Pradhan Mantri Fasal Bima Yojana: An assessment of India's Crop insurance scheme

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***Abstract*: Agri-culture is considered as the base of any country. It contains risk as it is practiced in open fields and the crops take time to get ready for consumption. Therefore, risk is considered as a significant part of farming business. Individuals involved in agriculture have been living in uncertainties. The uncertainties are related to weather, prices, yields, global markets, government policies and other factors that influence farming can cause wide swings in farm income. Thus, farmer's role is considered important in the economy of a company. India is among largest exporters of rice especially of Basmati variety and is second largest producer of wheat. Therefore, farmers are needed to be protected from various risks associated with the agriculture. Agriculture has been primary sector of the Indian Economy. Almost, 43.9% population in India depends for their livelihood and accounts for 16% of Indian Gross Domestic Product. In the recent years, Crop Failures, indebtness of farmers, uncompensated prices and low earning led to agricultural suffering in many regions of India. Government is taking steps with various apparatuses to handle these problems like Crop-insurance schemes, Direct Benefit transfer (DBT) and Farm loan waivers. However, these apparatuses are executed on ad-hoc basis, are implemented and shuffled by political opposition.**

Therefore, after taking consideration of all these issues, in Feb. 2016, Central Government has announced the scheme of Crop-insurance "Pradhan Mantri Fasal Bima Yojana (PMFBY)" to averse the risk in agriculture faced by Farmers. PMFBY is an improvement on its previous predecessor schemes as those are facing logistical, structural and financial hindrances. This paper giives an evaluation of "the performance of the PMFBY in terms of adaptability and the achievement of the objective of one nation, one scheme." Other objective of this paper is "to comparative analysis of PMFBY with other insurance scheme."

Keywords: PMFBY, Insurance, Agriculture, Farmer, Risk Reduction, Risk Management

Introduction

India is an agriculture-based economy. As majority of the population lives in rural areas, it depends on agriculture directly or indirectly. Farmers are considered as the roots of any economy. Most of the population relies on the farmer's produce and work done. The crops produced by the farmers are distributed all over the country and even exported to foreign countries. There are several risks associated with the agriculture practice and have they themselves have no security. Weather during the entire cropping season has the most risk associated with the success or failure of the crop. And the farmers who are solely dependent on the agriculture have to bear the maximum risk of the weather. Many small farmers borrow money from the moneylenders on high interest rates, and in the incident of crop disaster, they are unable to return the money leading them into dept trap of moneylender, ultimately losing their land to moneylenders. At the end, poor farmers took the extreme step of suicide. This is still going in the present-day India, where on the other hand we are dreaming of presenting our country in front of the world as a Super Power. So, there is a long need of a proper scheme to help farmers in the event of failure of their crop.

To address the above-mentioned concerns, Prime-Minister Narendra Modi announced the scheme of "Pradhan Manti Fasal Bima Yojana (PMFBY)" on 13th January 2016. This is a insurance arrangement, similar to any other General Insurance scheme. The cutoff date for the payment of premium of insurance is 31st July for Kharif Crops and 31st December in the case of Rabi Season crops. The premium to be paid by the farmers in this scheme is 2% for the Kharif crops and 1.5% for the Rabi crops. If this scheme is properly implemented, it can be very beneficial to the farmers. The government will provide assistance to the farmers in the event of crop failure. The risk associated to the crop failure has decreased significantly. In farming, risk is defined as the product of Hazard and Vulnerability. This agriculture insurance scheme is based on the probability of crop damaging events. The most common damaging events are Lack of rain, Heavy rain, Floods, Drought, Damage due to insects, etc.

Agriculture products when compared to other market products carry higher degree of risk. Risk is indivisible part of the agriculture business. Risk cause uncertainties and the uncertainties are relating to Weather of the region, Yields, Price of crops in market, Global market, Government policies and other relevant factors can cause major swings in the income of the farmers. Risk management lease to mitigate the exposure of risk to farmers and minimize the financial damage caused by this risk to farmers. Generally, these risks are classified into four broad categories. These are Production-linked Risk, Financial Risk, Personal or Human Risk and Market or Price Risk.

