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ASSESSMENT Of THE IMPACT OF FORMAL CREDIT ON THE PRODUCTIVITY OF SMALL-SCALE AGROFORESTRY FARMERS IN KADUNA STATE, NIGERIA

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ABSTRACT

In Nigeria most of the small-scale agroforestry farmers does not have access to formal credit which greatly have negative impact on their productivity which brings about low yield resulting in low income to the farmers. Agricultural credit enhances productivity and promotes standard of living by breaking vicious cycle of poverty of small-scale farmers participating in agroforestry practices. The study therefore assessed the impact of formal credit on the productivity of small-scale farmers in Kaduna state, Nigeria. A multistage sampling technique was used to collect data from 250 agroforestry farmers (beneficiaries and non-beneficiaries of formal credit). Primary data were generated using a well-structured questionnaire. Descriptive statistics, probit model regression and inferential statistics were used to analyze the data collected and test the hypothesis. The study revealed majority (52.40%) of the sampled respondents are within the productive age bracket with a mean age of 44 years. The analysis of the level of education show that majority of the respondents (95.5%) attended one level of education or another. The study also revealed that all the prospective borrowers must have an account with the bank and must have maintained the account for a minimum period of six months before applying and being considered for a loan facility. The result of the probit analysis revealed that farming experience and age were the only two factors that had direct and significant ($P<0.1$) relationship with the probability of farmers' participation in agroforestry practices in the study area. Chow Test revealed that F- calculated is higher than the F- tabulated therefore, the null hypothesis was rejected which showed that access to formal credit has impact on the productivity of agroforestry farmers in the study area. The study therefore concluded that agroforestry farmers who are beneficiaries of formal credit observed increase in productivity compared to the non-beneficiaries of formal credit. It is therefore recommended that formal credit should be made available and accessible to all agroforestry farmers in the study area to boost their productivities.

Keywords: Impact, Formal credit, Productivity, Probit, Chow-test, Agroforestry farmers

INTRODUCTION

Agriculture is an indispensable industry of any nation, providing food, fibre, employment and raw materials. It increases national income and capital development. It embraces the knowledge of plants, animals, fisheries and soils as the medium of plant production and stable animal husbandry. It also covers the knowledge of food storage preservation and processing into utilizable forms.

According to Odoemenem and Obinne, (2010), to stimulate agricultural and agroforestry development in Nigeria, it is a general belief that the provision of credit is a precondition for technological change among the rural and small-scale farmers who constitute 70% of the country's population. Agriculture is a major contributor to Nigeria's Gross Domestic Product (GDP) and small-scale farmers play a dominant role in this contribution, but their productivity and growth are hindered by limited access to credit facilities. It has been empirically estimated that low productivity in agriculture is the cause of high incidence of poverty in Nigeria's economy contributing about 42% to total GDP and employing about 70% of the working population. Agricultural credit enhances productivity and promotes standard of living by breaking vicious cycle of poverty of small-scale farmers participating in agroforestry practices. From literatures agricultural credit has been described as the process of obtaining control over the use of moneys, goods and services in the present in exchange for a promise to repay at future date.

The importance of agricultural credit cannot be over emphasised. According to Mahmood *et al.* (2009), agricultural credit is considered essential to the process of improving agriculture and transformation of the rural economy. They went further to state that the introduction of easy and cheap credit is the quickest way for boosting agricultural production. Their argument was that the agricultural sector depends more on credit than any other sector of the economy because of the seasonal variations in the small holder farmers' returns and credit requirement in the transformation of subsistence to commercial farming. Credit therefore provides the opportunity for them to earn more and improve on their standard of living.

Agroforestry also helps to address some of the complex and challenging environmental problems such as marginal economic of rural resources management, disruption of the soil hydrologic cycles, air quality problems, loss of rare and endangered ecosystem, species and population system and field management, harvesting and post harvesting technology, economic analysis and market research (Akinnifesi *et al.,* 2007).

