

FACTORS THAT INFLUENCE FARMERS' DECISIONS IN ACCESSING FARM BUSINESS CREDIT AT BRI BANK

(Case Study: Rabuhit Village, Gunung Maligas District, Simalungun Regency)

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ABSTRACT

This study was conducted in Rabuhit Village, Gunung Maligas District, Simalungun Regency, with three primary objectives: (1) to identify the factors influencing farmers' decisions to access agricultural business credit from BRI Bank; (2) to determine the most dominant factors affecting farmers' decisions to obtain agricultural business credit in Rabuhit Village; and (3) to examine the reasons why some farmers access agricultural business credit while others do not. Data were collected through observation, interviews, and structured questionnaires. The study involved 30 respondents, consisting of 20 farmers who had accessed agricultural business credit and 10 farmers who had not. The respondents were selected based on the following criteria: active farmers residing in Rabuhit Village, aged between 18 and 65 years, owning or cultivating either self-owned or rented agricultural land, and willing to provide the information required for the study. The data were analyzed using multiple linear regression analysis and descriptive percentage analysis. The results of the study indicate that: (1) the factors significantly influencing farmers' decisions to access agricultural business credit from BRI Bank are income and farming experience; (2) among the variables examined, income and farming experience are the most dominant factors affecting farmers' decisions to access agricultural business credit; and (3) the primary reasons farmers in Rabuhit Village access agricultural business credit are insufficient working capital and financial difficulties resulting from crop failure. In contrast, farmers who do not access agricultural business credit generally cite the lack of acceptable collateral and the availability of sufficient business capital as the main reasons for not applying for credit.

Keywords: *Agricultural Credit, Farmers' Decision, BRI Bank, Multiple Linear Regression, Farmer Income*

ABSTRAK

Penelitian ini dilakukan di desa Rabuhit, Kecamatan Gunung Maligas, Kabupaten Simalungun, penelitian ini memiliki 3 tujuan yaitu: (1) Mengetahui faktor-faktor yang mempengaruhi keputusan petani di desa Rabuhit dalam mengakses kredit usaha tani di bank BRI, (2) Untuk mengetahui faktor mana yang paling dominan terhadap keputusan petani dalam mengakses kredit usaha tani di desa Rabuhit. (3) Alasan mengapa petani di Desa Rabuhit mengakses kredit usaha tani di namun ada juga yang tidak mengakses. Teknik pengambilan sampel dilakukan dengan pengumpulan data melalui observasi, wawancara, dan kuesioner. Jumlah responden dalam penelitian ini sebanyak 30 orang yang terdiri dari 20 orang yang mengakses kredit dan 10 orang yang tidak mengakses kredit dengan syarat yaitu: petani aktif yang berdomisili di desa Rabuhit, berusia 18-65 tahun, memiliki lahan atau mengelola lahan pertanian milik sendiri ataupun sewa, serta bersedia memberikan informasi yang dibutuhkan. Analisis data menggunakan analisis regresi linear berganda dan deskriptif persentase. Kesimpulan dari

penelitian ini sesuai dengan tujuan penelitian yaitu: (1) Faktor–faktor yang mempengaruhi keputusan petani dalam mengakses kredit usaha tani dari bank BRI yaitu pendapatan dan pengalaman. (2) Faktor yang paling berpengaruh terhadap keputusan petani dalam mengakses kredit yaitu Pendapatan dan pengalaman (3) Alasan mengapa petani di Desa Rabuhit mengakses kredit usaha tani di karenakan kurang nya modal yg dimiliki oleh petani dan krisis keuangan kerena gagal panen, Adapun petani yang tidak mengakses kredit di karenakan tidak memiliki jaminan, memiliki modal usaha yang cukup.

Kata Kunci: Kredit Usaha Tani, Keputusan Petani, Bank BRI, Regresi Linear Berganda, Pendapatan Petani

I. INTRODUCTION

The agricultural sector is a crucial pillar of the Indonesian economy, contributing to food security, employment, and balanced regional development. In the first quarter of 2021, the agricultural sector's contribution to Indonesia's Gross Domestic Product (GDP) reached 13.70% (BPS, 2021). This sector also employs approximately 29% of the total national workforce (BPS, 2022), making it a strategic sector in efforts to reduce poverty and socio-economic inequality (Nugroho et al., 2023).

