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Challenges In Repaying Agricultural Loans And The Role Of Financial Education

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Abstract: Agriculture loans are essential for farmers, providing the financial resources needed for crop production, equipment purchase, and other farming activities. However, repaying these loans often presents significant challenges, especially in developing countries. Factors such as unpredictable weather conditions, fluctuating market prices, and inadequate access to modern technology can lead to poor crop yields and reduced income, making it difficult for farmers to meet their loan obligations. Additionally, many farmers lack the financial literacy needed to manage loans effectively, often resulting in poor financial decisions, over-borrowing, and high debt burdens.

The role of financial education is crucial in addressing these challenges. By equipping farmers with the knowledge and skills to make informed financial decisions, financial education can help them better understand loan terms, manage their resources more efficiently, and develop repayment strategies that align with their income cycles. It can also raise awareness of alternative financing options, such as crop insurance, which can mitigate risks associated with loan repayment. Ultimately, financial education empowers farmers to take control of their financial futures, reducing the likelihood of loan defaults and contributing to the overall stability of the agricultural sector. Effective financial literacy programs, tailored to the needs of rural communities, are essential in ensuring sustainable agricultural development.

Index Terms: Agricultural loans, Loan repayment challenges, Education levels, Cooperative bank, Financial literacy, Farmers' financial behaviour, Rural credit access, Loan default rates, Agricultural financing and Financial inclusion

I. INTRODUCTION

Agriculture remains the backbone of many economies, particularly in developing countries, where it plays a pivotal role in providing employment, sustaining livelihoods, and ensuring food security. However, the agricultural sector is fraught with challenges that hinder its growth and sustainability. Among these challenges, access to finance and the subsequent management of agricultural loans stand out as significant barriers. For farmers, particularly those with small or marginal landholdings, agricultural loans are indispensable. These loans enable them to purchase essential inputs such as seeds, fertilizers, and machinery, and to invest in irrigation systems, land improvement, and other necessary resources that contribute to productive farming. Without access to credit, many farmers would be unable to sustain their agricultural activities, leading to reduced productivity and income, which in turn exacerbates poverty and food insecurity.

Despite the critical importance of agricultural loans, repaying these loans has become an overwhelming challenge for many farmers. The agricultural sector is inherently risky, with farmers facing a multitude of external factors beyond their control. Unpredictable weather patterns, which are increasingly exacerbated by climate change, can lead to crop failures or significant reductions in yield. In many regions, droughts,

floods, and other extreme weather events are becoming more frequent, making farming an even more precarious endeavor. Additionally, fluctuating market prices for agricultural products can result in farmers receiving lower-than-expected returns on their produce, further diminishing their ability to repay loans. The volatility of global commodity markets, driven by factors such as trade policies, currency fluctuations, and changing consumer preferences, adds another layer of uncertainty for farmers who are often at the mercy of these larger economic forces.

Compounding these challenges is the limited access to advanced farming techniques and technologies. In many developing regions, farmers rely on traditional methods of cultivation, which are often less efficient and more labor-intensive compared to modern practices. The lack of access to improved seeds, fertilizers, and pest control measures further hinders their ability to achieve optimal yields. Furthermore, inadequate infrastructure, such as poor road networks and limited access to markets, prevents farmers from selling their produce at competitive prices, thus reducing their overall income. These challenges highlight the vulnerability of small and marginal farmers, who often lack the resources and knowledge needed to navigate the complexities of modern agriculture.

In addition to these external factors, a significant internal challenge that farmers face is the lack of financial literacy. Financial literacy, which refers to the ability to understand and effectively manage financial resources, is crucial for making informed financial decisions. However, many farmers, particularly in developing regions, lack basic financial knowledge. This deficiency leads to poor financial management practices, such as over-borrowing, mismanagement of loan funds, and failure to plan for loan repayments. The consequences of financial illiteracy are far-reaching. Without a clear understanding of loan terms and conditions, farmers may take on more debt than they can handle, leading to a cycle of over-indebtedness and increased risk of default. Over time, this can result in the loss of assets, reduced creditworthiness, and further marginalization from formal financial systems.

