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Performance Evaluation of Pradhan Mantri Fasal Bima Yojana (PMFBY) in Uttar Pradesh



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PREFACE

India is basically an agrarian country because more than 70 per cent of the total population of the country directly or indirectly depends upon agriculture and allied sectors. The livelihood of majority of population of rural areas of the country is also depended on agriculture. Since, the inception of Green Revolution in the country, the production of wheat and paddy has increased manifold. The country is not only self-sufficient in foodgrains but also exporting to foreign countries. This was achieved by hard work of the farmers. The credit goes to the farmers of the country. It is a primary duty of Centre and State Governments to increase income of farmers by providing them with financial help and assistance to use the new techniques in agriculture. The agriculture is still dependant on weather conditions. It is still a gamble of monsoon. The droughts, floods, heavy rains, hail storm, etc are common phenomena in the country. The attack of pests/insects diseases etc. also occur on the crops. These are causes of failure of crops. On account of this, indebtedness is increasing among the farmers. The failure of the crops and indebtedness etc are basic reasons for famers' suicides in the state.

A number of Agricultural Insurance Companies have been introduced in the country to protect the farmers from natural calamities. In this context, National Agricultural Insurance Scheme (NAIs) had been introduced in 1999-2000 across the country but it could not be popularized among the farmers. The rate of premium of NAIs was high and also not uniform. It had not been properly and scientifically implemented at ground level. It was also very problematic and had many bottlenecks.

Seeing the failure of NAIs, the Hon'ble Prime Minister of India had launched Pradhan Mantri Fasal Bima Yojana (PMFBY) on 18th February, 2016. Almost all crops of Kharif and Rabi seasons are notified under PMFBY. The rate of premium is also very nominal which could be paid by even small and marginal farmers. To assess the performance of PMFBY, the Centre for Management in Agriculture (CMA)-IIM Ahmedabad had submitted a study proposal on Performance, Evaluation of Pradhan Mantri Fasal Bima Yojana (PMFBY) to Directorate of Economics and Statistics, Ministry of Agriculture and

Farmers Welfare, Govt. of India. It had been accepted in Directors Meeting which was held on 25th August, 2017 at IEG, New Delhi. On the advice of Directorate of Economics and Statistics, Ministry of Agriculture and Farmers Welfare, Govt. of India, the cited study has been conducted in U.P. in 2016-17 by this Centre. The CMA-IIM Ahmedabad is the Coordinator of this study. As per guidance of coordinating Centre of the study, three districts namely Jaunpur, Hardoi and Jhansi from U.P. were selected for this study.

From these three selected districts, 90 loanee insured farmers, 30 non- loanee insured farmers and 30 control farmers were selected. Their views and opinions related to PMFBY had been recorded in structured schedules. More than 62 lakh farmers were insured under PMFBY during Kharif -2016 and Rabi- 2017 in U.P. However, out of total insured farmers of 62.71 lakh, only 29,908 (0.48%) were non- loanee insured farmers which were very limited in number against loanee insured farmers in Uttar Pradesh. During the study period out of GCA of 2.59 crore hectares (2013-2014) in U.P., only 12.49% area was covered under PMFBY during same period. Out of total area being 1.19 crore hectares in Kharif 2013-14, only 25.01% was covered under PMFBY while it was only 19.20% in Rabi-2017. It shows that most of the area under Rabi-2017 was not covered under PMFBY. The progress of PMFBY was satisfactory in Kharif-2016 while it was quite discouraging in Rabi -2017. The per hectare sum insured was worked out at Rs. 37,583 in U.P. as a whole in both seasons. The premium amount paid by an insured farmer was estimated at Rs 667 for Kharif-2016 and Rabi-2017 in U.P. The amount of premium per insured farmer was slightly higher in Rabi-2017 as compared to Kharif-2016. Out of total insured farmers of 62.71 lakh under PMFBY in U.P. only 10.22 (16.30) lakh had received compensation against the loss of their crops. The amount of compensation was Rs 4,823 per beneficiary farmer which had been paid by Agricultural Insurance Company (AIC) and ICICI Lombard during the study period. Out of the total amount of premium of Rs. 1,01,409.68 lakh, the Insurance Companies had paid only Rs 49,307.79 lakh to insured farmers of U.P. It reflects that insurance companies were in much profit during Kharif-2016 and Rabi-2017.

The reason for profit of Insurance Companies during Kharif-2016 and Rabi-2017 was due to low occurrence of natural calamities across the state. The loanee insured sample farmers were totally against the compulsory deduction of premium from their loan amount. This

was not acceptable to them. It should be made voluntary. They were also unaware about Crop Cutting Experiments (CCEs). Since, the State Government had waived seasonal loan in last year, therefore, there was a nominal outstanding amount in their accounts during the survey period. The analysis of data reveals that the PMFBY is very fruitful in protecting the affected farmers of Uttar Pradesh, at the event of loss of crops due to natural calamities. This scheme would be very useful in coming years. It has a bright future.

This study has been conducted on the guidance of Prof. Ranjan Kumar Ghose, Assistant Professor and Miss Diana Frenchman, Academic Associate, Centre for Management in Agriculture (CMA), Indian Institute of Management, (IIM) Ahmedabad. They had done a lot of exercise in the preparation of research proposal and research design of the study. I am highly obliged to them. Sri Vinod Kumar Singh, Director of Agriculture, Statistics and Crop Insurance, Uttar Pradesh had supported and cooperated during the initiation of the study. He had also provided valuable guidance to us during the finalization of the study. I am whole heartedly indebted to him. I am also thankful to Sri Rajesh Kumar Gupta, Joint Director and Sri Uma Shankar Singh, Deputy Director of Agriculture, Statistics and Crop Insurance of Uttar Pradesh for providing the secondary data related to PMFBY.

The Deputy Directors of Agriculture of three selected districts of U.P. had also provided full support and cooperation to research scientists of the Centre during their visit to their respective districts. I am highly obliged to them. The Deputy Director of Agriculture of Allahabad district had also provided full support during the first visit of our research scientists for testing the schedules and IInd phase of survey of PMFBY of the study. I am highly thankful to him.

This study has been conducted under my overall supervision. The drafting of report has been done by Sri D.K. Singh, Ex. Research Officer of the Centre. Sri Hasib Ahmad and Dr. H.C. Malviya have contributed a lot towards the completion of study. Their sincere efforts are very appreciable and deserve excellent credit. Sri S.N. Shukla has also prepared the analytical tables for which I am thankful to him. I am very much impressed with the excellent work of Smt. Nirupama Nigam who compiled the data and typed the report. I am also equally impressed with the work of Sri Ovesh Ahmad in the compilation of data of the

study. Shri S.D. Singh, Accountant of this Centre had also supported the research staff for which he deserves credit.

The reference year of the study is 2016-17. Comments and suggestions will be thankfully acknowledged and solicited.

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Dated: 11.06.2018

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Performance Evaluation of Pradhan Mantri Fasal Bima Yojana (PMFBY) in Uttar Pradesh

Executive Summary

No doubt that the PMFBY is very fruitful for farmers to protect them from losses of crops on account of occurrence of natural calamities, and attack of pests /insects and diseases. Agriculture is still a gamble of monsoon. These are main causes of failure of crops. Millions of tonnes of agricultural produce are damaged/destroyed by these adversities each year across the country. On account of failure of crops, indebtedness, illness, frustration, family disputes, 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.

The UPA Government of India had introduced National Agricultural Insurance Scheme (NAIs) in 1999-2000 to protect the farmers by compensating the loss of crops due to occurrence of natural calamities.

There were many lacuna and loopholes in NAIs. It was not implemented properly and effectively. The premium rate was also very high. The compensation had not been given properly, adequately and timely to the affected farmers. On account of these drawbacks, it could not get popularized among the farmers.

Since, NAIs did not get success at ground level, so it required much modification to protect the farmers in a better way. The NAIs has been replaced by Pradhan Mantri Fasal Bima Yojana (PMFBY) in February 2016 across the country.

This compulsorily covers the farmers that avail the seasonal crops loan (loanee farmers). The non-loanee farmers can also be covered under PMFBY, if they are interested to come under PMFBY. Almost all Kharif and Rabi season crops are notified under PMFBY. The premium rate

of Kharif crops is fixed i.e. 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 are 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. Two insurance companies namely Agricultural Insurance Company (AIC) and ICICI Lombard were involved in Uttar Pradesh for Kharif-2016 and Rabi-2017. Out of 75 districts of Uttar Pradesh, 69 districts were covered by AIC while 6 districts were under the preview of ICICI Lombard during the corresponding season. The transaction costs of insurance are rather very high, so some efforts should be made to reduce the transaction costs. The share of premium is not properly and adequately contributed to insurance companies. It has a lot of bottlenecks and constraints, such as lack of awareness among the farmers about PMFBY and lack of willingness to pay a very marginal amount of premium. These were major constraints in the way of proper implementation of PMFBY. Apart from these constraints, unawareness, lack of understanding of insurance process, non access to insurance providers, untimely receipt of insurance claims and unwillingness of the state government to share the burden of subsidy on premium were also major hurdles in the success for implementation of PMFBY.

Hence, there was a need to examine the performance of PMFBY at different stages. The performance of different units in the implementation of PMFBY were also required to be evaluated for its improvement. In this context, Centre for Management in Agriculture (CMA), Indian Institute of Management (IIM), Ahmedabad had asked 9 Centres located in different states of the country to conduct this study in their respective states. The AER Centre, Allahabad has conducted this study in Uttar Pradesh in 2017.

The following objectives of the study had been framed.

Objectives of the Study

The following objectives of the study on “Performance Evaluation of the Pradhan Mantri Fasal Bima Yojana (PMFBY)” had been framed by Centre for Management in Agriculture (CMA), IIM, Ahmedabad:-

- (I) To know the function of the contacted agencies.
- (II) To know the detailed functioning of banks and insurance companies involved in the concerned districts.
- (III) To work-out the districts-wise progress report of PMFBY for Kharif-2016 and Rabi-2017 in the State.

Sampling Methodology

As per guidelines of Coordinator Centre, Centre for Management in Agriculture (CMA), IIM, Ahmedabad, three districts namely: Jaunpur, Hardoi and Jhansi of Uttar Pradesh were selected for the study. From each selected district, 30 loanee insured farmers, 10 non-loanee insured farmers and 10 non-loanee farmers were selected.

Thus, the total selected samples of three districts were 150 of which 90 belonged to loanee insured farmers followed by 30 non-loanee insured farmers and 30 farmers (control) for this study. The reference year of the study was for Kharif -2016 and Rabi-2017.

**Table-I
Selected Units**

| Category of the Selected districts (Name) | Number of Loanee Insured Farmers | Number of Non-Loanee Insured Farmers | Number of Farmers (Control) | Total Number of Sample Farmers |
|---|----------------------------------|--------------------------------------|-----------------------------|--------------------------------|
| Low uptake district (Jaunpur) | 30 | 10 | 10 | 50 |
| Medium uptake district (Hardoi) | 30 | 10 | 10 | 50 |
| High uptake district (Jhansi) | 30 | 10 | 10 | 50 |
| Total | 90 | 30 | 30 | 150 |

Finding Based on Secondary Data

All stages from the sowing/plantation to threshing of crops are fully covered under PMFBY. The insured farmers are entitled to get the compensation if their crops are damaged at any stage by the natural calamities, pests/insects and diseases. Out of total farmers of the state, 62.71 lakh farmers were insured under PMFBY in Kharif-2016 and Rabi-2017 of which 53.68% (33.66 lakh) in Kharif-2016 and 46.32% (29.05 Lakh) in Rabi -2017. Out of GCA of 2.59 crore hectares

in 2013-14, only 12.49% area was covered under PMFBY in Kharif-2016 and Rabi-2017. Out of total area of 1.19 crore hectares in Kharif 2013-14, 25.01% was covered under PMFBY while it was only 19.25% in Rabi 2017. It shows that most of Rabi crops of the state were not covered under PMFBY in the reference year.

Out of total insured farmers being 62.71 lakh, only 29,808 (0.48%) was non-loanee insured farmers. It was not a good progress of PMFBY. Of 33.60 lakh insured farmers in Kharif -2016, only 0.13% was non-loanee insured farmers while there were 99.87% of loanee insured farmers in the state. In case of Rabi-2017, 29.11 lakh farmers were insured in the state of which 99.12% belonged to loanee insured farmers against 0.88% non-loanee insured farmers. It shows that non-loanee insured farmers were very limited in number in Kharif-2016 and Rabi-2017 under PMFBY in U.P.

Table-II
Details of Insured Farmers in Kharif -2016 and Rabi -2017 under PMFBY in Selected Districts of U.P.

| Insured Farmers | | Name of Selected Districts | | | U.P. |
|------------------|----------------------------|----------------------------|--------------------|--------------------|---------------------|
| | | Jaunpur | Hardoi | Jhansi | |
| (A) Kharif -2016 | | | | | |
| I | Loanee Insured Farmers | 36707 (99.90) | 91239 (99.99) | 219456 (99.82) | 3355363 (99.87) |
| II | Non-Loanee Insured Farmers | 35 (0.10) | 9 (0.01) | 401 (0.18) | 4307 (0.13) |
| III | Total Insured Farmers | 36742 (100.00) | 91248 (100.00) | 219857 (100.00) | 3359670 (100.00) |
| (B) Rabi -2017 | | | | | |
| I | Loanee Insured Farmers | 6508 (60.34) | 66531 (95.75) | 206802 (99.74) | 2885833 (99.12) |
| II | Non-Loanee Insured Farmers | 4277 (39.66) | 2946 (4.25) | 548 (0.26) | 25601 (0.88) |
| III | Total Insured Farmers | 10785 (100.00) | 69477 (100.00) | 207350 (100.00) | 2911434 (100.00) |
| (C) Both Seasons | | | | | |
| I | Loanee Insured Farmers | 43215 (90.93) | 157770 (98.16) | 426258 (99.78) | 6241196 (99.52) |
| II | Non-Loanee Insured Farmers | 4312 (9.07) | 2955 (1.84) | 9459 (0.22) | 29908 (0.48) |
| III | Total Insured Farmers | 47527 (100.00) | 160725 (100.00) | 427207 (100.00) | 6271104 (100.00) |

Figures in bracket are percentage to total.

Source: Directorate of Agriculture, Statistics and Crop Insurance, Uttar Pradesh.

The per hectare sum insured was Rs 44,698 in Rabi-2017 in Uttar Pradesh against Rs 37,306 in Kharif-2016. It was Rs 22,359 in Uttar Pradesh as a whole and it was varying from district to district. The per H.H. sum-insured was lowest in Jhansi district while it as highest in Hardoi district of U.P.

The amount of premium per insured farmer was very nominal which was worked out to be only Rs 659 and Rs 675 in Kharif-2016 and Rabi-2017 respectively. The amount of premium paid by insured farmers was not similar across the state. Out of the total premium of Rs 101409.68 lakh, the share of farmers was 41.22% followed by 29.39% and 29.39% of Centre and State Governments respectively.

Table-III
Amount of Compensation given to Beneficiary Farmers of Selected District in U.P. in Kharif -2016 and Rabi -2017

| Amount of Compensations | | Name of Selected Districts | | | U.P. |
|-------------------------|--|----------------------------|---------|---------|----------|
| | | Jaunpur | Hardoi | Jhansi | |
| (A) Kharif -2016 | | | | | |
| I | Number of benefitted farmers | 6654 | 26748 | 125810 | 849337 |
| II | Amount of Compensation in Rs lakh | 181.34 | 1169.71 | 527848 | 40353.93 |
| III | Amount of Compensation per beneficiary in Rs | 2725 | 4373 | 4196 | 4751 |
| (B) Rabi -2017 | | | | | |
| I | Number of benefitted farmers | 643 | 4019 | 10526 | 173018 |
| II | Amount of Compensation in Rs lakh | 17.64 | 253.86 | 441.05 | 895386 |
| III | Amount of Compensation per beneficiary in Rs | 2743 | 6316 | 4190 | 5175 |
| (C) Both Seasons | | | | | |
| I | Number of benefitted farmers | 7297 | 30767 | 136336 | 1022355 |
| II | Amount of Compensation in Rs lakh | 198.98 | 1423.57 | 5719.53 | 49307.79 |
| III | Amount of Compensation per beneficiary in Rs | 2727 | 4627 | 4195 | 4823 |

Source: Directorate of Agriculture, Statistics and Crop Insurance, Uttar Pradesh.

As far as payment of compensation to insured farmers is concerned, it is witnessed from records that out of total insured farmers being 62.71 lakh, only 10.22 lakh i.e. (16.29%) had received the compensation during Kharif-2016 and Rabi-2017. The amount of compensation per beneficiary was worked out to be Rs 4,823 during the corresponding period. The Kharif-2016 and Rabi-2017 were more or less normal seasons in most of the districts of Uttar Pradesh. Therefore, the insurance companies were in profit during the study period.

The amount of compensation was Rs 49,307.79 lakh which had been given to 10.22 lakh insured farmers during Kharif-2016 and Rabi-2017 against the premium of Rs 1,01,409.68. Thus, the AIC and ICICI Lombard had gained Rs 52,101.89 lakh during the study period.

Finding based on Primary Data

Three districts namely Jaunpur (low uptake), Hardoi (medium uptake) and Jhansi (high uptake) of Uttar Pradesh were selected. The total of 150 samples was selected from three districts. Out of 150 sample farmers, 90 samples were loanee insured farmers, 30 non-loanee insured farmers and 30 sample farmers (control). They were mostly small and marginal farmers. The OBC and general castes were dominant on the sample farms. The SC/ST were in very limited numbers on the sample farms. The illiteracy among the sample farmers was persistent. Out of total loanee insured sample farmers of 90, only 13.33% had obtained the degree of graduation and above followed by 6.67% and 4.45% of non-loanee sample farmers and loanee insured sample farmers respectively.

The main occupation of sample farmers was agriculture followed by subsidiary occupations across the sample farms. More than 27% of total family members were engaged in farming. The per H.H. annual income was maximum being Rs 1,58,505 on the loanee insured sample farms followed by Rs 91,223 and Rs 84,478 for non-loanee insured sample farms and non-loanee sample farms respectively. The per H.H. assets value on loanee insured sample farms was much higher than that of non-loanee insured sample farms. The value of building per H.H. was maximum on loanee insured sample farms while value of land per H.H. was maximum on non-loanee insured sample farms. The loanee insured sample farmers had borrowed Rs 21,00,000 in the reference year of which RRBs accounted for 57.14% followed by 28.57% and 14.29% of commercial banks and cooperative banks respectively. The amount of loan per H.H. was Rs

23,333 in the reference year. The loan was taken only for agricultural purpose. The rate of interest of loan was 7.50 per annum. The outstanding loan per H.H. was estimated at Rs 25.083 against the loan of Rs 23,333. The maximum amount of outstanding loan was witnessed in RRBs.

The salary from employment, business, remittances and farm labour, pension and MGNREGA were main sources of annual income from non-agricultural sources across the sample farms.

The per H.H. owned land was 3.50 acres on loanee insured sample farms against 2.06 acres and 2.44 acres on non-loanee insured sample farms and non-loanee sample farms respectively. At most, all the owned area was under cultivation across the sample farms. The cropping intensity was maximum being 190.55% on non-loanee insured sample farms followed by 177.12% and 168.03% on loanee insured sample farms and non-loanee sample farms respectively.

Almost all the operated areas were under irrigation networks. The major sources of irrigation on the sample farms were bore wells and dug wells. A very limited area was irrigated by canal. The cropping pattern was more or less similar across the sample farms. Paddy, maize, jowar, arhar, urd, moong, groundnut and sugarcane were grown by the sample farmers in Kharif -2016. Among these crops, the share of groundnut, paddy and urd, jointly accounted for 38.84% to GCA on insured sample farms. Wheat, gram, pea, mustard and potato were mainly grown by the sample farmers in Rabi-2017. Out of GCA of 95.69 acres, the share of wheat was 39.54% followed by 2.28%, 1.75%, 1.41% and 0.89% of gram, mustard, pea and potato on insured sample farms respectively. Out of total GCA of 95.69 acres, the share of Kharif crops was 54.13% against share of 45.87% of Rabi crops on the insured sample farms.

The production per hectare and per H.H. was almost normal in Kharif-2016 and Rabi-2017 on the sample farms.

