



ISSN (E): 2277- 7695
ISSN (P): 2349-8242
NAAS Rating: 5.23
TPI 2021; SP-10(4): 82-86
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www.thepharmajournal.com
Received: 13-02-2021
Accepted: 15-03-2021

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Crop insurance in India: Status of PMFBY against different crop insurance schemes

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DOI: <https://doi.org/10.22271/tpi.2021.v10.i4Sb.5976>

Abstract

Crop insurance has been implemented in the country since 1972, yet it has been beset with several problems such as delayed payment of claims, high premium, lack of transparency and delay in conducting crop cutting experiments etc. From these schemes none of them has been able to make a significant impact on farming system; as just 23.50 per cent of farmers were insured in *kharif* 2016. The existing relief and compensation criteria for farmers against crop loss was adhoc, messy and politicized and was ineffective to bring well-timed and satisfactory relief to affected farmers. This research article examines the cumulative performance of different crop insurance schemes implemented time to time. The claim premium ratio in First Individual Approach Scheme was 8.34, indicating that for every one rupee of premium collected; the scheme paid Rs 8.34 in claims. It shows high out go in the scheme. The benefits of CCIS were highly twisted towards few states and many more failures found in these schemes. Under PMFBY from *kharif* 2016 to *kharif* 2017, there has been a significant increase in the number of gross premiums (21%), claims paid (64%) and farmers benefitted (29%), respectively. The difference between gross premium and claim paid in the *Kharif* season has abridged and indicated a divergence in the data on the payout of claims and the profits made by private insurance companies. The new scheme revealed that overall area insured and farmers covered were decreased over the years from *Kharif* 2016 to *Kharif* 2018. On the other hand, there has been a significant increase in the number of gross premiums as 45 per cent. The PMFBY has therefore failed to achieve the targets, i.e. increasing the area and the number of farmers insured. The exclusion under the scheme are risks and losses arising out of war and nuclear risks, malicious damage, theft, grazed and destroyed by domestic and wild animals.

Keywords: crop insurance, farmers, India, performance, Pradhan Mantri Fasal Bima Yojana

Introduction

Agriculture plays a vital role in the farmers' life and it occupies a pivotal position in India's economic development. It is regarded as a major source of power that has a bearing on its whole economy. It is entrenched truth that the success of economic planning depends on the growth of its agriculture sector and indicated whether agricultural production has reached comfortable tallness especially after the green revolution. In this background, the union Government has merged all the previous crop insurance schemes and introduced a new scheme-Pradhan Mantri Fasal Bima Yojana (PMFBY) with an improved design on 13 January 2016 to mitigate risks and uncertainties of farming along with stabilization of farmers income with low premium rates for *kharif* crops (2%), *rabi* crops (1.5%) and commercial crops (5%) of the sum of amount insured. The scheme was also implemented in Haryana state from *kharif* season. After gaining experience of the aforesaid schemes and many discussions, PMFBY has been the most recent avatar of crop insurance in the country. Pooling in the important learning from all the earlier schemes and taking into consideration of access to technology in the recent days, Pradhan Mantri Fasal Bima Yojana promises to take care of the loopholes of earlier schemes.

Material and Methods

The study was based on secondary data which was collected from various published sources like Ministry of Agriculture and Farmers Welfare, Govt. of India, Department of Agriculture and Cooperation and Farmers Welfare, Statistical Abstract of Haryana and Indiastat etc. The descriptive statistical measures like average, frequency and percentage were used to analyze the data pertaining to given objective. Claim ratio or Claim-premium ratio was calculated as

$$\text{Claim Ratio} = \frac{\text{Claim paid}}{\text{Premium collected}}$$

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

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

Results and Discussion

Table 1: Cumulative performance of Pradhan Mantri Fasal Bima Yojana (PMFBY) in India (*Kharif*, 2016)

