

# Farmers' Awareness and Perception of Crop Insurance Schemes in Wardha District: A Critical Study

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The objective of this research paper is to critically evaluate the level of awareness and perceptions of farmers regarding crop insurance schemes in Wardha District, Maharashtra during the period 2011-2021. Crop insurance is an important risk management tool against the natural calamities and market fluctuations but its adoption or utility is largely governed by farmers knowledge and understanding of the schemes. This study investigates the awareness of different crop insurance schemes, notably the Pradhan Mantri Fasal Bima Yojana (PMFBY), and farmers' perspectives on benefits and challenges of availing the schemes through a mix of quantitative and qualitative including surveys and interviews with local farmers. The research highlights also includes the factors that affect farmers' decision to take up crop insurance like socio-economic status, education level, experiences with past claims of insurance, etc. Results from the paper highlight problems in terms of the existing access to information related to insurance and the structural barriers to insurance access that are preventing unquestionable adoption of crop insurance in the district. Finally, the paper highlights suggested policies to enhance the coverage and impact of crop insurance schemes, giving farmers in the Wardha District a more financially secure future.

**Keywords:** Crop Insurance, Farmers' Awareness, Perception, Wardha District, Risk Mitigation, Pradhan Mantri Fasal Bima Yojana, Socio-Economic Factors.

## 1. Introduction

India's economy is based on agriculture, and farmers are subject to various risks, including

natural calamities, pests and price fluctuations. These problems have the potential to create income instability for farmers. To combat such risks, the Indian government launched crop insurance schemes so that farmers can have some financial benefits to overcome the loss of crop and thus pull out of the economic shock caused because of such unforeseen events. One of the largest schemes is the Pradhan Mantri Fasal Bima Yojana (PMFBY), introduced in 2016, to provide affordable and widespread crop insurance to farmers across the nation.

Agriculture is an important component of the economy in the Vidarbha region's Wardha District as a large share of the population depends on farm income. Though crop insurance schemes are available, the uptake is variable among the farmers, often due to lack of awareness, understanding and accessibility. The success of crop insurance schemes depends, to a large extent, on the farmers understanding and perception of the benefits, terms and process of enrolling, and claiming insurance.

This study intends to study awareness levels and perceptions of the farmers about crop insurance schemes in Wardha District. This study will help identify barriers in schemes and propose methods to minimize the factors influencing farmers not to go for insurance by exploring determinants affecting insurance decision of the farmers. The analysis examines the years 2011-2021, at which time the crop insurance industry had seen the introduction of new policies and technological advancements. This research is the need just because this helps to understand the ground realities in terms of the barriers in availing crop insurance for farmers.

## **2. Literature review**

Numerous studies have highlighted crop insurance's value as a tool for risk management in the agricultural sector. Its potential to lessen the impact of weather-related and market-related risks on farmers has been the subject of extensive research. The literature on crop insurance systems, their effects on agricultural sustainability, the difficulties in implementing them, and farmers' knowledge and perspectives of these schemes is reviewed in this section.

Natural disasters like droughts, floods, and pest attacks can cause crops to fail, which can lead to financial losses for farmers. Crop insurance is a way to protect against these risks. Mishra and Kumar (2019) are among the scholars who have highlighted the importance of crop insurance in bolstering agricultural resilience and stabilising farm incomes. Research by them indicates that farmers can be incentivised to invest in more productive farming methods and technology through well-executed insurance programs.

In order for crop insurance systems to be successful, it is crucial that farmers be well-informed about their alternatives. Many farmers do not know about or have a limited understanding of the crop insurance schemes that are available to them, as pointed out by Patil and Bhosale (2017). The failure of implementing agencies to adequately disseminate information and conduct outreach frequently results in this lack of awareness.

Crop insurance is more or less widely used depending on how farmers feel about its practicality and dependability. The willingness of farmers to participate in crop insurance programs is greatly affected by their trust in insurance providers and their past experiences with claim processes, according to Reddy and Swain (2018). A lot of people are scared off by the thought of paying high premiums and dealing with complicated procedures.

The effective implementation of crop insurance schemes is hindered by issues like delayed compensation, inadequate coverage, and complex claim processes, according to multiple studies (e.g., Sharma and Singh, 2020). As a result of these problems, farmers aren't always happy, and the programs' overall effectiveness suffers.

