

Influence of Collateral Requirements on Financial Performance of Cut Flower Farms in Meru County, Kenya

Muthui Samuel Wang'ombe^{1*}, Susan Kambura¹, Felix Chesigor¹

¹Business School, Kenya Methodist University, P.O. Box 267–60200, Meru, Kenya

*Corresponding Author Email: samuel.muthui@gmail.com

Accepted: 22 August 2026 || Published: 05 September 2026

Abstract

Cut-flower farms require substantial, continuous financing to sustain production, maintain export-quality standards, and achieve satisfactory financial performance. However, access to formal credit may be constrained when financial institutions impose stringent collateral requirements, conservative asset valuations, and limited acceptance of agricultural and movable assets. This study assessed the influence of collateral requirements on the financial performance of cut-flower farms in Meru County, Kenya. The study was anchored on Credit Rationing Theory. A quantitative approach and descriptive-correlational research design were adopted. The target population comprised 120 managerial and finance-related employees drawn from 20 cut-flower farms within the Timau floriculture cluster. A census approach was employed, and 90 usable questionnaires were returned, representing a response rate of 75.0%. Primary data were collected using a structured questionnaire, while financial and production records provided supplementary information. The reliability coefficient for collateral requirements was .758, while the overall Kaiser–Meyer–Olkin measure was .781 and Bartlett's test of sphericity was statistically significant. Data were analysed using descriptive statistics, Pearson Product Moment Correlation and simple linear regression. Collateral requirements had an aggregate mean of 3.50 (SD = .862), indicating moderately manageable conditions. Collateral requirements had a positive and statistically significant relationship with financial performance ($r = .636$, $p < .001$) and explained 40.4% of its variation ($R^2 = .404$). The regression coefficient was positive and significant ($B = .603$, $\beta = .636$, $t = 7.725$, $p < .001$), resulting in rejection of the null hypothesis. The study concluded that manageable collateral values, suitable collateral types, realistic asset valuation, timely verification and acceptance of flexible forms of security strengthened the financial performance of cut flower farms. Financial institutions should broaden the range of acceptable collateral to include productive agricultural and movable assets and adopt transparent valuation procedures suited to commercial floriculture.

Keywords: *Collateral requirements, financial performance, cut flower farms, agricultural credit, credit rationing, Meru County, Kenya.*

How to Cite: Wang'ombe, M. S., Kambura, S., & Chesigor, F. (2026). Influence of Collateral Requirements on Financial Performance of Cut Flower Farms in Meru County, Kenya. *Journal of Finance and Accounting*, 6(8), 18-30.

1. Introduction

Financial performance reflects an enterprise's capacity to generate revenue, improve profitability, manage costs, and utilize available financial resources efficiently. In agricultural enterprises, financial performance is particularly important because production requires continuous investment while revenues are exposed to market, production, and climatic risks. Financially stable enterprises are better positioned to reinvest in productive assets, introduce new technologies, expand production, and withstand adverse market conditions (Nguyen & Nguyen, 2023; Donkor et al., 2022). These requirements are particularly significant for cut-flower farms because commercial floriculture is capital-intensive and subject to strict export-market standards.

Credit provides agricultural enterprises with working capital and investment finance required for productive inputs, infrastructure and business expansion. However, effective access to credit depends not only on the availability of lending institutions but also on the conditions imposed on borrowers. Collateral requirements constitute an important lending condition because financial institutions require assets or guarantees to reduce exposure to borrower default and information asymmetry (Beck & Cull, 2022). Where acceptable collateral is unavailable or its value is conservatively assessed, otherwise viable enterprises may be unable to obtain sufficient financing.

Collateral requirements encompass the value, type, and adequacy of assets demanded by lenders; the duration required to approve and verify such assets; the flexibility of acceptable security; and the extent to which loan applications are rejected due to collateral deficiencies. Agricultural enterprises may own productive assets, including machinery, irrigation equipment, greenhouses, and other movable assets that financial institutions do not always recognize as adequate collateral. Consequently, collateral-based lending may constrain agricultural enterprises even when they possess viable operations and capacity to generate income (Abate et al., 2023; Chandio et al., 2022).

