

AGRICULTURAL FINANCING AND THE PERFORMANCE OF SMES; A STUDY OF RICE FARMERS IN KOGI STATE

¹EGBAI, Mohammed; ²Prof. Elijah Ebenehi Ogbadu & ³Dr. Abu Amodu Ameh

¹Tel. 08155824655

E-mail: egbailbooks@gmail.com

Department of Business Administration

² Tel. 08054857528

E-mail: eeogbadu@gmail.com

Department of Business Administration

³ Tel.08064467321

E-mail: castroy2k2005@gmail.com

Department of Business Administration

ABSTRACT

The study examines the influence of agricultural financing on small and medium-sized enterprise performance: a study of Kogi State rice farmers. The specific goals were to determine how agricultural loan affected agricultural production of smallholder farmers in Kogi State; ascertain the effect of interest rate on the performance of smallholder farmers in Kogi State. The study's 7,603 smallholder rice farmers in Kogi State make up its population. A questionnaire was employed as the primary data source to collect information from the respondents. To assess the hypotheses, the study used multiple regression analysis as well as descriptive analysis. The study's conclusion was that smallholder farmers can greatly profit from low interest rates and access to agricultural loans. The study concluded that, agricultural financing enables these enterprises to invest in modern farming technologies, procure high-quality inputs, and adopt sustainable agricultural practices, thereby improving their yield and profitability. According to the study's recommendations, stakeholders can help Kogi State's rice farming industry expand and flourish by enhancing the efficacy of agricultural financing programs. Ultimately enhancing the livelihoods of rice farmers and promoting food security and economic growth in the region.

Keywords: Agricultural Financing, Agricultural Loan, Interest Rate, Performance, Small and Medium Scale Enterprises, Smallholder farmers, Rice Farmers.

INTRODUCTION

Agricultural financing plays a pivotal contribution to the agricultural sector's Small and Medium-sized Enterprises' (SMEs) expansion and sustainability. SMEs constitute a significant portion of the agricultural landscape, contributing substantially to employment, income generation, and food security globally. However, their potential often remains untapped due to various constraints, with access to finance being a primary challenge, adequate financial resources are essential for SMEs to invest in machinery, technology, inputs and human capital, thereby enhancing productivity and competitiveness. Moreover,

access to financing enables SMEs to withstand market fluctuations, mitigate risks and seize growth opportunities, fostering long-term sustainability (Egwu, 2016).

Nigeria's agricultural economy depends heavily on the production of rice, which promotes economic growth, job creation, and food security. One of Nigeria's top producing states of rice is Kogi State, which is situated in the country's center. The ideal agroclimatic conditions of the state, which include rich soils, ample rainfall, and access to water resources from the Niger and Benue rivers, make it conducive for rice cultivation; rice farming in Kogi State is predominantly carried out by smallholder farmers, often operating on little property parcels. These agriculturalists are essential to the state's agricultural landscape, accounting for a significant portion of rice production. Rice farmers in Kogi State have persevered in the face of several obstacles, such as restricted financial access, poor infrastructure, and the effects of climate change have demonstrated resilience and innovation in their farming practices (Adisa et al., 2019).

Most farmers in the state are poor; they are smallholder farmers living mostly in rural areas with little or no educational background relying on old or outdated methods, manual labour intensive techniques and as such cannot adopt contemporary agricultural innovations, such better seeds, fertilizer, herbicides and other farm inputs and machineries (Otekunrin et al., 2022). Since the smallholder farmers are poor and have no capacity to adopt modern methods and machineries for improve farming, they are faced with the problems of low output and inadequate productivity given their inability to explore and exploit the great potentials and opportunities in the agricultural sector ((Emmanuel et al., 2023). For a sustainable growth and development to be achieved in the sector, a deliberate effort is required through the various agricultural financing policies, programs and institutions to train smallholder farmers on the indices of the acquisition, application and management of agricultural finance available to farmers.

The following questions were raised to address below objectives:

- i. To what extent does agricultural loan affect agricultural output of smallholder farmers in Kogi State?
- ii. To what extent does interest rate affect the performance of smallholder farmers in Kogi State?

