



# Perceptions and Awareness of Pradhan Mantri Fasal Bima Yojana among Insured and Non-insured Farmers in Haryana, India: Enhancing Agricultural Risk Management

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## Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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## ABSTRACT

The research paper employed a sample of 600 households from Haryana, comprising 300 insured and 300 non-insured farmers, to ascertain their perceptions regarding crop insurance. Methodologically, the researcher applied tabular analysis alongside elementary statistical

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techniques such as measures of central tendency and percentages for data examination. The findings revealed a significant lack of awareness among non-insured farmers regarding crop insurance, with nearly half of them being uninformed. Conversely, among insured farmers, the primary motivation for obtaining crop insurance stemmed from either bank compulsion or the pursuit of financial security. Concerns regarding premium rates were evident, with a majority perceiving them to be excessive. Recommendations for the enhancement of customer satisfaction and the promotion of greater farmer participation included the proposition of tailored insurance offerings and the mitigation of concerns pertaining to premium rates

*Keywords: Haryana; insured and non-insured farmers; PMFBY; risk factor.*

## 1. INTRODUCTION

Agriculture forms the backbone of India's economy, contributing significantly to the country's Gross Domestic Product (GDP) and employing a substantial portion of its population. Crop insurance restores confidence among the farmers and helps the farmers to imitate production activity after a bad agriculture year [1]. Agricultural insurance is a risk management approach used by farmers to protect them against crop loss caused by such unpredictable risk factors [2]. However, the agricultural sector remains highly vulnerable to various natural and economic risks that can severely impact on farmers' livelihoods and agricultural productivity. This scheme stresses on maintaining the farmer's interest in crop insurance and ensuring timely settlement of claims, which has been the main driving force in retaining farmers under crop insurance [3]. In an effort to safeguard farmers against such uncertainties, the Indian government launched the Pradhan Mantri Fasal Bima Yojana (PMFBY) in 2016 - a comprehensive crop insurance scheme aimed at providing financial support and risk mitigation measures to farmers. The agriculture department (GOI) should conduct an awareness programme in collaboration with Management Educational Institutes [4] The state of Haryana, renowned for its agricultural prowess, grapples with its share of challenges, such as unpredictable weather patterns, pest infestations, and market price fluctuations, which can adversely affect farming communities. In this context, it becomes imperative to examine the extent of awareness and perceptions of PMFBY among both insured and non-insured farmers in Haryana [5] explored Tumkur district, Karnataka, India, emphasizing factors like age, education, landholding, and extension participation that influenced farmers' grasp of PMFBY. The scheme has proven effective in assisting farmers during periods of crop loss or damage, ensuring their economic stability and safeguarding their livelihoods [6].

This research paper endeavours to shed light on the awareness levels and perceptions of PMFBY as a risk management tool in Haryana's agricultural sector. Crop insurance, through its ability to reduce risks and uncertainties associated with farming, plays a pivotal role in bolstering the financial stability of farmers and positively contributing to their [7] socio-economic well-being. The analysis reveals varying degrees of success across states, with Maharashtra consistently reporting high premiums and claims. Furthermore, the study assesses the claim ratio, indicating the relationship between premiums collected and claims paid. States like Karnataka, Kerala, and Tamil Nadu show promising claim ratios, suggesting the viability of the scheme in those regions [8].

## 2. METHODOLOGY

A total of 600 households from Haryana were recruited to partake in this study, encompassing both insured and non-insured farmers in equal proportion. The data collection process was conducted employing the stratified random sampling technique to ensure a comprehensive representation across diverse segments within the farming community. For primary data acquisition, a semi-structured questionnaire was administered to 300 insured and 300 non-insured farmers. These sampled individuals reflected a spectrum of farm sizes, ranging from marginal to large, and were involved in cultivating various significant crops during one or two agricultural seasons, following data collection, it was subjected to analysis using tabular examination and basic statistical methods like measures of central tendency and percentages. Additionally, the results were visually represented using various graphs and charts.