Agroforestry tree domestication is aimed at promoting the cultivation of indigenous trees with economic potential as new cash crops. Therefore, since credit supply to small scale agroforestry farmers in particular, have been widely perceived as an effective strategy for enhancing the increase in agricultural productivity, it forms the basis why this study seeks to analyse the impact of formal Agricultural credit use on the productivity of small-scale agroforestry farmers in the study area. Agricultural credits are refundable loans given to farmers to start or expand their farming enterprises. It is repayable over a period of time with some interest as determined by the source of the credit (Odinwa, *et al*., 2016).

Ololade and Olagunju (2013) define credit as a mechanism for facilitating the momentary transfer of purchasing power from one entity or organization to another. Credits provide the basis for increased production and efficiency through specialization of function. According to Ololade and Olagunju (2013) credit determines access to all the resources that farmers depend on for their operation, meaning that credit or money is everything now and then in agriculture.

Indeed, accessible and utilized agricultural credit is a gasoline that makes farm business run. It is necessary for the small farmers and even more important for the big farmers. If a farmer wants to increase the size of his land holding, erect a farm building, employ more labour or buy new equipment or implement he will need credit i.e. a supply of money to purchase the items required. Therefore, agro - credit is necessary and very crucial at every level in the farm and other enterprises as well as in entire agricultural and community development.

Credit enables the farmer to meet his daily activities like paying of wages and other expenses; the size of the farm can be increased in terms of equipment, crops and livestock; chemical e.g. fertilizers and other farm inputs can be purchased adequately; it enables the farmer to adjust to seasonal fluctuations since most agricultural enterprises are seasonal; it strengthens the financial position of farmers hence increasing farmer's efficiency in dispensing farm work; certain adverse conditions can be prevented like the thieves, crop failure, and fire outbreak by taking insurance policies; it increases agricultural productivity since inputs can be acquired at the right time; it provides economic development; it breaks the vicious circle of poverty of the rural farmers i.e. it enhances the economic wellbeing of the rural population; and it plays a significant role when borrowing to pay for hired labour which accounted for a greater percentage of all the essential farm work done by hand.

Yet, agricultural production in Nigeria has remained in the hands of small-scale farmers who are characterized by illiteracy, use of local varieties/ feeds and poverty (Odinwa *et al.,* 2016). These small-scale farmers cannot provide the needed capital for agricultural modernization because of their high level of poverty (Odinwa *et al.,* 2016). It is glaring that availability of agro - credits to the small-scale farmers is the only sure hope for modernizing and improving agricultural production, which Ololade and Olagunju (2013) stressed that 'unless production credit is made available on suitable terms; the majority of the small farmers will be seriously handicapped in adopting profitable technologies.

In this consciousness, series of efforts have been made by the Federal and State governments through their agencies in Nigeria to make agricultural credits available to farmers and other allied agro-businessmen, with a view to modernize agriculture and increase productivity (Odinwa *et al.,* 2016). As a result, Bank of Agriculture (BOA), Agricultural Credit Guarantee Scheme (ACGS), Commercial Agriculture Credit Scheme (Union Bank of Nig, Unity Bank, First Bank of Nig.), Agricultural Produce Finance Bank, Multi Channels Agricultural Financing Scheme, Micro Finance Bank, Electronic Wallet (E – Wallet), Industrial End Users Out Growers Scheme, etc., had been introduced at different stages of the economy. With the existence of these agro- credit sources it is expected that farmers in Kaduna State should be able to access funds required to execute farm plans and advance their levels of production and productivity, as well as improve their standards of living.

Therefore, since credit supply to small scale agroforestry farmers in particular, have been widely perceived as an effective strategy for enhancing the increase in agricultural productivity, it forms the basis why this study seeks to analyse the impact of formal Agricultural credit use on the productivity of small-scale agroforestry farmers in the study area.

Hypothesis of the Study

H_{O1}: Formal Credit usage has no significant impact on the productivity of beneficiaries' farmers.

