Journal of Agriculture, Environmental Resources and Management
ISSN2245-1800(paper) ISSN 2245-2943(online)
7(6)1-800 **October.**.2024: pp52-58

www.saerem.com

Assessing Poultry Farmers Agricultural Loan Repayment Behaviour In Jos South Local Government Area Of Plateau State, Nigeria

Selzing, P.M*[1]., Vihi, S.K[2] and Jesse, B[3]

[1]Montane Forest Research Station Jos, Plateau State, Nigeria
[2]Department of Agricultural Extension & Management, Federal College of Forestry, Jos Plateau State, Nigeria
[3]Federal College of Forest Resources Management Maiduguri, Borno State, Nigeria**:** Celrace@gmail.com

Abstract

The research explored the loan repayment behaviour of poultry farmers in the Jos South Local Government Area of Plateau State, Nigeria. A sample of 136 poultry farmers was selected for the study using a two-stage sampling method. Data were collected through a combination of questionnaires and interview schedules, and both descriptive and inferential statistical techniques were employed to analyze the responses. The findings indicated that the majority (65%) of the respondents were male, with an average age of 44 years. Additionally, 90% of the respondents were married, and the average household size was 5. The study also found that, on average, farmers kept 1,795 birds, and 50% of the respondents had attained tertiary education. Notably, 73% of the respondents had no interaction with extension services. The analysis further revealed a high level of loan default, with 65% of the respondents failing to repay their loans according to the agreed terms. Poultry farmers in the region accessed credit from both formal and informal lending institutions. The logit regression analysis identified several key factors influencing loan repayment, including age, education, household size, and income. Based on these findings, the study recommended that financial institutions provide better support and education to farmers regarding the importance of loan repayment. It was also suggested that government and agricultural bodies ensure access to formal education for farmers, as educational level was found to significantly impact loan repayment behaviour. Additionally, it was recommended that policies should consider all the significant factors influencing loan repayment, with a particular focus on reducing interest rates for loans from formal financial institutions like commercial banks. Support for informal lending sources should also be enhanced to give farmers broader access to alternative credit options.

Key Words: Analysis, agricultural loan, repayment, behavior, poultry farmers.

Introduction: The poultry industry has emerged as one of the most promising investment opportunities within Nigeria's agricultural sector. Its contribution to the nation's economic development is substantial, as it serves as a financial safety net for farmers, generating income in times of need. The sector plays a vital role in promoting food security and improving rural livelihoods (Adeyonu, Oyawoye, Otunaiya, & Akinlade, 2016). Additionally, the poultry industry provides employment opportunities for a large segment of the population, serving as a major source of livelihood. It also supplies high-quality animal protein in the form of meat and eggs, both of which are nutritionally rich (Nasiru, Haruna, Garba, & Tafawa, 2012). Poultry products, particularly chicken meat and eggs, are widely accepted across different cultural and religious groups in Nigeria. They form an essential component of a balanced diet, which is especially beneficial for children, pregnant and lactating mothers, and individuals recovering from illnesses. The industry significantly contributes to bridging the nation's protein deficit, which remains a pressing nutritional challenge. According to the Food and Agriculture Organization (FAO), an adult in Nigeria requires a daily minimum of 65 to 85 grams of crude protein, with at least 36 grams sourced from animal products (FAO, 1992; Lawal & Balogun, 2007). However, the estimated per capita daily intake of animal protein in Nigeria has remained below the required threshold, averaging 20 grams. This indicates that a substantial portion of the population experiences inadequate consumption of animal-based protein (Iyangbe & Orewa, 2009). Given the poultry sector's potential to provide affordable animal protein, it is crucial to enhance its productivity to improve protein availability for low-income households. Nevertheless, increasing poultry production requires external financial support due to the sector's capital-intensive nature and the widespread poverty among Nigerian farmers. Since poultry farming demands significant financial investment beyond farmers' personal resources, access to credit has become a necessity for its growth and sustainability. Modern poultry farming requires the adoption of advanced technologies for efficient management, including proper housing, environmental control, feeding systems, and healthcare for the birds (Akpan, 2013). Therefore, financial support is essential to sustain and expand poultry farming operations. Access to credit has long been recognized as a fundamental driver of agricultural

productivity. Most agricultural technologies necessitate farmers to invest in improved inputs before adoption, yet many farmers lack the financial resources to make such investments. Consequently, inadequate access to credit remains a major constraint to agricultural development (Akpan, Umoren, Edet, Udoh, & Akpan, 2014). According to Dadson (2012), investment in productive ventures, particularly in agriculture, is critical to fostering economic growth in developing countries, where the agricultural sector is the main source of livelihood for the majority of the population. However, low-income levels make it difficult for farmers to accumulate savings, making credit an essential financial tool for increasing agricultural output. Recognizing this need, many governments in developing nations have introduced agricultural credit schemes aimed at improving access to formal credit sources, particularly for smallholder farmers. These initiatives are designed to enhance agricultural productivity, ensure food security, and support rural households (Dadson, 2012).

