50.85% for the male and 48.21% for the female) proportion of the respondents were educated. Also, it shows that there are new entrants to poultry farming in the study area, since the majority of the respondents (61.02%) for the male and (83.93%) for the female has been in it for I – 5 years. The major source of funds for the male and female poultry farmers was from microfinance banks. The result showed that the amount of loan obtained by the male (₦214474.6) was significantly higher than the amount obtained by the female (₦150444.4) poultry farmers. The male poultry farmers had a higher profit margin at ₦175,497 while the female poultry farmers' profit was ₦90,515.05. Age, experience, number of birds, other variable costs, capital, and access to credit were the significant variables having different effects on the performance of the poultry farmers in the study area. Chow's test result showed that gender has a significant and positive impact on the performance of poultry entrepreneurs. It was recommended that targeted interventions to address gender-specific challenges, improve

access to resources for female entrepreneurs, and enhance market knowledge across the industry should be implemented. This should involve removing constraints to the acquisition of credit, improving education, and training the poultry farmer on innovations for enhanced productivity and performance.

Keywords: Determinants, Performance, Poultry, Entrepreneurs

INTRODUCTION

The poultry industry is a major sub sector in the livestock industry, which comprises chickens, turkeys, ducks quails, peafowl, Guinea fowls etc., reared for their economic benefit (Lawal, 2014). Compard to other livestock, the poultry enterprise offers the highest turnover and quickest return to investment and has been described as the surest means of solving the problem of protein deficiency in Nigeria. Another factor that has contributed to the growth of the poultry subsector is the rise preference of white meat (Aminu and Hermanns, 2021). Poultry production has become a full-time job for many and is considered a commercially viable enterprise (Yusuf *et al*., 2016). However, this is presently being undermined by high cost of production necessitated by escalating cost of major and essential ingredients required for feeds production (Mamman *et al*., 2016).

In the past, Nigeria's government has promoted the growth of contemporary poultry businesses by establishing research facilities, hatcheries, and courses on contemporary poultry management. Additionally, the federal government's privatization and commercialization policies have promoted private partnerships. People from a variety of backgrounds have suddenly poured into the market as a result of these incentives (Edafiaje, 2011). Because birds can adapt easily, have a high economic value, a high rate of output, and there is a large demand for their goods, commercial poultry farming is currently appealing in the face of new technologies (Fischer and Ghatak, 2009).

Entrepreneurship is the process of identifying, creating, and pursuing opportunities to develop and manage a business venture. Entrepreneurs are individuals who take the initiative to start new enterprises, whether small businesses or larger ventures, with the aim of achieving profit and growth. The essence of entrepreneurship involves innovation, risk-taking, and the ability to adapt to changing circumstances. Entrepreneurship can take various forms, including small startups, family businesses, and large corporations. It plays

a crucial role in driving economic development, job creation, and fostering innovation in societies worldwide. Entrepreneurs contribute to the dynamism of markets and are instrumental in shaping the business landscape. This study focused more on broiler producers and the effect on their performance.

Despite the growing significance of the poultry industry in Cross River State, Nigeria, there exists a gap in our understanding of the specific determinants influencing the performance of male and female poultry entrepreneurs. This knowledge deficiency hampers the development of targeted interventions and policies that can address potential disparities and foster inclusive growth within the sector. Additionally, limited insights into the challenges faced by female entrepreneurs in terms of resource access, education, and market knowledge further hinder the establishment of comprehensive support mechanisms. Consequently, there is a pressing need for research that systematically investigates and identifies the key determinants shaping the performance of both male and female poultry entrepreneurs in Cross River State, providing a foundation for informed decision-making and sustainable development strategies. Women are mostly involved in agribusiness, food processing, and consumer-related industries. They, also, handle the majority of reproductive labor (70%) and substance production. (Ugwumba *et al*., 2015). Women are not given priority for support in spite of government initiatives targeted at small scale entrepreneurs (Amin *et al*., 2013). Entrepreneurship is widely acknowledged as a crucial component of economic dynamics and is increasingly acknowledged as a major engine of economic growth, productivity, innovation, and employment (Ilori and Ayoola, 2017). Over time, it has become more and more clear that women entrepreneurs do, in fact, contribute to economic development. Historically, their participation in social and economic development has been undervalued. Despite this, men owned a sizable portion of the businesses. To put it another way, women-owned businesses were uncommon everywhere, particularly in emerging nations like Nigeria. Women entrepreneurs' attitude toward risk, or their capacity to obtain information and their readiness to act upon it, will determine their capacity to utilize the opportunity offered by microfinance services to guarantee enterprise performance (Amin *et al*., 2013).