MATERIALS AND METHODS

The Study Area

The study was conducted in three selected local government area namely; Igabi, Makarfi and Zango Kataf of Kaduna state. Kaduna state is situated in the North West geo-political zone of Nigeria and occupies the central position of the Northern Nigeria. It is located between longitude 30^0 East of the greenish meridian and between latitude 09^0-$11^0$30" North of the equator. The state occupies an area of approximately 48,473.2 square kilometers and has a projected population of about 9,032,022 as at 2023, with 4,061km^2 area 200.4/km^2 population density. The state shares common borders with Zamfara, Katsina, Niger, Kano, Bauchi and Plateau states; and to the south west with the Federal Capital Territory. Abuja. Kaduna is metropolitan as well as a cosmopolitan industrialized state with over 80 commercial and manufacturing industries. Goods ranging from carpets, textiles, reinforced concrete materials, bicycle assembly, toiletries, bakeries, confectioneries and cigarettes are being produced. Other consumer goods produced include dairy products, soft drinks, and groundnut oil.

The state extends from the tropical grassland guinea savannah in the south to the Sudan savannah in the north. The prevailing vegetation of tall grasses and bigger trees are resources of economic importance during both the wet and dry season. The wet season is usually from April through October and with great variations as you move northwards. On the average, the state enjoys a rainy season of about five (5) months; with an average rainfall of about 1016mm. The rainfall pattern usually extends between the months of April and October, with an annual rainfall ranging between 1500mm and 2000mm North and South respectively. Relative humidity is low between 20 and 40 percent in January rising to between 60 to 80 percent in July, with mean annual temperature varies between 24' C and 28° C, the entire land structure consists of an undulating plateau with major rivers in the state including River Kaduna, River Wonderful in Kafanchan, River Kagom, River Gurara and River Galma. Agriculture accounts for an estimated 56 per cent of Kaduna's GDP and employs approximately 4 million people. Kaduna produces 22 per cent of the country's maize, 69 per cent of soya bean, 36 per cent of cotton and 10 per cent of ground nuts (peanuts) and. the state trades' agricultural produce to neighboring states. The sector is dominated by wet season planting and an irrigated dry season planting. Most farmers currently produce cereal crops such as maize, sorghum, millet and rice during the rainy season. Cereal crops are exported to surrounding states and are an important source of cash. Kaduna is one of the largest producers of rice and ginger in Nigeria and it exports substantial quantities to other Nigerian states and other neighboring African countries; the state is also an important producer of fruits and vegetables. Many farmers are also involved in animal husbandry including rearing of cattle, sheep, goats, pigs and poultry.

