



Impact of Pradhan Mantri Fasal Bima Yojana (PMFBY) in Raipur District of Chhattisgarh

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The present study assessed the impact of the Pradhan Mantri Fasal Bima Yojana (PMFBY) on crop production, farm income and the socio-economic condition of farmers in Arang and Abhanpur blocks of Raipur district, Chhattisgarh. Primary data were collected from 120 randomly selected farmers (60 insured and 60 non-insured) from four villages through a structured interview schedule, while secondary data were obtained from the Department of Agriculture, Agricultural Insurance Company of India and banks. Insured farmers invested more in quality inputs and adopted improved practices, recording higher paddy yield, gross returns and net income. Between kharif 2021 and 2023, the number of insured farmers in Chhattisgarh increased by 12.05 per cent and the sum insured by 19.32 per cent. Major constraints were insufficient compensation (88.33%), delayed claim settlement, lack of awareness, inadequate publicity and complex documentation. Timely settlement, simplified procedures, better awareness and stronger institutional coordination are recommended.

Keywords: Pradhan Mantri Fasal Bima Yojana (PMFBY), Crop Insurance, Farmers, Agricultural Risk, Crop Loss, Raipur.

Introduction

Agriculture is the main source of livelihood in Chhattisgarh, where most farmers depend on rainfed, paddy-based cropping systems. Farmers are frequently exposed to production risks arising from adverse weather conditions, pests, diseases and other natural calamities. Such risks reduce yields and farm income, and they discourage investment in quality inputs and improved technologies. To provide financial protection against crop losses, the Government of India launched the Pradhan Mantri Fasal Bima Yojana (PMFBY) from the kharif season of 2016. The scheme aims to stabilize farmers' income and encourage the adoption of improved agricultural practices by offering crop insurance at affordable premium rates. Farmers pay a maximum of 2 per cent of the sum insured for kharif food and oilseed crops, 1.5 per cent for rabi crops and 5 per cent for commercial and horticultural crops, while the remaining premium is subsidized by the central and state governments. Although the scheme has expanded in Chhattisgarh in terms of farmers covered and sum insured, its benefits depend on farmers' awareness, participation and satisfaction with claim settlement. The present study therefore examines the impact of PMFBY in Raipur district of Chhattisgarh, with particular emphasis on farmers' participation, awareness, benefits and the constraints associated with the scheme.

Salient features of Pradhan Mantri Fasal Bima Yojna (PMFBY)

To help farmers cope with crop losses, the Government of India launched its flagship scheme Pradhan Mantri Fasal Bima Yojna (PMFBY), starting from the kharif season of 2016. The general characteristics features of this scheme are mentioned below:

- Provides insurance coverage and financial support to farmers in the event of crop failure.
- Covers risks from pre-sowing to post-harvest stages.
- Premium rates: 2% for Kharif, 1.5% for Rabi, 5% for commercial/horticultural crops.

- Remaining premium is subsidized by the central and state governments.
- Applicable for loanee (compulsory) and non-loanee (voluntary) farmers.
- Coverage based on area approach (notified unit area).
- Includes cereals, pulses, oilseeds, commercial and horticultural crops.
- Utilizes modern technologies like remote sensing, GPS, drones, and smartphones.
- Claims are directly credited to farmers' bank accounts via Direct Benefit Transfer (DBT).
- Timely claim settlement aimed within 2 months of loss assessment.
- Implemented through empanelled public and private insurance companies.
- Special focus on small and marginal farmers.
- Covers prevented sowing, localized calamities, and post-harvest losses (up to 14 days).

Premium rates for different crops in Chhattisgarh State

Presents the premium rates payable by farmers for different crop categories in Chhattisgarh State. Under the crop insurance scheme, the maximum premium payable by farmers for Kharif food and oilseed crops, including cereals, millets, oilseeds and pulses, is 2.0 per cent of the sum insured or the actuarial premium rate, whichever is lower. For Rabi food and oilseed crops, the corresponding premium rate is 1.5 per cent. In the case of annual commercial and horticultural crops grown during Kharif and Rabi seasons, farmers are required to pay a maximum premium of 5.0 per cent of the sum insured or the actuarial rate, whichever is lower. Thus, the premium structure keeps farmers' contribution relatively low for major food and oilseed crops, particularly during the Rabi season.

