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# The Agri-credit accessibility and the utilization of Agri-loan proceeds of rice farmers

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## Abstract

Rice farmers struggle to obtain and effectively utilize credit, which limits their agricultural productivity and livelihood. This study examined the relationship between agri-credit accessibility and utilization of agri-loan proceeds among the 59 registered rice farmers in Villa Cerveza, Victoria, Oriental Mindoro. It aimed to assess the extent of accessibility of agri-credit from microfinance institutions, banking institutions, and informal lenders and to examine the utilization practices for farm and non-farm needs. Using a quantitative correlational research design, the data were gathered through structured questionnaires. These were being analyzed using weighted mean, Pearson's correlation, and Jamovi software. The results revealed the different perceptions of accessibility. Informal lenders were rated most accessible, while microfinance institutions and banking institutions were rated as moderate and limited, respectively. Farmers utilized credit mostly for farm inputs such as seeds, fertilizers, and pesticides, with some of these going toward household necessities. However, the investments in modern methods of farming were limited. There was a significant positive correlation between agri-credit accessibility and utilization. This indicates that increased access leads to more effective loan usage, higher farm productivity, and more financial stability. To address these, it is recommended that farmers acquire clear and concise information about different loan products, eligibility requirements, and repayment schedules through seminars, workshops, and financial literacy training. These initiatives should educate farmers on how to properly manage their debts, classify spending, and seek additional income sources. This study offers significant insights helping policymakers, financial institutions, and farming communities to establish comprehensive and supportive agricultural financing systems.

**Keywords:** Credit accessibility; Loan utilization; Rice farmers; Financial literacy; Agricultural Finance; Access to Finance

## 1 Introduction

Rice is an essential staple food that sustains more than half of the world's population, providing nourishment to millions of people across various countries. As Shahbandeh [1] mentioned, during the 2022/2023 crop year, the global production of milled rice exceeded 502 million metric tons, highlighting the crop's significance in the global food supply. In the developing country of the Philippines, agriculture stands as a pillar of the economy, sustaining millions of Filipinos through food production and employment while contributing significantly to the nation's GDP. According to Samoy-Pascual et al. [2], about 47% of land area in the Philippines is devoted to rice production, making an annual yield of 19 million tons of rice. Filipino small-scale farmers, who dominate the agricultural landscape, play a pivotal role in combating hunger and ensuring food security by tirelessly cultivating the land despite limited resources and challenges such as climate change and rising production costs. Philippine Statistics Authority [3] explains that despite their vital role in food security and in the growth of the Philippine economy, many small-scale farmers in the Philippines remain among the poorest, with 31.6% of them living below the poverty line.

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Oriental Mindoro, recognized as the "Rice Granary of MIMAROPA," stands as one of the top agricultural provinces in the Philippines, with its rich agricultural lands supporting a diverse range of crops beyond rice, including fruits and vegetables. Around 26.67% of the province's land is dedicated to rice farming, making it a cornerstone of the province's economy and a primary source of livelihood for many. In remote areas like Villa Cerveza, approximately 113 hectares are cultivated only for rice [4]. Being situated in a higher, mountainous area with rich, irrigated soil and a cooler climate, Villa Cerveza creates an ideal environment for farming. Small-scale farmers dominate this area, with 61% of them managing less than 2 hectares of rice fields. However, despite these advantages, many farmers in Villa Cerveza face financial challenges that hinder their ability to sustain and expand their operations. As a result, they are often forced to rely on credit to meet their farming needs.

There are various credit options available to farmers through government programs and financial institutions to support their farming needs. The government offers initiatives like the DA Sikat Saka Program, Agri-Negosyo Loan, and Agrarian Production Credit Program, often in partnership with the Land Bank of the Philippines (LANDBANK), to provide financial assistance to small rice farmers. Financial institutions, such as banks and microfinance organizations, also offer loans like AgriBank's Agri-Negosyo Loan, BPI's Agribusiness Loan, GM Bank's Magsasaka Loan, and Metrobank's Agribusiness Loan. These credit products generally have similar interest rates and flexible repayment terms, allowing farmers to pay after the harvest. However, accessing these financial services can be challenging for farmers in remote areas. For instance, Villa Cerveza, located in Victoria, Oriental Mindoro, is situated approximately 30 to 45 minutes drive away from the municipality center. This distance can make it difficult for farmers to access financial institutions and avail themselves of the credit products available. As a result, the accessibility of financial services remains a significant challenge for farmers in such remote areas.

While there are many credit options available to rice farmers, the struggle to access loans from these various providers and effectively utilize the loan proceeds remains a persistent issue. Several factors limit accessibility to financial products, and certain reasons push farmers to use their loans for non-productive purposes. These challenges inspire the researchers to explore the relationship between agri-credit accessibility and the utilization of agri-loan proceeds by rice farmers in Villa Cerveza, where rice is the primary crop grown. The study aims to delve into the practices, preferences, and behaviors surrounding credit usage within this predominantly rice-farming community. Specifically, this study has several limitations, including the relatively small sample size of 59 respondents from a farmers' association in Victoria, Oriental Mindoro, which may not be representative of all farmers in the Philippines.

The objectives of this study are designed to provide a deeper understanding of agri-credit accessibility and the utilization of agri-loan proceeds by rice farmers. Specifically, the study aims to assess the extent of agri-credit accessibility among rice farmers, examine the utilization practices of agri-loan proceeds, investigate whether there is a relationship between agri-credit accessibility and the utilization of agri-loan proceeds, and propose an action plan based on the analysis of the findings. Additionally, this study is significant because it highlights critical gaps in the agricultural credit system and offers actionable solutions to strengthen the financial support available to rice farmers. Findings from this study will contribute to the improvement of agricultural finance by providing insights into the current situation, problems, and needs of local farmers, enabling the development of more effective programs and solutions that support the productivity and sustainability of rice farming in the Philippines.

The significance of this study lies in its ability to deepen the understanding of the challenges and opportunities in agricultural credit accessibility and loan utilization among rice farmers. Identifying barriers and analyzing farm practices, the study aims to provide valuable insights to farmers, policymakers, financial institutions, and the Villa Cerveza Farmers Association. For policymakers, the study offers evidence-based insights into the current situation and needs of small-scale farmers, helping them create inclusive policies that address these challenges and reduce financial burdens. Financial institutions can use the findings to design loan products and services that cater to the specific needs of rice farmers. For the Villa Cerveza Farmers Association, the study will identify the issues its members face in accessing and utilizing agricultural credit, providing guidance for developing solutions to improve their financial access. Ultimately, the study seeks to offer actionable recommendations to enhance credit utilization, empowering farmers and contributing to the growth of the agricultural sector.

## 1.1 Review of Related Literature

### *1.1.1 Agri-credit Accessibility*

Agricultural credit is vital for supporting farmers and rural communities, enabling them to invest in agricultural production and boost rural development. Khatun [5] defines it as financial resources provided by creditors like banks, microfinance institutions, and informal lenders to enhance agricultural productivity. Credit sources differ widely, with microfinance institutions targeting low-income farmers, banks offering structured loans for both smallholder and large-

scale farmers, and informal lenders catering to immediate credit needs in rural areas [6]. Access to these credit sources significantly impacts farm output, as Gulati and Juneja [7] highlight the importance of efficient credit systems for agricultural growth. While microfinance and banking institutions offer targeted financial products, strict requirements often push farmers to rely on flexible but costly informal credit options [8].

The effective use of agricultural credit is key to its impact on farming operations. When credit is allocated to essential inputs like seeds, fertilizers, and land preparation, it directly contributes to improved crop yields and overall farm productivity [9]. This highlights the importance of accessible and affordable credit systems in empowering farmers to adopt modern farming techniques and sustain their operations. Ensuring credit is used efficiently for agricultural needs is crucial for maximizing its benefits and fostering growth in the agricultural sector.

### Microfinance Institutions

Microfinance institutions provide a variety of financial services designed specifically for low-income individuals and small businesses, such as microcredit, savings, insurance, and fund transfers [10]. Smallholder farmers, who frequently face difficulties in banks, benefit from microfinance because it provides flexible and inclusive financing options, allowing them to invest in agricultural inputs, expand productivity, and reduce risks. This improved financial accessibility is crucial for increasing agricultural output and promoting overall economic development in rural regions, particularly in developing nations [11]. Consequently, the relationship between microfinance and agri-credit accessibility highlights its potential to transform rural economies and empower farmers through financial inclusion. According to Mghenyi [12], microfinance plays an important role in providing farmers with agri-credit that allows them to invest in essential agricultural inputs such as seeds, fertilizers, pesticides, farm equipment, and irrigation systems. Consequently, in rural areas where traditional banking services are lacking, microfinance often fills the credit gap by providing tailored loan products for agricultural purposes [13]. Additionally, Nathanel et al. [14] underline that microfinance institutions offer loans with minimal or no collateral, making credit more accessible to smallholder rice farmers who often lack substantial assets. Ameh and Lee [15] note that lower interest rates compared to traditional banks further enhance this accessibility, making it easier for farmers to obtain necessary funds. Dossou et al. [16] add that in regions such as Central Benin, microfinance services, particularly short-term credit, have proven crucial in meeting farmers' urgent financial needs, ensuring timely capital access to boost agricultural productivity despite barriers including the location. Microfinance institutions enable small-scale farmers to allocate funds effectively for farm needs. These loans also often support non-farm needs, such as debt repayment and business diversification, fostering overall financial stability [17]. When paired with financial literacy programs, these factors ensure that microfinance not only addresses immediate agricultural needs but also promotes sustainable financial practices, driving economic growth and resilience in rural areas.