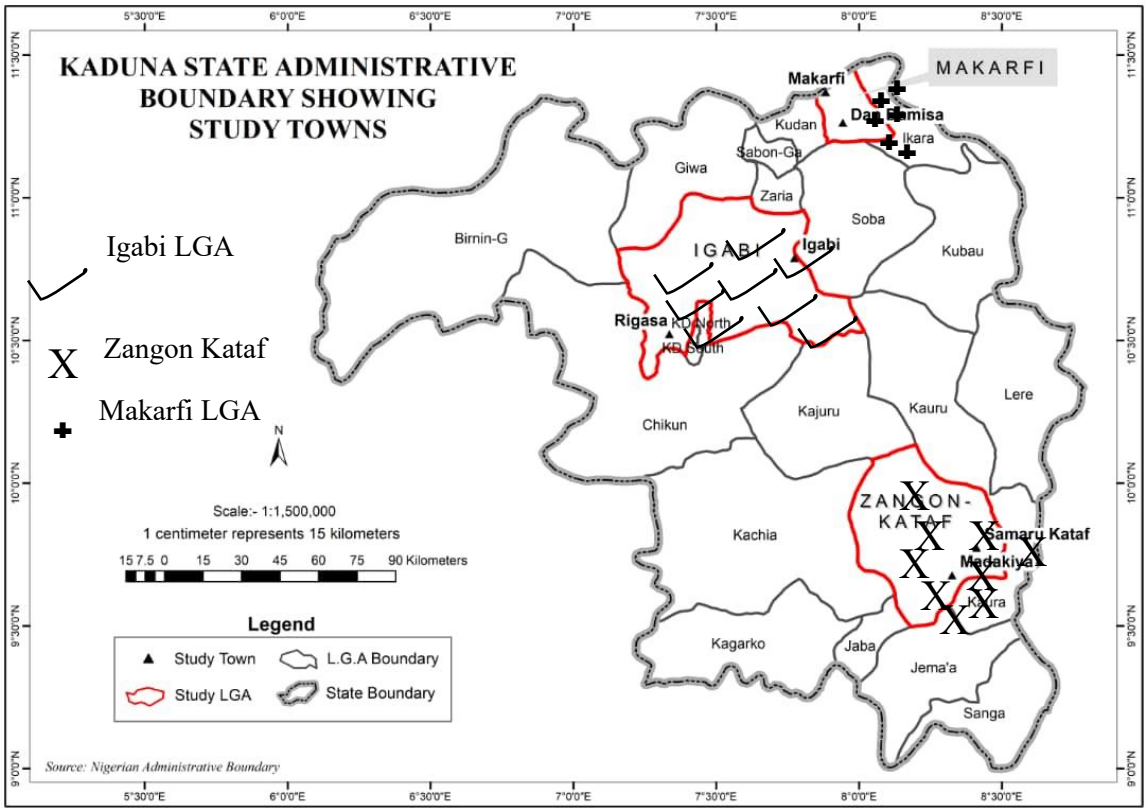

Figure 2: Map of Kaduna State Showing the Study Areas
Source: Field Survey 2024

Sampling Procedure

In order to determine the involvement of farmers who use bank credit in the study area. Multi-stage sampling technique was used. The first stage involves purposive selection of one local government each from the three senatorial districts. This was followed by purposive selection of two villages each from the three selected local government areas. Next, was simple random technique (SRT) which was used to select 10% of the household head from each of the selected villages in the study area. This selection was based on the intensity of farmers that use bank credit in these areas. The advantage of SRT is that it is simple and easy to apply when small populations are involved rather than for large populations.

Table 1 represents the population of the study area. The sample size was determined taking 20 % of the total sampled farmers from each of the selected six village. A total of two hundred and fifty farmers were used for the study as shown in Table 1.

Table l: Sample Size Selection Plan

LGA	Village	Projected Population Using 3% annual growth rate as at 2023	Number of Sampled Farmers	20% of Sample size
Igabi	Igabi	66400	399	40
Igabi	Rigasa	3,000,000	500	50
Makarfi	Makarfi	79500	400	40
Makarfi	Dandamisa	68500	397	40
Zango Kataf Zango	Samaru Kataf	2,980,000	400	40
Kataf	Madakiya	2,980,000	400	40
Total				**250**

Computed by researcher from projected population using 3% annual growth rate as at 2023

Analytical Techniques

Descriptive statistics, Probit model regression analysis and the Chow test were adopted for the study.

Descriptive Statistics

This involves the use of measures of central tendency such as percentages, means and frequency distribution to achieved summary description of the numerical data collected.

Probit Regression. Model

According to Gujarati (2004), probit model is an estimating model that emerges from the normal cumulative distribution function. It is useful in regression that involves dichotomous dependent variables or binary response variables. Here, the dependent variable is qualitative in nature with probabilistic values of between 0 and 1. This model was used to achieve relation between participation in agroforestry farming and some selected socio- economics variables.

The model is specified implicitly as follows

$P_1 = Pr\ (y_i = 1) = P_r\ (u_{1i} > u_{0i}) = F_I(X_i\ ß)$ (1)

z Where:

P_1= Probit notation

X= n*k matrix of the explanatory variables included in the model such as

X_1= Age of farmers (in years).

X_2 = Gender of Household head (1 if male, 0 if otherwise

X_3= Educational status (years in schooling)
X_4 = Agroforestry farming as sole occupation
X_5 = farming experience (in years)
X_6 =Extension contact
X_7 = Farm size
β = the K* l vector of parameter to be estimated
P= Probability function (1, 0)
F(X B) = Cumulative distribution function for random error term (U_i) evaluated at X_i B
Explicitly, the probit model is specified as:

P_i = p (FAD = $^1/_x$) $b_0 + b_1 X_1 + b_2 X_2 + b_3 X_3 + b_4 X_4$ +---- $b_7 X_7$ + e (2)

Where: P (FAD = $^1/_x$) = Probability decision to participate in using credit facility or otherwise (1, 0)
b_1 - b_7 = maximum likelihood estimates of farmers' socioeconomic characteristics
$X_1 – X_7$ = Socioeconomic variables as defined in the implicit form of the probit model above.
e = error term.