## 3. RESULTS AND DISCUSSION

The livelihoods and income of agricultural farmers can be significantly impacted by various

risk factors in crop production. The data provided reveals that both insured and non-insured respondents face several key risks. Natural disasters such as droughts, floods, fires, and extreme events can lead to crop losses and financial hardships for both insured (32.67%) and non-insured (33%) farmers. Additionally, crop diseases and pest attacks affect the yield and quality of produce, with 20.33% of insured and 21.67% of non-insured farmers experiencing this risk. Fluctuations in crop prices impact income and profitability, with 9.67% of insured and 11% of non-insured farmers facing this challenge. Moreover, a significant percentage of both insured (24%) and non-insured (44.33%) respondents reported facing multiple risk factors simultaneously.

While insurance coverage is valuable in mitigating some risks, it is crucial to implement other risk management strategies, as highlighted by Uvaneswaran and Mohanapriya [9]. Ghimire et al. [10] found similar insights in Nepal's Kaski and Chitwan districts, revealing farmers' acknowledgment of agricultural insurance's importance in risk management. Trust in insurance companies was crucial, with economic and claims-related factors outweighing demographics. Despite awareness among insured farmers, traditional risk management methods were lacking.

The Table 2 presents the results of a survey aimed at understanding the awareness level of farmers regarding crop insurance. It includes six questions assessing different aspects of crop insurance awareness, with responses from both insured and non-insured farmers. Insured farmers generally have a higher awareness of crop insurance-related information compared to non-insured farmers. The majority of insured farmers are aware of crop insurance information and procedures, indicating a good level of understanding among this group. Non-insured farmers, on the other hand, show lower awareness levels, particularly regarding crop

insurance information, procedures, and other agricultural insurance options. Both insured and non-insured farmers express interest in workshops or orientation programs to improve their understanding of crop insurance. Workshops and orientation programs could serve as effective tools to bridge the knowledge gap and encourage more farmers to secure crop insurance coverage. The similar finding was concluded by Meena et al. [11] studied in Maharashtra that respondents demonstrated moderate knowledge and moderately positive attitudes towards the Pradhan Mantri Fasal Bima Yojana (PMFBY).

The table provides valuable insights into the awareness and enrollment of farmers in various agricultural insurance schemes. Among the surveyed farmers, Livestock Insurance exhibits relatively higher awareness, with 35.33% of insured farmers being aware of it, while 19% of non-insured farmers are not aware. Conversely, Seed Insurance has lower awareness, with only 11.33% of insured farmers being aware, and 14.66% of non-insured farmers. Interestingly, 15.67% of farmers are unaware of their participation or awareness in any specific scheme, while a significant 43.67% are neither enrolled nor aware of any listed schemes.

The data suggests that Livestock Insurance enjoys the highest percentage of awareness, indicating its popularity among insured farmers compared to other insurance schemes. Kandel's [12] study in Nepal's Nawalparasi District shed light on livestock insurance, with insured farmers acknowledging positive policy aspects but expressing concerns about claim procedures and processing times. The present study underscores the need to improve awareness and encourage more farmers to enroll in agricultural insurance schemes to enhance risk management and financial protection within the agricultural sector. Similar findings were also observed by Mahajan and Bobade (2012).

**Table 1. Risk factor faced in Agriculture by farmers**

Sr. no.	Indicators	Insured respondent	Percent	Non-insured Respondent	Percent
1	Drought, flood, fire and other disaster	98	32.67	99	33
2	Crop disease and pest attack	61	20.33	65	21.67
3	Variation in rainfall	45	15.00	47	15.67
4	Decline in crop prices	29	09.67	33	11
5	Financial difficulties	13	04.33	16	5.33
6	More than one option	72	24.00	133	44.33