Table 1 Premium rates for different crops in Chhattisgarh State

S. No.	Season	Crops	Maximum Insurance charges payable by farmer (% of Sum Insured)
1.	Kharif	Food & Oilseeds crops (all cereals, millets, & oilseeds, pulses)	2.0% of SI or Actuarial rate, whichever is less
2.	Rabi	Food & Oilseeds crops (all cereals, millets, & oilseeds, pulses)	1.5% of SI or Actuarial rate, whichever is less
3.	Kharif & Rabi	Annual Commercial / Annual Horticultural crops	5% of SI or Actuarial rate, whichever is less

General Characteristics of Sample Households

Table 2 presents the general characteristics of crop-insured and non-crop-insured sample households across different farm-size categories. The average family size was 5.22 members among insured farmers and 6.00 members among non-insured farmers. The average landholding size was comparatively higher for insured farmers (3.12 ha) than for non-insured farmers (2.77 ha). The literacy pattern also varied between the two groups. Among insured farmers, 18.98 per cent were illiterate, 6.88 per cent had primary education, 6.34 per cent had middle-level education, 23.14 per cent had higher secondary education, and 3.64 per cent had university-level education. The corresponding figures for non-insured farmers were 31.33, 23.60, 23.60, 18.88, and 2.57 per cent, respectively. Overall, the findings indicate noticeable differences in family size, landholding and educational status between crop-insured and non-crop-insured sample households.

Table 2 General Characteristics of Crop-Insured and Non-Crop-Insured Farmers

S.N.	Particulars	Crop Insured Farmers				
		Marginal	Small	Medium	Large	Average
1	Total no. of sample households	13	23	15	9	15
2	Average family size	6.3	5.7	4.6	4.3	5.22

3	Average holding size (ha)	0.7	1.8	3.7	6.3	3.12
4	Literacy Rate					
a	Illiterate	12 (26.08)	12 (19.35)	11 (20.00)	6 (11.32)	10.25 (18.98)
b	Primary	8 (17.39)	15 (24.19)	14 (25.45)	14 (26.41)	12.75 (6.88)
c	Middle	10 (21.73)	14 (22.58)	11 (20.00)	12 (22.64)	11.75 (6.34)
d	Higher Secondary	13 (28.26)	14 (22.58)	12 (21.81)	11 (20.75)	12.50 (23.14)
e	University	3 (6.52)	7 (11.29)	7 (12.72)	10 (18.86)	6.75 (3.64)
	Total	46 (100)	62 (100)	55 (100)	53 (100)	54 (100)
Non-Crop Insured Farmers						
S.N.	Particulars	Marginal	Small	Medium	Large	Average
1	Total no. of sample households	12	19	21	8	15
2	Average family size	7.1	6.6	5.2	5.1	6.00
3	Average holding size (ha)	0.8	1.5	3.3	5.5	2.77
4	Literacy Rate					
a	Illiterate	25 (37.87)	18 (23.37)	13 (26.53)	17 (41.46)	18.25 (31.33)
b	Primary	14 (21.21)	23 (29.87)	11 (20.37)	7 (17.07)	13.75 (23.60)
c	Middle	16 (24.24)	24 (31.16)	9 (18.36)	6 (14.63)	13.75 (23.60)
d	Higher Secondary	9 (13.63)	11 (14.28)	14 (28.57)	10 (24.39)	11.00 (18.88)
e	University	2 (3.03)	1 (1.29)	2 (4.08)	1 (2.43)	1.50 (2.57)
	Total	66 (100)	77 (100)	49 (100)	41 (100)	58.25 (100)

Coverage and performance of PMFBY during kharif seasons of years 2021-22 to 2023-24 of Chhattisgarh state

The results about the progress of PMFBY in Chhattisgarh state was presented in table no 3 in terms of no of farmers covered, area insured in hectares, sum insured etc. the percent change was from kharif 2021-22 to kharif 2023-24 estimated on the basis of data provided by Ministry of Agriculture (MOA) the total no of farmers insured their crop in the year kharif 2021-22 is about 12.69 lakh while in 2023-24 it was 14.22 lakh which has increased by 12.05 per cent. The area covered under the scheme in 2021-22 is about 19.17 lakh ha while in kharif 2023-24 was 20.24 lakh ha the increased area by 5.58 per cent.

Table 3 PMFBY coverage of Chhattisgarh state: Kharif 2021 vs Kharif 2023

S.No.	Chhattisgarh	kharif 2021	Kharif 2022	Kharif 2023	Per cent change
1	No. of farmers in lakh	12.69	13.10	14.22	12.05
2	Area insured in lakh ha	19.17	19.70	20.24	05.58

3	Sum insured in crore	8031	8678	9583	19.32
4	claim passed farmers numbers	489841	155389	108707	-77.80
5	claim passed amount in Cr.	992	237	191	-80.76

Constraints and measures suggested for improvement of PMFBY

The constraints and opinions of the farmers on various aspects of the crop insurance scheme and suggestions for further improvement in the scheme were obtained from the sample of crop insured and non-crop insured farmers and the same are presented in Table 4, 5 and 6 respectively. Majority of the farmers participating in the scheme opined (table 6.8) that the benefits were of multifarious type. They were able to use higher quantities of resource inputs for crop production (70.00 per cent) and thereby obtain higher yields, which enabled them to improve economic condition

Table 4. Constraints in the adoption of PMFBY scheme given by crop insured farmers