Factors such as income, education level, farm size, and access to financing all play a role in whether or not farmers choose to get crop insurance. Jain and Gupta (2021) demonstrated that farmers with higher educational backgrounds and larger farms are more likely to adopt crop insurance due to better awareness and financial capacity.

To improve the adoption rates of crop insurance, researchers like Verma and Rao (2019) have suggested policy interventions such as subsidizing premiums, simplifying claim procedures, and enhancing the role of local agricultural extension services in educating farmers about the benefits of crop insurance.

The literature indicates that while crop insurance has the potential to provide significant financial protection to farmers, its effectiveness is limited by low awareness, negative perceptions, and implementation challenges. Addressing these issues through targeted policy measures and improving communication and trust between farmers and insurance providers is essential to enhance the adoption and impact of crop insurance schemes. This study builds on the existing literature by focusing on the specific context of Wardha District, offering localized insights into farmers' awareness and perceptions of crop insurance.

Research Objectives:

- To assess the level of awareness among farmers regarding crop insurance schemes in Wardha District.
- To examine farmers' perceptions of the benefits and challenges of crop insurance.
- To identify the socio-economic factors influencing farmers' decisions to participate in crop insurance.
- To provide recommendations to enhance the outreach and effectiveness of crop insurance schemes.

Hypothesis:

Null Hypothesis ( $H_0$ ): There is no significant difference in farmers' perceptions of the benefits and challenges of crop insurance in Wardha District.

Alternative Hypothesis ( $H_1$ ): There is a significant difference in farmers' perceptions of the benefits and challenges of crop insurance in Wardha District.

### **3. Research methodology**

A mixed-methods approach is used in this study to analyze farmers' perception towards scheme of crop insurance in Wardha District. It employs an inclusive methodology, taking a mixed-method approach to tackle the research question. Materials and methods In order to obtain primary data from a sample of farmers of this context, a structured questionnaire was

developed and administered in different villages of Wardha District. The questionnaire used a mixed-methods approach, containing closed-ended and open-ended questions to assess farmers' level of awareness, perception of benefits and challenges of the crop insurance process, and experiences with it. Accounts for other socio-economic determinants hindering, if not deleting, the investment on crop insurance. Secondary data were extracted from government reports, policy documents, and related literature on crop insurance. Statistical software was used for data analysis to assess trends and identify correlations along with significant differences in the perceptions of farmers. It further guarantees reliability and validity via pilot testing the questionnaire and data triangulation.

#### 4. Data analysis and discussion

Table 1 – Descriptive statistics

Descriptive Statistics	Benefits	Challenges
Mean	4.2	3.8
Standard Deviation	0.85	1.05
Median	4.0	4.0
Mode	4	4
Minimum	2	2
Maximum	5	5
Sample Size (N)	200	200

The descriptive statistics of farmers perception on benefits and challenges of crop insurance in Wardha District are shown in Table 1. Mean score of 4.2 suggests that farmers perceive benefits provided by crop insurance schemes positively [in the opinion of farmers]. On the other hand, the average score of perceived challenges is lower at 3.8, which indicates a moderate level of concern about crop insurance difficulties.

SME of benefits (0.85) was lower than for SME of challenges (1.05), suggesting farmers have less variability in how they perceive benefits compared to how they perceive challenges. The median for both benefits and challenges is 4.0, which suggests that the perceptions of half of the farmers were rated by them at or above this level. The mode for both categories is 4 as well, indicating that the most frequently chosen answer matches that of the median.

Scores shown indicate that while most farmers see the benefits of crop insurance, there are some who see fewer benefits or struggle significantly. First, its worth pointing out that the range of responses (min = 2, max = 5) illustrates that most farmers see the benefits of crop insurance but that there are a subset of farmers who see very little benefit or are overwhelmed by challenges factors. The study includes a total of 400 participants, 200 each in the two categories. Based on the descriptive statistics, farmers reported relatively high trust and low perceived risk levels for all decision-makers reviewed, which serves as a fundamental insight into the distribution and central tendencies of the data to inform identity hypothesis testing

and inferential analysis.

Table 2 – Paired Sample t-test

Paired Samples t-Test	Mean Difference	Standard Deviation	Standard Error Mean	t-value	Degrees of Freedom (df)	p-value
Benefits - Challenges	0.40	0.90	0.064	6.25	199	< 0.001

The Paired Samples t-Test results which analyze the difference between farmers' perceptions of crop insurance's benefits and challenges in Wardha District is shown in Table 2. The average difference between the perceived benefits and challenges is 0.40, suggesting that farmers perceive the benefits of crop insurance to slightly outweigh the challenges. The differences have a standard deviation of 0.90, indicating some variance in responses.

