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Performance analysis of Pradhan Mantri Fasal Bima Yojana (PMFBY) in Rajnandgaon district of Chhattisgarh state

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Abstract

The study was conducted an attempt has been made in the study, Performance Analysis of Pradhan Mantri Fasal Bima Yojana in Rajnandgaon district of Chhattisgarh State. The total cropped area of crop insured farmers is 1.02, 2.29, 5.6 and 9.17 hectare of marginal, small, medium and large farms respectively with an average of 4.51 hectare. In total cropped area, 68.51 percent area covered in kharif season followed by 30.38 percent area covered under rabi season in different crops. The average cropping intensity at sample farmers of crop insured group is estimated as 145.95 percent. The total cropped area 69.27 percent area allocated under kharif season followed by 29.95 percent of area under rabi season in sugarcane crop. The average cropping intensity at sample farmers of non-crop insured group is estimated to be 144.36 percent. The beneficiary ratio in Chhattisgarh and Rajnandgaon was found 32.33 and 27.12 percent. The insured area was higher than the non loanee farmers. The total premium paid was Rs. 183893.8 and against this the claim was received Rs. 2289736.6 per acre claim received per acre was Rs. 5235 by loanee farmers and same is received Rs. 3277 by non loanee farmers. The claim to premium ratio is much better i.e. 14.38 as compare to 9.03 by loanee and non-loanee respectively. The claim to premium ratio found highest Manpur was 39.35 percent followed by Mohla (37.49 percent) and Ambagarh Chowki (26.69 percent), also the claim to premium ratio of Rajnandgaon district was found 36.64 percent. The claims to sum assured ratio found highest Manpur was 7.82 percent followed by Mohla (7.79 percent) and Ambagarh Chowki (6.03 percent), also claims to sum assured ratio of Rajnandgaon district was found 8.08 percent. The Premium to sum insured found highest Ambagarh Chowki (22.59 percent), followed by Mohla (20.78 percent) and Manpur was 19.89 percent, also the Premium to sum insured of Rajnandgaon district was found 22.07 percent.

Keywords: Claim, premium ratio, sum insured, beneficiary ratio

Introduction

Agriculture is the main pillar of the Indian economy. It not only contributes about 17% to GDP, but also provides employment for 53% of the population. India is a land of farmers and agriculture and related activities that depend on its livelihood account for the largest proportion of the rural population in India. It plays an effective role in the economic growth of India, and it is considered to be a big power station in the entire economy. The problem now is that due to natural reasons, the credits obtained from different sources were repaid during the crop damage period, making it difficult for farmers to repay the loans. According to the national agricultural policy, despite improvements in technology and economic development, the conditions of farmers are still unstable due to natural disasters and price fluctuations. In some extreme cases, such adverse events have become one of the factors leading to suicide and now account for a high percentage. There is no doubt that natural disasters such as floods and droughts are increasing, hail storms, etc and sometimes even harvested crops are destroyed by non-seasonal rains or hail storms. Keeping the facts in mind, the Indian government introduced the Pradhan Mantri Fasal Bima Yojana (PMFBY) on February 18, 2016 to reduce agricultural risks and uncertainties and stabilize farmers' incomes. Pradhan Mantri Fasal Bima Yojana is the flagship scheme of the government for agricultural insurance in India in line with the one nation- one scheme theme. The Chhattisgarh climate is tropical. Due to its proximity to the Tropic of Cancer and its reliance on the monsoons for rainfall, it is hot and humid. The monsoon season runs from late June to October and is a welcome heat respite. Chhattisgarh gets 1,292 millimeters (50.9 in) of rain on average. Agriculture continues to be the main occupation of the overall economy of the State.

Here is much need to defence the agricultural incomes of the farmers of Chhattisgarh. The instrument of crop insurance allows the much needed safeguard to crop incomes. Looking to the growth in coverage of crop insurance and its contribution in stabilizing farm income against natural risks and calamities.