Although various credit facilities have been provided, not all farmers utilize available agricultural credit services. Some still rely on their own capital or choose informal financing sources because they consider bank loan application procedures to be too complicated. Furthermore, limited information about credit programs, lack of collateral, and concerns about the risk of crop failure are the main reasons farmers are reluctant to access formal credit (Mariati, Mariyah and Irawan, 2022).

In Rabuhit Village, Gunung Maligas District, Simalungun Regency, the majority of residents work as farmers and small business owners, with seasonal incomes dependent on harvest yields. Bank BRI plays a strategic role in encouraging farmer empowerment by providing agricultural credit with low interest rates and simpler requirements. The financial condition of rural households is an important factor in determining farmers' eligibility and capacity to access agricultural financing services, such as agricultural business credit provided by Bank Rakyat Indonesia (BRI). The majority of residents in Rabuhit Village are engaged in farming and small-scale businesses, with incomes that are generally seasonal and highly dependent on agricultural production.

Most farmers in Rabuhit Village earn irregular incomes, with earnings fluctuating according to planting seasons, agricultural commodity prices, and the availability of agricultural inputs, particularly fertilizers. Under these circumstances, the financial stability of farming households is relatively weak, making banks more cautious in extending credit, especially when borrowers are unable to provide adequate collateral.

In this context, Bank Rakyat Indonesia (BRI) plays a strategic role in promoting farmer empowerment by providing agricultural business credit through financing schemes characterized by relatively low interest rates and simplified lending requirements. However, to improve farmers' access to these credit facilities, it is essential to strengthen the financial capacity of farming households while providing continuous assistance in financial management and credit administration. These efforts are expected to enhance farmers' creditworthiness and facilitate greater access to formal agricultural financing. This study aims to: (1) analyze the factors influencing farmers' decisions to access agricultural credit; (2) determine the most dominant factors; and (3) identify the reasons why farmers do and do not access credit.

II. LITERATURE REVIEW

Farming Business Credit

Farmer Business Credit (KUT) is a loan facility provided to farmers or farmer groups for working capital or investment to increase production and income in the agricultural sector. The goal is to improve production yields and farmer welfare, enabling them to develop their farming businesses more optimally.

Farming business credit refers to formal financial services provided to farmers to support agricultural production, investment, and farm business development. Access to agricultural credit

enables farmers to purchase production inputs, adopt improved technologies, expand cultivated land, and improve farm productivity. In developing countries, agricultural credit is considered a key instrument for enhancing rural livelihoods, reducing poverty, and promoting sustainable agricultural development (Byerlee et al., 2008).

Agricultural production is highly dependent on the availability of capital, particularly for purchasing seeds, fertilizers, pesticides, machinery, and labor. However, many smallholder farmers face capital constraints due to limited savings and irregular income. Consequently, access to institutional credit becomes essential to ensure that farming activities can be carried out efficiently and sustainably (Organization, 2017).

According to the Food and Agriculture Organization (FAO, 2017), agricultural credit not only provides financial resources but also encourages investment in modern farming technologies, leading to increased agricultural productivity and improved household income. Similarly, the World Bank (2008) argues that well-functioning rural financial markets facilitate agricultural commercialization and strengthen farmers' resilience to production and market risks.

The success of agricultural credit programs depends on several socioeconomic characteristics of farmers. Previous studies have shown that factors such as income, education level, farming experience, farm size, age, collateral ownership, and access to extension services significantly influence farmers' decisions to apply for agricultural credit (Feder et al., 1990). Farmers with higher and more stable incomes generally have greater repayment capacity, making them more likely to qualify for formal credit.

In Indonesia, Bank Rakyat Indonesia (BRI) plays an important role in supporting agricultural financing by providing farming business credit through various lending schemes, including the People's Business Credit (Kredit Usaha Rakyat/KUR). These programs are designed to improve farmers' access to affordable financing through relatively low interest rates, simplified administrative procedures, and government support. Such financing enables farmers to increase investment in productive farming activities while reducing dependence on informal lenders with higher borrowing costs (Herliana et al., 2018).

Despite the availability of formal agricultural credit, many farmers still encounter barriers in accessing financing. Limited collateral, inadequate financial literacy, low educational attainment, insufficient information regarding credit procedures, and concerns about repayment obligations remain major obstacles to credit utilization. Therefore, improving financial inclusion, strengthening agricultural extension services, and simplifying lending procedures are important strategies for expanding farmers' access to institutional credit (FAO, 2017; World Bank, 2008).