Production risk is related to the natural process of growing of crops and livestock of farmers. It includes disease caused by Weather phenomenon, Pests, Disease and other factors that affect the Quality and Quantity of the crops produced.

Financial risk arising when the farmer borrows money from outside and there arise a obligation upon him to repay the loan with interest. The terms of loans, the interest rate and the restricted credit available with farmers create financial risk to farmers. Thus, the government is encouraging farmers to take the loans from formal banking or corporate houses channel instead of informal loans from traditional moneylenders to protect the farmers from the plight of moneylenders or Sahuksars.

Price or market risk refers to the risk faced by farmers regarding the revenue received from the selling of crops in market. Whether they will be able to receive the reasonable price for the crops in the market or whether they will be able to cover the cost of input they incurred. The price risk associated from commodity to commodity. Minimum Support Price (MSP) is set by government to ensure that the farmer get the value for their produce.

Human or personal risk refer to the problem related to the health of farmer and their personal relationship with members in communities. The events like Accidents, Death, Prolonged illness, Unhealthy marriage issues have adverse effect on the agriculture business.

Pradhan Mantri fasal Bima Yojana is improvement over its predecessor scheme of providing insurance cover to crops and provide financial support to farmers on the event of crop failure. Its other important aim is to provide stability to farmer's income, ensures the credit flow and encouraging farmers to practice innovative and modern agriculture practices.

Pradhan Mantri Fasal Bima Yojana has improved significantly over its predecessor schemes "National Agricultural Insurance Scheme (NAIS)" and the "Modified National Agricultural Insurance Scheme (MNAIS)". The climax of this scheme is no upper limit on government subsidy, either the outstanding premium to be paid is 90 percent. The Scheme was initially executed in Feb 2k16, when the Central Government has allotted 5,500 crore rupees in the annual budget for FY 2016-17. There is a increase of 154% in the budget allotted in the interim budget of 2019. This significant hike in the budget shows the intention of government to provide financial support, credit flow and work towards the welfare of the farmers.