### Banking Institutions

A bank is a financial institution that handles deposits, loans, and other services, allowing people to save and borrow money [18]. It plays an important role in providing agri-credit to farmers, offering loans at lower interest rates than informal lenders. However, farmers often face challenges in accessing these loans due to strict collateral requirements and complex application processes. This makes obtaining agri-credit difficult despite its importance for farm operations [19]. Banks provide credit options tailored to farmers' needs, including short-term loans for inputs like seeds and long-term financing for capital investments such as machinery and irrigation systems [20]. They are particularly advantageous for medium- to large-scale farmers, providing larger loans for costly agricultural operations [21]. However, small-scale farmers often struggle to access these loans due to the risks associated with agriculture, causing banks to focus on larger farms [22]. Bank loans with flexible repayment terms provide a solution, allowing farmers to repay loans in smaller, more manageable amounts. This flexibility reduces the financial strain on borrowers, making it easier for them to meet their repayment obligations without feeling overwhelmed [23]. Overall, credit from banks is essential for farmers to access financial resources for purchasing inputs, hiring labor, and expanding operations, which improves productivity, financial stability, and overall agricultural output, benefiting the farming community [24].

### Informal Lenders

Informal lenders play a crucial role in providing agri-credit in rural areas where formal financial institutions are limited. Moahid and Maharjan [25] note that moneylenders, friends, family, and community groups offer faster and more flexible credit options, essential during planting and harvest seasons when timely funding is critical. This urgency is especially important during planting and harvest seasons, when timely investment can make a significant difference in agricultural productivity. According to Karaivanov and Kessler [26], informal lenders offer flexibility, such as repayment terms tailored to the farmer’s situation, that allows farmers to secure funds for critical agricultural inputs. Giné and Karlan [27] emphasize the quick accessibility of informal loans, which proves vital during urgent periods like planting or

harvest seasons. Additionally, Peñalba and Paunlagui [28] highlight how informal credit supports the adoption of modern and sustainable agricultural practices, such as energy-efficient equipment, empowering farmers to improve yields and embrace environmentally friendly methods. Without the need for collateral, as Naidoo [29] notes, informal lenders provide an approachable option for farmers with limited assets, fostering financial inclusion. Savoy [30] adds that the simpler borrowing process and faster approval times of informal credit are particularly beneficial for farmers unfamiliar with complex banking procedures. Personal relationships with lenders, as observed by Sandhu et al. [31], further enhance trust and flexibility, making loans more manageable. Finally, Mgbebu and Achike [32] explain that these loans not only fund agricultural needs but also allow farmers to address household expenses, reflecting the dual-purpose utility of informal credit systems in supporting rural livelihoods.

### *1.1.2 Utilization of Agri-loan Proceeds*

The utilization of agricultural loan proceeds is essential for the performance and sustainability of farming operations. Rahimah et al. [33] define these proceeds as borrowed funds allocated for purposes like project investments, operational costs, or community welfare. Farmers use these loans to acquire farming inputs such as seeds, fertilizers, and equipment, which, when applied effectively, will enhance productivity. According to Chaiya et al. [34], the utilization of agri-loan proceeds includes the purpose for which the funds are used, the efficiency with which they are applied, and the impact on farm income and production. How farmers allocate and manage these resources significantly influences their agricultural activities and overall livelihoods.

Studies emphasize the various uses of agricultural loans. Rizwan et al. [35] report that in Pakistan, 64.8% of borrowed funds were allocated to agricultural activities, 25.5% to livelihood expenses, and 9.7% to non-agricultural businesses. These findings demonstrate that agricultural credit addresses both farm-related and non-farm needs. It enables farmers to cover essential farming expenses, such as purchasing seeds, fertilizers, and equipment, while also supporting personal and family needs. As Sankar and Kumar [36] point out, agricultural credit not only increases agricultural production but also fosters overall development by meeting both farm and non-farm needs.

#### Farm Needs

Farm needs encompass the essential activities and inputs required for agricultural production, including seeds, fertilizers, insecticides, labor, equipment, irrigation, and land preparation. Without these inputs, farmers would struggle to sustain their operations. Due to limited funds, many farmers rely on loans to cover these costs to support their operations [37]. These credits provide the necessary funds to purchase key inputs, adopt modern farming techniques, and increase productivity. Chaiya et al. [38] emphasize that proper use of loans can improve farm management, increase output, and enhance financial stability. Sheahan and Barrett [39] found that a large portion of loan money is spent on key inputs like seeds, fertilizers, and pesticides. Rayhan et al. [40] observed that farmers also invest in sustainable practices like crop rotation, organic fertilizers, and pest management using borrowed funds. Jimi et al. [41] reported that credit helps farmers adopt modern tools and technologies, such as machines and advanced irrigation systems. Similarly, Dossou et al. [42] noted that loans cover the costs of land preparation activities like plowing, leveling, and planting. Martin [43] added that farmers use loans to manage labor costs during critical periods, such as planting and harvesting. Overall, access to credit helps farmers improve resource use, adopt better farming practices, and generate higher revenue, thereby promoting their financial stability and the sustainability of their farming operations [44].

#### Non-Farm Needs

Non-farm needs, such as family expenses, savings, insurance, debt repayment, and investments in non-agricultural businesses, are essential for rural households but often compete with agricultural financial demands, diverting funds from farming investments [45]. Access to agricultural credit is crucial, as it helps farmers meet both agricultural and non-farm financial needs, easing financial pressures and supporting household and farming activities [46]. Farmers rely on their farms for essential household needs like food, education, shelter, and utilities [47]. However, the effectiveness of agricultural credit is often reduced when funds meant for agricultural inputs, such as seeds, fertilizers, and equipment, are instead used for non-farm expenses like school fees and utilities [48]. This misallocation limits farm investments and productivity, leading farmers to depend more on credit to meet both farm and non-farm needs. Agricultural credit is also often spent on household appliances, home repairs, or other non-farm necessities, limiting funds for reinvestment in farming [49]. Additionally, debt repayment is prioritized to maintain creditworthiness, further restricting funds for agricultural reinvestment [50]. In response, non-farm activities such as small trading or traditional crafts have become alternative income sources to help manage credit constraints and stabilize finances [51]. When agricultural credit is effectively managed, it can support farmers in diversifying income sources, reducing financial risks, and improving household welfare during periods of market volatility [52].

## 1.2 Theoretical Framework

The study is anchored on Transaction Cost Theory, Theory of Consumer Choice, and Rational Choice Theory.

### *1.1.1 Transaction Cost Theory*

The Transaction Cost Theory was created by Ronald Coase and refined by Oliver Williamson. It describes how transaction costs impact individuals' decision-making. According to the theory, farmers look for better credit sources in order to minimize transaction costs while also addressing their immediate financial demands.

### *1.2.1 Theory of Consumer Choice*

This study applies Eugene Slutsky's Theory of Consumer Choice to analyze how rice farmers allocate loan proceeds from microfinance institutions, banks, or informal lenders between farm and non-farm needs. According to the theory, farmers prioritize farm-related investments in order to meet production and earnings targets, but they may also use loans for non-farm requirements such as home bills, education, or healthcare.

### *1.2.2 Rational Choice Theory*

The Rational Choice Theory was developed by economist Adam Smith and sociologist James Coleman. This is used to understand how people make decisions based on costs and benefits. This study examines how the rice farmers access credit and decide whether to use the loan proceeds for farm or non-farm purposes. When choosing a credit source, farmers consider factors like interest rates, repayment terms, and access.

## 1.3 Conceptual Framework

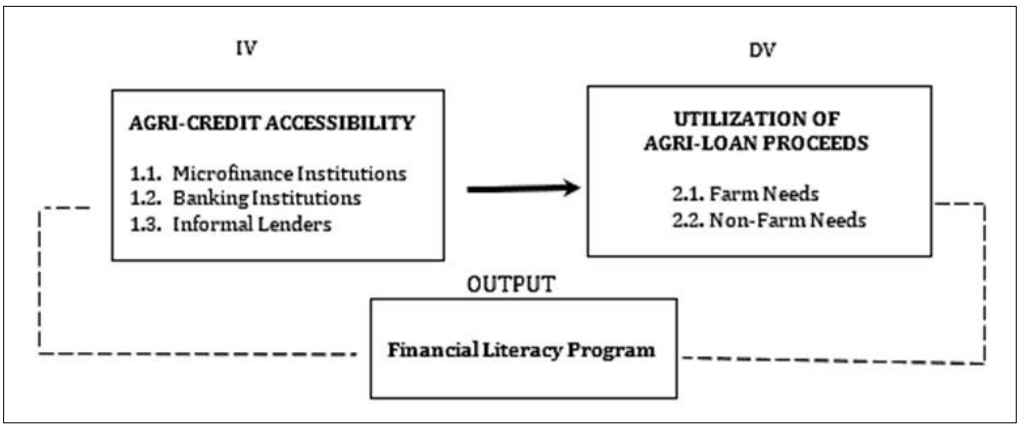


**Figure 1** Conceptual Framework

The independent and dependent variables, wherein the independent variable is presented as agri-credit accessibility. Under this are the given and considered factors, such as microfinance institutions, banking institutions, and informal lenders. On the other hand, the dependent variable of the study is utilization of agri-loan proceeds, which consists of farm needs and non-farm needs. Additionally, the output, a financial literacy program, is presented below, summarizing the expected outcomes or results of the study.

## 1.4 Statement of the Problem

The main goal of this study is to investigate the relationship between agri-credit accessibility from various sources and the utilization of agri-loan proceeds of rice farmers in Barangay Villa Cerveza, Victoria, Oriental Mindoro.