<i>Kharif 2016 (Rs. in crore)</i>							
States	Farmers insured	Area insured	Sum insured	Gross premium	Claim paid	Farmers benefitted	Claim ratio
Andhra Pradesh	1618537 (4.02)	1387438 (3.68)	7682.47 (5.85)	680.8 (4.17)	647.15 (6.17)	793662 (7.4)	0.95
Assam	51749 (0.13)	36692 (0.1)	205.47 (0.16)	6.91 (0.04)	5.02 (0.05)	23370 (0.22)	0.73
Bihar	1485432 (3.69)	1312217 (3.48)	6531.06 (4.97)	1122.5 (6.88)	291.54 (2.78)	151365 (1.41)	0.26
Chhattisgarh	1399189 (3.48)	2200431 (5.84)	6681.74 (5.09)	271.89 (1.67)	133.04 (1.27)	96966 (0.9)	0.49
Goa	744 (0)	544 (0)	5.77 (0)	0.07 (0)	0.03 (0)	111 (0)	0.43
Gujarat	1842386 (4.58)	2566907 (6.81)	11250.18 (8.56)	2305.38 (14.13)	1229.28 (11.71)	639228 (5.96)	0.53
Haryana	738856 (1.84)	1188005 (3.15)	7020.65 (5.34)	256.97 (1.57)	235.21 (2.24)	152908 (1.43)	0.92
Himachal Pradesh	134616 (0.33)	39501 (0.1)	296.66 (0.23)	6.4 (0.04)	5.83 (0.06)	27183 (0.25)	0.91
Jharkhand	828412 (2.06)	352731 (0.94)	1891.27 (1.44)	265.3 (1.63)	29.48 (0.28)	39627 (0.37)	0.11
Karnataka	1356875 (3.37)	1282071 (3.4)	6400.26 (4.87)	881.77 (5.4)	1165.53 (11.1)	679794 (6.34)	1.32
Kerala	31531 (0.08)	21378 (0.06)	109.55 (0.08)	8.57 (0.05)	17.92 (0.17)	24895 (0.23)	2.09
Madhya Pradesh	4071974 (10.11)	6445838 (17.11)	18439.61 (14.03)	2672.79 (16.38)	1846.3 (17.59)	1110181 (10.35)	0.69
Maharashtra	10997398 (27.32)	6726963 (17.85)	21417.57 (16.3)	4123.3 (25.27)	2079.9 (19.82)	2795624 (26.07)	0.50
Manipur	8366 (0.02)	9121 (0.02)	36.94 (0.03)	3.59 (0.02)	1.96 (0.02)	8358 (0.08)	0.55
Meghalaya	63 (0)	22 (0)	0.29 (0)	0.03 (0)	0.03 (0)	48 (0)	1.00
Odisha	1766541 (4.39)	1258011 (3.34)	6891.22 (5.24)	532.72 (3.26)	429.35 (4.09)	166436 (1.55)	0.81
Rajasthan	6231514 (15.48)	7330884 (19.45)	9980.04 (7.6)	1977.7 (12.12)	1635.68 (15.58)	2552188 (23.8)	0.83
Tamil Nadu	15873 (0.04)	33306 (0.09)	206.98 (0.16)	9.96 (0.06)	10.59 (0.1)	1920 (0.02)	1.06
Telangana	708876 (1.76)	592551 (1.57)	3654.91 (2.78)	232.06 (1.42)	163.93 (1.56)	206948 (1.93)	0.71
Tripura	1881 (0)	846 (0)	3.59 (0)	0.05 (0)	0.08 (0)	502 (0)	1.60
Uttar Pradesh	3739273 (9.29)	3295815 (8.75)	14175.3 (10.79)	673.78 (4.13)	449.95 (4.29)	949945 (8.86)	0.67
Uttarakhand	175243 (0.44)	101082 (0.27)	699.41 (0.53)	25.56 (0.16)	16.68 (0.16)	50498 (0.47)	0.65
West Bengal	3053408 (7.58)	1500254 (3.98)	7806.63 (5.94)	259.68 (1.59)	101.87 (0.97)	253754 (2.37)	0.39
Grand Total	40258737 (100)	37682608 (100)	131387.57 (100)	16317.79 (100)	10496.34 (100)	10725511 (100)	0.64

