

Research Article

Effect of Access to Credit Practices on the Growth of Farm Business in Trans-Nzoia County, Kenya

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Article History	Abstract
Received: September 10, 2026 Accepted: October 01, 2026 Published: October 07, 2026	<p>The problem of unemployment has persisted alongside rapid growth of the global population and has become a significant policy concern in Kenya. Despite various government interventions aimed at job and wealth creation, the outcomes have been largely unproductive. This study therefore sought to examine the effect of access to credit practices in Trans-Nzoia County, Kenya. A survey research design was adopted. Yamane's 1967 formula for sample size distribution was used to compute a sample of 238 from a population of 590 targeted respondents. Structured questionnaires were utilized for data collection, as they were easy to administer and analyze. The collected data were processed and analyzed quantitatively, and the findings were presented using graphs and tables for relational comparisons. The Statistical Package for the Social Sciences (SPSS) version 26.0 was instrumental in the analysis. The analysis revealed that most farmers in Trans-Nzoia County had relatively easy access to agricultural loans but were dissatisfied with high interest rates and rigid repayment terms, which limited effective credit use. The study concluded that enhancing entrepreneurial opportunities is essential for fostering sustainable farm business growth in the region. It was recommended that the government should establish targeted agricultural credit policies that prioritize smallholder farmers in rural areas such as Trans-Nzoia County and Kenya in general.</p> <p>Keywords: Access to Credit, Agricultural Loans, Farm Business Growth, Smallholder Farmers, Entrepreneurial Opportunities.</p>

Introduction

Access to credit is recognized as a critical enabler for transforming subsistence farming into commercial farm businesses. In Kenya, despite the launch of the Agricultural Sector Transformation and Growth Strategy (ASTGS) 2019-2029 which prioritizes private-sector led financing, smallholder farmers continue to face severe credit constraints. The Central Bank of Kenya Agricultural Sector Survey of May 2023 indicates that 54% of farmers cited high interest rates as the main barrier to accessing credit, while only about 1% of bank lending in Africa reaches agriculture despite the sector employing over 60% of the population (Central Bank of Kenya, 2023; World Bank, 2023). In Trans-Nzoia County, known as Kenya's grain basket, this credit gap directly limits adoption of certified seeds, fertilizer, mechanization and value addition, thereby constraining farm business growth.

Global evidence consistently shows that credit constraints reduce farm productivity and business growth. The International Fund for Agricultural Development (IFAD) impact assessment in Kenya, Ethiopia and Zambia found that IFAD-supported financial inclusion projects increased availability of rural financial services, leading to higher agricultural yields and a 54% increase in asset ownership among Kenyan farmers who accessed credit (IFAD Independent Office of Evaluation, 2023). The study concluded that access to credit enabled farmers to procure improved technologies like high-yield seeds and better livestock breeds, boosting yields and incomes. In Ethiopia, FAO research on credit constraints using a panel of 5,308 smallholder farmers found that 66.6% were credit constrained, with 71.9% of constraints attributed to risk factors and transaction costs rather than outright lack of supply (FAO, 2022). Similarly, the World Bank (2023) estimates Africa faces a USD

75 billion annual financing gap for smallholder farmers, with only 6% of smallholders able to access formal credit and less than 20% using improved seeds. This under-financing explains why farm businesses remain small and informal despite growth potential.

In the African context, agricultural credit access remains below 5% of total commercial bank lending, even though smallholders produce 70-80% of food on the continent (African Development Bank, 2023). In Uganda, the Agricultural Credit Facility has disbursed over Shs1.5 trillion since 2009, yet rural farmers face collateral and record-keeping hurdles to access it, mirroring Kenya's challenges (Bank of Uganda, 2023). Recent innovations are attempting to address these barriers in Kenya. The credit guarantee scheme has enabled KCB to extend a USD 7.5 million facility to the Kenya Union of Savings and Credit Cooperatives (KUSCCO) to reach farmers with insufficient collateral (Agrilinks, 2023). However, growth in credit to Kenya's private agricultural sector has shrunk from 22.3% per year in 2022 to 9.7% in 2025 due to climate-induced shocks affecting performance of climate-vulnerable sectors (Central Bank of Kenya, 2025). This volatility makes banks perceive agriculture as high-risk, further constraining growth of farm enterprises.

