



AN EMPIRICAL ANALYSIS OF PRADHAN MANTRI FASAL BIMA YOJANA IN INDIA WITH SPECIAL REFERENCE TO KARNATAKA STATE

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ABSTRACT

Implementation of Pradhan Mantri Fasal Bima Yojana as flagship crop insurance programme in India, playing vital role in agriculture risk management, ensuring income to farmers in the context of losses due to natural calamities and ensuring food security for country. Now, Pradhan Mantri Fasal Bima Yojana completing decade in the field, still current crop programme is facing challenges and problems and needs more reforms. In this context we need study the performance of this programme.

Still now, Indian agriculture is considered as backbone of Indian Economy. 48% of rural Population depended upon agriculture for their livelihood. Indian agriculture contributes 14% to GDP and 18% to total Indian Export. Agriculture is very important for resilience of rural economy and women empowerment. But Indian agriculture is facing serious financial and institutional problems which creating agricultural crisis in India. Agricultural product losses, caused by sever natural calamities are one of the problems. Indian agriculture is largely depended upon nature. Indian agriculture is considered as gambling with monsoon. India has experienced significant crop losses due to natural disasters, with estimates showing that over 33 million hectares of cropped land were affected by floods and excess rains in a six-year period (2015-2021), Almost two million hectares of cropped land area were affected in financial year 2023, while another 35 million hectares were impacted by drought during the same timeframe, representing a substantial portion of the country's total crop area. Almost all States are frequently hit by flood-related crop losses.

Because of this, marginal and small farmers comfort income instability and pose problems to continuing agriculture. This trend, put grave challenge for present and future food security of country. Crop insurance is the strategic tool for mitigate natural calamities risks in farm sector. Crop insurance ensures financial compensation for product losses caused by nature. Countries across the globe adopted crop insurance as instrument to safeguard agriculture and farmers' welfare. After independence, Indian government is adopting and modifying various crop insurance programmes. Pradhan Mantri Fasal Bima Yojana is one of the comprehensive crop insurances, implemented all over India.

PRADHAN MANTRI FASAL BIMA YOJANA

Under One country one Crop insurance programme, Pradhan Mantri Fasal Bima Yojana as single flagship crop insurance programme across nation was launched on 18 February 2016. This scheme envisaged to help decreasing the burden of premiums on framers who take loan for cultivation and also will safeguard them against the inclement weather. This scheme has been implemented in every state of India, in association with respective state government. It envisages the uniform premium. This scheme replaced the existing two crop insurance schemes 1. National Agricultural Insurance Scheme (NAIS) and 2. Modified NAIS.

OBJECTIVES OF PMFBY

- To provide insurance coverage and financial support to the farmers in the event of failure of any of the notified crop as a result of natural calamities, pests and diseases.
- To stabilise the income of farmers in order to ensure their continuance in farming.
- To encourage farmers to adopt innovative and modern agricultural practices.
- To ensure flow of credit to the agriculture sector.

IMPLEMENTING AGENCY FOR PMFBY

The Scheme is being implemented through a multi-agency framework by selected insurance companies under the overall guidance and control of the Department of Agriculture and Farmers Welfare (DA&FW), Ministry of Agriculture and Farmers Welfare (MoA&FW), Government of India (GOI).

The concerned State in co-ordination with various other agencies; viz Financial Institutions like Commercial Banks, Co-operative Banks, Regional Rural Banks and their regulatory bodies, Government Departments viz. Agriculture, Co-operation, Horticulture, Statistics, Revenue, Information/Science & Technology, Panchayat Raj etc. are part of this implementation.



Department of Agriculture and Farmers Welfare has designated/empanelled Agriculture Insurance Company of India (AIC) and some private insurance companies presently to participate in the Government sponsored agriculture /crop insurance schemes based on their financial strength, infrastructure, manpower and expertise.

