

INVESTIGATING REGIONAL DISPARITIES IN FINANCIAL AWARENESS AND ITS EFFECTS ON AGRICULTURAL PRODUCTIVITY IN HARYANA

Chetna Dhull^{1*}, Asha², Sunil Kumar³

^{1*}Research Scholar, Department of Commerce, Faculty of Management and Commerce, Baba Mastnath University, Asthal Bohar, Rohtak (Haryana)

²Assistant Professor, Faculty of Management and Commerce, Baba Mastnath University, Asthal Bohar, Rohtak (Haryana)

³Associate Professor, Department of Business Administration, Chaudhary Devi Lal University, Sirsa (Haryana)

***Corresponding Author:** Chetna Dhull

*Research Scholar, Department of Commerce, Faculty of Management and Commerce, Baba Mastnath University, Asthal Bohar, Rohtak (Haryana)

ABSTRACT

This study investigates the regional disparities in financial awareness among farmers in Haryana and examines their effects on agricultural productivity. A comprehensive survey of 846 farmers from diverse districts was conducted to assess the levels of awareness regarding crop loans and crop insurance, and to explore how these awareness levels influence agricultural practices and productivity. Descriptive and inferential statistical analyses, including factor analysis, were employed to identify key factors contributing to these disparities and their impact.

The results reveal significant variations in financial awareness across different regions, influenced by educational background, access to information, and regional economic development. Farmers with higher education and better access to information sources exhibited greater awareness of crop loans and insurance, while those in less developed areas showed lower levels of awareness. The study highlights the crucial role of government initiatives in promoting financial literacy but points out the need for more region-specific and tailored programs to address the unique challenges faced by farmers in different areas.

Higher levels of financial awareness were associated with better utilization of crop loans and insurance, leading to improved agricultural practices, better risk management, and enhanced productivity. The findings underscore the importance of targeted educational programs and policy interventions to bridge the awareness gap and support sustainable agricultural growth.

The study concludes that addressing regional disparities in financial awareness is essential for optimizing the use of crop loans and insurance, thereby supporting the economic well-being of farmers and the overall sustainability of the agricultural sector in Haryana.

INTRODUCTION

Agriculture holds a prominent position in Haryana's economy, not only as a major contributor to the state's Gross Domestic Product (GDP) but also as a primary source of livelihood for a significant portion of its population. The state's rich agricultural heritage, bolstered by initiatives such as the Green Revolution, has positioned Haryana as a crucial player in India's agrarian landscape. Despite this, farmers in Haryana face numerous challenges, including climatic risks, market volatility, and financial constraints. In this context, financial instruments like crop loans and crop insurance have emerged as vital tools to support farmers, providing them with the necessary financial stability and risk mitigation to sustain and enhance agricultural productivity.

The effectiveness of crop loans and insurance, however, hinges significantly on the level of awareness and understanding among farmers. Financial literacy enables farmers to make informed decisions regarding the adoption and utilization of these financial tools, thereby optimizing their benefits. Unfortunately, the degree of financial awareness among farmers in Haryana varies widely, influenced by a range of factors such as educational background, access to information, and regional economic development. This disparity in awareness can lead to uneven utilization of crop loans and insurance, ultimately affecting the overall agricultural productivity and sustainability of the region.

Understanding the regional disparities in financial awareness and their subsequent impact on agricultural productivity is essential for developing targeted interventions and policies. Previous studies have underscored the importance of financial literacy in agriculture, linking higher levels of awareness to improved risk management and productivity. However, there remains a gap in research specifically addressing the regional variations in financial awareness within Haryana and how these differences influence farming outcomes. This study aims to fill this gap by conducting a comprehensive analysis of the regional disparities in financial awareness among farmers in Haryana and examining their effects on agricultural practices and productivity.

REVIEW OF LITERATURE

The review of literature focuses on the existing body of knowledge surrounding financial awareness among farmers, the utilization of crop loans and crop insurance, and the regional disparities in these aspects. It also addresses the impact of financial literacy on agricultural productivity and the effectiveness of government interventions. This section synthesizes findings from various studies to provide a comprehensive understanding of the context and gaps in current research.

The role of financial awareness in enhancing agricultural productivity has been extensively studied. Kumar and Singh (2019) emphasized the critical importance of farmer awareness in the adoption and efficient use of crop loans and insurance. Their research demonstrated that farmers who are well-informed about financial tools tend to manage risks better and achieve higher productivity. Similarly, Gupta et al. (2020) explored the linkage between farmer awareness and agricultural outcomes. They found that awareness significantly influences the utilization of crop insurance and loans, leading to improved agricultural practices and stability.

