



International Journal of Innovative Research in Science Engineering and Technology (IJIRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)



Impact Factor: 8.699

Volume 15, Issue 4, April 2026

Crop Insurance and Agricultural Risk Management Practices: An Analysis of Farmers in Hingoli District

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ABSTRACT: This study examines the risks faced by farmers in Hingoli district and the role of crop insurance in managing those risks. Agriculture is highly uncertain due to factors like price fluctuations, droughts, floods, and pest attacks, with price fluctuation emerging as the most significant challenge. The findings show that most farmers experience crop loss regularly, indicating the high level of risk in farming. While a majority of farmers are aware of and have adopted crop insurance schemes, a section still lacks awareness. Moreover, many farmers are not satisfied with the compensation provided, as it often does not fully cover their losses. Overall, the study concludes that although crop insurance is a useful tool for reducing financial risk, its effectiveness is limited due to issues like inadequate compensation and implementation challenges, suggesting the need for better awareness, transparency, and policy improvements to support farmers more effectively.

KEYWORDS: Crop Insurance, Agricultural Risk, Farmers, Price Fluctuation, Compensation

I. INTRODUCTION

Agriculture is one of the most important sectors of the Indian economy, providing livelihood to a large portion of the population, especially in rural areas. Despite its importance, agriculture is highly uncertain and exposed to various risks such as unpredictable weather conditions, irregular rainfall, droughts, floods, pest attacks, and fluctuations in market prices (Garg, 2022). These risks directly affect crop production and income, making farming a highly vulnerable occupation. As a result, many farmers experience financial instability and even fall into debt during adverse situations. In regions like Hingoli district of Maharashtra, agriculture is the primary source of income for most households. However, the area is often affected by climatic uncertainties and limited irrigation facilities, which increase the risk associated with farming. Crop failure due to natural calamities can lead to severe economic losses for farmers, affecting not only their income but also their overall standard of living. Therefore, managing agricultural risks has become essential for ensuring the sustainability and stability of farmers' livelihoods (Singh & Agrawal, 2020).

Crop insurance has emerged as an important tool to protect farmers against such risks. It provides financial compensation to farmers in case of crop loss due to natural disasters, pests, or diseases. The Government of India has introduced several schemes such as the Pradhan Mantri Fasal Bima Yojana (PMFBY) to increase insurance coverage and support farmers during difficult times (Aditya et al., 2018). These schemes aim to reduce farmers' financial burden and encourage them to adopt better farming practices without fear of complete loss.

However, despite the availability of such schemes, the adoption of crop insurance among farmers remains uneven. Many farmers are either not fully aware of the benefits or face challenges in accessing and utilizing these schemes. Issues such as lack of awareness, complicated procedures, delayed claim settlements, and limited trust in the system often discourage farmers from participating in crop insurance programs (Suresh & Sreedaya, 2022).

This study focuses on "Crop Insurance and Agricultural Risk Management Practices: An Analysis of Farmers in Hingoli District." It aims to identify the key financial risks faced by farmers, examine **their** awareness and participation

in crop insurance, understand the challenges they encounter, and evaluate the effectiveness of insurance in managing agricultural risks. The findings of this study will help in understanding the ground realities and may contribute to improving policy implementation, thereby supporting farmers in managing risks more effectively and ensuring agricultural sustainability (Ghosh, 2019).

II. LITERATURE REVIEW

Several studies have examined the development, challenges, and impact of crop insurance in India, highlighting its importance as a risk management tool for farmers.

Garg, R. (2022) analyzed the evolution of crop insurance policies in India, especially up to the Pradhan Mantri Fasal Bima Yojana (PMFBY). The study found that although different schemes have helped in increasing coverage, major issues such as low farmer awareness, delayed claim settlements, and weak implementation at the ground level still exist. The author suggested that innovation in service delivery is necessary to improve the effectiveness of crop insurance schemes.

Singh, N. and Agrawal, S. (2020) reviewed the evolution of crop insurance schemes from earlier programs to PMFBY. Their study showed that while PMFBY has increased the insured area, several challenges remain, including high claim rejections and complications due to the involvement of private insurance companies. These issues reduce farmers' trust in the system.

Aditya, K. S., Kishore, A., and Khan, M. F. (2018) studied the adoption and impact of crop insurance using household-level data. The findings revealed that farmers who adopted crop insurance were more likely to invest in agricultural inputs and experienced less income variation. However, the study also highlighted that participation rates remain low due to lack of awareness and complicated enrollment procedures.

Suresh, A. and Sreedaya, S. (2022) conducted a case study in Kerala to understand farmers' perceptions of crop insurance. The study found that although farmers recognize the importance of insurance, their participation is low due to delays in claim settlement, bureaucratic processes, and lack of trust in insurance companies. The authors suggested improving transparency and building trust among farmers.

