IMPACT OF AGRICULTURAL FINANCING ON AGRICULTURAL PRODUCTIVITY IN KABO LOCAL GOVERNMENT AREA OF KANO STATE, NIGERIA

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Abstract

The purpose of this study was to look into how agricultural loans affected farm productivity in Nigeria's Kano State, specifically in Kabo Local Government. The purpose was to investigate the influence of access to finance on agricultural productivity in Kabo Local Government Area of Kano State, Nigeria. The study used a sample size of 420 respondents. To ascertain the impact of agricultural financing on farm productivity, multiple regression analysis was employed. According to the study's findings, access to credit boosts output, but it is restricted by high interest rates and a lack of collateral security. The government should make agricultural credit more widely available to farmers without collateral security to show commercial banks. To do this, the government would supply venture capital to commercial banks, enabling farmers to borrow at reduced interest rates. In order for farmers to obtain credit from banking institutions without having to provide collateral security, the government should also encourage them to establish cooperative unions.

Keywords: Agricultural financing; Agricultural Productivity; Kabo Local Government Area; Kano State

1. Introduction

It is impossible to overstate the role that agriculture plays in a nation's economic development. This concept predicated on the idea that economic growth may be achieved by expanding the agriculture sector (Awunyo-Vitor, 2018). It has been proposed that, particularly in emerging nations like Nigeria, a persistent emphasis on agricultural development can accelerate economic growth over the long run. This illustrates how crucial agriculture is to maintaining long-term food security and international economic growth. In order to increase agricultural productivity, these nations have been urged to provide substantial assistance to those involved in the agricultural sector inside their own economies.

In Nigeria, the need of agricultural expansion for long-term, sustainable economic growth is becoming more widely acknowledged. The sector is crucial in tackling issues related to human development, poverty reduction, and food security. However, Nigeria's agricultural productivity has significantly declined in recent years (Apata, 2021). Numerous explanations have been put forth for Nigeria's declining agricultural productivity, one of which is that farmers' limited access to credit facilities is the reason for the sector's decline (Fowowe, 2020). Adewale et al. (2022) asserts that obtaining and using credit for agricultural purposes increases productivity, which in turn improves a community's food security status. Increased productivity is dependent on the implementation and technological effectiveness of enhanced agricultural equipment (Amankwah, 2023). Farmers should have more purchasing capacity to purchase sophisticated agricultural technologies in an attempt to boost their production rate. The majority of Nigerian farmers are smallholders caught in a never-ending cycle of poverty. It has been proposed that granting farmers access to agricultural credits will enable them to break the cycle of poverty and improve their output by implementing contemporary farming technologies that could increase their income and productivity.

The study will be divided into four more parts, part two literature review, part three will dwell on methodology while part four and five will be result and discussion, and conclusion and recommendations.

2. Literature Review

Financial institutions and markets are characterized by a low level of savings and funds transfer facilities in an agrarian economy, which is further compounded by limited coverage (Awunyo-Vitor & Al-Hassan, 2014). Therefore, farmers must obtain finance to alleviate production-related liquidity restrictions. However, some farmers face credit constraints due to the tendency for lenders to embrace rationing as the best course of action in the financial/credit market due to asymmetric knowledge and adverse selection (Petrick, 2005).

It is true that this has negatively affected productivity and resource usage. As a result, Beck & de la Torre (2007) showed that any analysis of financial credit availability should consider both the supply and demand aspects. According to Yangdol & Sarma (2019) demand-side factors affecting people's decisions determine whether or not they use financial services. Conversely, the supply side pertains to the existence of financial intermediaries that provide services, as well as the terms and conditions under which these services are rendered and restricted. Based on these considerations, agricultural credit and productivity may be causally related, particularly when considering the supply-leading and demand-leading hypotheses. For example, the demand-leading hypothesis highlights the role of the real sector in boosting the performance of financial institutions and markets (Opoku et al., 2019), while the supply-leading hypothesis highlights the role of financial services in boosting the growth of the real sector (Bhattarai, 2015).