The impact of financial illiteracy on loan repayment cannot be overstated. When farmers do not fully comprehend the implications of borrowing, they are more likely to make decisions that jeopardize their financial stability. For example, some farmers may use loan funds for non-productive purposes, such as personal consumption or social obligations, rather than investing in their agricultural activities. This misallocation of resources can lead to insufficient returns from farming, making it difficult to generate the income needed to repay loans. Moreover, without proper financial planning, farmers may struggle to manage their cash flow, particularly during the off-season when income is low. As a result, they may be forced to borrow additional funds to meet their repayment obligations, leading to a vicious cycle of debt accumulation.

In light of these challenges, the role of financial education becomes increasingly vital. Financial education equips farmers with the knowledge and skills needed to manage their finances effectively, make informed borrowing decisions, and develop strategies for repaying loans. By improving their financial literacy, farmers can better understand the terms and conditions of loans, assess their repayment capacity, and plan their finances accordingly. This, in turn, reduces the likelihood of over-borrowing and default, helping farmers to maintain their creditworthiness and continue accessing financial services in the future.

One of the key aspects of financial education is teaching farmers how to align their loan repayment schedules with their income cycles. Agricultural income is often seasonal, with farmers earning the bulk of their income during the harvest season. However, loan repayment schedules may not always align with these cycles, leading to cash flow challenges for farmers. Financial education programs can help farmers to negotiate more flexible repayment terms with lenders, or to set aside funds during the harvest season to cover loan repayments during the off-season. Additionally, financial education can introduce farmers to budgeting and savings techniques, enabling them to manage their resources more effectively and build a financial cushion for times of need.

Another critical component of financial education is raising awareness about risk management tools, such as crop insurance. Crop insurance provides farmers with a safety net in the event of crop failure or significant yield reduction due to adverse weather conditions or other unforeseen events. By mitigating the financial risks associated with farming, crop insurance can help farmers to maintain their income levels and meet their loan obligations, even in challenging circumstances. Financial education programs can educate farmers

about the benefits of crop insurance, how to access it, and how to integrate it into their overall financial planning.

Furthermore, financial education can empower farmers to explore alternative sources of income and diversify their livelihoods. By reducing their reliance on a single crop or farming activity, farmers can mitigate the risks associated with market fluctuations and poor harvests. Diversification can also provide additional income streams that can be used to repay loans and invest in the farm. Financial education programs can guide farmers on how to identify and pursue viable income-generating activities, such as agro-processing, animal husbandry, or off-farm employment.

In addition to improving loan repayment rates, enhancing financial literacy among farmers has broader implications for the agricultural sector. When farmers are better equipped to manage their finances, they are more likely to invest in productivity-enhancing technologies and practices. This can lead to higher crop yields, increased income, and improved food security. Moreover, by reducing the incidence of loan defaults, financial literacy can contribute to the stability of rural financial institutions, enabling them to extend credit to more farmers and support the growth of the agricultural sector.

Given the critical role of financial literacy in supporting agricultural development, there is a need for targeted interventions to improve financial education among farmers. Governments, financial institutions, and non-governmental organizations can collaborate to design and implement financial education programs that address the specific needs of farmers. These programs should be accessible, culturally relevant, and tailored to the local context. They should also be delivered through channels that are familiar to farmers, such as agricultural extension services, farmer cooperatives, and community-based organizations.

In conclusion, agricultural loans are essential for supporting the livelihoods of farmers and driving the growth of the agricultural sector. However, the challenges associated with loan repayment, particularly for small and marginal farmers, underscore the need for improved financial literacy. By equipping farmers with the knowledge and skills needed to manage their finances effectively, financial education can help to reduce the risk of loan default, enhance the sustainability of agricultural activities, and contribute to broader economic development. As such, promoting financial literacy among farmers should be a key priority for policymakers, financial institutions, and development organizations.