Note: Figures in parenthesis indicate the percentages to the total

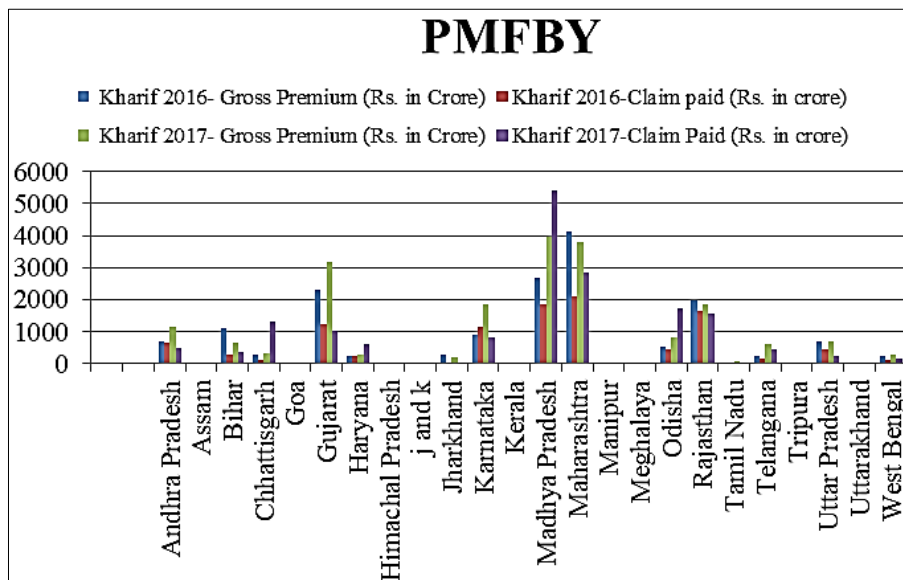


Fig 1: Premium collected and claim paid under PMFBY

The table 1 showed the performance of PMFBY in different states that a total of 40258737 farmers and an area of 37682608 ha were insured under PMFBY during *kharif* 2016. Similarly 34776055 farmers and an area of 34053449 ha were insured during *kharif* 2017. Under given scheme, during *Kharif* 2016 premium paid was highest in Maharashtra

followed by Madhya Pradesh and Gujarat. Similarly, highest claims were reported in Maharashtra. During *Kharif* 2017, premium paid was highest in Maharashtra followed by Gujarat and Karnataka. While, claims reported huge in Maharashtra state, followed by Rajasthan and Madhya Pradesh.

Table 2: Performance of PMFBY during different periods

Kharif	Farmers insured	Area insured (ha)	Gross premium (crore)	Claims paid (crore)	Farmers benefitted	Sum insured
2016	40258737	37682608	16318	10496	10725511	131388
2017	34776055	34053449	19768	17210	1379975	129913
2018	33273380	31514402	20715	N.A.	N.A.	137466
Percentage change (2016 to 2017)	-0.14	-0.10	0.21	0.64	0.29	-0.01
Percentage change (2017 to 2018)	-0.04	-0.07	0.45	N.A.	N.A.	0.06

In PMFBY the overall claim ratio was low (i.e. 0.64) indicating that the premium collected was higher than the amount claimed. The claim ratio was high in some states like Karnataka, Kerala, Meghalaya, Tamil Nadu and Tripura. It

indicated that high out go in these states and shown the viability of the scheme in these states. The maximum claim ratio found in the Kerala state i.e. 2.09 and minimum found in Jharkhand state i.e. 0.11.

