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Impact on farmer's satisfaction towards Pradhan Mantri Fasal Bima Yojna (PMFBY) in Sitamarhi district of Bihar

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Abstract

The Pradhan Mantri Fasal Bima Yojna (PMFBY) is a flagship crop insurance scheme launched in India to mitigate agricultural risks and enhance farmer welfare. This research paper assesses the impact of PMFBY on farmer satisfaction in the Sitamarhi district of Bihar, a region vulnerable to frequent floods and erratic weather conditions. Using primary data collected from 120 farmers across various landholding categories, this study analyzes socio-economic profiles, awareness levels, perceived risk reduction, claims satisfaction, and challenges in scheme implementation. The findings reveal moderate satisfaction overall, with larger farmers showing higher awareness and satisfaction compared to marginal and small farmers. Major constraints identified include lack of awareness, delayed claim settlements, and complex documentation. The paper suggests policy recommendations focusing on awareness campaigns, simplification of processes, and timely compensation to enhance farmer satisfaction and scheme effectiveness.

Keywords: PMFBY, crop insurance, farmer satisfaction, agricultural risk

1. Introduction

A significant section of the Indian population is still employed in agriculture, which continues to be the backbone of the country's economy. However, tiny and marginal holdings, a strong reliance on monsoon rains, and susceptibility to weather hazards including floods, droughts, hailstorms, and insect assaults are the main characteristics of Indian agriculture. Effective risk mitigation strategies are therefore required since these risks frequently result in crop failures, unstable revenue, and farmer debt. The Pradhan Mantri Fasal Bima Yojna (PMFBY), which was launched by the Indian government in 2016, offers farmers full crop insurance coverage at discounted premium prices. Through the use of technology, premium standardisation, and improved claim settlement transparency, the program sought to address the shortcomings of previous initiatives. PMFBY specifically aims to lessen agricultural hardship, encourage farmers to invest in agriculture, and stabilise farm earnings. Despite the scheme's potential, farmer satisfaction and confidence have been affected in many states by implementation issues such as administrative bottlenecks, delayed claim settlements, lack of awareness, and disparities in yield evaluations. Since the Sitamarhi district of Bihar is especially susceptible to flooding and unpredictable weather, it is crucial to assess PMFBY's practical efficacy and influence on farmer satisfaction there. This study aims to determine the socioeconomic characteristics of Sitamarhi farmers, analyse knowledge and satisfaction levels, assess the perceived influence of PMFBY on agricultural risk reduction, pinpoint obstacles encountered, and recommend

policy changes to enhance scheme results.

2. Research methodology

Study Area: Sitamarhi district (Bihar), specifically Bairia block, representing high agricultural risk exposure.

Sampling: 120 farmers across five villages (Harpur, Dumra, Bhopatpur, Majhaua, Jadunathpur), stratified by landholding:

- Marginal (≤ 1 ha): 30%
- Small (1–2 ha): 25%
- Semi-medium (2–4 ha): 20%
- Medium (4–10 ha): 20%
- Large (> 10 ha): 25%

Data Collection

- *Primary:* Structured questionnaires and focus group discussions.
- *Secondary:* District agriculture office records, government reports.

Analytical Tools:

- Descriptive statistics (mean, standard deviation).
- Likert scales for satisfaction assessment.
- Chi-square tests for categorical data analysis.

3. Results and Discussion

3.1 Socio-Economic Profile

Age Distribution: 49% of farmers were 30–50 years, indicating a primarily middle-aged workforce.

Literacy Levels: 33% completed high school, but 5% remained illiterate—critical for awareness gaps.

Income: 44% earned ₹100,001–150,000/year, reflecting moderate economic resilience.

Occupation: 38% practiced horticulture, followed by agriculture (26%).

Family Dynamics: 45% had families of 6–8 members, with

63% engaging 2–4 members in farming.

3.2 PMFBY's Impact on Risk Reduction

78.3% of farmers reported moderate-to-significant risk reduction, though marginal farmers perceived higher residual risk.

