

# **Original Research Article**

## **A study on farmers knowledge on Pradhan Mantri Fasal Bima Yojana in Tumkur district of Karnataka**

### **Abstract**

*The current study was undertaken in Tumkur district of Karnataka. A total of 120 farmer beneficiaries of Pradhan Mantri Fasal Bima Yojana were selected by using the random sampling technique. About sixteen independent variables were selected based on judges' relevancy rating and were quantified using measurement devices. The data were collected using a pretested structured interview schedule and suitable statistical tools were used to analyze the data. The knowledge level of beneficiaries reported that, more than half of the farmers (53.33 %) belongs to medium knowledge level, 25.00 per cent belongs to high knowledge level and 21.67 per cent belongs to low knowledge level. The variables like age, annual income, education, land holding, farming experience, extension contact, extension participation, scientific orientation, cosmopolitaness, achievement motivation, mass media exposure and crops cultivated had positive and significant association with knowledge level. Risk orientation, economic motivation and credit orientation had positive and significant at one per cent level. However, social participation was found to be non-significantly associated with the knowledge on Pradhan Mantri Fasal Bima Yojana. A comprehensive knowledge on scheme and an insurance of crops against natural disasters can become immense value to them. The government has taken new initiatives to help farmers thereby providing life security and make them confidence in their profession.*

### **INTRODUCTION**

Agriculture is extremely important to India's economic development and it is the primary source of income for the majority of rural households. Agriculture, along with livestock and fisheries are major contributors to the Gross Domestic Product. Agriculture being the function of physical, socio-institutional, techno-economic factors which are dynamic in nature keeps on changing with the basic objective of increasing production and generation of food grain surplus. Natural disasters and uncertainties in crop yield continue to be a part of farming. As a result, when a crop fails due to natural calamities, assistance measures must be done. Due to outcome of such losses, crops not only deprive farmers for

food but also liquidate their investments in terms of money and labour. Under such circumstances the insurance of crops against risk can be immense value to them. Government has taken steps to provide security by implementing a number of agricultural schemes around the country.

In India, agricultural insurance has its origins in 1947-48, recommending crop insurance bill in 1965. By incorporating the finest elements and eliminating the drawbacks of the previous schemes, *Pradhan Mantri Fasal Bima Yojna*, (PMFBY) has been launched during *kharif* 2016, which let farmers pay a very low premium to insure their crops. The coverage includes losses due to non-preventable risks like natural fire and lightning, storm, hailstorm, cyclone, typhoon, tempest, hurricane, tornado etc. Risks due to flood, inundation, landslide, drought, dry spells, pests/ diseases, having intent to sow/plant, incurred expenditure and are prevented from sowing/planting crop due to adverse weather conditions and post-harvest losses. Farmers have many insurance programmes, only few of them are known to them. Farmers' mindset keeps them away from it. This thinking ultimately converts to attitude. So, it is required to have the farmers understanding and attitude towards such schemes. Keeping these aspects in view, the present study was conceptualized and conducted with specific objective of analysing the relationship between the profile characteristics of farmer beneficiaries and their knowledge on PMFBY.

## **METHODOLOGY**

This study was conducted in Tumkur district of Karnataka state during the year 2020-2021. Ex-post facto research design was used for this study. Tumkur district was purposively chosen for the study as it is having highest number of farmers enrolment (1,55,247) and highest number of beneficiaries (67,057) of PMFBY in the central dry zone of Karnataka State. From Tumkur district, Pavagada and Sira taluks were selected based on the highest number of enrolment and beneficiaries of the PMFBY. The village-wise information relating to PMFBY was obtained from the Department of Agriculture, Tumkur. The six villages having the highest number of beneficiaries in Pavagada and Sira taluks were selected for the purpose of the study. 60 respondents were selected from each taluk. From each village, twenty beneficiaries were randomly selected for the study. Thus, the total sample constituted to 120 farmers. The data were collected from 120 respondents through personal interview by using well structured interview schedule. The data collected from the respondents were scored, tabulated and analysed using suitable statistical methods. A total of sixteen independent variables were selected based on judges' rating for the study and these variables were quantified with the help of available measurement procedures. The dependent variable

is knowledge of farmer beneficiaries on PMFBY. Knowledge refers to the quantum of information and functions related to PMFBY, possessed by respondents at the time of investigation. A teacher made test as suggested by Anastasi (1961) was developed to measure the knowledge about PMFBY. By consulting the previous studies, discussion with experts and with the research experience, 25 questions for PMFBY were framed. The answers obtained from the respondents for the knowledge test were quantified by giving a score of one and zero for correct and wrong answers, respectively. The knowledge index was calculated for each respondent with the help of following formula.