S. No.	Particulars	No. of total crop insured respondents n= 60			
		Yes		No	
		Respondents	%	Respondents	%
1.	Ignorance about PMFBY	32	53.34	28	46.66
2.	Insufficient compensation	53	88.33	7	11.66
3.	Delay in realization of compensation	40	65.57	20	33.33
4.	Difficulties in processing and Compensation of paper work.	26	43.33	34	56.66
5.	Ignorance about crops covered under the scheme	35	58.33	25	41.66
6.	Criteria about crop insurance claim is inefficient	41	68.33	19	31.66

Opinion of Crop-Insured Farmers about Crop Insurance

Presents the opinions of crop-insured farmers regarding the benefits of crop insurance under PMFBY. The results revealed that 70.00 per cent of the respondents considered PMFBY an effective safeguard against production losses, while 68.33 per cent believed that it helps mitigate risks arising from adverse climatic conditions. Further, 61.66 per cent reported that crop insurance contributes to improving farmers' economic condition. Similarly, 70.00 per cent of the respondents stated that crop insurance enhances the performance of farm operations. Overall, the findings indicate that a majority of the insured farmers had a positive perception of crop insurance, particularly in terms of protection against production losses, climatic risks and support for farm operations.

Table 5. Opinion of crop insured farmers about crop insurance

S.No.	Particulars	No. of total crop insured respondents n= 60			
		Yes		No	
		Respondents	%	Respondents	%
1.	PMFBY acts as safeguard against production losses	42	70.00	18	30.00
2.	PMFBY mitigates the risk of adverse climatic condition	41	68.33	19	31.66

3.	Farmers economic condition improves due to crop insurance	37	61.66	23	38.33
4.	Crop insurance enhances the performance of farm operations	42	70.00	18	30.00

Table 5 presents the major constraints and opinions of non-crop-insured farmers regarding their non-participation in crop insurance schemes. The results revealed that inadequate publicity of the scheme was the most frequently reported constraint, as indicated by 66.66 per cent of the respondents. This was followed by lack of awareness about the facilities available under crop insurance (61.66%), lack of service or cooperation from the concerned agency (60.00%), complex documentation and procedural work (58.33%), and delay in claim payment (58.33%). Half of the respondents (50.00%) reported a lack of faith in the scheme or implementing agency, while 45.00 per cent were not aware of crop insurance. Lack of premium-paying capacity was reported by 41.66 per cent, whereas 40.00 per cent were not satisfied with the crops covered under the scheme. Further, 35.00 per cent faced difficulties in opening a bank account, 33.33 per cent felt no need for insurance, and 25.00 per cent were dissatisfied with the indemnity level. In addition, 45.00 per cent of the respondents reported taking loans from sources other than banks. Overall, the findings indicate that inadequate publicity, limited awareness, procedural complexities, delayed claim settlement, and insufficient institutional support were the major constraints discouraging non-insured farmers from availing themselves of crop insurance.

Table 6 Constraints and Opinion of Non crop Insured Farmer for not availing Crop insurance

S.N.	Particulars	No. of total non-crop insured respondents n= 60			
		Yes		No	
		Respondents	%	Respondents	%
1.	Not aware of crop insurance	27	45.00	33	55.00
2.	No faith in scheme / agency	30	50.00	30	50.00
3.	Lack of premium paying capacity	25	41.66	35	58.00
4.	Not aware of the facilities available	37	61.66	23	38.33
5.	Not satisfied with crops covered	24	40.00	36	60.00
6.	Inadequate publicity of the scheme	40	66.66	20	33.33
7.	Nearest bank at a distance				
8.	Complex documentation and process work	35	58.33	25	41.66
9.	Lack of service / cooperation from the agency	36	60.00	24	40.00
10.	No need of insurance *	20	33.33	50	83.33
11.	Delay in claim payment	35	58.33	25	41.66
12.	Not satisfied with indemnity level	15	25.00	45	75.00
13.	Difficulties in opening bank account	21	35.00	39	65
14.	Loan has taken from sources other than banks	27	45.00	33	55.00

Conclusion

The study concluded that the Pradhan Mantri Fasal Bima Yojana (PMFBY) plays an important role in reducing production risk and providing financial security to farmers in Raipur district of Chhattisgarh. The findings showed that insured farmers had a positive perception of crop insurance, particularly regarding protection against production losses, climatic risks, improvement in economic conditions, and better performance of farm operations. However, insufficient compensation, delays in claim settlement, lack of awareness, inadequate publicity, complex documentation, and limited institutional support were major constraints affecting the effective implementation and wider adoption of the scheme. Therefore, greater emphasis should be placed on timely claim settlement, adequate compensation, simplified procedures, improved awareness and publicity, and better coordination among farmers, banks, insurance agencies, and government departments to enhance the effectiveness and accessibility of PMFBY.

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