The per hectare production of Kharif crops as well as Rabi crops on the insured sample farms was mostly higher than the per hectare production of state as a whole. The sample farmers of three categories had sold the production of all the crops during the reference year. More than 70% of total production of cereal crops had been sold by loanee and non-loanee insured sample farmers. The production of pulses had also been sold by the sample farmers. The maximum quantities of groundnut, sugarcane and potato had been sold by loanee, non-loanee insured

sample farmers and non-loanee sample farmers. These were treated as cash crops. Out of total production of pulses and oilseeds had also been retained for consumption and other purposes. The pulses and mustard had been retained in maximum quantities by the sample farmers in comparison to quantities of cereal crops.

The groundnut, sugarcane, potato and mustard were much profitable than the cereal crops. Among the pulses, arhar, urd and moong were also profitable crops on the sample farms. It shows that the prices of all commodities were more or less satisfactory during the reference period. The per H.H. gross income of Kharif crops was estimated at Rs 3,05,933 on loanee insured farms against Rs 1,22,763 on non-loanee insured farms. It shows that per farm gross income on non-loanee insured farms was quite low than that of loanee insured sample farms. The per H.H. gross income of Rabi crops on loanee insured farms was Rs 84,046 against Rs 62,601 on non-loanee insured sample farms, however, it was only Rs 64,311 on loanee sample farms.

It shows that per H.H. gross income of Kharif crops was much better than that of Rabi crop across the sample farms. As far as Insurance behavior is concerned, the loanee and non-loanee insured sample farmers had reported the following answers:-

Most of the loanee and non-loanee insured sample farmers had heard of PMFBY. It was hundred percent in case of non loanee insured sample farmers. All the loanee and non-loanee insured sample farmers were linked with PMFBY in Kharif-2016 and Rabi-2017. It is very surprising to note that out of 90 loanee insured sample farmers, 7 had taken voluntary enrolment in PMFBY. All the non-loanee insured sample farmers (30) had taken the voluntary enrolment in PMFBY.

The PNB, SBI, Union Bank, UBI, UCO Bank and RRBs were implanting agencies. The role of UBI and UCO Bank was very marginal as compared with other commercial banks. The per H.H. premium was estimated at Rs 1,105 on loanee insured sample farms while it was only Rs 230 on non-loanee insured sample farms. The non-loanee insured sample farmers had paid premium for generally wheat crop. The premium amount was differing from farmer to farmer.

The majority of loanee insured sample farmers had not heard about PMFBY while all the non-loanee insured sample farmers were well known about PMFBY. Most of loanee sample farmers were attached with PMFBY because they had taken loan from bank while the non-loanee sample farmers had enrolled because they were interested to link with PMFBY on the motivation of

agriculture department. The Government Awareness Programme was an effective instrument to guide the farmers about the benefits of PMFBY at the event of loss of crops due to occurrence of natural calamities.

The PNB, SBI, Union Bank, Bank of India, UCO Bank, RRBs were implementing agencies of PMFBY in the study areas. Among these banks, RRBs, SBI, Union Bank and PNB linked 25.56%, 25.56%, 23.23% and 22.22% loanee insured farmers respectively. AIC and ICICI Lombard were involved only in case of non-loanee insured sample farmers. The premium per loanee insured farmers was estimated at Rs 1,105 for insured crops. The premium per non-loanee insured sample farmer was only Rs 220. The total compensation of Rs 22,047 had been paid to affected farmers by the commercial banks. At the aggregate level, it was only Rs 245 per H.H. on loanee insured sample farms. The non-loanee insured sample farmers did not receive any compensation from AIC and ICICI Lombard neither in Kharif-2016 nor in Rabi-2017.

The PMFBY is better than earlier schemes. Most of loanee and non-loanee insured sample farmers did not inform the concerned authorities about event of loss. The majority of sample farmers had reported that no one had visited their farms during the CCEs. They had also reported that their own crops were not selected for CCEs during reference year.

More than 80% of total sample farmers were unaware of any yield assessment of CCEs taking place in the village. There was no role of panchayat in process of claims. More than 40% of loanee insured sample farmers were satisfied with the implementation of PMFBY. While 33.33% of non-loanee insured sample farmers were satisfied with the implementation of PMFBY. All the loan insured sample farmers were totally against the compulsory deduction of premium from their account. It should be voluntary not compulsory. The realization of compensation from insurance companies is much troublesome. It is very difficult for individual case.

Policy Recommendations

On account of failure of NAIs, the PMFBY had been introduced across the country in year 2016. It is much better than NAIs. The PMFBY has been initiated in a well planned manner and has been getting more popular among the farmers since its inception. Even then, the following recommendations have been given for its betterment. The recommendations are based on the perception of stakeholders.

1. The mixed crops are not included in the list of notified crops under PMFBY in Uttar Pradesh. Therefore, it is suggested that the area of the mixed crops should also be considered under PMFBY.
2. The share croppers and tenants were not enrolled under PMFBY in Kharif-2016 and Rabi-2017. It is suggested to agriculture department and insurance companies that a sincere effort should be made to link share croppers and tenants with PMFBY.
3. The premium had been deducted by banks without taking the consent from loanee farmers. The loanee farmers were very much frustrated from the compulsory deduction of premium from the amount of their loan. The compulsory deduction of premium from the amount of loan of loanee farmers should be stopped. The deduction of premium should be made after getting the consent from loanee farmers. The amount of premium should be made publically through mass media communication. It should not be compulsory. It should be voluntary.
4. The non- loanee insured farmers were limited in numbers across the state. Out of total insured farmers of 62.71 lakh in Kharif-2016 and Rabi-2017, the non-loanee insured farmers accounted for only 0.48%. Therefore, it is suggested that joint efforts be made by Agriculture Department and Insurance Companies to pursue the non-loanee farmers for linking themselves with PMFBY. The benefit of PMFBY should be popularized by organizing farmer fairs, seminar and public meeting at panchayat level. The pamphlets, leaflets, published material in newspapers, etc. should be distributed among the farmers for knowing the benefit of PMFBY at the time of failure of crops.
5. A separate budget should be allotted for disseminating the scheme in a bigger way. The seminars, meeting etc. could be organized on a large scale to popularize this scheme and motivate the non-loanee farmers to link them with PMFBY.
6. The payment of compensation should be made within 15 days. Hence, sincere efforts should be made to pay prompt payment of compensation to beneficiary farmers.
7. The role of Crop Cutting Experiments (CCEs) is very important in the context of PMFBY. Therefore, it is suggested to inform the farmers through proper publicity in newspapers, etc that the CCEs will be held in a particular village on such date.

8. The use of remote sensing satellite, imagery and digitalization of land record should be promoted to minimize area discrepancies.
9. Sampling of CCEs should be based on consensus of all stakeholders. It should be taken into account during the CCEs to provide confidence among affected farmers.
10. To check the manipulation in CCEs at ground level, it is suggested that the involvement of Panchayat Raj Institutions is needed. The farmers should be present at the time of loss assessment of crops during CCEs.
11. There is a need to improve the efficiency of staff involved in PMFBY to get better success in the implementation of PMFBY across the state. Therefore, it is suggested for improving the capacity building of the staff of State Government.
12. In few cases, the higher premium is deducted from farmers account by mistake or for other reasons, hence, it is suggested that the insurance companies should refund the excess deduction of premium.
13. There should be a provision for financial benefit to efficient workers of PMFBY. This will provide fruitful result in linking more non-loanee farmers with PMFBY. A separate budget should be allotted to District Nodal Officers of PMFBY to organize seminar, farmer's fairs, etc., to motivate the non-loanee farmers.
14. Separate staff should be recruited for looking after only PMFBY. The present staff of agriculture department is not sufficient for proper implementation of PMFBY.
15. Agents of insurance companies do not pay sufficient visit to rural areas. The agents of insurance companies have a wide range of area. So they are unable to motivate the non-loanee farmers to link with PMFBY. It is suggested to Insurance Companies to appoint sufficient number of trained agents for PMFBY.
16. The Nodal Officer of a district should fix the target for agents of insurance companies for linking the non-loanee farmers with PMFBY. If they fail to achieve the targets then they should be liable for penalty. There should be a complete cooperation among all the units of PMFBY.
17. The staff of banks should be more cordial and cooperative with insured farmers. Each and every documents related to PMFBY should be transparent. The amount of premium and compensation etc., should be transparent to provide better information to insured farmers.

18. A separate counter in banks should be opened for only insured farmers.
19. It is also suggested that the exchange of documents related to PMFBY between banks and insurance companies should be prompt and efficient.
20. Damage caused by wild animals, cold waves and frost to crops should also be considered under PMFBY.
21. The guideline given under PMFBY documents should be followed by stakeholders at any cost.
22. At the time of low occurrence of natural calamities, some incentive should be given to insured farmers.
23. Since, Bundelkhand region of Uttar Pradesh is very much prone to droughts, therefore, it requires a special attention for prompt and quick distribution of compensation.
24. The grievance of insured farmers should be solved by the units of PMFBY. The agents of insurance companies should take this responsibility with the help of Nodal Officers of the respective districts of the state.
25. A toll-free number should be served to the insured farmers to lodge their complaints against inefficiency of staff of PMFBY units. It will also be useful to get suggestions from staff of agriculture department, banks and insurance companies related to PMFBY.
26. All the above mentioned suggestions related to PMFBY are based on the perception of stakeholders. We arrived at this conclusion that there is a need to add these mentioned suggestions in operational guidelines of PMFBY to improve its effectiveness and quality of this scheme in years to come.

CHAPTER-I

Overview of Pradhan Mantri Fasal Bima Yojana (PMFBY) in Uttar Pradesh

I.1. Introduction

India is basically an agrarian country where around 60% of total population of the country directly or indirectly depends upon agriculture. The livelihood of rural population across the country is agriculture. However, agriculture is still a gamble of monsoon. It is an uncertain and un-predictable occupation because it still depends on the weather conditions. Droughts, floods, heavy rains and hail-storms are common phenomena in the country. Apart from this, the attack of pests/insects, diseases and wild animals also occur on the crops. On account of failure of crops, the indebtedness is also increasing among the farmers. Majority of Indian farmers are marginal and small who are mostly under the debt-trap. The indebtedness is a major cause of farmers' suicide across the country. The farmers' suicides are a serious concern of Government of India. Many packages of relief have been launched from time to time to reduce farmer's suicides in the country but it could not be stopped yet. A number of Experts Committees have been constituted to look after this matter. These committees had recommended number of suggestions, remedial measures, etc., to over-come this serious crises.

The agriculture occupation is full of risk. Hundred percentage risks are involved in this enterprise. More than 40% of total number of farmers are willing to give up agriculture occupation. The majority of farmers are migrating from rural areas to urban areas to search alternative jobs. The wide spread natural calamities, heavy rains, hail-storm and attack of pest/insects, diseases etc. are major causes of heavy loss of production of crops every year. Besides these, the costs of cultivation of crops have been increasing each year against the value of production of crops. Indian farmers are totally devoted to raise the production of their crops by the use of latest scientific techniques and inputs but they fail to get better yield due to occurrence of natural calamities.

Since, the agriculture is much susceptible to natural calamities such as floods, droughts, heavy rains, hail-storm, hence, it is necessary to protect the farmers from these adversities which occur

frequently across the country. This cannot be ensured for their credit eligibility for next season. There is a need to protect farmers at any cost by promoting crop insurance and providing risk cover among Indian farmers. The United Progressive Alliance (UPA), Government of India had introduced National Agricultural Insurance Scheme (NAIs) in 1999-2000 to protect the farmers to compensate the losses of crops due to occurrence of natural calamities. There were many lacuna and loopholes in NAIs. Hence, farmers would not enroll themselves under NAIs. The claims had not been given timely to the enrolled farmers. There was also higher premium and it was not uniform. It was varying from block to block within a district. The role of insurance companies and banks was unsatisfactory. Therefore, NAIs was not as popular as it was expected to be.

Since, NAIs did not get success at the grass-roots level; hence, it required modification to protect the farmers in a better way. The NAIs has been replaced by Pradhan Mantri Fasal Bima Yojana (PMFBY) in 2016-2017. The PMFBY had been launched on 18th February, 2016 across the country. There is compulsory coverage for farmers that avail the seasonal crops loan (Loanee farmers). The non-loanee farmers can also be covered under PMFBY if they are interested to come under PMFBY. Different types of risks are such as yield losses due to occurrence of natural calamities and damages from pests and post-harvest losses. The PMFBY is implemented on an area approach with insured units.

1.2. Coverage of Crops

The coverage of crops under PMFBY is a subject of state government. Paddy, jowar, bajra, maize, groundnut, urd, moong, til, arhar, soyabean, sugarcane of Kharif season crops have been notified under PMFBY. While wheat, gram, pea, lentil, lahi/ mustard and potato of Rabi season crops have been notified under PMFBY. These crops are notified at panchayat /village level.

1.3. Insurance Unit

The PMFBY is area approach based. The losses of crops are considered at village/panchayat level.

1.4. Coverage of Risk and Exclusions

The risk covered for notified crops are categorized into four segments:-

(a) Prevented Sowing/Planting Risk

The insured area prevented from sowing/planting due to deficit of rainfall or adverse seasonal condition is covered under PMFBY.

(b) Loss to Standing Crops

The loss in yield of standing insured crops (sowing to harvesting) due to natural hazards, floods, and droughts is also covered under PMFBY.

(c) Post-harvest Losses (upto period of 14 days)

Coverage available of insured crops at threshing floor upto 14 days if the production is damaged by heavy rains etc.

(d) Local Calamities

Loss/damage from the occurrence of hail-storm, land-slides on individual farm is also covered under PMFBY. The loss is assessed at individual farm level.

I.5. Premium Rates

The rate of premium of PMFBY is much below as compared to previous National Agricultural Insurance Scheme (NAIs). The rate of premium is uniform throughout the country. The rate of premium differs from one season to other season. The rate of premium of Kharif crops is 2 per cent of the value of sum insured to be paid by the farmers, while 1.5 per cent of sum of value of insured for all Rabi crops. In case of commercial and horticultural crops, 5 per cent of sum insured to be paid by farmers. The balance premium will be paid by Centre and State Governments equally. There is no upper limit on government subsidy for actual premium.

I.6. Sector-wise Documents

The insurance companies are supposed to prepare all the documents sector-wise related to insured crops, payment of premium, etc. for transparency. The timing for the preparation of all details related to insured crops is fixed 31st July and 31st December for Kharif and Rabi crops respectively. There is compulsory coverage for farmers that avail of seasonal crop loans (loanee farmers). It is also voluntary for non-loanee farmers. The yield loss due to climatic factors,

damages from pests and post-harvest losses are covered under PMFBY. The yield loss assessments are done very effectively and scientifically to provide compensation for losses to the insured farmers timely and adequately. The state agencies are responsible for yield assessments through Crop Cutting Experiment (CCEs). The CCEs are advised to use the technologies with help of Mahalanobis National Crop Forecast Centre (MNCFC) and Indian Agricultural Statistical Research Institutes (IASRI). Apart from this, Remote Sensing Technology (RST) is also used for the yield assessment. The above agencies are helpful in the assessment of yield losses within 10 days and claim settlement should be done within 15 days. The insurance companies are also advised to use electronic transfer to nodal banks for yield assessments through Crop Cutting Experiments (CCEs). The CCEs advised to use doctrine transfer to nodal; banks in insured areas to credit into accounts of farmers within a week. The banks are requested to display the claim settlement data on notice board and also feed the information in the PMFBY portal.

1.7. Operational Guidelines

In order to ensure proper implementation of the PMFBY at ground level, a number of operational guidelines have been framed and sent to the state governments. In this context, the state governments had been advised to constitute a coordination committee as given below:

State-Level Coordination Committee on Crop Insurance (SLCCCI) is a nodal agency for the implementation of PMFBY at state level. The SLCCCI also existed during National Agricultural Insurance Scheme (NAIs) and National Crop Insurance Programme (NCIP). The role of SLCCCI was quite satisfactory during NAIs and NCIP. Therefore, SLCCCI is still continuing in PMFBY.

1.8. Implementation of PMFBY

Hon'ble Prime Minister of India, Sri Narendra Modi had introduced PMFBY on 15 January 2016. In this context, the chief secretary of Uttar Pradesh had issued a letter to all the District Magistrates (DMs) to implement the PMFBY from 2016 to 2017 for Kharif and Rabi crops respectively. A broad guideline had also been attached with this letter for the proper implementation at different levels.

Operational guidelines of PMFBY of Government of India should be followed by the district authorities, insurance companies, banks etc., for effective implementation of PMFBY at different

stages. All the 75 districts of Uttar Pradesh are being covered under PMFBY. The Agriculture Insurance Companies have been playing a major role across the state during 2016-17. The chief nodal officer at State level is Director of Agriculture Statistics and Crop Insurance.

Uttar Pradesh is one of the largest states of the country. It is a highly populated state. More than 16% population of the country resides in this state. The density of population per sq-km. was 828 in 2011. The percentage share of agriculture and allied sectors in total Gross State Domestic Product (GSDP) was 15.25% during 2009-10 against 28.76% during 2008-09. More than 77% of total population in Uttar Pradesh resides in villages and their main occupation is agriculture. Agriculture is still dependent on monsoon. The droughts, floods, heavy-rains, hailstorm, etc. generally occur in alternate years in the State. Of the total households of U.P., 70% households were those of farmers in 2011. The farmers face maximum natural calamities in every year. On account of these adversities, the farmers go in a very heavy loss. They come under debt-trap.

Uttar Pradesh is divided into 4 regions (Western, Central, Eastern and Bundelkhand) which are spread over 9 agro-climate zones.

The characteristic of soil, intensity of rainfall, climatic conditions, etc. differ much from one region to another region of the State. Bundelkhand is much prone to drought while eastern region is highly prone to floods. Hence, social and economic conditions of the farmers of both regions are much deplorable as compared to western and central regions of the state. The number of loanee farmers is found maximum in eastern and Bundelkhand regions. The farmers of both regions bear heavy loss in the production of crops in very year due to frequent occurrence of natural calamities. Therefore, the PMFBY is very fruitful to safeguard the interest of loanee and non-loanee farmers of the state.

I.9. Progress of Pradhan Mantri Fasal Bima Yojana (PMFBY) in Uttar Pradesh

Uttar Pradesh is highly populated state of the country. The total population of the state was about 20 crore in 2011. The density of population of the state was 828 per sq. km. in 2011. The per capita availability of land in the state was only 0.08 hectare. More than 25% of total population of the state was estimated at below poverty line in 2004-05. The per capita income of the state was worked out to be Rs. 44,197 at current price in 2011-12. The total branch offices of nationalized banks were 10,687 in 2010-11. Out of total number of holdings being 23325

thousand of the state in 2011, 59.50%, 33.00%, 5.70% 1.70% and 0.10% were marginal, small, semi-medium, medium and large holdings respectively. The financial record also shows that 33.59 lakh farmers had taken seasonal loan in Kharif 2016 for agricultural purposes. The notified crops of Kharif and Rabi seasons of loanee farmers were automatically insured because the premium of insured crops had been debited at source by the banks. The amount of premium of loanee farmers had also been given by Central and State Governments to Agriculture Insurance Companies to cover risk of crops due to occurrence of natural calamities.

Two Agriculture Insurance Companies namely Agricultural Insurance Company (AIC) of India and ICICI Lombard were involved in U.P. The coverage of AIC was in 69 districts, out of 75 districts of U.P. in Kharif-2016 and Rabi-2017 while ICICI Lombard had taken only 6 districts namely Shamli, Moradabad, Amroha Jhansi, Gorakhpur and Shravasti during the corresponding period.

For the proper implementation and execution of PMFBY in the state, a number of committees have been constituted at different stages. The Director of Agriculture Statistics and Crop Insurance of Uttar Pradesh is Nodal Executive Officer at State level for the proper implementation of PMFBY in the Uttar Pradesh. The Executive Officers of Banks, Managing Director of Insurance Companies at State level are responsible to Director of Agriculture Statistics and Crop Insurance of Uttar Pradesh. These Officers do the monitoring of progress of PMFBY of different districts of Uttar Pradesh. The State level monitoring report of PMFBY has to be submitted to Chief Secretary of Agriculture Uttar Pradesh. At the district level, the District Magistrate is Chief Executive Officer of PMFBY. The Nodal Officer of PMFBY at district level is Deputy Director of Agriculture. The officers of Banks, Insurance Companies are responsible for Deputy Director of Agriculture of the district. Month-wise meeting is generally held under Deputy Director of Agriculture to review the progress of PMFBY of the district. The amount of premium of farmers, Central and State Governments is thoroughly reviewed. The details of claims of damaged crops occurred by natural calamities are also reviewed by monitoring committee at district level as well as at Panchayat level.