Given the high financial requirements associated with running a successful farming enterprise, the provision of credit facilities has become increasingly important (Mejeha, Bassey, & Obasi, 2018). As a result, institutional financial agencies are tasked with providing farmers with the necessary capital base through credit facilities. Credit is a key instrument for implementing policies that support the adoption of modern technologies and increasing agricultural output. Since most agricultural advancements require substantial financial investment, the need for accessible credit continues to grow (Okwara, Lemchi, Ohajianya, & Nwosu, 2016). Furthermore, governments at various levels have recently intensified efforts to address financial constraints in the agricultural sector by providing farmers with much-needed funding. Apart from enhancing farm productivity and profitability, credit plays a broader social role by improving the standard of living of rural dwellers (Nwaru, Essien, & Onuoha, 2011). It is an essential tool for poverty reduction, income diversification, and improving the business acumen of small-scale farmers (Ololade & Olagunju, 2013).

From a theoretical perspective, access to credit enhances farmers' income and overall welfare while also shielding them from exploitative lending practices often associated with informal credit providers. This is the fundamental rationale behind government-sponsored agricultural financing programs (Mejeha *et al*., 2018). The significance of agricultural loans cannot be overstated, as they provide much-needed financial leverage beyond farmers' personal savings. Nigerian farmers can obtain loans from two major sources: formal and informal financial institutions. Informal credit sources include loans or financial assistance from relatives, friends, business associates, and local moneylenders, most of whom operate outside government regulations. On the other hand, formal financial institutions include government-backed entities such as the Nigerian Agricultural and Cooperative Bank (NACB), commercial and merchant banks, cooperative societies, and agricultural development programs. These institutions primarily offer loans in kind rather than in cash (Oni, Oladele, & Oyewole, 2005). Formal credit institutions are regulated by law and operate under government directives aimed at supporting agricultural financing. There is no doubt that credit plays a crucial role in economic development. According to Nwachukwu, Alamba, and Oko-Isu (2010), credit serves as an essential financial instrument that enhances the well-being of the poor by helping them cope with short-term income fluctuations and stabilize their expenditures. Moreover, credit boosts farmers' productive capacity by enabling them to invest in both physical and human capital. By providing financing options for smallholder farmers, credit contributes significantly to agricultural transformation, thereby improving food security and rural livelihoods.

There has been a growing interest among agricultural economists, planners, policymakers, agribusiness managers, agriculturists, and financial institutions in addressing the credit needs of farmers in Nigeria. However, the issue of credit repayment has often been overlooked despite its significance. As noted by Anigbogu (2014), the concern over loan repayment has arisen due to renewed efforts to improve the financial standing of resource-poor rural farmers through credit provision. Obtaining credit comes with financial obligations, and one critical factor considered before granting a loan is the borrower's capacity to repay it, which is influenced by multiple factors. Once a loan or credit is disbursed, questions surrounding its proper utilization and eventual repayment become crucial. The repayment process hinges on the farmers' ability and willingness to adhere to the terms of the loan agreement. Any failure to meet these repayment obligations constitutes a default, which, in its simplest form, means violating predefined loan terms. Ensuring timely repayment is essential to maintaining a sustainable credit system, as it allows funds to be recycled for other farmers in need. In Nigeria and other developing countries, loan repayment challenges have been persistent barriers to agricultural development (Nwachukwu *et al*., 2010). Lending institutions aim for full loan recovery from beneficiaries, yet repayment behaviors vary among recipients regardless of the credit agreement terms. Research has consistently highlighted low repayment rates, particularly among smallholder farmers in developing nations. For instance, a study by Acqnah and Addo (2011) on Ghanaian fishermen revealed a repayment rate of only 29.1%. Similarly, Onyenucheya and Ukoha (2007) reported that farmers under the Agricultural Cooperative and Rural Development Bank in Abia State, Nigeria, had a repayment rate of 45%. Furthermore, Udoh (2008) found that beneficiaries of the Akwa Ibom State Agricultural Loan Board (AKSALB) in Nigeria repaid only 25% of their loans on average. A significant challenge faced by the Akwa Ibom State programme was the borrower repayment rate (BRR), which reflects the percentage of the loan that borrowers successfully repay. Defaulting on loans was primarily attributed to poor management practices, misallocation of loan funds, and a general reluctance to repay borrowed amounts. Such defaults threaten the long-term sustainability

of lending programs, as they deplete available funds and limit access to credit for other deserving farmers. Without consistent loan repayment by borrowers, it is nearly impossible for a credit program to maintain a sustainable revolving fund. Poulton, Dorward, and Kydd (1998) observed that loan default rates are particularly high when borrowers perceive government-backed loans as grants rather than financial obligations requiring repayment. This repayment challenge undermines government efforts to develop institutional credit markets as viable sources of loanable funds for farmers. Given the policy and institutional importance of addressing loan default issues, research in this area is necessary to identify the underlying reasons for repayment failures. The primary objective of this study is to examine the factors contributing to loan defaults among poultry farmers, thereby supplementing previous research and bridging existing knowledge gaps. The study specifically investigates the socioeconomic characteristics of poultry farmers, the sources and amounts of credit they access, and the key factors influencing their ability to meet loan repayment obligations. According to Onyenucheya and Ukoha (2012), one effective approach to addressing loan repayment issues is to explore and understand the factors that determine repayment behavior among farmers.