The challenge is significant in Sub-Saharan Africa, where restricted asset ownership, weak property documentation, and conventional lending practices continue to constrain formal agricultural financing. Abate et al. (2023) established that stringent collateral requirements reduced agricultural credit participation and restricted investment in productivity-enhancing activities. Enterprises that could not provide conventional security consequently recorded weaker investment and financial outcomes. Carter et al. (2023) similarly observed that lenders' perceptions of agricultural risk encouraged conservative lending practices, including stringent collateral requirements.

In Kenya, cut flower farming forms an important component of the horticultural export industry and requires continuous expenditure on greenhouse infrastructure, irrigation facilities, planting materials, labour, certification, agrochemicals and post-harvest systems (Omondi et al., 2023). However, agricultural lending remains comparatively constrained, affecting the working capital and investment resources available to agricultural enterprises (Central Bank of Kenya, 2023). Collateral requirements are particularly relevant because lenders commonly demand land titles, buildings, and other conventional assets, while productive agricultural and movable assets may receive limited recognition.

Cut-flower farms in Meru County, particularly those within the Timau floriculture cluster, operate in a capital-intensive, export-oriented environment. Their ability to maintain production, achieve profitability, and expand into domestic and international markets depends in part on access to adequate external financing. The present study therefore isolated collateral requirements as a specific credit condition and examined their influence on the financial performance of cut flower farms in Meru County, Kenya.

1.1 Problem Statement

Financially performing cut-flower farms are expected to maintain profitability, generate increasing revenues, expand production capacity, and invest continuously in export-quality infrastructure. Kenya supplies a significant share of the cut flowers traded in international markets, with the subsector supporting employment, export earnings, and related economic activities (KNBS, 2023). Ideally, commercial cut flower farms should therefore obtain adequate financing using collateral arrangements that recognize the productive value of their land, greenhouses, irrigation infrastructure, equipment, and other business assets.

However, access to agricultural finance remains constrained. Agriculture receives a relatively small share of commercial bank lending despite its substantial contribution to employment and the wider economy (Central Bank of Kenya, 2023). In Meru County, financing constraints have hindered commercial agricultural development, while cut-flower farms require substantial working capital before export revenues are realized (Meru County Government, 2024). Stringent asset requirements, conservative collateral valuation, limited acceptance of movable agricultural assets, and lengthy verification processes may restrict the amount and timeliness of credit available to farms. Such restrictions can reduce investment in production technologies and infrastructure, thereby weakening profitability, revenue growth, and production capacity.

Previous studies established that collateral influences agricultural credit access and enterprise performance (Abate et al., 2023; Bellemare et al., 2022). However, much of the existing research concentrated on smallholder farmers, general agricultural enterprises, or national and regional financial systems. Limited empirical evidence isolated the relationship between collateral requirements and the financial performance of capital-intensive, export-oriented cut flower farms within Meru County. The study addressed this contextual and conceptual gap by assessing how collateral value, collateral type, collateral adequacy, approval duration, collateral flexibility, and collateral-related loan rejection influenced the financial performance of cut flower farms in Meru County, Kenya.

1.2 Research Objective

To assess the influence of collateral requirements on the financial performance of cut flower farms in Meru County, Kenya.

1.3 Research Hypothesis

H₀₁: Collateral requirements do not have a statistically significant effect on the financial performance of cut flower farms in Meru County, Kenya.

2. Literature Review

2.1 Theoretical Review

The study was anchored on Credit Rationing Theory, advanced by Stiglitz and Weiss (1981). The theory explains how information asymmetry between lenders and borrowers influences credit allocation. Financial institutions may lack complete information about borrowers' financial conditions, managerial capabilities, investment risks, and likelihood of repayment. Consequently, lenders may restrict credit quantities or impose stringent lending conditions to reduce exposure to adverse selection and moral hazard.