Locally, evidence from Trans-Nzoia County shows both low uptake and emerging models. A study on social economic factors influencing uptake of bank loans among small scale maize farmers in Kiminini Constituency, Trans-Nzoia County found that smallholder ranchers have high business prospects but maximum capacity has not been realized due to absence of access to credit required for farm inputs and capital equipment, exacerbated by insufficient credit circulation channels (University of Nairobi Repository, 2020). To address this, the County Government of Trans-Nzoia partnered with Apollo Agriculture, an agricultural financing company, to offer loans to at least 20,000 small-scale farmers, including those with as small as a quarter acre of land (Kenya News Agency, 2023). This is complemented by a pilot warehouse receipt financing model in Uasin Gishu, Nakuru and Trans-Nzoia counties, where farmers can access credit from financial institutions using their produce as collateral instead of title deeds, which were historically demanded and locked out youth farmers (Standard Media, 2024).

Furthermore, Kiplimo *et al.*, (2015) in a study on access to credit financial services among smallholder farmers in Eastern Kenya found that education level, main occupation and group membership had positive and statistically significant effects on access to credit, while household income had negative effects, indicating that the poorest are not automatically included. This aligns with CBK Governor Kamau Thugge's observation that lending to agriculture grew to KES 167.7 billion in September 2025 from KES 141.9 billion in 2023 after de-risking through credit guarantee schemes, but must go further to enable small-scale farmers in Trans-Nzoia to transition from subsistence to business-oriented farming (Central Bank of Kenya, 2025).

Purpose of the Study

To evaluate the entrepreneurial opportunities and growth of farm business in Trans-Nzoia County.

Theoretical Review

The study is anchored on two complementary theories. First, the Pecking Order Theory, articulated by Myers and Majluf (1984), asserts that firms prioritize internal financing due to information asymmetry and resort to external credit only when internal resources are insufficient. In the context of smallholder farming, this implies farmers will rely on personal savings and retained farm income before seeking formal credit for inputs. Second, Sen's (1999) Capability Approach conceptualizes access to credit as an economic freedom and capability that enables individuals to exploit productive opportunities. Sen (1985) argues that economic facilities such as credit expand individual choice sets and entrepreneurial agency. Together, these frameworks suggest that credit practices facilitate input acquisition, technology adoption and business expansion when internal funds are constrained. As a capability, access to affordable credit through microfinance institutions and formal banking systems broadens economic choices and strengthens farm viability in Trans-Nzoia County (Central Bank of Kenya, 2023; IFAD, 2023). Nonetheless, Pecking Order Theory has been critiqued for presuming a rational hierarchy while overlooking involuntary credit rationing among smallholders, while the Capability Approach faces challenges in empirical measurement of freedoms (FAO, 2022).

Literature Review

Globally, access to credit practices is recognized as a primary driver of farm business growth, as FAO research on 5,308 smallholder farmers in Ethiopia found that 66.6% were credit constrained, with 71.9% of constraints attributed to risk factors and transaction costs rather than outright lack of supply (FAO, 2022). This constraint directly limits ability to invest in improved seeds, fertilizer and mechanization, keeping farm enterprises at subsistence level. Similarly, the World Bank (2023) estimates Africa faces a USD 75 billion annual financing

gap for smallholder farmers, with only 6% able to access formal credit and less than 20% using improved seeds, which explains low productivity and business stagnation. The PLOS ONE study by Kipkogei *et al.*, (2025) in Kenya provides empirical evidence that microcredit access combined with technology adoption increased maize farmers' income by 40.52%, demonstrating that when credit is structured with complementary extension, it transitions farms from subsistence to business (Kipkogei *et al.*, 2025).