Ghosh, A. (2019) provided a theoretical framework on crop insurance and agricultural risk management. The study explained how crop insurance can reduce financial distress and improve farmers' access to credit at both micro and macro levels. However, the study was mainly theoretical and lacked strong empirical evidence.

Overall, the literature indicates that crop insurance is an important tool for managing agricultural risks and improving farmers' financial stability. However, common challenges such as low awareness, procedural difficulties, delayed claim settlements, and lack of trust continue to limit its effectiveness. These findings highlight the need for better implementation, increased awareness, and improved policy support, particularly in rural areas like Hingoli district.

III. RESEARCH METHODOLOGY

a) Problem identification

- 1) Agriculture in the Hingoli district is highly vulnerable to climatic uncertainties such as droughts, unseasonal rains, and pest attacks.
- 2) Farmers in the region face severe financial risks due to crop failure, leading to income and debt.
- 3) Despite government efforts, low awareness and poor participation in crop insurance schemes persist among small and marginal farms.
- 4) Many farmers report delays in claim settlement, inadequate compensation, and lack of transparency in the insurance process.

b) Research Objectives:

- 1) To identify and analyze the key financial risks faced by farmers.
- 2) To identify key challenges in availing crop insurance benefits.
- 3) To assess farmers' awareness and participation in using crop insurance in Hingoli district.
- 4) To evaluate the risk mitigation outcomes of crop insurance.

c) Sampling

The study is conducted in Hingoli district, covering talukas like Hingoli, Basmat, Kalamnuri, Aundha, and Sengaon, and includes all farmers engaged in agricultural activities. Individual farmers are taken as the sampling unit, and a total of 100 farmers are selected as the sample size.

d) Limitation :

The study is limited to Hingoli district with a small sample size of 100 farmers, so the results may not represent all regions.

IV. MODELING AND ANALYSIS

Data Analysis and Interpretation

1. What type of risks do you face in farming?

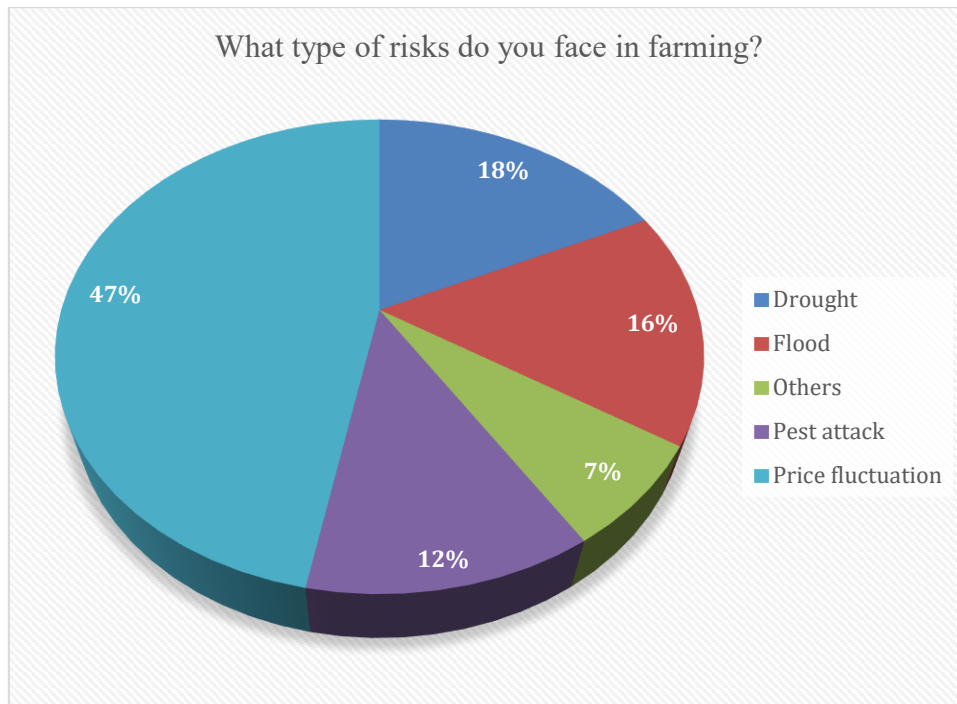


Chart No 1.- Showing Types of Risks Faced by Farmers

Interpretation:

Price fluctuation (47%) is the biggest risk faced by farmers, showing that unstable market prices affect their income the most. Drought (18%) and flood (16%) are also important risks, highlighting the impact of weather conditions on farming. Overall, market-related risk is the main concern for farmers compared to other factors.