Credit Rationing Theory further argues that lenders cannot rely exclusively on interest rates to control credit risk. Excessively high interest rates may discourage low-risk borrowers while attracting borrowers willing to undertake riskier investments. Financial institutions therefore use borrower screening, credit limits, and collateral requirements to distinguish borrowers and protect themselves against possible losses (Stiglitz & Weiss, 1981). Collateral consequently functions both as a screening mechanism and as security that can reduce lender losses if default occurs.

In agricultural financing, the use of collateral may disadvantage enterprises whose productive assets differ from conventional assets preferred by financial institutions. Agricultural borrowers may possess greenhouses, irrigation systems, machinery, crops, receivables, or leased productive assets but lack unrestricted land titles and other traditional security. Beck and Cull (2022) observed that collateral requirements could therefore restrict formal financing among otherwise productive enterprises. Abate et al. (2023) similarly found that agricultural enterprises lacking acceptable collateral were more likely to face credit constraints.

Credit rationing can influence financial performance when restricted borrowing limits the resources available for investment. Inadequate credit may reduce farms' capacity to acquire quality inputs, maintain productive infrastructure, adopt modern technologies, and finance expansion. Bellemare et al. (2022) found that credit-constrained agricultural enterprises were less able to undertake productivity-enhancing investments. Collateral requirements may therefore affect financial performance indirectly by determining the amount and timeliness of credit available for productive activities.

The theory nevertheless emphasizes lenders' supply-side decisions and gives relatively limited attention to borrower characteristics, alternative financing arrangements and contemporary movable-asset financing mechanisms. Despite this limitation, Credit Rationing Theory was appropriate for this study because it explained why financial institutions impose collateral conditions and how such requirements may constrain credit access and productive investment. It therefore provided a theoretical basis for assessing how collateral value, type, adequacy, approval duration, flexibility, and collateral-related loan rejections influenced the financial performance of cut-flower farms.

2.2 Empirical Review

Collateral requirements are widely recognized as a determinant of formal credit accessibility and enterprise financial performance. Financial institutions typically require borrowers to pledge assets or provide guarantees to mitigate potential losses arising from default. Agricultural collateral may include land titles, buildings, farm equipment and third-party guarantees, depending on lender policies and the regulatory environment (Abate et al., 2023).

The availability, value and acceptability of such collateral consequently determine whether enterprises obtain sufficient financing to undertake productive investments.

At the global level, Beck and Cull (2022) found that enterprises with acceptable collateral were more likely to obtain formal financing and larger loan amounts than those with limited recognized assets. Improved financing enabled enterprises to undertake investment and expansion activities. Bellemare et al. (2022) similarly found that reduced credit constraints enabled agricultural enterprises to invest in technologies and productive inputs that supported stronger agricultural outcomes. Carter et al. (2023) reported that enterprises affected by financing constraints frequently postponed investments and experienced weaker growth prospects.

Evidence from developing economies indicates that collateral constraints are particularly important within agricultural financing. Abate et al. (2023) found that stringent collateral requirements reduced participation in formal agricultural credit and productive investment. Agricultural enterprises frequently own assets that are productive but not readily accepted as security by conventional lenders. Chandio et al. (2022) similarly established that inadequate acceptable collateral remained an important barrier to agricultural credit, thereby limiting investment and productivity.

Within East Africa, agricultural lending operates in an environment characterized by production risk, seasonal income and market uncertainty. These conditions increase lenders' reliance on security as a credit-risk management mechanism. Agricultural enterprises lacking formally recognized collateral may consequently rely on personal savings, supplier financing, or informal credit, which may not provide sufficient capital for commercial investment. Collateral constraints can therefore weaken enterprise profitability and growth by limiting the resources available for productive expansion.