RESEARCH METHODOLOGY

2.1. Type of Research:

This study employs a quantitative research design aimed at collecting and analysing numerical data to examine the relationship between financial literacy and loan repayment behaviour among farmers. The research seeks to uncover statistically significant patterns and correlations that can inform the development of targeted financial education programs to improve loan repayment rates within the agricultural sector.

2.2. Data Collection Methodology:

The primary data collection method is a structured online and offline survey, designed to elicit quantitative responses from 100 farmers who have taken agricultural loans. The survey covers topics such as financial literacy levels, loan repayment practices, challenges faced in repayment, access to financial education, and use of digital tools. Participants will be selected using a stratified sampling approach to ensure representation across different types of farmers, including smallholders and large-scale farmers, as well as diverse geographical regions.

2.3. Data Analysis:

The collected quantitative data will be analysed using statistical software, with both descriptive and inferential statistical methods employed. Descriptive statistics, such as frequencies, percentages, means, and standard deviations, will summarize key findings related to financial literacy and loan repayment behaviours. Inferential statistics, including regression analysis, will be used to explore the relationships between financial literacy and successful loan repayment. Comparative analyses will also be conducted to examine differences in financial literacy and loan repayment across various farmer segments.

2.4. Tools or Materials Used in the Research:

2.4.1. Survey Instrument: A structured questionnaire designed to gather quantitative data on financial literacy, loan repayment practices, and the use of financial education among farmers.

2.4.2. Statistical Software: Statistical tools such as SPSS (Statistical Package for the Social Sciences) or R will be used for data analysis.

2.4.3. Survey Platforms: A combination of online survey platforms (e.g., Google Forms) and paper-based surveys will be employed to ensure wide participation, especially in areas with limited internet access.

III. RESULTS & DISCUSSION

The research focused on understanding the relationship between education levels and the type of agricultural loans accessed by farmers, as well as the frequency of repayment challenges they face. The findings reveal significant trends that underscore the impact of education on loan access and repayment behaviours among farmers.

3.1. Education and Type of Agricultural Loans Accessed

3.1.1. Observations:

3.1.1.1. 10th Pass: Farmers with this level of education predominantly accessed loans from cooperative banks, with 32 instances noted, and regional rural banks, with 14 instances. Notably, no loans were accessed from commercial banks by these farmers.

3.1.1.2. 12th Pass: Similar to the 10th pass farmers, those with a 12th pass education level favoured cooperative banks, accessing 28 loans. They showed minimal engagement with regional rural banks (3 loans) and commercial banks (1 loan).

3.1.1.3. Graduation: Graduates accessed fewer loans overall, with 11 from cooperative banks and only 2 from regional rural banks. They did not access any loans from commercial banks.

3.1.1.4. Uneducated: Uneducated farmers accessed 13 loans from cooperative banks and 1 from regional rural banks, with no loans from commercial banks.

3.1.2. Insights:

3.1.2.1. Cooperative Banks: Cooperative banks emerged as the most accessed source of agricultural credit across all education levels, particularly among less educated farmers. This suggests that cooperative banks may have more accessible loan products or favourable terms that appeal to farmers with lower educational attainment.

3.1.2.2. Commercial Banks: These were the least accessed financial institutions, with only one instance of a loan accessed by a 12th pass farmer. The data suggests that commercial banks may either present barriers to entry for less educated farmers or that these farmers perceive cooperative and regional rural banks as more favourable options.

3.1.2.3. Regional Rural Banks: These institutions were accessed more frequently by less educated farmers (10th pass), with a noticeable decline in access among graduates and uneducated farmers. This trend could indicate that regional rural banks serve as a middle ground for those who may not fully trust or have access to commercial banks but seek alternatives to cooperative banks.