The primary objective of the study is Agricultural Financing and the Performance of SMEs; a study of Rice Farmers in Kogi State the particular goals were to:

- i. Assess the effect of agricultural loans on agricultural output of smallholder farmers in Kogi State.
- ii. Determine the effect of interest rate on the performance of smallholder farmers in Kogi State.

The research aimed to test the following hypotheses

Ho₁: Agricultural loan does not have impact on agricultural output of smallholder farmers in Kogi State.

Ho₂: Interest rate does not have impact on the performance of smallholder farmers in Kogi State.

REVIEW OF RELATED LITERATURE

Agricultural Financing

Agricultural financing is a broad term that encompasses all financial services and products specifically created to satisfy the requirements of agribusinesses, farmers and rural communities. It includes various

forms of credit, insurance, savings, leasing, and investment products tailored to support agricultural production, marketing, and related activities, it helps farmers and agribusinesses manage the financial risks associated with farming, such as weather-related crop failures, price fluctuations, and market uncertainties, while also providing them with the necessary capital to invest in land, machinery, inputs, and technology to improve productivity and profitability (Adeshina et al., 2020).

Agricultural financing primarily deals with the provision of credit or loans to farmers and agribusinesses to support their production and marketing activities; this includes short-term loans for purchasing seeds, fertilizers and other inputs, as well as long-term loans for land acquisition, farm machinery, infrastructure development and other capital-intensive investments; it may be provided by commercial banks, cooperative banks, rural credit institutions, government agencies, microfinance institutions and other financial intermediaries, either directly or through government-sponsored credit guarantee schemes and subsidized lending programs (Igwemeka & Ekwunife, 2020).

Agricultural financing encompasses government policies, programs and initiatives meant to lower credit restrictions and increase access to financing, promoting, financial inclusion and fostering the agriculture's sustainable development to achieve broader socio-economic objectives, including poverty alleviation and rural transformation (Raifu & Aminu, 2019). It involves the provision of financial resources along the entire agricultural value chain, including input suppliers, producers, processors, distributors and retailers, to facilitate the flow of goods, services, funds and strengthen the efficiency and the agricultural sector's competitiveness (Adeshina et al., 2020).

Sources of Agricultural Financing

Agricultural financing in Nigeria encompasses various types of financial instruments and mechanisms tailored to satisfy the various demands of agribusinesses, farmers and other stakeholders across the value chain for agriculture (Kambali & Panakaje, 2022). Here are some of the key types of agricultural financing in Nigeria:

Commercial Bank Loans: Commercial banks provide various loan products to agricultural stakeholders, including farmers, cooperatives, and agribusinesses. These loans may be structured as term loans, working capital loans, or agricultural equipment financing. Interest rates and terms may vary depending on the borrower's creditworthiness and the nature of the loan.

Microfinance Institutions (MFIs): MFIs are essential in helping rural communities and smallholder farmers receive financial services. Who may have limited access to formal banking services. Microfinance loans typically have lower collateral requirements and are designed to meet the specific needs of small-scale agricultural producers.

Development Finance Institutions (DFIs): DFIs like the Nigeria Incentive-Based Risk Sharing System for Agricultural Lending (NIRSAL) and the Bank of Agriculture (BOA) provide targeted financing and support to the agricultural sector. These institutions offer various loan programs, credit guarantees, and risk-sharing mechanisms to encourage lending to agricultural enterprises.

Agricultural Development Programs: Government-sponsored agricultural development programs provide subsidized loans, grants, and technical assistance to support agricultural production, processing,

and marketing activities. These programs are often implemented at the state or federal level and may focus on specific crops, regions, or target groups.

Input Financing: Input financing schemes provide farmers with availability of credit for necessary agricultural inputs including seeds, fertilizer, and pesticides. Input suppliers, agricultural cooperatives, and NGOs may offer input financing arrangements, allowing farmers to repay their loans after harvest using proceeds from the sale of their produce.

Challenges of Agricultural Financing in Nigeria

Agricultural financing faces several challenges, particularly in the context of smallholder farmers and agricultural enterprises (Mersha & Ayenew, 2018). These challenges include:

Limited Access to Finance:- Smallholder farmers, who constitute the majority of Nigeria's agricultural sector, often lack official financial services availability. This is brought on by things like poor creditworthiness and insufficient collateral and geographic remoteness. Many financial institutions perceive agricultural lending as risky due to the unpredictable nature of agricultural production and income.

