The Rising Agriculture

India is an agrarian economy and agriculture is primarily a gamble of monsoon. As a result, farmers are exposed to a variety of climatic and economic risks. Millions of tonnes of agricultural produce are damaged by these risk factors each year across the country. On account of failure of crops, indebtedness, illness, frustration, family dispute, etc. are also increasing among the farmers. The failure of crops and indebtedness are major cause of farmers' suicide across the country. Since, agriculture is highly susceptible to natural calamities such as floods, droughts, heavy rains, hail-storm, pests/insects, diseases etc., it is necessary to protect the farmers from the adversities which occur frequently across the country. Agricultural insurance is considered as an important mechanism to address the risk of output and income resulting from various natural and manmade events. A number of crop insurance schemes like Pilot Crop Insurance Scheme (PCIS), Comprehensive Crop Insurance Scheme (CCIS), Experimental Crop Insurance Scheme (ECIS), Pilot Scheme on Seed Crop Insurance (PSSCI), Farm Income Insurance Scheme (FIIS), Sookha Suraksha Kavach (SSK), National Agricultural Insurance Scheme (NAIS), Weather Based Crop Insurance Scheme (WBCIS), etc. have been implemented in the country over a period of time. Looking at changing needs of the farmers, Pradhan Mantri Fasal Bima Yojana (PMFBY) is launched and implemented since Kharif 2016, replacing NAIS and modified NAIS.

Pradhan Mantri Fasal Bima Yojana
Crop Insurance
The new scheme compulsorily covers the farmers that avail the seasonal crops loan (loanee farmers), whereas it was optional for non-loanee farmers. All major Kharif and Rabi crops are notified under PMFBY. The premium rate of Kharif crops is fixed @ 2% of sum insured to be paid by farmers, while it is @ 1.50% of the value of sum insured for Rabi crops. In case of commercial and horticultural crops, 5% of the sum is insured to be paid by the farmers. From sowing to threshing of crops, everything is covered under PMFBY. It is a new scheme which had been uniformly started throughout the country. A number of agencies are involved in the process of PMFBY. In Gujarat, for season kharif- 2016, two insurance companies namely Agricultural Insurance Company (AIC) and HDFC Ergo were involved for implementation of the scheme and for season Rabi 2016-17, United India Insurance Company (UIIC) was involved for implementation of the scheme.

To assess the performance and functioning of the PMFBY scheme in Gujarat. The study was conducted in two phases. The phase I study was intended to focus mainly on performance of PMFBY and implementation issues in the state. As per the stated distribution, a total of 150 households were covered under the detailed survey. Out of 150 households, 110 households were loanee farmers (beneficiary farmers), 10 households were non-loanee farmers and another 30 households were control farmers. In the phase II, two districts (Anand and Vadodara) were selected for the survey. From each of the district, 72 households were selected from two blocks and 6 villages. From each block, three villages were selected. In total, 144 households were selected from 12 villages covering 4 blocks of two selected districts.

**Progress in Implementation of PMFBY in Gujarat**

In Gujarat, around 4 lakh of farmers were insured with 6.8 lakh hectares area under PMFBY in the year 2016-17. Among the implementing agencies, Agricultural Insurance Company Limited (AIC) cluster has covered major share of the farmers. There was a common complaint about the earlier schemes that they provided cover to crop loans rather than to crop losses, as the participation rate of non-loanee farmers was very low. Hence, more emphasis was given on the coverage of non-loanee farmers under PMFBY. In Gujarat, among the total farmers covered during Kharif 2016 season, around 0.02 lakh farmers were non-loanee farmers. Around 10 percent share in premium was paid by farmers for Kharif season whereas during Rabi season, around 45 percent share in premium was borne by the farmers during 2016-17. About 90 percent of total premium for Kharif season and 55 percent in Rabi season were paid by the State and Central Government jointly. During Kharif 2016 season, the applications for claims in the State were mostly made by the farmers from the districts of Junagadh, Rajkot, Surendranagar and Jamnagar. The farmers of Rajkot, Junagadh, Amreli, Jamnagar and Devbhumi Dwarka received the maximum claims. A total of 44335 farmers got benefit with claim settlements in the Kharif season. For Rabi season, the applications for claims were mostly made by the farmers of Junagadh, Jamnagar and Rajkot district. Of these, highest benefits of claim settlement was realized by farmers from Junagadh district, i.e. total 39564 farmers got benefited for claim in Rabi season of 2016-17. Thus a total of 482899 farmers were benefited with receipt of claims under the PMFBY in 2016-17.