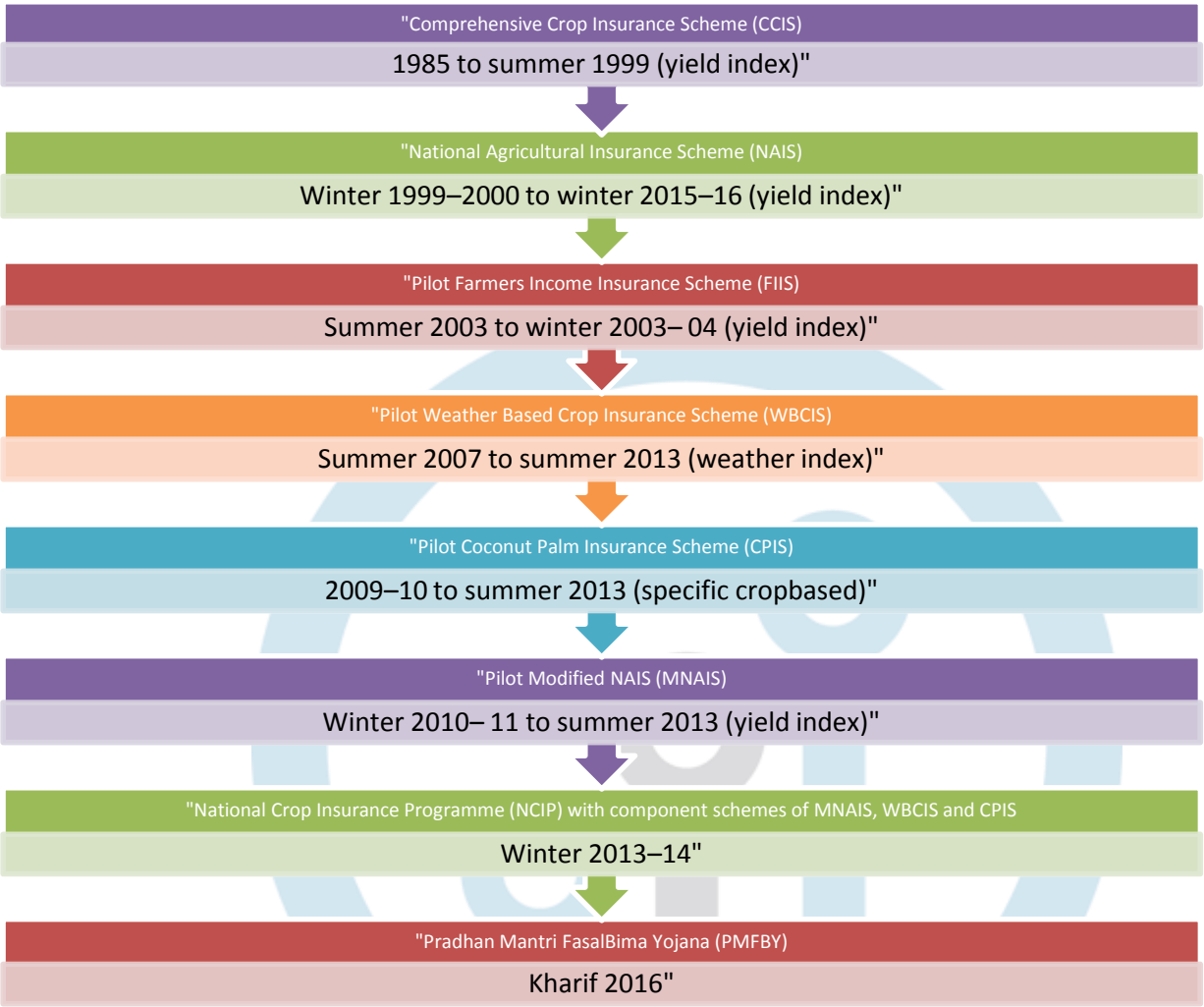
Features of Pradhan Mantri Fasal Bima Yojana

1. **Universal Coverage of Farmers:** Farmers from all dimensions are covered under this scheme, whether they are sharecroppers, non-loanee farmers, Loanee Farmers and tenant farmers.
2. **Crops coverage:** Each state has notified major Rabi and Kharif crops of the region. The premium varies across season.
3. **Rates of premium:** Through PMFBY, the farmer has to be paid a uniform premium,

for all Kharif crops: 2 % of the sum insured,
for all Rabi crops: 1.5 % of sum insured
for annual commercial and horticultural crops: 5 % of sum insured
or actuarial rate, whichever is less, with no limit on government premium subsidy.

4. **Area-based Insurance Unit:** The scheme works on area-based approach. In that particular area, same premium has to be paid by farmers and same claim received by all farmers. The area approaches scheme decreases the risk of adverse selection and moral hazard.
5. **Risk Coverage:** The aim of the scheme is to avoid sowing or imbedding risk, cost caused at standing crops, local calamities and post-harvest loss. The insured sum is the cost of agronomy, multiplied by area of the crop reported planned by farmers for insurance.
6. **Innovation in Know-how Use:** This scheme promotes the usage of innovation and know-how in agriculture practices. Just like that , drones are used to decrease the use of Crop cutting experiments (CCEs), conventionally used to evaluation crop loss; and use of smart phones to reduce delay caused in claim settlement by uploading crop cutting data online through various apps.
7. **Approach based on cluster for Insurance Companies:** Before allocated a district to ensure fair competition, this scheme encourages L1 bidding process amongst insurance companies. For redressal of grievances, a local level functional insurance office is established. A crop insurance portal is also launched for all online administration procedures.