2. How often do you face crop loss?

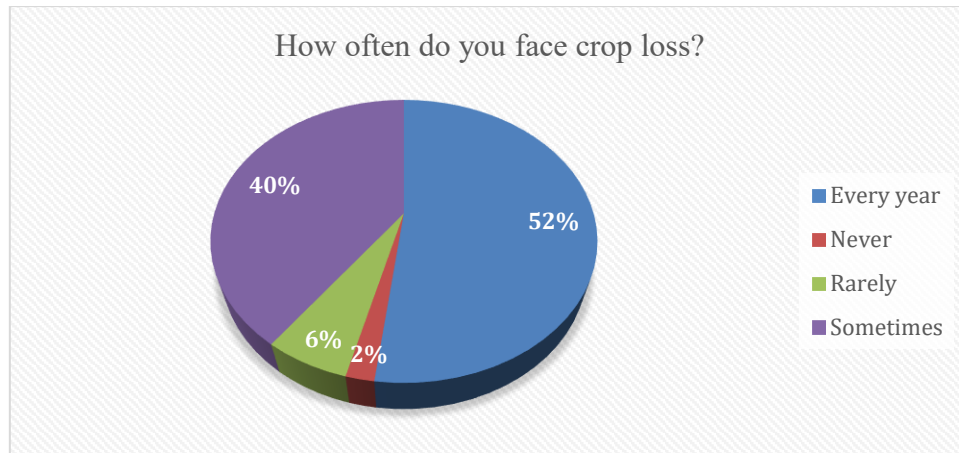


Chart No.2 – Showing Frequency of Crop Loss among Farmers

Interpretation:

Most farmers are facing crop loss quite regularly over half of them experience it every year, and many others face it sometimes. Only a very small number of farmers rarely or never face losses. This clearly shows that farming is highly risky and full of uncertainty.

3. I am aware of crop insurance schemes.

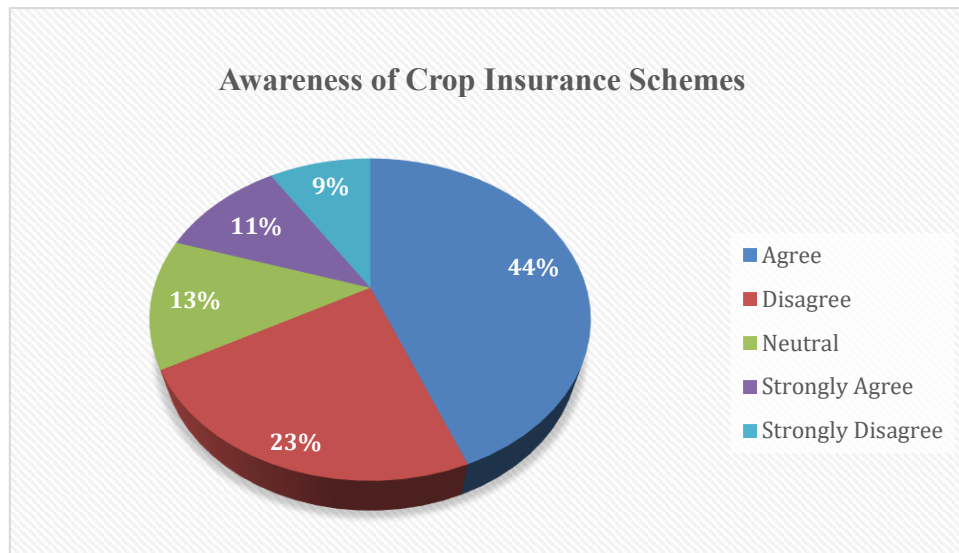


Chart No.3- Showing Awareness of Crop Insurance Schemes

Interpretation:

A large number of farmers agree (44%) that they are aware of crop insurance schemes, and some even strongly agree (11%). However, a noticeable portion of farmers are neutral (13%) or disagree (23%), with a few strongly disagreeing (9%). This means that while awareness is fairly good, there is still a gap, and not all farmers clearly understand crop insurance.