Overall, farming business credit plays a strategic role in improving agricultural productivity, increasing farmers' income, enhancing rural economic development, and supporting national food security. Strengthening farmers' access to formal financial institutions is therefore essential for achieving sustainable agricultural development

Factors Affecting Access to Credit

Access to credit is widely recognized as a critical determinant of agricultural productivity, farm investment, and rural economic development. Institutional credit enables farmers to obtain the financial resources needed to purchase agricultural inputs, adopt improved technologies, and cope with production risks. However, access to formal agricultural credit remains uneven, particularly among smallholder farmers in developing countries, due to a combination of socioeconomic, institutional, and financial constraints.

The determinants of farmers' access to credit can generally be classified into five broad categories: socioeconomic characteristics, economic factors, institutional factors, farm characteristics, and behavioral factors. These determinants influence both farmers' willingness to apply for credit and financial institutions' decisions to approve loan applications.

Income is consistently identified as one of the most influential factors affecting credit accessibility. Farmers with higher and more stable incomes are generally considered more creditworthy because they possess greater repayment capacity and lower default risk. Financial institutions often use

household income as an indicator of borrowers' ability to repay loans, making income a significant predictor of credit approval. Several empirical studies have reported a positive relationship between household income and farmers' access to formal agricultural credit.

Education also plays an important role in determining access to agricultural credit. Farmers with higher educational attainment are more capable of understanding loan procedures, preparing the required documentation, and evaluating financial products. Education enhances financial literacy and improves communication with lending institutions, thereby increasing the likelihood of obtaining credit.

Farming experience is another significant determinant of credit access. Experienced farmers generally possess greater technical knowledge, stronger farm management skills, and more established relationships with financial institutions. These characteristics reduce information asymmetry between borrowers and lenders, increasing lenders' confidence in the borrowers' repayment capacity. Consequently, farmers with longer farming experience are more likely to receive institutional credit.

Farm size and land ownership are also important factors affecting access to credit. Larger farms generally require greater working capital and often possess more valuable assets that can serve as collateral. Ownership of agricultural land provides financial institutions with greater assurance, thereby improving the probability of loan approval. In contrast, tenant farmers or farmers without legal land ownership frequently encounter greater difficulties in obtaining formal credit.

Institutional factors significantly influence farmers' access to agricultural financing. These include the availability of financial institutions, distance to lending offices, administrative procedures, collateral requirements, interest rates, and the quality of extension services. Complicated application procedures, lengthy approval processes, and strict collateral requirements discourage many smallholder farmers from applying for formal credit. Conversely, simplified lending procedures and effective extension support improve farmers' participation in formal credit programs.

Access to agricultural extension services and financial information further enhances farmers' ability to obtain credit. Extension agents often provide technical guidance, financial education, and information regarding available credit programs. Such support improves farmers' understanding of loan requirements and strengthens their capacity to prepare successful loan applications.

Behavioral and social factors have also been identified as important determinants of credit access. Farmers' attitudes toward borrowing, perceptions of repayment risk, trust in financial institutions, and previous borrowing experiences influence their decisions to seek formal credit. Risk-averse farmers may avoid borrowing because of concerns regarding repayment obligations or potential crop failure, while positive lending experiences increase farmers' confidence in formal financial institutions.

Overall, previous studies demonstrate that farmers' access to agricultural credit is shaped by the interaction of economic capacity, human capital, farm characteristics, and institutional support. Improving farmers' income, strengthening financial literacy, simplifying lending procedures, expanding extension services, and reducing collateral constraints are therefore essential policy measures for promoting inclusive agricultural finance and sustainable rural development.

Based on the theoretical framework, factors influencing farmers' decisions to access credit are grouped into two groups: internal and external factors. Internal factors include: (1) Education limited education is the main reason smallholder farmers have difficulty accessing credit (Yonariza, 2023); (2) Income income levels reflect farmers' economic capacity to invest and meet financing requirements (Rismaini, 2026); (3) Farming experience experience can increase financial institutions' trust in farmers' capabilities (Syafira, 2025); (4) Land area positively influences credit decisions due to increased capital requirements (Alfiani, 2025); and (5) Knowledge of the Smallholder Business Credit (KUR).