Materials and Methods: The research was carried out in Jos South Local Government Area of Plateau State, Nigeria, situated between latitudes 9°30′ to 10°N and longitude 8°30′E of the Greenwich Meridian. Located in the northwestern part of the state, its administrative headquarters is in Bukuru, approximately 15 kilometers from Jos, the state capital. Jos South is composed of four districts: Du, Gyel, Kuru, and Vwang. According to the National Population Commission (NPC, 2006), the local government had a population of 650,835 and covers an estimated land area of 1,037 km². It shares boundaries with Barkin-Ladi to the south, Riyom to the southwest, Jos East to the east, and Bassa to the west. The area is characterized by its cold and rocky terrain, attributed to its high elevation of over 1,450 meters above sea level. The coldest months are from November to February, with an average daily temperature of 18°C, while the warmest period occurs between March and April. The rainy season extends from May to October, peaking in August, with an annual rainfall ranging between 137.75 cm and 146.0 cm. Despite being semi-urban, Jos South has extensive agricultural land, with irrigation supported by water from mining ponds. The primary crops cultivated include rice, maize, Irish potatoes, yams, acha, sweet potatoes, cocoyam, tomatoes, groundnuts, and various vegetables. Additionally, livestock farming is a significant activity, with cattle, goats, sheep, poultry, and pigs being reared for both commercial and domestic consumption.

Sampling Procedure and Sample Size: The study focused on registered commercial poultry farmers in the four districts of Jos South Local Government Area (LGA): Gyel, Du, Kuru, and Vwang. To achieve a representative sample, a multi-stage sampling technique was employed. The first stage involved the selection of the four districts within Jos South LGA namely; Gyel, Du, Kuru, and Vwang. These districts were purposively chosen to capture a broad cross-section of poultry farming practices in the region. Within each district, enumeration areas were delineated based on administrative boundaries, which ensured geographic diversity in the sample. In the second stage, a comprehensive list of all registered commercial poultry farmers in the selected districts was compiled. This list was sourced from two key institutions: the Plateau State Agricultural Development Programme (ADP) and the local office of the Poultry Association of Nigeria (PAN). The list was cross-referenced to ensure accuracy and comprehensiveness, covering all known poultry farms within the LGA. In the third stage, a purposive sampling method was employed to select poultry farmers who had accessed agricultural loans from both formal (e.g., banks, government-sponsored programs) and informal (e.g., community savings, micro-finance institutions) credit sources. This step was crucial to focusing the study on poultry farmers who were actively engaged in utilizing financial resources to improve their operations. Only those who met this criterion were considered for the final sample. A total of 136 poultry farmers were selected as the final sample for the study. The sample size was determined based on the need for statistical reliability and practical feasibility within the time and resource constraints of the study. Data was then collected from these farmers through structured interviews and questionnaires. The multi-stage approach employed in this study ensures a balanced representation of poultry farmers across different districts and credit access categories, providing a robust basis for analyzing the utilization of agricultural credit in poultry farming within Jos South LGA.

Model Specification: The logit regression model is a unit or multivariate technique which allows for estimating the probability that an event occurs or not by predicting a binary dependent outcome from a set of independent variables. The logit model is based on cumulative logistic probability function and it is computationally tractable. According to Gujarati and Porter (2009), it is expressed as:

$$P_i = E(Y = 1\|X_i) = B_1 + B_2X_2 \ldots \ldots + B_3X_3 \ldots \ldots \ldots B_nX_n \ldots \ldots \ldots \ldots \ldots \ldots \ldots \quad (1)$$

For ease of estimation, equation (1) is further expressed as:

$$Pi = \frac{1}{1 + e^{-zi}} = \frac{e^{-z}}{1 + e^{-zi}} \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \quad (2)$$

Where:

P_i = probability of an event occurring

$P_i = B_i + B_2 X_i$

The empirical model of the logistic regression for study assumed that the probability of the farmers' loan repayment is expressed as:

$$P_i = \frac{e^{b_0} + b_1 X_1 + b_2 X_2 + b_3 X_3 + b_4 X_4 + b_5 X_5 + b_5 X_5 + b_6 X_6 + b_7 X_7 + b_8 X_8 + b_9 X_9}{1 + e^{b_0} + b_1 X_1 + b_2 X_2 + b_3 X_3 + b_4 X_4 + b_5 X_5 + b_5 X_5 + b_6 X_6 + b_7 X_7 + b_8 X_8 + b_9 X_9} \quad \ldots\ldots (3)$$

P_i ranges between zero and one and it is non-linearly related to Z_i, . Z_i is the stimulus index which ranges from minus infinity to plus infinity and it is expressed as:

$$Z_i = In \left(\frac{P_i}{1 - P_i} \right) = b_0 + b_1 X_1 + b_2 X_2 \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots + b_9 X_9 + u \quad \ldots\ldots\ldots (4)$$