The **empanelled private insurance companies** at present are

- 1) ICICI Lombard General Insurance Company Ltd.
- 2) HDFC-ERGO General Insurance Company Ltd.
- 3) IFFCO-Tokio General Insurance Company Ltd.
- 4) Cholamandalam MS General Insurance Company Ltd.
- 5) Bajaj Allianz General Insurance Company Ltd.
- 6) Reliance General Insurance Company Ltd.
- 7) Future Generali India Insurance Company Ltd.
- 8) Tata-AIG General Insurance Company Ltd.
- 9) SBI General Insurance Company Ltd.
- 10) Universal Sampo General Insurance Company Ltd.

The selection of insurance company from amongst the empanelled insurance companies to act as IA shall be done by the concerned State Government for implementation of the scheme in their respective State. Such selection of IA shall be done from amongst the designated / empanelled companies which shall be initially pre-qualified, strictly on the basis of, experience, existence of infrastructure in the area and quality of services like coverage of farmers and area, pay-outs in terms of quantum and timely settlement thereof, willingness to do publicity and awareness campaigns etc.

PRECONDITIONS FOR IMPLEMENTATION OF THE SCHEME

The main conditions relating to PMFBY which are binding on States/ UTs are as follows:

- State has to conduct requisite number of Crop Cutting Experiments (CCEs) at the level of notified insurance unit area
- CCE based yield data will be submitted to insurance company within the prescribed time limit.
- State/ UT will make necessary budgetary provision in State/ UT budget, to release premium subsidy based on fair estimates, at the beginning of the crop season.
- State/ UT should be willing to facilitate strengthening of weather Station network.
- Adoption of innovative technology especially Smart phones/hand held devices for capturing conduct of CCEs.

Crops and Notified Area

The Scheme covers all the Crops for which past yield data is available and grown during the notified season, in a Notified Area and for which yield estimation at the Notified Area level will be available based on requisite number of Crop Cutting Experiments (CCEs) being a part of the General Crop Estimation Survey (GCES). Notified Area is the Unit of Insurance decided by the State Govt. for notifying a Crop during a season. The size of the Unit of Insurance depends on the area under cultivation within the unit. For major crops, the Unit of Insurance shall ordinarily be Village/Village Panchayat level and for minor crops may be at a higher level so that the requisite number of CCEs could be conducted during the notified crop season. States may notify Village / Village Panchayat as insurance unit in case of minor crops too if they so desire.

Farmers to be covered

All farmers including sharecroppers and tenant farmers growing the notified crops in the notified areas are eligible for coverage. Special efforts shall be made to ensure maximum coverage of SC/ ST/ Women farmers under the scheme. The overall control on implementation of insurance companies will be under Ministry of Agriculture & Framers Welfare. The Ministry designated empanelled AIC and some private insurance companies to participate in the Government sponsored agriculture, crop insurance schemes. The choice of which private company is left to the states. There will be one insurance company for the whole state.

Coverage of risk

Following stages of the crop and risks leading to crop loss are covered under the Scheme.

- Prevented Sowing/ Planting Risk: Insured area is prevented from sowing planting due to deficit rainfall or adverse seasonal Conditions.
- Standing Crop (Sowing to Harvesting): Comprehensive risk insurance is provided to cover yield losses due to non- preventable risks, viz. Drought, Dry spells, Flood, Inundation, Pests and Diseases, Landslides, Natural Fire and Lightening, Storm, Hailstorm, Cyclone, Typhoon, Tempest, Hurricane and Tornado.
- Post-Harvest Losses: coverage is available only up to a maximum period of two weeks from harvesting for those crops which are allowed to dry in cut and spread condition in the field after harvesting against specific perils of cyclone and cyclonic rains and unseasonal rains.
- Localized Calamities: Loss/ damage resulting from occurrence of identified localized risks of hailstorm, landslide, and Inundation affecting isolated farms in the notified area.



Exclusions

Risks and Losses arising out of following perils shall be excluded: - War and kindred perils, nuclear risks, riots, malicious damage, theft, act of enmity, grazed and/or destroyed by domestic and/or wild animals. In the case of Post-Harvest losses, the harvested crop bundled and heaped at a place before threshing, other preventable risks.