Access to credit practices also determines asset accumulation and long-term sustainability of farm businesses, as IFAD-supported financial inclusion projects in Kenya, Ethiopia and Zambia increased availability of rural financial services leading to 54% increase in asset ownership among Kenyan farmers who accessed credit (IFAD, 2023). This was made possible by expanded access to credit that enabled procurement of high-yield seeds and better livestock breeds, boosting yields and incomes. However, global experience shows credit growth is volatile, with lending to agriculture shrinking from 22.3% in 2022 to 9.7% in 2025 in Kenya due to climate-induced shocks, making banks perceive agriculture as high-risk (Central Bank of Kenya, 2025). This risk perception reinforces pecking order behavior where farmers prioritize internal savings before seeking external credit, as articulated by Myers and Majluf (1984), limiting growth unless de-risking mechanisms like credit guarantee schemes are introduced.

Regionally in Africa, agricultural credit access remains critically low despite high contribution to food security, as African Development Bank data shows agriculture receives less than 5% of total commercial bank lending while smallholders produce 70-80% of food on the continent (African Development Bank, 2023). This financing gap is attributed to lack of collateral, poor financial records and high transaction costs of serving dispersed farmers. In Uganda, the Agricultural Credit Facility has disbursed over Shs 1.5 trillion since 2009, yet rural farmers face hurdles of collateral and record-keeping to access it, mirroring Kenya's challenges where formal requirements lock out youth and women (Bank of Uganda, 2023). To address this, innovative models like credit guarantees have enabled KCB to extend USD 7.5 million to Kenya Union of Savings and Credit Cooperatives (KUSCCO) to reach farmers with insufficient collateral, demonstrating regional shift toward alternative collateral (Agrilinks, 2023).

Regional disparities in credit uptake are evident, with Central Bank of Kenya Agricultural Sector Survey of May 2023 indicating 54% of farmers cited high interest rates as main barrier, marking increase from 38% in March survey (Central Bank of Kenya, 2023). This barrier is more acute in Trans-Nzoia's neighboring counties, where Waitathu (2025) noted that maize basket counties of Uasin Gishu, Nandi, Trans Nzoia and Bungoma spend close to half their income to purchase certified seed, fertilizer and mechanization services, yet lack affordable credit. Kiplimo *et al.*, (2015) found that education level, main occupation and group membership had positive significant effects on access to credit in Eastern Kenya, while household income had negative effects, indicating poorest are excluded even within smallholder category (Kiplimo *et al.*, 2015). The study on diverse credit sources among smallholder agripreneurs revealed only 19.3% of enterprise challenges were addressed by access to finance, with formal institutions, traders and group savings having differential influence on performance (JKUAT, 2020).

Emerging regional solutions are now being piloted specifically for Trans-Nzoia region, as Government of Kenya pilots warehouse receipt financing model in Uasin Gishu, Nakuru and Trans Nzoia counties to enable farmers access credit using produce as collateral instead of title deeds (Standard Media, 2024). This model seeks to make credit accessible to smallholders and prevent distress sales at harvest, with maize farmers in Nakuru already delivering 5,000kg to NCPB depots under electronic trading system (Business Daily, 2023). Additionally, Trans-Nzoia County Government partnered with Apollo Agriculture to offer loans to 20,000 small-scale farmers including those with quarter-acre plots, using data-driven lending that does not demand title deeds (Kenya News Agency, 2023). Despite these innovations, the UoN study on Kiminini Constituency, Trans-Nzoia County confirms maximum capacity of smallholder ranchers has not been realized due to absence of access to credit required for farm inputs and capital equipment, exacerbated by insufficient credit circulation channels (University of Nairobi, 2020).

Access to credit practices significantly influence farm business growth, as evidenced by Kipkogei *et al.*, (2025) who found that maize farmers in Kenya who accessed microcredit to invest in better seeds and inputs experienced a 40.52% rise in income. However, their study focuses narrowly on income gains without addressing broader dimensions such as asset accumulation, market expansion or long-term sustainability, and overlooks specific credit practices like interest rates and repayment terms that shape business outcomes. This limitation is corroborated by the University of Nairobi study on Kiminini Constituency, Trans-Nzoia County, which found that smallholder maize farmers have high business prospects but their maximum capacity has

not been realized due to absence of access to credit required for farm inputs and capital equipment (University of Nairobi, 2020).