Though the coverage under new scheme has increased, several factors have contributed to the scheme slowing down. Some of them are insufficient time for enrolment, disputes between the states and insurance companies on yield data and compensation resulting in delay in settlement and more focus on impractical targets/goals without much stress on quality of implementation. The central government has been citing reason of poor implementation by the states for the lackadaisical response to the scheme. State officials say that the bid of private insurance companies for more profit and delay in settlement of claims are crucial factors for the decline.

**Insurance Behaviour of Sample Farmers**

Since the premium rates and insurance details varies from crop to crop, two major Kharif crops, viz. cotton and groundnut and one major Rabi crop, i.e. wheat were considered for understanding the insurance behavior of sample farmers. About 54.2 percent and 27.7 percent of loanee insured farmers had taken crop loan with crop insurance from Cooperative bank or society and Bank of Baroda respectively. Remaining farmers had taken crop loan with insurance from Central Bank, Cooperation Bank, Dena Bank, PNB, SBI and Union Bank of India; whereas all non-loanee insured farmers had taken crop insurance from Agricultural Insurance Company Ltd (AIC).

Among different kinds of events of losses in cotton crop, the highest of 53.0 percent of event of losses were due to drought, dry spells, flood, pest attacks and diseases etc.; while 20.5 percent of event of losses were because of...
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Prevented sowing/planting due to deficit rainfall or adverse weather and remaining events of losses were due to post harvest losses, localised calamities (cyclone, landslide).

As far as compensation received from insurance companies is concerned, on an average of Rs. 13523.4 and Rs. 15480.0 were paid to the cotton grower farmers against the crop loss for loanee insured farmers and non-loanee insured farmers respectively. Thus, the compensation for crop losses was more to the non-loanee farmers compared to the loanee farmers.

Average premium paid by loanee and non-loanee groundnut farmers was Rs. 1323.3 and Rs. 1470.7 per household respectively. In case of loanee farmers, about 90.0 percent events of losses were because of drought, dry spells, flood, pest attacks and diseases etc and remaining events of losses were due to prevented sowing/planting due to deficit rainfall or adverse weather. In case of entire non-loanee insured farmers, the crop yield loss was due to drought, dry spells, flood, pest attacks and diseases etc.

As far as compensation received from insurance companies is concerned, an average of Rs. 34039.7 and Rs. 23220.0 were paid to the groundnut grower farmers against the crop loss for loanee insured farmers and non-loanee insured farmers respectively. Thus, the compensation for crop losses was much higher in case of loanee farmers compared to non-loanee farmers.

As regards to Rabi crops, in case of wheat, average amount of premium paid by the loanee and non loanee farmers was estimated to be Rs. 4800.0 and Rs. 3525.0 respectively. It is worth-mentioning that, during Rabi season (wheat crop) both categories of sample farmers had no claim against any event of crop losses, thus did not receive any compensation.

Assessment of the overall experience of sample farmers with PMFBY reveals that about 36.4 percent loanee insured farmers reported that they were never insured under earlier crop insurance scheme, 45.5 percent of them mentioned that PMFBY is better than earlier schemes whereas 70 percent non-loanee insured farmers opinioned that it is better than earlier schemes.

About 70 percent loanee insured farmers informed that they have informed the authorities about the event of losses. Among them, 37.3 percent and 24.5 percent loanee insured farmers had informed about the event of losses directly to local government officials and others (Gram Sevak and Agriculture Officer), respectively. In case of non-loanee farmers, all of them had informed about the event of losses directly to local government officials.

Of the total loanee insured farmers, 27.3 percent said that their farm was visited during Crop Cutting Experiment (CCE) while 40.9 percent said that their farm was not visited for CCE. Among non-loanee insured farmers, 20 percent said that their farm was visited during CCE while 80 percent said that their farm was not visited for CCE.

Of the total loanee insured farmers, 26.4 percent said that they were aware about yield assessment of CCE while 41.8 percent were not aware about yield assessment of CCE.

Among the loanee insured farmers, about 31.8 percent farmers suggested to provide timely compensation, 22.73 percent suggested for more accurate assessment due to crop losses, 18.1 percent expressed the need of more awareness about the crop insurance scheme. About 8.1 percent suggested to reduce official complexity and emphasized on less time requirement and less paper work for enrolment and claim disbursement.

