



## **Analysis of Gender Access to Formal Credits Among Small-scale Poultry Farmers in Rivers State, Nigeria.**

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### **ABSTRACT**

The study was on analysis of gender access to formal credits among small-scale poultry farmers in Rivers State. Specifically, the broad objective of the study was to analysis of gender access to formal credit among small-scale poultry farmers in Rivers State. Using a questionnaire, information were gathered. A total of three hundred and eighty five (385) respondents were used, one hundred and fifty three (153) **were male and two hundred and thirty two (232) were female**. Data were analyzed with the use of percentage, mean scores, regression analysis, t-test, and probit regression model. The result showed that the respondents' mean ages were 44 years for male and 43 years for female, were single (56.9% male and 40.9% female), 44.4% male had tertiary education while 62.5% female had secondary education with grand mean experience of 5 years for male and 4 years for female and stock size of 355 birds for male and 426 birds for female. Only 8.5% male and 6.0% female accessed formal credit. Factors that influenced volume of credit among male and female respondents were age, education, cooperative membership, extension access, stock size and interest rate. The major constraints confronting female farmers were: lack of collateral and high interest rate, the major constraints confronting male farmers were: high interest rate and lack of collateral security. The probit regression showed that sex, marital status, income and extension access were the significant factors that influenced credit accessibility at  $P \leq 0.10$  and 0.01. The study concluded that male farmers accessed credit more than their female counterparts. The study recommends that the government should improve on the amount of loan disbursed to government credit institutions and reduce the politics in such establishments so that poultry farmers can easily access and acquire credits for their farming activities.

**Keywords- Formal credit, Gender, Poultry, Small-scale.**

### **Introduction**

Agriculture plays a key role in the socioeconomic development of developing countries such as Nigeria accounting for nearly 22% of Nigeria's GDP, compared to 9.5 percent for oil and gas, 9.7 percent for manufacturing, 3.8 percent for financial services, and 16.1 percent for commerce as well as employment for more than one third of its populace (Obe-Nwaka, Okidim and Agbagwa, 2020). Crop farming, livestock rearing, fishing, and forestry dominate this sector in the country.

Nigeria's livestock business is a vibrant and profitable part of the overall economy, with yearly growth of 12.7% (FAO, 2020). In terms of financial assets, the sector is projected to be worth \$1.4 trillion globally, with Nigeria's livestock sector valued at \$78 billion (FAO, 2020). Poultry occupies a vital position among animal enterprises because of its performance and tremendous potential for caloric needs, crop



supplementation, and economic expansion (Herrero *et al.*, 2012). FAOSTAT (2020) estimates that the country's poultry industry has about 180 million birds, second only to South Africa in Africa (Aladejebi *et al.*, 2019), however, small-scale farmers in Nigeria produce about 80% of the country's poultry.

The demand for agricultural products, particularly protein-based foods like poultry, is expected to rise as the human population grows in the face of inelastic production tactics, urbanization, and increases in real per capita income (Okidim and Obe-Nwaka, 2021; FAO, 2020). Poultry meat and eggs are crucial in overcoming the protein gap among Nigerians. They have a lovely flavor and are usually accepted. In Nigeria, this acceptance extends across practically all religious and cultural lines (Tasie Ejiogu and Wariboko, 2016).

As population grows, there is need to increase the size of poultry business, this is hampered by funds. Apart from personal funds, there are two major types of financing available to Nigerian poultry farmers: informal and formal sources. Family members, relatives, and well-wishers, as well as local money lenders, are examples of informal credit sources. According to Okidim and Obe-Nwaka (2021), formal institutional sources of farm credit in Nigeria include the Agricultural Credit Guarantee Scheme (ACGS), which was established in 1977, the agricultural credit support scheme, commercial agriculture credit scheme, and the licensing of Micro Finance Banks. Formal sources are those that are regulated by law and can be influenced by government policy. Most livestock farmers use credit or loans to mitigate the effects of these production issues since it provides cash reserves that can be used to re-energize their businesses' production processes (ASL 2050, 2018).

In agriculture, gender roles and access to credit feature prominently as these factors are believed to constitute major resources for growth and development of the agricultural sector.

The gender disparities in access to formal credit suggest that policymakers, credit and financial experts should reconsider the issue of small-scale farmers' credit access based on gender. Gender disparities in credit access must be properly investigated, and providing loans to women will not only help them increase their agricultural productivity, but will also help them reduce poverty and improve their living standards (Ololade and Olagunju, 2013).

Given the nature of the environment and the cultural context in which agricultural endeavors are carried out in Nigeria, there is a compelling need to reconsider the issue of small-scale farmers' access to finance on the basis of gender. Hence, this study sought to achieve the following specific objectives:

- i. describe the socio-economic characteristics of male and female small-scale poultry farmers;



- ii. examine the preponderance of gender (male and female) access to formal credit;
- iii. examine the determinants of volume of formal credit accessed by male and female small-scale poultry farmers;
- iv. identify constraints influencing male and female small-scale poultry farmers access to formal credit in the study area.