Similarly, the Central Bank of Kenya Agricultural Sector Survey (2023) indicates that 54% of farmers cited high interest rates as the main barrier to accessing credit, while IFAD-supported projects show that expanded access to credit led to 54% increase in asset ownership in Kenya (IFAD, 2023). The recent partnership between Trans-Nzoia County Government and Apollo Agriculture to provide loans to 20,000 small-scale farmers, including those with quarter-acre plots, demonstrates emerging digital financing models (Kenya News Agency, 2023). Nonetheless, growth in credit to private agricultural sector shrank from 22.3% in 2022 to 9.7% in 2025 due to climate shocks, limiting farm business investment (Central Bank of Kenya, 2025).

Research Methodology

This study employed a quantitative, cross-sectional correlational design to examine the effect of access to credit practices on growth of farm business in Trans-Nzoia County, targeting 590 registered large-scale farmers (≥ 50 acres) comprising 563 farmers, 18 extension officers and 9 farmer leaders as per KIAMIS (2024), from which a sample of 238 was determined using Yamane's (1967) formula $n = N / [1 + N(e^2)]$ at 5% margin of error and allocated proportionately using stratified random sampling for farmers ($n=211$) and purposive census for extension officers ($n=18$) and farmer leaders ($n=9$); data were collected using structured questionnaires with two sections (demographics and 5-point Likert scale items) and semi-structured interview schedules administered via drop-and-collect-later method after obtaining NACOSTI permit and county authorization, with instruments piloted on 10% (24 respondents) in Pokot Central Sub-County for content and construct validity through expert review and factor analysis where access to credit recorded a coefficient of 0.598 and reliability tested via Cronbach's alpha exceeding 0.7 threshold (Credit 0.897) and data were coded, cleaned and analyzed using SPSS v26 employing descriptive statistics (frequencies, means, standard deviations) and inferential statistics (Pearson correlation and multiple linear regression) at $p < 0.05$ significance level while observing ethical principles of informed consent, anonymity and confidentiality. The study targeted a sample of 238 respondents, from whom 207 valid responses were obtained and included in the analysis presented in Table 1. The difference between the targeted sample and the final number of responses was due to non-response or incomplete questionnaires.

Data Analysis and Presentation

This section presents the interpretation of the descriptive analysis where the scale was classified as follows: scores from 4.3 to 5 indicated Strongly Agree, 3.5 to 4.2 signified Agree, 2.5 to 3.4 represented Undecided, 1.9 to 2.4 denoted Disagree, and 1 to 1.8 reflected Strongly Disagree (Nemoto and Beglar, 2014; Joshi *et al.*, 2015). To summarize the central tendency of each variable, mean scores were calculated, offering a more comprehensive understanding of the data than the median. Additionally, standard deviations were computed to evaluate the degree of variability in responses, highlighting the extent to which individual scores deviated from the average.

Access to Credit

The study sought to examine the effect of access to credit on the growth of farm businesses in Trans-Nzoia County, Kenya. It aimed to determine whether the availability and utilization of credit facilities significantly influence expansion in farm operations, productivity, and income levels. The analysis focused on key indicators of business growth in relation to credit access, including farm size, input use, and output levels. The findings are summarized and discussed as presented in Table 1.

The statement on ease of access to agricultural loans from financial institutions recorded a moderate mean of 3.66 ($SD=1.102$), suggesting that a majority of farmers in Trans-Nzoia County find credit relatively accessible. This is foundational for farm business growth as it enables investment in inputs and technologies. However, the standard deviation indicates variation in experiences, implying that while some farmers benefit, others still face barriers such as complex application processes or lack of collateral. This variation explains why despite Apollo Agriculture reaching 20,000 farmers in the county, overall credit uptake remains constrained. This theme emerged as the most critical constraint. Affordability of interest rates had a very low mean of 1.86 ($SD=1.159$) and repayment period had a mean of 2.40 ($SD=1.347$), both below the neutral point of 3.0. This indicates widespread dissatisfaction with high cost of credit and unfavourable repayment schedules that do not align with agricultural production seasons. When credit is too costly and repayment is mismatched to harvest cycles, it diminishes reinvestment and profitability, increases risk of default and limits future access, thereby dampening its impact on business growth. This corroborates CBK (2023) survey where 54% cited high interest rates as main barrier.