$$Ki = \frac{X_1+X_2+X_3+X_4+\dots+X_n}{N} \times 100$$

Where,

Ki = Knowledge index

$X_1 + X_2 + \dots + X_n$  = Total number of correct answers i.e. total score

N = Total number of items in the test.

Based on arbitrary scaling technique respondents were grouped into three categories as low, medium and high using mean and half standard deviation as measure of check.

List 1: Categories

Sl. No	Category	Criteria
1	Low	Less than (Mean - ½ SD)
2	Medium	Between (Mean ± ½ SD)
3	High	More than (Mean + ½ SD)

## RESULTS AND DISCUSSION

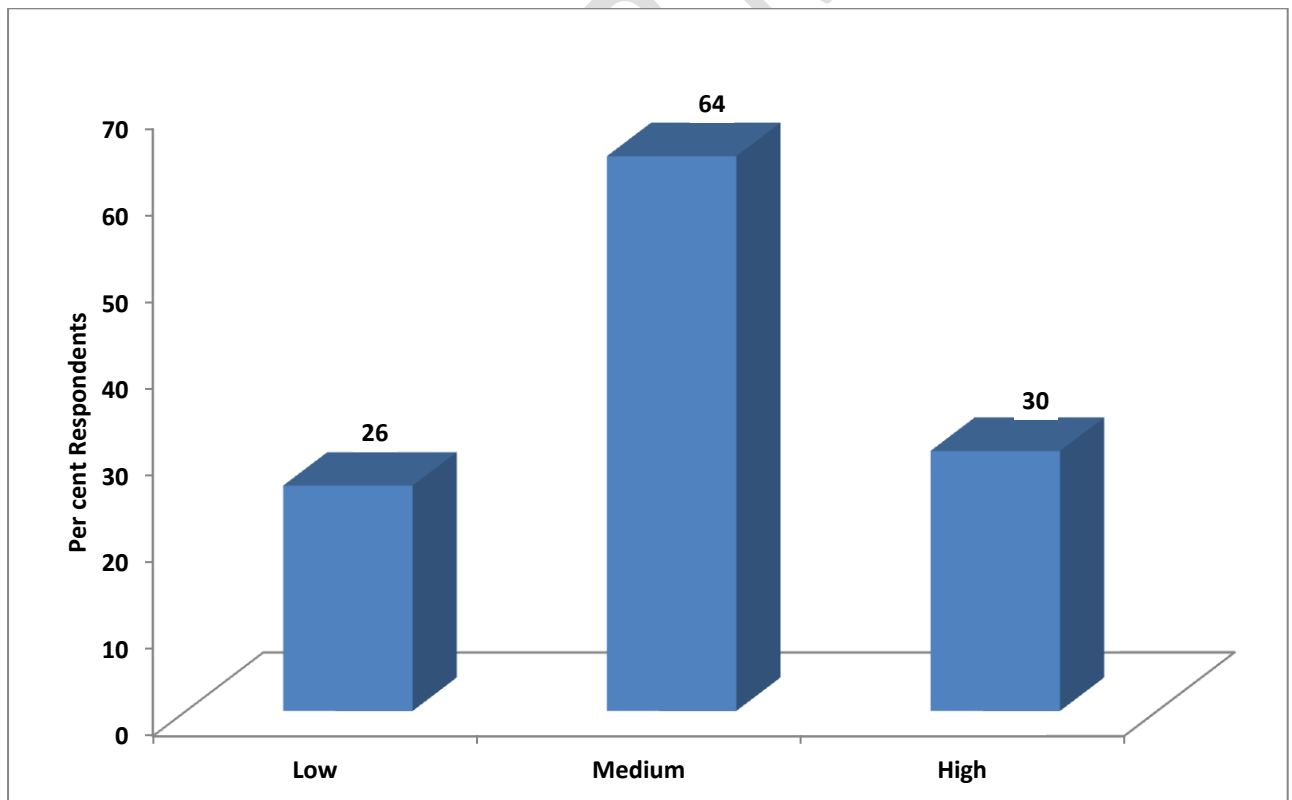
### Profile characteristics of farmer beneficiaries of PMFBY