## **Methodology**

This research was carried out in was undertaken in Rivers State, one of the thirty-six states that make up Nigeria's federal republic. Rivers State is located in the geopolitical region of the south-south. The Niger Delta Region is made up of several states. Rivers State is bordered on the north by Imo, Abia and Anambra states, on the east by Akwa Ibom state, and on the west by Bayelsa and Delta states. The state is located between latitude 4°30'N and 5°45'N approximately longitude 6°30'E and 7°30'E and spans 11,077 km<sup>2</sup> (4,277 sq mi), making it Nigeria's 26th largest state (Google Earth). Port Harcourt, the State capital, is a bustling metropolis that serves as Nigeria's oil industry's commercial hub (Rivers State Government, 2019). It is located in the country's tropical mangrove swamp and rain forest zone (Orubo, 2005). The Rivers State Agricultural Development Project divides the State into three agricultural zones (RISADP). They are as follows: Crop Zone (zone 1), zone 2 the fishing zone, whereas the crop/livestock zone is zone 3 (RISADP, 2000). Because the alluvial rich soil has a good texture for root crops and cereals, the people of the upland are primarily farmers, producing yam, potato, cocoyam, three leaf yam, pepper, vegetable, cucumber, and other crops. The people that live along the coast are mostly fishermen and traders. Aside from fish, periwinkles (*Tympanotonus fuscatus*) and oysters (*Crassostrea gasar*) are among the aquatic fauna found in this area. Periwinkle, oysters, and shrimp are the most common aquatic resources harvested and traded by fishermen.

For this study, a multi-stage random sampling method was used. Firstly, two agricultural zones (zone 1 and zone 3) were purposively selected based on the fact that these zones were mainly into crop and livestock farming than zone 2 that are more into fishing. Secondly, four local government areas were randomly selected from zone 1 and five local government areas were randomly selected from zone 3, making a total of nine local government areas in the sample.



**Table 3.1: Sample Size According to Selected Communities**

| <b>Selected Agricultural Zones</b> | <b>Selected LGAs</b> | <b>Selected Communities</b>                             | <b>Selected Poultry farmers</b> |
|------------------------------------|----------------------|---|---------------------------------|
| Zone 1                             | Tai                  | Kpите, Nonwa, Botem, Koroma and Korokoro                | 40                              |
|                                    | Port Harcourt        | Nkpogu, Borokiri, Ogbunabali, Amadi-Ama and Marine base | 40                              |
|                                    | Obio/Akpor           | Rumuosi, Choba, Ozuoba, Ogbogoro and Rumuodara          | 40                              |
|                                    | Oyigbo               | Afam, Okoloma, Komkom, Umuagbai and Izuoma              | 40                              |
| Zone 2                             | Ahoada West          | Igbuduya, Oshiebele, Edeoha, Upata and Akop             | 45                              |
|                                    | Emohua               | Ibaa, Emohua, Odegu, Elle-Alimini and Rumuji            | 45                              |
|                                    | Ikwerre              | Elele, Igwuruta, Isiokpo, Omagwa and Omerelu            | 45                              |
|                                    | Ogba/Egbema/Ndoni    | Egbema, Egita, Oba, Okansu and Akabuka                  | 45                              |
|                                    | Etche                | Abara, Mba, Ulakwo, Okehi and Igbo Etche                | 45                              |
| <b>Total</b>                       | <b>9</b>             | <b>45</b>   | <b>385</b>                      |

**Source:** Field Survey (2023).

Objectives 1 and 2 were analyzed using descriptive statistics while objective 4 was analyzed using a 4-point likert scale. Multiple regression was applied for the analysis of factors influencing volume of credit accessed (objective three).



The regression for this analysis was given as:

$$Y = f (X_1, X_2, X_3, X_4, X_5, X_6, X_7 + e) \dots\dots\dots(1)$$

Where:

Y = Amount of credit accessed (₦)

X<sub>1</sub> = Age (number of years)

X<sub>2</sub> = Education (Years in school)

X<sub>3</sub> = Membership of Cooperative (member = 1, non = 0)

X<sub>4</sub> = Extension access (Yes = 1, No = 0)

X<sub>5</sub> = Stock size (number of birds)

X<sub>6</sub> = Interest rate (in %)

X<sub>7</sub> = Availability of guarantor (Guarantor = 1, non = 0)

e = Stochastic error term

## Results and Discussion

### Socio-economic Characteristics of Respondents

From the result in table 1, it was shown that more (27.5%) of the male and 40.5% of the female were within 31 – 40 years respectively. The mean age for the poultry farmers (male and female) were 44 years and 43 years respectively, which implies that the respondents were still in their reproductive and active ages and can withstand the rigorous activities and energy involved in poultry farming. Result on mean age of poultry farmers collaborates the studies of Orimogunje *et al.*(2020) and Gbigbi (2017) who reported similar results in their different studies on poultry production in Oyo state and Delta state, Nigeria.

