



# Credit Accessibility and Performance of Small Scale Farms in Rwanda: A Case of Selected Farmers in Gicumbi District

<sup>1</sup>Aube Fabrice Kakiriho, <sup>2</sup>Osiemo Kengere Athanas

<sup>1</sup>University of Kigali, <sup>2</sup>Mount Kenya University

Email: [fkakiriho@gmail.com](mailto:fkakiriho@gmail.com)

**Abstract:** *This study examines the effect of credit accessibility on the performance of small-scale farms in Gicumbi District. It attempted to determine effect of cost of credit on performance of small scale farms in Gicumbi District, Rwanda. A descriptive research design was employed, integrating both quantitative and qualitative methods to assess how interest rates, hidden charges, and financial literacy affect farmers' access to credit and, consequently, their productivity. A total of 293 questionnaires were distributed across four sectors Byumba, Kageyo, Mutete, and Kinyami with 269 valid responses returned, representing a high response rate of 91.8%. Descriptive statistics, correlation, and regression analyses were conducted using SPSS Version 23. The results revealed a strong and statistically significant positive relationship between cost of credit and farm performance, with a Pearson correlation coefficient of  $r = 0.795$  and a regression  $R^2$  value of 0.649, indicating that approximately 64.9% of the variation in farm performance could be explained by cost-related factors. Farmers identified high interest rates, complex loan procedures, lack of financial literacy, and hidden bank charges as major barriers to credit accessibility. Based on these findings, the study recommends the implementation of subsidized credit schemes, farmer-focused financial literacy programs, and the simplification of loan processes to enhance credit uptake. Addressing these financial barriers is essential to improving the productivity and sustainability of smallholder farms in Rwanda.*

**Keywords:** Credit accessibility, Performance of small scale farms, Cost of credit, Gicumbi District, Rwanda

## How to cite this work (APA):

Aube, F. K. & Osiemo, A. K. (2025). Credit accessibility and performance of small scale farms in Rwanda: A case of selected farmers in Gicumbi District. *Journal of Research Innovation and Implications in Education*, 9(3), 407 – 417. <https://doi.org/10.59765/jrriec.9.3.39>.

## 1. Introduction

Globally, access to agricultural credit remains a critical challenge for small-scale farmers in developing countries, where agricultural production is heavily dependent on external financing to cope with uncertainties like climate change, fluctuating market prices, and inadequate infrastructure (FAO, 2020). The lack of financial resources restricts farmers' ability to invest in modern farming techniques, equipment, and quality inputs, ultimately limiting agricultural productivity and economic growth. As

global demand for food rises, particularly in emerging economies, enhancing access to agricultural finance has become increasingly crucial for improving food security, boosting rural incomes, and achieving sustainable development goals (SDGs) related to poverty alleviation and hunger reduction (World Bank, 2020).

In developed countries, access to agricultural finance is generally less of a barrier compared to developing regions due to well-established financial markets, stronger institutional support, and government-backed agricultural

subsidies (OECD, 2020). However, challenges still exist, particularly for small and family-owned farms, which may struggle to secure financing for expansion or adoption of new technologies (FAO, 2021). In these countries, agricultural credit systems are typically sophisticated, offering farmers a range of financial products such as low-interest loans, grants, and insurance schemes. Despite this, issues such as high debt burdens, regulatory changes, and market volatility exacerbated by events like the COVID-19 pandemic or trade disruptions can still create financial stress for farmers. Financial institutions in developed nations are increasingly focusing on sustainable and climate-resilient agriculture, providing financial solutions tailored to help farmers mitigate risks associated with climate change and environmental sustainability (FAO, 2021; OECD, 2020).

From a regional perspective, sub-Saharan Africa faces similar challenges regarding agricultural finance. In many countries within the region, including Rwanda, smallholder farmers often rely on informal sources of credit, which are typically insufficient, expensive, and unreliable. The region's farmers are particularly vulnerable to climate-related shocks and market volatility, exacerbating the need for stable and accessible financial services (IFAD, 2020). Efforts to improve agricultural finance at the regional level have been made through initiatives like microfinance institutions, agricultural banks, and the promotion of value chain financing, yet access remains limited for many farmers, especially those in rural areas.