In Kenya, financial institutions commonly demand land titles, buildings, equipment, and other conventional assets before approving agricultural loans. Muriithi and Matz (2021) established that borrowers possessing recognized assets were more likely to access formal financing and invest in productive activities. Wainaina et al. (2022) similarly associated agricultural financing with stronger enterprise productivity and financial outcomes. Nevertheless, differences in lender valuation methods and collateral requirements may affect the amount of credit available even among established commercial enterprises.

The challenge is especially relevant to horticulture and floriculture because these enterprises require substantial capital for greenhouses, irrigation systems, cold-chain infrastructure, certification and production technologies. Omondi et al. (2023) observed that financing constraints affected the competitiveness of Kenya's horticultural export enterprises by limiting investment in productive and quality-enhancement systems. Yet much of the existing evidence examined agriculture in broad terms rather than isolating collateral conditions on commercial cut-flower farms.

Consequently, conceptual, sectoral and contextual gaps remained. Previous studies frequently treated access to credit as a general construct, concentrated on smallholder farmers or generated national-level evidence. Limited research isolated collateral value, acceptable asset types, collateral adequacy, approval duration, flexibility and loan rejection within export-oriented cut flower farms. The present study addressed these gaps by empirically testing the influence of collateral requirements on the financial performance of cut flower farms in Meru County.

3. Methodology

The study adopted a quantitative research approach and a descriptive-correlational research design to examine the influence of collateral requirements on the financial performance of cut-flower farms in Meru County, Kenya. The descriptive component facilitated the assessment of prevailing collateral conditions and financial-performance outcomes, while the correlational component determined the direction and strength of the relationship between the variables without manipulating existing conditions (Creswell & Creswell, 2023).

The study population comprised 20 cut flower farms operating within the Timau floriculture cluster in Meru County. The target population consisted of 120 managerial and finance-related employees, comprising farm managers, finance managers, finance officers, operations managers, internal auditors and accounts or procurement officers. These respondents were selected because they possessed relevant knowledge of credit acquisition, financial decision-making and farm performance. A census approach was adopted because the population was manageable and accessible (Etikan & Bala, 2022).

Primary data were collected using a structured self-administered questionnaire. Collateral requirements were measured using six five-point Likert-scale statements covering collateral value, collateral type, collateral adequacy, approval duration, flexibility, and collateral-related loan rejection. Financial performance was measured using revenue growth, profit margins, investment returns, production output, cost management, and market expansion. Secondary financial and production information was obtained, where available, from financial statements, audited accounts, production records, sales records and farm-management reports.

A pilot study involving 12 managerial and finance-related employees from cut flower farms in Laikipia County was conducted. The pilot participants represented 10% of the target population and were excluded from the main survey. Face and content validity were established through expert review by specialists in agricultural finance, agribusiness management, and research methodology. Construct suitability was assessed using the Kaiser–Meyer–Olkin measure and Bartlett's Test of Sphericity. The overall KMO value was .781, and Bartlett's test was statistically significant, $\chi^2(435) = 512.684$, $p < .001$. Reliability was assessed using Cronbach's alpha against the minimum threshold of .70. Collateral requirements recorded $\alpha = .758$, while financial performance recorded $\alpha = .824$.

The completed questionnaires were checked for completeness, coded, cleaned, and analyzed using SPSS Version 27. Means and standard deviations summarized collateral requirements and financial performance. Pearson Product-Moment Correlation analysis established the direction and strength of the association between the variables. Simple linear regression was used to assess the predictive effect of collateral requirements on financial performance. Statistical significance was evaluated at the 5% level.

Diagnostic tests were conducted before inferential analysis. Normality was assessed using Kolmogorov–Smirnov and Shapiro–Wilk tests. Collateral requirements recorded Shapiro–Wilk = .981, $p = .214$, while financial performance recorded Shapiro–Wilk = .980, $p = .188$, indicating that the normality assumption was satisfied. Scatterplots also indicated an approximately positive linear relationship between collateral requirements and financial performance. The diagnostic results supported the application of Pearson correlation and linear regression.