To obtain the value of Z_i, the likelihood of observing the sample was formed by introducing a dichotomous response variable. The explicit logit model was expressed as:

$Y = b_0 + b_1 X_1 + b_2 X_2 \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots + b_9 X_9 + u \quad \ldots\ldots\ldots \quad \ldots\ldots\ldots \quad \ldots\ldots \quad (5)$

Where:

Y = dichotomous response variable (1 if loan is repayed; 0 otherwise)

X_1 = Age of farmers (Years)

X_2 = Sex of farmers (1 if male, 0 if otherwise)

X_3 = Marital status

X_4 =Educational level of farmers (Years of formal education)

X_5 = Household size (number of persons)

X_6 = Farm size (Numbers of birds)
X_7 = Poultry farming experience (Years)

X_8 = Annual income (Naira)
X_9 = Extension contact (1 if yes, 0 if otherwise)
$b_1 - b_9$ = Coefficients to be estimated

b_0 = Constant term

u = error term

Results and Discussion : Socio-economic characteristics of the sampled poultry farmers :: Table 1 presents an analysis of the socioeconomic characteristics of the surveyed poultry farmers. The age distribution of respondents indicates that the majority (45%) were between 41 and 50 years old, while 31% fell within the 31–40 age bracket. A smaller proportion (4%) were between 21 and 30 years old. The average age of poultry farmers in the study area was 44 years, suggesting that most of them were in their productive years. Given their relatively young and active status, these farmers are expected to effectively utilize agricultural loans to expand their businesses and generate sufficient income for loan repayment. The gender distribution, as illustrated in Table 1, reveals that poultry farming in the study area is predominantly male-dominated, with men accounting for 65% of the respondents and women representing 35%. The higher participation of men in poultry farming may be attributed to the physically demanding and high-risk nature of the enterprise, which could discourage greater female involvement. These findings align with previous studies by Babatunde, Adekunle, and Olagunju (2012) as well as Babalola (2014), who similarly observed that men constitute the majority of poultry farmers in Nigeria. An assessment of the respondents' marital status shows that 90% of the poultry farmers were married, while only 10% were unmarried. This finding suggests that most of the farmers have families to support, which may contribute to their sense of responsibility and financial discipline in managing agricultural loans.

Household size analysis in Table 1 reveals that 60% of poultry farmers had family sizes ranging from four to seven members, while 32% had between one and three members. A smaller proportion (8%) reported having more than seven members in their households. The average household size in the study area was five persons. This relatively small family size could be attributed to high literacy levels and prevailing economic challenges, which might discourage larger families. A smaller household size may be advantageous, as it could reduce financial burdens, thereby enhancing the farmers' ability to meet their loan repayment obligations. These findings are consistent with those of Otunaiya, Bamiro, and Idowu (2014), who reported that the average

household size of poultry farmers in Ibadan, Oyo State, was also five members.

Regarding farming experience, the distribution indicates that 47% of the respondents had been engaged in poultry farming for 6–10 years, while 26% had between 11 and 15 years of experience. Additionally, 6% had over 15 years of experience, while 21% had been involved in poultry farming for less than five years. The average farming experience among respondents was nine years. This suggests that most farmers had acquired substantial practical knowledge, enabling them to navigate challenges and uncertainties associated with poultry farming. A combination of farming experience and literacy is expected to positively influence the effective utilization of agricultural credit, particularly given the risks inherent in the poultry industry.

The study also examined the flock sizes of poultry farmers. Results indicate that 33% maintained between 1,001 and 2,000 birds, while 29% kept between 2,001 and 3,000 birds. Meanwhile, 26% had flock sizes below 1,000 birds, and only 4% managed more than 4,000 birds. The average flock size in the study area was 1,795 birds, which is relatively low. Generally, larger poultry farms are associated with better management skills and economies of scale, which can influence the adoption of risk management strategies. The number of birds kept is a crucial factor in determining access to agricultural loans, as larger flocks often require more financial investment and may be seen as more viable enterprises by lenders.

Table 1: Distribution of Respondents Based on their Socio-economic Characteristics (n=136)

Variable	Frequency	Percentage	Mean
Age (years)			
21- 30	6	4.0	
31- 40	42	31.0	
41 – 50	61	45.0	
50 above	27	20.0	44.0
Sex			
Male	89	65.0	
Female	47	35.0	
Marital status			
Single	123	90.0	
Married	13	10.0	
Educational level			
Primary	16	12.0	
Secondary	26	19.0	
Tertiary	81	59.5	
Non formal education	13	9.5	
Household size (number)			
1-3	43	32.0	
4-7	82	60.0	
>7	11	8.0	5
Stock size (No. of birds)			
< 1000	36	26.0	
1001-2000	45	33.0	
2001-3000	40	29.0	
3001-4000	9	6.6	
>4000	6	4.0	1795
Farming experience (years)			
< 5	28	21.0	
6-10	64	47.0	
11-15	36	26.0	
>15	8	6.0	9
Extension contact			
Yes	37	27.0	
No	99	73.0	