*Multiple response (Source: Author Compilation)*

**Table 2. Awareness of farmers about crop insurance**

Sr. No.	Awareness	Insured respondents		Non-insured Respondent	
		Yes	No	Yes	No
1	Do you know the information about crop insurance?	98	2	48	52
2	Do you know the procedure of taking crop insurance?	79	21	24	76
3	Do you know the information about other agricultural insurance?	71	29	18	82
4	Can workshop/orientation program arranged to provide crop insurance information?	57	43	18	82
5	Need for arrangement of workshop/orientation program?	93	7	74	26
6.	Do you know information about crop secured under PMFBY?	79	21	24	76

*Source: Author compilation*

**Table 3. Farmer’s Awareness about other Agricultural Insurance Scheme**

Sr. No	Agricultural insurance	Insured Farmers		Non-Insured Farmers	
		Frequency	Percentage	Frequency	Percentage
1	Farm Income Insurance	54	18	33	11
2	Live-Stock Insurance	106	35.33	57	19
3	Weather Based Crop Insurance	48	16	42	14
4	Farmer Insurance	79	26.33	36	12
5	Seed Insurance	34	11.33	44	14.67
6	Can't say	47	15.67	131	43.67

*Multiple response (Source: Author compilation)*

**Table 4. Awareness level and source of information about scheme on non-Insured farmers**

Category	Non-insured (frequency level)	Per cent
Aware	123	40.83
Not aware	177	59.17
<b>Total</b>	<b>300</b>	<b>100</b>
<b>Source of information</b>	*	<b>Per cent</b>
Banks/financial institution	36	28.90
Fellow farmers	41	33.55
Newspaper	10	8.30
TV and Radio	16	13.28
Krishi-mela and Agriculture department	13	10.30
Others	7	5.65

*(Source: Author compilation)*

**Table 5. Insured farmer’s perception on crop insurance**

Perception	Response	frequency	Percentage (%)
Motivation	Bank Compulsion	179	59.67
	Financial security	94	31.33
	Both	27	9.00
satisfaction	Satisfactory	175	58.33
	Not satisfactory	125	41.67
Premium rate	Reasonable	110	36.67
	High	190	63.33
	Low	00	00
	Can't say	00	00
Willing to pay upto 2 %	2-3%	247	82.33
	Upto 5 %	53	17.66

*(Source: Author Compilation)*

The data provided indicates that a considerable number of non-insured farmers are not aware of a specific scheme. Around 60% of the non-insured respondents lack information about the scheme, highlighting the need for better awareness campaigns to educate them about its benefits. Regarding the sources of information, fellow farmers and banks/financial institutions play a significant role in disseminating information about the scheme among non-insured farmers. To improve awareness among non-insured farmers, targeted efforts should focus on leveraging the influence of fellow farmers and the reach of banks/financial institutions. Moreover, exploring digital platforms

and community-based outreach can be effective in reaching a wider audience and enhancing awareness about the scheme among non-insured farmers, Similar source of information were drawn by Kandel [12].

The results from the table provide valuable insights into the perceptions of insured farmers regarding crop insurance. The data shows that a significant proportion (60%) of insured farmers were compelled to obtain crop insurance due to bank requirements. This highlights the role of financial institutions in promoting insurance coverage among farmers. About one-third (33%) of insured farmers opted for crop insurance for

financial security. This indicates a positive perception of insurance as a risk management tool to safeguard against potential losses. Approximately 57% of insured farmers expressed satisfaction with their crop insurance coverage. However, the data also reveals that 43% of insured farmers are not satisfied with their crop insurance coverage. This calls for further investigation into the reasons behind this dissatisfaction and the areas that need improvement to enhance customer satisfaction. The data highlights that a significant majority (63%) of insured farmers consider the premium rates for crop insurance to be high. This perception of high premiums might act as a barrier to greater participation and requires attention from insurance providers and policymakers. It is noteworthy that none of the insured farmers mentioned the premium rates to be low or uncertain. This indicates that there is a clear perception of high premium costs among the farmers surveyed. The findings show that a substantial majority (83%) of insured farmers are willing to pay up to 5% of their crop value or income for crop insurance. This willingness demonstrates the recognition of the importance of risk management and financial protection among farmers. Similar perceptions on crop insurance were acknowledged by Rao [4], Suresh and Sreedaya [2], and Kumari et al. [13].