Paired T-Statistics

Paired t-statistics is often used to test significant difference between two populations exposed to different treatment. This was used to test the stated hypothesis that formal credit usage has no impact on the productivity of the agroforestry farmers who benefited from formal credit using yield component.

Chow Test Statistics

The Chow test statistic tells you if the regression coefficients are different for split data sets. Basically, it tests whether one regression line or two separate regression lines best fit a split set A chow test.is an F test that is only valid under homoscedasticity. According to Wooldridge (2006), homoscedasticity particularly under the null hypothesis, and that the error variances for the two groups must be equal. Chow statistics is a F test that is often used in programmed evaluation to determine whether the programmed has impacts on different subgroup population. The chow test is an application of the F- distribution test: it requires the sum of squared errors from three regressions, one from each sample group and one for the pooled data. If F-chow is greater than the F-table, then there will be project impact on beneficiary's otherwise no impact? This was used to test the hypotheses of project impacts on beneficiary's income and productivity in the study area. The model is specified as follow:

$$F - chow = \frac{(Rssp - Rss_1 + Rss_2)/k}{\frac{Rss^2}{N_1 + N_2 - 2k}} \quad (3)$$

Rssp is the sum of squared residual from the pooled data of the combined regression line, Rss_1 is the sum of squares from the beneficiaries of formal credit, Rss_2 is the sum of squares from the non-beneficiaries, N_1 are the number of observations taken among the formal credit beneficiaries, N_2 are the number of observations taken among the non-beneficiaries and K is the total number of parameters measures.

RESULTS AND DISCUSSION

Socio-Economic Characteristics of the Respondents in the Study Area

The results of the socio-economic characteristics of the respondents considered in this study are presented in Table 2. The study revealed that the sampled respondents had a mean age of 44 years with an age range of between 21 and 60 years indicating an active working class. Most of the respondents (52.4%) were also found to fall within the age group of 41 – 60 years. Most of the respondents (74.80%) were male, while 25.20% were female. This shows that males are more involved in the small-scale agroforestry farming because it involved activities that require strength. The result is in line with the studies by Usman and Bakari (2013) that males dominated small scale farming. The result in Table 2 also revealed that majority of the respondents (59.60%) have 11 – 15 years of farming experience while 20.40% respondents have 6-10 years of farming experience and 16.00% of the respondents have 16 and above farming experience, with mean value of 8 years. The analysis of the level of education of the respondents shows that majority (38.80%) of the respondents attended tertiary education, while 36.40% respondents attended primary school, 16.00% attended secondary school and 11% respondents attained Islamic study, while only 11% have no formal education. About (95.5%) of the respondents with average mean years of 11 attended one level of education or another, they are able to acquire various level of education to enhance their level of accepting innovation in agro-forestry farming. This result agreed with the finding of Nwaru and Onuoha (2010) that observed that a greater percentage of small holder food crops farmers only attempted secondary school or its equivalent with average years. It also agreed with the findings of Ogundari (2008) that rain fed rice farmers in Nigeria had the average age of schooling of 10 years. This suggests that majority of the agroforestry farmers in the study area were at least lettered (they could read and write). The result on the farm size of the small-scale farmers revealed that about 86% of the respondents had farm size of about 0.5 to 4 hectares cultivated, while 14% of the respondents cultivated 4.1-6 hectares of farmland. This indicates that small scale agroforestry farmers in the study area are generally small holder farmers probably because of the unavailability of fund or capital and constraint imposed by land fragmentation. The findings from Table 2 also revealed that 79.60% of the respondents were involved solely on agroforestry farming and the result revealed that majority of the agroforestry farmers had low contact with extension agent, with 80% of the respondents having less than three (3) contacts with extension agent in the study area.

Sources of Formal Credit Available to Small-Scale Agroforestry Farmers in the Study Area

Table 3 below showed the result of sources of formal credit to the respondents. The findings revealed 36.40% of the respondents source their credit from Bank of Agriculture, while 55.6%of the respondents were able to source credit from First Bank, Sterling Bank, Unity bank, Union Bank and GT bank, respectively.