I.10. Coverage and Performance of Pradhan Mantri Fasal Bima Yojana (PMFBY) for Kharif- 2016 in Uttar Pradesh

The crops of Kharif season namely paddy, maize, jowar, bajra, urd, moong, til, ground nut, sugarcane arhar and soyabean are notified crops under PMFBY in U.P. The crops of loanee farmers were mostly insured under PMFBY. There were two insurance companies namely Agricultural Insurance Company (AIC) and ICICI Lombard which were involved in insurance of notified crops of Kharif season 2016 in the state. The maximum coverage areas of insured crops under PMFBY was under Agricultural Insurance Company (AIC) while ICICI Lombard had operated their activities in only 6 districts of 75 districts of U.P. Out of total insured farmers (Loanee and non- loanee) being 33.60 lakh in Kharif 2016, only 12.28% were covered by ICICI Lombard. Hence, the role of ICICI Lombard was very negligible in Uttar Pradesh. The progress report of PMFBY for Kharif 2016 is presented in Table-II.1. Table-II.I reveals that 33.60 lakh farmers were insured in Kharif 2016 under PMFBY of which loanee farmers accounted for 99.87% while there were only 0.13% of non-loanee farmers during the same period. The coverage area under PMFBY in Kharif-2016 in U.P. was about 29.85 lakh hectares. The insured area under PMFBY was estimated at 0.89 ha. per insured farmer. The total sum insured was Rs. 11,13,226.52 lakh which was Rs.33,135 and Rs 37,306 per beneficiary and per ha. respectively. The total premium paid to insurance companies of notified crops for Kharif-2016 was Rs 59,237.58 lakh of which the premium of farmers accounted for 37.39% against 31.30% and 31.31% of central and State Governments respectively. The compensation for loss of crops was given as Rs 40,353.93 lakh against 33.60 lakh farmers covered under PMFBY in U.P. for notified Kharif crops for 2016. It shows that out of total enrolled farmers in PMFBY in Kharif-2016, only 25.30% had received the compensation. It is also evident from Table-II.5 that total amount of compensation for Kharif crops was Rs. 40,353.93 lakh in U.P. against Rs. 59,237.58 lakh of premium. It shows that the profit of insurance companies was Rs. 18,883.65 lakh. The Insurance companies were in a better position in U.P. It is also noticed from Table-II.5 that compensation of per insured farmer for notified Kharif crops for 2016 was worked out to be Rs. 4,751 while compensation amount per hectare insured area was estimated at Rs 1,352. The progress of PMFBY was quite satisfactory in U.P. during the Kharif- 2016.

I.11. Coverage and Performance of PMFBY in Rabi -2017 in U.P.

The progress of PMFBY in different districts of Uttar Pradesh for Rabi 2017 has been examined. Two Agricultural Insurance Companies namely AIC and ICICI Lombard were involved for Rabi-2017 in Uttar Pradesh. Out of 75 districts of U.P. 69 districts were covered by Agricultural Insurance Companies (AIC) and rest only 6 districts were covered by ICICI Lombard. It is evident from Table-II.1 that total number of enrolled farmers in PMFBY in Rabi 2017 were 29,11,434 in U.P. of which 99.12% (2885833) were loanee farmers followed by 25601 (0.88%) of non-loanees farmers. The maximum non-loanee farmers under PMFBY were found being 4277 in Jaunpur district followed by 3159, 3066 and 2950 in Etawah, Auraiye and Fatehpur districts respectively in Rabi 2017. However, the loanee farmers in PMFBY in Rabi 2017 in U.P. were found maximum being 206802 in Jhansi district followed by 165468 and 79831 in Lalitpur and Fatehpur districts respectively. It is also evident from records that out of 75 districts of U.P. the non-loanee farmers of 40 districts were not involved under PMFBY in Rabi -2017.

The insured area under PMFBY in Rabi- 2017 in U.P. was 24.93 lakh hectares of which 19.25% of total area was sown in Rabi season. The area insured in Rabi-2017 was worked out to be 0.09 ha. per ensured farmer. The sum insured of Rabi season 2017 in U.P. was Rs 1,11,445.31 lakh which was about Rs. 44,698 per insured area. The sum insured for Rabi-2017 was worked out to be Rs. 28,278 per insured farmer.

The total premium paid to insurance companies in Rabi season in U.P. was Rs 42,172.10 lakh of which the share of farmers accounted for 46.62% followed by 26.69% and 26.69% of Centre and state governments respectively. It is also estimated that the amount of premium of per insured farmer was Rs 675 against Rs 788 per insured area. The Table-II.5 also reveals that 173018 (5.94%) farmers were benefited against 2911434 insured farmers. The amount of compensation for loss of Rabi crops in 2017 in U.P. was only 8953.86 lakh against total premium of Rs 42,172.10 lakh.

The above analysis reflects that insurance companies had earned high profit in Rabi 2017. The profit amount of Agricultural Insurance Companies (AIC) and ICICI Lombard was Rs. 33218.24 lakh in Rabi crops 2017 in U.P. The Insurance companies had paid compensation of Rabi crops in 2017 in all 75 districts of the state. The minimum amount of compensation had been given

being Rs 946.71 lakh to 11035 insured farmers of Banda district in Rabi-2017. Apart from this, Rs 720.03 lakh compensation had been given to 11205 insured farmers of Agra district. Most of the notified Rabi crops namely wheat gram, pea, masoor, lahi/mustard and potato were covered under PMFBY. Wheat was covered under PMFBY in 69 districts, out of 75 districts of the state, followed by 58 districts for gram, pea, masoor, mustard and potato respectively. The coverage of the districts and crops under PMFBY were quite satisfactory in U.P. However, the Insurance Companies were much in profit in Uttar Pradesh. There was less natural calamity in almost all the districts of U.P. in Rabi season 2017. Hence, they did not pay much amount of compensation to insured farmers during the study period.

The above analysis shows that the progress of PMFBY in Kharif 2016 was much better than Rabi 2017 in U.P. The progress of PMFBY at state level was quite satisfactory particularly in Kharif-2016. The non-loanee farmers were not so willing to link with PMFBY because they do not know about the benefit of this scheme. The linkage between insurance companies and banks is not found positive, therefore, there is a need to strengthen the cordial relationship between them to improve the efficiency of PMFBY in the State.

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CHAPTER-II

Survey Design

II.1. Introduction of Survey Design

The PMFBY is very fruitful to protect the interest of farmers. It is a new scheme which has been uniformly started across the country. The National Agricultural Insurance Scheme (NAIs) has been replaced by PMFBY with a major modification. A number of agencies are evolved in PMFBY, so there is need to assess their efficiency and role in the implementation of PMFBY. The state government is responsible for monitoring the effectiveness of PMFBY at different stages. There should be full coordination and cooperation for efficient functioning of the scheme. The state government, Local Panchayats, Insurance Companies, banks etc should establish a proper linkage for the effective implementation of PMFBY. Hence, there is a need to assess their linkage with other units. The Transaction cost for managing crop insurance scheme is rather very high, so an effort should be made to reduce the transaction costs. The implementing authorities at state level are not much acquainted with guidelines which have been framed by Central government. The share of premium is not properly and adequately contributed to insurance companies. It is a very new scheme which has been started recently, hence, it has many bottlenecks such as lack of awareness among the farmers and lack of willingness to pay a little amount of premium. There are major bottlenecks and constraints in the way of proper implementation of PMFBY.

Hence, there is a need to examine the performance of PMFBY at different stages like the objectives of PMFBY are getting success to what extent, what are the hurdles in the way of implementation of PMFBY. These are required to be examined through monitoring. In the light of above, Centre for Management in Agriculture (CMA), Indian Institute of Management (IIM), Ahmedabad had proposed this study in the meeting of Directors of AERCs/Units which was held on 25th August 2017 under Directorate of Economics & Statistics (AER Division), Ministry of Agriculture and Farmers Welfare, Government of India. The study proposal had been accepted by Directorate of Economics and Statistics, Ministry of Agriculture and Farmers Welfare, Government of India. The Directorate of Economics and Statistics had allotted this study to 9

AERCs located in different states. The AER Centre, Allahabad has conducted this study in Uttar Pradesh.

Objectives of the Study

The following objectives of the study on Performance Evaluation of the Pradhan Mantri Fasal Bima Yojana (PMFBY) had been framed by Centre for Management in Agriculture (CMA), IIM, Ahmedabad.

- (I) To know the function of the contacted agencies.
- (II) To know the detailed functioning of banks and insurance companies involved in concerned districts.
- (III) To work-out the districts-wise progress report of PMFBY for Kharif of 2016 and Rabi-2017 in the state.

II.2 Sampling Methodology

The AER Centre, Allahabad has adopted same research methodology of the study which had been given in the study proposal.

As per guidelines of Coordinator of the Study, Centre for Management in Agriculture (CMA), IIM, Ahmedabad, the study design has been fully adopted by AER Centre, Allahabad for selecting different units of the study. Three districts namely: Jaunpur, Hardoi and Jhansi have been selected on the following criteria.

These three districts have been categorized based on the number of farmers/area insured. These districts had both insured loanee and non-loanee farmers. Apart from this, also considered was the status of loanee and non-loanee farmers during 2016-17. The three stages had been considered during the selection of districts for this study.

- (I) Low uptake district-Since, Jaunpur district of eastern region of Uttar Pradesh had lowest number of loanee and non-loanee insured farmers among 75 district of Uttar Pradesh during 2016 and 2017, hence, it was selected under this category.
- (II) Medium uptake district-Hardoi district of Central region of Uttar Pradesh was found appropriate among 75 districts of U.P. for this category, hence, it had been selected.

(III) High uptake district-Jhansi district of Bundelkhand region had highest number of farmers enrolled during reference year. Therefore, this district was selected for this category. From each selected district the blocks and villages were selected on the basis of maximum possibility of representation of the district.

(IV) From each district, 30 insured loanee farmers, 10 insured non-loanee farmers and 10 farmers (control) were selected from the list provided by banks, agriculture department and insurance companies. The selections of samples are illustrated in the Table -II.1.

Table-II.1A
Selected Units

| Category of the Selected districts (Name) | Number of Loanee Insured Farmers | Number of Non-Loanee Insured Farmers | Number of Farmers (Control) | Total Number of Sample Farmers |
|--|---|---|------------------------------------|---------------------------------------|
| Low uptake district (Jaunpur) | 30 | 10 | 10 | 50 |
| Medium uptake district (Hardoi) | 30 | 10 | 10 | 50 |
| High uptake district (Jhansi) | 30 | 10 | 10 | 50 |
| Total | 90 | 30 | 30 | 150 |

Thus, total selected samples of three districts were 150 of which 90 belonged to insured loanee farmers followed by 30 non-loanee insured farmers and 30 farmers (control) for this study.

Reference Year

The reference year of the study is Kharif-2016 and Rabi-2017.

II.3. Sample Districts

Three districts namely Jaunpur, Hardoi and Jhansi of U.P. were selected for the study on “**Performance Evaluation of Pradhan Mantri Fasal Bima Yojanain U.P. (PMFBY)**”. The progress report of PMFBY for Kharif-2016 and Rabi-2017 of each selected district of U.P. has been examined.

1. Progress of PMFBY in Jaunpur District of U.P.

Jaunpur district was selected because it had come under low uptake category in the implementation of PMFBY among the 75 districts of U.P. during Kharif-2016 and Rabi-2017. Jaunpur district belongs to eastern region of U.P. It is one of the most progressive districts of eastern region of U.P. The total area of this district is 399713 hectares. The population of the district was 44.94 lakh in 2011. The density of population was 110 sq. km. in 2011. Out of total farmers of the district, 36,742 were insured under PMFBY in Kharif-2016. Almost all notified crops under PMFBY are mostly grown in the district. Paddy, maize, jowar arhar and sugarcane are principal crops of Kharif season of the district.

Kharif -2016

The Agricultural Insurance Company (AIC) was only involved in PMFBY for Kharif 2016 in this district. The total enrolled farmers under PNFBY were 36,742 in Kharif -2016 of which 99.90% was loanee farmers and 0.10% non-loanee farmers. The total area under insured crops in Kharif in 2016 was 23808.46 hectares which was 10.42% of area under Kharif crops in 2013-14. The total sum insured of Kharif season was Rs 9224.11 lakh which was estimated at Rs. 38,744 per hectare. Total premium paid by ensured farmers was Rs 184.48 lakh while the contribution of central and state governments was Rs 45.56 and Rs 45.56 lakh respectively in Kharif-2016 in the district. It is also revealed from Table-II.5, that only 6654 beneficiaries of total enrolled farmers under PMFBY in Kharif -2016 were benefitted. It comes to 18.10% of total insured farmers. The compensation amount was worked out to be Rs. 2,725 per beneficiary farmer and Rs 762 per hectare. Since, the loss of Kharif crops in 2016 in Jaunpur district was very limited, hence, the profit of Agricultural Insurance Companies (AIC) was Rs. 94.26 lakh in Kharif-2016. However, the progress of Agricultural Insurance Companies (AIC) was quite satisfactory.

Rabi-2017

As far as Rabi-2017 is concerned, wheat, gram, pea, lentil and mustard were notified crops under PMFBY of Jaunpur district. The Agricultural Insurance Companies (AIC) was also involved in Rabi-2017 in this district. The 10785 farmers were enrolled under PMFBY in Rabi-2017 of which 60.34% was loanee farmers followed by 39.66% non-loanee farmers. The insured area under PMFBY was 9587 hectares in Rabi-2017. The sum insured was Rs 3,773.97 lakh. The

non-loanee insured farmers were 4277 in Rabi-2017 in the district which was a good progress due to efforts of Deputy Director of Agriculture of Jaunpur district.

The total amount of premium was Rs 56.67 lakh which had been paid by only the insured farmers of the district. The Centre and State Governments did not pay the premium in Rabi-2017. The amount of premium paid by insured farmer worked out Rs 525. It is also noticed from records that Rs 17.64 lakh compensation had been paid to 643 insured farmers of the district in Rabi-2017.

Above analysis reflects that amount of compensation was higher in Kharif-2016 than that of Rabi-2017. It shows that the progress of PMFBY in Kharif- 2016 was far better than that of Rabi -2017 in Jaunpur district. (Table-II.1,2,3,4, and 5)

2. Progress of PMFBY in Hardoi District of U.P.

Hardoi district had also been selected to know the Performance, Evaluation of PMFBY in Kharif-2016 and Rabi-2017. This district had been selected because it was in medium uptake in term of number of enrolled farmers under PMFBY in 2016-2017. Hardoi is one of most progressive districts of central region of U.P. It belongs to Lucknow division. It falls in central of Uttar Pradesh, near the state capital Lucknow. The total geographical area of the district is 5986 sq. km. supporting total population of 33.98 lakh persons with a density of 568 persons per sq. km. It has 19 blocks and 1883 inhabited villages. The average rainfall in the district was 941 m.m. Majority of population of the district is living in rural areas. The net sown area was around 4.20 lakh hectares. More than 70% of total area of this district is under cultivation. Most of net sown area is irrigated by canals and tube-wells. Paddy, maize, urd moong, Jowar, bajra and til are main crops of Kharif season while wheat, pea, gram, lentil, mustard and potato are main Rabi crops of the district. Apart from these crops, sugarcane is widely grown across the district.

Kharif-2016

Paddy, til, maize, urd, moong, arhar, Jowar are notified crops of Kharif season under PMFBY. Agricultural Insurance Company (AIC) was involved in this district. The enrolled farmers under PMFBY in Kharif -2016 were 91,248 which were 15.62% of total farmers of the district. Out of 91,248 insured farmers under PMFBY in Kharif 2016, 99.99% were loanee farmers against

0.01% of non-loanee farmers. Only 9 non-loanee farmers were insured under PMFBY in Kharif-2016 across the district. Out of total area under Kharif in 2013-14 being 285738 hectares, 82319 hectares was insured which was 28.81% of total area under Kharif season of the district. The sum insured of Kharif season was Rs 45,420 per hectare. The total amount of premium of Kharif-2016 was Rs 1673.70 lakh of which 44.68% was paid by insured farmers followed by 27.66% and 27.66% by Centre and State Governments respectively. The premium amount of per ensured farmer was estimated at Rs 819. Out of total ensured farmers in Kharif-2016 being 91248, only 26748 (29.31%) were benefited.

The compensation amount was Rs 1169.71 lakh against the amount of premium of Rs 1673.70 lakh. Thus, Agricultural Insurance Companies (AIC) had gained Rs 503.99 lakh in only Kharif -2016 in this district. The amount of compensation of per beneficiary farmer under PMFBY in Kharif-2016 was Rs only 4373. The above analysis reveals that Agricultural Insurance Companies (AIC) was much benefited than insured farmers of Hardoi district in Kharif -2016.

Rabi -2017

Agricultural Insurance Company (AIC) was also involved in Rabi-2017 in Hardoi district. The notified crops of Rabi-2017 were wheat, pea, lentil, mustard and potato. The number of enrolled farmers under PMFBY in Rabi-2017 were 69,477 in the district of which 95.75% and 4.25% were loanee and non-loanee farmers respectively. The total area covered in Rabi-2017 under PMFBY was 63900 hectares which was 27.11% of total area under Rabi crops during corresponding period. The sum insured in Rabi-2017 was Rs 31,040.77 lakh which was about Rs 48,577 per hectare. The total amount of premium was Rs 488.75 lakh which had been paid by only ensured farmers.

Above analysis reveals that progress of PMFBY in Kharif-2016 was much better than that of Rabi-2017. However the number of non-loanee insured farmers under PMFBY was higher being 2946 in Rabi-2017 in comparison to 9 in Kharif-2016 under PMFBY in Hardoi district. The Nodal Officer of PMFBY has been doing sincere efforts to motivate the farmers to link them with PMFBY. (Table II-1,2,3,4 and 5)

3. Progress of PMFBY in Jhansi District of U.P.

Jhansi district had been selected for the study on “Performance, Evaluation of PMFBY” because it was found in High uptake in term of number of enrolled farmers under PMFBY in Kharif-2016 and Rabi-2017 among the 75 districts of U.P. Jhansi district belongs to Bundelkhand region of U.P. Bundelkhand region has 7 districts and Jhansi is one of them. Bundelkhand is the most backward region of U.P. Most of the land of this region is un-irrigated. Drought is a common phenomenon of this region. Pulses and oilseeds are generally grown in the region. Urd, moong, arhar groundnut and til are main crops of Kharif season while wheat, gram, pea, lentil, and mustard are principal crops of Rabi season of Bundelkhand region. Jhansi district is spread over 5024 sq. km. The total population of this district was 1998603 in 2011. The density of population of the district was only 398 per sq. km. This district has 8 blocks and 816 villages. The literacy in total population was 75% in 2011. Out of total reported area of 501327 hectares only 33.72% area was under cultivation in 2011-12. The cropping intensity was only 154.16% during the same period. It shows that only one crop is generally grown in a year due to lack of irrigation network. The per capita availability of net area sown was worked out as 0.16 hectare against 0.08 hectare of state as a whole.

This is very problematic district of U.P. In the last few years, the crops of Kharif as well as Rabi seasons have been destroyed due to deficit of rainfall in this district. Maximum farmers of the district live below the poverty-line. Maximum farmers’ suicides are also from this district. Starvation is still persistent in the district. Therefore, PMFBY is very much beneficial for the farmers of the district.

Kharif -2016

The PMFBY had been introduced in Kharif-2016 across the district. The ICICI Lombard Insurance Company had adopted this district under PMFBY in Kharif-2016 and Rabi-2017. More than 2.19 lakh farmers were insured under PMFBY for Kharif-2016 in this district. Out of 2.19 lakh insured farmers, loanee insured farmers accounted for 99.82% followed by 0.18% of non-loanee farmers. The sum insured was Rs 25,647.28 lakh which was estimated at Rs 18,094 per hectare.

The sum insured was very low in comparison to other selected districts of U.P. The sum insured was only Rs 11,665 per insured farmer during the same period.