External factors include: (1) Socialization effective delivery of credit information can increase farmers' knowledge and interest (Muniarty et al., 2022); (2) Bank services encourage farmers to access credit again (Agnesia, 2022); and (3) Social support reduce risk perception in economic decision-making (Prasetyo, 2022)

III. RESEARCH METHOD

Research Location and Time

The research was conducted in Rabuhit Village, Gunung Maligas District, Simalungun Regency, North Sumatra Province, for approximately three months (January–March 2026). Data collection was conducted in January 2026 through observation, interviews, and questionnaire distribution

Population and Sample

The research sample consisted of 30 farmers, consisting of 20 farmers who used agricultural credit and 10 farmers who did not. Respondent criteria included: active farmers residing in Rabuhit Village, being of productive age (18–65 years), owning agricultural land, and being willing to participate

Data Analysis Method

The study used two analysis methods: (1) Descriptive percentage analysis to describe the characteristics of the respondents; and (2) Multiple linear regression analysis to test the effect of independent variables on the dependent variable. The regression model used was:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + e$$

where Y = loan amount, X_1 = education, X_2 = income, X_3 = experience, X_4 = land area, X_5 = socialization, and e = error. Testing was conducted simultaneously (F test) and partially (t test) with a significance level of 5%.

Hypothesis Testing

To evaluate the regression model, two statistical tests were conducted

Simultaneous Test (F-test)

The F-test was used to determine whether all independent variables jointly have a statistically significant effect on the loan amount.

Null hypothesis (H_0): $\beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = 0$ (no simultaneous effect)

Alternative hypothesis (H_1): At least one regression coefficient differs from zero.

Decision rule:

If p-value < 0.05, reject H_0 , indicating that the independent variables collectively influence the loan amount.

If p-value $\geq$ 0.05, fail to reject H_0 .

Partial Test (t-test)

The t-test was used to determine the individual effect of each independent variable on the loan amount.

For each variable:

H_0 : $\beta_i = 0$ (the variable has no significant effect)

H_1 : $\beta_i \neq 0$ (the variable has a significant effect)

Decision rule:

If p-value < 0.05, the variable significantly affects the loan amount.

If p-value $\geq$ 0.05, the variable does not significantly affect the loan amount.

Coefficient of Determination (R^2)

The coefficient of determination (R^2) was used to measure the proportion of variation in the loan amount that can be explained by the independent variables included in the regression model. The value of R^2 ranges from 0 to 1.

- 1) A value close to 1 indicates that the model explains a large proportion of the variation in the dependent variable.
- 2) A value close to 0 indicates that the explanatory variables account for only a small proportion of the variation.

IV. RESULTS AND DISCUSSION

Respondent Characteristics

Based on the data collection results, the characteristics of 30 farmer respondents in Rabuhit Village are presented as follows:



Table 1. Respondent Characteristics by Age

No	Age group	Number of responden	Percentage (%)
1	20 – 30 years	7	23,3%
2	31 – 41 years	9	30,0%
3	41 – 50 years	9	30,0%
4	51 – 60 years	5	16,7%
	Total	30	100%

Source: Processed Primary data, 2026

The distribution of respondents by age group indicates that the majority of respondents were within the productive age range. Out of a total of 30 respondents, the 31–41 years and 41–50 years age groups each comprised 9 respondents (30.0%), making them the largest age categories in the study. Meanwhile, the 20–30 years age group consisted of 7 respondents (23.3%), whereas the 51–60 years age group had the smallest proportion, with 5 respondents (16.7%). This age distribution suggests that most respondents are in their productive working years, possessing sufficient experience in farming and agribusiness activities. Individuals within the productive age group generally have better physical capacity, greater farming experience, and a higher ability to adopt new technologies and innovations than older farmers. Meanwhile, the presence of respondents aged 51–60 years indicates that older farmers continue to participate actively in agricultural production, although their proportion is relatively smaller. Overall, the age composition of the respondents demonstrates that agribusiness activities in the study area are predominantly managed by individuals of productive age. This demographic condition is expected to support the adoption of agricultural innovations, improve farm productivity, and promote the sustainable development of agribusiness enterprises. Respondents were predominantly in the productive age group 31–50 years (60%), which is the age group most active in farm management and financial decision-making.