Factors Banks Consider Before Granting a Loan Facility to Small Scale Agroforestry Farmers

The analysis in table 4 indicated that all the prospective borrowers must have an account with the bank and must have maintained the account for a minimum period of six months before applying and being considered for a loan facility. About 99% of the respondents stated that the borrower's character was considered first, followed with collateral/security 98%, experience in agroforestry farming was also considered important with 96%, personal/third part guarantee was also given prominence with 89%. In fact, ownership account with the borrower's bank is not negotiable with 100% respondents, because you must have an account with the bank. All these factors were stated of highly importance for which the application was considered before approving the loan facility.

Table 2: Distribution of Respondents According to Socio-Economic Characteristics in the Study Area (n=250)

Variable	Frequency	Percentage (%)
Age(years)		
21 – 40	95	38.00
41 – 60	131	52.40
61 and above	24	9.60
Mean	**43.94**	
Sex		
Male	187	74.80
Female	63	25.20
Farming experience(years)		
1 – 5	10	4.00
6 – 10	51	20.40
11 – 15	149	59.60
≥ 16	40	16.00
Mean	**8**	
Level of education		
Primary	91	36.40
Secondary	40	16.00
Tertiary	97	38.80
Islamic study	11	4.4
No formal education	11	4.4
Mean	**11**	
Farm size(hectare)		
0.5 – 2	63	25.20
2.1 – 4	152	60.80
4.1 – 6	35	14.00
Main occupation		
Solely agro forestry farming	199	79.60
Artisans	13	5.20
Trading	11	4.40
Civil servant	27	10.80
No of extensions contact		
0 contact	69	27.60
1 contact	101	40.40
2 contacts	41	16.40
3 contacts	29	11.60
4 contacts	10	4

Source: Field survey 2024

Table 3: Sources of Formal Credit Available to Small Scale Agroforestry Farmers in the Study Area

Sources of Credit	Frequency	Percentage (%)
Bank of Agricultural	91	36.40
First Bank plc	33	13.20
Sterling Bank plc	33	13.20
Union Bank plc	31	12.40
Unity Bank plc	25	10.00
GT Bank	21	8.40
UBA	16	6.40
Total	**250**	**100**

Source: Field survey, 2024

Table 4: Factors Banks Considered Before Granting Facility to Small Scale Agroforestry Farmers

Factor	Frequency	Percentage (%)
Ownership of account with bank	250	100
Character of borrowers	238	95.20
Collateral/security	236	94.40
Personal/third party	214	85.60
Types of farming	188	75.20
Experience in farming	132	52.80
Level of education	156	62.40
Amount of saving	143	57.20
Farm size	**:** 128	51.20

Multiple responses were recorded.
Source: Field survey 2024

Factors Influencing Farmer's Participation in Agroforestry Practices in the Study Area

The result of the probit regression model is presented in Table 5. The result indicates that different factors, such as access to credit, education, agroforestry as sole farming, sex, age and farming experience, influence farmers' participation in agroforestry practices in the study area. The likelihood ratio statistics as indicated by Chi^2 statistics is highly significant ($P < 0.10$), suggesting the model has a strong explanatory power. The other factors aside farmer's marital status showed negative coefficient and were not significant at 10%. Table 3 shows that farming experience, age and agroforestry farming has a direct and significant ($P<0.1$) relationship with the probability of farmers' in participating in agroforestry in the study area. This implies that farming experience and the probability of participating in agroforestry farming as primary occupation is related. This is because it is those whose primary occupation is farming that should adopt agroforestry practice within the study area. This result agrees with the findings of Akinwalere, (2016), which shows that 92% of farmers whose major occupation is farming easily participated in agroforestry practice.

