



Crop Insurance Awareness, Enrolment, and Claim Settlement Experiences Among Farmers: A Comparative Study of Komaram Bheem Asifabad and Peddapalli Districts, Telangana

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Abstract

This study examines that there is limited participation in crop insurance despite farmer awareness of the benefits of crop insurance. In each district, six surveys were conducted, representing farmers from different mandals and villages, to ensure a balanced survey. The chapters of the study yielded descriptive statistics and previously reported chi-square and mean-comparison results. The PMFBY was recognised and understood by only 41.2% of the total respondents while 17.5% to 27.5% recognised selected operational features. Only 35.0% reported that they had been enrolled in the last five years. Differences in enrolment at district-level were found to be nonsignificant (32.5% versus 37.5%; $p = .499$) whereas village-level differences were significant ($p = .024$). Out of the 87 respondents who said they submitted claims, 73.6% said they were rejected but claimant status is not limited to currently enrolled respondents and insurer records not publicly available. Understanding and satisfaction with claims process were varied. Findings suggest that recognition of insurance does not lead automatically to usable knowledge or sustained enrolment or trusted claims processes. Priorities should include village-based advisory services, clearer claim communication, and independent administrative validation. The descriptive and cross-sectional structure does not allow for causal claims.

Keywords: crop insurance, PMFBY, farmer awareness, insurance enrolment, claim settlement, Telangana, agricultural risk

I. Introduction

Crop production leads to multiple risks for farm households which include unreliable rainfall, drought, excess rain, pest, disease and price shock. Income disruption and later seasonal investment disruption might occur due to these risks. Smallholders with no liquid buffers are especially vulnerable to these impacts. Through agricultural insurance, a portion of this exposure is transferred to an insurer or a pooled mechanism, but that will depend not only on the availability of a policy but also on farmers' understanding of eligibility, what risk is covered, when to enrol, how to notify losses, and the rules for payout (Carter et al., 2017; Cole and Xiong, 2017).

The country had a series of agriculture insurance schemes and lastly, PMFBY was approved in 2016. The operational guidelines of PMFBY 2023 outline eligibility of farmers covered perils data verification estimation of yield of crops estimation processing of claims and role of more institutions. Having a scheme doesn't mean it will be taken up or compensated effectively. Studies conducted in rural India have shown that the demand for insurance is positively correlated with liquidity, price, vendor familiarity, perceived basis risk and trust. (Cole et al., 2013, Giné et al., 2008). Thus, the immediate policy question is whether institutional outreach leads to actionable literacy and credible protection.

Telangana constitutes a valuable setting because farming communities differ in irrigation access, cropping pattern, infrastructure and exposure to climate variability. The two districts taken up for study are two relatively contrasting agrarian contexts. While Komaram Bheem Asifabad is a relatively rain-fed district, Peddapalli is a relatively irrigated and commercially connected one. This paper is based on the primary survey reported in Chapters 5 and 6 of the main study rather than administrative insurance-coverage data. The recognition, operational understanding, reported participation, and claims pathway at district, mandal, and village levels will be examined jointly.

According to the question, we have to find out how large is the gap between the general awareness and practical knowledge? Does enrolment differ by location? What do farmers indicate regarding acceptance, procedures, and satisfaction with claims? This paper describes various associations and respondents' experiences; it does not estimate the insurance's causal impact on yields, income, debt, or resilience.

II. Literature Review and Analytical Framework

Insurance as agricultural risk management

When farms get located close to one another, it can cause damage to many farms. Utility of the Index Products is to replace externally observed rainfall or area yield with farm-specific loss assessment and reduce moral hazard and verification cost. Nonetheless, the basis risk that emerges the mismatch between the payment a farmer receives and their own individual loss can limit the protection they experience (Barnett & Mahul, 2007; Carter et al., 2017).

Theoretical and empirical studies warn us that nominal coverage is not the same as welfare improvement: it depends on product design, timing, and trust whether an insurance contract stabilises livelihoods (Cole & Xiong, 2017; Miranda & Farrin, 2012).

There is proof which also indicates that where uninsured risk constrains, insurance can change agricultural investments. Cai (2016) note that, after insurance provision in China, household production and borrowing shift. Marr et al. (2016) provide a broader synthesis discussing the complementarities between insurance and credit. These results make a case for an insurance policy, but they cannot be transferred mechanically to the current sample, in which the relevant variables are perceptions rather than verified changes in investment or livelihood.