Source: Field survey, 2024

Sources of Agricultural Credit of Respondents: As shown in Table 2, 38% of the respondents sourced their credit from microfinance banks, while 28% accessed funds through multipurpose cooperative societies. Additionally, 15% obtained loans from agricultural banks, 11% from commercial banks, and 8% from moneylenders. This indicates that poultry farmers relied on both formal and informal credit sources, with a noticeable preference for cooperative societies and microfinance institutions. The high patronage of these financial institutions may be attributed to

their relatively lower interest rates, making them more accessible and attractive to farmers seeking agricultural loans

Volume of Credit Received: Table 3 presents the distribution of credit amounts received by farmers from different funding sources. The findings reveal that 30% of the farmers secured loans ranging from N50,000 to N100,000, while 24% accessed between N101,000 and N200,000. Additionally, 19% received between N201,000 and N300,000, 13% obtained between N301,000 and N400,000, 8% secured between N401,000 and N500,000, and only 6% received loans exceeding N500,000. The average loan amount granted to farmers was N219,650. These figures suggest that the financial support provided by these credit sources was inadequate for substantial investment in poultry farming, which is both capital- and resource-intensive.

Table 2. Distribution of Respondents based on source of Credit

Source	Frequency	Percentage
Commercial bank	15	11.0
Microfinance bank	51	38.0
Agricultural bank	21	15.0
Cooperative society	38	28.0
Money lenders	11	8.0

Source: Field survey, 2024

Table 3. Distribution of Respondents based on volume of Credit received

Amount	Frequency	Percentage	Mean
50,000-100,000	41	30.0	
101,000-200,000	33	24.0	
201,000-300,000	26	19.0	
301,000-400,000	17	13.0	
401,000-500,000	11	8.0	
>500,0000	8	6.0	219650

Source: Field survey, 2024

Loan Repayment by Farmers: The data presented in Table 4 highlights a significant challenge in loan repayment among poultry farmers in the study area. Only 35% of the respondents managed to meet their loan repayment obligations in full, while the majority, accounting for 65%, acknowledged defaulting on their loans. This high default rate suggests underlying issues affecting farmers' ability to repay their debts as scheduled. One of the key factors contributing to loan defaults could be the diversion of funds to non-agricultural uses. Many farmers may have used the loans to address pressing family needs, such as healthcare, education, or household expenses, rather than investing solely in their poultry enterprises. Given the economic challenges faced by rural farmers, it is not uncommon for borrowed funds to be redirected to meet immediate financial burdens, thereby reducing their ability to generate sufficient revenue from their poultry farms to repay the loans. Another potential reason for loan default is the high cost of poultry production. Poultry farming requires substantial capital for inputs such as feed, vaccines, housing, and general farm management. If the loan amount secured is insufficient to cover the full cost of production, farmers may struggle to maintain their business operations and generate adequate returns, leading to repayment difficulties. Furthermore, unexpected challenges such as disease outbreaks, fluctuations in feed prices, and market instability can significantly impact farmers' earnings, making it difficult to meet loan repayment schedules. Additionally, poor financial management and lack of proper bookkeeping among farmers may contribute to repayment defaults. Without proper record-keeping and budgeting, some farmers might struggle to track their expenses and income effectively, leading to mismanagement of funds and an inability to allocate resources efficiently for loan repayment.

The findings from this study align with previous research highlighting loan default as a recurring issue among smallholder farmers in developing countries. Onyenucheya and Ukoha (2012) emphasized that understanding the factors influencing loan repayment is crucial in addressing credit accessibility challenges. If loan funds are not used productively within the agricultural enterprise, the likelihood of repayment failure increases, further straining the credit system and reducing the availability of funds for other farmers in need. Addressing loan repayment challenges requires a multi-faceted approach, including financial literacy training for farmers, stricter loan monitoring mechanisms, and tailored credit facilities that account for the realities of poultry farming. Lending institutions may also consider offering flexible repayment structures that align with the cash flow cycles of poultry farmers to reduce default rates and promote sustainable credit access in the agricultural sector.

Table 4. Distribution of Respondents based on loan default

Loan repayment	Frequency	Percentage

Repaid	47	35.0
Defaulted	89	65.0

Source: Field survey, 2024

Factors influencing Loan Default among Poultry Farmers: The results of the Logit regression analysis, which examine the factors influencing loan repayment among poultry farmers, are presented in Table 4. The chi-square statistics, significant at the 1% level, indicate that the model fits the data well. Out of the nine predictor variables tested, four were found to be statistically significant at various probability levels. These variables are age (3.6930), educational attainment (8.6964), income (1.2366), and household size (-2.0622).

