PERFORMANCE EVALUATION PRADHAN MANTRI FASAL BIMA YOJANA - A FIELD SURVEY

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Abstract: *Agriculture is exposed to various types of risks such as production, ecological, market. Production risks have different dimensions: 'micro' or idiosyncratic risk affecting an individual or household, 'meso' or covariant risk affecting groups of households (e.g. rainfall) and 'macro' or systematic risks affecting regions (e.g. droughts). Variations in weather indicators (rainfall, humidity, temperature etc.) affect the crop yield adversely. Again Crop yield is affected by weather induced natural disasters like droughts, flood, hurricane cyclone and hailstorm. Apart from weather risks unforeseen contingencies like infestation of plant disease and pest attack very often causes huge crop loss. In addition to production risk, there is also substantial market risk in agriculture due to wide variations in input and output prices. Crop prices are more volatile because of difficulties in storage owing to perishability of the products. The present paper is an attempt to examine the performance of the scheme at S.S.R. Puram village of Etcherla Mandal in Srikakulam District, Andhra Pradesh, India.*

Keywords: PMFBY scheme, Crop insurance, Farmers' welfare, Yield Losses, GPS time stamping, Risk Profile

Background

Pradhan Mantri Fasal Bima Yojana (PMFBY) is one of the world's largest crop insurance programs aimed at providing risk cover to Indian farmers from production vulnerabilities. It was launched in early 2016 with the key feature being a highly subsidized and affordable premium for farmers. Under PMFBY, farmers pay a very low premium of maximum 2% during Kharif sowing, 1.5% during Rabi sowing for food and oilseed crops, whereas for annual commercial crops they have to pay a maximum of 5%. The difference between actuarial premium rates and the farmer rates is shared equally between the Central and the State governments. PMFBY has replaced the previously existing schemes of National Agricultural Insurance Scheme (NAIS) as well as the modified NAIS. All farmers that avail of seasonal crop loans (loanee farmers) are by default expected to be included in the PMFBY scheme whereas other farmers can purchase the insurance voluntarily at similar net premium burden. Different types of important risks such as yield losses due to climatic factors, damages from pests and post-harvest losses, among others are covered under this scheme. The scheme is implemented on an 'area approach' where insured unit is usually the village panchayat level for major crops.

As of the latest available figures, close to 5 crore farmers were enrolled in the year 2017- 18 for both the Kharif and Rabi seasons. This is a jump of nearly 40% from the year 2015 when earlier insurance schemes were present. It has been projected that these numbers will significantly increase with every season as farmers across the world have shown to have a strong aversion to production related risks. The promise of this increased coverage will depend on the successful implementation of the program that can be judged by some important parameters such as: increase in voluntary take-up by non-loanee farmers, claims to premium ratio, and a viable business model for insurance agencies. The attractiveness of the scheme for the two important stakeholders, farmers and insurance providers, however, depends on accuracy of yield assessment and timeliness of delivery as only these can ensure equity and efficiency. This hinges on the governance structure of the scheme's implementation – the bureaucratic apparatus and the level of stakeholder engagement.

The one agenda that formed the highlight of BJP's election manifesto prior to its ascent to power in the Lok Sabha elections (2014) was social security. Ever since the NDA formed the government at the Centre, it has launched a number of welfare schemes that promise banking, pension, employment, and insurance to the poor people of the country. The government during the launch of the Pradhan Mantri Krishi Sinchai Yojana (a scheme meant to improve irrigation and water conservation in the country's rural regions and farms) had noted that working towards the improvement of the agricultural sector was of prime importance. Agriculture employs nearly half of the employed people in the country. The security and wellbeing of farmers is thus of prime importance to the progress of the country. It is with this in mind that the Pradhan Mantri Fasal Bima Yojana was launched on 13 January 2016. The timing of the launch seems perfect – this new crop insurance scheme for the country's farmers has been launched just ahead of Makar Sankranti – one of the main harvest festivals celebrated in India (also celebrated as Lohri and Pongal in some parts of the country).