Table 1. Access to credit practices.

Statements	N	Min.	Max.	Mean	SD
I can easily access agricultural loans from financial institutions.	207	1	5	3.66	1.102
The interest rates on loans are affordable for my farm business.	207	1	5	1.86	1.159
The repayment period for agricultural loans is reasonable.	207	1	5	2.40	1.347
I have received input vouchers to purchase farm inputs like seeds and fertilizers.	207	1	5	2.13	1.177
Input vouchers reduce my reliance on expensive farm inputs bought on credit.	207	1	5	2.55	1.201
Input vouchers are distributed fairly and on time in my area.	207	1	5	2.07	1.178
I use the credit obtained strictly for farm-related activities.	207	1	5	3.88	1.413
I have proper plans for how to spend the farm credit I receive.	207	1	5	3.52	1.310
Credit has enabled me to hire labor and acquire equipment for farming.	207	1	5	4.10	.930
Source: The Researcher, 2026					

Three interrelated items clustered under voucher support all scored poorly: access to input vouchers ($M=2.13$), vouchers reducing reliance on expensive credit ($M=2.55$), and fairness/timeliness of distribution ($M=2.07$). The consistently low means indicate limited exposure, inadequate coverage and poor implementation. Input vouchers are intended to alleviate upfront costs, but their potential remains untapped due to irregular distribution and low value. When not distributed equitably and on time, their usefulness for timely planting decisions diminishes, weakening their role as alternative credit assistance. In contrast, farmers demonstrated responsible credit use. Using credit strictly for agricultural purposes scored $M=3.88$ and having reasonable plans for utilizing credit scored $M=3.52$ ($SD=1.310$). This suggests targeted use of resources towards productive activities and a level of financial literacy and strategic thinking crucial for translating access into growth. The higher SD on planning indicates some farmers still lack planning skills necessary to fully capitalize on credit received, highlighting need for entrepreneurship training alongside credit.

The strongest agreement was on credit enabling hiring of labor and acquisition of equipment with a high mean of 4.10, demonstrating transformative potential when accessible and properly utilized. This indicates that credit supports mechanization and scalability, key indicators of farm business growth through increased productivity and employment creation. While credit access and utilization practices in Trans-Nzoia appear moderately positive, its overall effectiveness in driving growth is limited by high interest rates, unfavourable repayment terms and weak input voucher systems. The gap between positive utilization ($M=3.88$) and negative cost/terms ($M=1.86-2.40$) suggests that addressing cost and structural barriers would unlock greater potential for credit to serve as powerful enabler of farm business growth.

Ordinal Regression

Ordinal regression analysis was conducted to examine the effect of access to credit on the growth of farm businesses. The technique was considered appropriate because the dependent variable, growth of farm business, was measured on an ordinal scale with ordered categories. The analysis estimated the extent to which access to credit predicts variations in farm business growth while accounting for the ordinal nature of the outcome variable. The results of the parameter estimates are presented in Table 2.

Table 2. Parameter estimates for access to credit on growth of farm business.

Predictor variable	Estimate (β)	Standard error	Wald χ^2	df	p-value	95% CI (lower bound)
Access to credit	18.636	1.880	98.252	1	< .001	22.321
Source: Research Data (2026)						

The ordinal regression results (Table 2) revealed that access to credit had a positive and statistically significant effect on the growth of farm businesses ($\beta = 18.636$, $SE = 1.880$, $Wald \chi^2 = 98.252$, $p < .001$). The large Wald

statistic and highly significant p-value indicate that access to credit is an important predictor of farm business growth. Specifically, increased access to credit significantly increased the likelihood of farmers reporting higher levels of business growth. The positive coefficient suggests that farmers with better access to financial resources are more likely to expand their operations, invest in productive inputs, and improve overall business performance. Therefore, the study concludes that access to credit plays a critical role in enhancing the growth of farm businesses. The study findings were in agreement with the theory that Myers and Majluf (1984), in their Pecking Order Theory, argued that farmers will first use their own savings before seeking external credit because of information gaps and high costs. Similarly, Sen (1985, 1999), in his Capability Approach, argued that credit is an economic freedom that gives farmers the power to choose better inputs and grow their businesses, a view supported by Central Bank of Kenya (2023) and IFAD (2023) for Trans-Nzoia. However, both theories have been criticized for ignoring involuntary credit rationing and the difficulty of measuring freedom (FAO, 2022).

