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## Attitude of farmers regarding Pradhan Mantri Fasal Bima Yojana

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### Abstract

The present study was conducted to study attitude of farmers regarding Pradhan Mantri Fasal Bima Yojana (PMFBY). The study was conducted in North Gujarat. From North Gujarat, three districts and from each selected district three talukas were purposively selected. Five villages from each taluka and from each village eight crop insured farmers were selected randomly. Multistage sampling method was followed for selection of the crop-insured farmers. Thus, total 360 crops insured farmers were selected as sample size. The data was collected through personal interview and it was compiled, tabulated and analyzed to get proper answer with the help of various appropriate statistical tools. From the result of the study, it can be concluded that 66.11 per cent crop-insured farmers had favourable level of attitude towards PMFBY. Out of thirteen independent variables, 10 variables viz., age (0.336), education (0.513), farming experience (0.141), land holding (0.509), annual income (0.511), economic motivation (0.660), decision-making ability (0.679), social participation (0.579), source of information (0.635) and extension participation (0.714) had positive and strong relationship with their attitude towards PMFBY.

**Keywords:** PMFBY, GDP, Gross Domestic Product, relationship, cultivators

### Introduction

Agriculture is an important sector of Indian economy. The share of agriculture and allied sector in total Gross Domestic Product (GDP) is 16.00 per cent in Indian economy. In India 54.60 per cent of population is engaged in agriculture and allied activities.

Agriculture plays vital role in development of country. But Indian agriculture is characterized by risk bearing and uncertainty because of many factors like, lack of technology, lack of knowledge of risk mitigation, irrigation, weather condition, usage of seeds, fertilizers pesticide, uncertainty in monsoon, lack of input supply facilities, non-availability proper market facility, pest and diseases, the higher expenditure as compared to production, uncertain income in each year. Due to dependence on weather and biological uncertainties in managing crops, the agriculture production fluctuates in India and thus has direct impact on both the national income and the farmers or the cultivators.

Agricultural insurance is considered as an important mechanism to address the risk of output and income resulting from various natural and manmade events. The risk-bearing capacity of marginal and small farmers in the country is very limited. To avoid the risk and uncertainty in agriculture at the national and state level, various agricultural development schemes are implemented by the government to bring the development in agriculture and facilities provided to the farmers.

Agricultural insurance is a means of protecting the agriculturist against financial losses due to uncertainties that may arise from all unforeseen perils beyond their control. Unfortunately, agricultural insurance in the country has not made much headway even though the needs to protect farmers from agriculture variability have been a continuing concern of agriculture policy. Crop insurance is one method by which farmers can stabilize farm income and investment and guard against the disastrous effect of losses due to natural hazards or low market prices.

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**Risks involved in Indian agriculture**

According to risk in Indian agriculture can be categorized into yield risk and price risk. Price risk is the risk which mainly occurs due to changing supply and demand, market imperfections, changing consumer preferences, differences in prices between two markets within a small geographical area. Yield risk on the other side occurs mainly due to low productivity on account of unfavorable weather conditions and other biological factors.

**Objectives**

1. To measure statement wise farmer’s attitude towards PMFBY
2. To measure the farmer’s attitude towards PMFBY
3. To ascertain the relationship of selected characteristics of farmers with their attitude towards PMFBY

**Methodology**

The study was conducted in North Gujarat. From North Gujarat, three districts and from each selected district three talukas were purposively selected. Five villages from each talukas and from each village eight crop insured farmers were selected randomly. Multistage sampling method was followed for selection of the crop-insured farmers. Thus, total 360 crops insured farmers were selected as sample size. The data was collected through personal interview and it was compiled, tabulated and analyzed to get proper answer with the help of various appropriate statistical tools.

**Result and Discussion**

**A. Statement wise farmer’s attitude towards PMFBY**

The data about attitude of farmers towards PMFBY was collected, analyzed and presented in Table 1.