Table 2. Respondent Characteristics by Education Level

No	Education level	Number of respondents	Percentage (%)
1	Elementary School	1	3,3%
2	Junior high school	5	16,7%
3	Senior high school	16	53,3%
4	Bachelor's degree (S1)	8	26,7%
	Total	30	100%

Source: Processed Primary data, 2026

Table 2 presents the educational characteristics of the respondents. The results indicate that the majority of respondents had completed senior high school (SMA), accounting for 16 respondents (53.3%). This suggests that most farmers possessed a moderate level of formal education, which may facilitate their ability to understand agricultural information, government programs, and credit procedures. Furthermore, 8 respondents (26.7%) had obtained a bachelor's degree (S1), indicating that more than one-quarter of the respondents had higher education. Meanwhile, 5 respondents (16.7%) had completed junior high school (SMP), and only 1 respondent (3.3%) had completed elementary school (SD). Overall, the educational profile demonstrates that the respondents generally had relatively good educational backgrounds, with 80.0% having at least a senior high school education. This educational attainment is expected to positively influence farmers' decision-making, adoption of agricultural innovations, and access to formal financial institutions, including agricultural credit.

Tabel 3. Respondent Characteristics Based on Land Area

No	Land area (rante)	Number of respondents	Percentage (%)
1	3 – 4 Rante	14	46,7%
2	5 – 6 Rante	12	40,0%
3	> 6 Rante	4	13,3%
	Total	30	100%

Source: Processed Primary data, 2026

Table 3 presents the distribution of respondents according to the size of their agricultural land holdings. The results show that 14 respondents (46.7%) owned 3–4 rante of agricultural land, making this the largest group in the sample. Meanwhile, 12 respondents (40.0%) owned 5–6 rante, while only 4 respondents (13.3%) owned more than 6 rante. These findings indicate that the majority of respondents were small- to medium-scale farmers, with land holdings of no more than six rante. Land size is an important factor influencing agricultural production, income generation, and farmers' access to formal credit. Larger land holdings generally provide greater production potential and may increase farmers' ability to generate income and offer collateral, thereby improving their eligibility for agricultural loans. Conversely, farmers with relatively small land holdings may face limitations in production capacity and financial resources, which can affect both their borrowing capacity and investment decisions. Therefore, land area is expected to play a significant role in determining the amount of agricultural credit received by farmers

Multiple Linear Regression Analysis Results

Coefficient of Determination (R^2) Tes

Tabel 4. Coefficient of Determination Test Results

Model	R	R Square	Adjusted R Square	Std. Error
1	0,760	0,577	0,485	1,999

Source: Processed Primary data, 2026

The coefficient of determination (R^2) was used to measure the proportion of variation in the dependent variable, namely the loan amount, that could be explained by the independent variables included in the regression model, namely education, income, farming experience, land area, and socialization.

Table 4 shows that the multiple correlation coefficient (R) is 0.760, indicating a strong positive relationship between the independent variables and the loan amount. This suggests that the combination of education, income, farming experience, land area, and socialization is strongly associated with variations in the amount of agricultural loans received by farmers.

The coefficient of determination (R Square) is 0.577, meaning that 57.7% of the variation in the loan amount can be explained by the five independent variables included in the model. The remaining 42.3% of the variation is explained by other factors not included in this study, such as collateral value, farmers' credit history, interest rates, financial institution policies, repayment capacity, or other socioeconomic characteristics.

Furthermore, the Adjusted R Square value is 0.485, indicating that after adjusting for the number of independent variables and sample size, the model explains 48.5% of the variation in the loan amount. The difference between the R Square and Adjusted R Square values reflects the adjustment for model complexity and suggests that some explanatory power decreases after accounting for the number of predictors. Nevertheless, the adjusted value indicates that the regression model has moderate explanatory power and is appropriate for analyzing the determinants of agricultural loan amounts.

The standard error of the estimate (Std. Error) is 1.999, indicating that the average prediction error of the regression model is approximately 1.999 units of the dependent variable. A smaller standard error generally indicates that the regression model provides more accurate predictions. Overall, the coefficient of determination results indicate that the regression model adequately explains farmers' loan amounts. Although the independent variables account for a substantial proportion of the variation, additional factors not examined in this study also contribute to determining the amount of agricultural credit received by farmers. Therefore, future studies are recommended to incorporate other relevant variables to improve the explanatory power of the regression model.