The total premium was Rs 3,402.36 lakh for Kharif-2016 of which the share of farmers accounted for 15.07% followed by 42.46% and 42.47% by Centre and State Governments respectively. The amount of premium paid by an insured farmer was estimated at Rs 233. Out of total insured farmers of 2.19 lakh, only 1.26 lakh had received the compensation which comes to about 57.53%. It shows that 57.53% of total insured farmers were benefited under PMFBY for Kharif-2016 in this district. The compensation amount was more being 35.54% over the premium amount of Rs 3402.36 lakh. The compensation amount per beneficiary was worked out Rs. 4196 during the same period. ICICI Lombard Insurance Company was in loss for Kharif-2016 in Jhansi district. ICICI Lombard had paid Rs 5278.18 lakh as compensation to insured farmers against Rs 3,402.36 lakh of premium.

Rabi-2017

As far as Rabi crops under PMFBY 2017 are concerned, about 2.07 lakh farmers were insured in Jhansi district of which 99.74% were loanee farmers while there were only 0.26% non-loanee farmers. The area insured was 1.95 lakh hectares of insured farmers which was worked out to 0.94 hectare per insured farmer. The sum insured was Rs 72,511.96 lakh of 1.95 lakh hectares. It was around Rs 37,274 and Rs 34,970 per hectare and per insured farmer respectively.

The total amount of premium was Rs. 8,720.16 lakh of which the share of insured farmers accounted for 12.47% followed by 43.76% and 43.77% of central and state government respectively. Out of total insured farmers being 207350, only 10526 (5.08%) had received the compensation from ICICI Lombard Insurance Company in Rabi -2017.

The compensation amount was Rs 411.05 lakh which had been given to 10526 insured farmers. It was estimated at Rs 4190 per beneficiary farmer. The compensation amount was Rs 411,05 lakh against Rs 8720.16 lakh of premium. Thus, ICICI Lombard insurance was in profit of Rs 8,309.11 lakh in Rabi 2017 in Jhansi district. Since the notified crops of Kharif are more susceptible to natural calamities, pests and diseases as compared to notified crops of Rabi, hence, loss of production of crops of Kharif is found more than Rabi crops. Over all, it may be concluded with this impression that the Agriculture Insurance Companies namely AIC and ICICI

Lombard were much in profit in Kharif-2016 and Rabi-2017 across the state. This happened due to low loss of production of notified crops of both seasons. It is also observed from above analysis that the linkage of non-loanee farmers with PMFBY was very limited in almost all 75 districts of U.P. during Kharif-2016 and Rabi-2017. There is a need to motivate non-loanee farmers for linking with PMFBY. This will require sincere efforts at grass-root level through proper publicity about the benefits of PMFBY. (Table-II-1,2,3,4 and 5)

Table-II.1
Details of Insured Farmers in Kharif -2016 and Rabi -2017 under PMFBY in Selected Districts of U.P.

| Insured Farmers | | Name of Selected Districts | | | U.P. |
|------------------|----------------------------|----------------------------|--------------------|--------------------|---------------------|
| | | Jaunpur | Hardoi | Jhansi | |
| (in numbers) | | | | | |
| (A) Kharif -2016 | | | | | |
| I | Loanee Insured Farmers | 36707 (99.90) | 91239 (99.99) | 219456 (99.82) | 3355363 (99.87) |
| II | Non-Loanee Insured Farmers | 35 (0.10) | 9 (0.01) | 401 (0.18) | 4307 (0.13) |
| III | Total Insured Farmers | 36742 (100.00) | 91248 (100.00) | 219857 (100.00) | 3359670 (100.00) |
| (B) Rabi -2017 | | | | | |
| I | Loanee Insured Farmers | 6508 (60.34) | 66531 (95.75) | 206802 (99.74) | 2885833 (99.12) |
| II | Non-Loanee Insured Farmers | 4277 (39.66) | 2946 (4.25) | 548 (0.26) | 25601 (0.88) |
| III | Total Insured Farmers | 10785 (100.00) | 69477 (100.00) | 207350 (100.00) | 2911434 (100.00) |
| (C) Both Seasons | | | | | |
| I | Loanee Insured Farmers | 43215 (90.93) | 157770 (98.16) | 426258 (99.78) | 6241196 (99.52) |
| II | Non-Loanee Insured Farmers | 4312 (9.07) | 2955 (1.84) | 9459 (0.22) | 29908 (0.48) |
| III | Total Insured Farmers | 47527 (100.00) | 160725 (100.00) | 427207 (100.00) | 6271104 (100.00) |

Figures in bracket are percentage to total.

Source: Directorate of Agriculture, Statistics and Crop Insurance, Uttar Pradesh.

Table-II.2
Details of Insured Areas and Sum Insured in Selected Districts of U.P.
in Kharif -2016 and Rabi -2017

| Area Insured (Hect) & Sum Insured in Lakh | | Name of Selected Districts | | | U.P. |
|---|------------------------------|----------------------------|----------|----------|------------|
| | | Jaunpur | Hardoi | Jhansi | |
| (A) Kharif -2016 | | | | | |
| I | Area insured (Hect) | 23808 | 82319 | 141738 | 2984048.83 |
| II | Sum Insured (in lakh) | 9224.11 | 37389.04 | 25647.28 | 1113226.52 |
| III | Per Hectare sum Insured (Rs) | 38744 | 45419 | 18095 | 37306 |
| (B) Rabi -2017 | | | | | |
| I | Area insured (Hect) | 9587 | 63900 | 194538 | 2493327.00 |
| II | Sum Insured (in lakh) | 3773.97 | 31040.77 | 72511.96 | 1114445.31 |
| III | Per Hectare sum Insured (Rs) | 39365 | 48577 | 37274 | 44698 |
| (C) Both Seasons | | | | | |
| I | Area insured (Hect) | 33395 | 146219 | 336276 | 5477375.83 |
| II | Sum Insured (in lakh) | 12998.08 | 68429.81 | 98159.24 | 1224671.83 |
| III | Per Hectare sum Insured (Rs) | 38922 | 46799 | 29190 | 22359 |

Source: Directorate of Agriculture, Statistics and Crop Insurance, Uttar Pradesh.

Table-II.3
Premium Paid by Insured Farmers in Selected Districts of U.P. in Kharif-2016 and Rabi-2017
(Premium in Rs Lakh)

| Amount of Premium | | Name of Selected Districts | | | U.P. |
|-------------------|---|----------------------------|---------|---------|----------|
| | | Jaunpur | Hardoi | Jhansi | |
| (A) Kharif -2016 | | | | | |
| I | No. of Insured Farmers | 36742 | 91248 | 219867 | 3359670 |
| II | Premium Paid by Insured Farmers | 184.48 | 747.78 | 512.94 | 22148.34 |
| III | Amt. of Premium per insured farmer (Rs) | 502 | 819 | 233 | 659 |
| (B) Rabi -2017 | | | | | |
| I | No. of Insured Farmers | 10785 | 69477 | 207350 | 2911434 |
| II | Premium Paid by Insured Farmers | 56.67 | 488.75 | 1087.68 | 19660.04 |
| III | Amt. of Premium per insured farmer (Rs) | 525 | 703 | 524 | 675 |
| (C) Both Seasons | | | | | |
| I | No. of Insured Farmers | 47527 | 160725 | 427217 | 6271104 |
| II | Premium Paid by Insured | 241.15 | 1236.53 | 1600.62 | 41808.38 |
| III | Amt. of Premium per insured farmer (Rs) | 507 | 769 | 375 | 667 |

Source: Directorate of Agriculture, Statistics and Crop Insurance, Uttar Pradesh.

Table-II.4
Premium paid by Insured Farmers, Central and U.P. Governments under PMFBY in
the Selected Districts of U.P. in Kharif-2016 and Rabi-2017
(in Rs Lakh)

| Amount of Premium | | Name of Selected Districts | | | U.P. |
|-------------------------|---------------------------|----------------------------|---------------------|----------------------|----------------------|
| | | Jaunpur | Hardoi | Jhansi | |
| (A) Kharif -2016 | | | | | |
| I | Farmers' share | 184.48 (66.94) | 747.78 (44.68) | 512.94 (15.08) | 22148.34 (37.39) |
| II | Central Government-Share | 45.56 (16.53) | 462.96 (27.66) | 1444.71 (42.46) | 18544.62 (31.30) |
| III | State Governments Share | 45.56 (16.53) | 462.96 (27.66) | 1444.71 (42.46) | 18544.62 (31.31) |
| | Total | 275.60 (100.00) | 1673.70 (100.00) | 3402.36 (100.00) | 59237.58 (100.00) |
| (B) Rabi -2017 | | | | | |
| I | Farmers' share | 56.67 (100.00) | 488.75 (100.00) | 1087.68 (12.47) | 19660.04 (46.62) |
| II | Central Government Share | - | - | 3816.24 (43.76) | 11256.03 (26.69) |
| III | State Government Share | - | - | 3816.24 (43.77) | 11256.03 (26.69) |
| | Total | 56.67 (100.00) | 488.75 (100.00) | 8720.16 (100.00) | 42172.10 (100.00) |
| (C) Both Seasons | | | | | |
| I | Farmers' share | 241.17 (72.57) | 1236.53 (57.18) | 16300.62 (13.20) | 41808.38 (41.22) |
| II | Central Governments Share | 45.56 (13.71) | 462.96 (21.41) | 5260.95 (43.40) | 29800.65 (29.39) |
| III | State Governments Share | 45.72 (13.69) | 462.96 (21.41) | 5260.95 (43.40) | 29800.65 (29.39) |
| | Total Share | 332.27 (100.00) | 2162.45 (100.00) | 12122.52 (100.00) | 101409.68 (29.39) |

Figures in brackets are percentages to total.

Source: Directorate of Agriculture, Statistics and Crop Insurance, Uttar Pradesh.

Table-II.5
Amount of Compensation given to Beneficiary Farmers of Selected District in U.P. in
Kharif -2016 and Rabi -2017

| Amount of Compensations | | Name of Selected Districts | | | U.P. |
|-------------------------|--|----------------------------|---------|---------|----------|
| | | Jaunpur | Hardoi | Jhansi | |
| (A) Kharif -2016 | | | | | |
| I | Number of benefited farmers | 6654 | 26748 | 125810 | 849337 |
| II | Amount of Compensation in Rs lakh | 181.34 | 1169.71 | 527848 | 40353.93 |
| III | Amount of Compensation per beneficiary in Rs | 2725 | 4373 | 4196 | 4751 |
| (B) Rabi -2017 | | | | | |
| I | Number of benefited farmers | 643 | 4019 | 10526 | 173018 |
| II | Amount of Compensation in Rs lakh | 17.64 | 253.86 | 441.05 | 895386 |
| III | Amount of Compensation per beneficiary in Rs | 2743 | 6316 | 4190 | 5175 |
| (C) Both Seasons | | | | | |
| I | Number of benefited farmers | 7297 | 30767 | 136336 | 1022355 |
| II | Amount of Compensation in Rs lakh | 198.98 | 1423.57 | 5719.53 | 49307.79 |
| III | Amount of Compensation per beneficiary in Rs | 2727 | 4627 | 4195 | 4823 |

Source: Directorate of Agriculture, Statistics and Crop Insurance, Uttar Pradesh.

CHAPTER-III

Socio-Economic Characteristics

An attempt has been made in this chapter to know the socio-economic profile, occupations, assets, position, annual income and access to credit of sample loanee, insured farmers, non-loanee insured farmers and non-loanee non-insured farmers (control). It has already been mentioned in the IInd chapter of the report that 90 loanee insured farmers and 30 non-loanee insured farmers and 30 non-loanee non-insured farmers (control) were selected from three selected districts of U.P. The analysis is based on only primary data for Kharif -2016 and Rabi - 2017.

III.1. Socio-Economic Profile

The socio-economic profile of different types of sample farmers is presented in Table -III.1. It is evident from Table -III.1 that out of total members of 90 loanee insured farmers, 62.24% was adults followed by 27.50% and 10.26% of minor and seniors respectively. While in case of non-loanee insured sample farmers, the adult members accounted for 58.23% followed by 32.91% and 8.86% of minors and seniors respectively. It reflects that the minor and adult members were higher than the senior members in selected households of loane and non-loanee insured farmers during the study period. This type of result is also witnessed in case of non-loanee sample farmers.

Years of Schooling of Family Members

The years of schooling of family members (% to sample) is also presented in Table- III.1. Table- III.1 reveals that the illiterate members among the different categories of sample farmers were persistent at the time of survey period of the study. The percentage of illiteracy in the loanee insured sample farmers was maximum being 76.67% followed by 70.00% and 63.33% in non-loanee insured farmers and non-loanee (sample) farmers respectively. The primary and secondary educations were maximum among the members of different type of sample farmers. However, the percentage of higher education (graduate and above) was very low among the members of sample farmers. It is evident from Table- III.1 that only 13.33% of total population

of non-loanee insured sample farmers had obtained the degree of graduation and above followed by 6.66% and 4.45% of non-loanee sample farmers and loanee insured sample farmers respectively. It shows that literacy among the sample farmers was more or less moderate.

**Table- III.1
Socio-Economic Profile**

| Type of Sample Farmers | Particulars | | | | | | | | | |
|----------------------------|--|--------------|-------------------|----------------------------------|---------|-----------|--------------------|---------------------|-------|---------|
| | Age group of family member (% to sample) | | | Educational Status (% to sample) | | | | Caste (% to sample) | | |
| | Minor < 16 years | Adults 16-59 | Senior > 60 years | Illiterate | Primary | Secondary | Graduate and above | SC/ST | OBC | General |
| Loanee insured farmers | 27.50 | 62.24 | 10.26 | 23.33 | 30.00 | 42.22 | 4.45 | 8.89 | 61.11 | 30.00 |
| Non-loanee insured farmers | 32.91 | 58.23 | 8.86 | 30.00 | 33.33 | 23.34 | 13.33 | 10.00 | 73.33 | 16.67 |
| Total insured farmers | 28.79 | 61.28 | 9.93 | 25.00 | 30.83 | 37.5 | 6.67 | 9.17 | 64.17 | 26.66 |
| Farmers (Control) | 35.52 | 56.55 | 7.93 | 36.67 | 10.00 | 46.67 | 6.66 | 3.33 | 76.67 | 20.00 |

Details of Caste

The details of caste to percentage of samples are also shown in Table- III.1. Table- III.1 shows that the out of 90 loanee insured sample households, OBC accounted for 61.11% followed by 30.00% and 8.89% of general and SC/ST castes respectively. The OBC was also dominant in non-loanee insured sample farms. Out of total 30 samples of non-loanee insured farms, 73.33% belonged to OBC followed by 16.67% and 10.00% to general and SC/ST castes respectively.

It is surprising to note that SC/ST of non-loanee insured sample farmers were also linked with PMFBY. The maximum numbers of OBC from sample farmers were linked with PMFBY. It is also witnessed from Table- III.1 that OBC and general were dominant castes across the different type of sample farms in the study areas.

III.2. Occupation: Members engaged in Farming and Household Income

The occupation, members engaged in farming and household income of sample farmers have been worked out in Table-III.2. Table- III.2 shows that primary as well as secondary occupations were present across the different type of sample farms. Out of 30 of non-loanee insured sample

farmers, 70% had adopted secondary occupation followed by 66.67% and 63.33% of non-loanee sample farmers and loanee insured farmers respectively. It reflects that majority of sample farmers of different categories had adopted secondary occupations alongwith primary occupations.

Family Members Engaged Infirming

The family members engaged in farming is also presented in Table- III.2. It is evident from Table- III.2 that 27.50% and 25.74% of total members of sample of loanee and non-loanee were engaged in farming respectively. It shows that majority of family members across the sample farms were engaged in farming activities.

Per Household Income

The per household income of sample farmers has been estimated in Table-III.2. Table-III.2 shows that per household income was maximum being Rs 1,58,505 in case of loanee insured sample farmers against Rs 93,223 and Rs 84,478 in case of non-loanee insured sample farmers and non-loanee sample farmers respectively. The per household income of loanee insured farmers was higher than that of non-loanee insured farmers. The per capita annual income on loanee insured sample farms was Rs 18,770 against Rs 11,880 on non-loanee insured sample farms during the same year. The per capita annual income on non-loanee sample farms was worked to be Rs 8,734. It shows that loanee insured sample farmers were economically much better than that of their counter parts.

**Table-III.2
Occupations, Members engaged in Farming and Household Income**

| Type of Sample Farmers | Occupations of sample H.H. (% to Sample) | | Average number of family members engaged in farming (% to sample) | Per HH annual income (in Rs.) |
|----------------------------|---|-----------|--|----------------------------------|
| | Primary | Secondary | | |
| Loanee Insured farmers | 100.00 | 63.33 | 27.50 | 1,58,505 |
| Non-Loanee Insured Farmers | 100.00 | 70.00 | 25.74 | 93,223 |
| Total Insured Farmers | 100.00 | 65.00 | 27.08 | 14,21,184 |
| Farmers (Control) | 100.00 | 66.67 | 37.24 | 84,478 |

III.3. Per Household Annual Income from Non-Agricultural Sources

Salary from employment, farm labour, MGNREGA remittances, and pensions, rent from houses, business/trade and others were non-agricultural sources of income of selected sample farmers. In the non-agricultural sources of income of selected loanee insured sample farmers, the salary from employment and remittance were main sources of income. The per household annual income from non-agricultural sources of sample farms was estimated in Table-III.3. It is evident from Table-III.3 that salary from employment, business and remittances were major sources of income of loanee insured sample farmers. Apart from these, the farm labour and pension etc. were also non-agricultural sources of income on loanee insured sample farmers. Out of total per household annual income of Rs 51,907 from non-agricultural sources, the share of salary from employment was maximum being 31.33% followed by 21.31%, 11.64%, 7.61% and 6.15% from business remittances and farm labour respectively on the loanee insured sample farmers. Apart from these, the share of pension was 7.06% followed by 0.37% and 0.26% of MGNREGA and rents from houses respectively. It reflects that salary, business and remittances jointly accounted for 64.28% of total per H.H. annual income of loanee insured sample farmers. Table-III.3 also reveals that per H.H. income from non-agricultural source was maximum being Rs 16,267 from salary on loan insured sample farms followed by Rs 11,062, Rs 6,044 and Rs 3,951 from business, remittances and farm labour respectively.

As far as non-loanee insured sample farmers are concerned, Table- III.3 reveals that per household annual income from non-agricultural sources was Rs 26,789 which was much lower than that of loanee insured sample farmers. The salary from employment and farm labour accounted for 39.94% and 26.53% of total annual income from non-agricultural sources respectively. Thus, the salary and farm labour were major sources of income of non-loanee insured sample farmers. Apart from these, remittances were also main sources of income of non-loanee insured farmers. Table- III.3 also shows that per H.H. annual income from non-agricultural source on non-loanee insured sample farmers was maximum being Rs 10,700 from salary followed by Rs 7,107, Rs 3,867, Rs 500 and Rs 116 from farm labour, others remittances and MGNREGA respectively.

The per household annual income from non-agricultural sources on non-loanee sample farms was Rs 30,767 which was lowest in comparison to loanee and non-loanee insured sample

farmers. The remittance and salary were main sources of annual income on sample farmers. Table- III.3 shows that per H.H. annual income was highest being Rs 11000 from remittances followed by Rs 8000 and Rs 6000 from others and salary respective. Thus, salary, pension and remittances were main sources of annual income across the type of sample farmers during the reference year.

Table-III.3
Per H.H. Annual Income from Non-Agricultural Sources (in Rs.)

| | Income from Non-Agricultural Sources | | | | | | | | |
|----------------------------|--------------------------------------|------------------|----------------|-------------------|------------------|------------------|-------------------|-------------------|--------------------|
| | Name of Sources | | | | | | | | |
| | Salary from employment | Farm labor | MGNREGA | Remittances | Pension | Rents house/land | Business / trade | Others | Total |
| Loanee insured farmers | 1464000 (16267) | 355600 (3951) | 17450 (194) | 544000 (6044) | 330000 (3667) | 12000 (133) | 995600 (11062) | 953000 (10589) | 4671650 (51907) |
| Non-loanee insured farmers | 321000 (10700) | 213200 (7107) | 3480 (116) | 150000 (500) | 00 (0.00) | 00 (0.00) | 00 (0.00) | 116000 (3867) | 803680 (26789) |
| Total insured farmers | 1785000 (14875) | 568800 (4740) | 20930 (174) | 694000 (5783) | 330000 (2750) | 12000 (100) | 995600 (8297) | 1069000 (8908) | 5475330 (45628) |
| Farmers (Control) | 180000 (6000) | 110500 (3683) | 26500 (883) | 330000 (11000) | 00 (0.00) | 00 (0.00) | 36000 (1200) | 240000 (8000) | 923000 (30767) |

Note: Figures in brackets are per H.H. annual income

III.4. Assets Position

The value of assets on different type of sample farms has been worked out in Table -III.4. The value of land, machinery buildings, livestock and others have been considered. The per H.H. value of total assets on loanee insured sample farmers was maximum being Rs 26,97,906 against Rs 21,38,350 on non-loanee insured sample farms, while it was estimated at Rs 25,37,335 per household on non-loanee farms. Among the value of assets, the per H.H. value of building was maximum being Rs 4,08,780 followed by Rs 2,16,000 Rs 94,670 and Rs 33,467 of land machinery and livestock respectively on loanee insured sample farms.