High-Interest Rates:- Agricultural loans in Nigeria typically come with high-interest rates, often exceeding the profitability margins of farming activities. This discourages farmers from seeking loans or results in heavy financial burdens, especially for small-scale farmers with limited resources.

Inadequate Infrastructure:- Poor infrastructure, including roads, storage facilities, and irrigation systems, significantly hampers agricultural productivity and increases post-harvest losses. The lack of reliable infrastructure increases the risk for financial institutions, leading to higher interest rates and reluctance to finance agricultural ventures.

Limited Technical Knowledge and Skills:- Many small-scale farmers lack the technical know-how and business management skills needed to develop viable business plans and effectively manage agricultural enterprises. This lack of expertise makes it difficult for farmers to access financing, as financial institutions require credible business proposals and evidence of managerial competence.

Risk Management:- Agriculture is inherently risky, with farmers facing various risks such as weather-related disasters, pests, diseases, and market price volatility. Financial institutions often lack the expertise and tools to assess and mitigate these risks effectively, leading to reluctance in providing agricultural loans.

Agricultural Loans and Agricultural Output of Small-scale farmers in Kogi State

Access to loans for agriculture allows smallholder farmers to make investments in essential inputs such as seeds, fertilizers, pesticides and irrigation systems; by providing upfront capital, loans allow farmers to purchase higher-quality inputs in larger quantities, which can lead to increased crop yields and improved agricultural output; it often come with conditions or incentives for adopting modern farming practices and technologies, with access to financing, smallholder farmers can invest in mechanization, irrigation and other technologies that improve efficiency and productivity (Ngozi & Anthony, 2015). Agricultural loans can support smallholder farmers in diversifying their crops, which can help spread risk and improve resilience to environmental and market fluctuations. Loans may be used to invest in new crops or varieties that are better suited to local conditions or have higher market demand. By diversifying their crop portfolio, farmers can reduce the impact of pests, diseases, and adverse weather events on

their overall agricultural output. Agricultural loans provide smallholder farmers with the financial resources to expand their farming operations and increase their scale of production, with access to financing, farmers can lease or purchase additional land, invest in infrastructure development, and expand their farming enterprises (Abate et al., 2016).

Interest Rate and the performance of Smallholder Farmers

Interest rates significantly influence how smallholder farmers perform as they affect various aspects of their financial activities. Smallholder farmers often depend on loans to buy inputs like as seeds, fertilizers, and equipment. The interest rate determines the cost of borrowing money. Higher interest rates make loans more expensive and can reduce farmers' ability to access credit; conversely, because borrowing is more inexpensive due to decreased interest rates, farmers are able to invest in their operations and increase productivity, it influence The cost of production for farmers who own small farms (Choudhury et al., 2020). When interest rates are high, the cost of borrowing capital for purchasing inputs increases, which can reduce farmers' profitability. This can lead to lower investment in technology, machinery and quality inputs, ultimately impacting farm productivity and output (Teye & Quarshie, 2021).

Small and Medium-Sized Enterprises

Small and Medium Scale Enterprises (SMEs) are businesses that fall within a certain size range, often defined by the number of employees, annual revenue, or total assets. The criteria for categorizing SMEs can vary from country to country, but they generally share some common characteristics. SMEs are an integral part of the business ecosystem and play a significant role in economic development worldwide. SMEs can vary depending on the industry, country, or regulatory authority. For example, the European Union defines SMEs based on employee count and annual turnover, classifying small businesses (10-49 employees), medium-sized businesses (50-249 employees), and micro-enterprises (0-9 employees). Different countries may use various criteria, such as revenue or asset thresholds, to define SMEs. SMEs are the backbone of most economies; contributing significantly to GDP growth and employment (Akinyode & Asani, 2022). They are vital for job creation, particularly in emerging economies, where they often provide employment opportunities to a large percentage of the workforce. In developed countries, SMEs are important drivers of innovation and competition, fueling economic diversification and driving technological advancements.

Measurement of the Performance of Small and Medium Scale Businesses

The growth of SMEs, or small and medium-sized businesses can be measured using various indicators and metrics. Here are several common ways to measure the growth of SMEs:

Market Expansion: SMEs entering new markets, either geographically or by diversifying their product or service offerings, demonstrate growth. Expansion into new regions or demographic segments can signify business development.