Regional disparities in financial awareness are influenced by various factors, including educational background, access to information, and economic development. Agarwal and Singh (2018) conducted a study highlighting the role of educational background and information sources in shaping farmers' awareness levels. They found that farmers with higher education and better access to information channels exhibited greater awareness of financial tools. Krishnan et al. (2019) further examined regional disparities in farmer awareness, identifying significant differences across various districts. Their research suggested that farmers in more developed regions had better access to information and higher levels of financial literacy compared to those in less developed areas.

Government interventions play a crucial role in promoting financial awareness and the utilization of agricultural financial tools. Narayanan and Sharma (2017) assessed the impact of government initiatives on farmer education and awareness. Their study found that government programs aimed at increasing financial literacy had a positive effect on farmers' understanding and use of crop loans and insurance. However, they also noted that the reach and effectiveness of these programs varied significantly across different regions, highlighting the need for more tailored approaches.

Crop loans are essential financial instruments that provide farmers with the necessary capital to invest in agricultural activities. Mehta and Verma (2018) explored the impact of farmer awareness on borrowing decisions and farming investments. Their study revealed that farmers with higher awareness levels were more likely to take advantage of crop loans and invest in modern farming techniques.

Sharma and Raj (2021) examined the correlation between awareness levels and the successful application of crop loans, finding that better-informed farmers achieved higher agricultural productivity and financial stability.

Crop insurance is a critical tool for managing agricultural risks. Patel and Rao (2019) conducted a comprehensive review of crop insurance schemes, focusing on farmers' understanding of insurance options and claim processes. Their findings indicated that a lack of awareness often led to underutilization of insurance as a risk mitigation tool. Joshi and Kumar (2020) highlighted the challenges faced by smallholders in navigating insurance schemes due to limited awareness. They emphasized the need for more accessible and farmer-friendly insurance programs to enhance risk management.

Several studies have identified key factors influencing financial awareness among farmers. Agarwal and Singh (2018) noted that educational background and access to information were significant determinants of awareness levels. Krishnan et al. (2019) highlighted the role of regional disparities in shaping financial literacy, with more developed areas exhibiting higher awareness levels. The effectiveness of government campaigns in promoting financial tools was also emphasized by Narayanan and Sharma (2017), who found that targeted educational programs significantly improved farmers' understanding of crop loans and insurance.

Gaps in Existing Research

Despite extensive studies on agricultural finance, there remains a lack of focused research on the comprehensive understanding of farmers about these financial tools in Haryana. Most literature either addresses awareness in a broader context or focuses on specific aspects of agricultural finance, leaving a gap in holistic understanding at the regional level. This study aims to fill this gap by providing a detailed analysis of regional disparities in financial awareness among farmers in Haryana and examining their impact on agricultural productivity.

OBJECTIVE

The primary objective of this paper is to investigate the regional disparities in financial awareness among farmers in Haryana and examine how these disparities affect agricultural productivity. This study aims to assess the levels of awareness regarding crop loans and crop insurance across different regions, explore the factors contributing to these disparities, and evaluate the impact of financial awareness on the adoption of agricultural practices and overall farming outcomes.

RESEARCH METHODOLOGY

This study adopts a descriptive research design to comprehensively investigate the regional disparities in financial awareness among farmers in Haryana and their effects on agricultural productivity. The methodology is structured to ensure a thorough assessment of awareness levels, contributing factors, and their impact on farming practices across various districts in Haryana.

The sample for this study comprises 846 farmers from diverse districts in Haryana, ensuring representation across different demographics, including age, gender, farm size, and type of farming. A stratified random sampling method was employed to capture a comprehensive and representative view of the farmers' awareness levels in the region. This approach allows for an accurate assessment of regional disparities by including farmers from both developed and less developed areas.

Data was collected using a structured questionnaire designed to gather detailed information on farmers' demographic profiles, their awareness of crop loans and insurance, sources of information, and the perceived impact of these financial tools on their agricultural practices. The questionnaire included both closed and open-ended questions to capture quantitative data and qualitative insights. The survey was

administered through face-to-face interviews and online platforms to ensure broad participation and to reach farmers in remote areas.

The collected data was analyzed using both descriptive and inferential statistical techniques to assess the levels of financial awareness and identify factors influencing these levels. Descriptive statistics, such as frequencies and percentages, were used to quantify awareness levels and demographic characteristics of the respondents. Inferential statistics, including chi-square tests, were employed to examine the relationship between demographic variables (such as education, access to information, and regional location) and awareness levels.

To further understand the underlying factors influencing financial awareness and its impact on agricultural productivity, factor analysis was conducted. This statistical method helps identify and interpret the underlying variables (factors) that explain the pattern of correlations within a set of observed variables. Principal Component Analysis (PCA) with varimax rotation was used to extract and interpret these factors. The reliability and validity of the questionnaire were tested using Cronbach's alpha to ensure internal consistency and accuracy of the identified factors.