As far as non-loanee insured sample farms are concerned, Table- III.4 reveals that value of land per household was maximum being Rs 17,38,333 followed by Rs 3,10,167, Rs 64,250, Rs 25,433

of building, machinery and livestock respectively. It reflects that value of building per household was maximum on loanee insured sample farms while the value of land per household was higher on non-loanee insured farms. The value of land per household was also maximum on non-loanee sample farms. It shows that the per household value of land and buildings were higher in comparison to other assets value of per household. The per household value of land was Rs 23,01,167 against the per household value of Rs 20,81,167 of building on non-loanee sample farms. The above analysis reflects that land and building were main assets across the sample farms.

Table-III.4
Asset Value (in Rs.)

| Type of Sample Farmers | Per HH asset type (in Rs.) | | | | | |
|--------------------------|----------------------------|---------------------|----------------------|--------------------|----------------|------------------------|
| | Value of Land owned | Value of machinery | Value of building | Value of livestock | Others | Total |
| Loanee Insured | 19440000 (216000) | 8520300 (94670) | 36790200 (408780) | 3012000 (33467) | 49002 (544) | 242811502 (2697906) |
| Non-Loanee Insured | 52150000 (1738333) | 1927500 (64250) | 9305000 (310167) | 763000 (25433) | 5000 (167) | 64150500 (2138350) |
| Total Insured | 71590000 (59658) | 10447800 (87065) | 46095200 (384127) | 3775000 (31458) | 54002 (450) | 306962002 (2558017) |
| Non-insured (Control) | 69035000 (2301167) | 1817000 (60567) | 6245000 (208167) | 1023050 (34102) | 00 (0.00) | 76120050 (2537335) |

Note: Figures in brackets are per H.H.

III.5. Access to Credit per H.H. for Loanee Insured Farmers.

The access to credit per H.H. for loanee insured farmers is shown in Table- III.5. The non-loanee insured sample farmers and non-loanee sample farmers had not borrowed the loan from banks etc during the reference year. Hence, access to credit for non-loanee insured sample farmers and non-loanee sample farmers have not been mentioned in Table- III.5.

Table- III.5 shows that loanee insured sample farmers had borrowed loan from Cooperative, Commercial and Regional Rural Banks of the study areas. It is evident from Table- III.5 that Rs 21,00,000 had been borrowed by 90 loanee insured sample farmers of which RRBs accounted for 57.13% followed by 28.57% and 14.28% of Commercial Banks and Cooperative Bank

respectively. The land is generally mortgaged to the banks to get credit. The Cooperative Banks had given loan for only agricultural purpose for only 6 month. While Commercial Banks and RRBs had given loan to loanee insured sample farmers for one year or two years for agricultural purpose.

The commercial banks had given loan for one year while RRBs had given for 2 years to purchase the agricultural assets etc. The rate of interest was 7.50% per annum of each bank. Since, the U.P. government had waived the amount of loan of loanee farmers, hence, the loanee insured sample farmers did not pay the amount of loan to the banks during study period.

Table-III.5
Access to Credit per HH for Loanee Insured Farmers

| Source of borrowing | Amount (Rs.) | Purpose of loan | | Duration | | | | Amount paid with interest (Rs.) | Outstanding loan from-2016 present (Rs.) |
|---------------------------|--------------------|-----------------|--------------|--------------|--------------|--------------|-----------|---------------------------------|--|
| | | Agri. | Non-agri. | 6 month | 1 year | 2 year | 2-5 years | | |
| Cooperative Bank /Society | 300000 (3333) | 1 (0.01) | 00 (0.00) | 1 (0.01) | 00 (0.00) | 00 (0.00) | 00 | 00 | 322500 (3583) |
| Commercial Bank | 600000 (6667) | 67 (0.74) | 00 (0.00) | 00 (0.00) | 67 (0.24) | 00 (0.00) | 00 | 00 | 645000 (7167) |
| Rural Bank | 1200000 (13333) | 22 (0.24) | 00 (0.00) | 00 (0.00) | 00 (0.00) | 22 (0.24) | 00 | 00 | 1290000 (14333) |

Note: Figures in brackets are per H.H.

It is also evident from Table-III.5 that all the Loanee insured sample farmers had taken loan from banks for only agricultural purpose. Out of loanee insured sample farmers, 74.44% had borrowed loan from Commercial Banks followed by 24.44% and 1.12% from RRBs and Cooperative Banks respectively. The per H.H. borrowed amount being Rs 13,333 from RRBs was maximum followed by Rs 6,667 and Rs 3,333 from Commercial Banks and Cooperative Banks respectively.

It is also evident from Table-III.5 that the per H.H outstanding loan from 2016 present was maximum being Rs 14,333 in RRBs, followed by Rs 7,167 and Rs 3,583 in Commercial Banks and Cooperatives Banks respectively. Out of total outstanding loan of Rs 22,57,500, the share of RRBs was 57.14% followed by 28.57% and 14.29% of Commercial Banks and Cooperative Banks respectively.

CHAPTER-IV

Farm Level Characteristic

The characteristics of operational holdings sources of irrigation, cropping pattern, production of crops quantity sold, value of production of crops etc have been extremely examined in this chapter.

IV.1 Characteristics of Operational Holdings

The per household land utilization of sample farms has been worked out in Table-IV.1. Table-IV.1 reveals that per household owned land area was 3.50 acres on loanee insured sample farms, while it was only 2.08 acres on non-loanee insured sample farms. The per household owned land was 2.44 acres on non-loanee sample farms. It shows that the per household owned land area was a little bit higher on loanee insured sample farms than that of their counter parts. Almost all owned land areas of the sample farms was fully irrigated during the study period. It is also evident from Table -IV.1 that the total owned land areas of different type of sample farms was under cultivation. The area under lease in land was only 0.04 acre and 0.02 acre on loanee insured sample farms and non-loanee insured sample farms respectively. None of sample farmers had leased out their land during survey period.

On account of this, per household net cultivated area was marginally higher than the operated areas. The per household gross cropped area (GCA) worked out 6.27 acres on loanee insured sample farms while it was 4.01 acres and 4.00 on non-loanee insured sample farms and on non-loanee sample farms respectively.

The cropping intensity was 177.12%, 190.95% and 168.03% on loanee insured sample farms, non-loanee insured sample farms and non-loanee sample farms respectively. The cropping intensity was more or less similar across the different types of sample farms. It reflects that the double crops were mostly taken by the all sample farmers during the reference year. This was a very positive approach in the study areas. Table-IV.1

Table -IV.1
Characteristics of Operational Holdings per Household (area in acres)

| | Loanee insured | Non-loanee insured | Non-insured (control) |
|---------------------------------|-----------------------|---------------------------|------------------------------|
| Own land | | | |
| Irrigated | 3.30 | 1.60 | 1.99 |
| Un-irrigated | 0.20 | 0.48 | 0.45 |
| Total | 3.50 | 2.08 | 2.44 |
| Uncultivated land | | | |
| Irrigated | 0 | 0 | 0 |
| Un-irrigated | 0 | 0 | 0 |
| Total | 0 | 0 | 0 |
| Cultivated land | | | |
| Irrigated | 3.30 | 1.60 | 1.99 |
| Un-irrigated | 0.20 | 0.48 | 0.45 |
| Total | 3.50 | 2.08 | 2.44 |
| Leased-in land | | | |
| Irrigated | 0.04 | 0.02 | 0 |
| Un-irrigated | 0 | 0 | 0 |
| Total | 0.04 | 0.02 | 0 |
| Leased-out land | | | |
| Irrigated | 0 | 0 | 0 |
| Un-irrigated | 0 | 0 | 0 |
| Total | 0 | 0 | 0 |
| Net operated land | | | |
| Irrigated | 3.34 | 1.62 | 1.99 |
| Un-irrigated | 0.20 | 0.48 | 0.45 |
| Total | 3.54 | 2.10 | 2.44 |
| Gross cropped area (GCA) | | | |
| Irrigated | 0 | 0 | 0 |
| Un-irrigated | 0 | 0 | 0 |
| Total | 0 | 0 | 0 |
| GCA | 6.27 | 4.01 | 4.10 |
| Cropping Intensity | 177.12 | 190.95 | 168.03 |

IV.2. Source of Irrigation (Percentage to Sample)

The sources of irrigation in the study areas were dug wells and bore wells. These two sources of irrigation had been used by the sample farmers during the study period. The source of irrigation on sample farms is presented in Table-IV.2. Table-IV.2 shows that 73.45% of total irrigated area was irrigated by bore wells followed by 24.53% and 2.02% by dug wells and canal on loanee insured sample farms respectively.

Table-IV.2
Sources of Irrigation (% to sample)

| | Sources of Irrigation (% to sample) | | | | | |
|--------------------------|-------------------------------------|------------------|----------------|------|--------|--------------------|
| | Dug well | Borewell | Canal | Tank | Others | Total |
| Loanee Insured | 25.56 (24.53) | 73.33 (73.45) | 1.11 (2.02) | -- | -- | 100.00 (100.00) |
| Non-loanee Insured | 33.33 (40.63) | 63.33 (58.69) | 3.34 (0.68) | -- | -- | 100.00 (100.00) |
| Total Insured | 27.50 (26.77) | 70.83 (71.39) | 1.67 (1.84) | -- | -- | 100.00 (100.00) |
| Non-insured (Control) | 31.03 (44.24) | 68.97 (55.76) | -- | -- | -- | 100.00 (100.00) |

Note: Figures in brackets are percentages to total irrigated area

Out of total irrigated area on non-loanee insured sample farms, 58.69% was irrigated by bore wells followed by 40.63% and 0.68% by dug wells and canal respectively.

In case of non-loanee sample farms, Table-IV.2 also reveals that 55.76% and 44.24% of total irrigated areas were irrigated by bore wells and dug wells respectively. The above analysis reflects that bore wells and dug wells were major sources of irrigation which had been mostly used by the sample farmers of the study areas.

IV.3. Cropping Pattern per Farm on the Sample Farms in Kharif Crops 2016

The details of cropping pattern per farm on the sample farms are presented in Table-IV.3 and Table-IV.4. The paddy, maize, bajra, urd, moong and ground nut were grown by the sample

farms during Kharif-2016, while wheat, gram, pea, mustard and potato were grown by the sample farmers during Rabi-2017. Most of mentioned crops of Kharif as well as Rabi were notified under PMFBY. Out of GCA of 6.27 acres per farm, the area under Kharif accounted for 55.12% against 44.88% under Rabi crops on loanee insured sample farms.

Table-IV.3
Cropping Pattern per Farm (in acres)

| | Kharif | | | | | | | | | | |
|-----------------------|-----------------|-----------------|----------------|----------------|----------------|-----------------|----------------|-----------------|----------------|--------|-----------------|
| | Paddy | Maize | Bajra | Jowar | Arhar | Urd | Moong | Groundnut | Sugarcane | Others | Total |
| Loanee Insured | 0.73 (11.66) | 0.13 (2.08) | 0.02 (0.32) | 0.01 (0.00) | 0.08 (1.28) | 0.51 (8.15) | 0.20 (3.19) | 1.20 (19.17) | 0.58 (9.27) | -- | 3.45 (55.12) |
| Non-loanee Insured | 0.41 (10.28) | 0.22 (5.51) | -- | -- | 0.02 (0.50) | 0.37 (9.27) | 0.19 (4.76) | 0.74 (18.56) | 0.07 (1.75) | -- | 2.02 (50.63) |
| Total Insured | 0.65 (11.42) | 0.15 (2.64) | 0.01 (0.18) | -- | 0.06 (1.05) | 0.48 (8.44) | 0.20 (3.51) | 1.08 (18.98) | 0.45 (7.91) | -- | 3.08 (54.13) |
| Non-insured (Control) | 0.43 (10.49) | 0.50 (12.19) | -- | -- | -- | 0.60 (14.63) | 0.03 (0.74) | 0.66 (16.10) | -- | -- | 2.22 (54.15) |

The area under Kharif crops on the non-loanee insured sample farms accounted for 50.63% to GCA against 49.37% under Rabi crops. As far as non-loanee sample farm is concerned, the percentage share to GCA was 54.15% and 45.85% under Kharif crops and Rabi crops respectively. The analysis shows that area under Kharif crops was much higher than area under Rabi crops across the sample farms.

The percentage shares to GCA of different crops on the sample farms were also worked out in Table-IV.3 and Table-IV.4. It can be noticed from Table-IV.3 that groundnut, paddy and sugarcane were important crops on loanee insured sample farms which accounted for 19.17%, 11.66% and 9.27% respectively. Among the pulses, urd and moong were important pulses on loanee insured sample farms which accounted for 8.15% and 3.19 to GCA respectively.

IV. 4. Cropping Pattern per Farm on the Sample Farms in Rabi Crops 2017

As far as Rabi crops on loanee farms are concerned, Table-IV.4 reveals that wheat was the principal crop which accounted for 39.7% to GCA. Apart from this, gram, mustard, pea and

potato were also important crops on loanee insured sample farms which accounted for 2.07%, 1.44%, 0.80% and 0.80% to GCA respectively in Rabi 2017. In this way, ground nut, paddy, sugarcane and urd were important crops on loanee farms in Kharif-2016 while wheat was dominant crop in Rabi 2017 on loanee insured sample farms. In case of non-loanee insured sample farms, groundnut, paddy, urd, maize and moong were important Kharif crops. Out of GCA, groundnut accounted for 18.56% followed by 10.28%, 9.27%, 5.51% and 4.76% of paddy, urd, maize and moong on non-loanee insured sample farms respectively in Kharif 2016. In Rabi 2017 wheat was major crop on non-loanee insured sample farms which accounted for 37.84% to GCA. Next to wheat, pea, mustard, potatoes were also important crops on the non-loanee insured sample farms in Rabi 2017.

Table-IV.3 also reveals that groundnut, urd and paddy were important Kharif crops on non-loanee sample farms. Out of GCA, groundnut occupied major share being 16.10% followed by 14.63%, 12.19% and 10.49% of urd, maze and paddy respectively. In Rabi 2017 wheat occupied 37.07% share to GCA on non-loanee sample farms followed by 3.90%, 1.95%, 1.71% and 1.22% of mustard, pea, gram and potato respectively.

Table-IV.4
Cropping Pattern (in acres)

| | Rabi | | | | | | | | |
|-----------------------|-----------------|--------|----------------|----------------|--------|----------------|----------------|--------|-----------------|
| | Wheat | Barley | Gram | Pea | Masoor | Mustard | Potato | Others | Total |
| Loanee Insured | 2.49 (39.77) | -- | 0.13 (2.07) | 0.05 (0.80) | -- | 0.09 (1.44) | 0.05 (0.80) | -- | 2.82 (44.88) |
| Non-loanee Insured | 1.51 (37.84) | -- | 0.10 (2.51) | 0.15 (3.76) | -- | 0.13 (3.26) | 0.08 (2.00) | -- | 1.97 (49.37) |
| Total Insured | 2.25 (39.54) | -- | 0.13 (2.28) | 0.08 (1.41) | -- | 0.10 (1.75) | 0.05 (0.89) | -- | 2.61 (45.87) |
| Non-insured (Control) | 1.52 (37.07) | -- | 0.07 (1.71) | 0.08 (1.95) | -- | 0.16 (3.90) | 0.05 (1.22) | -- | 1.88 (45.85) |

The above analysis reflects that groundnut, wheat, paddy and urd were important crops across the different type of sample farms of the study areas. This is also witnessed from above analysis that there was much diversification in the cropping pattern on different type of sample farms of the study areas.

IV.5. Cropping Pattern on the Sample Farms in Zaid

None of the sample farmers had sown the Zaid crops during the study period.

Table-IV.5
Cropping Pattern on the Sample Farms (in acres)

| | Zaid | | | | | | |
|-----------------------|------|-------|-------|--------|-------|-----------|--------------------|
| | Urd | Moong | Bajra | Others | Total | Total GCA | Cropping Intensity |
| Loanee Insured | NIL | NIL | NIL | NIL | NIL | NIL | NIL |
| Non-loanee Insured | NIL | NIL | NIL | NIL | NIL | NIL | NIL |
| Total Insured | NIL | NIL | NIL | NIL | NIL | NIL | NIL |
| Non-insured (Control) | NIL | NIL | NIL | NIL | NIL | NIL | NIL |

IV.6 Production per Farm (quintals) in Kharif Crops 2016

The per farm production of different crops has been worked out in Table-IV.6 and Table-IV.7 on different type of sample farms.

The per farm production of Kharif crops for 2016 on sample farms is presented in Table IV.6. It is evident from Table-IV.6 that the per farm main production of paddy was estimated at 23.27 quintals on loanee insured sample farm against 14.97 quintals on non-loanee insured sample farms. While it was 22.40 quintals per farm on non-loanee sample farms. The per farm quantity of production of paddy was more or less similar on loanee and non-loanee sample farms. The per farm production of maize was 7.46 quintals on loanee insured sample farms against 5.15 quintals of non-loanee insured farms. The per farm production of maize on non-loanee sample farms was better than that of loanee and non-loanee insured sample farms.

The per farm production of pulses was less similar across the sample farms. It is interesting to note that per farm production of groundnut was 18.60 quintals on loanee insured sample farms against 9.47 quintals on non-loanee insured sample farms. The above analysis shows that the per farm production of most of Kharif crops was much better on loanee insured sample farms than that of non-loanee insured sample farms. It is also witnessed that there was much variation in per farm production of Kharif crops across the sample farms during the study period.

Table-IV.6
Production per Farm (quantity in Quintals)

| | Kharif | | | | | | | | | |
|-----------------------|---------------------|-------------------|---------------------|-------------------|---------------------|-------------------|---------------------|-------------------|---------------------|-------------------|
| | Paddy | | Maize | | Bajra | | Jowar | | Arhar | |
| | Main product | By-product | Main product | By-product | Main product | By-product | Main product | By-product | Main product | By-product |
| Loanee Insured | 23.27 | 12.49 | 7.46 | 8.50 | 4.67 | 3.75 | 1.00 | 0.50 | 3.17 | 3.00 |
| Non-loanee Insured | 14.97 | 14.60 | 5.15 | 4.64 | -- | -- | | | 3.50 | 3.00 |
| Total Insured | 21.49 | 12.94 | 6.44 | 6.80 | 4.67 | 3.75 | 1.00 | 0.50 | 3.20 | 3.00 |
| Non-insured (Control) | 22.40 | 21.91 | 7.58 | 8.47 | -- | -- | -- | -- | 2.00 | 1.43 |

Table-IV-6 (cont.)

| | Kharif | | | | | | | | | |
|-----------------------|---------------------|-------------------|---------------------|-------------------|---------------------|-------------------|---------------------|-------------------|---------------------|-------------------|
| | Urd | | Moong | | Groundnut | | Sugarcane | | Others | |
| | Main product | By-product | Main product | By-product | Main product | By-product | Main product | By-product | Main product | By-product |
| Loanee Insured | 4.49 | 3.01 | 2.90 | 1.76 | 18.60 | 0.00 | 580.00 | 0.00 | 0.00 | 0.00 |
| Non-loanee Insured | 2.88 | 1.82 | 2.25 | 1.55 | 9.47 | 0.00 | 200.00 | 0.00 | 0.00 | 0.00 |
| Total Insured | 3.96 | 2.62 | 2.64 | 1.68 | 15.93 | 0.00 | 557.00 | 0.00 | 0.00 | 0.00 |
| Non-insured (Control) | 2.18 | 1.92 | 1.00 | 0.50 | 19.35 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

IV.7 Production per Farm in Rabi Crops 2017

Table-IV.7 shows that per farm production of wheat was 29.87 quintals on loanee insured sample farms while it was only 20.37 quintals on non-loanee insured sample farms. The production per farm of wheat was 20.10 quintals on non-loanee sample farms. The per farm quantity of by-product of wheat was 29.81 quintals on loanee insured sample farms against 21.47 quintals and 23.73 quintals on non-loanee insured sample farms and non-loanee sample farms respectively. The production of gram per farm was higher being 2.86 quintals on loanee insured sample farms in comparison to the per farm production of 2.08 quintals on non-loanee insured sample farms. There was a vast variation in per farm production of by-product of crops across the type of sample farms. Against this, the production of pea per farm was higher being 3.44 quintals on non-loanee insured sample farms than that of its counterpart. The quantity of by-product of per farms was more or less equal across the different type of sample farms.