Profit Margin Improvement: While revenue growth is essential, improving profit margins can be a sign of healthy growth. SMEs should aim for sustainable profitability by optimizing costs and increasing operational efficiency.

Revenue Growth: One of the most straightforward measures of SME growth is the increase in revenue or sales over a specific period. Comparing the revenue from one year to the next can indicate whether the business is expanding.

Employment Growth: The number of employees hired by the SME can be an indicator of business expansion. Hiring more employees suggests increased production capacity and a larger customer base.

Customer Base Growth: An expanding customer base, both in terms of the number of customers and customer retention rates, is a positive indicator. It shows that the business is meeting customer needs and attracting new clients.

Asset Growth: The acquisition of new assets, such as property, equipment, or intellectual property, can indicate business growth. Asset growth often correlates with increased production capacity or enhanced capabilities.

Theoretical Framework

Commercial Loan Theory of Liquidity

Adam Smith described bank liquidity by explaining that short term loans made to finance goods that are salable, in the process which moves from the producer to the consumer are considered to be the loans that are liquid that bank(s) can make. These loans are termed to be self-liquidating. The reason is that these goods that are being financed will be sold within the shortest period of time. And so the borrower ability to pay back to the bank is based on the loan that is used to finance a transaction, and the transaction can give the borrower the money they need. These loans according to Adam Smith are liquid. This is because of the collateral attached to this loans and the purpose in which they are used for. Secondly the loans are the most liquid because of the value chain where it moves very fast (or quickly) from the producer to the distributors, to the retailer and it reaches the consumer who buys and pay for their purchases.

The study is anchored on commercial Loan theory of liquidity because agricultural financing and SME lending involve inherent risks due to factors like seasonality, market fluctuations, and operational uncertainties. The Commercial Loan Theory provides a structured approach to assessing and managing liquidity risk, which is crucial for ensuring the stability and sustainability of lending activities in these sectors.

Empirical Review

Sunday et al., (2022), studied the effect of Microfinance program for smallholder rice farmers in Kwali Area Council, Abuja Nigeria. The study revealed that majority of the Male farmers work in the study areas. That the rice sector is dominated by married individuals with farmer having secondary education. The study further revealed that the main source of credit access for farmers is the cooperative society with 85%. The study further recommended that; commercial banks should ensure agricultural loan is given a priority especially to smallholder farmers to enhance increase in quantity and quality of rice production. The study also recommends that government should also give farmers education a priority as a means of promoting efficiency and efficacy in the cultivation of rice.

Sulaimon (2021) examined the impact of the ACGSF standards on Nigerian agricultural output from 1981 to 2019. With the use of actual agricultural GDP, the success of agriculture was measured. Threshold regression was used to examine annual time series data that were sourced from the World Development

Indicators (WDI) and the Central Bank of Nigeria (CBN) Statistical Bulletin. Results indicated a U-shaped link between real agricultural GDP and ACGSF, albeit a negligible one. ACGSF also significantly increased real agricultural GDP at thresholds of 1060389 (₦' thousand) and 5951809 (₦' thousand). According to the study's findings, the program will significantly improve Nigeria's agricultural performance if it can continue to raise the value of the guaranteed agricultural loans and include more smallholder farmers, who now make up the majority of the country's agricultural sector.

Ademola (2019) assessed the analysis of the relationship between agricultural finance and the expansion of the Nigerian economy showed that the size and quantity of government-granted credit available to the agricultural sector did not have a significant effect on the country's rate of economic growth. This indicates that there is a detrimental impact on Nigeria's level of output. This unfavorable association might result from the nation's growing experience with the embezzlement of monies intended for credit issuance to the agriculture industry. This relates to the agricultural output level as well, which continued to have a negligible but negative impact on Nigeria's output level. In the meantime, Nigeria's output level was positively impacted by real interest rates and the total amount of commercial bank loans given to the agricultural sector. The reasoning for this is that advances and loans related to the private sector and specific organizations will be provided in a reasonably consistent manner. The amount and frequency of loans that Nigeria's commercial and specialty banks get from the nation's top banks serve as evidence of this.

