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Assessment of beneficiaries knowledge and constraints in the adoption of Pradhan Mantri Fasal Bima Yojna (PMFBY)

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Abstract

The study is conducted in C.D. Block Bissau, District Jhunjhunu, Rajasthan, in the 2024-25. Under this study followed Ex-post facto research design and purposive sampling, selecting 90 respondents from five villages in the Bissau C.D. block. Data were collected through personal interviews and analyzed using statistical tools like frequency, percentage, mean, standard deviation, and rank order. Results showed that the majority of beneficiaries (48.89%) had medium knowledge, followed by (26.67%) high level and (24.44%) low knowledge level of the respondents, such as claim reporting period, crop insurance through banks, and coverage across states and union territories. Major constraints faced by the farmers during the scheme under cultivation problem getting claim rank I, followed by technical guideline is not sought from the bank official rank II followed by III, IV, V rank achieved. The lack of technical guidance, unfriendly bank procedures, exclusion of non-natural loss coverage, and financial difficulties in premium payment. The PMFBY scheme is a significant step toward securing farmers' livelihoods, several simplified procedures, and institutional support is essential for maximizing the scheme's impact and ensuring wider adoption among the small and marginal farmers.

Keywords: Calamities, knowledge level, constraints, risk coverage, subsidy

Introduction

Indian agriculture continues to struggle with numerous challenges; one of them is the damning risk and uncertainty of operations. A reliable strategy to achieve this goal is the provision of insurance, especially when it is offered together with other relevant services. In recent decades, the smallholder farmers' life became riskier because of increasing climate variability. The weather is the most important cause of income volatility for a substantial number of rural households, especially in developing economies. Shrinking the protective nets around farmers when facing severe and unpredictable weather phenomena is detrimental, in other words, we need to protect farmers more than ever before (Anonymous *et. al* 2016) ^[1].

The agricultural sector faces a multitude of challenges, including crop failures, unprofitable crop pricing, lack of knowledge about risk mitigation strategies, technological inadequacies, and significant financial losses due to yield damages from weather fluctuations (Sandeep, K. *et al* 2025) ^[13]. Despite being a potent remedy for weather-related dangers, such as temperature, humidity, frost, rainfall, etc. Crop insurance is essential to the steady expansion of the agriculture industry in a nation like India, where crop output has been impacted by unpredictable weather patterns and significant losses from pest and disease attacks (Biswas *et al* 2009) ^[4]. In a broad sense, agriculture insurance is an institutional response to the risks that farmers encounter. In order to properly manage the risk to productivity and

income coming from a variety of natural and man-made disasters, agricultural insurance is seen as a crucial tool.

PMFBY was launched in India by Ministry of Agriculture and Farmers welfare, New Delhi from Kharif 2016 season onwards. National Insurance Company started participating in PMFBY from Rabi 2016 onwards and covered 8 States and 2 Union Territories during the past 5 seasons namely, Rabi 2016-17, Kharif and Rabi 2017 and Kharif and Rabi 2018 covering 70,27,637 farmers. Farmers share of premium was ₹ 453 crores and with subsidy from State/Central Govts was ₹ 1909 Crores, gross Premium is ₹ 2362 Crores for the 5 seasons together. While the claims of Kharif 18 and Rabi 18 are under process, we have closed the first 3 seasons with a gross premium amount of ₹ 1804 Crores collected from 35,22,616 farmers and claims to the tune of ₹ 1703 crores were paid, by which 17,66,455 no of farmers benefited, which shows almost 50% of the farmers insured were benefitted at national level. (pmfby.gov.in)

PMFBY aims to provide insurance coverage and financial support to the farmers in Kharif season of June 2016. It was implemented only in 14 states of India. It envisages a uniform premium of only 2 per cent to be paid by farmers for Kharif crops and 1.5 per cent for Rabi crops. The premium for annual commercial and horticultural crops is 5 per cent. There is no cap on the maximum amount of the government's subsidy that can be paid to cover the gap between the premium that farmers pay and the premium that the insurance firms set. However, one need to keep in mind

that crop insurance should be part of overall risk management strategy. Insurance comes towards the end of risk management process. Insurance is redistribution of cost of losses of few among many, and cannot prevent economic loss (Goudappa *et al.* (2012) [8].