The table provides valuable insights into the perceptions of non-insured farmers regarding

crop insurance. A significant proportion (47.33%) of non-insured farmers lack awareness about crop insurance. This indicates the need for targeted awareness campaigns and educational initiatives to inform farmers about the benefits and importance of crop insurance. The majority (83.00%) of non-insured farmers have never availed crop insurance. This suggests a substantial gap in insurance coverage and indicates the untapped potential for increasing insurance enrolment among farmers. Some farmers face practical challenges, such as a lack of premium paying capacity (01.33%), inadequate publicity (3.00%), complex documentation (06.00%), difficulties in opening a bank account (3.33%). Addressing these issues can make the insurance process more accessible and user-friendly. The majority of non-insured farmers prefer a rural agent, either at their doorstep (15.67%) or at the village level (38.67%), for availing insurance. This underscores the importance of localized and accessible insurance services for rural farmers. A small percentage consider commercial banks (3.33%) and post offices (07.00%) as preferred service providers, indicating a potential role for traditional financial institutions in reaching out to farmers. A substantial portion (29.67%) of non-insured farmers are open to having more than one option for insurance service providers, suggesting a preference for a diverse and competitive insurance market.

**Table 6. Non-insured farmer’s perception on crop insurance**

	<b>Response</b>	<b>Frequency</b>	<b>Percent</b>
Awareness of Insurance	Don't know	142	47.33
	Banks	87	29.00
	Fellow farmers	71	23.67
Having insurance any time	Yes	249	83.00
	No	51	17.00
Reason for not availing the insurance	No awareness	67	22.33
	No need	8	02.67
	Lack of premium paying capacity	4	01.33
	Not aware of the facility available	17	05.67
	Inadequate publicity	9	03.00
	Complex documentation	18	06.00
	Difficulties in opening bank account	10	03.33
	Non-Institutional source of loan	23	07.67
	More than one option	144	48.00
	Preference of Service provider for availing insurance	Rural agent at door step	47
Rural agent at village level		116	38.67
Commercial bank		10	03.33
Self Help group's		17	5.66
Post office		21	07.00
More than one opinion		89	29.67

(Source: Author Compilation)

#### 4. CONCLUSION

PMFBY is very important scheme in agriculture to avoid financial risk. The data reveals that drought, flood, fire, and crop disease/pest attacks are the most common risks faced by farmers. However, a significant portion of farmers lack insurance coverage for these events. This finding is noteworthy as these risks can cause severe financial losses to farmers if not adequately managed. Insurance coverage for such risks can provide much-needed financial security and help farmers recover from potential losses, ultimately contributing to the stability of the agricultural sector. Having insurance coverage for financial difficulties can act as a safety net for farmers, helping them navigate challenging times and maintain their livelihoods. Insured farmers generally show a higher awareness of crop insurance-related information compared to non-insured farmers. This difference in awareness levels indicates that there is a knowledge gap between the two groups, with non-insured farmers being less informed about the benefits and procedures of crop insurance. To address this knowledge gap, the study suggests the need for targeted awareness campaigns and educational initiatives aimed at non-insured farmers. Workshops and orientation programs are highlighted as effective tools to bridge this gap and encourage more farmers to avail crop insurance coverage. Educating farmers about the importance of crop insurance and its role in risk management can lead to higher participation rates and increased financial protection for the farming community. The perception of high premium rates among insured farmers emphasizes the importance of evaluating the cost structures of crop insurance programs. By making insurance more affordable and accessible, insurers can attract more participants and expand the coverage to a larger section of the farming community. Collaborative efforts between government agencies, insurance providers, and grassroots organizations can play a significant role in increasing insurance enrolment among non-insured farmers.

#### COMPETING INTERESTS

Authors have declared that no competing interests exist.

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