Methodology

Sampling technique three blocks namely Ambagarh Chowki, Mohla and Manpur blocks of Rajnandgaon district area was selected purposively for the study as the blocks have highest number of farmers adopting Pradhan Mantri Fasal Bima Yojana as compare to other blocks of the district. A multistage simple random sampling technique (SRS) was adopted to select the block, villages and the respondents in Rajnandgaon district. The details of the sampling techniques at various stages are given as under:

Performance indicators

The performance of Pradhan Mantri Fasal Bima Yojana has been analysed using following indicators;

$$\text{Beneficiary ratio} = \frac{\text{No. of farmers who received indemnity payment}}{\text{Total number of farmers insured}} \times 100$$

$$\text{Area covered per farmer} = \frac{\text{Total area covered}}{\text{Total number of farmers}} \times 100$$

$$\text{Premium per hectare} = \frac{\text{Premium collected}}{\text{Total area covered}}$$

The efficiency of Pradhan Mantri Fasal Bima Yojana (PMFBY) has been analysed using following indicators;

$$\text{Claims to premium ratio (Loss ratio)} = \frac{\text{Claims received}}{\text{Premium paid}}$$

$$\text{Claims to sum insured ratio} = \frac{\text{Claims received}}{\text{Sum insured}} \times 100$$

$$\text{Premium to sum insured ratio} = \frac{\text{Premium paid}}{\text{Sum insured}} \times 100$$

Results and Discussion

The performance of Pradhan Mantri Fasal Bima Yojana

Table 1 the performance of PMFB across the district of Rajnandgaon in terms of insured farmers, area covered and Beneficiary ratio. Highest no. of farmers insured in mohla block. Total no. of insured farmers was 83769 of Rajnandgaon district and insured area was 111921.63 hectare covered also the no. of insured farmers in Chhattisgarh was 420801 and 580530.90 hectare. The highest no. of insured farmers and area covered in mohla block was 32091 and 42110.33 hectare followed by manpur (28119 and 37021.11 hectare) and Ambagarh Chowki (23559 and 32790.19 hectare). The beneficiary ratio in study area is estimated as 29.84 percent, the same is found highest Mohla as 31.83 percent followed by Manpur (27.40 percent) and Ambagarh Chowki (20.36 percent). The beneficiary ratio in Chhattisgarh and Rajnandgaon was found 32.33 and 27.12 percent.

Table 2 shows the performance of PMFBY loanee and non loanee farmers in Rajnandgaon district. The table 4.9 reveals that the insured area was higher than the non loanee farmers. The total premium paid was Rs. 183893.8 and against this the claim was received Rs. 2289736.6 per acre claim received per acre was Rs. 5235 by loanee farmers and same is received Rs. 3277 by non loanee farmers. The claim to premium ratio is much better i.e. 14.38 as compare to 9.03 by loanee and non-loanee respectively.

Table 1: Performance PMFBY during kharif 2020-21 in study area and in Chhattisgarh

Blocks	No. of farmers insured	Area covered (ha)	Premium collected (lakhs)	No. of beneficiaries (No. of farmer who received indemnity payment)	Beneficiary ratio (%)	Area covered per farmers (ha)	premium Rs. per ha
Manpur	28119	37021.11	3029.21	7704	27.40	1.32	818.23
Mohla	32091	42110.33	3723.43	10215	31.83	1.31	884.2
Ambagarh Chowki	23559	32790.19	2529.12	4797	20.36	1.39	771.3
Total district	83769	111921.63	9281.76	22716	27.12	1.34	829.31
Chhattisgarh	420801	580530.9	24093.01	136041	32.33	1.38	877.9

Source: Calculation done based on data collected from Dept. of Agriculture, Rajnandgaon, 2020-21

Table 2: Performance of PMFBY in the study area during Kharif 2020-21

District	Category	Area insured (acres)	Premium paid (Rs)	Claims received (Rs)	Premium paid (Rs per acre)	Claims received (Rs / acre)	Claims to premium ratio
Rajnandgaon	Loanee (n = 84)	323.9	117899.6	1695616.5	364	5235	14.38
	Non-loanee (n = 52)	181.3	65993.2	594120.1	364	3277	9.03
Total	n = 136	505.2	183893.8	2289736.6	364	4256	11.69

Source: Calculation done based on data collected from Dept. of Agriculture, Rajnandgaon, 2020-21

The Efficiency of Pradhan Mantri Fasal Bima Yojana

Table 3 the efficiency of PMFB across the district of Rajnandgaon in terms of claim to premium ratio, claims to sum assured ratio and premium to sum insured. The claim to premium ratio found highest Manpur was 39.35 percent followed by Mohla (37.49 percent) and Ambagarh Chowki (26.69 percent), also the claim to premium ratio of Rajnandgaon district was found 36.64 percent. The claims to sum assured ratio found highest Manpur was 7.82 percent followed by Mohla (7.79 percent) and Ambagarh Chowki

(6.03 percent), also claims to sum assured ratio of Rajnandgaon district was found 8.08 percent. The Premium to sum insured found highest Ambagarh Chowki (22.59 percent), followed by Mohla (20.78 percent) and Manpur was 19.89 percent, also the Premium to sum insured of Rajnandgaon district was found 22.07 percent.