In East Africa, countries such as Kenya, Uganda, Tanzania, and Rwanda share similar agricultural finance challenges. Smallholder farmers in this region face difficulty accessing formal credit due to a combination of limited collateral, low financial literacy, and underdeveloped credit markets (IFAD, 2020). Although the region's agriculture is central to economic development, with a large portion of the population relying on farming for their livelihoods, financial services remain scarce, especially for rural farmers. In East Africa, microfinance institutions, cooperatives, and mobile banking platforms have been key players in addressing this gap, enabling farmers to access small loans and savings services (World Bank, 2021). However, these financial products often come with high interest rates or are not sufficiently scaled to meet the growing demands of smallholders. Governments and development partners are actively exploring solutions to bridge this financing gap through initiatives like agricultural insurance, climate-smart agriculture funding, and supporting digital financial services to improve farmers' access to capital (World Bank, 2021; IFAD, 2020). Despite progress, access to affordable and adequate credit remains a major obstacle to improving agricultural productivity and the performance of smallholder farmers in the region (Christiaensen et al., 2019; FAO, 2020).

In Rwanda, agricultural financing is a central issue for smallholder farmers, who contribute significantly to the country's economy but face persistent barriers to accessing formal credit. With the majority of farmers in rural areas relying on subsistence farming, their limited access to capital restricts their ability to invest in productivity-enhancing inputs, leading to lower yields and minimal income growth. In addition, the lack of collateral and formal credit histories, combined with high-interest rates, discourages banks and financial institutions from lending to farmers. Government policies and programs aimed at improving agricultural credit access, such as subsidized loans and financial literacy programs, are steps in the right direction, but the challenge of bridging the financial gap for smallholder farmers remains a key issue for Rwanda's agricultural sector (MINAGRI, 2023).

## 1.2 Problem Statement

Small-scale agriculture faces a range of challenges, including limited access to information and resources. One significant issue is the absence of crop rotation practices among subsistence farmers. Many of these farmers engage in mixed farming, continuously cultivating the same crops across seasons. This practice leads to the buildup of pests and diseases, exacerbating the difficulties faced by farmers. Additionally, the availability and cost of certified seeds present significant hurdles, further impeding agricultural productivity (World Bank, 2023).

Financial resources are essential for the success and growth of agriculture. Access to agricultural credit allows farmers to invest in crucial inputs and technologies, thereby enhancing productivity and overall farm performance. Recent studies underscore the importance of financial inclusion in improving agricultural outcomes. Miller and Jones (2022) demonstrate that better access to credit can significantly boost productivity in sub-Saharan Africa. Similarly, Khan and Roberts (2023) find that microfinance contributes to increased farm productivity and income in South Asia, while Gonzalez and Rivera (2023) show that agricultural credit positively affects farm outputs in Latin America. Ahmed and Bock (2024) further highlight the role of credit in enhancing farm resilience and adapting to climate change in East Africa.

In Rwanda, particularly in Gicumbi District, there has been a noticeable decline in agricultural output from 2012 to 2016. Both anticipated and actual outputs of various agricultural products have decreased, reflecting a broader trend of diminishing productivity in the region (Rwanda Agriculture Board, 2023). This decline underscores the need for research into how agricultural credit impacts farm performance in rural areas. Understanding how access to credit affects productivity and resilience is crucial given the unique challenges faced by different regions. Therefore, this study aimed to assess the impact of

agricultural credit accessibility on the performance of small-scale farms specifically in Gicumbi District, Rwanda.

This research examined effect of credit accessibility on performance of small scale farms in Gicumbi District, Rwanda. This study sought to achieve the following research objective:

- i. To determine effect of cost of credit on performance of small scale farms in Gicumbi District, Rwanda.

## 2.1 Literature Review

This section reviews various theoretical literatures related to the study's key variables. It is crucial to examine existing theories concerning agricultural credit accessibility and the performance of small-scale farms. This review provided a foundational understanding of the theoretical frameworks that underpin the research.

### 2.2.1 Credit Accessibility

Credit accessibility is a fundamental factor in enhancing agricultural productivity, as it provides small-scale farmers with the necessary working capital for both operational expenses and long-term investments in fixed assets. Access to credit has been consistently identified in the literature as a crucial enabler for increasing agricultural output, facilitating the adoption of modern farming practices, and improving overall farm profitability (Kumar & Singh, 2021). Agricultural credit encompasses a range of financial products, including cash loans, trade bills, and other tailored financial instruments that help farmers cover the costs associated with inputs, production, land preparation, and marketing activities (Mugisha et al., 2020). Adequate and timely access to such credit not only enables farmers to smooth cash flow but also supports the scaling of agricultural operations and technological adoption, leading to enhanced productivity and improved livelihoods (Ravallion et al., 2019). Consequently, improving credit accessibility has the potential to significantly reduce barriers to agricultural growth and contribute to broader socio-economic development in rural economies.