TIMILINE OF CROP INSURANCE SCHEMES IN INDIA



Pradhan Mantri Fasal Bima Yojana

On the lines of One nation one scheme theme, Government of India has launched Pradhan Mantri Fasal Bima Yojana (PMFBY) in the Kharif crop season of 2016. PMFBY replaced its predecessor crop insurance schemes of "National Agriculture Insurance scheme (NAIS) and Modified National Agriculture Insurance Scheme (MNAIS)." However, "Weather Based Crop Insurance Scheme (WBCIS)" continued to remain in force, though its rates were synchronized with the rates of PMFBY. It is on the onus of the state whether they want to adopt PMFBY or WBCIS or both. In the budget of 2016-17, the government had allotted Rs. 5,500 crore and further revised it to Rs. 13,240 crores. Then, the Government had aimed to bring 40% of arable land in the country under the crop insurance schemes.

Pradhan Mantri Fasal Bima Yojana (PMFBY)

- In the kharif season of 2016, Government of India launched the PMFBY
- Replaced the NAIS and the MNAIS
- WBCIS remains the same, though its premium rates have been made the same as in PMFBY
- State can adopt whether it wants WBCIS or PMFBY or both Central government budget provision of Rs 5,500 crore (2016– 17) [revised allocation Rs. 13,240 crores]
- Planned to bring 40 % of agricultural area under PMFBY in 2017–18, 2017–18 budget -Rs 9,000 crore.
- PMFBY covered 5.5 crore application for enrolment on average per year.
- Rs. 30 crores of claims were districted in Rajasthan during Locust attack during Rabi season of 2019-20.
- In Annual Budget 2021, Agriculture Minister Narendra Singh Tomar, in his speech said that
  - For Financial year 2020-21, the Budget allotted for the PMFBY is Rs.15695 crore.
  - For Financial year 2021-22, the Budget allotted for the PMFBY is Rs. 16000 crores.

In the Kharif season, 2020, the central government had launched a revamp version of PMFBY 2.0. The following are the key provisions of this revamped scheme:-

- Enrolment is made completely voluntary from Kharif 2020
- The centre has put limit to the government premium subsidy to 25% for irrigated areas and 30% for unirrigated areas.

- The centre has provided state government flexibility to implement the scheme and option to select additional risk covering features.
- The insurance companies are direct to spend atleast 0.5% of the total premium collected on information, Education and communication activities (Wikipedia)

Reason for changes: -
Stakeholders had claimed that the insurance companies are making windfall gains from the agri-insurance business under PMFBY. While on the other hand, Major insurance companies such as TATA AIG, ICICI Lombard were opted out of the scheme due to heavy losses incurred because of high claim.

"Comparison with previous schemes

	Features	NAIS (1999)	MNAIS (2010)	PMFBGY (2016)
1	Premium rate	Low (1.5–3.5 per cent) and no premium subsidy for horticulture/commercial	High (up to 15 per cent), premium subsidy for all crops	Almost equal to NAIS (1.5–5 per cent), premium subsidy for all crops
2	Insurance unit	Village panchayat, block and taluka	Village/village panchayat for major crops	Village/village panchayat for major crops
3	Indemnity level	60, 80, 90 per cent	80, 90 per cent	70,80, 90 per cent
4	Sum insured	Loan amount/value of TY/ 150% value of AY	Sanctioned credit limit/value of TY / 150% value of AY	Equal to scale of finance
5	One season-one premium	Yes	No	Yes
6	Insurance amount cover	Full	Capped	Full
7	On-account payment	No	Yes	Yes
8	Localized risk coverage	No	Hailstorm, landslide	Hailstorm, landslide, inundation
9	Post-harvest losses coverage	No	Coastal areas—for cyclonic rain	All India—for cyclonic + unseasonal rain
10	Prevented sowing coverage	No	No	Yes
11	Use of technology (for quicker settlement of claims)	No	Intended	Mandatory
12	Claim liability	-	Government will underwrite losses beyond 500 per cent of seasonal gross premium	Government will underwrite losses beyond 350 per cent of seasonal gross premium
13	Minimum sample size for CCE	Not specified	Not specified	Not specified
14	Monitoring of scheme	-	Provision for social audit and sending list of beneficiaries to gram panchayat, 1–5 per cent of beneficiary to be crosschecked	Social audit provision removed completely, no beneficiary list will be sent to gram panchayat, 1– 5 per cent of beneficiary to be crosschecked
15	Insurance companies	Only Government	Government and private both	Government and private both"