**Table 1:** Distribution of the respondents according to their statement wise attitude towards PMFBY (N=360)

| Sr. No. | Statements  | SA             | A              | UD            | DA             | SDA            | Mean score & Rank |
|---------|---|----------------|----------------|---------------|----------------|----------------|-------------------|
| 1.      | Crop insurance is based on the individual decision of farmer (+)                        | 72<br>(20.00)  | 115<br>(31.94) | 36<br>(10.00) | 65<br>(18.06)  | 72<br>(20.00)  | 3.14<br>V         |
| 2.      | I believe that PMFBY helps me to protect against financial risk (+)                     | 36<br>(10.00)  | 130<br>(36.11) | 65<br>(18.06) | 79<br>(21.94)  | 50<br>(13.89)  | 3.06<br>IX        |
| 3.      | I believe that PMFBY encouraged adopting innovative agricultural practices (+)          | 107<br>(29.72) | 107<br>(29.72) | 40<br>(11.11) | 31<br>(8.62)   | 75<br>(20.83)  | 3.39<br>I         |
| 4.      | I take pride in saying that I am benefiting from PMFBY (+)                              | 73<br>(20.28)  | 97<br>(26.94)  | 60<br>(16.67) | 76<br>(21.11)  | 54<br>(15.00)  | 3.16<br>IV        |
| 5.      | In my opinion getting PMFBY is wastage of money (-)                                     | 66<br>(18.33)  | 74<br>(20.56)  | 38<br>(10.56) | 107<br>(29.72) | 75<br>(20.83)  | 3.14<br>VI        |
| 6.      | PMFBY insurance scheme needs to refine to avoid complexity (-)                          | 64<br>(17.78)  | 54<br>(15.00)  | 77<br>(21.39) | 41<br>(11.39)  | 124<br>(34.44) | 3.3<br>III        |
| 7.      | I feel that PMFBY is better than earlier schemes (+)                                    | 78<br>(21.67)  | 143<br>(39.72) | 35<br>(9.72)  | 20<br>(5.56)   | 84<br>(23.33)  | 3.31<br>II        |
| 8.      | I am unaware of any yield assessment of crop cultivating experiment (-)                 | 115<br>(31.94) | 94<br>(26.11)  | 28<br>(7.77)  | 45<br>(12.51)  | 78<br>(21.67)  | 2.66<br>XXIII     |
| 9.      | I would be able to cope up with risks better by using crop insurance scheme (+)         | 77<br>(21.39)  | 62<br>(17.22)  | 45<br>(12.50) | 78<br>(21.67)  | 98<br>(27.22)  | 2.84<br>XVII      |
| 10.     | PMFBY helps me at the time of repayment of crop losses (+)                              | 57<br>(15.83)  | 88<br>(24.45)  | 60<br>(16.67) | 31<br>(8.61)   | 124<br>(34.44) | 2.79<br>XX        |
| 11.     | Crop insurance helps me to go for crop diversification (+)                              | 67<br>(18.61)  | 66<br>(18.33)  | 38<br>(10.56) | 78<br>(21.67)  | 111<br>(30.83) | 2.72<br>XXII      |
| 12.     | I feel PMBFY is not transparent (-)   | 91<br>(25.28)  | 89<br>(24.72)  | 13<br>(3.61)  | 83<br>(23.06)  | 84<br>(23.33)  | 2.94<br>XIII      |
| 13.     | I feel that crop insuring agency are not compensating fairly in case of crop losses (-) | 76<br>(21.11)  | 77<br>(21.39)  | 13<br>(3.61)  | 127<br>(35.28) | 67<br>(18.61)  | 3.09<br>VIII      |
| 14.     | I feel Insurance claims are handled within the expected time under PMFBY (+)            | 74<br>(20.56)  | 92<br>(25.56)  | 59<br>(16.39) | 32<br>(8.89)   | 103<br>(28.60) | 3.01<br>XII       |
| 15.     | I would like to continue crop insurance scheme as it saves me from risk (+)             | 88<br>(24.44)  | 36<br>(10.00)  | 34<br>(9.44)  | 61<br>(16.94)  | 141<br>(39.18) | 2.64<br>XXIV      |
| 16.     | I believe that PMFBY scheme has become a real boon to farmers (+)                       | 74<br>(20.56)  | 38<br>(10.56)  | 94<br>(26.11) | 28<br>(7.78)   | 126<br>(35.00) | 2.74<br>XXI       |
| 17.     | I believe that PMFBY scheme is more welfare oriented (+)                                | 99<br>(27.50)  | 57<br>(15.83)  | 26<br>(7.22)  | 47<br>(13.06)  | 131<br>(36.39) | 2.85<br>XVI       |
| 18.     | I feel that political interventions are more in PMFBY (-)                               | 102<br>(28.33) | 35<br>(9.72)   | 43<br>(11.95) | 107<br>(29.72) | 73<br>(20.28)  | 3.04<br>X         |
| 19.     | Receiving claim under PMFBY is pathetic in our region (-)                               | 98<br>(27.22)  | 50<br>(13.88)  | 20<br>(5.56)  | 100<br>(27.78) | 92<br>(25.56)  | 3.11<br>VII       |
| 20.     | The criteria for getting compensation in the PMFBY are correct (+)                      | 102<br>(28.33) | 56<br>(15.56)  | 45<br>(12.50) | 62<br>(17.22)  | 95<br>(26.39)  | 3.02<br>XI        |
| 21.     | The officials doing the right thing in PMFBY (+)  | 73<br>(20.28)  | 94<br>(26.11)  | 29<br>(8.05)  | 27<br>(7.50)   | 137<br>(38.06) | 2.83<br>XVIII     |
| 22.     | PMFBY helps farmers in interacting with different institutions (+)                      | 74<br>(20.56)  | 79<br>(21.94)  | 48<br>(13.33) | 25<br>(6.94)   | 134<br>(37.23) | 2.82<br>XIX       |
| 23.     | The government is giving priority to compensation under PMFBY (+)                       | 82<br>(22.78)  | 83<br>(23.06)  | 35<br>(9.72)  | 29<br>(8.06)   | 131<br>(36.38) | 2.88<br>XIV       |
| 24.     | Crop insurance assumed income stability of the farmer (+)                               | 78<br>(21.67)  | 77<br>(21.39)  | 50<br>(13.89) | 30<br>(8.33)   | 125<br>(34.72) | 2.87<br>XV        |