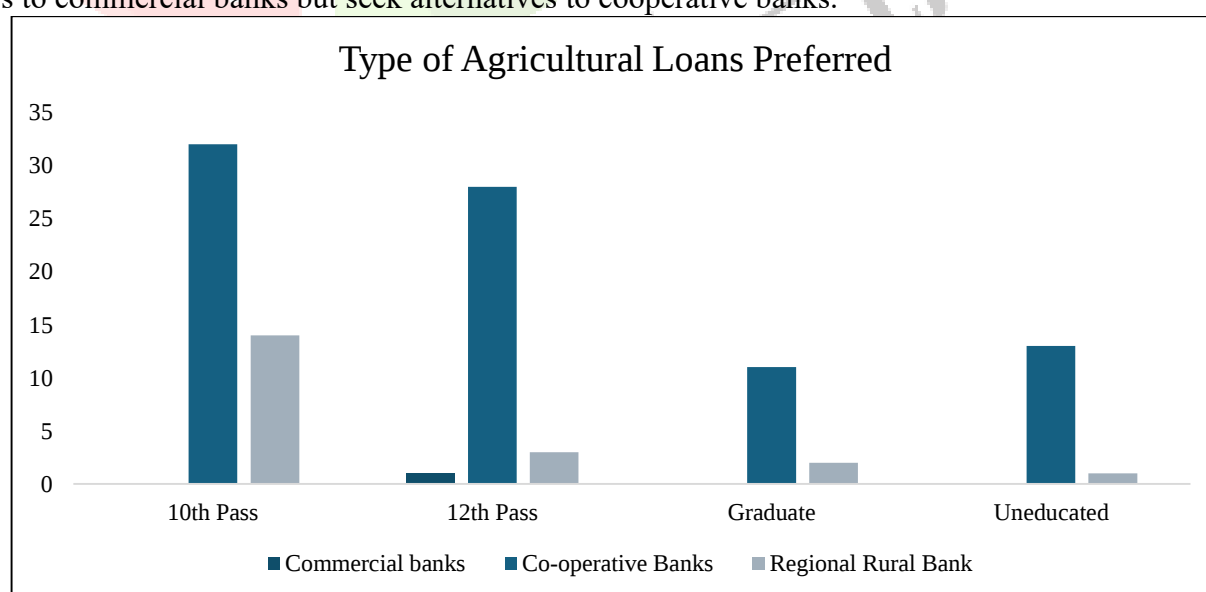


Fig. 1 Types of agricultural loan preferred as per education levels

3.2. Education and Frequency of Repayment Challenges

3.2.1. Observations:

3.2.1.1. 10th Pass: Farmers with a 10th pass education level faced occasional repayment challenges 10 times and rare challenges 37 times.

3.2.1.2. 12th Pass: Farmers with a 12th pass education level encountered occasional challenges 6 times and rare challenges 25 times.

3.2.1.3. Graduation: Graduates faced occasional repayment challenges 3 times and rare challenges 10 times, indicating the lowest frequency of repayment issues among all groups.

3.2.1.4. Uneducated: Uneducated farmers encountered occasional challenges 6 times and rare challenges 8 times.

3.2.2. Insights:

3.2.2.1. Higher Education Levels: Graduates faced the least repayment challenges, both occasionally and rarely. This suggests a strong correlation between higher education levels and better financial management or access to resources that mitigate repayment risks. Graduates may possess better financial literacy, allowing them to manage loan repayment more effectively.

3.2.2.2. Lower Education Levels: Farmers with lower education levels, particularly those who have only completed up to the 10th grade, faced the highest frequency of repayment challenges. This finding highlights the potential relationship between lower education levels and higher default rates, likely due to limited financial literacy and access to resources.