Table 1: Perceived Reduction in Agricultural Risk due to PMFBY

Farmer Category	Significant Reduction	Moderate Reduction	No Change	Increased Risk	Total
Marginal (≤ 1 ha)	40.0%	33.3%	13.3%	13.3%	30
Small (1–2 ha)	45.7%	34.3%	14.3%	5.7%	35
Semi-Medium (2–4 ha)	50.0%	30.0%	10.0%	10.0%	20
Medium (4–10 ha)	53.3%	33.3%	13.3%	0.0%	15
Large (> 10 ha)	55.6%	33.3%	11.1%	0.0%	10
Total	42.5%	35.8%	15.0%	6.7%	120

3.3 Awareness and Satisfaction

Awareness correlated with landholding: 80% of large farmers were "fully aware," versus 40% of marginal

farmers. Satisfaction was lowest among marginal/small farmers due to claim delays.

Table 2: Farmer Satisfaction with PMFBY Claims Process

Farmer Category	Very Satisfied	Satisfied	Neutral	Dissatisfied	Total
Marginal (≤ 1 ha)	20.0%	40.0%	26.7%	13.3%	30
Small (1–2 ha)	22.9%	45.7%	17.1%	14.3%	35
Semi-Medium (2–4 ha)	30.0%	45.0%	15.0%	10.0%	20
Medium (4–10 ha)	33.3%	46.7%	13.3%	6.7%	15
Large (> 10 ha)	30.0%	60.0%	10.0%	0.0%	10
Total	30.0%	42.5%	15.0%	12.5%	120

3.4 Constraints in Accessing Benefits

Lack of awareness (37.5%) and claim delays (27.5%) were

primary barriers. Marginal farmers faced acute documentation challenges.

Table 3: Key Constraints in Accessing PMFBY Benefits

Constraint	Marginal	Small	Semi-Medium	Medium	Large	Total
Lack of Awareness	40.0%	45.7%	30.0%	40.0%	50.0%	37.5%
Delays in Claim Processing	26.7%	20.0%	25.0%	33.3%	40.0%	27.5%
Inadequate Coverage	16.7%	20.0%	15.0%	13.3%	10.0%	15.0%
Complex Documentation	13.3%	5.7%	15.0%	20.0%	30.0%	12.5%
Poor Communication	3.3%	8.6%	15.0%	6.7%	10.0%	7.5%

3.5 Farmer suggestions

50% demanded awareness campaigns, while 26.7% emphasized faster claim settlements.

Table 4: Farmers' Suggestions for Improving PMFBY

Suggestion	Marginal	Small	Semi-Medium	Medium	Large	Total
Awareness Campaigns	60.0%	48.6%	50.0%	46.7%	80.0%	50.0%
Faster Claim Settlement	23.3%	25.7%	25.0%	46.7%	40.0%	26.7%
Simplified Documentation	10.0%	14.3%	20.0%	13.3%	10.0%	12.5%
Improved Communication	6.7%	11.4%	5.0%	6.7%	0.0%	6.7%

4. Conclusion

The Pradhan Mantri Fasal Bima Yojna in Sitamarhi district shows promise in mitigating agricultural risks and providing a safety net for farmers. This study reveals that while overall awareness and satisfaction are moderate to high among medium and large farmers, marginal and small farmers face notable barriers related to information access, procedural hurdles, and delayed compensations. Addressing these issues through targeted awareness programs, administrative streamlining, technological integration, and improved grievance redressal can bolster participation and trust in

PMFBY. Such improvements are vital for ensuring that the scheme delivers intended benefits equitably across diverse farmer segments, contributing significantly to sustainable agricultural livelihoods and rural resilience in Bihar and similar contexts.

4.1 Constraints and farmer suggestions

The major challenges faced by farmers include:

- Lack of Awareness (37.5%)
- Delays in Claim Processing (27.5%)
- Complex Documentation (12.5%)

- Inadequate Coverage and Mismanagement by Providers

Farmers suggest increased awareness campaigns (50%), faster claim settlements (26.7%), and simplified documentation (12.5%) as priority improvements.

4.2 Recommendations

1. **Targeted Awareness:** Mobile-based campaigns in local languages (Bhojpuri/Maithili) for marginal farmers.
2. **Digital Integration:** Expedite claims via AI-driven damage assessment apps.
3. **Documentation Simplification:** Single-window kiosks at block levels.
4. **Gender Inclusion:** Joint enrollment for female farmers lacking land titles.
5. **Monitoring:** Real-time grievance portals with SMS updates.

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