Figures in the parentheses indicate percentage to total number of respondents (N=360)  
SA= strongly Agree A=Agree UD=Undecided DA=Disagree SDA= Strongly Disagree

The mean response to each statement was calculated using the following formula:

$$\bar{X} = \frac{\sum FX}{N}$$

Where

$\bar{X}$  = means response,

$\Sigma$  = summation,

F = number of respondents choosing a particular scale point,

X = numerical value of the scale point; and

N=total number of respondents to the item.

Table 1 presents the extent of attitude of respondents towards Pradhan Mantri Fasal Bima Yojana (PMFBY). First three statements with maximum mean attitude score are, as follows. Mean attitude score (M.S.) was highest in case of 'I believe that PMFBY encouraged to adopt innovative agricultural practices (+)' (M.S. 3.39) This might be due to the fact that, farmers have confidence in getting risk coverage and better claim in case of loss, if they have crop insurance and they can try different types of crops/varieties/techniques recommended by scientists. Followed by statement 'I feel that PMFBY is better than earlier schemes' (M.S.3.31), the probable reason might be that, the present premium rate is less compared to the previous schemes. And 'PMFBY insurance scheme needs to refine to avoid complexity (-)' (M.S.3.30), reason might be they feel that the process is tedious starting from the online registration process to final stage of getting the claim.

**B. Overall farmers attitude towards PMFBY**

The data about attitude of farmers towards PMFBY was collected, analyzed and presented in Table 2.

**Table 2:** Distribution of the respondents according to their attitude towards PMFBY (N=360)

| Sr. No | Categories                                     | Number | Per cent |
|--------|--|--------|----------|
| 1.     | Less favorable (Up to 45.32 score)             | 122    | 33.89    |
| 2.     | Moderately Favorable (45.33 to 97.28 score)    | 184    | 51.11    |
| 3.     | Highly favorable (Equal and above 97.29 score) | 54     | 15.00    |
| Total  |  | 360    | 100.00   |

Mean=71.30

S.D. = 25.98

The data in Table 2 revealed that slightly more than half (51.11%) of the respondents had favorable attitude towards PMFBY followed by 33.89 per cent, and 15.00 per cent of the respondents who had less favorable and highly favorable attitude towards PMFBY, respectively.