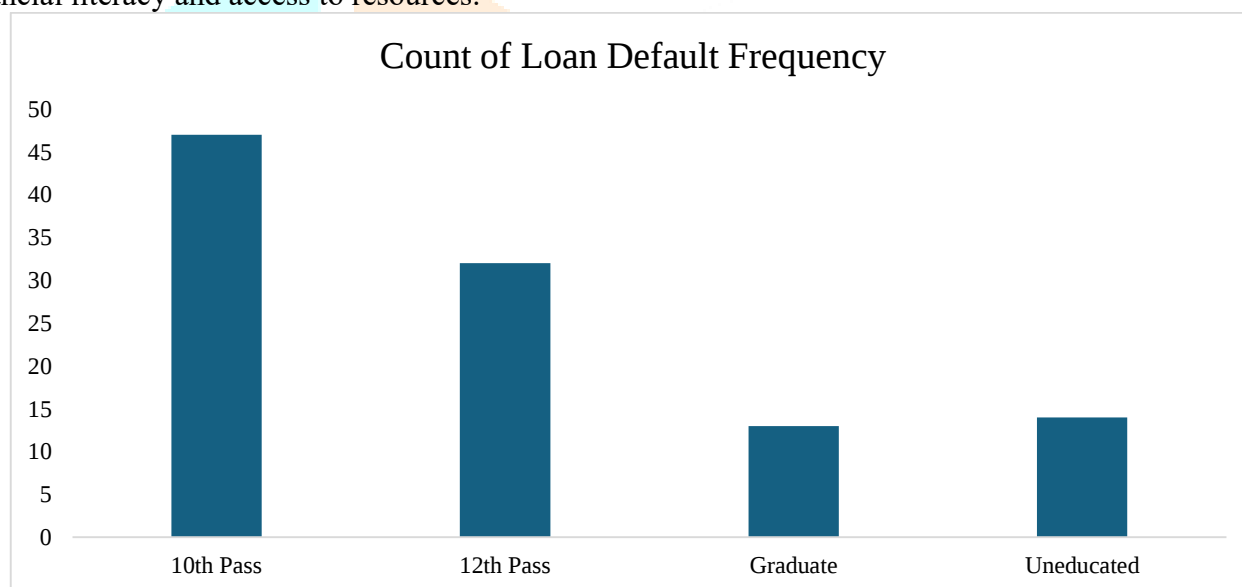


Fig.2 The count of loan default frequency by different educational levels

3.3. Most Common Repayment Priorities During Financial Difficulty

3.3.1. Repayment Priorities Analysis:

3.3.1.1. Farming Inputs: This is the most common repayment priority, with a count of 60.

3.3.1.2. Family Expenses: This is the second most common priority, with a count of 44.

3.3.1.3. Loan Interest: This is the least common priority, with a count of 1.

3.3.2. Insights:

3.3.2.1. Primary Focus on Farming Inputs: The highest priority is given to farming inputs, indicating that individuals likely prioritize maintaining their agricultural productivity even during financial hardships.

3.3.2.2. Significant Concern for Family Expenses: Family expenses are also a major concern, reflecting the importance of household needs.

3.3.2.3. Low Priority for Loan Interest: Loan interest is given the least priority, suggesting that during financial difficulties, individuals may defer loan repayments in favor of more immediate needs.

3.4. Correlation between education levels and loan defaults.

3.4.1. Here are the key insights:

3.4.1.1. **Loan Repayment Methods:** The primary method of loan repayment after default observed in the dataset is "Restructuring the loans (change in EMI/Tenure of loan)".

3.4.1.2. **Dominant Repayment Method:** The only repayment method depicted in the graph is "Restructuring the loans (change in EMI/Tenure of loan)".

3.4.2. Insights

3.4.2.1. **Uniform Repayment Method:** All education levels seem to predominantly use the same method for repaying loans after default, which is restructuring the loans.

Discussion

The research results underscore the significant impact that education has on agricultural loan management among farmers. The findings reveal that education is a critical determinant in a farmer's ability to navigate the complexities of loan agreements, repayment schedules, and the strategic use of credit. This highlights the broader issue of financial literacy within the agricultural sector, where disparities in education levels can lead to unequal access to effective loan management strategies, thereby exacerbating financial instability among less educated farmers.

Significance of the Results

The significance of these findings lies in their ability to illuminate the gap between different segments of the farming population in terms of financial literacy and loan management skills. Farmers with higher education levels are better positioned to make informed decisions about their loans, such as selecting the most suitable credit institution, negotiating favorable terms, and adopting modern technologies that enhance their productivity and financial resilience. This suggests that education is not only a tool for personal empowerment but also a crucial factor in the sustainability of agricultural practices and financial health.