Regarding extent of awareness about PMFBY and the non-uptake of the same by the control farmers, it is revealed that, about 73.3 percent of the control farmers had heard about PMFBY and 26.6 percent control farmers of them had no idea about PMFBY. As regards the sources of awareness, about 43.3 percent, 16.6 percent, 10 percent and 3.3 percent of control farmers got the information about PMFBY from cooperative society, media, farmer’s friend and gram sevak respectively. About 33.3 percent of control farmers expressed that they are not interested in this scheme, while 20 percent of them believed that the claim settlement process is tedious. About 13.3 percent of them believed that they may not get compensation due to crop losses, whereas only 6.7 percent farmers expressed that no sufficient time was there for getting enrolled for the crop insurance, even if they were interested to get enrolled for the same.

**Willingness to Pay for Crop Insurance by Sample Farmers**

The extent of willingness to pay for crop insurance products and services was assessed by the use of discrete choice experiments (DCEs), which DCE is an attribute-based survey method for measuring benefits (utility). Since it was entirely different kind of experiment where the name of PMFBY scheme was not disclosed, entirely new set of sample households were surveyed from the sample districts of Gujarat. However, all farmers were...
asked to share their experiences of enrolling for PMFBY after the end of the experiments. In total, 144 farmers were chosen for the experiment from 12 villages of 4 talukas of 2 districts (Anand and Vadodara) of the state. The results from estimating the utility function (a generalized multinomial logit function) reveal that all the estimated coefficients of variables such as sum insured, certainty of payment, insurance coverage, loss determination are statistically significant at 1 percent level of significance. Thus, all these factors significantly influence the willingness to pay for the crop insurance. It is found that a farmer would be willing to pay Rs. 889 on an average for increase in the certainty of payment made to him as against the base category.

Policy Implications

Based on findings of the study and interaction with various stakeholders, following suggestions are made for improving the adoption and performance of the PMFBY in Gujarat.

• At present, the enrolment of loanee farmers under PMFBY is compulsory and that of non-loanee farmers is optional. Several farmers and farmer organizations, leaders etc. have suggested to make the scheme voluntary for the loanee farmers also.

• At present, the scheme covers major food crops (cereals, millets and pulses), oilseeds and annual commercial/ horticultural crops. It is suggested that the perennial horticulture crops should also be included under the scheme.

• Pests and diseases come under preventable risks and insurance companies do not consider for claims where losses occur due to pests and disease. Thus, it is necessary to clearly define the non-preventable risks or disease and pest should be considered as non-preventable risks. The unseasonal rain should be defined clearly in Operational Guidelines of PMFBY.

• Localized calamities are required to be clearly defined because insurance companies categorically deny the claims under local risks. Some of the risk factor like crop losses through wild animals should be incorporated in the guidelines.

• The farmers are unaware that the amount of crop insurance premium is automatically deducted from their account. Thus necessary awareness programmes should be organized periodically.

• In case of loanee farmers, the premium amount deducted is stated in their Saving Bank Passbook. In some other cases, the same has not been stated in Bank Passbook (i.e., Bank of Baroda, Dena Bank). Thus, some farmers suggested that the premium deduction receipt should be provided to them for their record. There should be a document provided to the farmers like premium deducted receipt, insurance document, crop loss coverage criterion, guidelines, contact list of company etc., which will help them at the time of loss assessment and claim settlement.

• Some farmers complained that they were not given compensation even if they had incurred heavy crop losses due to no loss assessment or delayed loss assessment. In that case, farmers demanded that the amount deducted as a premium should at least be given back to them since the claim was not settled by the respective company. In the case delay in claim settlement, the additional interest amount should also be paid to the farmers.

• The control farmers expressed that they couldn’t avail crop insurance since the land settlement was in process. Some of them came for enrolment after the due date. They suggested that timely information should be passed on to them. They further suggested that the paper work and official procedure should be reduced or simplified for successful implementation the crop insurance scheme.

• It is also clear from the discussion that PMFBY would not be sufficient to cover all the pure risks arising from agricultural activities. To protect farmers against various kinds of climatic risks, a comprehensive risk mitigation strategy needs to be planned rather than just focusing on crop insurance.