Extent of risk reduction under PMFBY

Table 4 shows the extent of risk reduction under PMFBY for various crops. The premium for paddy crop was Rs. 364 per

acre which was highest premium followed by soybean and lowest black gram. Yield loss was also maximum in paddy as 7 quintals per acre followed by green gram and black gram. The overall risk reduction is estimated as 28.78 percent. While the same is maximum for arhar as 37.6 percent followed by maize with 34.96 and paddy with 39.91 percent. Table 5 shows the season-wise performance of PMFBY in Rajnandgaon district during kharif and rabi 2017-18 to kharif and rabi 2018-19. The change in the same period in number of farmers insured in kharif 2017-18 to kharif 2018-19 was

25.67 percent while in rabi this change occurred with 46.69 percent. The change in premium paid during kharif 2016 to kharif 2018-19 is observed 29.66 percent and in rabi for same period observed 40.01 percent. Whereas change in area insured increased 22.35 percent from kharif 2017-18 to kharif 2018-19 and in rabi 2017-18 to rabi 2018-19 it is estimated 37.39 percent. As per the changes shown in the table it is found a notable increase in number of farmers, premium paid and insured area during the seasons.

Table 4: Efficiency of PMFBY during kharif 2020-21 in study area

Blocks	No. of farmers insured	Area (ha)	Sum insured (Sum Assured) (lakhs)	Gross premium (premium Paid) (lakhs)	Claim settled (claims received) (lakhs)	Claim to premium ratio	Claims to sum assured ratio (%)	Premium to sum insured (%)
Manpur	28119	37021.11	15223.21	3029.21	1191.17	39.32	7.82	19.89
Mohla	32091	42110.33	17914.09	3723.43	1396.05	37.49	7.79	20.78
Ambagarh Chowki	23559	32790.19	11201.33	2529.12	675.04	26.69	6.03	22.59
Total district	83769	111921.63	63863.74	14093.01	5163.47	36.64	8.08	22.07

Table 5: Extent of risk reduction under PMFBY (Per acre)

Crop	Premium (Rs)	Expected Yield (q)	Actual Yield (q)	Yield loss (q)	Price (Rs/q)	Economic loss (Rs)	Claims received (Rs)	Risk reduction (Rs)	% of risk reduced
Paddy	364	24	17	7	2500	17500	5235	-12265	29.91
Maize	291	6	4.50	1.50	3200	4800	1678	-3122	34.95
Arhar	215	8	3	5	4500	22500	8460	-14040	37.6
Black Gram	150	5	1.65	3.35	3890	13031.5	2532	-10499.5	19.43
Green Gram	150	5.5	1.70	3.8	3950	15010	3057	-11953	20.37
Average	234	9.7	5.57	4.13	3608	14568.3	4192.4	10375.9	28.78

Source: Calculation done based on data collected from selected farmers and Department of Agriculture insurance, Raipur, 2020-21

Table 6: Season-wise performance of PMFBY in Rajnandgaon district

Season	Farmers insured	% Change	Premium paid (₹ Cr.)	% Change	Area insured (acres)	% Change
Kharif 2017-18	96123		49.25		131200.15	
Kharif 2018-19*	120801	25.67	63.86	29.66	160530.90	22.35
Rabi 2017-18	32423		16.97		54975.32	
Rabi 2018-19*	47560	46.69	23.76	40.01	75530.89	37.39

Source: Calculation done based on data collected from Department of Agriculture, Rajnandgaon, 2020-21

Conclusion

Finding shows that awareness level about PMFBY in study area's 86.03 percent among farmers who were availing crop insurance in scheme. It was also observed that 21.43 percent farmers who were not availing crop insurance, were also aware about PMFBY while 13.97 percent farmer were not aware about PMFBY although they were insured their crop under PMFBY. Area covered per farmer per hectare was highest in Ambagarh chowki block i.e. 1.39 ha. Beneficiary ratio was found highest in Rajnandgaon. It was 35.97 percent. Premium to sum insured is minimum in Manour block 19.89 percent. Claim to sum assured ratio was calculated highest in Rajnandgaon block is 9.74 percent.

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