4. Results and Discussion

4.1 Response Rate

The study administered questionnaires to all 120 managerial and finance-related employees across the 20 cut-flower farms. Of these, 90 questionnaires were completed, returned, and found suitable for analysis, representing a response rate of 75.0%. The remaining 30 questionnaires were not returned, accounting for 25.0% of those administered. The achieved response provided adequate observations for descriptive, correlation, and simple regression analyses.

Table 1: Response Rate

Response category	Frequency	Percentage (%)
Returned and usable questionnaires	90	75.0
Unreturned questionnaires	30	25.0
Total questionnaires administered	120	100.0

4.2 Descriptive Analysis of Collateral Requirements

The study assessed respondents' perceptions of the collateral conditions imposed when cut flower farms sought credit. As presented in Table 2, collateral requirements had an aggregate mean of 3.50 and a standard deviation of 0.862. The results indicated that collateral conditions were moderately manageable, although considerable differences existed across individual aspects of collateral and among lending institutions.

The suitability of collateral types accepted by lenders recorded the highest rating ($M=3.74$, $SD=.681$). This finding indicated that respondents generally considered the types of security recognized by lenders relevant to their farms. The value of collateral required was also considered moderately manageable ($M=3.62$, $SD=.742$). Acceptance of flexible forms of collateral had a mean of 3.58 ($SD = .793$), suggesting that some financial institutions accommodated alternative forms of security.

The adequacy of farms' collateral to secure loans had a mean of 3.45 ($SD = .887$). This indicated that some farms possessed sufficient acceptable assets, although collateral adequacy was not uniform across the participating enterprises. Collateral approval taking a short time recorded a lower mean of 3.31 ($SD=1.021$), suggesting considerable differences in the speed of asset verification and approval.

Minimal loan rejection due to collateral issues had the lowest mean ($M = 3.27$, $SD = 1.046$). The relatively high standard deviation indicated substantial variation in respondents' experiences of collateral-related rejection. Open-ended responses further identified stringent asset requirements, conservative valuations, limited acceptance of agricultural assets, and prolonged verification as important challenges. Some respondents indicated that land titles were preferred despite farms operating partly on leased assets, while greenhouse infrastructure and movable farm assets were not always recognized at their full productive value.

Table 2: Descriptive Analysis of Collateral Requirements (N=90)

Statement	Mean	SD
The collateral value required is manageable for my farm.	3.62	.742
The types of collateral accepted are suitable for my farm.	3.74	.681
My farm has adequate collateral to secure loans.	3.45	.887
Collateral approval takes a short time.	3.31	1.021
Lenders allow flexible forms of collateral.	3.58	.793
Loan rejections due to collateral issues are minimal.	3.27	1.046
Composite mean/SD	3.50	.862

The findings corroborate Abate et al. (2023), who established that stringent collateral requirements restricted participation in formal agricultural credit markets. They are also consistent with Chandio et al. (2022), who identified inadequate acceptable collateral as a persistent constraint to agricultural financing. Beck and Cull (2022) similarly observed that collateral protects lenders against information asymmetry and default risk, but can exclude enterprises lacking conventional high-value assets.

4.3 Descriptive Analysis of Financial Performance

Financial performance was assessed using revenue growth, profit margins, investment returns, production output, cost management, and market expansion. As presented in Table 3, financial performance recorded a composite mean of 3.69 and an average standard deviation of .736. Respondents therefore generally agreed that their farms had achieved favourable financial and production outcomes.

Revenue growth recorded the highest mean ($M=3.88$, $SD=.601$), indicating comparatively strong agreement that farm revenues had increased. Increased production output recorded the second-highest rating ($M=3.81$, $SD=.655$), while effective cost management recorded a mean of 3.72 ($SD=.709$). These findings suggested that revenue growth, production expansion, and cost control were among the more evident performance outcomes.