Marital status indicate that, most (56.9%) male and (40.9%) female were single, while (41.8%) male and (37.1%) female were married and (15.9%) female were widowed. A lower percentage (1.3%) male and (6.0%) female were either divorced or separated. Having a high proportion of single people could translate to the fact that poultry farming requires energetic people as well as those whose attention are not yet divided with family matters. This finding contradicts the



findings of Tasia, Ejiogu and Wariboko (2016) who found that most (68.3 %) poultry farmers in Rivers State Nigeria were married.

Educationally, a small proportion (2.0%) of the male and (0.4%) of the female had no formal education while more (44.4%) of the male had tertiary education and most (62.5%) of the female had secondary education. Also, (43.8%) of the male had secondary education and (27.6%) of the female had tertiary education. Some (9.8%) male and (9.5%) female had primary education. Based on the result, it was shown that most poultry farmers (male and female) had one form of formal education or the other and as such could handle the issues associated with poultry farming as well as sourcing for formal credit. This finding agrees with the finding of Okidim and Obe-Nwaka (2021) who found that most (47%) fish famers in Obio-Akpor LGA had tertiary education.

Based on years of experience, more (54.9%) male and (73.3%) female had years of experience ranging between 1 – 5 years, (41.8%) male and (25.9%) female had between 6 – 10 years experience, The mean years of experience for both male and female was 5 and 4 years respectively with a grand mean of 5 years. This implies that poultry farmers are relatively young in poultry farming. Since the mean years of experience was 5 years, this may limit their access to farm credits because they may lack the requirements needed before accessing formal credits.

Regarding extension access, result in table 1 showed that only (4.7%) female had contact with extension agents while (9.8%) male had contact with extension agent. This implies that male poultry farmers had more contact with extension agents than their female counterparts. This may be attributed to the fact that male extension officers have a tendency of approaching the male farmers more than the female farmers assuming that extension advice will ultimately drip down from the male farmers to all female farmers (Food and Agriculture Organization, 2010).

Result on type of poultry raised showed majority (45.1%) raised only broilers while (26.8%) raised broiler, layer and cockreal, (19.0%) raised broiler and layers, (8.5%) raised only layers and only (0.7%) raised only cockreal. This implies that most of the respondents raised only broilers. This may be due to the fact that broilers grow fast (4 - 7 weeks) and as such they quickly get their return on investment (Nwandu, *et al.*, 2016).

Result on stock size showed that most (48.4%) of the female and (50.0%) male stocked between 50 – 200 birds while (17.0%) female stocked between 250 – 400 birds and 650 – 800 birds, (36.6%) male stocked between 250 – 400 birds, (11.8%) female and (4.7%) male stocked between 450 – 600 birds while 2.6% male stocked between 650 – 800 birds and only (5.9%) female and (6.0%) male stocked between 850 – 1000 birds. The mean stock size for male and female were 355 birds and 426 birds respectively. This implies that poultry farmers in the study area were small scale farmers. The economic implication of being a small holder farmer is that formal institutions will be scared of lending money because of low payback probability. This finding is consistent with the finding of Orimogunje *et al.* (2020) who found that most poultry farmers in Oyo state were small-scale farmers.

Finally the result on income showed that most male (29.0%) earned between ₦41,000 – ₦50,000 while most female (42.9%) earned between ₦51,000 – ₦60,000 monthly from broiler farming. In the same vein, most male (30.8%) earned between ₦91,000 – ₦100,000 while most female (44.4%) earned between ₦51,000 – ₦60,000 monthly from layer farming. Futhermore, most male (31.0%) earned between ₦81,000 – ₦90,000 while most female (39.1%) earned between ₦61,000 – ₦70,000 monthly from both broiler and layer farming. Finally, most male (43.9%) earned between ₦91,000 – ₦100,000 while most female (53.1%) earned between ₦61,000 – ₦70,000 monthly from broiler, cockreal and layer farming. The mean monthly income for male in broiler farming was ₦19,866 and female was ₦38,054 while the mean monthly income for male in layer farming was ₦5,238 and female was ₦2,239, the mean monthly income for both broiler and layer farming was ₦12,611 for male and ₦6,364 whereas the mean monthly income for broiler, cockreal and layer faring was ₦21,082 for male and ₦10,414. This implies that female farmers earned more from only broiler farming while male farmers earned more from mixed farming of broiler, cockreal and layer.