Specifically, this study seeks to answer the following questions:

- What is the extent of agri-credit accessibility that the rice farmers of Villa Cerveza have in terms of:
  - Microfinance Institutions;
  - Banking Institutions; and
  - Informal Lenders?
- What are the utilization practices of agri-loan proceeds of the rice farmers of Villa Cerveza evident along the areas of:

  - Farm Needs; and
  - Non-Farm Needs?
- Is there a significant relationship between agri-credit accessibility and the utilization of agri-loan proceeds of rice farmers?
- Based on the analysis of the study, what action plan for agri-credit accessibility and the utilization of agri-loan proceeds will be proposed?

### 1.5 Hypothesis

- Ho: There is no significant relationship between agri-credit accessibility and the utilization of agri-loan proceeds of rice farmers.

## 2 Material and methods

### 2.1 Research Design

This study used a quantitative descriptive correlational research design to examine the relationship between agri-credit accessibility and the use of agri-loan proceeds among registered rice farmers in Barangay Villa Cerveza, Victoria, Oriental Mindoro. Descriptive correlational research aims to explain the relationship between two or more variables without establishing cause and effect. It involves collecting and analyzing data on at least two variables to identify any potential link between them [53]. The study aimed to gather detailed information to assess whether agricultural loans are being used for farming purposes or are being diverted to other needs. Data collection will be conducted using structured questionnaires distributed to registered rice farmers in the area. These questionnaires are designed to collect information about the farmers' access to credit and how the funds are utilized.

### 2.2 Subject and Sampling

The researchers used purposive sampling to select respondents who met specific criteria for the study. The criteria were: (1) registered rice farmers of the Villa Cerveza Association; (2) have taken agricultural loans for at least three years; and (3) have been farming rice for at least three years. Out of 100 potential respondents, 59 met these criteria, while the rest were excluded as they were either new borrowers or did not have access to credit. The sample mostly consisted of small-scale farmers, with 61% managing less than 2 hectares of rice and many having over 10 years of experience in both farming and using credit.

### 2.3 Data Gathering Procedure and Instrumentation

A researcher-made questionnaire was developed to collect data from the respondents based on insights from relevant studies and literature. It was validated by an agriculture expert, a psychometrician, and a statistician to ensure reliability and translated into Filipino language to enhance understanding among farmers. Permissions were obtained from the Villa Cerveza Farmers Association and the barangay to access the list of rice farmers and conduct the survey. The finalized questionnaire was divided into three sections: respondents' profiles, agricultural credit accessibility, and agri-loan utilization for both farm and non-farm needs. The survey was then conducted through personal one-on-one interviews, enabling the researchers to collect the necessary data for the study.

### 2.4 Scaling and Quantification of Data in Self-Made Questionnaire

**Table 1** Scaling for Agri-Credit Accessibility

| Likert Scale | Range | Description | Interpretation |
|---|---|---|---|
| Strongly Disagree | 1.00 - 1.50 | Strongly Disagree | Not Accessible |
| Disagree | 1.51 - 2.50 | Disagree | Less Accessible |
| Agree | 2.51 - 3.50 | Agree | Accessible |
| Strongly Agree | 3.51 - 4.00 | Strongly Agree | Highly Accessible |

**Table 2** Scaling for Utilization of Agri-Loan Proceeds

| Likert Scale | Range | Description | Interpretation |
|---|---|---|---|
| Strongly Disagree | 1.00 - 1.50 | Strongly Disagree | Not Utilized |
| Disagree | 1.51 - 2.50 | Disagree | Less Utilized |
| Agree | 2.51 - 3.50 | Agree | Utilized |
| Strongly Agree | 3.51 - 4.00 | Strongly Agree | Highly Utilized |

### 2.5 Reliability

To determine the questionnaire's reliability, the internal consistency reliability approach was utilized. Internal consistency is a way to determine if all the questions on a survey are measuring the same thing [54]. This reliability was measured using Cronbach's alpha. Cronbach's alpha (α) is a measure of internal consistency, assessing how well a set of items measures a single construct. The coefficient ranges from 0 to 1, with higher values indicating better reliability.

The reliability test was conducted in Buhangin, Naujan, Oriental Mindoro, using a single-administered test involving 50 members of the farmers association that meet the criteria: (1) registered rice farmers; (2) have taken agriculture loans for at least three years; and (3) have been farming rice for at least three years.

**Table 3** Reliability Result

| Variables | | Cronbach's alpha | Interpretation |
|---|---|---|---|
| Agri-Credit Accessibility | Microfinance Institutions | 0.963 | Excellent |
| | Banking Institutions | 0.945 | Excellent |
| | Informal Lenders | 0.901 | Excellent |
| Utilization of Agri-Loan Proceeds | Farm Needs | 0.770 | Acceptable |
| | Non-Farm Needs | 0.707 | Acceptable |

Table 3 shows the reliability analysis, assessing the internal consistency of variables using Cronbach's alpha. The results show excellent reliability for microfinance (α = 0.963), banking institutions (α = 0.945), and informal lenders (α = 0.901), indicating that the items included are consistently measuring the intended constructs. Meanwhile, farm needs (α = 0.770) and non-farm needs (α = 0.707) demonstrated acceptable reliability, indicating some variability in responses while still being generally consistent. Overall, a reliability score α = 0.878 indicates that the scale is reliable. This suggests that the items included are consistently measuring the intended constructs, making the overall results dependable.

### 2.6 Data Analysis

The data collected from the questionnaire items were systematically organized, aggregated, and analyzed using statistical methods. Pearson's correlation coefficient was used as the primary statistical tool to analyze and interpret the data. Pearson's correlation coefficient measures the strength and direction of a linear relationship between two variables [55]. Jamovi, an advanced statistical software often used in analyzing research statistics, was also used [56]. The weighted mean, a descriptive statistical technique, helped to quantify the responses related to the research variables outlined in the distributed questionnaire. These statistical tools enabled the study to assess the data and determine the extent and relationship between agri-credit accessibility and the utilization of loan proceeds among rice farmers.

## 3 Results and discussion

### 3.1 What is the agri-credit accessibility of rice farmers in Villa Cerveza in terms of:

*3.1.1 Microfinance Institutions*

**Table 4** Mean Perception Profile of the Respondents in Terms of Microfinance Institutions

| | Agri-credit accessibility | Mean | Rank | Description | Interpretation |
|---|---|---|---|---|---|
| | Microfinance institution *(institusyon ng microfinance)* | | | | |
| 1. | Microfinance loans support my investment in farm inputs (e.g., seeds, fertilizers, pesticides, equipment, and irrigation) that improve my farm's productivity. *(Ang mga pautang ng microfinance ay sumusuporta sa aking pamumuhunan sa mga kakailangan sa bukirin (halimbawa, mga binhi, pataba, pesticides, kagamitan, at irigasyon) na nagpapabuti ng produktibidad ng aking sakahan.)* | 2.88 | 3 | Agree | Accessible |
| 2. | Microfinance offers repayment schedules that align with the seasonal cycles of my farming activities. *(Nag-aalok ang microfinance ng mga panahon ng pagbabayad na tumutugma sa mga pana-panahong siklo ng aking mga gawain sa pagsasaka.)* | 2.68 | 4 | Agree | Accessible |
| 3. | Microfinance offers lower interest rates than traditional banks, which makes credit more affordable for my farming needs. *(Nag-aalok ang microfinance ng mas mababang mga interes na mas abot-kaya para sa aking mga pangangailangan sa pagsasaka kumpara sa mga tradisyunal na bangko na nagpapautang.)* | 2.61 | 5 | Agree | Accessible |
| 4. | Microfinance allows me to access loans without requiring significant collateral. *(Pinapayagan ako ng microfinance na makakuha ng pautang nang hindi nangangailangan ng malaking kolateral.)* | 3 | 1 | Agree | Accessible |
| 5. | Microfinance provides timely short-term credit that helps me manage urgent financial needs and increase productivity. *(Ang microfinance pagpapautang ng mas mabilis na tumutulong sa akin na pamahalaan ang mga hindi inaasahang pangangailangan sa pananalapi at pagpapataas ng produktibidad.)* | 2.92 | 2 | Agree | Accessible |
| | Overall Mean | 2.818 | | Agree | Accessible |

Table 4 highlights respondents' perceptions about microfinance institutions. The highest mean score of 3.00, indicating agreement, was recorded for item 4. It emphasizes the ease of obtaining loans without significant collateral. Item 3, which concerned more affordable interest rates compared to traditional banks, was ranked fifth with a mean of 2.61. The overall mean score of 2.818 indicates general agreement. This suggests that microfinance institutions are viewed by the respondents positively. However, there are still areas in which these institutions may develop to better meet the farming needs of farmers.

The highest-ranked item, "Microfinance allows me to access loans without requiring significant collateral," implies that the respondents believe it is simpler to obtain loans from microfinance institutions than from traditional financial institutions, which frequently require high-value collateral. One respondent shared, *"Strongly Agree, kase hindi naman nila kami hinihingian ng kahit anong collateral kapag nag-aapply kami sa kanila ng loan."* This reflects the flexibility and

accessibility of microfinance institutions, especially for smallholder farmers who lack the assets typically required for traditional loans. These positive perceptions are consistent with the findings of Nathanel et al. [57], who point out that microfinance frequently offers loans with little to no collateral, making their credit more accessible to smallholder farmers. This emphasizes the role of microfinance in promoting financial inclusion, particularly in rural areas, and assisting farmers who would otherwise be excluded from traditional financial institutions.

The lowest-ranked item, "Microfinance offers lower interest rates than traditional banks, which makes credit more affordable for my farming needs," shows that farmers do not perceive microfinance loans to be significantly cheaper than those from traditional banks. As one pointed out, *"Disagree, mas mataas talaga ang interest na pinapatong ng microfinance sa mga loans kaysa sa mga bangko."* This indicates that although microfinance institutions provide more accessible loans, the interest rates may still be considered high. According to Chikalipah [58], these rates are influenced by a variety of factors, including operating costs, institutional weaknesses, and macroeconomic volatility. The accessibility of their loans remains a big advantage for farmers, helping them to satisfy their financial demands, even if the loans' affordability may be an issue for some.