Table 3: Cumulative performance under different insurance schemes

Scheme	Farmers covered (no.)	Area covered (ha.)	Sum insured (Rs.)	Premium collected (Rs.)	Claim paid (Rs.)	Claim ratio
FIAS (1972-1978)	3110	N.A.	N.A.	454000	3788000	8.34
PCIS (1979-1984)	622622	691760	606728000	19501000	15568000	0.80
CCIS (1985-1999)	76270000	12750000	249750000	4035590000	22270110000	5.52
ECIS (1997-98)	454555	N.A.	1681200000	28400000	378000000	13.31
NAIS (1999-2000)	27115582000	3915715000	4671169200000	14124250000	51850140000	3.67
WBCIS (2007-08)	7242573000	8957954000	124134745000	12268837000	96930660000	0.79
MNAIS (2010)	2767371000	2980482000	616614530000	49702620000	51911780000	1.04
CPIS (2009-10)	74376	N.A.	47433000	298000	417000	1.40
PMFBY (Kharif 2016-2018)	108308172	103250459	39876700000	5680100000	2770600000	0.49

The ideal claim ratio was attained by the Meghalaya state i.e. 1 indicated that no loss found in farmers side and also on Government side. So, scheme was fully viable for the given state. In case of Haryana, its ratio was 0.92 means to some extent showing the satisfactory level.

The given table 2 shows the percentage change of certain indicators to ascertain and compare the impact of the PMFBY on Kharif 2016 and Kharif 2017. Due to a lack of data on kharif 2018 on the PMFBY website, the table does not show

the percentage change during this season completely. However, there has been a significant increase in the number of gross premium, claims paid and farmers benefitted: 21 per cent, 64 per cent and 29 per cent, respectively.

The given Table shows that the difference between gross premium and claim paid/compensation paid in the *Kharif* season has abridged and indicated a divergence in the data on the disbursement of claims and the profits made by private insurance companies.

While the positive effects were significant, it is important to discuss the negative changes. As Table 2 shows, the number of insured farmers was declined by 14 percent from *Kharif* 2016 to *Kharif* 2017, and the total area insured was decreased by ten percent over the duration of one year. Likewise, from *kharif* 2017 to *kharif* 2018 no. of insured farmers was declined further by 4 per cent, and the total area insured has decreased by nearly seven per cent. However, there was a significant increase in the number of gross premium as 45 per cent. The PMFBY has therefore failed to achieve its main targets, i.e. increasing the area and the number of farmers insured. This failure was result of some fundamental issues in the scheme, which must be discussed to create a more holistic crop-insurance scheme that mitigates risks for both farmers and food security.

The table 3 depicted that claim ratio was less than one in case of PCIS, WBCIS and PMFBY indicating that premium collected was higher than the amount claimed. In ECIS, claim ratio high but not appropriate scheme and not viable to long period. If the ratio exceed than unity it means it was beneficial

for the farmers and claim paid were much higher. The highest ratio was found in the ECIS i.e. 13.31, second highest ratio found in FIAS i.e. 8.34 and CCIS stand at third level i.e. 5.52. If its value was high which indicated that high out go in the scheme which resulted from administered pricing of the scheme. In one hand it is a question mark on viability of the scheme and high dependence on government. On the other hand, it indicated high benefits for the farmers. In NAIS, claim ratio is 3.67 which were greater than unity, it means high out go in scheme and high benefit for the farmers and it also moved to long time. The number of farmers covered was highest in NAIS and minimum value attained by FIAS. In case of area covered, maximum was covered by WBCIS. In case of premium collected, highest found in the MNAIS and minimum in CPIS. Similarly, claim paid value highest for WBCIS and minimum found in CPIS. The numbers of factors affect the working of schemes like working period, farmers covered, premium rates etc. So, clear picture not seen by the given table.

Table 4: Overall average of sum insured, premium and claim paid under different insurance schemes

Per farmer				
Scheme	Area covered (ha.)	Sum insured (Rs.)	Premium collected (Rs.)	Claim paid (Rs.)
FIAS (1972-1978)	N.A.	N.A.	145.98	1218.01
PCIS (1979-1984)	1.11	974.47	31.32	25.00
CCIS (1985-1999)	0.17	3.27	52.91	291.99
ECIS (1997-98)	N.A.	3698.56	62.48	831.58
NAIS (1999-2009)	0.14	172.27	0.52	1.91
WBCIS (2007-08)	0.12	17.14	1.69	13.38
MNAIS (2010)	1.08	222.82	17.96	18.76
CPIS (2009-10)	N.A.	637.75	4.01	5.61
PMFBY (<i>Kharif</i> 2016-2018)	0.95	368.18	52.44	25.58
Per hectare				
FIAS (1972-1978)	-	N.A.	N.A.	N.A.
PCIS (1979-1984)	-	877.08	28.19	22.50
CCIS (1985-1999)	-	19.59	316.52	1746.68
ECIS (1997-98)	-	N.A.	N.A.	N.A.
NAIS (1999-2009)	-	1192.93	3.61	13.24
WBCIS (2007-08)	-	138.57	13.70	108.21
MNAIS (2010)	-	206.88	16.68	17.42
CPIS (2009-10)	-	N.A.	N.A.	N.A.
PMFBY (<i>Kharif</i> 2016-2018)	-	386.21	55.01	26.83