Premium Rates

The rate of Insurance Charges payable by the farmer will be as per the following information

Season	Crops	Maximum Insurance charges payable by farmer (% of Sum Insured)
Kharif	Food & Oilseeds crops (all cereals, millets, & oilseeds, pulses)	2.0% of SI or Actuarial rate, whichever is less
Rabi	Food & Oilseeds crops (all cereals, millets, & oilseeds, pulses)	1.5% of SI or Actuarial rate, whichever is less
Kharif & Rabi	Annual Commercial / Annual Horticultural crops	5% of SI or Actuarial rate, whichever is less

Procedure for Settlement of Claims

- a) For coverage through Banks: -The claim amount along with particulars will be released to the individual Nodal Banks. The Banks at the grass-root level, in turn, shall credit the accounts of the individual farmers and display the particulars of beneficiaries on their notice board. The Banks shall provide individual farmer wise details of claim credit details to IA and shall be incorporated in the centralised data repository.
- b) For coverage through other insurance intermediaries: The claim amount will be released electronically to the individual Insured Bank Account.

Management of the Scheme and Review

- a) Government of India shall issue operational guidelines and modalities, which may be appended from time to time, for implementation of the scheme provisions with detailed steps and processes involved, terms and condition applicable, roles and responsibilities of various agencies involved in execution of the scheme and roles and responsibilities of other related stakeholders.
- b) These operational modalities shall be considered as a part of the scheme.
- c) The scheme may be reviewed periodically and additions, deletions and modifications of the provisions may be done as deemed necessary.
- d) During each crop season, the agricultural situation will be closely monitored in the implementing States / Union Territories. The State / UT Department of Agriculture and district administration shall set up a District Level Monitoring Committee (DLMC), who will provide fortnightly reports of Agricultural situation with details of area sown, seasonal weather conditions, pest incidence, stage of crop failure. The operation of the Scheme will be reviewed annually and modifications as may be required would be introduced. Periodic Appraisal Reports on the Scheme would be prepared by Ministry of Agriculture, the Government of India / Implementing Agency.

Calendar of activity

Activity	Kharif	Rabi
Loaning period (loan sanctioned) for Loanee farmers covered on Compulsory basis.	April to July	October to December
Cut-off date for receipt of Proposals of farmers (loanee & non-loanee).	31 July	31 December
Cut-off date for receipt of yield data	Within a month from final harvest	Within a month from final harvest

Source: - https://en.wikipedia.org/wiki/Pradhan_Mantri_Fasal_Bima_Yojana

An Analysis of Pradhan Mantri Fasal Bima Yojana

Pradhan Mantri Fasal Bima Yojana is comprehensive crop insurance programme in India and nearly it completing 10 years shortly. In this context this study analysing programme’s various aspects of national data.

Area and Crop Notification

The following table put light on area and crop notification under Pradhan Mantri Fasal Bima Yojana in Kharif season and Rabi season



Season: Kharif

Year	2019	2020	2021	2022	2023	2024	2025
States/UTs	20	19	20	21	21	22	22
Districts	462	390	433	440	465	505	503
Insurance Units	1,54,485	1,27,100	1,27,134	1,47,335	1,49,081	1,49,501	1,46,696
Agriculture Crops	37	36	49	54	53	40	39
Horticulture Crops	48	46	57	59	69	71	66

During 2019 to 2025 Kharif season averagely 503 districts of 22 states and Union territories implementing Pradhan Mantri Fasal Bima Yojana. This evident that, districts implementing Pradhan Mantri Fasal Bima Yojana are increasing but still all district of India need to implement the programme. This scheme is giving coverage to high 54 agriculture crops and 71 horticulture crops.