Information, trust, and participation

Information gaps occur at various stages. It is one thing to know insurance exists. But it is another to know the premium, exclusions, notification window, evidence, and status. A study by Cole et al. (2013) shows that lack of trust and liquidity affect penetration of financial products in rural India. According to Giné et al. (2008) rainfall insurance demand is influenced by social network activity and seller familiarity. According to findings, recent experience with insurance payouts both personal and social though may shape demand later on (Cole et al., 2014). As a result, official awareness campaigns may create scheme recognition without making participation feasible.

Studies suggest that a better understanding of index–loss mismatch is likely to increase willingness to insure but probably further complicates communication about what a product covers, and the value of candid communication about what a product covers (see Carter et al. 2017). The practical meaning of this research is that it is not that farmers misperceive risk per se, but rather than the joint conditioning of policy literacy, institutional credibility and ease of service design matters if they buy and continue insurance.

Claim experience and the implementation gap

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III. Method

Design, sample, and measures

A cross-sectional questionnaire of 240 farmers from two districts of Telangana. The selection included the Thiriyani and Asifabad mandals in Komaram Bheem Asifabad and the Sultanabad and Ramagundam mandals in Peddapalli. Each mandal provided 30 observations from two villages and thus covered the area. The chapters provide village-level proportions, but they do not contain enough information to independently reconstruct the probability weights or the verification of every step in selection of respondents. Statistical inference, therefore, should be understood more as exploratory for the sampled locations than population-representative for Telangana. The study exhibits the age, educational status, size of the farm, major crop, irrigation, recent crop loss, general insurance recognition, awareness of PMFBY, knowledge about premium and risk, and knowledge about the enrolment and claiming process. A total of six binary indicators of awareness were summed to create a descriptive count ranging from zero to six, not taken as a validated psychometric scale. The study documents enrollment over the last five years. It looks into whether the enrollees filed a claim, used which channel(s) to do so, and whether

that led to an acceptance of the claim. Claimants were assessed for their timeliness, perceived adequacy, procedural ease, and satisfaction.

Analytical approach and safeguards

The sample is described using frequencies and percentages. Geographical comparisons employ the chi-square statistics and tests already discussed in the thesis chapters, using the traditional $\alpha = .05$ criterion. These data were taken from respondent-level files, which were not made available for this paper. Moreover, chapter 5 reports a Welch comparison of knowledge-count means. The analysis maintained conditional denominators of $N = 240$ for general awareness, enrolment and whether a claim was filed; $n = 84$ for enrollee-only follow-up items; $n = 87$ for those who reported a claim.

Rounding of percentage is as per source tables. Many of the claim cross tabulations show small expected cell counts, which should be heeded.

There is a need for transparent disclosure of a material questionnaire inconsistency in that 87 people reported filing a claim whilst only 84 reported enrolment over the preceding five years. Although the reason is not established in the source documents, the questions may concern different time horizons, products or respondent interpretations. The ratio of claims must not therefore be presented as a proportion of the enrolled group, and claimants must not be assumed to be a verified insured cohort. Before being labelled as administrative rejection rates, reported rejections should also be checked against insurer files.

IV. Results

Respondent profile and awareness

Each district had a sample of 120 farmers. Almost half of respondents were in the 41-50 years age group (47.1%). Around 80.4% of small and semi-medium farmers were there whose 79.6% were operating less than five acres and 85.4% having agriculture as their main occupation. Paddy was the major crop (47.9%) while rain-fed cultivation was the biggest irrigation category (38.8%). A superior (76 words):

87.9% reported crop loss over the previous five years, thus suggesting that this insurance question was well-targeted at a constituency with considerable recent exposure to crop damage.

Table 1 shows a clear awareness-knowledge gap. The general crop-insurance awareness was at 81.7%. However, less than half (41.2%) of the farmer's community were aware of PMFBY. The knowledge of premium amount (17.5%), covered risks (24.6%), enrolment procedure (27.5%), and claim procedure (20.8%) was substantially lower. The average response to the six-item knowledge count was 2.13 (SD = 1.01), with 67.9% in the low-knowledge category of the source chapter. Agriculture officers accounted for the maximum reported information channel (40.0%) followed by banks (24.2%), farmer peers (19.2%), media (10.0%), and insurance firms (6.7%).