**Table 1: Socio-Economic Characteristics of small-scale poultry farmers**

| Variables                       | Male          |         |                  | Female        |         |                  |
|---------------------------------|---------------|---------|------------------|---------------|---------|------------------|
|                                 | Freq. (n=153) | % (100) | Mean             | Freq. (n=232) | % (100) | Mean             |
| <b>Age (years)</b>              |               |         |                  |               |         |                  |
| 21 – 30                         | 29            | 19.0    |                  | 13            | 5.6     |                  |
| 31 – 40                         | 42            | 27.5    |                  | 94            | 40.5    |                  |
| 41 – 50                         | 32            | 20.9    | <b>44 years</b>  | 68            | 29.3    | <b>43 years</b>  |
| 51 – 60                         | 29            | 19.0    |                  | 51            | 22.0    |                  |
| 61 – 70                         | 21            | 13.7    |                  | 6             | 2.6     |                  |
| <b>Marital Status</b>           |               |         |                  |               |         |                  |
| Single                          | 87            | 56.9    |                  | 95            | 40.9    |                  |
| Married                         | 64            | 41.8    |                  | 86            | 37.1    |                  |
| Divorced/Separated              | 2             | 1.3     |                  | 14            | 6.0     |                  |
| Widowed                         |               |         |                  | 37            | 15.9    |                  |
| <b>Educational Level</b>        |               |         |                  |               |         |                  |
| No formal education             | 3             | 2.0     |                  | 1             | 0.4     |                  |
| Primary                         | 15            | 9.8     |                  | 22            | 9.5     |                  |
| Secondary                       | 67            | 43.8    |                  | 145           | 62.5    |                  |
| Tertiary                        | 68            | 44.4    |                  | 64            | 27.6    |                  |
| <b>Experience (Years)</b>       |               |         |                  |               |         |                  |
| 1 – 5                           | 84            | 54.9    |                  | 170           | 73.3    |                  |
| 6 – 10                          | 64            | 41.8    | <b>5 years</b>   | 60            | 25.9    | <b>4 years</b>   |
| 11 – 15                         | 3             | 2.0     |                  | 2             | 0.9     |                  |
| 16 – 20                         | 2             | 1.3     |                  |               |         |                  |
| <b>Household size (persons)</b> |               |         |                  |               |         |                  |
| 1 – 4                           | 76            | 49.7    |                  | 157           | 67.7    |                  |
| 5 – 8                           | 76            | 49.7    | <b>4 persons</b> | 73            | 31.5    | <b>4 persons</b> |
| 9 – 12                          | 1             | 0.7     |                  | 2             | 0.9     |                  |
| <b>Extension Access</b>         |               |         |                  |               |         |                  |
| Yes                             | 15            | 9.8     |                  | 11            | 4.7     |                  |



| No  | 138 | 90.2 |                  | 221 | 95.3 |                  |
|---|-----|------|------------------|-----|------|------------------|
| <b>Birds Raised</b>                           |     |      |                  |     |      |                  |
| Broiler only                                  | 69  | 45.1 |                  | 168 | 72.4 |                  |
| Layer only                                    | 13  | 8.5  |                  | 9   | 3.9  |                  |
| Cockreal only                                 | 1   | .7   |                  | 23  | 9.9  |                  |
| Broiler and layer                             | 29  | 19.0 |                  | 32  | 13.8 |                  |
| Broiler, layer, and cockerel                  | 41  | 26.8 |                  |     |      |                  |
| <b>Stock Size (no.of birds)</b>               |     |      |                  |     |      |                  |
| 50 – 200                                      | 74  | 48.4 |                  | 116 | 50.0 |                  |
| 250 – 400                                     | 26  | 17.0 |                  | 85  | 36.6 |                  |
| 450 – 600                                     | 18  | 11.8 | <b>355 birds</b> | 11  | 4.7  | <b>426 birds</b> |
| 650 – 800                                     | 26  | 17.0 |                  | 6   | 2.6  |                  |
| 850 – 1,000                                   | 9   | 5.9  |                  | 14  | 6.0  |                  |
| <b>Broiler Monthly Income (₦)</b>             |     |      |                  |     |      |                  |
| 21,000 – 30,000                               | 15  | 21.7 |                  | 2   | 1.2  |                  |
| 31,000 – 40,000                               | 17  | 24.6 |                  | 14  | 8.3  |                  |
| 41,000 – 50,000                               | 20  | 29.0 |                  | 48  | 28.6 |                  |
| 51,000 – 60,000                               | 7   | 10.1 | <b>₦19,866</b>   | 72  | 42.9 | <b>₦38,054</b>   |
| 61,000 – 70,000                               | 6   | 8.7  |                  | 24  | 14.3 |                  |
| 71,000 – 80,000                               | 1   | 1.4  |                  | 7   | 4.2  |                  |
| 91,000 – 100,000                              | 3   | 4.3  |                  | 1   | 0.6  |                  |
| <b>Layer Monthly Income (₦)</b>               |     |      |                  |     |      |                  |
| 21,000 – 30,000                               | 4   | 30.8 |                  | 1   | 11.1 |                  |
| 31,000 – 40,000                               | 1   | 7.7  |                  | 1   | 11.1 |                  |
| 51,000 – 60,000                               | 1   | 7.7  | <b>₦5,238</b>    | 4   | 44.4 | <b>₦2,239</b>    |
| 61,000 – 70,000                               | -   | -    |                  | 1   | 11.1 |                  |
| 71,000 – 80,000                               | 3   | 23.1 |                  | 1   | 11.1 |                  |
| 91,000 – 100,000                              | 4   | 30.8 |                  | 1   | 11.1 |                  |
| <b>Broiler &amp; Layer Monthly Income (₦)</b> |     |      |                  |     |      |                  |
| 21,000 – 30,000                               | 1   | 3.4  |                  | 1   | 4.3  |                  |
| 31,000 – 40,000                               | 2   | 6.9  |                  | 3   | 13.0 |                  |