Pradhan Mantri Fasal Bima Yojana (PMFBY) is the new crop insurance scheme launched by Central Government. PMFBY will replace the existing two schemes National Agricultural Insurance Scheme as well as Modified NAIS which have had some inherent drawbacks. Pradhan Mantri Fasal Bima Yojana which will be implemented in every state of India, with association with the respective State Governments. This crop insurance scheme will be administered under the Ministry of Agriculture and Farmers' Welfare, Government of India.

Crop Insurance in India: Overview

Any country that is serious about its developmental goals cannot ignore the importance of insuring farmers against unintended losses. Farming is the largest private enterprise of Indians. There are two key differences though: inputs and outputs are plagued with uncertainties of the highest order, unlike any other private business; moreover, the distribution, pricing and value chains are more of public goods, again unlike a traditional private business. Insurance in such a situation, is but a necessity. Moreover, given the low awareness and education level of farmers, it has to be mandatory. Wherever there are private players involved, there has to be an extra dose of regulatory supervision.

Agricultural Insurance is a means of protecting the farmer against financial losses due to uncertainties that may arise from named or all unforeseen perils beyond their control. However, in developing countries, crop insurance has not been very pervasive or successful. According to Mahul and Stutley (2010), in rich countries crop insurance is 1.99% of the agricultural GDP, whereas in middle income and low income countries it is 0.16% and 0.01% respectively. As Rajeev et al. (2016) describe, crop insurance achieved great popularity between 1950s and 1980s in many Latin American and Asian countries as they were linked to seasonal loans. However, the popularity declined and thereby, governments started promoting private insurance participation in the agricultural insurance sector as well.

Increasing weather shocks and non-diversified exposure to income smoothing have affected the well-being of Indian farmers for ages. There are several ways in which farmers smoothen their incomes and risks, such as, intercropping with different drought tolerances, shift in sowing timings, irrigation and diversification to rural non-farm economic activities Cole et al. (2013). Agricultural insurance is one among such ways to manage risks. Moreover, it comes at the tail of risk management when all other options have been exhausted and is more of a redistribution of losses than prevention. There is evidence to suggest that while provisioning of insurance has hardly much effect on total agricultural investments, they alter the composition of such investments (Cole et al., 2017, Tadesse et al., 2015). Further, Cole et al. (2017) find strong evidence to suggest that with better crop insurance farmers shift towards high return, high risk cash crops. Hence, there is not much doubt in the academic literature that better provisioning of crop insurance leads to farmers' welfare.

In India, there has been a consistent, albeit patchy, interest and attempt to insure farmers against residual risks from the time of India's independence (Raju and Chand., 2007, Roy et al., 2018). However, there was no concrete action till 1970s when a Pilot Crop Insurance Scheme (PCIS) was launched by the General Insurance Company (GIC) in 1979. This was based on "Area Approach" for providing insurance cover against a decline in crop yield below the threshold level. This was operational till 1984-85 with partial success. However, it faced several problems and was replaced by the Comprehensive Crop Insurance Scheme (CCIS) which existed between 1985-1999. While PCIS was voluntary, CCIS was made compulsory for all loanee farmers. It also faced shortcomings such as having an area approach, coverage confined to loanee farmers, uniform premium rate for all the farmers and regions, coverage of limited crops and time lag for indemnity payment.

An improved version of this was continued since 1999 in the form of National Agricultural Insurance Scheme (NAIS, and eventually a modified version called MNAIS) which operated both on an area approach as well on individual basis. It was also available for voluntary uptake apart from mandatory loanee farmers. The list if crops included was also significantly widened and premiums were highly subsidized. However, claims exceeded the premiums collected to a great extent and made the scheme unviable, the administrative costs, notwithstanding. Apart from these, the Weather Based Crop Insurance Scheme (WBCIS) has been operational since 2003-04, mostly as an initiative of the private sector followed suit by AIC. It is designed to provide insurance protection against adverse weather events and is up for voluntary take up by farmers. For a detailed discussion on India's historical experiences with agricultural insurance see Raju and Chand. (2007). In 2016, all the previous schemes were subsumed into one consolidated form called the Pradhan Mantri Fasal Bima Yojana (PMFBY). The rest of the document discusses it in details.