Age and Loan Repayment: The coefficient for the age of the farmers was found to be positive and statistically significant at the 10% level. This indicates a direct relationship between age and the probability of loan repayment. In other words, as farmers age, their likelihood of repaying loans increases. This finding suggests that older farmers may have a greater sense of responsibility and financial stability, which influences their ability to fulfill their loan obligations. However, this result contrasts with the findings of Ezeano, Ume, Okeke, and Gbughemobi (2017), who argue that older farmers are more likely to default on loans. They attribute this to several factors, including risk aversion, declining physical strength, and resistance to adopting new technologies. Older farmers may be less willing or able to adapt to modern farming methods, which could affect their productivity and, consequently, their ability to repay loans. Therefore, while age generally has a positive impact on loan repayment in this study, it is important to consider that older farmers may face challenges that can hinder their loan repayment ability.

Educational Attainment and Loan Repayment: The coefficient for the educational status of the farmers was positive and statistically significant at the 5% level, indicating that higher levels of education are associated with a lower probability of loan default. As educational attainment increases, the likelihood of repaying loans improves. This aligns with studies such as Olotomola (2002), which suggest that well-educated farmers are generally considered more reliable borrowers by lending institutions. Educated individuals tend to be more organized, better at managing finances, and more aware of the importance of meeting loan obligations. On the contrary, Anozie, Ume, Okelola, Anozie, and Ubani (2014) argue that educated farmers may prefer non-agricultural employment or business ventures, leading to a diversion of loan funds to other activities that may not generate enough returns to repay the loan. Therefore, while education is generally a predictor of better loan repayment, it can also lead to the diversion of funds if the farmer's focus shifts away from farming.

Household Size and Loan Repayment: The coefficient for household size was negative and statistically significant at the 10% level, suggesting an inverse relationship between household size and loan repayment. This means that farmers with larger households are more likely to default on their loan repayments. Larger households, particularly those with many dependents such as children, the elderly or disabled family members, place a significant financial burden on the farmer. The increased per-capita consumption expenditure in such households reduces the funds available to reinvest in the poultry business or use for loan repayment. This finding is consistent with the work of Ume, Ezeano, and Obiekwe (2018), who also reported a negative relationship between household size and loan repayment. Farmers with smaller households may have fewer financial obligations, allowing them to allocate more of their resources towards fulfilling their loan repayment obligations.

Farm Income and Loan Repayment: The coefficient for annual farm income was found to be statistically significant at the 5% level and had a positive effect on loan repayment ability. This indicates that as farm income increases, the likelihood of repaying loans also increases. Farmers with higher income levels are more likely to have the financial resources to meet loan obligations while still covering other household expenses. The positive relationship between farm income and loan repayment is consistent with expectations, as higher income provides farmers with greater liquidity to manage both business and personal financial needs. Mejeha *et al*. (2018) reported a similar positive relationship between farm income and loan repayment in their study on loan repayment determinants under the integrated farmers scheme in Akwa Ibom State. Therefore, increasing farm income is an essential factor in improving loan repayment rates among poultry farmers, as it ensures that they have sufficient resources to meet their obligations. The findings from this study suggest several key implications for improving loan repayment rates among poultry farmers. First, age, educational attainment, farm income, and household size are all significant predictors of loan repayment ability. To enhance loan repayment rates, lending institutions should consider targeting farmers with stable family structures, higher income levels, and adequate educational backgrounds. Additionally, interventions aimed at improving financial literacy and supporting farmers in managing household expenses could help reduce the negative impact of large household sizes on loan repayment.

Table 4:Logit regression estimates of Factors Influencing Loan Default among Poultry Farmers

Variable	Coeff.	Std. Err.	z	P>|z|
Constant	-.1513	2.6904	-0.06	0.955
Age	3.6930	2.1086	1.75*	0.080
Sex	-2.4467	1.6137	-1.52	0.129
Marital status	3.6509	2.3657	1.54	0.123

Educational status	8.6964	3.4680		2.51**	0.012	
Household size	-2.0622	1.2290		-1.68 *	0.093	
Farm size		2.5581	1.6822		1.52	0.128
Farming experience	.0107	.5669		0.02	0.985	
Annual farm income		1.2366	.4940		2.50**	0.012
Extension contact		-2.0030	1.5779	-1.27	0.204	

Log likelihood = -12.3890
Pseudo R^2 = 0.6533
LR chi2(9) = 24.49
Prob > chi2 = 0.0000
No. of Observations = 136

*and **=Significant at 10% and 5% probability levels respectively

Conclusion: This study assessed the factors influencing poultry farmers' ability to repay agricultural loans in Jos South Local Government Area of Plateau State. The findings revealed that most poultry farmers were within their productive age group and had some level of formal education. However, despite these attributes, the rate of loan default among farmers was notably high. The key factors influencing loan repayment were age, educational attainment, income level, and household size. Additionally, the study established that poultry farmers accessed loans from both formal and informal sources, with cooperative organizations and microfinance banks being the most preferred credit providers. The high rate of loan default among poultry farmers has significant implications for both farmers and financial institutions. Defaulting on loans can limit farmers' future access to credit, thereby restricting their ability to expand their poultry businesses. It can also affect the sustainability of financial institutions that provide agricultural credit. To address this issue, proactive measures must be taken to improve loan repayment rates and ensure the continuous availability of credit to poultry farmers.