### 2.2.2 Cost of Credit

The cost of credit is a critical factor influencing the accessibility and effectiveness of agricultural financing for smallholder farmers. It encompasses interest rates, processing fees, collateral requirements, and repayment terms all of which can significantly affect a farmer's ability

to secure and benefit from a loan. The agricultural lending market includes a variety of institutions such as commercial banks, microfinance institutions, agricultural cooperatives, and rural development banks that offer tailored loan products to meet the financial needs of farmers (Olaniyan & Olaniyan, 2021). While credit enables farmers to purchase essential inputs like seeds, fertilizers, and equipment, the high cost associated with borrowing often limits its positive impact (Khan et al., 2022).

Given the cyclical nature of agriculture income is typically seasonal and delayed until after harvest the cost of borrowing becomes even more burdensome. This is unlike other sectors with steady cash flows, making affordable credit a necessity for sustainable agricultural operations (World Bank, 2023). In many developing countries, access to reasonably priced credit is crucial for smallholder farmers to invest in modern technologies, increase yields, and improve their livelihoods. High credit costs, however, can deter such investment and trap farmers in low-productivity cycles (IFC, 2023; World Bank, 2024).

Despite the importance of agricultural credit, many small-scale farmers face high interest rates, short repayment periods, and hidden charges that elevate the overall cost of credit. Moreover, limited financial literacy and lack of collateral further restrict their borrowing options (Kumar et al., 2022). These cost-related barriers not only reduce credit uptake but also hinder the ability of farmers to scale their operations and contribute meaningfully to food security and rural economic growth. Reducing the cost of credit and making loan terms more farmer-friendly are essential steps toward unlocking the full potential of agricultural financing.

### 2.2.5 Performance of Small-Scale Farms

The performance of small-scale farms is influenced by various factors, including the adoption of innovative practices and technologies. Recent data highlights that while many smallholder farmers engage in diverse agricultural activities, there is limited uptake of advanced technologies and modern farming practices (County Government of Taita Taveta, 2023). For instance, the use of precision agriculture techniques and digital marketing strategies remains low among smallholder farmers. This limited adoption can constrain farm productivity and market access, impacting overall farm performance and profitability (Mwaluko, 2023).

To improve the performance of small-scale farms, increased investment in technology and market diversification is necessary. Recent studies suggest that

integrating modern technologies, such as drip irrigation and climate-smart practices, can significantly enhance farm productivity and resilience (UoN & ASDSP, 2024). Additionally, fostering innovation and supporting farmers in adopting new marketing strategies can help them tap into niche markets and increase their income. By promoting technological adoption and market expansion, policymakers and development agencies can support smallholder farmers in achieving better performance and contributing to broader agricultural growth (Jones et al., 2024).

Kihara and Ndegwa (2021) specifically investigated the impact of high interest rates on credit uptake among small-scale farmers. Their study identified loan pricing particularly interest rates as a major barrier that limits farmers' ability to access credit and invest in productive agricultural technologies. They recommended that reducing interest rates and offering flexible repayment terms could improve credit demand and enhance farm performance. Similarly, Njenga and Kimani (2022) argued that beyond high interest rates, the lack of alternative collateral and limited financial innovations further restrict credit accessibility. They advocated for the integration of financial technology and the use of movable assets as collateral to lower borrowing costs for farmers.

In a broader context, Gangata and Matavire (2023) studied SMEs in Ghana and found that challenges such as insurance requirements and strict loan conditions elements directly tied to loan pricing act as major barriers to credit access. Their findings align with those of Asante and Mensah (2023), who emphasized that inadequate collateral and complex loan application processes hinder small businesses' ability to secure affordable financing. These studies highlight the persistent structural issues in credit markets that contribute to the high cost of credit, ultimately affecting the productivity and growth of small-scale enterprises, including farms.

Boateng and Agyeman (2024) further explored the effect of competitive pressures on loan pricing and SME performance in Ghana. Their research concluded that while competition among lenders can lead to more favourable loan terms, such as lower interest rates, access to credit remains uneven due to bureaucratic hurdles and high collateral demands. These systemic challenges continue to inflate the overall cost of credit, limiting its positive impact on small-scale enterprises.

### 3. Methodology

This study adopted a descriptive and explanatory research design incorporating a correlational regression approach. The descriptive aspect provided a detailed account of the characteristics of small-scale farmers in Gicumbi District, while the explanatory design examined the relationships between key variables such as loan pricing, loan repayment schedules, financial institution availability, and farm performance. Descriptive statistics, including means, standard deviations, and correlation coefficients, facilitated a clear understanding of variable interactions. The use of regression analysis supported a deeper exploration of causal relationships, aiding in the development of recommendations based on empirical findings.