Previous Crop Insurance Schemes

- 1985- Comprehensive Crop Insurance scheme
- 1999- National Agricultural Insurance Scheme
- 2007- Weather based crop insurance scheme
- 2010- Modified National Agricultural Insurance Scheme

Need for PMFBY

Indian agriculture is reeling at the menace of twin droughts following El-Nino phenomenon and untimely Rabi season rains and hailstorms. It is against this backdrop, that a crop insurance scheme to deal with risks associated with weather fluctuation is imperative for alleviating the distress caused to the farmers. Also, at present, only 23 % of cropped area in India have access to insurance. According to sources, Pradhan Mantri Fasal Bima Yojana will increase the insurance coverage to 50 per cent of the total crop area of 194.40 million hectare from the existing level of about 25—27 per cent crop area. The expenditure is expected to be around Rs 9,500 crore.

Features of Pradhan Mantri Fasal Bima Yojana

Some of the innovative features of the scheme are:

1. Lower premiums compared to existing insurance schemes.
2. Insuring income of the farmer and not crop per se.
3. In PMFBY, there will not be a cap on the premium and reduction of the sum insured.
4. Promises to provide prompt and easy settlement of claims through the use of technology like GPS, smart phones, remote sensing and drones to access actual crop damage.
5. 25 per cent of the likely claim will be settled directly on farmers account.
6. There will be one insurance company for the entire state.
7. The scheme also provides for coverage of post-harvest losses.
8. Covers localised crop losses like hailstones.

Objectives of the Study

- To examine the performance of the existing and earlier agricultural insurance schemes utilised by the farmers in the village.
- To discuss the problems and prospects of agriculture insurance.
- To create awareness about Pradhan Mantri Fasal Bima Yojana (PMFBY)

Sources of Data:

The students of MBA final year, Department of Commerce and Management Studies, Dr.B.R.Ambedkar University, Srikakulam has undertaken a survey on Pradhan Mantri Fasal Bima Yojana (PMFBY) at S.S.R. Puram village of Etcherla Mandal with the objective of creating awareness about Pradhan Mantri Fasal Bima Yojana (PMFBY). Based on the availability of farmers in the village and also in the agricultural filed in the village 76 number of farmers included in the survey by using the structured questionnaire.

Highlights of the Scheme

For many years now, a number of complex crop insurance schemes have existed. Farmers, however, have been unable to avail the benefits of these schemes. The Pradhan Mantri Fasal Bima Yojna has now replaced all other crop insurance schemes and integrated the benefits in one single yojana.

This means that earlier schemes such as the National Agricultural Insurance Scheme (NAIS) and Modified National Agricultural Insurance Scheme (MNAIS) will no longer be available.

In most of the earlier crop insurance schemes, premium rates had risen drastically in recent years. This means that the premium charged was about 25 percent of the sum assured – the rise in premium was anywhere between 22 and 57 percent. The compensation derived by farmers in the eventuality of a crop failure, was in contrast, very low.

The Pradhan Mantri Fasal Bima Yojana is premised on a premium amount of 2 percent for Kharif crops and of 1.5 percent for Rabi crops. This covers most food crops and oil crops cultivated in India. The premium is pegged at 5 percent for commercial or horticultural crops (including cotton) for one year.

This means that the farmers shall derive “maximum benefits by paying minimal premium”. The government has decided to get rid of the “capping” mechanism that did not allow farmers to derive legitimate benefits previously.

This drastic reduction in crop insurance premium is likely to result in an increase of the Center’s financial load by about 500 percent. The benefits will, however, be derived by the farmers, the government said.

Apart from relief on premium, the farmers shall derive the benefits of this scheme where assessment of crop losses shall be quick. Smart phones, remote sensing technology and even drones shall be used to estimate losses, assess compensation, and settle claims without much delay.

Farmers to be covered

All farmers growing notified crops in a notified area during the season who have insurable interest in the crop are eligible.