Recommendations
PMFBY had made the following recommendations in different domains
1. Governance The scheme allots funds to the states and strengthen them to improve infrastructure and can promote the use of technology by providing various incentives. As insurance companies are profit driven entities, the usage of CCEs to estimate crop yield at local level often used to manipulation due to corruption. The use of Artificial intelligence like remote-sensing devices, satellite images, drone mapping and digitalization of land is promoted to effectively implement this scheme. There need to provide training, proper funds and resources and supervise its implantation on ground to make this scheme a success.
2. There should be strict compliance of the scheme w.r.t claim settlement, timely compensation for crop loss to farmers. Some specific changes to the guidelines of the scheme will leads to timely avert the agrarian crises in the region, faster settlement

of claims for crop loss. For example, a fix rate of interest to be paid by insurance company in the event of delay in settling the claim of farmer beyond a specific time period form when the claim became due. Also, a fix interest amount to be paid by government, if the government make delay in the announcement of subsidy beyond a specific time period form when the payment became due.

3. To promote the healthy competition in market, multiple insurance companies are promoted and allowed to operate in a cluster of villages. This will ultimately benefit farmers and can choose various products of insurance companies which best suit their needs.

4. It is observed that the delay is caused in the payment of claims due to following reasons: -

- Delay in transmission of crop yield data to the companies.
- Delay caused by State in releasing of their share in premium subsidy.
- Dispute between State and insurance companies related to crop yield.
- Lack of availability of data like Account number of beneficiaries, or other mismatched account details.

The private companies engaged in the agro insurance business work on profit motive. Government should pursue them to be transparent and efficient. The claim settlement mechanism and logistics support must to improve for faster processing of the cases.

5. There need to increase the insurance cover of the PMFBY. The government have to run awareness programs to educate farmers the benefits of crop insurance scheme by the means of advertising over Television, Radio, Panchayat gatherings, special campaigns and meetings. Timely implantation of the scheme has to be improved through proper coordination between state level and district level administration.

6. A proper regulatory framework has to be established to unify the whole crop insurance system, which covers price risk and crop yield risk ensuring increased participation and stability. In order to encourage farmer participation in the scheme, PMFBY was designed to protect the revenue of farmers from crop sale in the happening of crop harvest loss. There need to strengthen the legal framework of insurance companies, both rural and private to improve the resilience counter to the shocks in farming.

Temperature and Infrastructure

Technology enabled mobiles and GPS technology verifies integrity of CCEs. Specific programs are to be developed to identify human resources. Comprehensive knowledge building programs are essential to introduce comprising officials, bureaucrats, state government representatives, insurers and officials from central government agencies from crop insurance schemes. This scheme requires expertise in technical knowledge regarding product designing, detailed evaluation and low-cost financing.

1. Insurance units are determined by on the basis of area-based approach which is considered to be a cost-effective method. However, during any calamity, farmland faces problem of homogeneity. A solution to this problem is to carry portable devices to capture images for damage valuation, when the fields in the village are heterogeneous.

2. There is still lack of connectivity issues, power shortage and internet connectivity issues in these areas causing hindrances in the use of technology and innovation.

3. A system for redressal of grievances to be set up to address the issues of farmers and proper implementation of various provisions of the scheme.

4. Any crop insurance scheme cannot work in solidarity, it must be implemented and supplemented with other schemes making efforts towards irrigation development, water management, conservation of soil and upgrading in delivery system.

To make the scheme a success for the farmers and insurance companies, proper implementation with modern infrastructure with the use of technology is required. Use of drones, smart tractors and precision agriculture practices can solve irrigation problems and fulfil fertilizers requirements. These technologies also help insurance companies in assessment of crop damage and clearance of insurance claims.

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