The study focused on a target population of 1,101 small-scale farmers from four sectors in Gicumbi District: Byumba, Kageyo, Mutete, and Kinyami. These sectors were selected due to their agricultural significance and concentration of smallholder farmers. The identification of this population was based on data obtained from the Ministry of Agriculture (2024), ensuring relevance and accuracy. Farmers from these sectors were the primary respondents, as they are directly affected by access to credit and financial services, the core focus of this research.

**Table 1: Target Population**

Sectors	Population
Byumba	433
Kageyo	464
Mutete	99
Kinyami	105
<b>Total</b>	<b>1101</b>

**Source:** Ministry of Agriculture (2025)

To ensure representativeness and statistical validity, the sample size was determined using Yamane's formula with a 95% confidence level and a 5% margin of error. The

calculation resulted in a sample of 293 respondents. The sample was proportionately distributed across the four sectors to reflect their population sizes, providing balanced

representation. This stratified sampling method enhanced the generalizability of the findings and minimized

sampling bias, making the results more applicable to the wider farming population in Gicumbi District.

**Table 2: Sample Size Distribution**

Sectors	Population	Sample Size
Byumba	433	115
Kageyo	464	124
Mutete	99	26
Kinyami	105	28
<b>Total</b>	<b>1101</b>	<b>293</b>

Source: Field Data (2025)

Both simple random sampling and purposive sampling techniques were utilized. Simple random sampling gave all farmers an equal chance of selection, enhancing the credibility and neutrality of the study. Purposive sampling was employed to select specific individuals such as local agricultural officers or bank representatives who possessed in-depth knowledge relevant to the research. This dual approach ensured that the data collected was both comprehensive and nuanced, blending broad population insights with targeted expert input.

To ensure the reliability and validity of the research instruments, a pilot study involving 30 participants was conducted. These participants were not part of the main sample but shared similar characteristics. The instruments' reliability was confirmed through Cronbach's Alpha, which scored 0.930, indicating excellent internal consistency. Content validity was verified through expert review and supervisor feedback. The Content Validity Index (CVI) was computed using expert judgment, exceeding the acceptable threshold of 0.7. This confirmed that the instruments effectively measured the intended variables.

Data analysis was carried out using SPSS software. Descriptive statistics were used for data summarization, while Pearson Product Moment Correlation examined relationships between independent variables and farm performance. Multiple regression analysis further tested the strength of these relationships and assessed the predictive ability of variables such as loan pricing and institutional support. Ethical guidelines were strictly followed throughout the study. Approval was obtained from relevant academic and local authorities, and respondents' consent was sought. Confidentiality,

voluntary participation, and respect for participants' rights were maintained to uphold the integrity and ethical standards of the research process.

## 4. Results and Discussion

### 4.1 Findings

This section shows the findings of the research and linked information that was collected in relation with research questions. In addition, this chapter presents statistical analyses which were done using Statistical Package for Social Sciences (SPSS) 23rd version and interpretations of demographic profile of respondents, perceptions of respondents on relationship between credit accessibility and performance of small scale farms. presents the analysis and interpretation of the findings of the study in relation to the research objective.

#### 4.1.1 Response Rate

The study targeted a total of 1,101 respondents across four sectors: Byumba (433), Kageyo (464), Mutete (99), and Kinyami (105). A total of 293 questionnaires were distributed among the respondents. Out of these, 269 (91.8%) questionnaires were returned, resulting in a response rate of 91.8%. This indicates that a majority of the distributed questionnaires were completed and returned, while 24 (8.2%) questionnaires were not returned. The following table provides a breakdown of the population and sample size for each sector:

**Table 3: Response rate of distributed questionnaires**

Category	Frequency	Percentage
Questionnaires Returned	269	91.80%
Questionnaires Not Returned	24	8.20%
Total Questionnaires Distributed	293	100%

Source: Field Research, 2025

Table 3 presents a breakdown of the response rate for the distributed questionnaires. Of the 293 questionnaires distributed, 269 were returned, representing 91.80% of the total distributed. This is a very high response rate, indicating strong engagement from the target population. According to Mugenda and Mugenda (2003), a response rate of 70% and above is considered excellent, and the 91.8% response rate in this study far exceeds that threshold, reinforcing the reliability and validity of the findings. Only 24 questionnaires, or 8.2%, were not returned, which is a relatively small proportion, suggesting that the study's data collection process was efficient and that non-response was minimal. The high response rate enhances the credibility of the results and assures that the sample is representative of the targeted population.