4. I have taken crop insurance in the past.

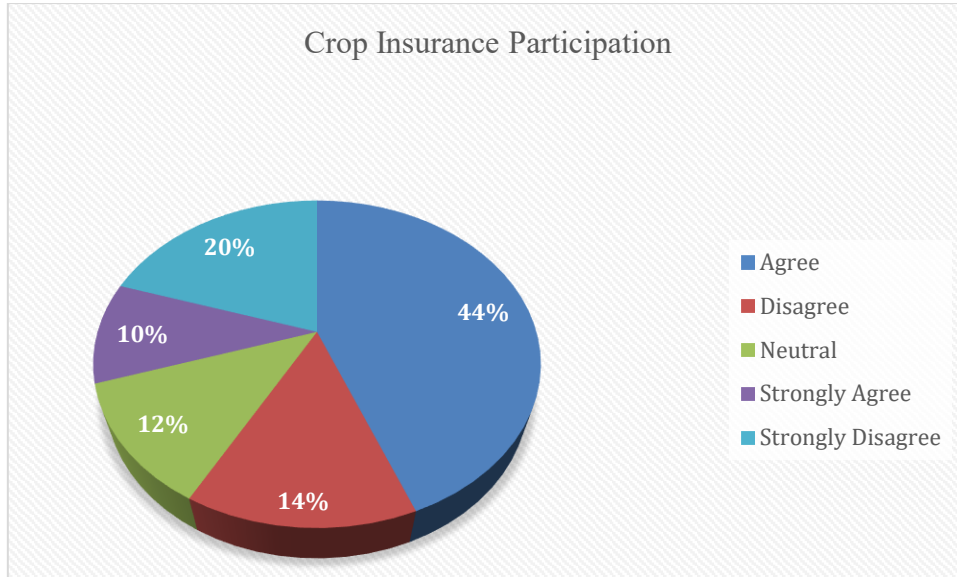


Chart No. 4 – Showing Crop Insurance Participation

Interpretation :

Most respondents have taken crop insurance, with 44% strongly agreeing and 20% agreeing, showing high participation. However, some respondents are unsure (12% neutral) or negative (14% disagree and 10% strongly disagree). Overall, crop insurance is widely accepted, but a small group still lacks awareness or trust.

5. I am satisfied with the compensation amount.

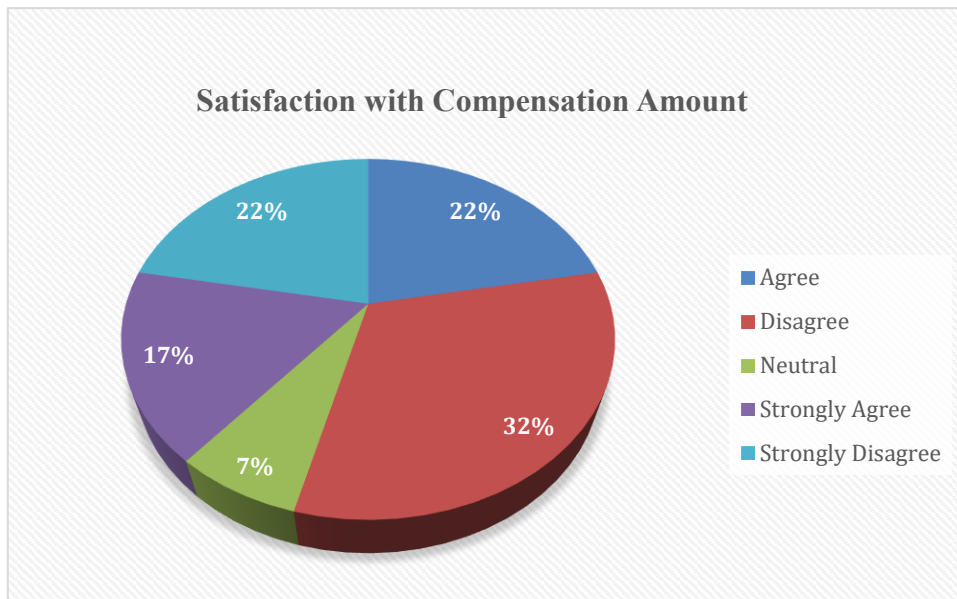


Chart No. 5 – Showing Satisfaction with Compensation Amount

Interpretation:

The chart shows that many farmers are not satisfied with the compensation amount, as 32% disagree and 22% strongly disagree. A smaller group of farmers (22% agree and 17% strongly agree) feel satisfied with it. Only 7% of farmers are neutral. Overall, it indicates that most farmers feel the compensation is not enough and needs improvement.

V. RESULTS AND DISCUSSION

The results of the study show that farming in Hingoli district is highly risky, with farmers frequently facing crop losses due to price fluctuations and unpredictable weather conditions like droughts and floods. Although most farmers are aware of crop insurance and have adopted it, showing a positive step towards risk management, some are still unaware of its benefits. Moreover, many farmers are not satisfied with the compensation they receive, as it is often considered inadequate. Overall, while crop insurance is helpful, there is a need to improve awareness, implementation, and compensation to make it more effective for farmers.

VI. CONCLUSION

The study concludes that farming is highly risky, as most farmers regularly face crop losses due to uncertain conditions. Although awareness and adoption of crop insurance are fairly good, there are still gaps, as some farmers do not fully understand or participate in these schemes. A major concern is that many farmers are not satisfied with the compensation amount, which reduces their trust in the system. Overall, while crop insurance is helpful for risk management, improvements are needed in awareness, participation, and especially compensation to make it more effective for farmers.

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