Overall average performance analyzed by the given table 4. In case of area covered per farmer was highest in PCIS. Sum insured per farmer was highest in ECIS. If we examine the premium paid per farmer, NAIS is the cheapest one for the farmers with average premium as Rs.0.52 per farmer. Average premium per farmer is high in case of FIAS. Then claim paid per farmer was maximum in case of FIAS i.e. Rs.1218 and minimum in NAIS. Maximum premium per hectare and claim per hectare was Rs.316 and Rs.1747 in case of CCIS respectively. Similarly, minimum value obtained by the NAIS.

Conclusion

In FIAS, the claim premium ratio was 8.34, indicating that for every one rupee of premium collected; the scheme paid Rs 8.34 in claims. It means high out go in the scheme. The benefits of CCIS were highly skewed towards few states like Gujarat, as more than half (58%) of the total indemnities under CCIS were paid to groundnut farmers in this state alone. It was compulsory for the loanee farmers. The amount

of claims in NAIS was much higher than the premium paid, indicating a loss in the operation of this scheme. The claim ratio was still very high i.e. 3.67 per cent. Under PMFBY from *kharif* 2016 to *kharif* 2017, there has been a significant increase in the number of gross premium, claims paid and farmers benefitted: 21 per cent, 64 per cent and 29 per cent, respectively. The number of insured farmers was declined by 14 percent from *Kharif* 2016 to *Kharif* 2017, and the total area insured was decreased by ten percent over the span of one year. The given scheme shows positive as well as negative effects. The PMFBY has therefore failed to achieve its main targets, i.e. increasing the area and the number of farmers insured.

In overall performance, it can be said that the performance of these schemes was steady in India and progressing. Efforts are being made to find out a commercially viable scheme, which is also beneficial to the farmers.

References

1. Ashok Gulati, Prerna Terway, Siraj Hussain. "Crop

- Insurance in India: Key Issues and Way Forward”. Indian Council for Research on International Economic Relations (ICRIER). Working Paper No. 352 2018, 1-40.
2. Economic Survey, Chapter 6, Ministry of Finance 2019. http://mofapp.nic.in:8080/economicsurvey/pdf/082101_Chapter_06_ENGLISH_Vol_01 2017-18.pdf
 3. Rao KN. Agriculture risk management through Insurance. Outlook and Situation Analysis for Food Security, AIC, Ministry of Agriculture and Cooperation, Krishi Bhawan, New Delhi 2012.
 4. Rajaram Y, Chetana BS. A study on current crop insurance schemes with a special reference to Pradhan mantra fasal bima Yojana and restructured weather based crop insurance scheme. Int. J Combined Res. Dev 2016;5(7):1678-1683.
 5. Pradhan Mantri Fasal Bima Yojana: An Assessment, Centre for Science and Environment 2017. <https://www.cseindia.org/pradhan-mantri-fasal-bima-yojana-an-assessment-7778>
 6. Singh A. Agriculture Insurance in India. Bimaquest 2016;16(2).
 7. Swain M, Patnaik S. “Performance Assessment of Crop Insurance Schemes in Odisha in Eastern India. South Asian Network for Development and Environmental Economics (SANDEE) Working Paper, ISSN 1893-1891; WP 104–16 2016, P1-55.
 8. www.aicofindia.org
 9. www.indiastat.com
 10. www.pmfby.gov.in
 11. www.icfa.org.in