One of the biggest obstacles facing female entrepreneurs is access to financing, especially when starting an enterprise. Direct or indirect discrimination in the formal financial sector might impact the performance of female entrepreneurs. One of the biggest challenges

facing the impoverished microentrepreneurs is the dearth of easily accessible financing options. Compared to their male counterparts, women entrepreneurs have been found to do worse in the business world (Abiola *et al*., 2012). Due to factors that impact entrepreneurial performance, such as a lack of credit, savings, education or training, and social capital, women entrepreneurs are generally found to have lower sales revenue, fewer assets, smaller profit margins, and a lower likelihood of survival than men's enterprises (Aninze *et al.,* 2018). Research backs up the claim that women entrepreneurs in developing nations face barriers to credit availability (Okpupara, 2011). Women participate in the informal economy at a higher rate than men do, and many of them turn to microfinance institutions for loans because they lack the funds to launch or grow their businesses (Ibru, 2009). In light of the aforementioned issues, this study examined the determinants of performance of male and female poultry farmers in Cross River State, Nigeria.

METHODOLOGY

This study was conducted in Cross River State, Nigeria. The population of this study were male and female entrepreneurs engaged in small and medium scale broiler poultry production in Cross Rivers State. Four local government areas (LGAs) (2 urban and 2 rural) were randomly selected. Simple random sampling technique was used to select fifteen (15) male and fifteen (15) female entrepreneurs in each of the selected local government areas. This gave a sample size of 120 respondents made up 60 male and female poultry farmers respectively. Primary data were used for this study. A structured questionnaire was used to get information from the entrepreneurs in the study area and also from the microfinance institutions. However, 59 out of the 60 questionnaires for the male and 56 out of 60 questionnaires for the female poultry farmers were found useful and used for the analyses. Net returns and Regression analysis were employed to test the hypotheses of the study.

The net returns from the enterprises wasused as proxy for performance. The net returns is given as:

NR = TR - TC …….....…….(1)

Where in equation 1, NR= Net Returns; TR= Total returns from investment; TC= Total cost incurred.

For the determinants of performance and the impact of gender on the performance of male

and female poultry entrepreneurs, the following regression model was estimated the two groups separately and then the pooled data was equally analyzed (equation 2). The pooled data with a dummy variable (equation 4) representing entrepreneurs' gender was equally analyzed.

The models are specified explicitly as:

$$\ln Y = b_0 + b_1 \ln X_1 i + b_2 \ln X_2 i + b_3 \ln X_3 i + b_4 \ln X_4 i + b_5 \ln X_5 + b_6 \ln X_6 + b_7 \ln X_7 + \varepsilon \ldots\ldots\ldots\ldots (2)$$

$(i = 1, 2)$

$$\ln Y = b_0 + b_1 \ln X_1 + b_2 \ln X_2 + b_3 \ln X_3 + b_4 \ln X_4 + b_5 \ln X_5 + b_6 \ln X_6 + b_7 \ln X_7 + b_8 D + \varepsilon \ldots\ldots (3)$$

Where in equations above, ln is the natural logarithm, Y is the performance of the male and female entrepreneurs in naira, X_1= age of entrepreneur, X_2= years of education, X_3= business experience, X_4= number of birds, X_5= price of labour, X_6= other variable input which includes feed, water, medication, sawdust, etc in naira. X_7 = capital in naira which is made up of depreciation cost, interest on loans, Etc.; D is a dummy (1 = male and 0 = female) and i represent the poultry farmers group and ε is the error term.