Research Methodology

The Study was conducted in Jhunjhunu district of Rajasthan. It's situated in the north-eastern part of Rajasthan. It was selected purposively because the researcher was familiar with the particular district and highest geographical area in India. The Ex-post facto research design was used for the study. Within Jhunjhunu district, the Bissau C.D block was selected purposively for its relevance to the study and the researcher's established rapport with the community, which ensured effective communication and cooperation. The five villages were purposively selected in Bissau C.D. block, of Jhunjhunu district, namely: Luttu 541, Kolinda 337, Rohida 341, Bidasar 188 and Kant 245. These villages were specifically chosen based on their highest number of

farmers registered under the Pradhan Mantri Fasal Bima Yojana (PMFBY), making them ideal for assessing the scheme's knowledge level and constraints. A comprehensive list of farmers from each selected village who covered under PMFBY was prepared with the help of concerned Patwari, Agriculture supervisor and Insurance related agency/banks. From so prepared the list of beneficiaries farmers from each selected village were using random number table. Hence, the size of sample was comprised of 90 respondents for the present investigation. The primary data was collected with help of face to face interview schedule method. During the personal interview researcher had explained the objective of the study to the respondents. Collected raw data were grouped and classified according to the objective of the study and analyzed with use of range of statistical tools to gain the meaningful insight. The statistical tool was used for data analysis such as frequency, percentage, arithmetic mean and standard deviation and rank order.

Results and Discussion

Table 1: Knowledge level of beneficiaries of Pradhan Mantri Fasal Bima Yojana N=90

S. No.	Statements	Frequency	Percentage
1.	PMFBY is started in kharif 2016	78	86.67
2.	Prime objective Of PMFBY is to provide financial support due to crop loss	72	80.00
3.	Purpose of fasal bima is mitigation the loss	62	68.89
4.	Fasal bima is compensation to loss	77	85.56
5.	Crops coverage under PMFBY are kharif, rabi and horticultural crops	42	46.67
6.	Risk coverage are natural disaster	44	48.89
7.	Only loan farmers are covered under PMFBY	85	94.44
8.	All states and union territory are covered under PMFBY	88	97.78
9.	Premium covered for small and marginal farmers 75% and others 50%	73	81.11
10.	Parameters of crop insurance are humidity, temperature and others	50	55.56
11.	Unit is insurance is area approach in village level crop	65	72.22
12.	Time period of getting claim will be available up to maximum period 14 days from harvesting	89	98.89
13.	Crop can be insured through financial institution/banks in India limited	90	100.00
14.	Reporting period of crop loss for claim is within 14 days	66	73.33
15.	Premium rate for kharif food and oilseed crop 2%	51	56.67
16.	Premium rate for rabi food and oilseed crop 1.5%	76	84.44
17.	Premium rate for kharif food and rabi annual commercial and annual horticultural crop 5%	14	15.56
18.	In case of crop loss, farmers can report to concerned patwari/ bank	89	98.89
19.	How many applications are required to apply the crop insurance scheme?	82	91.11
20.	Carry out beneficiaries of the PMFBY	80	88.89
21.	Whether the crop insurance scheme covers the contingents needs?	89	98.89
22.	Do you know which scheme were combined in this scheme	23	25.56
23.	Please state the share of centre and state government in PMFBY Scheme	64	71.11

Table 1 Knowledge level of beneficiaries regarding various aspects of the Pradhan Mantri Fasal Bima Yojana (PMFBY) in data reveals that the majority of the farmers possessed a high level of knowledge on many critical features of the scheme. Notably (100;00%) of respondents were aware that crop insurance can be availed through banks or financial institutions; while (98.89%) knew about the claim reporting period and that the scheme covers contingent needs. A similar percentage (98.89%) were also aware that the claim settlement period extends up to 14 days after harvesting and (97.78%) correctly identified that all states and union territories are covered under PMFBY. Furthermore (94.44%) of farmers knew that only loan farmers are covered and (91.11%) understood how many applications are required to apply for the scheme. High awareness was also seen in terms of the scheme's launch year (86.67%), its

objective of providing financial support due to crop loss (80.00%), and its compensation aspect (85.56%). Knowledge about premium rates was relatively mixed (84.44%) of respondents were aware of the 1.5% premium for rabi crops, while only (15.56%) knew about the 5% premium rate applicable to horticultural and annual commercial crops, indicating a gap in understanding of detailed about the scheme. Areas with moderate awareness included risk coverage due to natural disasters (48.89%), types of crops covered (46.67%), and knowledge of insurance parameters such as humidity and temperature (55.56%). Additionally, only (25.56%) of respondents were aware of which earlier schemes were merged to form PMFBY. The findings is similar Meena, S. K, *et al.* (2022) [10] revealing a need for deeper orientation regarding the scheme's background and structural changes.