- **Compulsory coverage:** The enrolment under the scheme, subject to possession of insurable interest on the cultivation of the notified crop in the notified area, shall be compulsory for following categories of farmers:
    - Farmers in the notified area who possess a Crop Loan account/KCC account (called as Loanee Farmers) to whom credit limit is sanctioned/renewed for the notified crop during the crop season. And
    - Such other farmers whom the Government may decide to include from time to time.
- **Voluntary coverage:** Voluntary coverage may be obtained by all farmers not covered above, including Crop KCC/Crop Loan Account holders whose credit limit is not renewed.

Risks covered under the scheme

- Yield Losses (standing crops, on notified area basis). Comprehensive risk insurance is provided to cover yield losses due to non-preventable risks, such as Natural Fire and Lightning, Storm, Hailstorm, Cyclone, Typhoon, Tempest, Hurricane, Tornado. Risks due to Flood, Inundation and Landslide, Drought, Dry spells, Pests/ Diseases also will be covered.
- In cases where majority of the insured farmers of a notified area, having intent to sow/plant and incurred expenditure for the purpose, are prevented from sowing/planting the insured crop due to adverse weather conditions, shall be eligible for indemnity claims upto a maximum of 25 per cent of the sum-insured.
- In post-harvest losses, coverage will be available up to a maximum period of 14 days from harvesting for those crops which are kept in “cut & spread” condition to dry in the field.
- For certain localized problems, Loss / damage resulting from occurrence of identified localized risks like hailstorm, landslide, and Inundation affecting isolated farms in the notified area would also be covered.

Following risks leading to crop loss are to be covered under the scheme :-

1) YIELD LOSSES (standing crops, on notified area basis): Comprehensive risk insurance is provided to cover yield losses due to non-preventable risks, such as
   i. Natural Fire and Lightning
   ii. Storm, Hailstorm, Cyclone, Typhoon, Tempest, Hurricane, Tornado etc.
   iii. Flood, Inundation and Landslide
   iv. Drought, Dry spells
   v. Pests/ Diseases etc.
2) PREVENTED SOWING (on notified area basis): In cases where majority of the insured farmers of a notified area, having intent to sow/plant and incurred expenditure for the purpose, are prevented from sowing/planting the insured crop due to adverse weather conditions, shall be eligible for indemnity claims up to a maximum of 25% of the sum-insured.
3) POST-HARVEST LOSSES (individual farm basis): Coverage is available up to a maximum period of 14 days from harvesting for those crops which are kept in "cut & spread" condition to dry in the field after harvesting, against specific perils of cyclone / cyclonic rains, unseasonal rains throughout the country.
4) LOCALISED CALAMITIES (individual farm basis): Loss / damage resulting from occurrence of identified localized risks i.e. hailstorm, landslide, and Inundation affecting isolated farms in the notified area.

Sum Insured/Limits of Coverage

In case of Loanee farmers under Compulsory Component, the Sum Insured would be equal to Scale of Finance for that crop as fixed by District Level Technical Committee (DLTC) which may extend up to the value of the threshold yield of the insured crop at the option of insured farmer. Where value of the threshold yield is lower than the Scale of Finance, higher amount shall be the Sum Insured.

Multiplying the Notional Threshold Yield with the Minimum Support Price (MSP) of the current year arrives at the value of sum insured. Wherever Current year's MSP is not available, MSP of previous year shall be adopted.

The crops for which, MSP is not declared, farm gate price established by the marketing department / board shall be adopted.

Premium Rates

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

The Actuarial Premium Rate (APR) would be charged under PMFBY by insurance agencies. Govt. of India/States will monitor (and not fix) the premium rates considering

- the basis of Loss Cost (LC) i.e. Claims as % of Sum Insured (SI) observed in case of the notified crop(s) in notified unit area of insurance during the preceding 10 similar crop seasons (Kharif / Rabi)
- expenses towards management including capital cost and insurer's margin
- taking into account non-parametric risks and reduction in insurance unit size etc..

The difference between the premium paid by the farmers and the premium fixed by the insurance companies will be subsidised and there will be no cap on the maximum subsidy paid by the Government. The subsidy will be borne equally by central and the respective state Government.

Currently, farmers pay around as high as 15 % of the sum insured as premium under the existing National Agricultural Insurance scheme and the modified National Agricultural Insurance scheme. The new scheme will replace all these existing crop insurance schemes.