The Chow's test is specified as follows:

$$F^* = \frac{[\Sigma e^2_3 - (\Sigma e^2_1 + \Sigma e^2_2)] / [k_3 - k_1 - k_2]}{(\Sigma e^2_1 + \Sigma e^2_2) / (k_1 + k_2)} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (4)$$

Where, Σe^2_3 and k_3 are the error sum of square and degree of freedom respectively of the pooled data; Σe^2_1 and k_1 are the error sum of square and degree of freedom respectively of the sample of loan obtainers; and Σe^2_2 and k_2 are the error sum of square and degree of freedom respectively of the sample of non-loan obtainers.

For the test for homogeneity of slope, the Chow's F statistic is calculated as follows:

$$F^* = \frac{[\Sigma e^2_4 - (\Sigma e^2_1 + \Sigma e^2_2)] / [k_4 - k_1 - k_2]}{(\Sigma e^2_1 + \Sigma e^2_2) / (k_1 + k_2)} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\

RESULTS AND DISCUSSION

Socioeconomic characteristics of the respondents

The result of the analysis of the socio-economic characteristics of the respondents is presented in Table 1. These include age, level of education, number of years in business, household size, marital status, and loan source.

Table 1: Age of the respondents in the study area

Age	Male poultry farmers		Female poultry farmers	
	Frequency (n_1)	Percent	Frequency (n_2)	Percent
20-29	14	23.73	16	28.57
30-39	31	52.54	21	37.50
40-49	8	13.56	16	28.57
50-59	6	10.17	3	5.36
Mean	34.97		32.64	
Level of education				
Primary	4	6.78	3	5.36
Secondary	7	11.86	7	12.50
OND/NCE	16	27.12	19	33.93
HND/BSC	30	50.85	27	48.21
MSC	2	3.93	0	0.00
No of years in business				
1-5	36	61.02	47	83.93
6-10	16	27.12	9	16.07
11-15	4	6.78	0	0.00
16-20	0	0.00	0	0.00
20-25	3	5.08	0	0.00
Mean	6.05		3.87	
Marital status				
Single	27	45.76	25	44.64
Married	32	54.24	29	51.79
Separated	0	0.00	2	3.57
Household size				
1-3	15	25.42	23	41.07
4-6	24	40.68	27	48.21
7-9	13	22.04	5	8.93
10-12	5	8.47	1	1.79
13-15	2	3.39	0	0.00
Mean	6		4	
Loan source				
Micro finance banks	19	32.20	16	28.57
Commercial banks	9	15.25	11	19.64
Savings and thrift associations	10	16.95	8	14.29
Money lenders	21	35.59	21	35.50

Source: Computed from survey data, 20 23
n_1 = 59 and n_2 = 56

The age distribution showed that 52.54% of the male and 37.50% of the female poultry farmers were between the ages of 30-39 years. This result is in conformity with the findings of Nmadu *et al.* (2012) who reported similar result in a study of poultry farmers in Minna. The mean age of the farmers were 35 years and 33 years for the male and female poultry farmers respectively. This implies that the farmers are still in the active age group and should be reasonably energetic to cope with the daily demands of the business. This holds positive implications for improved performance in their business. According to Iheke and Nwaru (2014) and Oti *et al.* (2019), the risk bearing ability of a farmer and the capacity to adopt innovations for increased business performance decrease with age as older farmers are more risk averse and unlikely to adopt modern innovations.

The result on the poultry entrepreneurs according to their level of education showed that all the respondents had one form of formal education ranging from primary to tertiary. However, a greater proportion of the respondents (50.85% for the male and 48.21% for the female) attained HND/BSC education. Simonyan *et al.* (2010) asserted that education would significantly enhance farmer's ability to make accurate and meaningful decisions. These decisions will help improve the farmer's performance to achieve higher profit margins. Furthermore, formal education plays an important role in upgrading people's consciousness in understanding the substance of various agricultural inputs required in poultry production. Education also plays a role in enabling the poultry farmer to understand the environment where he operates and the factors affecting it and increases the ability of the farmers to adopt agricultural innovation and hence improve their efficiency and productivity.