Evidently the study depicted that more than two fifth of the farmers (41.67%) belongs to middle aged group, 30.00 per cent had middle school education, 46.67 per cent belongs to medium farmers and 43.33 per cent belongs to medium farming experience. It was noticed that majority of them (53.33 %) belongs to medium annual income, 45.00 per cent belongs to medium mass media exposure, 63.33 per cent belongs to high level of cosmopolitaness. About 48.33 per cent had medium extension contact, 60.00 per cent had medium extension participation and 46.67 per cent had medium social participation. The study revealed that

51.67 per cent belongs to the medium achievement motivation, 48.33 per cent belongs to medium scientific orientation, 53.33 per cent belongs to medium level of risk orientation. About 56.67 per cent had medium economic motivation, half of the beneficiaries (50.00%) had medium credit orientation and 46.67 per cent belonged to high crops cultivated category.

### **Knowledge level of respondents of PMFBY**

Knowledge level on PMFBY revealed that 53.33 per cent of the beneficiaries belongs to medium knowledge level, 25.00 per cent of the beneficiaries belongs to high knowledge level, 21.67 per cent belongs to low knowledge level (Table 2). The results showed that there is a considerable difference of knowledge in beneficiaries. The reason may be the beneficiaries get enrolled in the PMFBY, they are aware about the features of the scheme like premium rate, notified crops, commencement date and closing date of insurance application, conduct of cropping cutting experiments by insurance agents, bank officials and other line department officers. These findings are similar with Raghunandan (2001), Hemanth (2002) and Sasidhar (2003).



**Fig. 1. Knowledge level of farmer beneficiaries of PMFBY**

### **Association between Knowledge of farmer beneficiaries of PMFBY and their profile characteristics**

### **Knowledge and personal characteristics of beneficiaries**

Table 3 reveals that the results of chi-square test applied to ascertain the association of personal characteristics with the knowledge level of beneficiaries towards PMFBY. The variables like age, education, land holding, farming experience had a positive and significant association at 5 per cent level is seen between knowledge and personal characteristics of beneficiaries. The reason might be that most of the beneficiaries were medium to young age, were having good education level and their annual income was quite comfortable. The landholding and longer period of farming experience made them to expose themselves and to know the features and benefits of PMFBY. These findings are similar with Singh *et al.*, (2014) and Jamanal *et al.*, (2019).

### **Knowledge and socio-economic characteristics of beneficiaries**

The results presented in Table 3 reveals that, when chi-square test was applied to ascertain the association of socio-economic characteristics with the knowledge of beneficiaries towards PMFBY. Out of six variables such as annual income, extension contact, extension participation, cosmopolitaness and mass media exposure had a positive and significant association at 5 per cent level with knowledge and socio-economic characteristics of beneficiaries. The variable such as social participation had non-significant association with knowledge on PMFBY. The reason might be that most of the beneficiaries had good extension contact which lead to more participation in extension activities like training, demonstrations, their main purpose of visit is to agriculture or relating to agriculture, they had mass media exposure like T.V., mobile, whatsapp etc. Beneficiaries had been less time member and position held in any organizations, as a result their social participation is low. These findings are similar with Singh and Yadav (2012) and Subhash (2018).

### **Knowledge and psychological characteristics of beneficiaries**

The results presented in Table 3 reveals that, when chi-square test was applied to ascertain the association of psychological characteristics with the knowledge of beneficiaries towards PMFBY. Out of six variables such as scientific orientation, achievement motivation, risk orientation and crops cultivated had a positive and significant association at 5 per cent level with knowledge, variables like risk orientation, economic motivation and credit orientation had a positive and significant association at 1 per cent level. The reason might be the beneficiaries had more knowledge on scientific practices, they believe that farming involves risk taking, they were not fear of taking risks, they grow the crops which were suitable to them, they think that to achieve more one has to work more, they were economically motivated and they think it was no wrong in taking credit from the financial

institutions when the need arises. These findings are similar with Chitra (2010) and Chahande (2012).

