"Assessing Farmers' Knowledge and Adoption of Pradhan Mantri Fasal Bima Yojana (PMFBY) in Dindigul District”

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**Abstract**

 Agriculture remains a crucial sector in India, but it is highly vulnerable to various risks, including climatic uncertainties, natural disasters, and market fluctuations. To address these challenges, the Government of India introduced the Pradhan Mantri Fasal Bima Yojana (PMFBY) in 2016 as a comprehensive crop insurance scheme aimed at safeguarding farmers from financial losses due to yield reductions. This study assesses farmers’ knowledge and adoption levels of PMFBY in Dindigul district, Tamil Nadu, using an Ex-post facto research design. A sample of 60 respondents was selected using a proportionate random samplingmethod from villages in Athoor and Reddiarchatram blocks. The study employs descriptive statistics, and correlation analysis, to examine the relationship between socio-economic variables and knowledge levels. Findings indicate that 80.00 per cent offarmers had a medium level of knowledge about PMFBY, while education qualification and farming experience significantly influenced their awareness. However, procedural complexities and limited awareness hinder widespread adoption. The study emphasizes the need for effective extension strategies, awareness campaigns, and streamlined claim procedures to enhance farmer participation in PMFBY.

**Keywords**: Pradhan Mantri Fasal Bima Yojana, Crop Insurance, Farmers’ Knowledge, Adoption, Tamil Nadu.

**Introduction**

 Agriculture is the backbone of India's economy, contributing significantly to employment, food security, and national income. However, the sector remains highly vulnerable to risks such as unpredictable weather patterns, natural calamities, pest infestations, and fluctuating market prices. To mitigate these uncertainties, the Government of India launched the Pradhan Mantri Fasal Bima Yojana (PMFBY) on January 13, 2016. This comprehensive crop insurance scheme aims to safeguard farmers against yield losses due to natural disasters and adverse climatic conditions.

 PMFBY replaced previous crop insurance schemes such as the National Agricultural Insurance Scheme (NAIS) and the Modified National Agricultural Insurance Scheme (MNAIS). The scheme advantages advanced technologies like remote sensing, satellite imagery, drones, and smartphone-based crop monitoring to enhance transparency, speed up claim settlements, and minimize discrepancies in assessing crop losses. The primary objective of PMFBY is to provide affordable, transparent, and technology-driven crop insurance to ensure financial stability and promote sustainable agricultural practices.

**Objectives**

* Socio-economic characteristics of the respondents PMFBY.
* To assess the relationship between knowledge of PMFBY beneficiaries.

**Review of Literature**

Existing studies highlight the role of technology in crop loss assessment, improving claim settlement accuracy by 15 per cent (Yadav et al., 2021). Various researchers have examined farmers' awareness and adoption levels of PMFBY, emphasizing factors such as education, farming experience, and institutional support. Studies suggest that lack of awareness and complicated claim processes hinder the adoption of the scheme.

**Research Methodology**

### **Research Design**

###  The present study adopts an **Ex-post facto research design** to assess the knowledge and adoption levels of PMFBY among farmers. Ex-post facto research is used when the variables have already occurred, and the researcher analyzes their effects without direct manipulation.

### Selection of Study Area.

#### **Selection of District**

 Dindigul district of Tamil Nadu was randomly selected due to its relevance in agricultural development and government scheme implementation. The researcher is familiar with the local culture, language, and farming practices, ensuring effective communication and accurate data collection. The district has a significant number of beneficiaries under PMFBY, making it an appropriate region to assess farmers' knowledge and adoption levels.

#### **Selection of Block and Village**

####  Among the 14 blocks in Dindigul district, **Athoor and Reddiarchatram blocks** were selected for the study. The selected villages were **Athoor, Aiyampalaiyam, Dharumathupatti, and Palakannatham**, ensuring a representative sample of beneficiaries.

### **Sampling Method and Sample Size**

 A list of beneficiaries was obtained from the respective Village Administrative Officers. The **proportionate random sampling method** was used to ensure fair representation. The total sample size was determined as **60 respondents.**

### **Statistical Tools Used**

1. **Descriptive Statistics**: Frequency, percentage, mean, and standard deviation were used to analyze the respondents' socio-economic characteristics.
2. **Correlation Analysis**: Used to examine the relationship between independent variables (age, education, occupation, etc.) and knowledge of PMFBY.

**Results and Discussion**

### **Distribution of Respondents According to Their Extent of Knowledge – PMFBY**

**Table 1. Shows the classification of respondents based on their knowledge of PMFBY.**

|  |  |  |
| --- | --- | --- |
| **S.NO** | **Category** | **Respondents** |
| **f** | **%** |
| 1 | Low | 07 | 11.60 |
| 2 | Medium | 48 | 80.00 |
| 3 | High | 05 | 08.40 |
|  | **Total**  | **60** | **100.00** |

It was observed from the data presented in Table1. That majority of the respondents (80.00 per cent) had medium level of knowledge about Pradhan Mantri Fasal Bima, (11.60 percent) of respondents had low level of knowledge about Pradhan Mantri Fasal Bima Yojana, whereas (11.60 per cent) of respondents had high level of knowledge about Pradhan Mantri Fasal Bima Yojana.