Improvement in profit margins recorded a mean of 3.67 ($SD=.748$), while satisfactory investment returns recorded a mean of 3.59 ($SD=.812$). Expansion into new markets received the lowest rating ($M=3.46$, $SD=.893$), indicating that market expansion was comparatively less pronounced than improvements in revenue and production.

Table 3: Descriptive Analysis of Financial Performance (N=90)

Statement	Mean	SD
The farm has experienced revenue growth.	3.88	.601
Profit margins have improved over time.	3.67	.748
Investments generate satisfactory returns.	3.59	.812
Production output has increased.	3.81	.655
The farm manages costs effectively.	3.72	.709
The farm has expanded into new markets.	3.46	.893
Composite mean/SD	3.69	.736

Secondary financial and production records supported these perceptions. Average revenue growth increased from 6.8% in 2023 to 10.4% in 2025, while profit margins increased from 11.9% to 14.6%. Return on investment increased from 10.7% to 13.8%, and production-output growth increased from 5.9% to 9.1%. Average production cost per stem declined from KES 7.42 to KES 6.96, while the average number of export markets or major buyers increased from 4.1 to 5.2 during the same period. These trends indicated improving farm performance, although the study did not attribute the changes exclusively to collateral conditions.

4.4 Pearson Correlation Analysis

Pearson Product Moment Correlation analysis was conducted to determine the direction, strength, and statistical significance of the relationship between collateral requirements and financial performance. As shown in Table 4, collateral requirements had a positive, moderately strong, and statistically significant relationship with financial performance ($r = .636, p < .001$).

The positive coefficient indicated that improvements in collateral conditions were associated with stronger financial performance. Farms that experienced manageable collateral values, suitable asset requirements, adequate security, timely approval, and flexible collateral arrangements were more likely to report stronger revenue growth, profitability, investment returns, production output, and cost efficiency.

The relationship was substantial but did not imply that collateral conditions constituted the only determinant of financial performance. Farm performance may also be affected by borrowing costs, repayment arrangements, loan-processing efficiency, market conditions, technology, management, and external environmental factors.

The finding supports Credit Rationing Theory because it demonstrates that the security requirements lenders use to manage information asymmetry affect enterprises' access to productive finance. It is consistent with Abate et al. (2023), who established that collateral constraints restricted agricultural financing and investment, and with Bellemare et al. (2022), who linked reduced credit constraints with improved agricultural investment and productivity.

Table 4: Pearson Correlation Analysis

Variable/Statistic	Collateral Requirements	Financial Performance
Collateral Requirements		
Pearson correlation	1	.636**
Sig. (2-tailed)	—	<.001
N	90	90
Financial Performance		
Pearson correlation	.636**	1
Sig. (2-tailed)	<.001	—
N	90	90

Note. **Correlation is significant at the .01 level (two-tailed).

4.5 Bivariate Linear Regression Analysis

A simple linear regression analysis was conducted to assess the effect of collateral requirements on the financial performance of cut-flower farms. As shown in Table 5, the regression model yielded an $R = .636$, indicating a moderately strong positive relationship between the variables.

The coefficient of determination ($R^2 = .404$) indicated that collateral requirements independently explained 40.4% of the variation in financial performance. The remaining 59.6% was associated with factors outside the bivariate model. The adjusted R^2 of .397 was close to the unadjusted value, demonstrating that the model retained stable explanatory capacity after adjustment for sample size.

Table 5: Regression Model Summary for Collateral Requirements

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.636	.404	.397	.427

Dependent variable: Financial performance. Predictor: Collateral requirements.

The ANOVA results presented in Table 6 show that the regression model was statistically significant, $F(1,88)=59.677$, $p<.001$. The findings therefore indicated that collateral requirements significantly predicted the financial performance of cut flower farms and that the model's explanatory power was unlikely to have occurred by chance.