From the foregoing discussion, it can be concluded that the majority of the respondents (66.11%) had favorable level of attitude towards Pradhan Mantri Fasal Bima Yojana. The probable reason might that the farmers had contacted many source of information and they are aware of the benefits of PMFBY. Their past experience with the Yojana has made a good impact on their attitude towards the PMFBY.

**C. Relationship of selected characteristics of farmers with their attitude towards PMFBY**

In order to ascertain the relationship between the attitude of crop insured farmers towards PMFBY (dependent variable) and their selected characteristics (independent variables), the correlation coefficients ('r' value) were calculated. The

empirical hypotheses were stated for testing the relationship and their significant on zero order correlation.

The information about relationship between independent variables and attitude crop insured farmers towards PMFBY is depicted in Table 3.

**Table 3:** Relationship between independent variables with attitude towards PMFBY (N=360)

| Sr. No. | Variables               | Coefficient of correlation |
|---------|-------------------------|----------------------------|
| 1.      | Age                     | 0.336**                    |
| 2.      | Education               | 0.513**                    |
| 3.      | Farming experience      | 0.141**                    |
| 4.      | Land holding            | 0.509**                    |
| 5.      | Cropping pattern        | 0.085 <sup>NS</sup>        |
| 6.      | Irrigation status       | 0.090 <sup>NS</sup>        |
| 7.      | Annual income           | 0.511**                    |
| 8.      | Economic motivation     | 0.660**                    |
| 9.      | Decision making ability | 0.679**                    |
| 10.     | Risk orientation        | 0.113*                     |
| 11.     | Social participation    | 0.579**                    |
| 12.     | Source of information   | 0.635**                    |
| 13.     | Extension participation | 0.714**                    |

\*\* = Significant at 1 per cent level of probability

\* = Significant at 5 per cent level of probability

NS = Non Significant

It is apparent from the data depicted in the Table 3 that out of thirteen independent variables, ten variables viz., age (0.336\*\*), education (0.513\*\*), farming experience (0.141\*\*), land holding (0.509\*\*), annual income (0.511\*\*), economic motivation (0.660\*\*), decision making ability (0.679\*\*), social participation (0.579\*\*), source of information (0.635\*\*) and extension participation (0.714\*\*) had positive and strong relationship with their attitude towards Pradhan Mantri Fasal Bima Yojana. Thus, the null hypothesis (H02) in case of these positively and highly significantly related variables with their attitude towards PMFBY was rejected. Positive and highly significant relationship between all studied characteristics of the respondents and their attitude towards Pradhan Mantri Fasal Bima Yojana indicated that increase in age, education, farming experience, land holding, annual income, economic motivation, decision making ability, social participation, source of information and extension participation of the respondents increases positively with their attitude towards Pradhan Mantri Fasal Bima Yojana.

From the remaining three independent variables, one variable namely risk orientation (0.113\*) was found significantly and positively related with Knowledge level regarding PMFBY. Thus, the null hypotheses (H02) in case of these positively and significantly related variables with attitude towards PMFBY were rejected.

Other two independent variables namely cropping pattern (0.085) and irrigation status (0.090) were found positive and non-significant correlated with attitude towards PMFBY of crop insured farmers. Thus, the null hypothesis (H02) in case of these non-significantly related variables with attitude towards PMFBY were accepted.

**D. Multiple regression analysis of attitude towards PMFBY**

The multiple correlations co-efficient (R) represents the correlation between the dependent variable and a set of independent variables fitted in multiple regression equation. The co-efficient of determination (R<sup>2</sup>) gives amount of variation accounted in dependent variables, when all

independent variables were taken together in the equation. It is tested with 't' test for its significance.

Pearson's correlation analysis merely portrays coexistence of relation between any two variables. This procedure does not capture the interaction effect among variables. One variable is associated with or is simultaneously dependent on several others.

Attitude was postulated as a linear function of various variables. It is not influenced solely by any of these factors taken in isolation but as a part of complex and interacting system. Based on this approach, the multiple regression analysis using linear model was carried out to know the combined effect of the independent variables in explaining the total variation in the dependent variable.