Season: Rabi

Year	2019	2020	2021	2022	2023	2024
States/UTs	19	18	20	22	21	21
Districts	444	389	436	468	485	485
Insurance Units	1,26,784	1,12,322	1,16,290	1,29,944	1,25,261	1,25,719
Agriculture Crops	38	36	52	60	59	46
Horticulture Crops	82	89	95	98	105	103

In Rabi season 485 districts of 21 states and union territories implementing Pradhan Mantri Fasal Bima Yojana and high 60 agriculture and 105 horticulture crops covered under this scheme. It's notable that more horticulture crops covered in rabi season.

Farmers and land Coverage

The following table give data on no of farmers and area insured under Pradhan Mantri Fasal Bima Yojana. During 2019-2025 in both season farmers covered and area insured are increasing under this scheme.

Season: Kharif

Year	2019	2020	2021	2022	2023	2024	2025
Farmers	2,14,81,975	1,93,61,979	1,68,04,816	1,57,46,568	1,91,20,847	2,40,66,882	2,56,83,782
Applications (PMFBY)	2,99,92,861	3,73,47,465	4,06,93,200	4,97,77,829	6,85,11,655	8,62,22,054	9,58,38,059
Area Insured PMFBY (Thousand Hect.)	27,081.77	28,402.44	26,993.96	24,760.16	26,343.43	31,472.10	32,164.97

Source:- <https://pmfby.gov.in/adminStatistics/dashboard>

Season: Rabi

Year	2019	2020	2021	2022	2023	2024
Farmers	96,20,640	99,11,506	98,49,472	1,10,09,113	1,34,15,099	1,17,78,998
Applications (PMFBY)	1,75,03,479	1,93,14,240	3,22,24,187	4,22,74,054	5,47,44,189	5,20,44,832
Area Insured PMFBY (Thousand Hect.)	15,262.28	15,486.72	14,961.03	15,086.57	18,370.26	16,221.28

Source:- <https://pmfby.gov.in/adminStatistics/dashboard>

Demographic Composition

The following tables data on demographic composition of farmers covered under Pradhan Mantri Fasal Bima Yojana

Gender Composition

Gender composition tells us that male and female participation proportion under Pradhan Mantri Fasal Bima Yojana. From the table it understood that in both season male participation is more than female participation in the scheme. It reflects socio-economic status women, who spends more time in farm field but not own ownership of farm land.

Season: Kharif

Year	2019	2020	2021	2022	2023	2024	2025
Male	83.87	85.47	85.88	84.59	83.89	82.93	84.72
Female	16.06	14.45	14.03	15.32	15.9	17	15.2

Source:- <https://pmfby.gov.in/adminStatistics/dashboard>



Season: Rabi

Year	2019	2020	2021	2022	2023	2024
Male (%)	85.05	84.51	82.84	84.94	84.09	83.56
Female (%)	14.88	15.4	17.08	14.97	15.83	16.37

Source:- <https://pmfby.gov.in/adminStatistics/dashboard>

Caste Composition

Caste composition data put light on farmers from various caste category participating in Pradhan Mantri Fasal Bima Yojana. In both season participation of various category is increasing. But majority of farmers averagely 50 % belong to backward class castes. Secondly farmers belong to General category applied for Pradhan Mantri Fasal Bima Yojana. SC & ST category farmers also participating but less proportionate.

Season: Kharif

Year	2019	2020	2021	2022	2023	2024	2025
SC (%)	6.72	6.43	6.85	6.93	6.25	6.33	6.07
ST (%)	6.61	8.03	8.56	9.39	8.54	8.82	8.76
GEN (%)	45.17	39.12	36.25	31.41	28.99	34.54	36.12
OBC (%)	41.5	46.42	48.34	52.27	56.23	50.31	49.05

Source:- <https://pmfby.gov.in/adminStatistics/dashboard>

Season: Rabi

Year	2019	2020	2021	2022	2023	2024
SC (%)	7.09	6.48	6.98	6.95	6.77	5.79
ST (%)	3.08	4.16	4.02	5.94	5.37	4.36
GEN (%)	52.08	43.19	41.52	32.7	32.83	42.83
OBC (%)	37.75	46.16	47.48	54.42	55.02	47.02