Simultaneous Test (F Test)

Table 5. Significance Test Results (F Test)

Sumber	Sum of Squares	df	Mean Square	F hitung	Sig.
Regression	8,264	5	1,653	11,009	0,000
Residual	3,603	24	0,150	-	-

Total	11,867	29	-	-	-
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Source: Processed Primary data, 2026

The simultaneous significance test (F-test) was conducted to determine whether the independent variables, namely education, income, farming experience, land area, and socialization, jointly have a significant effect on the loan amount received by farmers. As presented in Table 5, the regression model produced an F-statistic of 11.009 with a significance value (p-value) of 0.000. Since the significance value is less than the 5% significance level (0.05), the null hypothesis (H_0), which states that all regression coefficients are simultaneously equal to zero, is rejected. Conversely, the alternative hypothesis (H_1) is accepted, indicating that at least one independent variable significantly influences the loan amount.

The analysis also shows that the regression sum of squares (8.264) is considerably larger than the residual sum of squares (3.603), suggesting that the regression model explains a substantial proportion of the total variation in the dependent variable. The mean square regression (1.653) is also much higher than the mean square residual (0.150), resulting in a relatively large F-value. This indicates that the regression model performs significantly better than a model without explanatory variables.

These findings demonstrate that education, income, farming experience, land area, and participation in socialization programs collectively have a significant influence on the amount of agricultural loans received by farmers. Therefore, the multiple linear regression model is statistically valid and appropriate for explaining the determinants of loan amounts. Furthermore, the significant F-test result supports the use of partial significance tests (t-tests) to identify which independent variables individually have a significant effect on the dependent variable.

The present findings are also supported by Feder *et al.*, (1990) who found that farmers' educational attainment, farming experience, and economic capacity jointly determine access to formal agricultural credit because these variables reduce information asymmetry between borrowers and lenders. Likewise, Diagne and Zeller, (2001) concluded that household socioeconomic characteristics significantly influence both the probability of obtaining credit and the amount of credit received, particularly among smallholder farmers in developing countries.

More recent empirical evidence also supports these results. Moahid and Maharjan, (2020) reported that income, farming experience, farm size, and educational level significantly influence farmers' access to formal credit in Afghanistan. Their study demonstrated that these variables collectively improve farmers' creditworthiness and increase the likelihood of loan approval. Similarly Urago and Bozoğlu, (2022), in their review of agricultural credit studies, concluded that farmers' access to institutional credit is determined by the interaction of demographic characteristics, economic conditions, institutional services, and financial policies rather than by any single determinant.

In the Indonesian context, these findings indicate that increasing agricultural lending cannot rely solely on expanding credit availability. Financial institutions and government agencies should simultaneously strengthen farmers' economic capacity, improve financial literacy, expand extension and socialization programs, and simplify credit procedures. Such integrated interventions would increase farmers' eligibility for formal agricultural financing and enhance the effectiveness of agricultural credit programs.

The significant F-test confirms that the proposed multiple linear regression model is statistically appropriate for explaining variations in agricultural loan amounts. Moreover, the significant overall model provides a sound basis for conducting partial significance tests (t-tests) to identify which independent variables individually exert the greatest influence on farmers' borrowing decisions.

Partial Significance Test (t-Test)

Table 6. Results of the Partial Significance Test (t-Test)

Variabel	Regression coefficient (B)	Std. Error	t-value	Sig.	interpretation
constant	3,309	3,096	1,069	0,296	-

Education (X_1)	-0,116	0,157	-0,740	0,467	Not significant
Income (X_2)	1,729	0,640	2,702	0,013	Significant*
Farming Experience (X_3)	0,493	0,282	1,750	0,093	Not significant
Land area (X_4)	0,116	0,072	1,608	0,121	Not significant
socialization (X_5)	-0,270	0,337	-0,800	0,432	Not significant

Note: *=Significant at the 5% significance level ($p < 0.05$)

Source: Primary data processed by the authors, 2026.

The partial significance test (t-test) was conducted to determine the individual effect of each independent variable education (X_1), income (X_2), farming experience (X_3), land area (X_4), and socialization (X_5) on the loan amount (Y) received by farmers.

Based on Table 6, the estimated multiple linear regression equation is:

$$Y = 3.309 - 0.116X_1 + 1.729X_2 + 0.493X_3 + 0.116X_4 - 0.270X_5$$

where:

Y = Loan amount

X_1 = Education

X_2 = Income

X_3 = Farming experience

X_4 = Land area

X_5 = Socialization

The regression equation indicates that, holding other variables constant, an increase in income is associated with an increase in the loan amount, whereas education and socialization have negative regression coefficients. However, the statistical significance of each coefficient must be evaluated using the t-test.