Given that one of the main issues facing the agricultural sector in many developing nations may be related to inadequate funding or limited access to credit by, a critical research dimension in the literature has been figuring out the relationship between agricultural credit and productivity. Considering both local and foreign viewpoints, Okunlola & Ayetigbo (2024) investigated the effect of agricultural financing on the sustainability of agricultural growth in Nigeria between 1985 and 2021. Commercial bank loans, interest rates, and the Agricultural Credit Guarantee Scheme Fund are used to measure domestic agricultural financing, whereas agricultural foreign direct investment is used to measure international finance. The study examines the immediate and long-term impacts of agricultural financing on the sustainability of agricultural expansion in Nigeria using the ARDL bonding test. According to the study's findings, agricultural financing affects the sustainability of agricultural expansion in both the short and long term. Nigerian agriculture's sustainability and expansion are greatly influenced

by domestic financing. Agricultural GDP is stimulated by bank loans to the agricultural industry.

In a similar vein, there is a short- and long-term negative correlation between Nigerian agricultural growth sustainability and bank interest rates. Conversely, the Agricultural Credit Guarantee Scheme Fund (ACGSF) has a short- and long-term favourable impact on Nigeria's agricultural GDP. However, over time, foreign funding has a negative impact on Nigeria's agricultural GDP. Increased rivalry and disputes over resources and land as foreign investors look to negotiate large-scale, long-term land transactions, frequently with the help or participation of the host government, may be the cause of the detrimental effects of foreign direct investment on agricultural output.

The study by Fawowe (2020) empirically examines how financial inclusion affects Nigerian agricultural productivity. The Living Standards Measurement investigation–Integrated Surveys on Agriculture (LSMS-ISA) is used in this investigation. Information on agricultural activities as well as other household activities, such as banking, savings, and insurance behaviour, are included in this new data set on agricultural households. The study uses panel data estimation to take use of the time series and cross-section dimension of the data, given that there are observations for households throughout three time periods.

He highlighted the lack of funding for Nigerian agriculture by arguing that farmers make up the largest segment of the country's economically excluded population. The availability of funding would significantly increase agricultural productivity and output, which would in turn aid in the reduction of poverty. The study's empirical findings demonstrate that financial inclusion has had a beneficial and statistically significant impact on Nigerian agricultural productivity, regardless of how it is measured.

In the same vein, using data from the World Bank Development Index (WDI), Adewale et al. (2022) investigated the impact of farmer financing on agricultural productivity from 1981 to 2016. Agricultural bank credit significantly boosts agricultural output, according to the Ordinary Least Squares (OLS) estimation result. The foreign currency rate and bank lending rate have no discernible impact on agricultural production. It was argued that bank financing significantly boosts Nigerian agricultural productivity. It was suggested that the government should encourage farmers to save money and obtain bank credit.

Similarly, in order to determine whether there is a causal relationship between the two, Lawal et al. (2019) looked at how bank credit affected Nigerian agricultural productivity. Written materials like books and journals, as well as time series data like the Agricultural Gross Domestic Product (AGDP), commercial bank credit to agricultural sectors (CBCA), interest rate charges (INT), government spending on agriculture (GSA), and the Agricultural Credit Guarantee scheme (ACGSF), are among the time frame secondary data used in the study to accomplish this goal.

The Central Bank of Nigeria (CBN) Statistical Bulletin provided all of the data used in the analysis. Toda and Yamamoto Granger non-causality techniques were used as the statistical tool, and the Unit Root Test was used to verify stationarity with and without structural breaks. The estimation of the VAR model with regard to the role of ACGSF in explaining changes to AGDP was supported by the results of the Johansen Co-Integration Test, which demonstrated that there is no long-term relationship between variables, and the Vector Autoregression Estimates Decompositions Test, which was also calculated to show the contribution of each endogenous variable to the forecast of other variables prior to the application of the Toda and Yamamoto non-granger causality test to determine whether a causal relationship exists between variables. There is no evidence of any other causal relationship between AGDP and any other indicator, and vice versa.

Moreover, Bichi (2017) looked into how agricultural loans affected farm output in Kano State's Bichi Local Government. The study's main goal was to determine how agricultural productivity in Bichi, Kano State, Nigeria, was impacted by loan availability. A sample size of 359 respondents was used in the investigation. The influence of agricultural financing on farm productivity was assessed using OLS regression. According to the study, agricultural productivity was significantly impacted by credit availability. The study came to the conclusion that while having access to credit increases output, it is restricted by high interest rates and a lack of collateral security. According to the report, the government should make agricultural finance more widely available to farmers without collateral security to show commercial banks.