Table-IV.7
Production per Farm (quantity in Quintals)

| | Rabi | | | | | | | |
|-----------------------|--------------|------------|--------------|------------|--------------|------------|--------------|------------|
| | Wheat | | Barley | | Gram | | Pea | |
| | Main product | By-product | Main product | By-product | Main product | By-product | Main product | By-product |
| Loanee Insured | 29.87 | 29.81 | 0.00 | 0.00 | 2.86 | 2.46 | 2.56 | 2.00 |
| Non-loanee Insured | 20.37 | 21.47 | 0.00 | 0.00 | 2.08 | 1.75 | 3.44 | 3.75 |
| Total Insured | 27.50 | 27.72 | 0.00 | 0.00 | 2.63 | 2.25 | 3.00 | 2.88 |
| Non-insured (Control) | 20.10 | 23.73 | 0.00 | 0.00 | 1.70 | 0.75 | 2.40 | 3.00 |

Table-IV.7 (cont.)

| | Rabi | | | | | | | |
|-----------------------|--------------|------------|--------------|------------|--------------|------------|--------------|------------|
| | Masoor | | Mustard | | Potato | | Others | |
| | Main product | By-product | Main product | By-product | Main product | By-product | Main product | By-product |
| Loanee Insured | 0.00 | 0.00 | 3.43 | 2.14 | 32.00 | 8.00 | 0.00 | 0.00 |
| Non-loanee Insured | 0.00 | 0.00 | 2.50 | 1.00 | 22.50 | 0.00 | 0.00 | 0.00 |
| Total Insured | 0.00 | 0.00 | 3.09 | 1.72 | 27.78 | 1.00 | 0.00 | 0.00 |
| Non-insured (Control) | 0.00 | 0.00 | 2.13 | 0.70 | 24.40 | 0.00 | 0.00 | 0.00 |

The per farm production of mustard was 3.43 quintals on loanee insured sample farms while it was only 2.50 quintals on non-loanee insured sample farms. The per farm production of potato was 32.00 quintals on loanee insured sample farms against 22.50 quintals on non-loanee insured farms. While it was 24.40 quintals on non-loanee sample farms.

IV.8. Production per Farm in Zaid Crops

Since, the Zaid crops had not been grown by the sample farmers therefore production had not been recorded. The above analysis shows that the per farm production of almost all crops of kharif 2016 as well as Rabi 2017 were higher on loanee insured sample farms in comparison to non-loanee insured sample farms. The per acre production of all the crops across the sample farms was mostly normal in Kharif-2016 and Rabi-2017. It reflects that the crops were mostly not damaged by the natural calamities during the study period in the study areas.

Table-IV.8
Production per Farm (quantity in Quintals)

| | Zaid | | | | | | | |
|-----------------------|---------------------|-------------------|---------------------|-------------------|---------------------|-------------------|---------------------|-------------------|
| | Urd | | Moong | | Bajra | | Others | |
| | Main product | By-product | Main product | By-product | Main product | By-product | Main product | By-product |
| Loanee Insured | NIL | NIL | NIL | NIL | NIL | NIL | NIL | NIL |
| Non-loanee Insured | NIL | NIL | NIL | NIL | NIL | NIL | NIL | NIL |
| Total Insured | NIL | NIL | NIL | NIL | NIL | NIL | NIL | NIL |
| Non-insured (Control) | NIL | NIL | NIL | NIL | NIL | NIL | NIL | NIL |

IV.9. Quantity Sold Per Farm in Kharif Crops 2016

The quantity sold per farm is presented in Table-IV.9. It is evident from Table-IV.9 that out of total production of paddy, maize and bajra, about 70% had been sold by the loanee and non-loanee insured sample farmers. However, in case of arhar, 78.86% of total production was sold by loanee insured sample farms while it was only 42.86% in case of non-loanee insured sample farms. Among the pulses of Kharif season namely urd, and moong, more than 70% of total production was sold by different type of sample farmers.

Since, groundnut and sugarcane are the main cash crops of Kharif season, hence, the total production of these two crops had been sold about hundred per cent by the sample farmers. Very nominal quantity of groundnut and sugarcane had been retained by the sample farmers. It may be concluded with this result that, the production of cereals and pulses had been sold in huge quantities by loanee and non-loanee insured sample farmers. It was differing from commodities to commodities across the type of sample farms.

Table-IV.9
Quantity sold per Farm (in Quintals)

| | Kharif | | | | | | | | | | | | | | |
|--------------------------|-------------------|------------------|-----------------|------------------|-----------------|-----------------|------------------|-----------------|-----------------|-----------------|---------------|---------------|------------------|-----------------|-----------------|
| | Paddy | | | Maize | | | Bajra | | | Jowar | | | Arhar | | |
| | Product -ion | Sold | Retain -ed | Product -ion | Sold | Retain -ed | Product -ion | Sold | Retain -ed | Product -ion | Sold | Retain -ed | Product -ion | Sold | Retain -ed |
| Loanee Insured | 23.27 (100.00) | 16.24 (69.79) | 7.03 (30.21) | 7.46 (100.00) | 6.64 (89.00) | 0.82 (11.00) | 4.67 (100.00) | 3.83 (82.00) | 0.84 (18.00) | 1 (100.00) | 1 (100.00) | -- | 3.17 (100.00) | 2.5 (78.86) | 0.67 (21.14) |
| Non-loanee Insured | 14.97 (100.00) | 10.60 (70.81) | 4.37 (29.19) | 5.15 (100.00) | 4.46 (90.10) | 0.51 (9.90) | -- | -- | -- | -- | -- | -- | 3.5 (100.00) | 1.5 (42.86) | 2.00 (57.14) |
| Total Insured | 21.49 (100.00) | 15.03 (69.94) | 6.46 (30.06) | 6.44 (100.00) | 5.76 (89.44) | 0.68 (10.56) | 4.67 (100.00) | 3.83 (82.00) | 0.84 (18.00) | 1 (100.00) | 1 (100.00) | -- | 3.2 (100.00) | 2.4 (75.00) | 0.80 (25.00) |
| Non-insured (Control) | 22.4 (100.00) | 12.5 (55.80) | 9.9 (44.20) | 7.58 (100.00) | 3.94 (51.98) | 3.64 (48.02) | -- | | -- | -- | -- | -- | 2.00 (100.00) | 0.50 (25.00) | 1.50 (75.00) |

Note: Figures in brackets are the percentages of production

Table-IV.9 (cont.)

| | Kharif | | | | | | | | | | | | | | |
|--------------------------|------------------|-----------------|-----------------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|------------------|-------------------|----------------|-----------------|------|---------------|
| | Urd | | | Moong | | | Groundnut | | | Sugarcane | | | Others | | |
| | Produ- ction | Sold | Retai- ned | Produ- ction | Sold | Retai- ned | Produ- ction | Sold | Retai- ned | Produ- ction | Sold | Retai- ned | Produ- ction | Sold | Retai- ned |
| Loanee Insured | 4.49 (100.00) | 3.66 (81.51) | 0.83 (18.49) | 2.9 (100.00) | 2.40 (82.76) | 0.50 (17.25) | 18.60 (100.00) | 18.29 (98.33) | 0.31 (1.67) | 580 (100.00) | 572.66 (98.73) | 7.34 (1.27) | -- | -- | -- |
| Non-loanee Insured | 2.88 (100.00) | 2.29 (79.51) | 0.59 (20.49) | 2.25 (100.00) | 1.75 (77.78) | 0.50 (22.22) | 9.42 (100.00) | 8.92 (94.19) | 0.55 (5.81) | 200 (100.00) | 2.00 (100.00) | -- | -- | -- | -- |
| Total Insured | 3.96 (100.00) | 3.21 (81.06) | 0.75 (18.94) | 2.64 (100.00) | 2.14 (81.06) | 0.50 (18.94) | 15.93 (100.00) | 15.55 (97.61) | 0.38 (2.39) | 557 (100.00) | 550.74 (98.76) | 6.91 (1.24) | -- | -- | -- |
| Non-insured (Control) | 2.18 (100.00) | 1.39 (63.76) | 0.79 (36.24) | 1.00 (100.00) | 0.50 (50.00) | 0.50 (50.00) | 19.35 (100.00) | 17.29 (89.35) | 2.06 (10.65) | -- | -- | -- | -- | -- | -- |

Note: Figures in brackets are the percentages of production

Table-IV.10
Quantity sold per farm (in Quintals)

| | Rabi | | | | | | | | | | | |
|-----------------------|-------------------|------------------|-----------------|-----------------|------|----------|------------------|-----------------|-----------------|------------------|-----------------|-----------------|
| | Wheat | | | Barley | | | Gram | | | Pea | | |
| | Producti- on | Sold | Retained | Producti- on | Sold | Retained | Producti- on | Sold | Retained | Producti- on | Sold | Retained |
| Loanee Insured | 29.87 (100.00) | 24.62 (82.42) | 5.25 (17.58) | -- | -- | -- | 2.86 (100.00) | 2.25 (78.67) | 0.61 (21.33) | 2.56 (100.00) | 2.00 (78.13) | 0.56 (21.87) |
| Non-loanee Insured | 20.37 (100.00) | 15.2 (74.62) | 5.17 (25.38) | -- | -- | -- | 2.08 (100.00) | 1.54 (74.04) | 0.54 (25.96) | 3.44 (100.00) | 2.88 (83.72) | 0.56 (16.28) |
| Total Insured | 27.50 (100.00) | 22.27 (80.98) | 5.23 (19.02) | -- | -- | -- | 2.63 (100.00) | 2.04 (77.52) | 0.59 (22.43) | 3.00 (100.00) | 2.44 (81.33) | 0.56 (18.67) |
| Non-insured (Control) | 20.10 (100.00) | 10.76 (53.53) | 9.34 (46.47) | -- | -- | -- | 1.70 (100.00) | 0.20 (11.76) | 1.50 (88.24) | 2.40 (100.00) | 0.80 (33.33) | 1.60 (66.67) |

Note: Figures in brackets are the percentages of production

Table –IV.10 (cont.)

| | Rabi | | | | | | | | | | | |
|-----------------------|-----------------|------|----------|------------------|-----------------|-----------------|-------------------|------------------|-----------------|-----------------|------|----------|
| | Masoor | | | Mustard | | | Potato | | | Others | | |
| | Producti- on | Sold | Retained | Producti- on | Sold | Retained | Producti- on | Sold | Retained | Producti- on | Sold | Retained |
| Loanee Insured | -- | -- | -- | 3.43 (100.00) | 2.25 (65.60) | 1.18 (34.40) | 32.00 (100.00) | 30.10 (94.06) | 1.90 (5.94) | -- | -- | -- |
| Non-loanee Insured | -- | -- | -- | 2.50 (100.00) | 1.25 (50.00) | 1.25 (50.00) | 22.50 (100.00) | 17.25 (76.67) | 5.25 (23.33) | -- | -- | -- |
| Total Insured | -- | -- | -- | 3.09 (100.00) | 1.89 (61.17) | 1.20 (38.83) | 27.78 (100.00) | 24.39 (87.80) | 3.39 (12.20) | -- | -- | -- |
| Non-insured (Control) | -- | -- | -- | 2.13 (100.00) | 0.50 (23.47) | 1.63 (76.53) | 24.40 (100.00) | 19.40 (79.51) | 5.00 (20.49) | -- | -- | -- |

Note: Figures in brackets are the percentages of production

IV.10. Quantity Sold Per Farm in Rabi Crops 2017

The quantity sold per farm of wheat, gram, pea, mustard and potato is illustrated in Table-IV.10. Table-IV.10 reveals that more than 82% of total production of wheat was sold by loanee insured sample farmers while it was 74.62% in case of non-loanee insured sample farms. The non-loanee sample farmers had sold only 53.53% of total production of wheat during the same period. It reflects that the loanee and non-loanee insured sample farmers had retained only 17.58% and 25.38% of total production of wheat for consumption and other purposes respectively while non-loanee, sample farmers had retained 46.47% of total production of wheat for consumption and other purposes during the same period. As far as pulses are concerned, Table-IV.10 reveals that gram and pea had also been sold by all the sample farmers. Out of total production of gram, 78.67% and 74.04% were sold by the loanee and non-loanee insured sample farmers respectively.

It shows that the about 25% of total production of gram was retained by loanee and non-loanee insured sample farmers, while non-loanee sample farmers had retained 88.24% of total production of gram. In case of pea, Table-IV.10 shows that out of total production of pea, 83.32% had been sold by non-loanee insured sample farmers followed by 78.13% by loanee insured sample farmers. Against this, only 33.33% of total production of pea had been sold by non-loanee sample farmers during the same period. It shows that non-loanee sample farmers of the study areas had retained much quantity of pulses for consumption and other purposes than that of loanee and non-loanee insured sample farmers. It is also evident from Table-IV.10 that loanee insured sample farmers had retained only 34.40% of total production of mustard against 50.00 of non-loanee insured sample farmers. The non-loanee sample farmers had retained 76.53% of total production of mustard. It shows that loanee insured sample farmers had sold much quantity of production of cereals, pulses and oil seeds in comparison to non-loanee insured sample farmers, while non-loanee sample farmers had retained much quantity of production of cereals, pulses and oilseeds during the survey period. The potato is the only cash crop in Rabi season across the different type of sample farms, therefore, 94.06%, 76.67% and 79.51% of total production of potato had been sold by loanee, non-loanee insured sample farmers and non-loanee sample farmers respectively. Over all, the analysis reflects that each and every sample farmer had sold the different type of commodities to get cash to meet out their annual expenditure. The

sample farmers had also retained required quantity of production of crops to meet out their daily consumption requirement.

IV.11 Quantity sold per Farm in Zaid Crops

None of sample farmers had sold the production of Zaid crops because it was not cultivated during the reference period.

Table-IV.11
Quantity sold per Farm (in Quintals)

| | Zaid | | | | | | | | | | | |
|-----------------------|-------------|------|----------|--------------|------|----------|--------------|------|----------|---------------|------|----------|
| | Urd | | | Moong | | | Bajra | | | Others | | |
| | Production | Sold | Retained | Production | Sold | Retained | Production | Sold | Retained | Production | Sold | Retained |
| Loanee Insured | NIL | NIL | NIL | NIL | NIL | NIL | NIL | NIL | NIL | NIL | NIL | NIL |
| Non-loanee Insured | NIL | NIL | NIL | NIL | NIL | NIL | NIL | NIL | NIL | NIL | NIL | NIL |
| Total Insured | NIL | NIL | NIL | NIL | NIL | NIL | NIL | NIL | NIL | NIL | NIL | NIL |
| Non-insured (Control) | NIL | NIL | NIL | NIL | NIL | NIL | NIL | NIL | NIL | NIL | NIL | NIL |

IV.12 Value of Production per Farm (in Rs.) in Kharif Crops 2016

The value of production per farm of Kharif crops on the sample farms has been estimated in Table-IV.12. Table-IV.12 reveals that value per farm of different crops of Kharif season on loanee insured sample farms was estimated at Rs 3,17,375 while it was only Rs 1,63,818 on non-loanee insured sample farms during the same period. The value of production per farm of different crops on non-loanee sample farms was only Rs 1,22,763. The above analysis shows that the per farm value of production of Kharif crops was much higher on loanee insured sample farms in comparison to its counterpart. Among the crops on loanee insured sample farms, sugarcane and groundnut were more profitable in comparison to other crops of Kharif season. Out of total per farm value of Rs 3,17,375 on loanee insured sample farms, sugarcane accounted for 52.45% followed by 17.14%, 8.91%, 7.20% and 3.77% of groundnut, paddy, urd and moong

respectively. Thus, sugarcane and groundnut had jointly contributed for 69.59% of the total per farm value of Rs 3,17,375 on loanee insured sample farms.

Out of total value of production per farm of Rs 1,63,818 on non-loanee insured farms, the share of sugarcane and groundnut was 38.46% and 15.91% respectively. While the share of Kharif pulses was 30.24% in per farm value of all crops on non-loanee insured farms. Against this, the share of paddy and maize was only 15.39% during the sample period.

Table-IV.12
Value of Production per Farm (in Rs.)

| | Kharif | | | | | | | | | | |
|-----------------------|------------------|----------------|----------------|----------------|------------------|-----------------|-----------------|------------------|-------------------|--------|--------------------|
| | Paddy | Maize | Bajra | Jowar | Arhar | Urd | Moong | Groundnut | Sugarcane | Others | Total |
| Loanee Insured | 28273 (8.91) | 8169 (2.57) | 5137 (1.62) | 1100 (0.35) | 19020 (5.99) | 22845 (7.20) | 11986 (3.77) | 54386 (17.14) | 166460 (52.45) | 00 | 317375 (100.00) |
| Non-loanee Insured | 19805 (12.09) | 5408 (3.30) | 00 (0.00) | 00 (0.00) | 24850 (15.17) | 14636 (0.93) | 10058 (6.14) | 26061 (15.91) | 63000 (38.46) | 00 | 163818 (100.00) |
| Total Insured | 27270 (8.91) | 6910 (2.26) | 5137 (1.68) | 1100 (0.36) | 20960 (6.85) | 20137 (6.58) | 11357 (3.71) | 45209 (14.78) | 167853 (54.87) | 00 | 305933 (100.00) |
| Non-insured (Control) | 29568 (24.08) | 8020 (6.53) | 00 (0.00) | 00 (0.00) | 11500 (9.37) | 9483 (7.72) | 5000 (4.07) | 59192 (48.22) | 00 (0.00) | 00 | 122763 (100.00) |

Note: Figures in brackets are percentage to total

Groundnut and sugarcane were very rich crops on the non-loanee insured sample farms. As far as non-loanee sample farms is concerned, Table-IV.12 shows that the share of groundnut was highest being 48.22% in total per farm value of production of Rs 1,22,763. Next to this, the share of paddy was 24.09% followed by 9.37%, 7.72% and 4.07% of arhar, urd and moong respectively. Groundnut and paddy were profitable crops on the non-loanee sample farms.

IV.13 Value of Production per Farm (in Rs) in Rabi Crops 2017

The value of production per farm of Rabi crops is presented in Table-IV.13. Wheat, gram, pea, mustard and potato were grown by sample farmers in Rabi 2017. All above mentioned crops were notified under PMFBY Scheme. Table-IV.13 reveals that the per farm value of production

of Rabi crops on loanee insured sample farms was estimated at Rs 84,046 against Rs 62,601 and 64,311 on non-loanee insured sample farms and non-loanee sample farms respectively.

Out of total per farm value of production of Rs 84,046 on loanee insured sample farms, the share of wheat was maximum being 44.26% followed by 17.44% of potato while the share of pulses (arhar and pea) was 23.63% during the sample period. It shows that wheat and potato were important crops on loanee insured sample farms.

Table-IV.13
Value of Production per Farm (in Rs.)

| | Rabi | | | | | | | | |
|-----------------------|------------------|--------|------------------|-----------------|--------|-----------------|------------------|--------|-------------------|
| | Wheat | Barley | Gram | Pea | Masoor | Mustard | Potato | Others | Total |
| Loanee Insured | 40563 (48.26) | 00 | 11380 (13.54) | 8481 (10.09) | 00 | 8966 (0.67) | 14656 (17.44) | 00 | 84046 (100.00) |
| Non-loanee Insured | 28151 (44.97) | 00 | 7800 (12.46) | 9419 (15.05) | 00 | 7938 (12.68) | 9293 (14.84) | 00 | 62601 (100.00) |
| Total Insured | 37675 (48.33) | 00 | 10165 (13.04) | 9077 (11.64) | 00 | 8944 (11.47) | 12098 (15.52) | 00 | 77959 (100.00) |
| Non-insured (Control) | 31296 (48.66) | 00 | 9010 (14.01) | 8304 (12.91) | 00 | 5941 (9.24) | 9760 (15.18) | 00 | 64311 (100.00) |

Note: Figures in brackets are percentage to total.