According to Nwaru (2004), experience may be defined as the knowledge and skill gained by contact with facts and events. The distribution of the respondents based on their years of experience showed that majority of the respondents were new entrants into the poultry farming business as 61.02% of the male and 83.93% of the female have been in the business for between I – 5 years. The mean years of experience for male respondents was 6 years and 3 years for their female counterpart. Adetayo and Itebu (2013) stated that the knowledge on management, which is a key to profitable poultry production, is gained

through years of experience of farmer. Hence, Nwaru (2004) and Iheke (2010) opined that the number of years a farmer has spent in the business of farming may give an indication of the practical knowledge he has acquired on how to overcome certain inherent farm production problems.

The distribution of respondents according to their household size as presented in Table 1 showed that 40.68% for the male and 48.21% for the female had between 4-6 persons per household. The mean household size was six persons for the male and four persons for the female. This result conforms with the findings of Awoke and Kuye (2015) who emphasized that the impact of household size on agricultural production depend on the magnitude or size, age structure and available farm labour among members of the farmer's household. They also noted that household sizes affect family labour available for work and other household activities. According Onyenweaku and Nwaru (2005), large household size ease labour constraints thereby leading to increases in productivity and income of the farm household. Moreover, household labour supply should be more predictable than hired labour, especially where the structure of the household is such that it is composed more of those in the active age.

The marital status of the respondents showed that 54.24% of the male poultry farmers and 51.79% of the female poultry farmers were married. This is consistent with the findings of Iheke (2010) who stable that the result implication of such result is that the majority of the respondents' households are stable. Iheke and Nwaru (2014) opined that the stability should create conducive environments for good citizenship training, development of personal integrity and entrepreneurship, which are very important for efficient use of resources.

According to the Table 1, the major source of fund for the male poultry farmers was from micro finance banks (32.20%). This is followed by money lenders (30.51%) and savings and thrift associations (16.95%). On the other hand, the major source of loan for the female poultry farmers was from micro finance banks and personal savings (28.57%). Only 15.25% and 19.64% of the male and female poultry farmers obtained their loan from commercial banks. This may be because of the stringent conditions associated with bank

lending. Also, most farmers lack suitable collateral to qualify them for bank lending. Idris-Adeniyi *et al.* (2021) opined that male and female farmers prefer to obtain loan form informal institutions because of these reasons.

Performance of the male and female poultry farmers

The performance of male and female poultry farmers was measured using cost and return analysis. The cost and return for male and female poultry farmers were analyzed and presented in Table 2. The cost and return analysis showed that poultry production is profitable. However, the male poultry farmers had a higher profit margin at ₦175,497 while the female poultry farmers' profit was ₦90,515.05. This result could be because the male poultry farmers have more access to inputs such as credit needed to buy the necessary input to boost production and hence their performance. This result was similar to the findings of Okpokiri *et al.* (2018) and Agwu *et al*. (2020). They posited that poultry production is profitable, gender roles notwithstanding. Profit in poultry farming goes beyond gender roles.

Table 2: Cost and return analysis of male and female poultry farmers with credit

m	Male poultry farmers			Female poultry farmers		
	Unit	. . . . .	Percentage of cost	Unit	Amount (₦)	Percentage of cost
ıst of day -old chick	300			300		
tal number of birds	248			136		
tal cost of birds		74400	29.65		40800	26.07
ed		123828	49.36		83744.44	53.52
ater		4140.38	1.65		2733.33	1.75
edication		17311.02	6.90		12942.22	8.27
ood shavings		1743.1	0.69		1313.33	0.84
ectricity		4750.7	1.89		4938.89	3.16
eding troughs		7750.85	3.09		2853.33	1.82
ater troughs		5247.46	2.09		2920	1.87
tal variable cost		239171.5	95.33		152245.5	97.30
ed cost		11715.65	4.67		4228.55	2.70
tal cost		250887.1			156474.1	
ce of matured bird	1791.53			1873.1		
ortality	4.13%			3.08%		
tal number of tured birds	238			131.82		
venue		426384.1			246989.1	
ofit		175497			90515.05	