|   |    |      |         |    |      |         |
|---|----|------|---------|----|------|---------|
| 51,000 – 60,000   | 4  | 13.8 |         | 5  | 21.7 |         |
| 61,000 – 70,000   | 2  | 6.9  | ₦12,611 | 9  | 39.1 | ₦6,364  |
| 71,000 – 80,000   | 7  | 24.1 |         | -  | -    |         |
| 81,000 – 90,000   | 9  | 31.0 |         | -  | -    |         |
| 91,000 – 100,000  | 4  | 13.8 |         | 5  | 21.7 |         |
| <b>Broiler, Layer &amp; Cockreal Monthly Income (₦)</b> |    |      |         |    |      |         |
| 21,000 – 30,000   | 1  | 2.4  |         | -  | -    |         |
| 51,000 – 60,000   | 9  | 22.0 |         | 2  | 6.3  |         |
| 61,000 – 70,000   | 5  | 12.2 | ₦21,082 | 17 | 53.1 | ₦10,414 |
| 71,000 – 80,000   | 3  | 7.3  |         | 1  | 3.1  |         |
| 81,000 – 90,000   | 5  | 12.2 |         | 3  | 9.4  |         |
| 91,000 – 100,000  | 18 | 43.9 |         | 9  | 28.1 |         |

Source: Field survey, 2023

### Preponderance of gender (male and female) access to formal credit

Result on preponderance of gender (male and female) access to formal credit as presented in table 2 showed that (8.5%) male and (6.0%) female had access to formal credit. It is apparent that the male small-scale poultry farmers accessed more formal credit as compared to the female small-scale poultry farmers. According to Obe-Nwaka *et al.* (2020), male heads of households have been the intended targets of most financial programmes that have been massively structured, planned and implemented to help them, failing to realize that women, with their own financial needs and constraints, are active, efficient and engaged economic agents.

**Table 2: Preponderance of gender (male and female) access to formal credit**

| Items                               | Male                  |      | Female                |      |
|-------------------------------------|-----------------------|------|-----------------------|------|
|                                     | Freq.                 | %    | Freq.                 | %    |
| <b>Ever accessed formal credit?</b> |                       |      |                       |      |
| Yes                                 | 13                    | 8.5  | 14                    | 6.0  |
| No                                  | 140                   | 91.5 | 218                   | 94.0 |
| <b>Mean amount demanded (AD)</b>    | <b>₦10,192,307.69</b> |      | <b>₦ 13,642857.14</b> |      |



|                                      |                      |      |                        |      |
|--------------------------------------|----------------------|------|------------------------|------|
| <b>Mean amount Obtained (AO)</b>     | <b>₦8,307,692.31</b> |      | <b>₦ 11,428,571.43</b> |      |
| <b>Security Demanded</b>             |                      |      |                        |      |
| Land                                 | 5                    | 38.5 | 13                     | 92.9 |
| Cash in bank                         | 4                    | 30.8 | 1                      | 7.1  |
| Guarantor                            | 4                    | 30.8 |                        |      |
| <b>% loan obtained = (AO/AD)*100</b> | <b>81.5%</b>         |      | <b>83.7%</b>           |      |

**Source: Field survey, 2023**

**Determinants of volume of formal credit accessed by male and female small-scale poultry farmers**

The result in Table 3 showed the regression analysis on the determinants of volume of formal credit accessed by male and female small-scale poultry farmers in Rivers State. Three functional forms (linear, semi-log and double-log) were tried. The double-log functional form had the best fit for female poultry farmers based on economic criterion of the high value of coefficient of multiple determination ( $R^2$ ) (0.828) while for the male poultry farmers the linear functional form had the best fit with an  $R^2$  value of 0.755. The  $R^2$  values of 0.828 and 0.755 showed that the explanatory variables were responsible for about 82.8% and 75.5% of the variations in female and male poultry farmers’ volume of formal credit accessed respectively. Of the 7 explanatory variables specified in the model, 4 significantly influenced female farmers’ volume of formal credit accessed while 2 significantly influenced the male farmers’ volume of formal credit accessed. The significant variables for the respondents included: educational level ( $X_2$ ), stock size ( $X_5$ ), extension access ( $X_4$ ), interest rate ( $X_6$ ), age ( $X_1$ ) and cooperative membership ( $X_3$ ).