Recommendations for Improved Loan Repayment: Enhanced Financial Literacy and Loan Management Training: Financial institutions should not only provide loans but also educate farmers on the importance of proper loan utilization and repayment. Many farmers may divert loans to non-agricultural purposes, leading to defaults. Training programs on budgeting, investment planning, and financial discipline should be integrated into loan disbursement processes.**; Promotion of Formal Education among Farmers:** The study highlighted a positive relationship between educational attainment and loan repayment. Therefore, government agencies, agricultural extension services, and other stakeholders should promote formal and informal education programs tailored to poultry farmers. This could include adult literacy programs, business management training, and specialized courses on agricultural finance.**; Incorporating Loan Repayment Factors into Agricultural Credit Policies:** Agricultural credit policies should be designed with a clear understanding of the factors that significantly influence loan repayment. Policies should consider household size, income levels, and education when determining loan eligibility criteria and repayment structures. This will help ensure that loans are disbursed to farmers who have the capacity to repay them.**; Reduction of Interest Rates for Agricultural Loans:** High-interest rates from formal financial institutions such as commercial banks discourage farmers from seeking credit from these sources. Instead, they turn to informal lenders, who may offer unfavorable repayment conditions. The government should work with financial institutions to reduce interest rates on agricultural loans, making them more accessible and attractive to farmers.**; Strengthening Cooperative Organizations and Microfinance Institutions:** Since the study found that cooperative societies and microfinance banks are the major sources of credit for poultry farmers, efforts should be made to strengthen these institutions. The government can provide financial support, regulatory frameworks, and incentives to improve their efficiency. This will enhance farmers' access to well-structured loan facilities with favorable repayment conditions.**; Encouraging Loan Diversification and Monitoring Mechanisms:** To prevent loan diversion, financial institutionsshould implement robust monitoring systems to ensure that loans are used strictly for poultry farming activities. This could involve regular assessments, farm visits, and reporting mechanisms to track loan utilization.**; Providing Loan Repayment Incentives:** Farmers who demonstrate a consistent record of timely loan repayment could be rewarded with benefits such as lower interest rates on subsequent loans, higher loan limits, or access to government-sponsored agricultural support programs. This would serve as an incentive to encourage prompt repayment.**;** By implementing these recommendations, financial institutions, policymakers, and farmers themselves can work towards improving loan repayment rates, ensuring a more sustainable and efficient agricultural credit system. This, in turn, will enhance the growth of the poultry farming sector and contribute to broader economic development in the region.

References

1. Acquah. H. D. and Addo, J. (2011) Determinants of loan Repayment Performance of I *N0.4 (148).*
2. Adeyonu, A.G.1, Oyawoye, E.O., Otunaiya, A.O. and Akinlade, R.J.(2016). Determi Insurance Scheme in Oyo State, Nigeria. *Applied Tropical Agriculture Volume 21, No. Technology, The Federal University of Technology, Akure, Nigeria.*
3. Afolabi, J. A. (2010). Analysis of Loan Repayment among Small Scale Farmers in Oyo
4. Akpan, S.B., Inimfon V. Patrick, Samuel J. Udoka, Edem A. Offiong and Uwemedim Farmers in Akwa Ibom State, Nigeria. *American Journal of Experimental Agriculture, 3*
5. Akpan, Umoren A, Edet J. Udoh and Sunday B. Akpan (2014). Analysis of Loan Defa in Akwa Ibom State, Nigeria African Journal of Agricultural Economics and Rural De online at www.internationalscholarsjournals.org © International Scholars Journals
6. Anigbogu, Theresa U., Charles U. Onugu, Blessing N. Onyeugbo, Moses I. Okoli (2014). Determinants of Loan Repayment among Cooperative Farmers in Awka North L.G.A

of Anambra State, Nigeria. *European Scientific Journal August 2014 edition vol.10, No.22 ISSN: 1857 – 7881 (Print) e - ISSN 1857- 7431*