#### 4.1.2 Descriptive Statistics of Cost of Credit

This section examines the effect of the cost of credit on the performance of small-scale farms in Gicumbi District. To assess factors influencing agricultural credit access, respondents were asked to indicate the extent to which they agree or disagree with various statements related to loan pricing. A Likert scale was employed, where respondents rated their agreement from 1 to 5, with 1 representing "Strongly Disagree" (SD), 2 "Disagree" (D), 3 "Neutral" (N), 4 "Agree" (A), and 5 "Strongly Agree" (SA). The results from this assessment provide insight into how loan interest rates and associated costs impact farmers' ability to access credit and subsequently affect their farm performance. The following table presents the summarized responses.

**Table 4: Agreement on how cost of credit affects performance of small farms**

Views of respondents	N	Mean	SD
High interest rate charged on loan is a burden to farmers	269	4.12	.953
Most farm owners lack adequate financial information and literacy to evaluate the cost of credit and the various financial products offered by Banks	269	4.34	.886
Inadequate information from Banks in the form of prescribed minimum loan amounts discourage farmers	269	4.36	.922
Most farmers fear going for credit from commercial banks based on the numerous hidden charges associated with the loans.	269	4.43	.669
The application process for agricultural loans is too complex and discourages farmers from applying for credit	269	4.30	.983
<b>Aggregate Score</b>		<b>4.31</b>	

Source : Field Data, 2025-Key: M: Mean, SD=Standard Deviation

Table 4 presents the views of respondents on how different aspects of cost of credit impact the performance of small farms in Gicumbi District. The table includes the mean and standard deviation (SD) for each statement, which reflects

the extent to which respondents agree with various factors affecting access to agricultural credit. The aggregate score of 4.31 indicates strong agreement among the respondents that loan pricing significantly influences farm

performance, with a general consensus on the importance of these factors. The statement "High interest rate charged on loan is a burden to farmers" received a mean of 4.12 and an SD of 0.953. This suggests that most respondents agree that high interest rates are a substantial burden on farmers. The relatively high standard deviation indicates that there is some variation in how strongly respondents feel about this issue, though the general sentiment is that interest rates pose a financial challenge for small-scale farmers.

Regarding financial literacy, the statement "Most farm owners lack adequate financial information and literacy to evaluate the cost of credit and the various financial products offered by Banks" received a mean score of 4.34 and an SD of 0.886. This indicates that respondents strongly agree that a lack of financial knowledge prevents farmers from fully understanding and evaluating the costs associated with credit. The low standard deviation suggests that there is a broad consensus on the significance of financial literacy as a barrier to accessing credit. The statement "Inadequate information from Banks in the form of prescribed minimum loan amounts discourage farmers" had the highest mean of 4.36 and an SD of 0.922. This shows that respondents strongly agree that insufficient information, especially about minimum loan amounts, discourages farmers from applying for credit. The relatively high standard deviation reflects some variation in the strength of agreement, but the majority of respondents agree on the importance of clear communication from banks to facilitate credit access. On the issue of hidden charges, "Most farmers fear going for credit from commercial banks based on the numerous hidden charges associated with the loans" received a mean of 4.43 with an SD of 0.669. This statement had one of the strongest

agreements among respondents, suggesting that hidden charges are a major concern for farmers when considering commercial bank loans. The low standard deviation implies that this concern is widespread and consistent across respondents.

Finally, the statement "The application process for agricultural loans is too complex and discourages farmers from applying for credit" received a mean score of 4.30 and an SD of 0.983. This shows strong agreement that the complexity of the loan application process is a significant barrier. The higher standard deviation reflects some variability in responses, but the overall sentiment suggests that simplifying the application process could help increase access to credit for farmers.

Overall, the aggregate score of 4.31 reflects a strong consensus among respondents that factors such as high interest rates, financial literacy, inadequate information from banks, hidden charges, and complex application processes all play a critical role in affecting small-scale farmers' ability to access agricultural credit. These barriers limit the potential for improved farm performance in Gicumbi District. Addressing these issues by reducing interest rates, improving financial literacy, providing clear and accessible loan information, eliminating hidden charges, and simplifying application procedures could significantly enhance credit accessibility for farmers and contribute to better agricultural outcomes.

### 4.1.3 Correlation Analysis

The findings of the correlations between the independent variables and the dependent variables are summarized and presented in Table 5:

**Table 5: Correlation between independent variable and dependent variable**

		Cost of Credit	Performance of small farms
Cost of Credit	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	269	
Performance of small farms	Pearson Correlation	.795**	1
	Sig. (2-tailed)	.000	
	N	269	269

**Source:** Primary data, 2025

Table 5 indicates a strong positive and statistically significant correlation between the cost of credit and the performance of small farms. Specifically, the Pearson correlation coefficient ( $r = 0.795$ ) shows a high degree of association, suggesting that improvements in credit affordability are strongly linked to better farm performance. The p-value (.000) confirms that this correlation is statistically significant at the 0.01 level, meaning the likelihood that this relationship occurred by

chance is extremely low. This finding implies that when the cost of credit is lower or more favourable, small-scale farmers in Gicumbi District are more likely to experience enhanced productivity and improved overall farm outcomes. It also supports the idea that financial accessibility, particularly the affordability of credit, plays a critical role in enabling smallholder farmers to invest in inputs, technologies, and services that boost farm efficiency and profitability. Therefore, policies aimed at

reducing credit costs could significantly impact the agricultural performance of small farms.