The coefficient of the age (-7506272.604) of poultry farmers was negatively significant ( $p < 0.10$ ) with the volume of formal credit accessed by male poultry farmers. This implies that, as the age of the male farmers increased, there was a corresponding decrease in their volume of formal credit accessed. The significant and negative relationship between age of the farmers and volume of formal credit accessed could possibly be justified that older farmers are becoming weak and do not have enough energy to withstand the rigor associated with poultry farming as well as the stress of obtaining formal credit and as such refrained from such activities. This finding agrees with that of Awotide *et al.* (2015) who found that age of household head had a negative effect on the amount of credit obtained.

Education ( $X_2$ ) was found to be significant and positively (11.821) related with volume of formal credit accessed of the female farmers at  $p < 0.01$ . The implication of the highly positive relationship of education and volume of formal credit accessed is that educated female farmers will access higher volume of formal



credit than the illiterate farmers. This corroborates with the work of Eze *et al.* (2016) where the authors established that increase in educational attainment was more likely to increase access to credit in Imo state.

The coefficient of cooperative membership was negative (-11382647.679) and significant for male at 10% level of significance. This implied that the volume of formal credit accessed decreases as a farmers' membership of cooperative increases. This could be that the volume of formal credit accessed is not only a function of being a member of an association but it is largely determined by the amount of savings that a member has with the association because most association that gave credit to their members usually use the amount of savings that individual member had to determine the amount of credit extended to them. This result is in line with the findings of Anyiro (2015) who found negative relationship between volume of credit and cooperative membership in Abia state.

In the same line, female farmers who had regular contact with an extension agent are more likely to increase the volume of formal credit accessed than their counterparts. This is actually true because extension services administer crucial information concerning agricultural credit, new technologies among others. This result agrees with the findings of Anang *et al.* (2015) who found positive relationship between extension contact and credit accessibility.

The coefficient of stock size (3.235) was positive and significant at 10% level of significance for female poultry farmers, suggesting that an increase in the size of stock will result in an increase in the volume of formal credit accessed since larger stock of birds requires more financial obligations in terms of running capital for the poultry business to be successful. This finding is consistent with the finding of Orimogunje *et al.* (2020) who found a positive relationship between stock size and amount of microcredit obtained in Oyo state.

The coefficient of interest rate was negative (-9.830) and significant for female poultry farmers at 10% significance level. This implies that a unit increase in interest rate will result in a decrease in the volume of formal credit accessed by female poultry farmers. This is true since the poultry farmers will resort to informal sources of credit with lower interest rates for the running of their farms. This finding is consistent with the finding of Iniovoru *et al.* (2016) who found negative relationship between interest rate and credit accessibility in Imo state.



**Table 3: Determinants of volume of formal credit accessed by male and female small-scale poultry farmers**

| Variables                                | Female Farmers       | Male Farmers             |
|--|----------------------|--------------------------|
|  | Double Log {+}       | Linear {+}               |
| (Constant)                               | 8.131<br>(2.071)     | 100645437.8<br>(2.438)   |
| Age (X <sub>1</sub> )                    | -2.625<br>(-1.468)   | -7506272.6<br>(-2.150)*  |
| Education (X <sub>2</sub> )              | 11.821<br>(3.897)*** | -1191173.1<br>(-0.464)   |
| Cooperative Membership (X <sub>3</sub> ) | -.313<br>(-.278)     | -11382647.7<br>(-2.393)* |
| Extension access (X <sub>4</sub> )       | 2.769<br>(2.103)*    | -5805285.564<br>(-1.262) |
| Stock size (X <sub>5</sub> )             | 3.235<br>(2.777)**   | 2434203.6<br>(1.652)     |
| Interest rate (X <sub>6</sub> )          | -9.830<br>(-2.284)*  | -4790875.5<br>(-1.126)   |
| Guarantor (X <sub>7</sub> )              | -2.415<br>(-1.732)   | -3800727.1<br>(-0.402)   |
| R-squared                                | 0.828                | 0.755                    |
| Adjusted R-squared                       | 0.628                | 0.412                    |
| F-Statistics                             | 4.137                | 2.202                    |
| F-Probability                            | 0.052                | 0.201                    |

**Source:** Authors computation from SPSS

*Figures in parentheses are t ratios; \*\*\* = P<0.01; \*\* = P<0.05; \* = P<0.10; {+} is the lead equation based on fitness*