The overall mean of 2.818 reveals that farmers in Villa Cerveza have a generally positive perception toward microfinance institutions. While there are some challenges, like the high interest rates, they see microfinance as a crucial financial tool that supports their farming operations. Microfinance institutions have an important role in helping the farmers invest in farm inputs, meet their urgent financial requirements, and increase production [59]. However, there may be potential for improvement in terms of affordability of their loans and interest rates that compete with those of traditional banks.

### *3.1.2 Banking Institutions*

**Table 5** Mean Perception Profile of the Respondents in Terms of Banking Institution

| | **Agri-credit accessibility** | **Mean** | **Rank** | **Description** | **Interpretation** |
|---|---|---|---|---|---|
| | Banking Institution *(Bangko)* | | | | |
| 1. | Banking institutions offer me various credit options to support my farming needs.<br>*(Nag-aalok ang mga institusyong pampinansyal ng iba't ibang pagpipilian ng pagpapautang upang suportahan ang aking mga pangangailangan sa pagsasaka.)* | 1.6 | 1 | Disagree | Less Accessible |
| 2. | Banking institutions offer larger loans (typically ₱150,000 and up) that help me make significant investments in my farm.<br>*(Nag-aalok ang mga institusyong pampinansyal ng mas malalaking pautang (karaniwang ₱150,000 pataas) na tumutulong sa akin na gumawa ng malalaking pamumuhunan sa aking sakahan.)* | 1.51 | 4 | Disagree | Less Accessible |
| 3. | Banking institutions offer lower interest rates, making them a more affordable credit option compared to informal lenders.<br>*(Nag-aalok ang mga institusyong pampinansyal ng mas mababang interes, kaya't mas abot-kaya silang pagpipilian ng pautang kumpara sa mga hindi pormal na nagpapautang.)* | 1.58 | 3 | Disagree | Less Accessible |
| 4. | Banking institutions prioritize medium to large-scale farms, making it harder for smallholder farmers like me to access the financial resources.<br>*(Binibigyang-priyoridad ng mga institusyong pampinansyal ang mga katamtaman hanggang malaking sukat na sakahan kung kaya't nahihirapan ang mga maliliit na magsasaka tulad ko na makakuha ng mga pinansyal na mapagkukuhanan.)* | 1.36 | 5 | Strongly Disagree | Not Accessible |

| | | | | | |
|---|---|---|---|---|---|
| 5. | Banking institutions offer flexible repayment plans, helping me manage my loan repayments more effectively.<br>*(Nag-aalok ang mga institusyong pampinansyal ng mga naangkop na plano ng pagbabayad na tumutulong sa akin na mas mahusay na pamahalaan ang pagbabayad ng aking mga utang.)* | 1.59 | 2 | Disagree | Less Accessible |
| | Overall Mean | 1.528 | | Disagree | Less Accessible |

The data above presents the ranking of mean perception scores of rice farmers regarding banking institutions. The highest mean score of 1.6 reflects the perception that banking institutions offer various credit options to support farming needs. Meanwhile, the lowest mean score of 1.36 suggests that these institutions prioritize medium- to large-scale farms, making it harder for smallholder farmers to access financial resources. Overall, the mean score for banking institutions is 1.528.

The results show that question number 1 has the highest mean, which states, “Banking institutions offer me various credit options to support my farming needs.” This suggests that while farmers acknowledge the availability of various credit options from banking institutions, these options are often difficult to access. According to Dela Cruz [60], farmers face challenges such as strict collateral requirements, long application processes, and loans that are not tailored to agricultural needs. In Villa Cerveza, the distance to the nearest bank and the complicated requirements create significant barriers. One respondent said, “Disagree, hindi kasi ako nanghihiram sa bangko dahil napakaraming requirements ang hinihingi nila.” Another shared, “Malayo kasi yung bangko dito sa amin kaya hindi ako nakakahiram doon.” These challenges prevent farmers from utilizing the favorable loan terms banks offer, leading them to prefer more accessible lending institutions with simpler requirements.

As for the lowest mean of 1.36 with the statement “Banking institutions prioritize medium to large-scale farms, making it harder for smallholder farmers like me to access the financial resources," this suggests that farmers in Villa Cerveza disagree with the idea that banks prioritize larger farms over smaller ones. One respondent stated, “Strongly Disagree, nagpapahiram naman kasi ang bangko kahit kanino basta may pang collateral ka at kaya mong magbayad.” This reflects that farmers in Villa Cerveza believe that banks do not prioritize farm size when offering loans. As long as they can present collateral and prove their ability to repay, they believe that banks are willing to lend them. According to Chaudhari, V. M., and Farmer, M. [61], banks provide loans to both small and large farmers, but the loan amounts vary depending on the size of the land holdings. This implies that while banks are willing to lend to all farmers, the loan amounts are limited and are based on the borrower’s ability to repay.

The overall mean for banking institutions is 1.528, which suggests that banking institutions are less accessible. This suggests that while farmers in Villa Cerveza recognize the availability of banking services, they do not view them as a primary source of support for meeting their financial needs. Less accessibility to banking institutions is due to low income levels, complicated bank operating procedures, lack of financial and banking education, high bank administrative costs, and the difficulty to reach bank locations [62]. These challenges make it difficult for farmers to utilize banking services for their credit needs. As a result, farmers are left without access to formal credit, which limits their ability to invest in their farms and improve their livelihoods.

### *3.1.3 Informal Lenders*

**Table 6** Mean Perception Profile of the Respondents in Terms of Informal Lending

| | **Agri-credit accessibility** | **Mean** | **Rank** | **Description** | **Interpretation** |
|---|---|---|---|---|---|
| | INFORMAL LENDERS *(MGA IMPORMAL NA NAGPAPAUTANG)* | | | | |
| 1. | Informal lenders provide credit that allows me to make timely purchases of agricultural inputs, boosting my productivity.<br>*(Nagbibigay ang mga impormal na nagpapautang ng pautang na nagpapahintulot sa akin na makabili ng mga kinakailangang pang-agrikultural sa panahon na aking kailangan na nagpapataas ng aking produktibidad.)* | 3.37 | 3 | Agree | Accessible |

| | | | | | |
|---|---|---|---|---|---|
| 2. | Informal lenders offer loans without requiring collateral, making it easier for me to access funds for my farming needs.<br>*(Nag-aalok ang mga impormal na nagpapautang ng mga pautang nang hindi nangangailangan ng kolateral kung kaya't mas madali akong makakakuha ng pondo para sa aking mga pangangailangan sa pagsasaka.)* | 3.27 | 5 | Agree | Accessible |
| 3. | Informal lenders provide loan terms that adapt to my farming needs, especially during important periods like planting and harvest.<br>*(Nagbibigay ang mga impormal na nagpapautang ng mga kondisyon ng pautang na tumutugon sa aking mga pangangailangan sa pagsasaka, lalo na sa mga mahahalagang panahon tulad ng pagtatanim at pag-aani.)* | 3.42 | 1 | Agree | Accessible |
| 4. | Informal lenders base their lending decisions on personal relationships and community connections, making it easier for me to access credit.<br>*(Ang mga impormal na nagpapautang ay nagtatakda ng kanilang mga desisyon sa pagpapautang batay sa personal na relasyon at ugnayan sa komunidad kung kaya't mas madali para sa akin na makakuha ng pautang.)* | 3.37 | 4 | Agree | Accessible |
| 5. | Informal lenders offer quick access to credit, which helps me meet urgent financial needs even though it may be more costly.<br>*(Nag-aalok ang mga impormal na nagpapautang ng mabilis na access sa pautang na tumutulong sa akin na matugunan ang mga biglaang pangangailangan sa pananalapi kahit na maaaring mas mahal ito.)* | 3.41 | 2 | Agree | Accessible |
| | Overall Mean | 3.368 | | Agree | Accessible |

Table 6 presents the respondents' mean perceptions regarding informal lenders. The highest mean score of 3.42 was recorded for item 3, indicating agreement that loan terms are adapted to farming needs during critical periods. Item 2, concerning loans without collateral, ranked fifth with a mean of 3.27. The overall mean of 3.368 demonstrates general agreement regarding the accessibility and benefits of informal lending. This shows that informal lenders play an important role in meeting the farmers' financial needs, particularly through their fast and flexible lending.

Item 3, "Informal lenders provide loan terms that adapt to my farming needs, especially during important periods like planting and harvest," which had the highest mean of 3.42, indicates that informal lenders offer loan terms that align with the farming cycles of the respondents. This aligns with one respondent's statement: "Strongly Agree, sa mga kamag-anak at kaibigan ko kase ako madalas nakakautang lalo na kapag kailangang-kailangan ko talaga ng budget para sa bukid. Pumapayag naman sila na saka ko nalang babayaran 'yong inutang ko kapag nakaani at kumita na ako." They allow farmers to borrow funds when needed for their farming activities and offer the flexibility of repaying the loan after harvest, when the farmers have the income from their crops. This demonstrates the strong reliance of the respondents on these lenders to meet their farm's immediate financial needs, especially when prompt access to funds is crucial for their productivity. As Ullah [63] points out, informal lending offers repayment flexibility, which is especially useful for farmers dealing with variable agricultural production and income inconsistency. The capacity of informal lenders to adapt loan terms based on farmers' cash flow cycles considerably improves their ability to manage the financial issues inherent in agriculture, making informal lenders a useful resource for farmers throughout critical farming seasons.