Okunlola et al. (2019) examined the growth of Nigeria's economy in relation to agricultural guaranteed credit, emphasizing the country's groundnut, oil palm, cattle, fisheries, roots, and tubers industries. The study used stepwise regression analysis techniques to analyze time series data from 1970 to 2009 that were sourced from the Central Bank of Nigeria's statistical bulletin. The results showed that, Root and tuber production, which accounted for 81% of the variation, had a reasonable and statistically significant effect on Nigeria's economic expansion. Moreover, the economic growth variation was explained by 90% and 87%, respectively, by the production of chickens and cocoas. These two sectors demonstrated noteworthy contributions. The study recommended that, Nigeria's economic growth is significantly impacted by the production of chicken, cocoa, and root and tuber crops; as such, these significant agricultural sectors ought to be given more assistance.

Karimou (2018) examined, using Benin as a case study, how agricultural output affects economic growth in West Africa. We used time series data spanning from 1961 to 2014. Using a vector error correction model (VECM), the data were analyzed. The findings show that the relationship between capital, GDP, industrial output, and agricultural output is in long-term equilibrium. The findings show that the relationship between capital, GDP, industrial output, and agricultural output is in long-term equilibrium. According to the error correction model, 21.6% of the difference in GDP between the long and short terms is adjusted in a year. The variance decomposition reveals that feedback stocks account for the majority of GDP stocks. For the first three years, the contribution of agricultural output to GDP shocks is less than 2%, and for the next ten years, it is approximately 6%. For the first three years, the capital contribution to GDP from stock is roughly 3%, and over 15% over the next ten years. Therefore, GDPs are mostly influenced by agricultural output, aside from capital stocks and feedback. As a result, capital formation is essential

to Benin's economic growth, but agricultural output is the main economic activity in which capital should be allocated.

Literature Gap

Many studies on agricultural financing and SME performance often generalize findings across various agricultural sectors. There might be a lack of specific research focusing solely on rice farmers in Kogi State, despite rice being a significant agricultural product in the region. Thus, there's a need for more targeted studies to recognize the particular difficulties and opportunities challenges that rice producers confront in accessing financing and how it impacts their performance as SMEs.

Studies often measure SME performance using financial metrics like profitability, growth rates, or productivity. However, there may be other important performance indicators specific to rice farming SMEs, such as yield per hectare, adoption of sustainable practices, or market access. Exploring a broader range of performance indicators can offer a more comprehensive understanding of the relationship between agricultural financing and SME performance.

METHODOLOGY

The research utilized primary data and a survey research design. The study population is made up of farmers in some selected agricultural zones in Kogi State. The number of rice growers in Kogi State's Igalamela, Idah, and Ibaji Local Government Areas is 7,603 consisting of farmers from the dry and wet seasons. Using Taro Yamane's formula, the sample size drawn from the population for this study is represented in the computation below:

$$n = \frac{N}{1 + N(e)^2}$$

Where n = Sample size
N = Actual population
e = Level of significance (0.05)
1 = constant

$$n = \frac{7,603}{1 + 7,603(0.0025)}$$

$$n = \frac{7,603}{1 + 19.0075}$$

$$n = \frac{7,603}{20.0075} = 380$$

Therefore, the sample size for this study is 380

A total of 380 copies of the questionnaire were given to the respondents, as shown by the sample size of 388. For the analysis, $p = 0.05$ was chosen as the significant level. The basis for accepting, rejecting, or not accepting each hypothesis is this degree of significance. Regression analysis was used to test the hypotheses with the help of the statistical software for social sciences (SPSS v 20).

DATA ANALYSIS AND DISCUSSION OF FINDINGS

Three Hundred and Eighty (380) copies of questionnaires were distributed to the respondents and Three Hundred and Seventy-two (372) copies were returned which form the basis of analysis.

Testing of Hypotheses

In other to achieve this, the researcher used multiple regression analysis method.

Ho₁: Agricultural loan does not have impact on agricultural output of smallholder farmers in Kogi State.

Ho₂: Interest rate does not have impact on the performance of smallholder farmers in Kogi State.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.851 ^a	.723	.722	.45787

a. Predictors: (Constant), Agricultural Loan, Interest Rate

The model summary, as shown in the above table, reveals R square of 0.723, meaning that the constant variables (interest rate and agricultural loan) constitute 72.3% of the variation in the dependent variable (performance of SMEs), with other variables not included in the model accounting for the remaining 27.7%. Given that the value of R² is near to 1, this indicates that the regression (model) can be useful for making predictions.