Table 6: ANOVA Results for Collateral Requirements

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	10.880	1	10.880	59.677	<.001
Residual	16.043	88	.182		
Total	26.923	89			

Dependent variable: Financial performance. Predictor: Collateral requirements.

The regression coefficients presented in Table 7 indicate that collateral requirements had a positive and statistically significant effect on financial performance ($B = .603$, $SE = .078$, $\beta = .636$, $t = 7.725$, $p < .001$). The unstandardized coefficient indicated that a one-unit improvement in collateral conditions was associated with a .603-unit improvement in financial performance. The results indicate that manageable collateral values, suitable collateral types, sufficient acceptable assets, faster collateral approval, and flexible forms of security were associated with stronger financial outcomes among cut flower farms.

Table 7: Regression Coefficients for Collateral Requirements

Predictor	Unstandardized B	Std. Error	Standardized Beta	t	Sig.
Constant	1.580	.277	—	5.709	<.001
Collateral requirements	.603	.078	.636	7.725	<.001

Dependent variable: Financial performance.

The findings corroborate those of Abate et al. (2023), who established that stringent collateral conditions restricted access to formal credit and productive agricultural investment. They are also consistent with Chandio et al. (2022), who found that the absence of acceptable collateral constrained agricultural financing. Bellemare et al. (2022) similarly demonstrated that improved access to credit enabled agricultural enterprises to acquire productive inputs and technologies.

The findings therefore suggest that collateral should not be interpreted merely as a lender risk-management instrument. Its valuation, type, flexibility and approval process can influence whether productive enterprises obtain sufficient working and investment capital. Within commercial floriculture, where continuous investment is necessary in greenhouse infrastructure, irrigation, inputs, quality assurance, and export compliance, restrictive collateral conditions may directly affect enterprise performance.

Since the probability value associated with collateral requirements was below the 5% significance level ($p < .001$), the null hypothesis that collateral requirements had no statistically significant effect on financial performance was rejected. The study therefore established that collateral requirements had a positive and statistically significant effect on the financial performance of cut flower farms in Meru County.

5. Conclusion

The study concluded that collateral requirements significantly influence the financial performance of cut-flower farms in Meru County. Farms recorded stronger financial outcomes where collateral values were manageable, acceptable collateral types were suitable, adequate security was available, verification and approval processes were timely, and lenders permitted flexible forms of collateral. However, conservative asset valuation, delays in collateral approval, limited recognition of productive agricultural and movable assets, and collateral-related loan rejection remained important constraints. The findings support Credit Rationing Theory by demonstrating that, although collateral protects lenders against credit risk, overly restrictive collateral conditions may constrain access to productive finance and consequently weaken the financial performance of otherwise viable commercial cut-flower farms.

6. Recommendations

Financial institutions should broaden the range of assets accepted as collateral for commercial agricultural credit. In addition to conventional land titles and buildings, lenders should consider greenhouse structures, irrigation equipment, machinery, receivables, and other movable agricultural assets whose productive and market values can be objectively established.

Lenders should adopt transparent, realistic, and consistent asset valuation procedures. Collateral should be assessed using current market and productive values rather than excessively conservative valuations that unnecessarily reduce the amount of credit available to otherwise viable farms. Clear timelines for collateral inspection, valuation, and approval should also be established to reduce delays.

Cut flower farms should maintain accurate, up-to-date documentation for their productive assets, including proof of ownership, valuation records, financial statements, production records, and receivables. Stronger documentation can improve credit appraisal and enable lenders to recognize a wider range of assets when evaluating loan applications.

Government agencies and financial-sector stakeholders should strengthen movable-asset registries and agricultural credit-guarantee mechanisms. Such measures could reduce excessive reliance on land titles, protect lenders against credit risk, and expand formal financing opportunities for capital-intensive agricultural enterprises.