7. Anozie, R O, Ume, S I, Okelola, O E, Anozie, S N and Ubani, S I (2014) Determinant factors in loan disbursement to yam (Discorea Spp)farmers in Ehime Mbano, ImoState. A case study of Nsu Micro finance Bank. Taraba *Journal of Agricultural Research*. 3: 14 - 18 . Otajar.Publication.Email tajar2011@yahoo.com.tajar2011@gmail.cum
8. Babalola, D.A. (2014).Determinants of Farmers' Adoption of Agricultural Insurance: The Case of Poultry Farmers in Abeokuta Metropolis of Ogun State, Nigeria. *British Journal of Poultry Science*, 3: 36-41
9. Babatunde, R.O., Adekunle, A. and Olagunju, F.I.(2012) Effect of poultry production on poverty status of small scale farmers in Oyo State Nigeria. *Asian Journal of Agriculture and Rural Development*, 2: 565-578
10. Dadson, A. V. (2012). Determinants of Loan Repayment Default among Farmers in Ghana.*J. Develop. Agric. Econ.* 4(13):339-345.
11. Ekaette Akpan Etukumoh And Aniekan Jim Akpaeti (2015). Analysis of Loan Default and Repayment Performance among Farmers in Akwa Ibom State Integrated Farmers' Scheme. Rjoas, 5(41), May 2015 30
12. Ezeano, C.I1, Ume, S.I2, Okeke, C. C1, Gbughemobi, B O (2017);Socio economic Determinant Factors to Youths Participation in Broilers Production in Imo State of Nigeria. *International Journal of Research & Review; 136 4;(1); 136 - 142. www.gkpublication.*
13. FAO. The State of Food Security in the World. Progress Report on World Food Hunger, Rome; 1992.
14. Hosseini, S. S., Khaledi, M., Ghorbani, M. and Brewin, D. G. (2012). An Analysis of Transaction costs of obtaining credits in Rural Iran. *J. Agr.Sci Tech*. 14: 243-256
15. Iyangbe CO, Orewa SI. Determinants of Daily Protein Intake among Rural and Low- Income Urban Households in Nigeria. American-Eurasian Journal of Scientific Research. 2009;4(4):290-301.
16. Lawal MA, Balogun GS. Animal protein consumption among rural households in Kwara State, Nigeria. African journal of General Agriculture. volume. 2007;3:21-28.
17. Mejeha, R. O., A. E. Bassey and I. O. Obasi (2018). Determinants Of Loan Repayment By Beneficiary Farmers Under The Integrated Farmers Scheme In Akwa Ibom State of Nigeria. *Journal of the Faculty of Agriculture and Veterinary Medicine, Imo State University Owerri Volume 16 Number 2, October 2018 pp .website: www ajol.info*
18. Mejeha, R.O. and Obunadike, A. (1998).The impact of Credits on Adopting Innovations on FertilizerUse.Yam Minisett and Cassava in Anambra of Nigeria.*Nig. J. Agric.*Edu. 1; 40-44.
19. Nasiru, M., Haruna, U., Garba, A. and Tafawa, A. (2012). Economics of Livestock Marketing in Gamawa Local Government Area, Bauchi State, Nigeria. In: 2012 Eighth African Farm Management Association (AFMA) Congress, November 25-29, 2012, Nairobi, Kenya (No.159412). 15pgs
20. Nwachukwu, I. N., Alamba, C. S. and Oko-Isu, A. (2010).Determinants of institutional credit repayment perfoamance among farmers in Afikpo North LGA of Ebonyi State, Nigeria.*AAB Bioflux* 2(3): 211-226.
21. Nwaru, J. C., Essien, U. A. and Onuoha, R. E. (2011). Determinants of informal credit demand and supply among food crop farmers in AkwaIbom State, Nigeria. *Journal of Rural and Community Development*, 6(1):129-139.
22. Okpara, G.C.; Ibeleme, S. N. O. and Odionye, J. C. (2013).Loan Repayment Performance of Small holder Oil Producers in Nigeria: A Credit Rating approach.*Journal of Research in Economics and International Finance (JREIF)* Vol. 2(5) Pp 88-96.
23. Okwara, M. O.; Lemchi, J. I.; Ohajianya, D. O and Nwosu, F. O. (2016).Factors Microfinance Banks Credit Supply to Farmers in Imo State.*Developing Country Studies* Vol. 6, No5.
24. Ololade, R.A. and Olagunju, F. I. (2013). Determinants of access to credit among rural farmers in Oyo state, Nigeria. *Global Journal of Science Frontier Research Agricultural and Vertinary*
25. Olotomola S. Ade, A.(2002) Determinant of Smallholder loan repayment performance, Evidence from Nigerian Micro finance system, Nigeria. *Am J Agric Econ* 69(4); 645 -656.
26. Oni O.A, Oladele, O.I and Oyewole, I. K (2005). Analysis of Factors Influencing Loan Default among Poultry Farmers in Ogun State, Nigeria. Journal of Central European Agriculture. Volume 6 (2005) No. 4 (619-624)
27. Onyenucheya, F. and Ukoha, O.O. (2007). Loan repayment and credit worthiness of farmers under the Nigerian agricultural cooperative rural development bank (NACRDB). *Agric. J.* 2(2): 265-270.
28. Otunaiya, A. O., Bamiro, O. M., & Idowu, A. O. (2014). Determinants of rural bank loan repayment capacity among farmers in Yewa Division of Ogun State, Nigeria. *International Journal of Applied Agricultural & Apicultural Research, 10*(1&2), 33-43.
29. Poulton, C., A. Dorward and J. Kydd, (1998). The revival of smallholder cash crops in Africa: public and private roles in the provision of finance, *Journal International Development, sciences* 13(2), 50-58.
30. Udoh EJ (2008). Estimation of loan default among beneficiaries of a state Government owned agricultural loan scheme, Nigeria. Journal of Central European Agriculture; 9(2): 343-352.
31. Ume, S I., Ezeano, C I and Obiekwe, N J (2018). Analysis of Determinant Factors to Loan Repayment among Broiler Farmers in Enugu State, Nigeria International Journal of Environmental & Agriculture Research (IJOEAR) ISSN:[2454-1850] [Vol-4, Issue-6, June- 2018]