#### 4.1.4 Regression analysis

A multiple regression analysis was performed in this section to identify the predictor and its contribution

towards the criterion. It aims to determine the prediction of a single dependent variable from a group of independent variables. The multiple regression analysis was performed with all the assumptions complied with. Table 6 shows the model summary of the results

**Table 6: Model summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.806 <sup>a</sup>	.649	.643	.26875

a. Predictors: (Constant), Cost of Credit

The Model Summary in Table 6 provides an overview of the regression analysis performed to assess the impact of Cost of Credit on the Performance of Small Farms. The R value of 0.806 indicates a strong positive correlation between the independent variable (cost of credit) and the dependent variable (farm performance). This confirms the findings from the earlier correlation analysis, showing a strong linear relationship between the two variables. The R Square value of 0.649 reveals that approximately 64.9% of the variation in the performance of small farms can be explained by the cost of credit. This means that cost of

credit is a significant predictor of farm performance, accounting for nearly two-thirds of the variance observed. The Adjusted R Square value of 0.643 slightly adjusts this proportion to account for the number of predictors in the model, reinforcing the reliability of the regression results. The Standard Error of the Estimate, which is 0.26875, represents the average distance that the observed values fall from the regression line. A lower standard error indicates a better model fit, suggesting that the predictions made by the regression model are fairly accurate.

**Table 7: ANOVA Results**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	40.657	3	13.552	247.898	.000 <sup>b</sup>
	Residual	14.487	265	.055		
	Total	55.144	268			

a. Dependent Variable: Farm Performance

b. Predictors: (Constant), Cost of Credit

Table 7 presents the ANOVA results, which assess the overall significance of the regression model. The F-value of 247.898 with a significance level (p-value) of .000 indicates that the model is statistically significant. This means that the independent variable Cost of Credit has a meaningful impact on the dependent variable Farm Performance. The regression sum of squares (40.657)

compared to the residual sum of squares (14.487) further supports that a substantial portion of the variance in farm performance is explained by the model. With a total sum of squares of 55.144, the ANOVA confirms that the regression model provides a good fit and that cost of credit is a strong predictor of small farm performance.

**Table 8: Regression Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.615	.162		-3.784	.000
	Cost of Credit	.507	.049	.575	10.429	.000

a. Dependent Variable: Performance of small farm

Table 8 presents the regression coefficients, showing the influence of Cost of Credit on the Performance of Small

Farms. The unstandardized coefficient (B) for Cost of Credit is 0.507, indicating that for every one-unit increase

in the cost of credit score, the performance of small farms is expected to increase by 0.507 units, assuming other factors are constant. The t-value of 10.429 and p-value of .000 demonstrate that this relationship is statistically significant at the 0.01 level. Additionally, the standardized beta coefficient of 0.575 suggests a strong positive effect of cost of credit on farm performance relative to other potential predictors. The constant value of -0.615 implies that when cost of credit is zero, the predicted performance of small farms would be negative, though this has limited practical interpretation. Overall, these results confirm that cost of credit is a significant and positive predictor of small farm performance.

## 4.2 Discussion of Findings

The findings from this study underscore the significant relationship between the cost of credit and the performance of small-scale farms in Gicumbi District. Descriptive statistics revealed that respondents expressed strong concerns about several barriers that limit their access to agricultural credit. These include high interest rates, lack of financial literacy, inadequate information from banks, hidden charges, and the complexity of loan application processes. A significant majority of respondents agreed that these barriers impede their ability to access credit, which ultimately hampers their farm performance. This finding aligns with the overall consensus that reducing the financial burden and simplifying access to credit would enhance smallholder farmers' productivity and farm outcomes.

In terms of correlation analysis, the study found a strong positive relationship between the cost of credit and farm performance. This means that as the cost of credit becomes more affordable, small-scale farms tend to experience better performance. The correlation coefficient indicates that this relationship is statistically significant, supporting the hypothesis that access to affordable credit plays a key role in improving farm outcomes. The results suggest that by reducing interest rates or simplifying loan terms, smallholder farmers would be in a better position to invest in their farms, leading to enhanced productivity and better financial returns.