The data analysis section presents the findings from the survey conducted among 846 farmers across various districts in Haryana. The analysis includes descriptive statistics to quantify awareness levels and inferential statistics to examine relationships between demographic variables and awareness levels. Factor analysis was also performed to identify underlying factors influencing financial awareness and its impact on agricultural productivity.

The demographic characteristics of the respondents are summarized in Table 1.

Demographic Variable	Category	Frequency	Percentage
Age	18-30 years	200	23.60%
	31-50 years	420	49.60%
	51 and above	226	26.80%
Gender	Male	630	74.50%
	Female	216	25.50%
Farm Size	Small (0-2 acres)	300	35.50%
	Medium (2-10 acres)	400	47.30%
	Large (10+ acres)	146	17.20%
Education	No formal education	150	17.70%
	Primary education	250	29.50%
	Secondary education	300	35.50%
	Higher education	146	17.30%

Table 1 provides a comprehensive overview of the demographic distribution of the survey respondents, highlighting the diversity in age, gender, farm size, and educational background.

The levels of awareness regarding crop loans and crop insurance among the respondents are detailed in Table 2.

Awareness Level	Crop Loans	Crop Insurance
High	276 (32.6%)	225 (26.6%)
Moderate	276 (32.6%)	280 (33.1%)
Low	294 (34.8%)	341 (40.3%)

Table 2 indicates that a significant proportion of respondents have moderate to high awareness of crop loans (65.2%), while awareness of crop insurance is slightly lower, with 59.7% exhibiting moderate to high levels.

Chi-square tests were conducted to examine the relationship between demographic variables and awareness levels. The results are summarized in Table 3.

Demographic Variable	Crop Loans Awareness (p-value)	Crop Insurance Awareness (p-value)
Age	0.032*	0.047*
Gender	0.415	0.352
Farm Size	0.001**	0.004**
Education	0.000**	0.000**

*Significant at the 0.05 level

**Significant at the 0.01 level

Table 3 shows that age, farm size, and education level significantly affect awareness levels of both crop loans and crop insurance. Gender, however, does not show a significant relationship with awareness levels.

Factor Analysis

Factor analysis was performed to identify the underlying factors influencing financial awareness and its impact on agricultural productivity. The results are summarized in Table 4.

Factor	Eigenvalue	Variance Explained (%)	Cumulative Variance (%)
Factor 1: Education and Access	8.628	24.652	24.652
Factor 2: Government Initiatives	2.401	6.86	31.512
Factor 3: Regional Disparities	1.69	4.83	36.342
Factor 4: Information Sources	1.657	4.735	41.077
Factor 5: Economic Impact	1.238	3.537	44.614

Table 4 presents the factors identified through Principal Component Analysis (PCA) and their respective eigenvalues and variance explained. These factors collectively account for 44.614% of the total variance.

Factor 1 (Education and Access): This factor highlights the significant role of educational background and access to information in influencing financial awareness. Farmers with higher education and better access to information sources tend to have higher awareness levels of crop loans and insurance.

Factor 2 (Government Initiatives): Government initiatives and policies play a crucial role in promoting financial literacy among farmers. Effective implementation of educational programs and awareness campaigns significantly improves farmers' understanding and utilization of financial tools.

Factor 3 (Regional Disparities): There are significant regional disparities in financial awareness, with farmers in more developed regions exhibiting higher awareness levels compared to those in less

developed areas. This disparity is influenced by differences in economic development, access to information, and infrastructural support.

Factor 4 (Information Sources): The sources of information available to farmers, such as agricultural extension services, media, and peer networks, significantly influence their awareness levels. Farmers with access to reliable and diverse information sources tend to have better financial literacy.

Factor 5 (Economic Impact): The economic impact of financial tools on farmers' livelihoods is a crucial factor. Higher awareness levels are associated with better utilization of crop loans and insurance, leading to improved agricultural productivity and financial stability.

DISCUSSION

The findings of this study reveal significant regional disparities in financial awareness among farmers in Haryana, with substantial implications for agricultural productivity and sustainability. These disparities are influenced by a variety of factors, including educational background, access to information, and regional economic development. Understanding these factors is crucial for developing targeted interventions to enhance financial literacy and support sustainable agricultural growth in the region.

The analysis shows that educational background plays a pivotal role in determining farmers' financial awareness levels. Farmers with higher education tend to have a better understanding of crop loans and insurance, which enables them to utilize these financial tools more effectively. This aligns with previous research by Agarwal and Singh (2018), which highlighted the importance of educational background in shaping financial literacy. Enhancing educational opportunities for farmers, particularly in less developed regions, could significantly improve their financial awareness and decision-making capabilities, leading to better agricultural outcomes.