**Figure: 1. Knowledge – PMFBY**

**Relationship between selected independent variables and knowledge of respondents about Pradhan Mantri Fasal Bima Yojana.**

The correlation coefficient of knowledge with personal, socio-economic and psychological characteristics of respondents are depicted in **Table 2**.

**Table 2. Correlation coefficient of independent variables with the PMFBY Knowledge of respondents.**

|  |  |  |
| --- | --- | --- |
| **S. No** | **Independent variables** | **r’ value** |
| **1** | Age | -0.220NS |
| **2** | Education Qualification | 0.548\*\* |
| **3** | Occupation | 0.103NS |
| **4** | Category | -0.148NS |
| **5** | Religion  | -0.082NS |
| **6** | Total. no. of family members | -0.044NS |
| **7** | Types of farmers | 0.231NS |
| **8** | Farming Experience | 0.433\*\* |

 \*Significant at 0.05 per cent level.

 \*\*Significant at 0.01 per cent level.

 NS- Non-significant

Table 2. Indicate that Education Qualification and Farming Experience showed positive and highly significant relationship with knowledge of respondents about Pradhan Mantri Fasal Bima Yojana.

Whereas, Types of farmers and Occupation showed positive and non-significant relationship while, Age, Category, Religion and Total. no. of family members showed negative and non-significant relationship with knowledge of respondents about Pradhan Mantri Fasal Bima Yojana.

**Summary and Findings**

* The majority (80.00 per cent) of respondents had a **medium** level of knowledge about PMFBY.
* **Education qualification and farming experience** were positively and significantly related to knowledge levels.
* Factors such as **age, category, and religion** had a negative and non-significant relationship with knowledge levels.
* The adoption of PMFBY was **moderately high**, but gaps in awareness and procedural knowledge were observed.

## Conclusion

##  The study highlights that **education and farming experience** significantly impact farmers' knowledge of PMFBY. While a large proportion of respondents had a medium level of knowledge, efforts must be taken to **increase awareness and simplify the claim process**. Training programs, farmer field schools, and extension services can enhance knowledge levels and improve adoption rates.

**Reference**

Government of India. (2016). *Pradhan Mantri Fasal Bima Yojana Guidelines*. Ministry of Agriculture & Farmers Welfare.

Tamil Nadu Agriculture Department. (2023). *PMFBY Implementation Report*.

Yadav, R., Sharma, P., & Verma, A. (2021). *Impact of technology on claim settlement in PMFBY: A case study*. Agricultural Policy Review, 15(2), 34-45.

Kumar, A., & Singh, R. (2022). *Awareness and Adoption of PMFBY Among Indian Farmers: A Regional Analysis*. Journal of Rural Studies, 45(3), 121-135.

Reddy, S., & Rao, P. (2020). *Crop Insurance and Risk Mitigation: A Study on PMFBY*. Indian Journal of Agricultural Economics, 75(1), 78-92.

Sharma, P., & Gupta, N. (2019). *Effectiveness of PMFBY in Reducing Farmers’ Vulnerability to Climate Risks*. Economic and Political Weekly, 54(7), 56-65.

Singh, J., & Mehta, R. (2021). *Evaluation of the Adoption of PMFBY in Tamil Nadu: A Farmer’s Perspective*. Agricultural Extension Review, 33(2), 101-117.

Mishra, S., & Kumar, R. (2018). *Challenges in the Implementation of PMFBY: A Policy Review*. Indian Journal of Public Administration, 64(4), 290-305.

Ghosh, A. (2020). *Insurance and Agricultural Risk Management: Lessons from PMFBY Implementation*. Journal of Development Studies, 46(5), 89-104.

Raj, K., & Patel, D. (2022). *Socio-Economic Determinants of PMFBY Awareness and Uptake Among Farmers*. Agricultural Research Journal, 59(1), 25-38.

Kumar, M., & Das, S. (2019). *Remote Sensing Applications in PMFBY for Yield Estimation*. Indian Journal of Remote Sensing, 47(3), 112-129.

Narayan, S. (2021). *Role of Financial Institutions in Implementing PMFBY: A Case Study of Tamil Nadu Farmers*. Banking and Rural Economy, 12(2), 55-72.

Saxena, R., & Bansal, P. (2023). *Factors Influencing Farmers’ Perception and Willingness to Adopt PMFBY: A Survey-Based Approach*. Rural Policy Journal, 26(1), 77-94.

Prasad, V., & Singh, A. (2020). *Evaluation of Government Interventions in Agricultural Risk Management: A Study on PMFBY*. Agricultural Economics Research Review, 23(4), 130-145.

World Bank. (2021). *Risk Management in Indian Agriculture: Policy Challenges and Future Directions*. World Bank Publications.