On the other hand, Item 2, "Informal lenders offer loans without requiring collateral, making it easier for me to access funds for my farming needs," which had the lowest mean of 3.27, suggests that informal lenders do not always offer loans without collateral. As stated by a respondent, "Noon kase ay nakautang ako sa isang tao, hiningian n'ya ako ng collateral kase medyo nasa malaking halaga iyong inutang ko sa kaniya. Titulo ng lupa yong naging collateral ko noon." While informal lenders are generally more accessible, higher loan amounts can lead to stricter lending terms, making this aspect less favorable. This makes it slightly more difficult for farmers to get access to funds. This finding is confirmed by studies on informal lending and collateral, which show that while informal lenders use less collateral than formal lenders, they may nevertheless require some sort of security [64]. This suggests that, while they may not have as stringent collateral requirements as formal institutions, there may be times that collateral is required. This makes it

slightly more difficult for farmers to get funds. Nonetheless, their flexible terms and strong community links make them a valuable source of loan for farmers in rural areas.

With an overall mean of 3.368, the respondents agree that informal lenders play a significant role in supporting their agricultural and financial needs. The overall mean highlights the importance of informal lending systems in providing timely access to funds, particularly for agricultural inputs and emergency financial needs. This also reflects the close relationship between the respondents and their lenders, where personal ties help ensure smoother access to loans [65]. However, the slight variability in perceptions, particularly regarding collateral requirements, shows that some challenges remain in the ease of access to credit.

### 3.2 What are the utilization practices of agri-loan proceeds of the rice farmers in Villa Cerveza evident along the areas of

#### *3.2.1 Farm Needs*

**Table 7** Mean Perception Profile of the Respondents in Terms of Farm Needs Utilization

| | **Utilization of Agri-Loan Proceeds** ***(Paggamit Ng Mga Salapi Mula Sa Agri-Loans)*** | **Mean** | **Rank** | **Description** | **Interpretation** |
|---|---|---|---|---|---|
| | FARM NEEDS (MGA PANGANGAILANGAN SA SAKAHAN) | | | | |
| 1. | I use credit to buy essential farming inputs such as seeds, fertilizers, and pesticides. *(Ginagamit ko ang aking inutang upang bumili ng mga mahahalagang pangangailangan sa pagsasaka tulad ng mga binhi, pataba, at pesticides.)* | 3.86 | 1 | Strongly Agree | Highly Utilized |
| 2. | I use credit to adopt improved farming practices, such as soil conditioning, organic fertilization, and pest management. *(Ginagamit ko ang aking inutang upang magpatupad ng mga pinabuting pamamaraan sa pagsasaka tulad ng pagpapabuti ng lupa, organikong pataba, at pamamahala ng peste.)* | 3.78 | 2 | Strongly Agree | Highly Utilized |
| 3. | I use credit to adopt modern agricultural technologies, including mechanization and irrigation systems. *(Ginagamit ko ang aking inutang upang magpatupad ng mga makabagong teknolohiya sa agrikultura, kabilang ang mekanisasyon at mga sistema ng irigasyon.)* | 3.08 | 5 | Agree | Utilized |
| 4. | I use credit to cover the costs associated with land preparation and cultivation, such as plowing, leveling, and planting. *(Ginagamit ko ang aking inutang upang tustusan ang mga gastusin kaugnay ng paghahanda ng lupa at pagtatanim, tulad ng pag-aararo, pagpipilapil, at pagtatanim.)* | 3.69 | 3 | Strongly Agree | Highly Utilized |
| 5. | I use credit to pay for hired labor to meet the fluctuating demands of agricultural production. *(Ginagamit ko ang aking inutang upang magbayad para sa mga manggagawa upang matugunan ang pabagu-bagong pangangailangan sa produksyon ng agrikultura.)* | 3.42 | 4 | Agree | Utilized |
| | Overall Mean | 3.566 | | Strongly Agree | Highly Utilized |

Table 7 above presents the farmers' mean perceptions regarding the utilization of loans for farm-related needs. Item 1 recorded the highest mean score of 3.86, indicating that farmers primarily prioritize essential farm inputs such as seeds, fertilizers, and pesticides when utilizing loans. In contrast, Item 3 registered the lowest mean score of 3.08, suggesting that farmers encounter challenges in adopting modern agricultural technologies, including mechanization. The overall mean score of 3.57 reflects strong agreement among the respondents on the importance of loans in addressing farm needs.

Item 1, "I use credit to buy essential farming inputs such as seeds, fertilizers, and pesticides," obtained the highest mean score of 3.86, categorizing it as highly utilized. This indicates that farmers primarily use their credit for essential production-related purchases, aligning with Loose et al. [66], who found that 70% of rice farmers utilized their loans for inputs like seeds, fertilizers, and pesticides to enhance crop yields and productivity. One respondent shared, *"Oo, pinangbibili ko ng binhi at abono ang aking mga inutang,"* while another noted, *"Ginagamit ko talaga yung inuutang ko pambili ng mga binhi, lalo na kapag kulang ang bigay ng gobyerno, para may maitanim ako,"* highlighting how loans bridge gaps in resources, especially when government aid is insufficient. In areas like Victoria, some agricultural supply stores offer credit tailored to farmers' preferences, allowing them to borrow either cash or agricultural products. Another respondent explained, *"Hindi ko nagagamit sa ibang bagay ang utang ko dahil ang akin lang naman inuutang ay mga gamit sa palayan, hindi pera,"* emphasizing their discipline in allocating loans strictly for farm-related expenses. These findings illustrate the critical role of credit in meeting farmers' needs and sustaining agricultural productivity.

Item 3, "I use credit to adopt modern agricultural technologies, including mechanization and irrigation systems," received the lowest mean score of 3.08, categorizing it as utilize only. This suggests that farmers struggle to adopt modern agricultural technologies because the loans they can access aren't enough to cover the high costs of mechanization and other advanced tools. One respondent commented, *"Nako, hindi naman sasapat ang inuutang ko para makabili dahil ang mahal ng makina,"* while another said, *"Hindi naman ganoon kalaki ang nauutang namin para makabili ng mga makina. Nakakabili lang kami minsan kung kukuha kami ng pambili sa kita sa palayan."* The credit provided by financial institutions and informal lenders is often inadequate to cover the costs of advanced technologies, forcing farmers to rely on post-harvest income, which depletes their earnings and perpetuates their reliance on borrowing. These findings align with MoAD [67], which reported that limited funds and access to substantial credit hinder rice farmers from adopting advanced production technologies, reducing productivity and compromising sustainability in the agricultural sector.

With an overall mean of 3.566, farm needs were categorized as highly utilized, indicating that farmers prioritize supplementing farm requirements over non-productive purposes. The findings highlight the importance farmers place on essential inputs, proper land preparation, and improved crop rotation. These results align with Mendoza [68], who found that 70% of rice farmers used their loans for production purposes, emphasizing the importance of agricultural inputs on farm productivity. This shows that farmers are determined to optimize their resources and prioritize farm productivity, despite facing financial challenges.

### *3.2.2 Non-farm Needs*

**Table 8** Mean Perception Profile of the Respondents in Terms of Non-Farm Needs

| | **UTILIZATION OF AGRI-LOAN PROCEEDS** ***(PAGGAMIT NG MGA SALAPI MULA SA AGRI-LOANS)*** | **Mean** | **Rank** | **Description** | **Interpretation** |
|---|---|---|---|---|---|
| | NON-FARM NEEDS *(MGA PANGANGAILANGANG HINDI KAUGNAY SA PAGSASAKA)* | | | | |
| 1. | I use credit to cover family necessities, like food, education, shelter, and utilities. *(Ginagamit ko ang aking inutang upang tustusan ang mga pangangailangan ng pamilya tulad ng pagkain, edukasyon, tirahan, at mga kagamitan.)* | 3.37 | 1 | Strongly Agree | Highly Utilized |
| 2. | I use credit to cover my household's expenses, such as entertainment and daily transportation costs. *(Ginagamit ko ang aking inutang upang tustusan ang mga gastusin sa aming bahay tulad ng libangan at araw-araw na gastusin sa transportasyon.)* | 3.12 | 2 | Agree | Utilized |
| 3. | I use credit to manage expenses during lean seasons or to make major purchases like appliances and home repairs. *(Ginagamit ko ang aking inutang upang pamahalaan ang mga gastusin sa panahon ng tagtuyot o upang makabili ng malalaking bagay tulad ng mga appliances at pagkukumpuni ng bahay.)* | 2.44 | 4 | Disagree | Less Utilized |
| 4. | I rely on credit to repay my existing debts. | 2.83 | 3 | Agree | Utilized |

| | | | | | |
|---|---|---|---|---|---|
| | *(Umuutang ako upang mabayaran ko ang aking mga kasalukuyan utang.)* | | | | |
| 5. | I utilize credit to finance non-farm activities that generate additional income.<br>*(Ginagamit ko ang aking inutang upang pondohan ang mga gawain na hindi kaugnay sa pagsasaka na maaaring magbigay ng karagdagang kita.)* | 2.36 | 5 | Disagree | Less Utilized |
| | Overall Mean | 2.824 | | Agree | Utilized |

Table 8 above presents farmers' mean perceptions of using loans for non-farm needs. The highest mean of 3.37 corresponds to family necessities such as food, education, and shelter, while the lowest mean of 2.36 relates to funding non-farm activities. Overall, the mean score for non-farm needs is 2.824.

The statement with the highest mean (3.37), "I use credit to cover family necessities, like food, education, shelter, and utilities," indicates that farmers in Villa Cerveza often rely on credit to meet basic household needs. A respondent mentioned,Hindi maiwasan na magamit lalo na at may mga anak ako nag-aaral." Another stated,Minsan nakakakuha pambiling ulam." This suggests the financial struggles they face, as farming income alone cannot cover all expenses. Sothorn [69] similarly notes that farmers frequently turn to credit, particularly for education, due to limited income from agriculture.