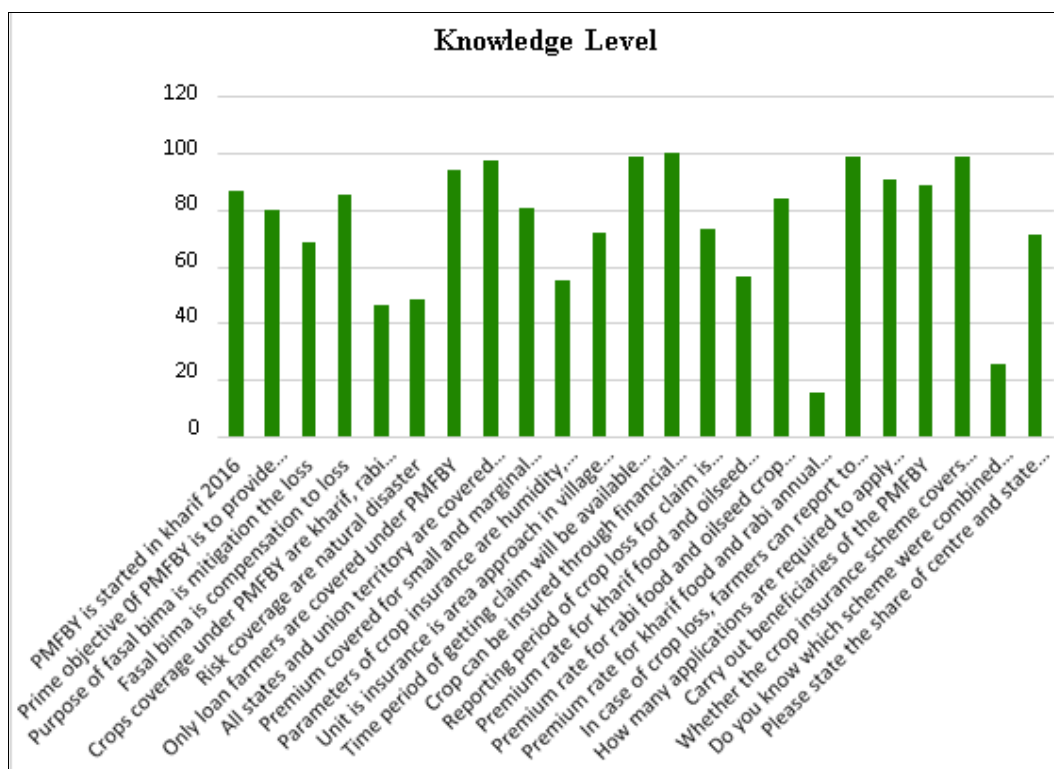


Table 2: Over all Knowledge Level of PMFBY of the beneficiaries N=90

S. No.	Category	Respondents	
		Frequency	Percentage
1.	low (up to 9)	22	24.44
2.	Medium (10-18)	44	48.89
3.	High (above 18)	24	26.67

Mean =11.67, S.D =2.30, Min=12 Max =25

Table 2 show that overall knowledge level of farmers regarding the Pradhan Mantri Fasal Bima Yojana (PMFBY). The data reveals that majority of (48.89%) exhibited a medium level of knowledge, scoring between 10 and 18. This suggests that more than half of the farmers are fairly

aware of the scheme's objectives, procedures, and benefits, though there is still room for improving their understanding. Additionally (26.67%) of the respondents demonstrated high knowledge (score above 18), indicating a strong grasp of the scheme's components and showing that some farmers are well-informed and likely to utilize the scheme effectively. On the other hand (24.44%) of the farmers fell into the low knowledge category (score up to 9), reflecting a significant segment that may be under-informed or unaware of essential details. These findings indicate a need for targeted extension and awareness programs, especially for those in the low knowledge group, to enhance their understanding and increase participation in the crop insurance scheme. The result finding is similar to Meena, S. K, *et al.* (2022) ^[10].