Table-1
Awareness and Operational Knowledge by District

Indicator	Overall n (%)	Asifabad %	Peddapalli %
Any crop-insurance awareness	196 (81.7)	77.5	85.8
PMFBY awareness	99 (41.2)	34.2	48.3
Know premium amount	42 (17.5)	20.0	15.0
Know covered risks	59 (24.6)	20.0	29.2
Know enrolment procedure	66 (27.5)	29.2	25.8
Know claim procedure	50 (20.8)	19.2	22.5

Source: primary data

There was a significant difference in PMFBY awareness across districts, Peddapalli having a higher proportion ($\chi^2(1) = 4.401$, $p = .036$, Cramér's $V = .144$). There was no significant difference in general insurance awareness across districts, $\chi^2(1) = 2.254$, $p = .133$. The average knowledge score was 2.00 in Komaram Bheem Asifabad and 2.27 in Peddapalli; source reports Welch's $t(238) = -2.059$, $p = .041$. Despite having been statistically significant, both contrasts were modest. There were no significant differences of the seven operational-knowledge items that were reported by the three districts.

Insurance Registration and Regional Variation

Out of the total respondents 84 (35.0%) farmers replied that they have got crop-insurance enrollment at any time in the past five years. On the other hand, 156 (65.0%) did not. Peddapalli's rate (37.5%) was five percentage points more than Komaram Bheem Asifabad's (32.5%). However, their chi-square association was nonsignificant, $\chi^2(1) = 0.458$, $p = .499$. The district context in this case prevents a claim of prediction of

participation within the sample. There was no statistical significance of mandal differences, $\chi^2(3) = 5.128$, $p = .163$.

Table-2
Five-Year Enrolment by Geographical Unit

Geography	Enrolled	Not enrolled	Enrolment %
Komaram Bheem Asifabad	39	81	32.5
Peddapalli	45	75	37.5
Thiryani mandal	19	41	31.7
Asifabad mandal	20	40	33.3
Sultanabad mandal	17	43	28.3
Ramagundam mandal	28	32	46.7
Overall	84	156	35.0

Source: primary data

Enrolment levels in Thiryani and Dubbapet were only 23.3%, and in Potial, it was 63.3%. Data from the eight-village test was statistically significant at the $p < .05$ level. The differences in outreach or access are locationally consistent, although the design does not identify the causal reason for the village differences of the 84 enrollee, only 16.7% reported taking insurance every season and 40.5% did so from time to time. Thus, this five-year ever-enrolled indicator does not measure continuity of protection.

Experiences in claim filing and settlement

Out of all the farmers surveyed, 87 respondents (36.2%) claimed that they have registered a claim. Out of this self-reported claimant group, full acceptance was reported by 12 (13.8%) partial acceptance by 11 (12.6%) and rejection by 64 (73.6%). The scheme's audited claim-rejection rate cannot be inferred from these figures as respondents' insurance status, claim time window, application eligibility and insurer records were not mutually verified. However, the high reported rate of rejection constitutes an important indicator of farmers' awareness or experience of the claims pathway.

Table-3
Reported Claims Outcomes and Service Assessments

Indicator	Frequency / percentage
Claim fully accepted	12 / 13.8%
Claim partially accepted	11 / 12.6%
Claim rejected	64 / 73.6%
Timely compensation: agree/strongly agree	33 / 37.9%
Adequate compensation: agree/strongly agree	30 / 34.5%
Claim procedure easy: agree/strongly agree	30 / 34.5%
Claim procedure not easy: disagree/strongly disagree	39 / 44.8%
Satisfied/very satisfied with overall settlement	35 / 40.2%
Dissatisfied/very dissatisfied	31 / 35.6%

Source: Primary data

The evaluation of claims was a mixed one. A total of 37.9% agreed or strongly agreed that compensation was timely, while 44.8% opted for the neutral category; the latter may have also been elicited by the absence of compensation. There were more who disagreed (44.8%) than agreed (34.5%) on procedural clarity. A total of 40.2% reported they were satisfied or very satisfied with the settlement. 35.6%, on the other hand, reported that they were dissatisfied or very dissatisfied. The simultaneous reporting of a high rejection rate with varied satisfaction highlights the need to explore the actual meanings respondents ascribe to claim eligibility, rejection and satisfaction items.