The standard error of the mean difference is 0.064: Measures the accuracy with which a sample distribution represents a population mean. Hence, the t-value turns to be 6.25, way greater than the critical value as per the degrees of freedom ( df = 199). Note the p-value < 0.001, much less than a typical cutoff such as  $p < 0.05$ .

Based on the t-value and p-value, we reject the null hypothesis and accept the alternative hypothesis that there is a significant difference in farmers' perceptions of benefits and challenge of crop insurance. With such differences in the perception of the benefits and the barriers farmers experience while opting for crop insurance, the implications act at policy makers and stakeholders level to suit the needs out of the crop insurance schemes.

## Discussion

How to sew: sample normative perceptions of farmers in Wardha District regarding crop insurance schemes So farmers are more aware now that crop insurance is no longer a cost, it is an asset that will protect them against natural disasters like drought, flood and pest attack. This is in concordance with the findings of Mishra and Kumar (2019) who highlight how farm income stabilization through crop insurance can foster the adoption of better farming practices.

Yet, despite its advantages, farmers often face several issues in implementing crop insurance schemes. As noticed by Patil and Bhosale (2017), there is very less awareness due to which the people do not know about the schemes available. Many farmers are unaware, or only partially informed, about the options available and so are not utilizing the programs. This lack of awareness is mainly as a result of the inadequate communication strategies and outreach by the relevant authorities.

Farmers' trust in the system and past experiences with claim settlements also contribute to the perception of crop insurance's effectiveness. The complexity of claim processes, delays in compensation, and the perception of high premiums are often seen as the deterrents, as identified by Reddy and Swain (2018). All these factors lead to farmers skepticism about whether crop insurance is reliable and accessible which in turn undermine its adoption.

Additionally, socio-economic factors like education level, farm size, and income significantly impact farmers' adoption of crop insurance. This finding accords with Jain and Gupta (2021), who note that better educated and wealthier farmers are more likely to participate in crop insurance programs. This indicates that educational and contextual factors might play a

significant role in the uptake of crop insurance by less-educated, small-scale farmers, highlighting the need to address such barriers through targeted interventions.

The challenges found in this research, such as pocket or delayed compensation and lack of coverage, were well in line with those found in previous literature (Sharma & Singh, 2020). Consequently, this breeds dissatisfaction and failure to trust the system leads to lesser effectiveness of the crop insurance programs. Tackling these obstacles is critical to getting more farmers to adopt crop insurance, and ensuring that it becomes a reliable safety net for them.

Verma and Rao (2019) provided recommendations for making crop insurance scheme more effective in Wardha District. These include streamlining the claims process, educating farmers on premium subsidies, and improving farmer education through local agricultural extension services. Increased awareness and addressing the key concerns relating to the premiums and claims in crop insurance programs can facilitate the widespread adoption of most agriculture insurance programs.

Ultimately, crop insurance schemes be of great benefit to farmers in Wardha District; the problem is that, with limited awareness, trust issues and claims process challenges, their effectiveness is limited. Policymakers should focus on educating farmers, making the claims process easier and addressing socio-economic issues that prevent full participation. Such measures can play a vital role in ensuring that farmers have the financial tools they need to manage risk effectively and protect their livelihoods.

## **5. Conclusion**

The study was conducted to analyse the awareness and perception of various crop insurance schemes among farmers in Wardha District with respect to perceived benefits of the scheme as well as perceived challenges. The results show that the farmers generally rated benefits of enhancing biodiversity in different systems higher than challenges. This means that although farmers appreciate the benefits of crop insurance to mitigate agricultural risks, they also face significant barriers to the scheme's effectiveness and accessibility.

Primary benefits cited by farmers are financial safety net against crop failure and stability in income, while challenges focus on complex claim process, time lag in payouts and relatively poor awareness about the fine print of scheme. The stark difference in perception indicates that targeted interventions are required to overcome the challenges faced and improve the overall experience and effectiveness of crop insurance schemes.

Policymakers and stakeholders can consider these insights for improving the design and implementation of crop insurance programs by simplifying the procedures, timely compensation, and awareness among farmers for crop insurance. Improving these areas can increase the uptake of crop insurance and lead to the long-term financial security and resilience of farmers in Wardha District.

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