Source:- <https://pmfby.gov.in/adminStatistics/dashboard>

Farm size composition

The following tables evident that in both season farmers from small farm size participate more in Pradhan Mantri Fasal Bima Yojana

Season: Kharif

Year	2019	2020	2021	2022	2023	2024	2025
Marginal Farmers (%)	17.82	16.44	16.45	17.51	14.55	14.27	15.32
Small Farmers (%)	65.42	67.68	67.67	63.33	67.19	70.12	69.56
Others (%)	16.76	15.88	15.88	19.16	18.26	15.61	15.11

Source:- <https://pmfby.gov.in/adminStatistics/dashboard>

Season: Rabi

Year	2019	2020	2021	2022	2023	2024
Marginal Farmers (%)	19.26	18.37	17.45	18.04	15.73	15.81
Small Farmers (%)	62.93	60.89	64.13	60.94	64.39	66.79
Others (%)	17.81	20.73	18.41	21.02	19.89	17.4

Source:- <https://pmfby.gov.in/adminStatistics/dashboard>

Premium Collection Composition

Premium collection composition data gives information about premium collected from farmers. States & union territories and government of India under Pradhan Mantri Fasal Bima Yojana. In both season farmers' premium collection is less than government contribution. States & union territories and government of India paying large part of premium amount. Total collection of premium is increasing. In 2024 gross premium in Kharif season 20,40,944 lack Rs and in Rabi season 9,25,420 lack Rs. Sum insured under Pradhan Mantri Fasal Bima Yojana is also increasing.



Season: Kharif

Year	2019	2020	2021	2022	2023	2024	2025
Farmers Premium (In Lac.)	2,54,890	2,44,562	2,43,038	2,32,222	2,54,619	1,80,320	1,50,423
State/UTs Premium (In Lac.)	7,22,360	8,46,985	8,38,561	8,54,142	9,27,473	10,52,387	10,33,751
GoI Premium (In Lac.)	6,96,526	7,79,272	8,01,150	7,93,678	8,20,253	8,08,237	7,81,306
Gross Premium (In Lac.)	16,73,776	18,70,819	18,82,749	18,80,042	20,02,345	20,40,944	19,65,480
Sum Insured (In Lac.)	1,20,85,681	1,24,56,455	1,09,32,633	1,01,74,228	1,27,09,926	1,68,33,475	1,77,61,676

Source:- <https://pmfby.gov.in/adminStatistics/dashboard>

Season- Rabi

Year	2019	2020	2021	2022	2023	2024
Farmers Premium (In Lac.)	1,58,872	1,31,848	1,40,892	1,38,949	1,40,965	1,41,911
State/UTs Premium (In Lac.)	3,24,428	3,21,702	5,14,091	5,40,837	5,39,490	4,22,022
GoI Premium (In Lac.)	3,14,388	3,15,435	4,25,915	4,31,685	4,20,510	3,61,487
Gross Premium (In Lac.)	7,97,688	7,68,985	10,80,898	11,11,471	11,00,965	9,25,420
Sum Insured (In Lac.)	90,79,663	70,94,326	82,70,057	78,39,660	86,64,284	1,06,73,213

Source:- <https://pmfby.gov.in/adminStatistics/dashboard>

Claims paid

The following table data put light on claim settlement amounts paid under Pradhan Mantri Fasal Bima Yojana. Yield based claim settlement is more than prevented sowing and others. The table evident that claim settlement paid is decreasing in both season.

Season: Kharif

Year	2019	2020	2021	2022	2023	2024
Prevented Sowing	28,684	50,212	4,038	11,229	9,570	1,398
Localized	12,730	5,224	53,227	2,66,125	2,53,454	1,79,493
Mid-term	5,453	4,549	5,578	74,441	74,095	2,57,696
Yield Based	12,83,740	17,97,653	12,52,401	9,78,779	6,63,792	7,25,067
Post Harvest	2,283	26,626	14,501	10,123	59,042	34,455
Total Claim Paid	15,20,038	20,36,787	13,47,423	13,59,673	10,87,464	12,27,617
Farmer Benefit PMFBY(Actual)	72,83,898	91,60,101	62,00,467	77,19,651	68,21,143	87,30,397