The lowest mean (Item 5) shows that farmers in Villa Cerveza rarely use credit to fund non-farm activities. Their other income sources, such as sari-sari stores, tricycle driving, selling produce, labor work, government jobs, and hog raising, typically require little to no capital. Income from these activities helps them cover household expenses like food and utilities. One farmer shared, "Yung kinikita ko bilang isang construction worker ang pinanggagastos namin sa pang-araw-araw," while another noted, "Nakakatulong naman kahit papaano ang kinikita ko sa sari-sari store." This reflects the importance of non-farm activities in supporting rural livelihoods. Similarly, a study in Osun State, Nigeria, found that such income moderately helps households manage daily financial needs [70]. Although non-farm businesses are not the main source of income, they are still important in managing the daily financial needs of farmers.

The overall mean in this indicator was 2.824, which means they utilize credit for non-farm needs. While loans are primarily intended for farming, these funds are often diverted to cover family expenses, including debt repayment, food, education, shelter, transportation, and appliances. Some also use the credit to support non-farm businesses. This aligns with findings from other rural areas, where farmers frequently use loan funds for immediate personal needs, which can hinder their ability to invest in farm improvements [71]. This shows how difficult it is for farmers to balance the costs of running their farms with the needs of their families, as they rely on the same loan to meet both agricultural and family needs.

### 3.3 Is there a significant relationship between Agri-credit accessibility and the utilization of Agri-loan proceeds of rice farmers?

**Table 9** Relationship of Agri-Credit Accessibility and Utilization of Agri-Loan Proceeds

| IV | DV | Pearson's r | df | p=value | Interpretation |
|---|---|---|---|---|---|
| Microfinance Institutions | Farm Needs | 0.286 | 57 | 0.028 | Not significant |
| | Non-Farm Needs | 0.543 | 57 | < .001 | Highly significant |
| Banking Institutions | Farm Needs | 0.352 | 57 | 0.006 | Significant |
| | Non-Farm Needs | 0.235 | 57 | 0.074 | Not significant |
| Informal Lenders | Farm Needs | 0.099 | 57 | 0.457 | Not significant |

| | | | | | |
|---|---|---|---|---|---|
| | Non-Farm Needs | 0.030 | 57 | 0.823 | Not significant |
| Relationship of Agri-credit Accessibility and Utilization of Agri-loan proceeds | | 0.397 | 48 | 0.004 | Significant |

The table shows varying correlations between loan accessibility and its use for farm and non-farm needs among rice farmers. Microfinance loans show a low positive correlation with farm needs (0.286, $p = 0.028$), while a moderate positive and significant correlation (0.543, $p < 0.001$) is found with non-farm needs, indicating farmers prioritize household expenses and emergencies over agricultural investments. Similarly, in Uganda, borrowers often avoid agricultural investments due to high risks and repayment issues [72]. Banking institutions show a moderate positive correlation with farm needs (0.352, $p = 0.006$), suggesting better access to formal financial services increases the likelihood of using loans for agriculture, but a low correlation with non-farm needs. In Nigeria, 94.8% of loans are used for farming, aided by bank monitoring practices [73]. Meanwhile, informal lenders show a weak positive relationship with farm needs and negligible influence on non-farm needs. Singh [74] notes that their accessibility often leads to funds being used for immediate pressures, such as healthcare or education, rather than agriculture, limiting their impact on both farm and non-farm needs.

Overall, the Pearson's r value of 0.397 indicates a moderately positive relationship between agri-credit accessibility and the effective use of loan. According to Sabasi et al.[75], as access to credit improves, farmers tend to utilize their loans more efficiently, leading to higher agricultural productivity and better resource returns. The p-value of 0.004 confirms the statistical significance of this relationship, emphasizing the importance of diverse credit options for various needs. These findings underscore the need to improve agri-credit access to enhance resource utilization and achieve better farming outcomes and financial stability. These results highlight the need to improve access to agri-credit to better utilize resources in farming, which can lead to improved farming results and greater financial stability.

### 3.4 Based on the analysis of the study, what action plan for agri-credit accessibility and the utilization of agri-loan proceeds will be proposed?

Based on the findings of the study, rice farmers in Villa Cerveza face significant challenges in accessing credit and effectively utilizing the proceeds for productive purposes. Despite the availability of various credit options through Department of Agriculture programs and financial institutions, these issues continue to hinder their progress. To address this, a comprehensive action plan has been proposed to provide targeted support and solutions to rice farmers.

The first initiative focuses on improving credit accessibility by conducting seminars to educate farmers on financial products, interest rates, eligibility criteria, repayment terms, and application processes. This aims to empower them with the knowledge needed to navigate financial opportunities. The second initiative addresses the proper utilization of credit by organizing seminars and distributing a well-designed booklet that provides practical guidance on financial literacy, including budgeting, debt management, and saving practices. This equips farmers with the skills to effectively manage their farming income and maximize resources. The third initiative aims to enhance awareness and access to government programs by familiarizing farmers with various initiatives tailored to their needs. This includes discussions on available government programs and guidance on how to benefit from them. To complement these efforts, a financial literacy campaign titled Agri-Success: Empowering Farmers Through Accessible and Wise Loan Utilization will be implemented. The campaign will include the distribution of informative pamphlets tailored to the specific needs of rice farmers, ensuring improved access to credit and its effective utilization. Through this initiative, farmers will gain the knowledge and skills needed to make informed financial decisions, ultimately enhancing their livelihoods and agricultural productivity.

## 4 Conclusion and Recommendation

- The study's findings reveal the varying extent to which rice farmers in Villa Cerveza perceive the accessibility of agri-credit through microfinance institutions, banking institutions, and informal lenders. Microfinance institutions are seen positively for their accessible credit with minimal collateral, though high interest rates remain a challenge. Banking institutions are viewed as less accessible due to high collateral requirements, lengthy processes, and distance, despite offering larger loans. Informal lenders are seen as the most accessible, providing flexible terms and strong community ties, though occasional collateral demands exist. Overall, informal lenders better meet farmers financial needs, but improvements in all sectors are needed to create a more inclusive financial environment. To address the challenges of agri-credit accessibility, it is recommended to enhance awareness among farmers about available loan products and improve financial literacy through

seminars and workshops. Programs like the Agri-Credit Program Orientation and Financial Literacy Training should be strengthened to equip farmers with the knowledge needed to access credit and connect with suitable financial institutions, particularly in rural areas like Villa Cerveza.

- The rice farmers of Villa Cerveza primarily allocate their agri-loan proceeds to farm needs, such as seeds, fertilizers, pesticides, and labor, which are essential for maintaining production and ensuring a good harvest. However, there is limited investment in modern agricultural technologies like mechanization and irrigation, highlighting a gap in long-term production improvement. In addition to farm-related expenses, a significant portion of the loans is used for non-farm needs, including food, education, and utilities. While some farmers supplement their income through small businesses like stores or tricycle driving, these do not receive as much focus for loan use. This indicates that farmers face financial difficulties, forcing them to divide their loan funds between farm needs and non-farm needs, limiting their ability to reinvest in their farms. To address this issue, financial literacy programs are recommended to help farmers manage their loans effectively and make informed investment decisions. These programs should cover topics like budgeting, debt management, and saving to reduce reliance on loans for personal expenses and explore alternative income sources. Improving financial literacy will help farmers achieve better financial stability and improve their farming practices.
- Based on the findings, the null hypothesis is rejected, indicating a significant relationship between agri-credit accessibility and the utilization of agri-loan proceeds among rice farmers. Improved access to credit, particularly through banking institutions, leads to more effective loan usage for farm needs and increased productivity. However, the impact varies by lender type. Microfinance institutions have a significant impact on non-farm needs, while informal lenders have minimal impact on both farm and non-farm purposes. While increased credit access promotes better loan utilization, financial literacy is essential to ensure funds are directed toward productive activities, like purchasing farm inputs, rather than non-farm expenses. The findings suggest that proper credit utilization is just as important as access. To further support farmers, it is recommended to raise awareness about government programs, such as loans, subsidies, and insurance, through workshops, community meetings, and digital platforms. These initiatives will help farmers better access credit and use it effectively for agricultural purposes.
- To enhance the accessibility and effective use of agri-loan proceeds, it is recommended that a pamphlet be produced and distributed to farmers, particularly to the members of the Villa Cerveza Farmers Association. This pamphlet will provide clear and concise information about the different loan options available, including details on interest rates, the application process, requirements, and repayment schedules. It will also cover the proper utilization of credit, such as budgeting, saving, debt management, and exploring other sources of income, to ensure that loan funds are effectively used for agricultural activities. This will provide them with the knowledge and skills needed to make informed decisions and maximize the benefits of their loans.
- Future researchers can use this study as a reference to explore agri-credit accessibility and the use of agri-loan proceeds among rice farmers. They may consider additional factors such as loan terms and conditions, the use of digital tools like mobile banking, the role of distance, and the influence of age on farmers ability to access and manage credit. Exploring these factors could provide a deeper understanding of the barriers and opportunities in improving agri-loan accessibility for farmers.

## Compliance with ethical standards

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### *Disclosure of conflict of interest*

The authors have no conflicts of interest to disclosure.

*Statement of ethical approval*

Approval was obtained from all parties involved before data collection to ensure the protection of the respondents' rights and well-being.

*Statement of informed consent*

Informed consent was obtained from all participants included in the study. They were provided with information about the research and its purpose, allowing them to voluntarily participate while keeping their identity anonymous.