The regression results show that income (X_2) is the only variable that has a statistically significant effect on the loan amount. The regression coefficient for income is 1.729, with a t-value of 2.702 and a significance value (p-value) of 0.013, which is below the 5% significance level ($p < 0.05$). This finding indicates that, all else being equal, an increase of one unit in farmers' income is associated with an increase of 1.729 units in the loan amount. The positive coefficient suggests that farmers with higher incomes are more likely to obtain larger agricultural loans because they generally have greater repayment capacity and are considered more creditworthy by lending institutions.

In contrast, education (X_1) has a regression coefficient of -0.116 , with a t-value of -0.740 and a p-value of 0.467. Since the significance value is greater than 0.05, education does not have a statistically significant effect on the loan amount. Although the coefficient is negative, this relationship is not statistically meaningful, indicating that differences in educational attainment do not significantly influence the amount of credit received by farmers in this study.

Similarly, farming experience (X_3) has a positive regression coefficient of 0.493, but its p-value of 0.093 exceeds the 5% significance threshold. This result suggests that farming experience does not significantly affect the loan amount, even though more experienced farmers tend to receive slightly larger loans.

The coefficient for land area (X_4) is 0.116, with a t-value of 1.608 and a p-value of 0.121. Although the positive coefficient indicates that farmers with larger land holdings tend to receive larger loans, the effect is not statistically significant. Therefore, land area cannot be considered a significant determinant of the loan amount in this study.

Finally, socialization (X_5) has a regression coefficient of -0.270 , with a t-value of -0.800 and a p-value of 0.432, indicating that participation in socialization or extension activities does not significantly influence the amount of agricultural loans received. The negative coefficient is also not statistically significant and therefore should not be interpreted as evidence of a true negative relationship.

Overall, the results of the partial significance test indicate that income is the only variable that significantly influences the loan amount at the 5% significance level. Meanwhile, education, farming experience, land area, and socialization do not have statistically significant individual effects on the amount of agricultural credit received by farmers. These findings suggest that financial institutions place greater emphasis on farmers' economic capacity, as reflected by their income, than on their educational background, farming experience, farm size, or participation in socialization programs when determining loan amounts.

Discussion

Income (X_2) was the only variable that had a statistically significant partial effect on the loan amount ($t = 2.702$; $p = 0.013$). The regression coefficient of 1.729 indicates that a one-unit increase in farmers' income is associated with an increase of 1.729 units in the amount of credit obtained. This finding suggests that farmers' economic capacity is the primary consideration for both borrowers and financial institutions in determining the size of agricultural loans. Farmers with higher incomes are generally perceived as having stronger repayment capacity, making them more likely to qualify for large loan amounts.

This result is consistent with the findings of Moahid and Maharjan, (2020), who reported that household income significantly increases farmers' access to formal agricultural credit in Afghanistan because higher-income households demonstrate greater repayment capacity and financial stability. Similarly, Diagne and Zeller (2001) found that household income is one of the strongest predictors of both the probability of obtaining credit and the amount of credit received among smallholder farmers. Likewise, Akudugu, (2012) concluded that income positively influences credit accessibility because lending institutions prioritize borrowers with stronger financial capacity and lower default risk.

Education (X_1) did not have a statistically significant effect on the loan amount ($p = 0.467$), despite having a negative regression coefficient (-0.116). This result suggests that higher educational attainment does not necessarily lead to larger agricultural loans. One possible explanation is that farmers with higher levels of education tend to be more selective and cautious when making borrowing decisions, preferring to minimize financial risk or to seek alternative sources of financing.

This finding differs from those of Feder et al. (1990) and Bukari *et al.*, (2021), who found that education significantly improves access to formal credit because educated farmers are generally better able to understand loan requirements, maintain financial records, and complete administrative procedures. The inconsistency may be attributed to differences in socioeconomic conditions, financial institutions' lending policies, and the educational characteristics of farmers across study areas. In Rabuhit Village, agricultural lending appears to be driven primarily by borrowers' economic performance rather than educational attainment.