The research also highlights the limitations of the current agricultural credit support system, particularly its lack of customization to meet the diverse needs of farmers. The standardization of loan products and the lack of alignment with the unique harvesting cycles of different crops pose significant challenges to farmers, especially those who are less educated. These issues underscore the need for a more nuanced approach to agricultural financing, one that takes into account the specific conditions and requirements of different farming communities.

Addressing Key Issues

The findings address several key issues within the agricultural sector. First, they bring attention to the importance of financial education as a means of empowering farmers to manage their loans more effectively. The data suggests that farmers who are better educated are more likely to understand the long-term implications of loan agreements and are thus more capable of avoiding default through strategic financial planning. This underscores the need for targeted educational initiatives that can help bridge the knowledge gap among farmers.

Second, the research identifies the need for greater flexibility and customization in agricultural loan products. The one-size-fits-all approach currently employed by many financial institutions fails to account for the variability in agricultural cycles, which can significantly affect a farmer's ability to repay loans on time. By developing loan products that are tailored to the specific needs of different crops and farming practices, financial institutions can provide more effective support to farmers, reducing the risk of default and enhancing overall financial stability in the sector.

Conclusion

The findings of this research shed light on the intricate relationship between educational attainment and the management of agricultural loans among farmers. The data underscores that education plays a pivotal role in shaping farmers' ability to navigate the complexities of agricultural finance. Those with higher levels of education, such as secondary or tertiary qualifications, demonstrated a more sophisticated approach to managing their loans. They were more likely to adopt modern technologies and implement timely repayment strategies, both of which are critical in mitigating the risk of loan default.

Farmers with higher education levels are better equipped to understand the terms and conditions associated with agricultural loans, including interest rates, repayment schedules, and the implications of default. This understanding allows them to make more informed decisions regarding the type of credit institution they choose and the specific loan products they opt for. The research highlights that these farmers are more inclined to prioritize factors such as interest rates and fast approval processes when selecting a credit institution, suggesting a deeper comprehension of how these elements impact their financial well-being.

Conversely, the research also reveals that farmers with lower levels of education often face greater challenges in managing their agricultural loans. These individuals are less likely to utilize modern technologies or employ strategic repayment methods, increasing their vulnerability to default. The data suggests that these farmers may not fully grasp the long-term consequences of defaulting on a loan or the potential benefits of restructuring their debt. This lack of financial literacy can lead to a cycle of debt, where farmers continuously struggle to repay their loans, ultimately jeopardizing their livelihood and sustainability.

Despite the general satisfaction with the existing support system for agricultural credit, the research identifies critical areas where improvements are necessary. One significant area is the alignment of loan products with the unique agricultural cycles of different crops. The current one-size-fits-all approach does not account for the variability in harvesting periods, which can affect a farmer's ability to generate income and, subsequently, repay loans on time. By developing more customized loan products that consider these cycles, financial institutions can provide farmers with greater flexibility and reduce the likelihood of default.

Another area for improvement is the accessibility of financial education for farmers. The findings suggest that enhancing educational opportunities, particularly in financial literacy, could empower farmers to make more informed decisions about their loans. This could include providing training on how to effectively use modern agricultural technologies, understand loan terms, and develop robust repayment strategies. By investing in education, financial institutions and policymakers can help bridge the gap between farmers with different education levels, ensuring that all farmers have the tools they need to manage their loans effectively.

The research also emphasizes the importance of restructuring loans as a viable option for farmers who have defaulted. However, it is clear that more needs to be done to make this option more accessible and transparent. Financial institutions should consider offering more flexible restructuring options that are tailored to the specific needs and financial circumstances of individual farmers. This could involve adjusting the terms of the loan, such as the interest rate or repayment schedule, to make it easier for farmers to meet their obligations without falling further into debt.

In conclusion, the research highlights the critical role of education in managing agricultural loans and suggests several areas for improvement in loan accessibility and repayment support. By prioritizing education and developing more customized financial products, stakeholders can create a more inclusive and supportive agricultural credit system that meets the needs of all farmers, regardless of their education level. This approach will not only enhance the financial stability of individual farmers but also contribute to the overall sustainability and resilience of the agricultural sector.

IV. ACKNOWLEDGMENT

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