## References


[1] Shahbandeh M. Top countries based on production of milled rice | Statista [Internet]. Statista. Statista; 2024. Available from: https://www.statista.com/statistics/255945/top-countries-of-destination-for-us-rice-exports-2011/

[2] Samoy-Pascual K, Yadav S, Evangelista G, Burac MA, Rafael M, Cabangon R, et al. Determinants in the Adoption of Alternate Wetting and Drying Technique for Rice Production in a Gravity Surface Irrigation System in the Philippines. Water. 2021 Dec 21;14(1):5.

[3] Philippine Statistics Authority. Farmers, Fisherfolks, Individuals Residing in Rural Areas and Children Posted the Highest Poverty Incidences Among the Basic Sectors in 2018 | Philippine Statistics Authority [Internet]. psa.gov.ph. 2020. Available from: https://psa.gov.ph/content/farmers-fisherfolks-individuals-residing-rural-areas-and-children-posted-highest-poverty

[4] Municipal Agriculture Office. AGRI-PROFILE: VICTORIA – Agri-Infohub [Internet]. Agri-Infohub. 2014. Available from: https://orminagri.com/agri-profile-victoria/

[5] Khatun, M. N. (2024). Transformation of the rural credit market in Bangladesh. In *Elsevier eBooks*. https://doi.org/10.1016/b978-0-44-313776-1.00217-8

[6] Jia, X., Luan, H., Huang, J., and Li, Z. (2015). A Comparative Analysis of the Use of Microfinance and Formal and Informal Credit by Farmers in Less Developed Areas of Rural China. Development Policy Review, 33(2), 245–263. https://doi.org/10.1111/dpr.12100

[7] Gulati, A., and Juneja, R. (2019). Agricultural Credit System in India: Evolution, Effectiveness and Innovations. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.3454423

[8] Miller, H., Varangis, P., Kioko, M., Hishigsuren, G., and Spahr, M. (2014). Access to finance for smallholder farmers : Learning from the experiences of microfinance institutions in Latin America. *World Bank Group*, 1–84. http://documents.shihang.org/curated/zh/965771468272366367/Access-to-finance-for-smallholder-farmers-learning-from-the-experiences-of-microfinance-institutions-in-Latin-America

[9] Chaiya, C., Sikandar, S., Pinthong, P., Saqib, S. E., and Ali, N. (2023). The impact of formal agricultural credit on farm productivity and its utilization in Khyber Pakhtunkhwa, Pakistan. Sustainability, 15(2), 1217. https://doi.org/10.3390/su15021217

[10] Mulatu, Ejigu. (2021). Review on Farmers' Microfinance Services Participation and Its Impact on Poverty Reduction in Ethiopia. Current Agriculture Research Journal. 9. 04-15.https://doi.org/10.12944/CARJ.9.1.02

[11] Ahmad, E. (2020). IMPACT OF MICRO FINANCE ON AGRICULTURAL SECTOR. *Inspira- Journal of Modern Management and Entrepreneurship (JMME)*, *10*, 252–256. https://www.inspirajournals.com/uploads/Issues/1986197142.pdf

[12] Mghenyi, E. W. (2015). The Impact of Agricultural Credit on Demand for Factors of Production, Farm Output, and Profitability in Kenya. https://doi.org/10.25335/gjgf-mm10

[13] Fronda, J. G. (2024). Empowering Nueva Ecija's Farmers through Microfinancing: A Blueprint for Enhancing Financial Literacy and Agricultural Resilience. International Journal of Economics and Financial Issues, 14(4), 123–130. https://doi.org/10.32479/ijefi.16330

[14] Nathanel, N. N., Ukpe, U. H., Fani, D. C. R., and Divine, E. N. (2022). Determinants of credit accessibility and performance of smallholder rice farmers: a case of the West region of Cameroon. In Advances in African economic, social and political development (pp. 57–67). https://doi.org/10.1007/978-3-031-19527-3_6

[15] Ameh, M., and Lee, S. H. (2022). Determinants of Loan Acquisition and Utilization among Smallholder Rice Producers in Lagos State, Nigeria. Sustainability, 14(7), 3900. https://doi.org/10.3390/su14073900

[16] Butler, M. B. (2023, November 2). Microfinance in Agricultural Research for Development: Unlocking Agri-Finance Opportunities. ERA ARD. https://www.era-ard.org/microfinance/

[17] Jayaseely, M. (2019, January 1). Role of banks and financial institutions towards social equity. https://www.jetir.org/view?paper=JETIRV006003

[18] Omobitan, O., and Khanal, A. R. (2022). Examining Farm Financial Management: How Do Small US Farms Meet Their Agricultural Expenses? Journal of Risk and Financial Management, 15(3), 133. https://doi.org/10.3390/jrfm15030133

[19] Wulandari, E., Meuwissen, M. P. M., Karmana, M. H., and Lansink, A. O. (2017). Access to finance from different finance provider types: Farmer knowledge of the requirements. Public Library of Science (PLoS). doi: 10.1371/journal.pone.0179285

[20] Sothorn, K. (2020). The Use of Credit by Rice Farmers in Takeo (pp. 309–326). https://doi.org/10.1007/978-981-15-0998-8_15

[21] Akram, K., Iqbal, M., and Hayat, M. M. (2020). The Role of Formal and Informal Credit in Agriculture Sector: A Case Study of District Faisalabad, Pakistan. 2(3), 99–102. https://doi.org/10.52223/JEI0301214

[22] Sothorn, K. (2020). The Use of Credit by Rice Farmers in Takeo (pp. 309–326). https://doi.org/10.1007/978-981-15-0998-8_15

[23] Sett, R. K. (2015). Should flexibility matter? A poor consumer's perspective of flexible micro loans. IIM Kozhikode Society and Management Review, 4(2), 166–169. https://doi.org/10.1177/2277975215607261

[24] Naik, B. P., Shirke, V., Anshuman, J., and Reddy, V. G. (2024). Study on credit utilization pattern and repayment behaviour of agriculture loan borrowers of lead bank. International Journal of Agriculture Extension and Social Development, 7(5), 96–98. https://doi.org/10.33545/26180723.2024.v7.i5b.600

[25] Moahid, M., and Maharjan, K. L. (2020). Factors Affecting Farmers' Access to Formal and Informal Credit: Evidence from Rural Afghanistan. Sustainability, 12(3), 1268. https://doi.org/10.3390/su12031268

[26] Karaivanov, A., and Kessler, A. (2018). (Dis)advantages of informal loans – Theory and evidence. European Economic Review, 102, 100–128. https://doi.org/10.1016/j.euroecorev.2017.12.005

[27] Giné, X., and Karlan, D. S. (2014). Group versus individual liability: Short and long term evidence from Philippine microcredit lending groups. *Journal of Development Economics*, *107*, 65–83. https://doi.org/10.1016/j.jdeveco.2013.11.003

[28] Peñalba, L. M., and Paunlagui, M. M. (2015). Enhancing credit delivery facilities to support farmer's use of technology. In Springer eBooks (pp. 257–269). https://doi.org/10.1007/978-81-322-2160-9_16

[29] Naidoo, K. (2015). *Ensuring financial inclusion for smallholder farmers*. UN Capital Development Fund (UNCDF). https://www.uncdf.org/article/1416/ensuring-financial-inclusion-for-smallholder-farmers-migration

[30] Savoy, C. M. (2022, December 7). Access to Finance for Smallholder Farmers. *Center for Strategic and International Studies*. https://www.csis.org/analysis/access-finance-smallholder-farmers

[31] Sandhu, N., Hussain, J. G., and Matlay, H. (2015). Informal lenders and small/marginal farmers in India: an unregulated sociological symbiotic relationship? In Edward Elgar Publishing eBooks. https://doi.org/10.4337/9781783478798.00018

[32] Mgbebu, E. S., and Achike, I. A. (2017). Analysis of Loan Acquisition and Repayment among Small Scale Rice Farmers in Ebonyi State, Nigeria: Implication for Effective Credit Delivery. *IOSR Journal of Economics and Finance*, *08*(03), 20–26. https://doi.org/10.9790/5933-0803012026

[33] Rahimah, R., Sarman, M., and Nur, M. A. (2018). UTILIZATION OF CAPITAL LOANS SAVING LOAN WOMEN'S ACTIVITIES IN "MANDIRI" PAJU EPAT WRITING MANAGEMENT UNITS (UPDB). https://doi.org/10.46827/ejsss.v0i0.462

[34] Chaiya, C., Sikandar, S., Pinthong, P., Saqib, S. E., and Ali, N. (2023). The impact of formal agricultural credit on farm productivity and its utilization in Khyber Pakhtunkhwa, Pakistan. Sustainability, 15(2), 1217. https://doi.org/10.3390/su15021217

[35] Rizwan, M., Ping, Q., and Iram, S. (2019). Why and for What? An Evidence of Agriculture Credit Demand among Rice Farmers in Pakistan. *Asian Development Bank Institute*, *995*. https://www.adb.org/sites/default/files/publication/522921/adbi-wp995.pdf

[36] Sankar, A. S., and Kumar, K. N. R. (2021). Efficient utilisation of credit by the Farmer-Borrowers in Chittoor district of Andhra Pradesh, India. Journal of Tropical Resources and Sustainable Science/Journal of Tropical Resources and Sustainable Science, 4(2), 105–111. https://doi.org/10.47253/jtrss.v4i2.616

[37] Ameh, M., and Lee, S. H. (2022). Determinants of Loan Acquisition and Utilization among Smallholder Rice Producers in Lagos State, Nigeria. Sustainability, 14(7), 3900. https://doi.org/10.3390/su14073900

[38] Chaiya, C., Sikandar, S., Pinthong, P., Saqib, S. E., and Ali, N. (2023). The impact of formal agricultural credit on farm productivity and its utilization in Khyber Pakhtunkhwa, Pakistan. Sustainability, 15(2), 1217. https://doi.org/10.3390/su15021217

[39] Sheahan, M., and Barrett, C. B. (2017). Ten striking facts about agricultural input use in Sub-Saharan Africa.Food Policy, 67,12–25.https :// doi.org/10.1016/j.foodpol.2016.09.010

[40] Rayhan, S. J., Rahman, M. S., and Lyu, K. (2023). The role of rural credit in agricultural Technology adoption: The case of boro rice farming in Bangladesh. Agriculture, 13(12), 2179. https://doi.org/10.3390/agriculture13122179

[41] Jimi N.A., Nikolov P.v., Malek M.A., Kumbhakar S. The effects of access to credit on productivity: separating technological changes from changes in technical efficiency. J. Prod. Anal. 2019;52(1–3):37–55. doi: 10.1007/s11123-019-00555-8.