Farming experience (X_3) produced a t-value of 1.750, which was close to the critical t-value of 1.711, and had a positive regression coefficient (0.493). Although the effect was not statistically significant at the 5% significance level, the positive coefficient indicates that more experienced farmers tend to have greater confidence and readiness to access agricultural credit. Their longer experience in farm management may improve their understanding of credit utilization and financial planning.

This finding supports the observations of Moahid and Maharjan (2020) and Urago and Bozoglul (2022), who reported that farming experience generally has a positive relationship with credit access because experienced farmers have accumulated managerial skills and production knowledge. However, in the present study the effect was not statistically significant, suggesting that experience alone is insufficient to determine loan size when financial capacity remains the primary consideration.

Similarly, land area (X_4) and socialization (X_5) did not have statistically significant partial effects on the loan amount. Nevertheless, the positive coefficient for land area suggests that farmers with larger farms tend to obtain higher loan amounts, although this relationship was not strong enough to reach statistical significance. Meanwhile, the negative coefficient for socialization indicates that participation in credit-related socialization or extension activities alone does not necessarily increase farmers' access to larger loans.

This result contrasts with the findings of Binswanger and Khandker, (1995), who argued that farm size is positively associated with access to agricultural credit because larger farms possess greater productive assets and lower lending risks. However, it is consistent with Akudugu (2012), who found that landholding alone does not guarantee access to formal credit when other financial indicators, particularly income and repayment capacity, are considered by lenders.

Likewise, socialization (X_5) did not significantly affect the amount of agricultural credit received and exhibited a negative regression coefficient. This finding indicates that participation in credit-related extension or socialization programs does not necessarily translate into larger loan amounts. While such programs may improve farmers' awareness of available credit schemes, lending decisions remain largely dependent on financial eligibility, collateral, and repayment capacity.

This finding differs from Barrett and Just, (2022), who emphasized that agricultural extension services improve farmers' access to rural financial services by increasing financial literacy and awareness of institutional credit programs. The discrepancy may indicate that, although socialization activities in Rabuhit Village successfully disseminate information, they have not yet substantially enhanced farmers' financial qualifications or reduced institutional barriers to borrowing.

Although only income was individually significant, the F-test demonstrated that the five independent variables jointly had a significant effect on the loan amount. This finding indicates that the variables collectively contribute to explaining farmers' borrowing decisions, even though not all variables exert a significant individual influence.

The results further revealed that the primary reasons farmers sought agricultural credit were limited working capital and the need to recover from crop failure, which had reduced their financial resources. In contrast, farmers who did not apply for credit reported that they either lacked sufficient collateral to meet lending requirements or already possessed adequate capital to finance their farming activities independently. These findings suggest that access to agricultural credit is influenced not only by farmers' socioeconomic characteristics but also by institutional lending requirements and the financial conditions faced by farming households.

V. CONCLUSION

Conclusion

1. Based on the findings of this study, several conclusions can be drawn. First, the independent variables of education, income, farming experience, land area, and socialization were found to have a jointly significant effect on the amount of agricultural loans received by farmers ($F = 11.009$; $p = 0.000$). This indicates that these factors collectively influence farmers' borrowing decisions and the amount of credit obtained.
2. Second, among the five independent variables, income was the only variable that had a statistically significant partial effect on the loan amount, making it the most influential factor in determining the size of agricultural credit. This finding suggests that farmers' economic capacity is the primary consideration in loan approval and credit allocation.
3. Third, the study found that the main reasons farmers sought agricultural credit were limited working capital and the need to recover from crop failure, while the primary reasons for not accessing credit were insufficient collateral and the availability of adequate personal capital. These findings indicate that both economic conditions and institutional lending requirements influence farmers' access to agricultural credit.

Recommendation

1. Farmers should improve their financial management skills and knowledge of agricultural credit to increase their confidence in utilizing formal financing facilities for farm development.
2. Bank BRI should strengthen its outreach efforts by increasing direct socialization activities, simplifying loan application procedures, and providing financial guidance to help farmers better understand credit products and repayment responsibilities.

3. The government should develop programs to improve financial literacy among farmers and consider policies that make collateral requirements more accessible, thereby expanding farmers' opportunities to obtain formal agricultural credit.
4. Future research is recommended to include additional explanatory variables, such as farm business risk, access to financial institutions, collateral value, and credit history, while employing a larger sample size to improve the explanatory power and generalizability of the findings.

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