The study is further in agreement globally by, FAO (2022) found that 66.6% of 5,308 Ethiopian smallholders were credit-constrained, while the World Bank (2023) reported that only 6% of African farmers access formal credit against a USD 75 billion financing gap, keeping many at subsistence levels. Regionally, the African Development Bank (AfDB, 2023) showed that agriculture receives less than 5% of bank lending despite producing 70-80% of food. Similarly, the Bank of Uganda (2023) reported that UGX 1.5 trillion in agricultural credit existed, but collateral requirements blocked farmer access. In Kenya, CBK (2023) found that 54% of farmers, up from 38%, cited high interest rates as the main barrier to borrowing. According to Waitathu (2025), this challenge is more severe in maize-producing counties such as Trans-Nzoia, where nearly half of farm income is spent on seeds and fertilizer.

Locally, in Trans-Nzoia, the positive effect of credit access is evident. Kipkogei *et al.*, (2025) reported a 40.52% increase in income among farmers who combined microcredit with technology adoption, while IFAD (2023) reported a 54% increase in asset ownership among credit beneficiaries. Likewise, the University of Nairobi (2020), in a study conducted in Kiminini, found that farmers have high production potential but cannot fully realize it without access to credit for farm inputs. The reason growth is sometimes limited is that agricultural lending growth declined from 22.3% in 2022 to 9.7% in 2025 because of climate-related risks (CBK, 2025). Furthermore, JKUAT (2020) found that finance alone addressed only 19.3% of farmers' challenges. These gaps are now being addressed through new Trans-Nzoia initiatives, such as County Government and Apollo Agriculture loan programs reaching 20,000 smallholders without title deeds (Kenya News Agency, 2023), warehouse receipt financing pilots in Trans-Nzoia, Uasin Gishu, and Nakuru that allow produce to be used as collateral (Business Daily, 2023; Standard Media, 2024), and KCB's USD 7.5 million guarantee facility through KUSCCO (Agrilinks, 2023). These developments demonstrate that when affordable and flexible credit is available as a capability that eases pecking-order constraints, farm business growth in Trans-Nzoia improves significantly.

Conclusion

The study concludes that access to credit has a positive and statistically significant effect on the growth of farm businesses. Therefore, improving farmers' access to affordable and timely credit facilities can significantly enhance business expansion, productivity, and overall farm performance.

Recommendations

- 1) The government should develop and implement specialized agricultural credit policies that prioritize smallholder farmers in rural regions like Trans-Nzoia County. These policies should include subsidized interest rates, flexible repayment schedules, and collateral-free lending schemes tailored to agricultural cycles. Such provisions would lower the barriers to credit access and enable farmers to invest more confidently in productivity-enhancing inputs, infrastructure, and technologies.
- 2) Agricultural credit should be embedded within larger rural development frameworks that encompass market access, agricultural extension services, and climate resilience. Policymakers should ensure that financial inclusion is a core component of county and national agricultural growth strategies, with specific mandates for supporting credit access through public-private partnerships and donor-funded programs.
- 3) There is a need to build the capacity of local financial institutions, including agricultural cooperatives and savings and credit cooperative societies (SACCOs), to effectively deliver affordable and accessible credit to farmers. This could involve training personnel in agricultural finance, improving digital banking infrastructure, and expanding branch networks to under served areas.
- 4) Institutions, particularly government-backed development finance bodies, should establish risk-sharing mechanisms such as credit guarantee funds to encourage commercial banks and microfinance institutions

to lend to the agricultural sector. By mitigating the perceived risk of lending to farmers, such schemes would incentivize greater credit flow and catalyze investment in farm enterprises.

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