### **Constraints influencing male and female small-scale poultry farmers access to formal credit**

The result in Table 5 showed several factors militating against male and female small-scale poultry farmers access to formal credit in Rivers State. The study showed that male agreed to the following militating factors; high interest rate ( $\bar{x}$ =3.67) was found to be the highest constraint militating against male while accessing formal credit. Lack of collateral security ( $\bar{x}$ =3.61), lack of guarantor ( $\bar{x}$ =3.50), lack of information on where to source for credit ( $\bar{x}$ =3.45), lack of borrowing experience ( $\bar{x}$ =3.24), stock size ( $\bar{x}$ =3.22). However, the respondents (male) disagreed to the following factors; non membership of associations ( $\bar{x}$ =2.39), lack of appropriate book keeping skills ( $\bar{x}$ =2.33), distance of enterprise from credit source ( $\bar{x}$ =2.31), low profit margin ( $\bar{x}$ =2.27) and sexual harassment ( $\bar{x}$ =1.82).

Table 5 further showed several factors female consider in militating them while accessing formal credit. The study showed that lack of collateral security ( $\bar{x}$ =3.69) was found to be the highest factor militating their credit accessibility. Other factors militating against credit accessibility as indicated by female respondents include; high interest rate ( $\bar{x}$ =3.60), lack of guarantor ( $\bar{x}$ =3.53), stock size ( $\bar{x}$ =3.39), inadequate borrowing experience ( $\bar{x}$ =3.29), mode of repayment is tedious ( $\bar{x}$ =3.60), inadequate information on where to source for credit ( $\bar{x}$ =3.19), lack of track records required by the credit institution ( $\bar{x}$ =3.03), repayment capacity ( $\bar{x}$ =2.89) etc. Furthermore, the respondents (female) disagreed with only one factor; sexual harassment ( $\bar{x}$ =1.88). This finding collaborates the finding of Simonyan *et al.* (2019) who found that high interest rate (91%), lack of legal document (83%), low literacy level (83%), lack of collateral security (82%) and distance of enterprise from credit source (81%) as constraints facing smallholder farmers in accessing farm credits in Akwa Ibom State, Nigeria.

**Table 5 Constraints to gender access to formal credit**

| Constraints                 | Male (153) |      | Female (232) |      |
|-----------------------------|------------|------|--------------|------|
|                             | Sum        | Mean | Sum          | Mean |
| Lack of collateral security | 552        | 3.61 | 855          | 3.69 |
| Lack of guarantor           | 535        | 3.50 | 819          | 3.53 |
| High interest rate          | 562        | 3.67 | 836          | 3.60 |



|  |     |      |     |      |
|--|-----|------|-----|------|
| Mode of repayment is tedious                             | 464 | 3.03 | 752 | 3.24 |
| Inadequate information on where to source for credit     | 497 | 3.25 | 741 | 3.19 |
| Inadequate appropriate book keeping skills               | 356 | 2.33 | 618 | 2.66 |
| Distance of enterprise from credit source                | 353 | 2.31 | 591 | 2.55 |
| Low profit margin  | 348 | 2.27 | 599 | 2.58 |
| Low literacy level                                       | 451 | 2.95 | 663 | 2.86 |
| Inadequate borrowing experience                          | 495 | 3.24 | 763 | 3.29 |
| Lack of track records required by the credit institution | 438 | 2.86 | 703 | 3.03 |
| Non membership of associations                           | 366 | 2.39 | 650 | 2.80 |
| Sexual harassment  | 278 | 1.82 | 436 | 1.88 |
| Stock size   | 492 | 3.22 | 786 | 3.39 |
| Repayment capacity                                       | 461 | 3.01 | 671 | 2.89 |

$\geq 2.5 = \text{Constraint}$ ,  $< 2.5 = \text{Not a constraint}$

*Source: Field Survey, 2023*

### **Conclusions and Recommendations**

Findings showed that the factors affecting male and female poultry farmers access to credit were education, extension contact, stock size and interest rate for female poultry farmers while only age and cooperative membership affected male poultry farmers. Based on constraint militating male and female poultry farmers credit accessibility, it was revealed that high interest rate, lack of collateral security, lack of guarantor were the most militating constraints for male farmers whereas for female farmers the following were militation constraints against their credit accessibility: lack of collateral security, high interest rate and lack of guarantor. In line with the findings of this study, it was recommended that the government should improve on the amount of loan disbursed to government credit institutions and reduce the politics in such establishments so that poultry farmers can easily access and acquire credits for their farming activities.