Table 5: Factors Influencing Farmer's Participation in Agroforestry Practices in the Study Area

Variable	Coefficient	Standard error	Z – Ratio	P>1=1
Age of farmer	-0.0028	0.1975	10.14***	0.888
Gender (sex)	-0.1850	0.3833	0.51	0.613
Education	-0.0631	0.3512	-1.51	0.130
Agroforestry farming as sole occupation	0.7523	0.5080	1.48	0.139
Farming experience	1.2438	007171	1.73**	0.083
Extension contacts	-0.4561			
Farm size	-0.3284	0.3842	-0.59	0.552
Constant	-1.5764	1.5961	0.99	0.320

Number of observations = 250 Log likelihood ratio chi^2 (8) = 53.028* Prob > Chi^2 = 0.2570
Source: Field survey 2024

Impact of Formal Credit Use on the Productivity of Credit Beneficiaries

The independent T-test was carried out to show if there was any significant difference between the yields of farmers` that benefited from formal credit and the non-credit beneficiaries in the study area, and the results as shown in Table 4 revealed that there was a significant difference in yield at 1percent level of significance with farmers that benefited from formal credit having an average yield of 624,159kg per hectare as against the non-credit beneficiaries with 308,200kg per hectare. It is very clear that formal credit beneficiaries' farmers recorded high yield, which could be as a result of the formal credit acquired by them which led to the improvement in farming productivity. This result collaborates the findings of Ogah, (2011) that First bank agricultural credit had significant impact on the yield and income of the beneficiaries in Kaduna and Katsina States. From this result, the hypothesis that formal credit usage has no significant impact on the productivity of users is hereby rejected.

Table 6: Impact of Formal Credit Use on the Productivity of Credit Beneficiaries and Non-Beneficiaries of Small-Scale Agroforestry Farmers in Kaduna State

Variables	Credit Beneficiaries	Non-credit beneficiaries
Mean yield/ha	624,159***\=	308,200
Standard Deviation	6066.00	1026.57
Number of observation (N)	137	113

Significant at 1% level
Source; Field survey 2024

Chow-Test of Significant Difference

Table 7 present the result of hypothesis testing that stated that formal credit usage has no significant impact on the productivity of beneficiaries. The result shows that the F-calculated estimated value of 60.426 is greater than F – tabulated value of 25.264. So, the decision rule is to reject the null hypothesis which signifies that formal credit usage has a great impact positively on the productivities of agroforestry

farmers in the study area. The results revealed that agroforestry farmers who benefited from formal credits had improved productivities than those who do not benefitted. This result agreed with the findings of Ogah, (2011) that First bank agricultural credit had significant impact on the yield and income of the beneficiaries in Kaduna and Katsina States.

Table 7: Result of the Chow-Test of Significant Difference

	F – Calculated	F- Tabulated	Decision
Estimated value	60.426	25.284	*Reject hypothesis*

Source: Field survey 2024

CONCLUSION

The study assessed the impact of formal credit use on agroforestry farmers in Kaduna State, Nigeria. The result revealed that the sampled household head had a mean age of 44 years with an age range of between 21 – 60 years indicating an active working class, most of the respondents (52.4%) were also found to fall within the age group of 41 – 60 years. Most of the respondents were male, this shows that males are more involved in the small-scale agroforestry farming in the study area. The study also revealed that majority 40.83% of the respondents had 11 – 15 years of agroforestry farming experience and 95.60% respondents had one form of education to another this shows that majority of the small-scale agroforestry farmers were at least could read and write. The finding also revealed that 79.60% of the respondents were solely on agroforestry farming with about 54.80% of the respondent had access to credit, while 45.20% of the respondents have no access to credit, about 6.40% of the respondents were able to access loan through Bank of Agricultural and other commercial bank and before a respondent can be guaranteed loan all the prospective borrower must have an account with the bank and must have maintained the account for a minimum period of six months. The result of the Probit model indicates that factors; such as age of agroforestry farmers and farming experience has significant influence on their willingness to participate in agroforestry practices in the study area. The livelihood ratio statistics are highly significant ($P < 0.10$) which shows that the model has a strong explanatory power. The result of the T -test and Chow test shows that agroforestry farmers who are beneficiaries of formal credits had increase yields and improved productivities compared to the non – beneficiaries. The study therefore recommended that formal credit should be made available and accessible to all agroforestry farmers in the study area to boost their productivities.

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