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	202.369	2	101.185	482.651	.000 ^b
	Residual	77.358	369	.210		
	Total	279.728	371			

a. Dependent Variable: SMEs performance

b. Predictors: (Constant), Agricultural Loan, Interest Rate

The previous table's determined F-value (482.651) with a significance value of .000 suggests that the explanatory variable element may bring about changes in the dependent variable (SMEs performance), which is less than the P-value 0.05 (p<0.05). This test indicated that, among the various variables, certain explanatory variables had significant effects on the performance of small and medium-sized enterprises.

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.352	.069		5.135	.000
	Agricultural Loan	.431	.047	.468	9.128	.000
	Interest Rate	.387	.048	.417	8.135	.000

a. Dependent Variable: SMEs

The performance of SMEs is the dependent variable, shown in the above table. This provided a standard for analyzing the performance of SMEs and agricultural financing in a study of rice farmers in Kogi State. As indicated by the table, the predictors are interest and agricultural loans. It is clear that

independent variables and SMEs' performance are closely related. The above table's results indicate that the t-test coefficients for interest rates and agricultural loans are 9.128 and 8.135, respectively. Due to the fact that the P-value is 0.000, or less than 0.05 ($P < 0.05$). This indicates that, at a significance level of 5%, these variables are statistically significant. Thus, the null hypotheses are rejected.

Discussion of Findings

The two hypotheses and required decisions were analyzed using multiple regression analysis. Our conclusions can be summed up as follows:

The test's outcome for the first research hypothesis, regression analysis with a 5% significance level allows us to reject the null hypothesis. (Ho) researcher gathered that; access to agricultural credit enables smallholder farmers to increase their income by expanding their production, diversifying their crops and accessing higher-value markets. This, in turn, improves their standard of living and reduces poverty in rural communities. The finding support the view of (Ameh & Lee, 2022) who opined that, by enabling investments in soil protection, agricultural loans can support smallholder farming's long-term viability, water management, and sustainable farming practices. These investments help to conserve natural resources and ensure the resilience of agricultural systems in the face of environmental challenges

The researcher has also in research hypothesis two pointed out that; high-interest rates can increase the cost of borrowing for smallholder farmers, reducing their profitability and overall performance. When interest rates are high, farmers may need to allocate a larger portion of their revenue to debt servicing, limiting their ability to invest in inputs, technology and other factors that could enhance productivity. This finding agreed with the view of (Ola & Menapace, 2020) who opined that, interest rates influence the investment decisions of smallholder farmers. High-interest rates may discourage farmers from borrowing to invest in productivity-enhancing activities such as purchasing improved seeds, fertilizers, and equipment. As a result, productivity and yields may suffer, affecting the overall performance of the farm.

CONCLUSION AND RECOMMENDATIONS

In conclusion, this study underscores the vital role of agricultural financing in enhancing the performance of SMEs, focusing specifically on rice farmers; access to appropriate financial services positively impacts various facets of SME performance, including productivity, profitability and growth. Nonetheless, challenges persist, hindering SMEs' access to affordable and suitable financing. Addressing these challenges demands collaborative efforts from policymakers, financial institutions, and other stakeholders. By doing so, SMEs in the agricultural sector, particularly rice farmers, can unlock their full potential, fostering agricultural development and contributing significantly to economic growth.

The study recommended that,

- i. Financial institutions should design agricultural loan products specifically tailored to the needs and cash flow patterns of smallholder farmers. These loans could include flexible repayment schedules, grace periods during off-seasons, and provisions for seasonal fluctuations in income, governments should implement policies and initiatives aimed at promoting agricultural financing for smallholder farmers, including subsidizing interest rates on agricultural loans, providing credit guarantees, and investing in rural infrastructure development.

- ii. Governments and financial institutions could consider implementing interest rate subsidies or concessional lending programs specifically targeted at smallholder farmers to reduce the cost of borrowing and improve their access to credit, offer flexible repayment structures, including grace periods, moratoriums, and staggered repayment options, to accommodate the seasonal cash flow fluctuations experienced by smallholder farmers.

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