Source:- <https://pmfby.gov.in/adminStatistics/dashboard>

Season: Rabi

Year	2019	2020	2021	2022	2023	2024
Prevented Sowing	41,695				5,524	5,065
Localized	3,513	21,794	12,399	17,221	35,440	44,594
Mid-term	7,959	4,678			134	1,044
Yield Based	6,80,805	4,07,945	5,37,989	4,27,972	4,53,944	2,87,671
Post Harvest	200	71	760	1,734	20,346	22,130
Total Claim Paid	8,38,545	5,50,484	5,99,670	5,40,765	6,41,792	5,00,276
Farmer Benefit PMFBY(Actual)	46,00,730	19,80,097	27,37,509	28,27,757	25,67,355	23,16,675

Source:- <https://pmfby.gov.in/adminStatistics/dashboard>

Glance of Pradhan Mantri Fasal Bima Yojana in Karnataka

Karnataka, one of the leading states of India implemented Pradhan Mantri Fasal Bima Yojana for the sake of the farmers in 2016 itself. In Karnataka this scheme is called as Karnataka Raita Suraksha Pradhan Mantri Fasal Bima Yojana. Karnataka had bagged national award for the best implementation of PMFBY for year 2021-22. Karnataka state successfully implementing Pradhan Mantri Fasal Bima Yojana in all districts. “**Samrakshane**” website is created to facilitate PMFBY. Farmers’ enrolment in Karnataka showing increasing trend, nearly 23 lakh farmers enrolled in 2024-25 for this scheme.

The following table show enrolment details of Karnataka



Year	Enrollment in Kharif Season	Enrollment in Rabi Season	Enrollment in Summer Season	Total Enrollment
2020-21	12,40,353	1,51,567	6999	13,98,919
2021-22	14,46,194	3,23,702	20,478	17,90,374
2022-23	20,70,967	2,87,258	18,658	23,76,883
2023-24	20,36,909	4,63,415	33,225	25,33,549
2024-25	20,43,871	2,48,590	2792	22,95,253

Source:- <https://www.samrakshane.karnataka.gov.in/PublicView/FrmEnrollmentChart.aspx>

The following table give glance of Pradhan Mantri Fasal Bima Yojana details in Karnataka for the year 2023.

Particulars	Kharif season	Rabi Season
Districts	31	27
Insurance Units	6026	2770
Farmers covered	1085154	297799
Area Insured (Thousand Hect)	1490.64	497.95
Farmers Premium lack Rs	18,239.96 lack Rs	3002.198
State Premium lack Rs	69310.76	14620.99
GOI Premium lack Rs	66868.35	14544.76
Gross Premium lack Rs	154419.07	32167.93
Sum insured (Lack Rs)	771233.19	193167.75
Male	76.83%	79.09%
Female	22.97%	20.74%
SC	6.34%	3.94%
ST	5.14%	3.57%
OBC	21.07%	22.91%
GEN	67.45%	69.58%
Marginal farmers	0	0
Small farmers	100%	100%
others	0	0

Source:- <https://pmfby.gov.in/adminStatistics/dashboard>

CONCLUSION

Pradhan Mantri Fasal Bima Yojana is the comprehensive and technological driven Crop insurance programme in India. Crop insurance as concept itself still evolving in Indian scenario. Implementation of this programme, in 2024 about 37% farmers used crop insurance, up from 8% from in 2022. Still now a greater number of farmers neglect and neutral about crop insurance. There need to bringing awareness among farm community about PMFBY. It's notable from the data, in this scheme gross Premium collected and claim paid amount had difference and showing negative correlation. It worried the stake holders about claim settlement process. There need not only crop insurance but also need revenue insurance programmes which safeguard farmers from price fluctuation. Pradhan Mantri Fasal Bima Yojana shown good performance in some aspects but still it facing challenges. This scheme needs timely reforms.

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