Access to reliable and diverse information sources emerged as a critical factor influencing financial awareness. Farmers who have access to agricultural extension services, media, and peer networks exhibit higher levels of awareness regarding crop loans and insurance. This finding is consistent with the work of Krishnan et al. (2019), who identified access to information as a key determinant of financial literacy. The significant regional disparities in access to information underscore the need for improved dissemination of information through various channels, particularly in remote and less developed areas. By ensuring that all farmers have access to accurate and comprehensive information, policymakers can help bridge the awareness gap and promote the effective utilization of financial tools. Government initiatives play a crucial role in promoting financial literacy among farmers. However, the reach and effectiveness of these programs vary significantly across different regions, contributing to the observed disparities in financial awareness. Narayanan and Sharma (2017) emphasized the importance of government programs in enhancing farmers' understanding of financial tools. The findings of this study suggest that while government efforts have been beneficial, they need to be more region-specific and tailored to address the unique challenges faced by farmers in different areas. Effective implementation of educational programs and awareness campaigns that consider local contexts can significantly improve financial literacy and support sustainable agricultural practices.

The economic impact of financial tools on farmers' livelihoods is another critical factor highlighted by this study. Higher levels of financial awareness are associated with better utilization of crop loans and insurance, leading to improved agricultural productivity and financial stability. This is in line with the research by Gupta et al. (2020), which linked financial literacy to enhanced agricultural outcomes. The findings indicate that farmers who are more aware of the benefits and processes associated with crop

loans and insurance are more likely to adopt advanced agricultural practices, invest in better technologies, and effectively manage risks. This, in turn, contributes to higher productivity and sustainability in the agricultural sector.

The significant regional disparities in financial awareness call for targeted policy interventions to address these gaps. Farmers in more developed regions tend to have higher awareness levels due to better access to education and information. In contrast, farmers in remote and less developed areas face challenges that limit their understanding and utilization of financial tools. Policymakers need to develop region-specific strategies to enhance financial literacy, focusing on improving educational opportunities, expanding access to information, and tailoring government programs to local needs. By addressing these disparities, policymakers can help ensure that all farmers, regardless of their location, have the knowledge and resources to make informed financial decisions.

CONCLUSION

This study provides a comprehensive analysis of the regional disparities in financial awareness among farmers in Haryana and examines their effects on agricultural productivity. The findings reveal significant variations in awareness levels across different regions, influenced by factors such as educational background, access to information, and regional economic development. These disparities have substantial implications for the effective utilization of crop loans and insurance, ultimately affecting the agricultural outcomes and financial stability of farmers.

The demographic analysis shows a diverse respondent base, highlighting significant differences in financial awareness related to education, farm size, and age. The majority of farmers with higher education and better access to information sources displayed greater awareness of crop loans and insurance. Conversely, farmers in less developed and remote regions exhibited lower awareness levels, underscoring the need for targeted interventions to bridge this gap. The chi-square tests confirmed that educational background, farm size, and age significantly affect awareness levels, while gender did not show a significant relationship.

Factor analysis identified several key factors influencing financial awareness: education and access, government initiatives, regional disparities, information sources, and economic impact. These factors collectively account for a significant portion of the variance in awareness levels, providing a nuanced understanding of the underlying dynamics that shape financial literacy among farmers.

The study's findings underscore the importance of enhancing educational opportunities and improving access to reliable information for farmers, particularly in less developed regions. Policymakers need to develop and implement region-specific strategies that address the unique challenges faced by farmers in different areas. These strategies should focus on expanding educational programs, enhancing the reach of agricultural extension services, and leveraging media and peer networks to disseminate information effectively.

Government initiatives play a crucial role in promoting financial literacy, but their effectiveness varies across regions. Tailoring these programs to local contexts and ensuring they reach remote and underserved areas can significantly improve their impact. Additionally, simplifying the processes and terms associated with crop loans and insurance can make these financial tools more accessible and easier for farmers to understand and utilize.

Improving financial awareness among farmers is essential for optimizing the use of crop loans and insurance. Higher awareness levels are associated with better risk management, adoption of advanced agricultural practices, and improved productivity. By bridging the awareness gap, farmers can make more informed decisions, leading to enhanced agricultural outcomes and greater financial stability. This, in turn, contributes to the overall sustainability and growth of the agricultural sector in Haryana.

Recommendations for Future Research

While this study provides valuable insights, further research is needed to explore the dynamics of financial awareness and its impact on agriculture in greater depth. Longitudinal studies could track changes in awareness levels over time and evaluate the long-term effects of targeted interventions. Qualitative research could offer a deeper understanding of the challenges and barriers faced by farmers in accessing and utilizing financial tools, providing richer contextual insights. Comparative studies involving other states or regions could help identify best practices and effective strategies for enhancing financial literacy in diverse agricultural settings.

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