Service Tax

PMFBY is a replacement scheme of NAIS / MNAIS, and hence exempted from Service Tax liability of all the services involved in the implementation of the scheme.

Use of Innovation Technology

There is a need to have good quality, timely and reliable yield-data. For addressing this problem, video/image capture of crop growth at various stages and transmission thereof on a real time basis utilizing mobile communication technology with GPS time stamping, can improve data quality, / timeliness and support timely claim processing and payments. States and insurance companies shall utilise this technology for the purpose. Authorities shall carry out pilots in select areas, in collaboration with various States/UTs, national and international research organisations / institutes, IMD, insurance companies, reinsurers etc. to make use of available technology in the fields of remote sensing, aerial imagery, satellites etc. that can help in acreage estimation, crop health / loss estimation, quicker yield estimation etc. with reduced manpower & infrastructure.

Unit of Insurance

The Scheme shall be implemented on an 'Area Approach basis' i.e., Defined Areas for each notified crop for widespread calamities with the assumption that all the insured farmers, in a Unit of Insurance, to be defined as "Notified Area" for a crop, face similar risk exposures, incur to a large extent, identical cost of production per hectare, earn comparable farm income per hectare, and experience similar extent of crop loss due to the operation of an insured peril, in the notified area.

Defined Area (i.e., unit area of insurance) is Village/Village Panchayat level by whatsoever name these areas may be called for major crops and for other crops it may be a unit of size above the level of Village/Village Panchayat. In due course of time, the Unit of Insurance can be a Geo-Fenced/Geo-mapped region having homogenous Risk Profile for the notified crop.

For Risks of Localised calamities and Post-Harvest losses on account of defined peril, the Unit of Insurance for loss assessment shall be the affected insured field of the individual farmer.

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	31st December
Cut-off date for receipt of yield data	Within a month from final harvest	Within a month from final harvest

Comparison with previous schemes

Sl.No	Feature	NAIS [1999]	MNAIS [2010]	PM Crop Insurance Scheme
1	**Premium rate**	Low	High	Lower than even NAIS (Govt to contribute 5 times that of farmer)
2	**One Season – One Premium**	Yes	No	Yes
3	**Insurance Amount cover**	Full	Capped	Full
4	**On Account Payment**	No	Yes	Yes
5	**Localised Risk coverage**	No	Hail storm, Land slide	Hail storm, Land slide, Inundation
6	**Post Harvest Losses coverage**	No	Coastal areas - for cyclonic rain	All India – for cyclonic + unseasonal rain
7	**Prevented Sowing coverage**	No	Yes	Yes
8	**Use of Technology** (for quicker settlement of claims)	No	Intended	Mandatory
9	**Awareness**	No	No	Yes (target to double coverage to 50%)

Findings and Conclusion:

The farming community at large does not seem to be satisfied with the partial expansion of scope and content of crop insurance scheme. Majority of cultivated farmers are depending on the Paddy (Kharif) crop due to the seasonal formation. Majority of the farmers of the village informed that they have taken the loan for this purpose. Half of the farmers informed that they have taken the insurance for the crop loan and remaining not aware about the insurance. It is surprising that all the people of farming community in the village doesn’t have any knowledge about Pradhan Mantri Fasal Bima Yojana. It can be suggested with the survey that the government and the related agencies must create the awareness and importance of scheme to the rural areas also before implementation.

To increase the penetration of crop insurance there is a need to promote private sector companies participation in agricultural insurance. This may increase the coverage and viability of insurance schemes. High premium rates has been the cause for not taking up insurance policies. Thus there is a need to lower the premium rates and subsidise the same. Delay in claim settlement is one important concern of crop insurance schemes. Therefore, it has been advised by experts that use of remote sensing technology could reduce the time between damage assessment and claim settlement. Besides that, there is lack of awareness about crop insurance among the farmers. Farmers does not possess any knowledge about the various crop insurance schemes initiated by the government. Therefore measures should be taken to create awareness about crop insurance through various government agencies, NGOs, banks and insurance companies.

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Practical implications

Lowering of the insurance unit to the Gram Panchayat (GP) level, is a welcome move, as it would reflect yield losses at a reasonable level.

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