Source: Computed from survey data, 2023

The result showed that feed cost accounted for 49.36% of the total variable cost for the male, and 53.52% of the total variable cost for the female poultry farmers, while the cost of birds accounted for 29.65% of the total variable cost for the male farmers and 26.07% for the female farmers. For the male farmers, the total variable cost accounted for 95.33% of the total cost, and 97.30% of the total cost for the female, while the fixed cost accounted for 4.67% of the total cost for the male and 2.70% for the female. Table 8 shows that the male poultry farmers made a profit of ₦175,494, while their female counterparts made ₦90,515.05. This shows that poultry farming is profitable. Therefore, people should be encouraged to take up poultry farming as a means of livelihood. It would equally help in stemming the ever-escalating rate of unemployment in the country.

Determinants of performance of male and female poultry Farmers

The result of the determinants of performance of male and female poultry farmers; the pooled data and the dummy data for poultry farmers with credit and those with no credit were analyzed and presented in Table 3.

Table 3: Determinants of performance of the male and female poultry farmers

Parameters	Male poultry farmers		Female poultry farmers		Pooled		Pooled D	
	Coeff	t-ratio	coeff	t-ratio	Coeff	t-ratio	coeff	t-ratio
Constant	15.664	6.47***	6.498	2.62***	8.006	6.48***	4.001	2.54**
Age	-0.942	-2.43**	-1.061	-2.05**	-0.194	-0.48	-0.171	-0.45
Education	-0.136	-1.18	-0.916	-1.51	-0.425	-3.36	-0.338	-2.82
Experience	0.847	4.78***	0.264	1.02	-0.061	0.43	0.332	2.21***
Number of birds	0.916	10.07***	1.371	9.89***	0.849	8.81***	0.752	8.08***
Labour	0.006	0.05	0.899	0.75	0.096	0.84	0.155	1.45
Other variable cost	-0.189	-1.62*	0.138	1.05	-0.126	-1.10	-0.121	-1.14
Capital	-0.275	-1.10	0.053	0.64	0.027	0.61	0.354	3.64***
Dummy							1.964	3.72***
R2		0.7734		0.9332		0.6549		0.7069
Adj R2		0.7423		0.9098		0.6243		0.6768
F ratio		24.87***		38.89***		21.42***		23.51***

Source: Computed from survey data, 20 23

***** = significant at 1%, ** = significant at 5%, and * = significant at 10%**

The result shows that the F-ratio was statistically significant at 1% for all the groups, indicating a good fit of the regression line. The coefficient of determination (R^2) values of 0.7734, 0.9332, 0.6549 and 0.7069 implies that 77%, 93%, 65% and 70% changes in the performance of the male poultry farmers, female poultry farmers, pooled data and dummy pooled respectively were accounted for by changes in the explanatory variables included in the model while the 23%, 7%, 35% and 30% respectively were accounted for by error.
The coefficient of age was negatively signed and significant at 5% level of significance for male poultry farmers and female poultry farmers respectively. As poultry farmers get older their performance goes down irrespective of gender. Poultry farming in the study area is labor intensive and energy-saving. As farmers get older, it is difficult to meet the demands of the farm and as such may lead to a decline in performance. Iheke and Nwaru (2014). They reported that the risk-bearing abilities and innovativeness of a farmer, his mental capacity to cope with the daily challenges and demands of farm production activities, and his ability to do manual work decrease with advancing age; and the more he or she is unable to combine his or her resources optimally given the available
technology.

The coefficient of years of experience was significant at 1% level of significance for the male poultry farmers and for the pooled data with a dummy representing the farmer group and positively related to the performance of the poultry entrepreneurs. This implies that their performance increases with an increase in years of experience. Iheke and Nwanyanwu (2017), Iheke and Nwankwo (2016) Nurudeen (2012) and Onaiwu (2011) asserted that farmers would count a lot more on their farming experience for increased productivity and efficiency and that the number of years a farmer has spent in the farming business may indicate the practical knowledge he has acquired on how he can overcome certain inherent farm production problems and challenges. Experienced farmers are more likely to be more efficient, have better knowledge of climatic conditions and market situation, and are thus, expected to run a more efficient and profitable enterprise.