Further studies should examine the influence of collateral requirements on cut flower farms in other counties and use longitudinal designs to establish how changes in collateral policies affect financial performance over time. Future research could also incorporate audited loan and financial records and examine whether farm size, financial literacy, government guarantees, or management capability modify the relationship between collateral requirements and financial performance.

References

- Abate, G. T., Bernard, T., & Spielman, D. J. (2023). Credit constraints and agricultural productivity: Evidence from smallholder farmers in Sub-Saharan Africa. *World Development*, 161, 106083.
- Beck, T., & Cull, R. (2022). Small and medium-sized enterprise finance in developing countries: Evolution and constraints. *Journal of Banking and Finance*, 138, 106449. <https://doi.org/10.1016/j.jbankfin.2022.106449>
- Bellemare, M. F., Fajardo-Gonzalez, J., & Michelson, H. (2022). Credit constraints and agricultural productivity: Evidence from developing countries. *World Development*, 154, 105879. <https://doi.org/10.1016/j.worlddev.2022.105879>
- Carter, M. R., Cheng, L., & Sarris, A. (2023). Agricultural finance, resilience and rural enterprise growth. *Agricultural Economics*, 54(3), 381–397. <https://doi.org/10.1111/agec.12742>
- Central Bank of Kenya. (2023). *Bank supervision annual report 2023*. Central Bank of Kenya.
- Chandio, A. A., Jiang, Y., Wei, F., Rehman, A., & Liu, D. (2022). Determinants of agricultural credit access and its impact on farm productivity: Evidence from developing economies. *Sustainability*, 14(3), 1584. <https://doi.org/10.3390/su14031584>
- Creswell, J. W., & Creswell, J. D. (2023). *Research design: Qualitative, quantitative, and mixed methods approaches* (6th ed.). Sage Publications.

- Donkor, E., Onakuse, S., Bogue, J., & de Los Rios-Carmenado, I. (2022). Agricultural financing and farm performance: Empirical evidence from developing countries. *Agriculture*, 12(8), 1186. <https://doi.org/10.3390/agriculture12081186>
- Etikan, I., & Bala, K. (2022). Sampling and sampling methods. *Biometrics & Biostatistics International Journal*, 10(1), 6–9.
- Field, A. (2022). *Discovering statistics using IBM SPSS Statistics* (6th ed.). Sage Publications.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2022). *Multivariate data analysis* (8th ed.). Cengage Learning.
- International Finance Corporation. (2022). *Agricultural finance overview report*. IFC.
- Kenya National Bureau of Statistics. (2023). *Economic survey 2023*. KNBS.
- Meru County Government. (2024). *Agricultural performance report 2024*. Meru County Government.
- Muriithi, M., & Matz, J. A. (2021). Financial inclusion and agricultural enterprise growth in Kenya. *Journal of Development Studies*, 57(8), 1325–1341.
- guyen, H. T., & Nguyen, T. T. (2023). Financial performance in agribusiness firms. *Journal of Agribusiness in Developing Economies*, 13(2), 215–230.
- Omondi, S., Wambua, J., & Mwangi, P. (2023). Financing constraints and competitiveness of Kenya's horticultural export sector. *International Journal of Agricultural Management*, 12(2), 88–102.
- Saunders, M., Lewis, P., & Thornhill, A. (2023). *Research methods for business students* (9th ed.). Pearson.
- Sekaran, U., & Bougie, R. (2021). *Research methods for business: A skill-building approach* (8th ed.). Wiley.
- Stiglitz, J. E., & Weiss, A. (1981). Credit rationing in markets with imperfect information. *American Economic Review*, 71(3), 393–410.
- Wainaina, P., Ngigi, M., & Kirimi, L. (2022). Agricultural finance and enterprise performance among commercial farmers in Kenya. *African Journal of Agricultural Research*, 18(4), 245–258.
- World Bank. (2022). *Enabling the business of agriculture 2022*. World Bank.