It is clearly noted that access to credit in developing countries especially Nigeria has a positive effect on agricultural productivity. This study is designed to see how access to finance influences agricultural productivity in Kabo Local Government Area of Kano State, Nigeria.

3. Methodology

3.1 Research Design

This study employed a cross-sectional survey design with both quantitative and qualitative methods. A cross-sectional survey methodology is adaptable for both questionnaires and interviews, claims Amin (2005). Using information gathered from the questionnaires, a quantitative technique was utilized to characterize the statistics of the scores using indices that define the current situation and look into the correlations between the study variables. The purpose of group discussions and interviews was to supplement the quantitative data.

3.2 Research Instrument

3.2.1 Questionaire

To gather primary data from the farmers about their level of productivity and access to agricultural loans, the researcher employed closed-ended questionnaires. In comparison to

other data collection approaches, the researcher preferred questionnaires since they are simple to use, cover a bigger population, and require little time.

3.2.2 Interviews

Data from the chosen key informants was gathered for the study using interview guides. Thirty farmers were interviewed in person for this. Because people are more likely to divulge information when questioned face-to-face and because it is simpler to follow up with questions and obtain examples to back up statements, the researcher favored using in-person interviews. Access to agricultural loans and the volume of export production in terms of area (ha), output, exported, and market price of the crops during the 2023 and 2024 growing seasons were the topics of the interview questions. The researcher employed simple OLS regression to gain a quantitative understanding of how agriculture credit affects productivity. A cross-sectional survey conducted inside the study's boundaries provided the quantitative data.

3.2.3 Model Specification

To examine the impact of agricultural financing credit on Agricultural productivity, the study formulated the following model specification

$$\mathbf{AgFin} = \alpha + \beta_1 \mathbf{AgPrdt} + \beta_2 \mathbf{Sex} + \beta_3 \mathbf{Age} + \beta_4 \mathbf{LLvl} + \beta_5 \mathbf{FExp} + \beta_6 \mathbf{LOwn} + \beta_7 \mathbf{LSz} + \mu$$

Where:
AgPrdt = Agricultural productivity
AgFin = Agricultural Financing
Gender = Sex of the farmer (Male or Female)
Age = Age categories of the farmers
LLvl = Literacy Level
FExp = years of Farming Experience
LOwn = Land Ownership
LSz = Land Size

4 Result and Discussions

The result ais summarized in the table below.

Table 4.1 OLS Estimation Result

Variables	Coefficients	P-value
C	1.348	0.016
AgFin	0.031	0.021
Gender	0.052	0.031
Age	0.010	0.823
Llvl	0.054	0.981
FExp	0.263	0.056
Lown	0.106	0.102
Lsz	0.289	0.065
Prob>F =0.0012 R-square = 0.894		

Source: Primary Data 2023

We can verify that the model is fit based on the above table because the p-value is less than 0.05, at 0.0012. This suggests that the model can accommodate all of the variables. The R-squared value is 0.894, meaning that every explanatory variable explains 89 percent of the output variation in the model.

Agricultural funding had a positive coefficient of 0.03 and was significant at the 5 percent level, according to the results shown in the table. This suggests that, while all other things are held equal, those who receive additional agricultural credit will see an increase in output of 0.03 units relative to those who did not receive agricultural credit. A farmer that has access to agricultural financing can purchase a variety of agricultural inputs, including improved seed,

land, and farm equipment, hire more workers, employ contemporary farming techniques, and spray crops with pesticides to protect them from pests and diseases.

If a farmer is able to use the agricultural credit for initiatives related to agriculture, their output may grow. For example, farmers who buy improved seeds will be able to get larger yields than farmers who use local seeds. Additionally, some improved seeds are resistant to weather, while others are resistant to diseases and pests. The problem is that certain improved seeds are out of reach for local farmers; this is where agricultural loans can be helpful. Thus, it may be concluded that agricultural finance, when employed properly, can increase productivity, provided that other production characteristics stay the same. This implies that the Kabo local government farmers should try their hardest to use agricultural financing whenever it is available in order to attain high levels of output on their fields.