Number of birds was positive and significant at 1% for male and female poultry farmers; pooled and pooled dummy. This implies that as the number of farm birds increases, the performance of the farmers increases. This is taken as given, the more birds that are

stocked by the farmer, the more birds he sells and more profit ceteris paribus.

Other variable cost was negatively signed and significant to the performance of male poultry farmers in the study. When the price of variable costs like feed, water, medicine, etc increases, farmers' performance moves in the opposite direction. Variable cost is the major cost component of poultry farms and if the variable expenses increase, farmers' performance will drop. However, it is believed that female farmers are prudent and make better decisions in terms of variable cost expenses than their male counterparts.

Capital was positively signed and significant to the performance of farmers with credit. The more capital at the farmers' disposal, the better the performance. Poultry farming is capital intensive and the more funds the farmer can access could improve the performance as the farmer will make decisions that will ensure he makes profit knowing he has debt to pay.

Finally, male poultry farmers with access to credit perform better than their female counterparts. The male poultry farmer has enough resources at his disposal and will strive to make more money in other to pay off their loan. male poultry farmers are saddled with responsibilities which compel them to make more money to meet their obligations. Iheke and Onyendi (2017) noted that credit is essential in the purchase of production inputs, improves access to land, and in adoption of innovations which enhances productivity. This result is consistent with the findings of Onyenweaku, and Ohajianya (2005), Onyenweaku. and Effiong (2005) and Onyenweaku *et al.* (2004).

Test for difference among male and female poultry famers

The results from Table 4 shows the test on the impact of gender on the performance of the male and female poultry entrepreneurs.

Table 4: Test for difference in performance for male and female poultry farmers

Nature of analysis/farmer type	Error sum of squares	Degrees of freedom	Calculated F
Test for performance effect			
Male	9.569	51	
Female	2.442	20	
Pooled data	29.411	79	12.870***
Test for homogeneity of slope			
Male	9.569	51	
Female	2.442	20	
Pooled data with dummy	24.982	78	9.592***
Test for difference in intercept			
Pooled data	29.411	79	
Pooled data with dummy	24.982	78	13.841***

Source: Computed from survey data, 2019

The results of the statistical tests for structural shift in the performance function and differences in performance were presented in Table 11. The calculated chow's F statistic for performance effect was significant at 1%. The result confirms that there is significant difference between the performance functions of the male and female poultry entrepreneurs. The male poultry entrepreneurs are associated with structural modifications of their performance parameters, implying that the performance functions of the male and female poultry entrepreneurs differ. The result of the test for homogeneity of slopes in the performance functions of male and female poultry entrepreneurs showed that the calculated Chow's F statistic is statistically significant at 1%. The result confirms heterogeneity of slopes or factor biased performance functions.

The calculated chow's F statistic for the test for differences in intercept is significant at 1%. This result confirmed heterogeneity of intercepts for the male and female, conferring performance advantage to the male poultry entrepreneurs. This confirms the result of the pooled data with dummy variable representing gender type which revealed that male poultry entrepreneurs had a better performance as indicated by their higher profit than their female counterpart. Male poultry are often given preference and could access loans better than their female counterpart. This enables the male poultry farmer to adopt modern management practices, purchase good parent stock and employ skilled labour in the farm. This goes a long way to better their performance when compared to the female poultry farmers. Agwu *et al.* (2020) shared the same findings.

CONCLUSION AND RECOMMENDATIONS

It could be concluded from this study that gender have positive and significant impact on the performance of poultry entrepreneurs. The male poultry farmers made higher profit than their female counterparts. Also, the significant determinants of performance were age of the poultry entrepreneur, years of experience, number of birds raised, capital and gender of the farmer. There is therefore the need for targeted interventions to address gender-specific challenges, improve access to resources for female entrepreneurs, and enhance market knowledge across the industry. This should involve removing constraints to acquisition of credit, improving education and training of the poultry farmer on new innovations for enhanced productivity and performance.

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