V. Discussion

The findings have three distinctions. Initially, general awareness must not be a substitute for operational insurance literacy. Over four-fifths of respondents had heard of the idea, but less than three in ten could name most practical policy elements. This is consistent with findings that people's lack of understanding of a product, along with a product's complexity, limits demand for insurance even when available (Cole, 2013, Giné et al., 2008). The difference between self-rated awareness and binary indicators of knowledge implies that procedure-specific explanations are required, not just awareness campaigns marked by exposure or name.

In the second case, exposure to crop loss was high but participation was low - but we cannot derive a causal interpretation from these two marginal proportions. The share that reported a recent crop loss was 87.9%, compared to 35.0% for the total ever enrolled. There are numerous justifiable reasons why farmers would choose not to enrol, these include; Price, coverage mismatch, past experience, perceived value and administrative frictions

(Carter et al. 2017; Cole and Xiong 2017). There aren't significant differences in enrolment between districts and the presence of heterogeneity at the village level suggests that delivery at the level of villages deserves attention. Despite conducting multiple geographical comparisons, the value of $p = .024$ reflects an exploratory effort rather than evidence of a consistent underlying village effect.

The third claims findings suggest that there may be a significant gap between what is promised by administrators and what is actually experienced. However, measurement caution is of unusually high importance in this finding. Most claimants said that they were rejected but there are more claimants in the sample than recent enrollees. This prevents a transition estimate that is consistent from enrollment to verification payment. Pretty much all the evidence points in the same direction, namely that a significant number of respondents report having claims experiences that were difficult or even unsuccessful. In order to identify whether the problems are due to exclusion, invalid submission, non-notified loss, area-based triggers, or genuine administrative failure, it is necessary to link reports to policy IDs, crop and season, loss report, reason code, and settlement transactions.

These results also contribute to the literature on trust and insurance demand. Farmers may understand the benefits of risk transfer but find the institutional process unpredictable. A self-reported claim rejection influences expectations of future protection even though it is a misunderstanding and not an actual decision of the insurer. Cole et al. (2014) demonstrate that past experiences and social cues can have a persistent effect on insurance demand. As much as initial promotion, procedural consistency is of great importance in the communication network of local advisory officers, banks, cooperatives and insurer representatives.

Policy Implications

Extension programmes must explain the entire insurance journey through short crop-specific, season-specific modules outlining the following areas: eligibility; premium; notified risks; exclusions; enrolment deadlines; evidence of cultivation; loss reporting; claim verification; tracking; and grievance escalation. Assistance with composing locally relevant documents could be more useful than generic slogans. Banks and agriculture officers should be trained to deliver a single message, documentation of the message delivered. In return the insurance companies ought to provide easy direct access, practically not dependant on intermediaries.

The number of eligible cultivators, applicants, valid enrolments and active policies; claims submitted, claims accepted, rejected cases and payments made should be specified at the village level. It would allow for more accurate diagnoses than merely satisfaction percentages if anonymised rejection reasons and claim timelines were shared. The digital ecosystem of PMFBY can help in tracking and grievance redressal however, where literacy or connectivity is poor, human assistance is required (Ministry of Agriculture & Farmers Welfare, 2023). Pilot interventions in the future may test whether education about the procedure and assistance with claim-status improve knowledge, timely enrolment, and validated outcomes.

Limitations and Future Research

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VI. Conclusion

The surveyed farmers reported strong awareness of crop insurance but weak knowledge of its rules and low take-up over five years. The enrolment differences were statistically insignificant at the district level but were significant at the village level. Insurers face several hurdles when assessing administrative penalties related to communal occupations. First, several legal and practical hurdles arise from the nexus of law and insurance economics. Then there is the use of civil trespass, though in a few select instances, and often, the invocation of administrative penalty becomes a complicated issue. The practical implication is shift from publicity-based outreach to measurable insurance literacy, accountable village level assistance, transparent claim communication, and verified service outcomes. We need better integrated longitudinal data to assess whether these improvements result in sustained protection and greater resilience of agriculture.

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