The multiple regression analysis further validates the critical role of the cost of credit in determining farm performance. The regression results reveal a strong and statistically significant association, with the cost of credit explaining a significant portion of the variation in farm performance. The model summary indicates a robust relationship between the two variables, and the ANOVA results confirm that the regression model is statistically significant. Specifically, the regression coefficients show that for every unit increase in the cost of credit, farm

performance increases, highlighting the predictive power of credit cost in determining farm outcomes. These findings suggest that addressing the cost-related barriers to credit access could have a substantial impact on smallholder farm performance.

The study's results are consistent with previous research in the field of agricultural finance. Gichuki et al. (2023) highlighted that high interest rates and complex loan application procedures are major challenges for smallholder farmers in Kenya, which mirrors the findings of this study. Additionally, Mutai (2020) found that financial literacy significantly influences farmers' ability to access credit, an issue also reflected in this study where respondents indicated that a lack of financial literacy hindered their ability to understand and evaluate credit options. Furthermore, Munyua and Kepe (20) identified that hidden charges and insufficient information from banks discouraged farmers from taking out loans. These studies reinforce the idea that improving credit access through lower interest rates, simplified processes, and enhanced financial education could significantly benefit smallholder farmers.

In conclusion, this study confirms that the cost of credit is a key factor influencing the performance of small-scale farms. The descriptive statistics, correlation analysis, and regression findings all highlight the strong impact of credit affordability on farm productivity. These results align with previous studies, suggesting that reducing the cost of credit and improving credit accessibility are essential strategies for improving the agricultural outcomes of smallholder farmers in Gicumbi District

## 5. Conclusion and Recommendations

### 5.1 Conclusion

The study investigated the effect of the cost of credit on the performance of small-scale farms in Gicumbi District. The findings revealed a strong and statistically significant positive relationship between the cost of credit and farm performance. Improving the affordability and accessibility of credit can have a substantial positive impact on the productivity and success of small-scale farms. The study concludes that cost of credit is a key determinant of farm performance in Gicumbi District. When credit is affordable and accessible, farmers are more likely to invest in essential agricultural inputs such as seeds, fertilizers, tools, and modern farming technologies, all of which contribute to increased productivity and profitability. Conversely, high credit costs may restrict investment, reduce operational efficiency, and ultimately hinder the performance of smallholder farms. Therefore, addressing the financial

barriers faced by farmers is critical for agricultural development and rural economic growth.

## 5.2 Recommendations

Based on the study's findings on the significant impact of the cost of credit on the performance of small-scale farms in Gicumbi District, the following recommendations are proposed to enhance agricultural productivity:

1. Financial institutions should offer subsidized loan schemes: To alleviate the financial burden on farmers, financial institutions and government agencies should collaborate to offer subsidized loan schemes with reduced interest rates. This would make credit more accessible and affordable, enabling farmers to invest in necessary agricultural inputs and technologies.
2. Farmers should receive training on financial literacy: Providing farmers with training on financial literacy, including understanding loan terms, budgeting, and credit management, can empower them to make informed decisions and utilize credit effectively. This education should be integrated into agricultural extension services to reach a broader audience.
3. Credit guarantee schemes should be established or enhanced: Establishing or enhancing credit guarantee schemes can mitigate the risks for lenders, encouraging them to provide loans to smallholder farmers. These schemes can be particularly beneficial in areas where farmers lack collateral, thereby improving their access to credit and fostering agricultural development.