In multiple regression analysis of attitude of crop insured farmers towards PMFBY, all the 13 independent variables were fitted to explain the variation in attitude. The results are presented in Table 4.

**Table 4:** Multiple regression analysis of the attitude of farmers towards PMFBY (N=360)

| Sr. No.         | Independent variables   | Partial regression coefficients (b) | Standard Error | 'T' Value | P-Value sig. |
|-----------------|-------------------------|-------------------------------------|----------------|-----------|--------------|
| a               | Constant                | -2.278                              | 5.628          | -0.485    | 0.628        |
| X <sub>1</sub>  | Age                     | 0.362                               | 0.084          | 4.294**   | 0.000        |
| X <sub>2</sub>  | Education               | 2.573                               | 0.790          | 3.259**   | 0.001        |
| X <sub>3</sub>  | Farming experience      | -0.181                              | 0.074          | -2.463**  | 0.014        |
| X <sub>4</sub>  | Land holding            | 1.123                               | 0.543          | 2.070**   | 0.039        |
| X <sub>5</sub>  | Cropping pattern        | -0.046                              | 0.199          | -0.232**  | 0.817        |
| X <sub>6</sub>  | Irrigation status       | 0.122                               | 0.237          | -0.513**  | 0.608        |
| X <sub>7</sub>  | Annual income           | 8.290E-006                          | 0.000          | 1.186**   | 0.236        |
| X <sub>8</sub>  | Economic motivation     | 0.555                               | 0.162          | 3.423**   | 0.001        |
| X <sub>9</sub>  | Decision making ability | 1.002                               | 0.245          | 4.089**   | 0.000        |
| X <sub>10</sub> | Risk orientation        | 0.030                               | 0.122          | 0.246**   | 0.806        |
| X <sub>11</sub> | Social participation    | 2.468                               | 1.031          | 2.393**   | 0.017        |
| X <sub>12</sub> | Source of information   | 0.570                               | 0.135          | 4.221**   | 0.000        |
| X <sub>13</sub> | Extension participation | 0.431                               | 0.099          | 4.346**   | 0.000        |

Multiple R = 0.837

R<sup>2</sup> = 0.701

\*\* Significant at 0.01 level of probability.

The data presented in Table 4 revealed that, the independent variables together exerted significant influence on the dependent variable, attitude of crop insured farmers. This is evidenced by co-efficient of determination (R<sup>2</sup>) indicated 70.10 per cent of variation in attitude level. The remaining 29.90 per cent of the variation might have attributed to the error term and some of the variables which are not considered in the study. The dependent variable, attitude of insured farmers was measured by the combined effect of all the independent variables.

The results also pointed out that, 10 independent variables namely, age (4.294\*\*), education (3.259\*\*), land holding (2.070\*\*), annual income (1.186\*\*), economic motivation (3.423\*), decision making ability (4.089\*), risk orientation (0.246\*\*), social participation (2.393\*\*), source of information (4.221\*\*) and extension participation (4.346\*\*) were positively significant at 0.01 level of significance, contributed positively significant influence on attitude of

insured farmers. Three variables viz., farming experience (-2.463\*\*), cropping pattern (-0.232\*\*) and irrigation status (-0.513\*\*) were negatively significant at 0.01 level of significance indicating negative contribution of these variables in explaining variation in attitude of insured farmers.

**Conclusion**

Results of this study indicated that majority of the PMFBY insured farmers had favorable attitude towards PMFBY. Hence, in order to convert favorable attitude in to highly favorable attitude, timely claim settlement should be more enhanced and maintained. There is need of a rugged framework of entrust and expenditure to dispense credit and insurance improving the compensations criterion and provision of uptight observance with timelines for timely claim settlements. Out of thirteen independent variables, 10 variables viz., age (0.336\*\*), education (0.513\*\*), farming experience (0.141\*\*), land holding (0.509\*\*), annual income (0.511\*\*), economic motivation (0.660\*\*), decision making ability (0.679\*\*), social participation (0.579\*\*), source of information (0.635\*\*) and extension participation (0.714\*\*) had positive and strong relationship with their attitude towards PMFBY.

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