## REFERENCES

- Aladejebi O. J., Fakayode S. B., Oronti O. O. & Sani, T. P. (2019). Post economic recession and agricultural production in Nigeria: A case study of small scale poultry egg farming, 6th African Conference of Agricultural Economists, Invited paper presented at the 6th African Conference of Agricultural Economists, September 23-26, 2019, Abuja, Nigeria.
- Anang, B. T., Sipiläinen, T., Bäckman, S. & Kola, J. (2015). Factors influencing smallholder farmers' access to agricultural microcredit in Northern Ghana. *African Journal of Agricultural Research*, 10(24): 2460-2469.
- Anyiro, C.O. (2015). Access to and investment of formal micro credit by small holder farmers in Abia state, Nigeria. A case study of ABSU micro finance bank, Uturu. *The Journal of Agricultural Sciences*, 6(2): 70-76.
- Africa Sustainable Livestock (ASL 2050) (2018). Livestock production systems spotlight Nigeria. FAO, Rome, Italy.
- Awotide, B.A., Abdoulaye, T., Alene, A. & Manyong, V.M. (2015). Impact of access to credit on agricultural productivity: Evidence from smallholder cassava farmers in Nigeria. A Contributed paper Prepared for Oral Presentation at the International Conference of Agricultural Economists (ICAE) Milan, Italy.
- Eze, C.C., Emenyonu, C.A., Henri-Ukoha, A., Oshaji, I.O., Ibeagwa, O.B., Chikezie, C & Chibundu, S.N. (2016). Women entrepreneurs' access to microfinance bank credit in Imo State, Nigeria. *Global Journal of Agricultural Research* 4(1): 9 – 17.
- Food and Agricultural Organization (FAO) (2020). Nigeria at a glance | FAO in Nigeria | Food and Agriculture Organization of the United Nations. [www.fao.org](http://www.fao.org). Retrieved 2022-08-24
- Food and Agricultural Organization of the United Nations (FAOSTAT) (2020). [www.fao.org/faostat/en/#data/QA](http://www.fao.org/faostat/en/#data/QA)
- Food and Agriculture Organization (FAO) (2010). The State of Food Insecurity in the World 2010, Addressing food insecurity in protracted crises. *WFP, FAO*.
- Gbigbi, T.M. (2017). Measurement of profit efficiency among broiler producers in Delta State, Nigeria. *African Journal of Agriculture, Technology and Environment* 6(2): 64-74. Google Earth (<https://maps.google.com/?11=4.80477,6.88093&z=9&t=h>)
- Herrero M., Grace, D., Njuki, J. Johnson, N., Enahoro, D., Silvestri S. & Rufino M. C. (2012). The roles of livestock in developing countries. *Animal*, 7(1), 3–18 & The Animal Consortium
- Iniovorua, E., Nwaiwu, I. U. O. & Ogbonna, S. (2016). Determinants of credit accessibility by farmers in Owerri Agricultural Zone, Imo State, Nigeria. *Asian Journal of Agricultural Extension, Economics & Sociology* 12(1): 1-7.



- Nwandu, P. I., Ojogbane, J. A., Okoh, C., & Okechukwu, F. (2016) Poultry Production Business: A Means of Alleviating Poverty among Farmers. *International Journal of Innovative Agriculture & Biology Research* 4(2):21-30.
- Obe-Nwaka, M. O., Okidim, I. A. & Agbagwa, S. K. (2020). Access to farm credits among women farmers in Obio-Akpor and Emohua Local Government Areas of Rivers State, Nigeria. *International Journal of Applied Research and Technology*, 9(12): 19 – 29.
- Obe-Nwaka, M.O. (2021). Access to farm credits among women farmers in Obio/Akpor and Emohua Local Government Areas of Rivers State. Unpublished MSc dissertation: Department of Agricultural and Applied Economics, Rivers State University, Port Harcourt, Nigeria.
- Okidim, I .A. & Obe-Nwaka, M.O (2021). Micro-credit acquisition among small-scale fish farmers in Obio-Akpor Local Government Area of Rivers State, Nigeria. *African Journal of Sustainable Agricultural Development*, 2(3): 17 – 28.
- Ololade, R. A & Olagunju, F. I. (2013). Determinants of access to credit among rural farmers in Oyo State, Nigeria. *Global Journal of Science Frontier Research: Agriculture and Veterinary Sciences*, 13(2): 17 – 22.
- Orimogunje, R.V., Ogunleye, A.S. & Kehinde, A.D. (2020). Effect of microcredit on profit efficiency of small-scale poultry farmers in Oyo State, Nigeria. *Agricultura*, 17(1-2): 37-46
- Orubo, D.I. (2005). *Knowing Rivers State, Its People and Culture*. Port Harcourt: Young Minds International.
- Simonyan, J.B., Akpan, A.J. & Amusa, T.A. (2019). Factors Influencing Access to Credit among Smallholder Farmers of Selected Agricultural Commodities in Akwa Ibom State, Nigeria. *Journal of Agriculture and Food Environment* 6(4): 61-75.
- Tasie, C.M., Ejiogu, A.O. & Wariboko, O.N. (2016). Analysis of Poultry Farmers Perception of Farm Credit in Obio/Akpor Local Government Area of Rivers State, Nigeria. *Academia Arena*, 8(10), 33-37.