## References

- Ahmed, S., & Bock, R. (2024). Credit access and climate resilience in East African agriculture. *Journal of Agricultural Finance*, 14(1), 45–63.
- Asante, K., & Mensah, D. (2023). Barriers to affordable financing for small enterprises in West Africa: A structural analysis. *Journal of African Finance and Economic Development*, 18(2), 102–118.
- Boateng, F., & Agyeman, S. (2024). Loan pricing, competition, and SME performance in Ghana. *International Journal of Finance and Development Studies*, 11(1), 75–92.
- Christiaensen, L., Demery, L., & Kuhl, J. (2019). The (evolving) role of agriculture in poverty reduction: An empirical perspective. *Journal of Development Economics*, 163, 103–118.
- County Government of Taita Taveta. (2023). *Agricultural technology adoption report*. Department of Agriculture, Livestock, and Fisheries.
- FAO. (2020). *The State of Food and Agriculture 2020: Overcoming water challenges in agriculture*. Food and Agriculture Organization of the United Nations.
- FAO. (2021). *Agricultural finance and investment: Lessons from OECD countries*. Food and Agriculture Organization of the United Nations.
- Gangata, K., & Matavire, E. (2023). Financial access barriers for SMEs in Ghana: The role of credit pricing and insurance requirements. *African Journal of Business and Management*, 25(3), 213–229.
- Gichuki, C. M., Ouma, S. A., & Ngugi, M. (2023). The impact of interest rates and loan application complexity on smallholder farmers' access to credit in Kenya. *Journal of Agricultural Economics and Finance*, 45(2), 112–129.
- Gonzalez, L., & Rivera, M. (2023). Agricultural credit and farm performance: Evidence from Latin America. *Agricultural Economics Review*, 27(3), 210–229.
- IFAD. (2020). *Rural development report 2020: Fostering inclusive rural transformation*. International Fund for Agricultural Development.
- IFC. (2023). *Agricultural finance: Trends and innovations*. International Finance Corporation. <https://www.ifc.org>
- Jones, M., Wekesa, B., & Otieno, R. (2024). Market diversification and technology adoption among smallholder farmers in East Africa. *African Agricultural Research Review*, 19(1), 47–66.
- Khan, A., & Roberts, J. (2023). Microfinance and agricultural productivity in South Asia. *South Asian Economic Journal*, 24(2), 185–202.
- Khan, A., Otieno, M., & Bwalya, T. (2022). The cost of borrowing in rural agricultural markets: Evidence from Zambia and Kenya. *Development Finance Review*, 13(4), 332–349.
- Kihara, J., & Ndegwa, L. (2021). Interest rates and small-scale farmers' credit access in Kenya. *Journal of*

- Rural and Agricultural Economics*, 16(2), 89–103.
- Kumar, R., & Singh, M. (2021). Enhancing agricultural productivity through credit access in South Asia. *Journal of Development Policy and Practice*, 6(1), 25–42.
- Kumar, R., Patel, V., & Moyo, L. (2022). Constraints to rural credit uptake: A multivariate analysis. *International Journal of Agricultural Economics and Policy*, 17(3), 110–127.
- Miller, C., & Jones, L. (2022). Financing agriculture in sub-Saharan Africa: Credit access and productivity. *African Journal of Agricultural Economics*, 18(4), 315–334.
- MINAGRI. (2023). *Annual report 2022–2023*. Ministry of Agriculture and Animal Resources, Rwanda. <https://www.minagri.gov.rw>
- Mugisha, J., Bukenya, J., & Musoke, H. (2020). Access to agricultural finance and input use among smallholder farmers in Uganda. *Journal of Development Studies*, 56(8), 1403–1420.
- Mutai, B. (2020). Financial literacy and its role in improving smallholder farmers' access to agricultural credit in Kenya. *International Journal of Agricultural Finance and Development*, 37(3), 58–74.
- Munyua, H., & Kepe, T. (2020). Hidden charges, inadequate information, and their effects on farmers' credit access in Sub-Saharan Africa. *African Journal of Agricultural Policy and Finance*, 28(1), 35–47.
- Mwaluko, A. (2023). Technology use and farm productivity in rural Tanzania. *East African Journal of Agricultural Innovation*, 4(2), 98–112.
- Njenga, K., & Kimani, W. (2022). Financial innovation and access to credit for rural farmers in Kenya. *Journal of FinTech and Rural Development*, 2(1), 54–70.
- OECD. (2020). *Trends in agricultural policy: Monitoring and evaluation*. Organisation for Economic Co-operation and Development. <https://www.oecd.org/agriculture>
- Olaniyan, D., & Olaniyan, R. (2021). Determinants of agricultural loan access among Nigerian smallholder farmers. *West African Journal of Agricultural Economics*, 10(1), 33–50.
- Ravallion, M., Chen, S., & Sangraula, P. (2019). Credit access, poverty reduction, and rural development: Revisiting the pathways. *World Development*, 115, 75–87.
- Rwanda Agriculture Board. (2023). *Gicumbi District agricultural production report 2012–2016*. Rwanda Agriculture Board. <https://www.rab.gov.rw>
- University of Nairobi (UoN) & Agricultural Sector Development Support Programme (ASDSP). (2024). *Technology adoption and farm performance report*. Nairobi, Kenya: UoN & ASDSP.
- World Bank. (2020). *Financing agriculture: Unlocking credit for smallholder farmers*. World Bank Publications. <https://www.worldbank.org>
- World Bank. (2021). *Digital financial services for agriculture in Africa*. World Bank Group.
- World Bank. (2023). *The cost of credit in developing economies: Challenges and solutions*. World Bank Group. <https://www.worldbank.org>
- World Bank. (2023). *World development indicators: Agriculture and rural development*. World Bank Open Data. <https://databank.worldbank.org>
- World Bank. (2024). *Agricultural development and financing for smallholder farmers*. World Bank Publications. <https://www.worldbank.org>