## CONCLUSION

The Study reveals that most of the beneficiaries had medium knowledge level on *Pradhan Mantri Fasal Bima Yojana*. Risk orientation, economic motivation and credit orientation variables found highly positive and significant association with the knowledge level of the farmers on PMFBY. Hence, extension personnel should provide timely and complete information on various aspects of *Pradhan Mantri Fasal Bima Yojana*.

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**Table 1: Personal, Socio-economic and Psychological characteristics of farmer beneficiaries of PMFBY**

(n=120)

Sl. No	Characteristics	Category	Frequency	Percentage
1.	Age	Young (<35 years)	38	31.67
		Middle (35-50 years)	50	41.67
		Old (>50 years)	32	26.67
2.	Education	Illiterate	12	10.00
		Primary school	26	21.67
		Middle school	36	30.00
		High school	20	16.67
		PUC	14	11.67
		Graduation	8	6.67
		Post-graduation	4	3.33
3.	Land holding	Small Farmers (up to 2 acres)	42	35.00
		Medium Farmers (2 acres – 4 acres)	56	46.67
		Big Farmers( >4 acres)	22	18.33
4.	Farming Experience	Low (up to 14 years)	28	23.33
		Medium (15 – 30 years)	52	43.33
		High (> 30 years)	40	33.33
5.	Annual Income	Low(Up to 50,000)	36	30.00
		Medium (50,001 - 1,00,000)	64	53.33
		High (Above 1, 00,000)	20	16.67
6.	Extension Contact	Low (6.72)	22	18.33
		Medium (6.72 -8)	58	48.33
		High (8)	40	33.33
7.	Extension participation	Low (9.79)	14	11.67
		Medium (9.79 – 11.51)	72	60.00
		High (11.51)	34	28.33

8.	Cosmopolitaness	Low (7.99)	16	13.33
		Medium (7.09 – 8.87)	28	23.33
		High (8.87)	76	63.33
9.	Mass media exposure	Low (7.06)	28	23.33
		Medium (7.06 – 8.66)	54	45.00
		High (8.66)	38	31.67
10.	Social participation	Low (1.24)	38	31.67
		Medium (1.24 – 2.22)	56	46.67
		High (2.22)	26	21.67
11.	Scientific orientation	Low (8.19)	36	30.00
		Medium (8.19-9.41)	58	48.33
		High (9.41)	26	21.67
12.	Achievement motivation	Low (13.63)	22	18.33
		Medium (13.63 – 14.69)	62	51.67
		High (14.69)	36	30.00
13.	Risk orientation	Low (8.01)	32	26.67
		Medium (8.01-9.35)	64	53.33
		High (9.35)	24	20.00
14.	Economic motivation	Low (22.43)	24	20.00
		Medium (22.43-25.69)	68	56.67
		High (25.69)	28	23.33
15.	Credit orientation	Low (1.87)	32	26.67
		Medium (1.87-3.25)	60	50.00
		High (3.25)	28	23.33
16.	Crops cultivated	Low (3.60)	24	20.00
		Medium (3.60-4.66)	40	33.33
		High (4.66)	56	46.67

**Table 2: Knowledge level of farmer beneficiaries of PMFBY****(n=120)**

Sl. No	Category	Frequency	Percentage
1.	Low	26	21.67
2.	Medium	64	53.33
3.	High	30	25.00
	Total	Mean= 13.96 SD= 4.72	

**Table 3: Association between profile characteristics of the respondents with their knowledge regarding PMFBY****(n=120)**

Sl. No.	Characteristics	Chi-square value
1	Age	11.74*
2	Education	23.47*
3	Annual income	10.02*
4	Land holding	9.74*
5	Farming experience	11.25*
6	Extension contact	12.09*
7	Extension participation	9.91*
8	Cosmopolitaness	12.37*
9	Mass media exposure	11.53*
10	Social participation	4.12 <sup>NS</sup>
11	Scientific orientation	13.02*
12	Achievement motivation	12.42*
13	Risk orientation	27.53**
14	Economic motivation	17.60**
15	Credit orientation	23.40**
16	Crops cultivated	11.46*

NS=Non-significant, \*=Significant at 5% level, \*\*=Significant at 1% level