[42] Dossou, S. a. R., Aoudji, A. K. N., Houessou, A. M., and Kaki, R. S. (2020). Microfinance services for smallholder farmers: an assessment from rice farmers' expectations in Central Benin. Agricultural and Food Economics, 8(1). https://doi.org/10.1186/s40100-020-00165-1

[43] Martin, P. (2014). Agricultural labor: supply of labor. In Elsevier eBooks (pp. 143–156). https://doi.org/10.1016/b978-0-444-52512-3.00101-7

[44] Nayak, S., and Patel, R. (2019, June 1). Role of primary Agricultural Cooperative credit societies in rural development. https://www.jetir.org/view?paper=JETIR1908C88

[45] Bomuhangi, C. D. and. R. M. and. A. (2014). Who Owns the Land? Perspectives from Rural Ugandans and Implications for Large-Scale Land Acquisitions. ideas.repec.org. https://ideas.repec.org/a/taf/femeco/v20y2014i1p76-100.html

[46] Sanglay, P. M., Apat, E. J., Sumague, J., and Tec, E. (2021). Financial literacy and income distribution of rice farmers. International Journal of Accounting, Finance and Education/International Journal of Accounting, Finance and Education, 2(3), 1–21. https://doi.org/10.53378/348732

[47] Kyei-Baffour, R. (2023). Agricultural land conversion to non-agricultural use and its impact on farmers' income: A study of farmers in an agricultural area in Sub-Saharan Africa. https://dspace.emu.ee/items/8e66efdf-0165-4887-b03d-73036d5106b9

[48] Danso-Abbeam, G., Cobbina, M. T., and Antwi, R. A. (2016). AGRICULTURAL CREDIT UTILIZATION AMONG FARMERS IN BOLE DISTRICT OF NORTHERN REGION, GHANA. Russian Journal of Agricultural and Socio-Economic Sciences, 51(3), 70–80. https://doi.org/10.18551/rjoas.2016-03.07

[49] Nuryitmawan, T. R. (2020). Can Credit Recipient Household Escape from Poverty? The Journal of Indonesia Sustainable Development Planning, 1(3). https://doi.org/10.46456/jisdep.v1i3.84

[50] Ayegba, O., and Ikani, D. I. B. (2014). An impact assessment of agricultural credit on rural farmers in Nigeria. Research Journal of Finance and Accounting, 4(18), 80–89. https://www.iiste.org/Journals/index.php/RJFA/article/view/9483

[51] Elnady, M. A., El-Bendary, A. T., and Ismail, S. M. (2024b). Enhancing Rural Livelihood through Income-Generating Activities: A study in remote rural communities in Beni-Suif and El-Minya governorates. Scientific Journal of Agricultural Sciences, 6(2), 193–211. https://doi.org/10.21608/sjas.2024.286276.1419

[52] Reyes, M. D., Shumway, S. B., and Tong, C. S. (2023). Impact of access to agricultural credit on agricultural productivity in Iowa, USA. Journal of Agriculture, 7(1), 1–11. https://doi.org/10.53819/81018102t5172

[53] Bhat, A. (2023, November 24). Descriptive Correlational: Descriptive vs Correlational Research. QuestionPro. https://www.questionpro.com/blog/descriptive-research-vs-correlational-research/

[54] Cornell, D. (2024). 15 Internal Consistency Reliability Examples (2024). Helpful Professor. https://helpfulprofessor.com/internal-consistency-reliability-examples/

[55] Obilor, E. I. M., and Amadi, E. C. (2018). Test for Significance of Pearson's Correlation Coefficient. International Journal of Innovative Mathematics, Statistics and Energy Policies, 6, 11-23.https://www.researchgate.net/publication/323522779_Test_for_Significance_of_Pearson's_Correlation_Coefficient

[56] Ahmed, A.A. and Muhammad, R.A. (2021). A Beginners review of jamovi statistical software for economic research. Dutse International Journal of Social and Economic Research.6(1): 109-118 https://www.researchgate.net/publication/354077071

[57] Nathanel, N. N., Ukpe, U. H., Fani, D. C. R., and Divine, E. N. (2022). Determinants of credit accessibility and performance of smallholder rice farmers: a case of the West region of Cameroon. In Advances in African economic, social and political development (pp. 57–67). https://doi.org/10.1007/978-3-031-19527-3_6

[58] Chikalipah, S. (2020). What influences microfinance lending interest rates in Sub-Saharan Africa? SSRN Electronic Journal. https://doi.org/10.2139/ssrn.3670240

[59] Ogebe, F., Ali, A., and Olagunju, I. (2020). Impact of microfinance on smallholder cassava and rice farms productivity in Makurdi metropolis, Benue State, Nigeria. *International Journal of Agricultural Science, Research and Technology in Extension and Education Systems*, *10*(3), 137–144. http://ijasrt.iau-shoushtar.ac.ir/article_676922_794635e9ae3825b7ef85ba4fcbd48232.pdf

[60] Dela Cruz, M. (2018). Challenges in accessing formal credit among rural farmers in the Philippines. *Journal of Rural Development Studies, 34*(2), 145-162.https://doi.org/10.1016/j.jrds.2018.02.003

[61] Chaudhari, V. M., and Farmer, M. (2022). LOAN PURCHASE AND UTILIZATION BEHAVIOUR OF FARMERS IN a CREDIT COOPERATIVE SET-UP: a CASE STUDY OF GUJARAT STATE CO-OPERATIVE AGRICULTURAL AND RURAL DEVELOPMENT BANK LTD. (KHETI BANK). Gujarat Journal of Extension Education, 2022(1), 67–79. https://doi.org/10.56572/gjoee.2022.si.0014

[62] Bank Indonesia (2014), Financial Inclusion Booklet. Department of Development Financial Access and Small and Medium Enterprises. Jakarta, Indonesia.https://ojk.go.id/en/kanal/perbankan/data-dan-statistik/booklet-perbankan indonesia/Pages/indonesian-banking-booklet-2014.aspx

[63] Ullah, A., Verner, V., Madaki, M. Y., Adams, F., and Bavorova, M. (2024b). Factors Influencing Informal Credit Access and Utilization among Smallholder Farmers: Insights from Mountainous Regions of Pakistan. *Agriculture*, *14*(10), 1764. https://doi.org/10.3390/agriculture14101764

[64] Kislat, C., Menkhoff, L., and Neuberger, D. (2017). Credit market structure and collateral in rural Thailand. Economic Notes, 46(3), 587–632. https://doi.org/10.1111/ecno.12089

[65] Karolyi, S. A. (2014). Personal lending relationships. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2480511

[66] Loose, C. E., Piacentini, M. T. S., Sandri, E. A., Piacentini, A. L. S., and De Almeida Moura, R. (2019). RURAL CREDIT IN FAMILY AGRICULTURE. Deleted Journal, 7(332–339.https://doi.org/10.31686/ijier.vol7.iss8.1683

[67] MoAD. (2016). Agriculture Development Strategy (ADS) 2015 to 2035. Part:1. Ministry of Agricultural Development. Government of Nepal.

[68] Mendoza, C. (2016). Agricultural loans and their impact on rice production in the Philippines.Journal of Agriculture and Sustainability, 12(1), 67-85. https://doi.org/10.1016/j.agri.2016.01.002

[69] Sothorn, K. (2020). The Use of Credit by Rice Farmers in Takeo (pp. 309–326). https://doi.org/10.1007/978-981-15-0998-8_15

[70] Dorcas, Lola, Alabi., Michael, Famakinwa., Mercy, Bolatito, Afolami. (2022). Nexus of non-farm enterprises and rural households' livelihood: evidence from Nigeria. Applied Studies in Agribusiness and Commerce, 16(1) doi: 10.19041/abstract/2022/1/8

[71] Quimbo, J. (2018). Misallocation of agricultural loans in rural areas: Addressing household financial needs. Journal of Development Finance, 6(2), 89-112. https://doi.org/10.1080/DEVFIN.6.002

[72] Namayengo, F. M. M., Van Ophem, J. a. C., and Antonides, G. (2023). A comparative study on the role of microcredit on agricultural production improvement among resource-poor rural women. *Frontiers in Sustainable Food Systems*, *7*. https://doi.org/10.3389/fsufs.2023.1083660

[73] Bulus, G., Filli, F. B., and Iroegbute, U. K. (2021). Agricultural loan utilisation among beneficieries of Bank of Agriculture in Tafawa Balewa Local Government area, Bauchi State, Nigeria. *Journal of Agricultural Economics, Environment and Social Science*, *7*(2), 61–73. https://doi.org/10.56160/jaeess202172007

[74] Singh (2024). An Analytical Study on Non-Institutional Agricultural Loans in District Pilibhit. Journal of mountain research, 19(1) doi: 10.51220/jmr.v19-i1.12

[75] Sabasi, D., Shumway, C. R., & Kompaniyets, L. (2021). Analysis of credit access, U.S. agricultural productivity, and residual returns to resources. Journal of Agricultural and Applied Economics, 53(3), 389–415. https://doi.org/10.1017/aae.2021.17