In case of non-loanee insured sample farms, Table-IV.13 shows that per farm value of production of Rabi crops was worked out at Rs 62,601. Out of Rs 62,601, the share of wheat was 44.97% followed by 15.05%, 14.84%, 12.68 and 12.46% of pea, potato, mustard and gram respectively. The analysis shows that wheat, potato and pulses were more attractive crops on non-loanee insured sample farms. Table-IV.13 also reveals that wheat, potato, gram, pea and mustard were also attractive crops on non-loanee sample farms. In the value of production per farm of Rabi crops on non-loanee sample farms, the share of wheat was maximum being 48.66% followed by 15.18%, 14.01%, 12.91% and 9.24% of potato, gram, pea and mustard respectively. The above analysis shows that wheat and potato were important crops on non-loanee sample farms during the reference period in the study area. Most of the Kharif and Rabi crops were grown by the sample farmers. The production and productivity of crops were almost normal during Kharif-2016 and Rabi-2017. The value of main product and by product was also reasonable. Thus, sample farmers were mostly satisfied in the study areas.

CHAPTER-V

Insurance Behaviour

The PMFBY had been introduced in year 2016 in U.P. in place of Agricultural Insurance Scheme (AIC) to provide better compensation to affected farmers on the payment of nominal premium. Since, it is a very new scheme, therefore, it has not been so much popularized among the farmers across the state. There is lack of proper advertisements through news media, hence, it is not touching at ground level. Three departments namely Agriculture Department, Insurance Companies and Banks are mostly involved in the proper implementation of PMFBY in U.P. The nodal Officer of PMFBY is Director Agriculture Statistics and Crop Insurance, Uttar Pradesh at State level and Deputy Director of Agriculture is nodal Officer at district level to monitor the progress of PMFBY. Apart from these, SLCCCI and DLTC have been constituted at State and district levels for proper and scientific implementation of PMFBY at different stages. The role of CCEs is very important to assess the actual yields of different crops grown in different seasons. There should be a proper coordination, cooperation and understanding among three units namely Agriculture Department, Insurance companies and banks to get a better result from PMFBY. The main role of three units is to link the farmers with PMFBY. Since, the farmers of the state are mostly illiterate, backward, poor and innocent, therefore, they are unable to understand the benefit of PMFBY in the event of natural calamities. Therefore, there is a need to motivate the farmers for linking themselves with PMFBY.

The views and opinions related to PMFBY had been collected from 90 loanee insured sample farmers and 30 non-loanee insured sample farmers belonging to three selected districts of U.P. The views and opinions of loanee and non-loanee insured sample farmers have been described in following manners.

V.1. Enrollment and Awareness

The enrollment and awareness of loanee and non-loanee insured sample farmers are presented in Table-V.1. Table-V.1. shows that 55.56% of total loanee insured sample farmers had heard of PMFBY while 44.44% were unaware about PMFBY. Against this, 100% of total 30 non-loanee insured sample farmers were fully aware about PMFBY. The majority of loanee and non-loanee

insured sample farmers were not linked with other insurance schemes. Out of total 90 loanee insured sample farmers, only 22 (24.44%) had availed other insurance schemes while 5 (16.67%) of 30 non-loanee insured sample farmers had availed other insurance schemes.

**Table -V.1
Enrolment and Awareness**

| | Heard of PMFBY | | Availed any other insurance scheme | | Insured in PMFBY | | Insured because you had applied for loan | | Voluntary enrollment under PMFBY | | How did you know about PMFBY Scheme | | | | |
|------------|----------------|--------------|------------------------------------|---------------|------------------|--------------|--|----------------|----------------------------------|---------------|-------------------------------------|--------------|--------------|--------------|--------------|
| | Yes | No | Yes | No | Yes | No | Yes | No | Yes | No | 1 | 2 | 3 | 4 | 5 |
| Loanee | 96 (95.56) | 4 (4.44) | 22 (24.44) | 68 (75.56) | 90 (100.00) | 00 (0.00) | 90 (100.00) | 00 (0.00) | 7 (7.70) | 83 (92.22) | 77 (85.56) | 06 (6.67) | 03 (3.33) | 00 (0.00) | 4 (4.44) |
| Non-loanee | 30 (100.00) | 00 (0.00) | 5 (16.67) | 25 (83.33) | 30 (100.00) | 00 (0.00) | 00 (0.00) | 30 (100.00) | 30 (100.00) | 00 (0.00) | 29 (96.67) | 1 (3.33) | 00 (0.00) | 00 (0.00) | 00 (0.00) |

Note: Figures in brackets are percentages to sample farmers

Code: 1. Government awareness programs; 2. Insurance Company/Agent; 3. Panchayat; 4. Other Villagers; 5. Others

Table-V.1 also reveals that all the loanee and non-loanee sample farmers were insured under PMFBY. Table-V.1 also reveals that loanee sample farmers were enrolled because they had applied for loan. While non-loanee sample farmers had not applied for loan.

The Government Awareness Programme, insurance companies/agents, panchayats, other villagers and others were main sources to guide the sample farmers about the PMFBY. Among these sources, Government Awareness Programme was main source to provide the information to loanee sample farmers about PMFBY. Table-V.1 reveals that out of 90 loanee insured sample farmers, 85.56% was equipped with PMFBY by Government Awareness Programme followed by 6.67%, 4.44% and 3.33% by Insurance Company/agents, others and panchayat respectively. In case of 30 non-loanee insured sample farmers, the Government Awareness Programme was the main source to provide the knowledge to farmers about the PMFBY. Thus, the Government Awareness Programme was the main source to provide the knowledge to sample farmers about PMFBY in the study areas. The Government Awareness Programme was effective instrument to give the knowledge to farmers about the PMFBY.

V.2. Insurance details (Per Household)

The details of implementing agencies of PMFBY are presented in Table-V.2A and Table-V.2B. Table-V.2A shows that the PNB, SBI, Union Bank, Bank of India, UCO Bank, RRBs (6) were implementing agencies of PMFBY in the study areas. Among these banks, the RRBs, SBI, Union Bank and PNB were main implementing agencies which accounted for 25.56%, 25.56%, 23.33% and 22.22% respectively. The premium per loanee insured sample farmer was estimated at only Rs 1,105 for insured crops. In case of non-loanee insured sample farmers Table-V.2A also reveals that Agricultural Insurance Company (AIC) and ICICI Lombard were involved. Out of total non-loanee insured sample farmers, 20 farmers were attached with Agricultural Insurance Company (AIC) while 10 were attached with ICICI Lombard. It is also evident from Table-V.2A that per H.H. amount of premium was Rs 1,105 and Rs 220 on loanee and non-loanee insured sample farmers respectively.

Table-V.2A
Insurance Details (per household)

| Type of Sample Farmers | Name of implementing agency | | | | | | | | Premiums in Rs. |
|------------------------|-----------------------------|---------------|---------------|----------------------|--------------|---------------|---|---------------|-------------------|
| | PNB | SBI | Union Bank | United Bank of India | UCO Bank | RRBsF | Agricultural Insurance Company India Ltd. | ICICI Lombard | |
| Loanee | | | | | | | | | |
| No. of Household) | 20 (22.22) | 23 (25.56) | 21 (23.23) | 2 (2.23) | 1 (1.11) | 23 (25.56) | 00 (0.00) | 00 (0.00) | 99455 (100.00) |
| Per Household | 0.22 | 0.26 | 0.23 | 0.02 | 0.01 | 0.26 | 00 | 00 | 1105 |
| Non-Loanee | | | | | | | | | |
| No. of Household) | 00 (0.00) | 00 (0.00) | 00 (0.00) | 00 (0.00) | 00 (0.00) | 00 (0.00) | 20 (66.67) | 10 (33.33) | 6894 (100.00) |
| Per Household | 00 | 00 | 00 | 00 | 00 | 00 | 0.67 | 0.33 | 230 |

Note: Figures in brackets are percentage to total Loanee & Non-loanee Farmers.

Table -V.2 B
Insurance Details (per household)

| Type of Sample Farmers | Name of implementing bank | | | | | | | | Event of Losses (code) | | | | Compensation Secured (Rs.) |
|------------------------|---------------------------|---------------|--------------|----------------------|------------------|--------------|---|---------------|------------------------|----|----|----|----------------------------|
| | PNB | SBI | Union Bank | United Bank of India | UCO Bank | RR BsF | Agricultural Insurance Company India Ltd. | ICICI Lombard | 1 | 2 | 3 | 4 | |
| Loanee | | | | | | | | | | | | | |
| No. of Household) | 3142 (157) | 4514 (196) | 00 (0.00) | 2071 (1036) | 12320 (12320) | 00 (0.00) | 00 (0.00) | 00 (0.00) | 2 | 2 | 0 | 0 | 22047 (245) |
| Non-loanee | | | | | | | | | | | | | |
| No. of Household) | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |

Note: Figures in brackets are compensation for Per H.H.

Code: 1. Prevented sowing/planting due to deficit rainfall or adverse weather; 2. Yield loss (due to drought, dry spells, floods, pests and diseases etc.); 3. Post- harvest losses (spoilage during storage)

Table-V.2B shows that out of 6 implementing banks, Union Bank and RRBs did not pay the compensation to the sample farmers during the study period. Apart from these, Agricultural Insurance Company (AIC) and ICICI Lombard did not pay the compensation to the affected sample farmers of the study areas. Table-V.2B also reveals that the total amount of compensation was Rs 22,047 which had been paid by 4 banks to affected loanee insured sample farmers. Out of total compensation of Rs 22,047, the share of UCO Bank was maximum being 55.88% followed by 20.47%, 14.25% and 9.40% of SBI, PNB and United Bank of India respectively. The H.H. compensation was estimated at Rs 12,320 of UCO Bank followed by Rs 1036, Rs 196 and Rs 157 of UBI, SBI and PNB respectively. At the aggregative level, it was only Rs 245 per H.H. It is also evident from Table V.2B that non-loanee insured sample farmers had not received compensation from any implementing banks during the study period.

Table -V.2B also reveals that the event of loss in yield occurred due to drought, dry spells, floods, pests and diseases on loanee insured sample farms. Most of the insured crops for Kharif-2016 and Rabi-2017 were mostly not affected by natural calamities in the study areas. The crops on sample farms of Jhansi district was affected by drought etc. Therefore, Insurance Companies did not pay much amount of compensation to sample farmers.

V.3. Experiences

The details of experiences of loanee and non-loanee insured sample farmers are illustrated in table V.3. Table-V.3 shows that PMFBY is much better than earlier schemes. The majority i.e. 35.56% of loanee insured sample farmers reported that they had never insured earlier. While it was 60% in case of non-loanee insured farmers. It is also evident from Table -V.3 that 86.67% of loanee insured sample farmers did not inform to any authorities about event of loss. Out of 90 loanee insured sample farmers, only 12 (13.33%) had informed to authorities about event of loss. Out of 30 non-loanee insured farmers, 29 (96.67%) did not inform any one about event of loss. It shows that loanee and non-loanee insured sample farmers were unaware about their rights.

The loanee as well as non-loanee insured sample farmers had informed to local government officials and banks about the event of loss.

**Table-V.3
Experiences**

| Type of sample Farmers | Experience with PMFBY | | | | | Event of loss did you inform any authority | | Whom did you inform | | | | | |
|------------------------|-----------------------------|---------------------------|-----------------------|-----------------------|--------------|--|---------------|---------------------|-------------|----------------------|------------------|-------------|--------|
| | Better than earlier schemes | Worse than earlier scheme | Same any other scheme | Never insured earlier | Cannot say | Yes | No | Insurance company | Bank | Local Govt. official | Toll free number | KVK officer | Others |
| Loanee | 47 (52.22) | 0 | 2 (2.22) | 32 (35.56) | 9 (10.00) | 12 (13.33) | 78 (86.67) | 0 (0.00) | 3 (0.03) | 9 (0.10) | 0 | 0 | 0 |
| Non-loanee | 9 (30.00) | 0 | 1 (3.33) | 18 (60.00) | 2 (6.67) | 1 (3.33) | 29 (96.67) | 0 (0.00) | 0 (0.00) | 1 (0.03) | 0 | 0 | 0 |

Note: Figures in brackets are percentages to sampled farmers

V.4. Implementation

The information regarding the implementation of the scheme is presented in Table -V.4. Table-V.4 reveals that 98.67% of loanee insured sample farmers had reported that no one had visited their farms during CCE while only 3.33% had given positive answer. In case of non-loanee insured sample farmers, the answer was fully negative. All non-loanee insured sample farmers had reported that no one had visited their fields during CCEs.

Anyone visit during the CCEs at loanee and non-loanee insured farms are also given in Table-V.4. The crop cutting experiments (CCEs) are most important activities to assess the yield of crops. On the basis of CCEs, the loss is estimated. Table-V.4 reveals that majority (96.97%) of loanee insured sample farmers had reported that no one had visited their farms during the CCEs. It is evident from Table-V.4 that out of 90 loanee insured sample farmers, 72 (86.00%) were unaware of any yield assessment of CCEs taking place in village.

It is also noticed from Table-V.4 that out of 90 loanee insured sample farmers, 80% were unaware of any yield assessment of CCEs taking place in village while 20% had given positive answer. In case of non-loanee insured sample farmers 93.33% were unaware of any yield assessment of CCEs taking place in village.

It shows that majority of loanee and non-loanee insured sample farmers of the study areas were unaware about crop cutting experiments. This is very unfortunate.

It is also witnessed from Table-V.4 that there was no role of panchayat in process of claims as had been reported by majority of loanee and non-loanee insured sample farmers. It is also noticed from Table -V.4 that of total loanee insured sample farmers, 50 (55.55%) were satisfied with the implementation of PMFBY while 40 (44.45%) were unsatisfied. In case of non-loanee insured farmers, 10 (33.33%) were satisfied with the implementation of PMFBY while 20 (66.67%) were unsatisfied. The analysis reveals that majority of loanee and non-loanee insured sample farmers were not satisfied with implementation of PMFBY.

**Table-V.4
Implementation**

| Type of sample farmers | Event of loss did you inform how many days | | | | Did anyone visit your farm during CCE | | Are you aware of any yield assessment of CCE taking place in village | | Role of panchayat in process of claims | | What was role of panchayat | Are you satisfied with the implementation PMFBY | |
|------------------------|--|----------------|------------------|-----------------|---------------------------------------|----------------|--|---------------|--|----------------|----------------------------|---|---------------|
| | Within 48 hours | Within 15 days | Within one month | Within 3 months | Yes | No | Yes | No | Yes | No | | Yes | No |
| | | | | | | | | | | | | | |
| Loanee | 0 | 12 | 0 | 0 | 3 (3.33) | 87 (96.67) | 18 (20.00) | 72 (80.00) | 2 (2.22) | 88 (97.78) | 0 | 40 (44.45) | 50 (55.55) |
| Non-loanee | 0 | 1 | 0 | 0 | 0 (0.00) | 30 (100.00) | 2 (6.67) | 28 (93.33) | 0 | 30 (100.00) | 0 | 10 (33.33) | 20 (66.67) |

Note: Figures in brackets are percentages to sampled farmers

V.5 Suggestions for further Improvement of PMFBY

As it has already been mentioned that majority of loanee insured sample farmers were unaware about PMFBY because they had been compulsorily enrolled in PMFBY. Even then, the suggestions had been obtained from the respondents for further improvement of PMFBY.

Since, it is a new scheme, hence it requires much improvements for benefits of farmers, in years to come. Most of the sample farmers were not in a position to suggest improvements for the better success of PMFBY. The suggestions of loanee and non-loanee insured farmers are recorded in Table-V.5. Table-V.5 shows that lower premium, less paper work, higher compensation, timely compensation etc. had been suggested by the sample farmers. Among these suggestions, timely compensation, low premium and high compensation had been suggested by the sample farmers. Apart from these, less paperwork should be done to improve the efficiency of PMFBY.

Table-V.5
Suggestions for further Improvement of PMFBY

| | Premium should be lower | Less time to finish paperwork | Higher compensation | Timely compensation | Others |
|------------|--------------------------------|--------------------------------------|----------------------------|----------------------------|---------------|
| Loanee | 19 (38.00) | 0 (0.00) | 6 (12.00) | 18 (36.00) | 7 (14.00) |
| Non-loanee | 4 (20.00) | 1 (5.00) | 0 (0.00) | 12 (60.00) | 3 (15.00) |

Note: Figures in brackets are percentages to sample farmers

Table-V.5 shows that the loanee insured sample farmers had given maximum importance to charge lower premium and timely availability of compensation for the improvement of PMFBY. While non-loanee insured sample farmers had given maximum weightage to timely payment of compensation and low charge of premium for further improvement of PMFBY.

CHAPTER-VI

Summary and Policy Recommendations

No doubt that the PMFBY is very fruitful for farmers to protect them from loss of crops on account of occurrence of natural calamities, and attack of pests /insects and diseases. Agriculture is still a gamble of monsoon. These are main causes of failure of crops. Millions of tonnes of agricultural produce are damaged/destroyed by these adversities 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.

The UPA Government of India had introduced National Agricultural Insurance Scheme (NAIs) in 1999-2000 to protect the farmers by compensating the loss of crops due to occurrence of natural calamities.

There were many lacuna and loopholes in NAIs. It was not implemented properly and effectively. The premium rate was also very high. The compensation had not been given properly, adequately and timely to the affected farmers. On account of these drawbacks, it could not get popularized among the farmers.

Since, NAIs did not get success at ground level, so it required much modification to protect the farmers in a better way. The NAIs has been replaced by Pradhan Mantri Fasal Bima Yojana (PMFBY) in February 2016 across the country.

This compulsorily covers the farmers that avail the seasonal crops loan (loanee farmers). The non-loanee farmers can also be covered under PMFBY, if they are interested to come under PMFBY. Almost all Kharif and Rabi season crops are notified under PMFBY. The premium rate of Kharif crops is fixed i.e. 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. Two insurance companies namely Agricultural Insurance Company (AIC) and ICICI Lombard were involved in U.P. for Kharif-2016 and Rabi-2017. Out of 75 districts of U.P., 69 districts were covered by Agricultural Insurance Company (AIC) while 6 districts were under the preview of ICICI Lombard during the corresponding season. The transaction costs of insurance are rather very high, so some efforts should be made to reduce the transaction costs. The share of premium is not properly and adequately contributed to insurance companies. It has a lot of bottlenecks, and constraints, such as lack of awareness among the farmers about PMFBY and lack of willingness to pay a very marginal amount of premium. These were major constraints in the way of proper implementation of PMFBY. Apart from these constraints, unawareness, lack of understanding of insurance process, non access to insurance providers, untimely receipt of insurance claims and unwillingness of the state government to share the burden of subsidy on premium were also major hurdles in the success for implementation of PMFBY.

Hence, there was a need to examine the performance of PMFBY at different stages. The performance of different units in the implementation of PMFBY was also required to be evaluated for its improvement. In this context, Centre for Management in Agriculture (CMA), Indian Institute of Management (IIM), Ahmedabad had asked 9 Centres located in different states of the country to conduct this study in their respective states. The AER Centre, Allahabad has conducted this study in Uttar Pradesh in 2017.

VI.1. Finding Based on Secondary Data

All stages from the sowing/plantation to threshing of crops are fully covered under PMFBY. The insured farmers are entitled to get the compensation if their crops are damaged at any stage by the natural calamities, pests/insects and diseases. Out of total farmers of the state, 62.71 lakh farmers were insured under PMFBY in Kharif-2016 and Rabi-2017 of which 53.68% (33.66lakh) in Kharif-2016 and 46.32% (29.05 Lakh) in Rabi 2017. Out of GCA of 2.59 crore hectares in 2013-14, only 12.49% area was covered under PMFBY in Kharif-2016 and Rabi-2017. Out of

total area of 1.19 crore hectares in Kharif 2013-14, 25.01% was covered under PMFBY while it was only 19.25% in Rabi 2017. It shows that most of Rabi crops of the state were not covered under PMFBY in the reference year.