The table also revealed that gender had a positive coefficient of 0.079 and a significant P-Value of 0.031, which indicates that a guy produces 0.052 more than a female when all other factors are held constant. The aforementioned findings imply that men are more adept at agricultural work than women. This is because men have a great deal of bargaining power that women do not, and they are able to cultivate, harvest, find markets and transportation. In actuality, it is quite difficult for women to carry out the agricultural activities that males do.

These include supervising farm laborers, fixing and maintaining agricultural equipment, chasing after wild animals that damage crops, carrying heavy bags of manure, and felling big logs when cleaning the field. The women are capable of doing simple jobs like harvesting, winnowing, weeding, and tilling the ground. A man's strength is obviously far greater than a woman's. The manual labor needed for agricultural operations can be done by men. When it comes to agricultural tasks, men are therefore more likely than women to be more productive. This explains why, in this study, the male had a significant impact on agricultural productivity.

This implies that the more males there are, the more productive they will be, as they make up 0.079 (7.9%) of agricultural output.

Moreover, it is found that farming experience had a positive coefficient of 0.063 and a significant P-value of 0.046 and at 5 percent level of significance. This implies that have more farming experience will increase their output by 0.063 unit compared to those who lack or have inadequate experiences in farming, keeping other factors constant. Farming experience can help a farmer to acquire the principles and technical know -how on when to farm, how to farm, which seedling is better and where to source the seedlings and other farm inputs needed to boast yield. The number of years put in farming especially in a particular crop or crops by a farmer enables him to be equip with the necessary knowledge and experiences to increase his yield.

Similarly, the study discovered that land ownership increased output by 0.106 units when all other factors were held constant, with a coefficient of 0.106 and a significant P-value of 0.002. The majority of land in Kabo is inherited, however many individuals who want to farm but cannot afford it hire. The problem here is that the produce that a farmer will eventually harvest from his agricultural endeavors is less expensive than the rented land.

Farmers who use the land will not be liable for these costs because the land belongs to them. Any losses they may incur from unfavorable weather (such drought or excessive rainfall), pests, and diseases may not have a greater influence on their expenses than those of a farmer who rents property and must pay the owner whether or not he has produced a bountiful crop. During a time when market prices fall, for example, the farmer who rents their land will suffer more than the farmer they own. However, this strategy also turns out to be too costly to sustain, which affects the outcome. Since a farmer who owns, his property does not have to deal with the same expenses or drawbacks in his farming as one who rents land, it is true to state that

land ownership ensures growth in our unit. Therefore, it is better for farmers who rent land to just buy the property so they can benefit from the benefits of land ownership that come with increased output units.

Consequently, the following variables had a substantial impact on land ownership, farming experience, gender, financing, and agricultural output. Land ownership and the usage of agricultural loans, however, had the biggest effects on output units. This suggests that in order to further enhance and expand their agricultural output units, farmers should place greater focus on employing loans and owning land.

However, due to their insignificance at the 5 percent significance threshold, other variables, such as land size and age education, were not interpretable.

5. Conclusion and Recommendations

5.1 Conclusion

According to the study, agricultural finance increases export-oriented production. This is due to the fact that farmers who take out loans use the money directly toward their farm's goals, which include expanding their land holdings, implementing modern agricultural practices, purchasing better seeds, hiring more staff, purchasing fertilizer, and purchasing pesticides.

However, because of the high interest rate, short loan repayment duration, lengthy bureaucracy, and extensive collateral security requirements, obtaining credit has frequently been difficult. Additionally, the output units were significantly impacted by land, gender and farming experience. This is due to the fact that farmers who owned land were said to exert production of high output units compared to those who hired land, and it was discovered that male farmers had a better chance of creating high output units than their female counterparts.

Furthermore, farmers with more farming experience are bound to have more yield compared to those with little or no experience.

5.2 Recommendations

1. The government must make it easier for farmers without collateral security to apply for agricultural loans from commercial banks. The government can accomplish this by giving commercial banks venture capital, which enables farmers to borrow money at discounted interest rates.
2. In order for farmers to obtain credit from banking institutions without having to provide collateral security, the government should encourage them to establish cooperative unions.
3. Moreover, banks must establish branches in rural regions and refrain from imposing too onerous credit requirements that would deter farmers from taking out loans. This suggests that specialized banks should work to develop lending products and services that are specific to the cash flow and risk profiles of the agriculture industry.

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