Table 3: Constraint faced by the farmer adoption of the PMFBY Scheme

Sr. No.	Constraints	MPS	Rank order
1.	The bank officially does not behave properly to give lone to the farmer which make them in different and disinterest.	0.36	XIV
2.	The formally in fling the lone farmer is tough which causes much in connivance much to illiterate farmers.	0.87	IV
3.	Bank officer help in providing PMFBY	0.89	III
4.	Insurance premium is not bearable.	0.65	VIII
5.	Fasal bima improve economic condition of farmers	0.33	XV
6.	Fasal bima does not help to sustain safely in drought year	0.49	XII
7.	Premium of Fasal Bima Yojana is less	0.80	VI
8.	Bank formalities are not easy for farmers	0.43	XIII
9.	Farmers cannot sustain safely during flood/temperature and humidity	0.56	XI
10.	Problems in getting claims due to complicated procedure	0.93	I
11.	Many crops are covered under PMFBY.	0.77	VII
12.	Financial problem faced in pay of insurance premium in time	0.63	IX
13.	Most of the time claim is not paid on case of crop is damaged	0.60	X
14.	Losses due to reasons other than natural claim is not include	0.86	V
15.	Technical guide line is not sought from the bank official	0.89	II

Table 3 the results show that mean percent score (MPS) and rank order of various constraints of PMFBY Scheme. The most significant constraint reported by farmers was the

complexity in getting claims, with an MPS of 0.93, ranked first, indicating that the complicated claim settlement procedures are a major deterrent for adoption. The lack of

technical guidance from bank officials (MPS = 0.89, Rank II) and insufficient support from bank officers in facilitating PMFBY (MPS = 0.89, Rank III) were also prominent issues, highlighting a gap in institutional assistance.

The difficulty of completing loan-related paperwork was another significant barrier, particularly for farmers who were illiterate (MPS = 0.87, Rank IV), indicating that participation is hampered by complicated procedures and limited access to help. Furthermore, farmers reported that losses from causes other than natural disasters are not covered (MPS = 0.86, Rank V), and although the premium is considered low (MPS = 0.80, Rank VI), the overall financial burden and timely payment of premium remain challenging (MPS = 0.63, Rank IX).

Moderate-ranked constraints included the perception that many crops are covered under the scheme (MPS = 0.77, Rank VII), and problems in receiving claims even after crop damage (MPS = 0.60, Rank X). Environmental uncertainties such as floods and extreme temperatures were also seen as areas where the scheme provides inadequate protection (MPS = 0.56, Rank XI).

Lower-ranked constraints involved general bank behavior and formalities, such as improper treatment by bank officials (MPS = 0.36, Rank XIV) and difficulty in completing loan formalities (MPS = 0.43, Rank XIII), which, though less significant in MPS terms, still negatively influenced adoption. Interestingly, perceptions of PMFBY's ability to improve farmers' economic condition had the lowest MPS (0.33, Rank XV), indicating skepticism among some farmers about the scheme's effectiveness. The result of the study are similar to the findings of Pradhan, A. K., *et al.* (2021)^[12].

Conclusion

The scheme is very effective for the farmers immense the financial claim of the crop. Where awareness about the scheme's existence is relatively high, but comprehensive understanding of its components such as premium rates, crops covered, claim procedures, and enrolment mechanism remains inadequate among a significant portion of farmers. While a majority of farmers recognize that medium level of knowledge PMFBY scheme. It is initiated to provide financial protection against crop losses due to natural calamities, pests, and diseases, the depth of knowledge regarding its implementation and benefits is limited. Under this study many constraints faced by farmers, including delays in claim settlements, lack of proper information dissemination, complex procedural formalities, low compensation amounts, and instances of premium deductions without consent. These issues contribute to a lack of trust in the scheme and deter its full-scale adoption. Moreover, factors like illiteracy, limited access to digital infrastructure, and poor outreach by implementing agencies further exacerbate these challenges. The farmer literacy and digital inclusion can also play a vital role in effective participation. Therefore, the success of PMFBY hinges on bridging the knowledge gap and removing practical obstacles to ensure that the scheme delivers its intended benefits efficiently and equitably across rural India.

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