Out of total insured farmers being 62.71 lakh, only 29,808 (0.48%) was non-loanee insured farmers. It was not a good progress of PMFBY. Of 33.60 lakh insured farmers in Kharif -2016, only 0.13% were non-loanee insured farmers while there were 99.87% of loanee insured farmers in the state. In case of Rabi-2017, 29.11 lakh farmers were insured in the state of which 99.12% belonged to loanee insured farmers against 0.88% non-loanee insured farmers. It shows that non-loanee insured farmers were very limited in number in Kharif-2016 and Rabi-2017 under PMFBY in U.P. The per hectare sum insured was Rs 44,698 in Rabi 2017 in U.P against Rs 37,306 in Kharif-2016. It was Rs 22,359 in U.P. as a whole and it was varying from district to district. The per H.H. suminsured was lowest in Jhansi district while it as highest in Hardoi district of U.P.

The amount of premium per insured farmer was very nominal which was worked out to be only Rs 659 and Rs 675 in Kharif-2016 and Rabi-2017 respectively. The amount of premium paid by insured farmers was not similar across the state. Out of the total premium of Rs 101409.68 lakh, the share of farmers was 41.22% followed by 29.39% and 29.39% of Centre and State Governments respectively.

As far as payment of compensation to insured farmers is concerned, it is witnessed from records that out of total insured farmers being 62.71 lakh, only 10.22 lakh i.e. (16.29%) had received the compensation during Kharif-2016 and Rabi-2017. The amount of compensation per beneficiary was worked out to be Rs 4,823 during the corresponding period.

The Kharif-2016 and Rabi-2017 were more or less normal seasons in most of the districts of U.P. Therefore, the insurance companies were in profit during the study period.

The amount of compensation was Rs 49307.79 lakh which had been given to 10.22 lakh insured farmers during Kharif-2016 and Rabi-2017 against the premium of Rs 1,01,409.68. Thus, the AIC and ICICI Lombard had gained Rs 52101.89 lakh during the study period.

VI. 2. Finding based on Primary Data

Three districts namely Jaunpur (low uptake), Hardoi (medium uptake) and Jhansi (high uptake) of U.P. were selected. The total of 150 samples were selected from three districts. Out of 150 sample farmers, 90 samples were loanee insured farmers, 30 non-loanee insured farmers and 30 sample farmers (control). They were mostly small and marginal farmers. The OBC and general castes were dominant on the sample farms. The SC/ST were in very limited numbers on the sample farms. The illiteracy among the sample farmers was persistent. Out of total loanee insured sample farmers of 90, only 13.33% had obtained the degree of graduation and above followed by 6.67% and 4.45% of non-loanee sample farmers and loanee insured sample farmers respectively.

The main occupation of sample farmers was agriculture followed by subsidiary occupations across the sample farms. More than 27% of total family members were engaged in farming. The per H.H. annual income was maximum being Rs 1,58,505 on the loanee insured sample farms followed by Rs 91,223 and 84,478 for non-loanee insured sample farms and non-loanee sample farms respectively. The per H.H. assets value on loanee insured sample farms was much higher than that of non-loanee insured sample farms. The value of building per H.H. was maximum on loanee insured sample farms while value of land per H.H. was maximum on non-loanee insured sample farms. The loanee insured sample farmers had borrowed Rs 21,00,000 in the reference year of which RRBs accounted for 57.14% followed by 28.57% and 14.29% of commercial banks and cooperative banks respectively. The amount of loan per H.H. was Rs 23,333 in the reference year. The loan was taken only for agricultural purpose. The rate of interest of loan was 7.50 per annum. The outstanding loan per H.H. was estimated at Rs 25,083 against the loan of Rs 23,333. The maximum amount of outstanding loan was witnessed in RRBs.

The salary from employment, business, remittances and farm labour, pension and MGNREGA were main sources of annual income from non-agricultural sources across the sample farms.

The per H.H. owned land was 3.50 acres on loanee insured sample farms against 2.06 acres and 2.44 acres on non-loanee insured sample farms and non-loanee sample farms respectively. At most, all the owned area was under cultivation across the sample farms. The cropping intensity

was maximum being 190.55% on non-loanee insured sample farms followed by 177.12% and 168.03% on loanee insured sample farms and non-loanee sample farms respectively.

Almost all the operated areas were under irrigation networks. The major sources of irrigation on the sample farms were bore wells and dug wells. A very limited area was irrigated by canal. The cropping pattern was more or less similar across the sample farms. Paddy, maize, jowar, arhar, urd, moong, groundnut and sugarcane were grown by the sample farmers in Kharif -2016. Among these crops, the share of groundnut, paddy and urd, jointly accounted for 38.84% to GCA on insured sample farms. Wheat, gram, pea, mustard and potato were mainly grown by the sample farmers in Rabi 2017. Out of GCA of 95.69 acres, the share of wheat was 39.54% followed by 2.28%, 1.75%, 1.41% and 0.89% of gram, mustard, pea and potato on insured sample farms respectively. Out of total GCA of 95.69 acres, the share of Kharif crops was 54.13% against share of 45.87% of Rabi crops on the insured sample farms.

The production per hectare and per H.H. was almost normal in Kharif-2016 and Rabi-2017 on the sample farms.

The per hectare production of Kharif crops as well as Rabi crops on the insured sample farms was mostly higher than the per hectare production of state as a whole. The sample farmers of three categories had sold the production of all the crops during the reference year. More than 70% of total production of cereal crops had been sold by loanee and non-loanee insured sample farmers. The production of pulses had also been sold by the sample farmers. The maximum quantities of groundnut, sugarcane and potato had been sold by loanee, non-loanee insured sample farmers and non-loanee sample farmers. These were treated as cash crops. Out of total production of pulses and oilseeds had also been retained for consumption and other purposes. The pulses and mustard had been retained in maximum quantities by the sample farmers in comparison to quantities of cereal crops.

The groundnut, sugarcane, potato and mustard were much profitable than the cereal crops. Among the pulses, arhar, urd and moong were also profitable crops on the sample farms. It shows that the prices of all commodities were more or less satisfactory during the reference period. The per H.H. gross income of Kharif crops was estimated at Rs 3,05,933 on loanee insured farms against Rs 1,22,763 on non-loanee insured farms. It shows that per farm gross

income on non-loanee insured farms was quite low than that of loanee insured sample farms. The per H.H. gross income of Rabi crops on loanee insured farms was Rs 84,046 against Rs 62,601 on non-loanee insured sample farms, however, it was only Rs 64,311 on loanee sample farms.

It shows that per H.H. gross income of Kharif crops was much better than that of Rabi crop across the sample farms. As far as Insurance behavior is concerned, the loanee and non-loanee insured sample farmers had reported the following answers:-

Most of the loanee and non-loanee insured sample farmers had heard of PMFBY. It was hundred percent in case of non loanee insured sample farmers. All the loanee and non-loanee insured sample farmers were linked with PMFBY in Kharif-2016 and Rabi-2017. It is very surprising to note that out of 90 loanee insured sample farmers, 7 had taken voluntary enrolment in PMFBY. All the non-loanee insured sample farmers (30) had taken the voluntary enrolment in PMFBY.

The PNB, SBI, Union Bank, UBI, UCO Bank and RRBs were implanting agencies. The role of UBI and UCO Bank was very marginal as compared with other commercial banks. The per H.H. premium was estimated at Rs 1,105 on loanee insured sample farms while it was only Rs 230 on non-loanee insured sample farms. The non-loanee insured sample farmers had paid premium for generally wheat crop. The premium amount was differing from farmer to farmer.

The majority of loanee insured sample farmers had not heard about PMFBY while all the non-loanee insured sample farmers were well known about PMFBY. Most of loanee sample farmers were attached with PMFBY because they had taken loan from bank while the non-loanee sample farmers had enrolled because they were interested to link with PMFBY on the motivation of agriculture department. The Government Awareness Programme was effective instrument to guide the farmers about the benefits of PMFBY at the event of loss of crops due to occurrence of natural calamities.

The PNB, SBI, Union Bank, Bank of India, UCO Bank, RRBs were implementing agencies of PMFBY in the study areas. Among these banks, RRBs, SBI, Union Bank and PNB linked 25.56%, 25.56%, 23.23% and 22.22% loanee insured farmers respectively. AIC and ICICI were involved only in case of non-loanee insured sample farmers. The premium per loanee insured farmers was estimated at Rs 1,105 for insured crops. The premium per non-loanee insured sample farmer was only Rs 220. The total compensation of Rs 22,047 had been paid to affected

farmers by the commercial banks. At the aggregate level, it was only Rs 245 per H.H. on loanee insured sample farms. The non-loanee insured sample farmers did not receive any compensation from Agricultural Insurance Company (AIC) and ICICI Lombard neither in Kharif-2016 nor in Rabi-2017.

The PMFBY is better than earlier schemes. Most of loanee and non-loanee insured sample farmers did not inform the concerned authorities about event of loss. The majority of sample farmers had reported that no one had visited their farms during the CCEs. They had also reported that their own crops were not selected for CCEs during reference year.

More than 80% of total sample framers were unaware of any yield assessment of CCEs taking place in the village. There was no role of panchayat in process of claims. More than 40% of loanee insured sample farmers were satisfied with the implementation of PMFBY. While 33.33% of non-loanee insured sample farmers were satisfied with the implementation of PMFBY. All the loan insured sample farmers were totally against the compulsory deduction of premium from their account. It should be voluntary not compulsory. The realization of compensation from insurance companies is much troublesome. It is very difficult for individual case.

VI.3. Policy Recommendations

On account of failure of NAIs, the PMFBY had been introduced across the country in year 2016. It is much better than NAIs. The PMFBY has been initiated in a well planned manner and has been getting more popular among the farmers since its inception. Even then, the following recommendations have been given for its betterment. The recommendations are based on the perception of stakeholders.

1. The mixed crops are not included in the list of notified crops under PMFBY in Uttar Pradesh. Therefore, it is suggested that the area of the mixed crops should also be considered under PMFBY.
2. The share croppers and tenants were not enrolled under PMFBY in Kharif-2016 and Rabi-2017. It is suggested to agriculture department and insurance companies that a sincere effort should be made to link share croppers and tenants with PMFBY.
3. The premium had been deducted by banks without taking the consent from loanee farmers. The loanee farmers were very much frustrated from the compulsory deduction of

premium from the amount of their loan. The compulsory deduction of premium from the amount of loan of loanee farmers should be stopped. The deduction of premium should be made after getting the consent from loanee farmers. The amount of premium should be made publically through mass media communication. It should not be compulsory. It should be voluntary.

4. The non- loanee insured farmers were limited in numbers across the state. Out of total insured farmers of 62.71 lakh in Kharif-2016 and Rabi-2017, the non-loanee insured farmers accounted for only 0.48%. Therefore, it is suggested that joint efforts be made by Agriculture Department and Insurance Companies to pursue the non-loanee farmers for linking themselves with PMFBY. The benefit of PMFBY should be popularized by organizing farmer fairs, seminar and public meeting at panchayat level. The pamphlets, leaflets, published material in newspapers, etc. should be distributed among the farmers for knowing the benefit of PMFBY at the time of failure of crops.
5. The meeting of SLCCCI and DLTC should be held at stipulated time. The selection of insurance companies should be done as per operational guidelines. The overall supervision on PMFBY should be done by SLCCCI and DLTC at state and district levels respectively. It will create transparency at each and every step during the implementation of PMFBY.
6. A separate budget should be allotted for disseminating the scheme in a bigger way. The seminars, meeting etc. could be organized on a large scale to popularize this scheme and motivate the non-loanee farmers to link them with PMFBY.
7. The payment of compensation should be made within 15 days. Hence, sincere efforts should be made to pay prompt payment of compensation to beneficiary farmers.
8. The role of Crop Cutting Experiments (CCEs) is very important in the context of PMFBY. Therefore, it is suggested to inform the farmers through proper publicity in newspapers, etc that the CCEs will be held in a particular village on such date.
9. The estimation of loss of crops of individual insured farmer is rather very difficult and troublesome. A number of formalities have to be done which is beyond the capacity of a farmer. Therefore, the compensation is not timely available to him. A number of inquires have to be made to assess the loss of crops. It requires much time to settle the

compensation. Therefore, it is suggested to modify the prescribed procedure in the interest of farmers to get compensation easily.

10. The use of remote sensing satellite, imagery and digitalization of land record should be promoted to minimize area discrepancies.
11. Sampling of CCEs should be based on consensus of all stakeholders. It should be taken into account during the CCEs to provide confidence among affected farmers.
12. The CCEs should also be conducted by the insurance units through technological interventions, such as automation, geo. location etc
13. The data of CCEs should be publically available
14. Auditing and multilevel checking of CCEs data should be made to prove sanctity and creditability of CCEs.
15. To check the manipulation in CCEs at ground level, it is suggested that the involvement of Panchayat Raj Institutions is needed. The farmers should be present at the time of loss assessment of crops during CCEs.
16. There is a need to improve the efficiency of staff involved in PMFBY to get better success in the implementation of PMFBY across the state. Therefore, it suggested for improving the capacity building of the staff of State Government.
17. The data related to CCEs, threshold yield, sum insured, amount of compensation and premium should be available on public domain. This will increase transparency in PMFBY.
18. In few cases, the higher premium is deducted from farmers account by mistake or for other reasons, hence, it is suggested that the insurance companies should refund the excess deduction of premium.
19. There should be a provision for financial benefit to efficient workers of PMFBY. This will provide fruitful result in linking more non-loanee farmers with PMFBY. A separate budget should be allotted to District Nodal Officers of PMFBY to organize seminar, farmers fairs, etc., to motivate the non-loanee farmers.
20. Separate staff should be recruited for looking after only PMFBY. The present staff of agriculture department is not sufficient for proper implementation of PMFBY.
21. Agents of insurance companies do not pay sufficient visit to rural areas. The agents of insurance companies have a wide range of area. So they are unable to motivate the non-

loanee farmers to link with PMFBY. It is suggested to Insurance Companies to appoint sufficient number of trained agents for PMFBY.

22. The Nodal Officer of a district should fix the target for agents of insurance companies for linking the non-loanee farmers with PMFBY. If they fail to achieve the targets then they should be liable for penalty. There should be a complete cooperation among all the units of PMFBY.
23. The staff of banks should be more cordial and cooperative with insured farmers. Each and every documents related to PMFBY should be transparent. The amount of premium and compensation etc., should be transparent to provide better information to insured farmers.
24. A separate counter in banks should be opened for only insured farmers.
25. It is also suggested that the exchange of documents related to PMFBY between banks and insurance companies should be prompt and efficient.
26. Damage caused by wild animals, cold waves and frost to crops should also be considered under PMFBY.
27. It is witnessed that the sum insured is less than cost of production and cost of cultivation. Therefore it is suggested that the sum insured should be equivalent to expected yield value rather than based on cost of production and cost of cultivation.
28. The guidelines given under PMFBY documents should be followed by stakeholders at any cost.
29. At the time of low occurrence of natural calamities, some incentive should be given to insured farmers.
30. Since, Bundelkhand region of Uttar Pradesh is very much prone to droughts, therefore, it requires a special attention for prompt and quick distribution of compensation.
31. The portal website should be uploaded to know the activities and performance of units of PMFBY. This should be done by each nodal officer of the district.
32. The grievance of insured farmers should be solved by the units of PMFBY. The agents of insurance companies should take this responsibility with the help of Nodal Officers of the respective districts of the state.

33. A toll-free number should be served to the insured farmers to lodge their complaints against inefficiency of staff of PMFBY units. It will also be useful to get suggestions from staff of agriculture department, banks and insurance companies related to PMFBY.
34. All the above mentioned suggestions related to PMFBY are based on the perception of stakeholders. We arrived at this conclusion that there is a need to add these mentioned suggestions in operational guidelines of PMFBY to improve its effectiveness and quality of this scheme in years to come.

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Appendix-1

State Level Views of Director of agriculture & Statistics and Crop Insurance, Uttar Pradesh

Answer to List of Question

- 1 Kharif-Paddy, Maize, Jowar, Bajra, Urd, Moong, Ground Nut, Til, Soyabean and Arhar Rabi-Wheat, Gram, Pea, Lentil, Rapeseed Mustards and Potato.
- 2 Crops are selected on the basis of atleast 20 hectare of area available at Village Panchayat.
- 3 Village Panchayat for all notified Crops.
- 4 So far, Maximum of 33.60 lakh farmers insured in Kharif -2016.
- 5 33.53 lakh loanee farmers and 0.04 lakh non-loanee farmers in Kharif- 2016
- 6 From concerned bank branches/Insurance Company/Nation Crop Insurance Portal-www.agri-insurance.gov.in.
- 7 District Level Monitoring Committee (DLMC) has been constituted in each district under the chairmanship of District Magistrate. DLMC is responsible to sort out all issues related to district. The committee monitor the progress of Scheme and takes action for effective implementation of scheme in the district
- 8 List enclosed.
- 9 Every month and more often in case of need.
- 10 Included in the answer to point 7.
- 11 List enclosed.
- 12 As per need, every month Principal Secretary Agriculture reviews the progress of the scheme Director, Agriculture Statistics & Crop Insurance review the progress of the scheme every week with Insurance Company.
- 13 As defined in operational Guidelines of the scheme as well as for review of scheme.
- 14 10.06.2016 and 30.06.2016 (in two parts) for both Kharif and Rabi season of 2016-17.
- 15 Yes, however there is always scope for improvement.
- 16 Divisional/districts level Officials of Agriculture Departments have been directed to include mandatory Crop insurance in all Agriculture Department's extension programs, District and field level staff of Agriculture department is also engaged to make farmers aware of the provisions of scheme. Both print and electronic media as well as printing (strikers). Posters etc. are being used for public awareness by Insurance companies .Newspaper advertisement, Radio and T.V. talk,

distribution of publicity material amongst farmers at Kharif and Rabi gosthi/Farmers fair at division/district/block and lower level etc.

- 17 Included in the answer to point 16.
- 18 All land owner farmers are eligible for crop loan.
- 19 Yes.
- 20 No.
- 21 No such cases reported of the department so far. If there is any such case reported, it is the matter between Bankers and Insurance Company.
- 22 Not applicable
- 23 Not applicable
- 24 No.
- 25 Primary workers of Revenue Department.
- 26 SLCCCI has no directive role in CCEs, however committee review the progress.
- 27 All District level Agriculture Department officials have been directed to check the CCEs at harvesting stage in each season to ensure reliability of yield data.
- 28 The District Magistrate direct district officials of other department also to check the CCEs at harvesting stage in each season so that more and more CCEs are checked at harvesting stage.
- 29 Included in the answer to point 28.
- 30 No professional agencies are used.
- 31 Not applicable.
- 32 8 CCEs for Groundnut crop and 4 CCEs for other notified crops in each Village Panchayat.
- 33 Not, so far. Action has been taken to digitize CCEs from forthcoming season.
- 34 No, Geo coding etc. is likely to be undertaken from forthcoming season.
- 35 No.
- 36 State subsidy paid to insurance companies in time.

Appendix-2

Comments on the report “**Performance Evaluation of Pradhan Mantri Fasal Bima Yojana in Uttar Pradesh (PMFBY)**” submitted by AERC, Allahabad

1. Title of the final report:

Performance Evaluation of Pradhan Mantri Fasal Bima Yojana in Uttar Pradesh (PMFBY)

2. Date of comment received of the Draft report: 22nd May, 2018
3. Date of dispatch of the comments: 11th June, 2018
4. Comments received from Centre for Management in Agriculture, IIM Ahmedabad:-

1. As far as possible, please try to have a uniform font size and font style for the entire report.
2. Please ensure that numbering is all in bold or all normal, and not different for different numbers one below the other.
3. Please refer to the report for positioning of Table of Contents in the correct place.

Appendix-3

Action Taken

Title of the Study “ **Performance Evaluation of Pradhan Mantri Fasal Bima Yojana in Uttar Pradesh (PMFBY) ”**

Date of Comments: 22.05.2018

Date of dispatch of Final report: 11.06.2018

The report has been revised in the light of comments received from Centre for Management in Agriculture, IIM Ahmedabad. Point-wise suggestions incorporated in the text.

| Comments | Action taken with regard to comments of the study |
|-----------------|---|
| I. | The report has been made uniform font size and font style for the entire report |
| II. | The numbering has been made in normal. |
| III. | The Table of report has been placed at proper places. |

Most of comments have been incorporated in the reports.