

Effect of Crop Insurance and Employment Support on Agricultural Household Well-Being: Evidence from India

**Harshit Bisen^{1*},
Shubham Patle²,
Priya Kumari³ and
Amul Dharpure⁴**

¹Department of Agriculture
Economics & Farm Management,
College of Agriculture, Jawaharlal
Nehru Krishi Vishwa Vidyalaya,
Jabalpur (MP) 482004

^{2,3,4}Department of Food Business
Management & Entrepreneurship
Development, National Institute of
Food Technology
Entrepreneurship and
Management, Sonapat, Haryana-
131028

Corresponding author's Email:
harshitbisen198@gmail.com



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*Corresponding Author

Harshit Bisen*

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INTRODUCTION

Agriculture is the backbone of India's economy and the main source of livelihood for nearly half of its population, yet the sector remains highly vulnerable to climate variability, market fluctuations, and declining profitability. A majority of Indian farmers are small and marginal, owning less than two hectares of land and depending largely on monsoon rainfall, which makes them extremely susceptible to income shocks caused by droughts, floods, pest attacks, and price volatility. Such uncertainties often force households into cycles of debt, distress sales, migration, and long-term poverty, thereby undermining their overall well-being. Recognizing this vulnerability, the Government of India has introduced a series of social protection measures aimed at stabilizing farm income and strengthening resilience. Among these, the Pradhan Mantri Fasal Bima Yojana (PMFBY), a comprehensive crop insurance program launched in 2016, and the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), implemented since 2005, play central roles. Crop insurance helps safeguard farmers against yield losses due to climatic and biological risks, while MGNREGA guarantees 100 days of paid rural employment per year, providing a reliable source of income during agricultural lean seasons. Together, these programs form a dual safety net that not only cushions farm households against production and income shocks but also contributes to consumption stability, food security, and social dignity. By reducing vulnerability and promoting livelihood security, crop insurance and employment support collectively enhance the economic, social, and psychological well-being of rural families, making them critical pillars for inclusive and sustainable agricultural development in India.

Crop Insurance in India

India's crop insurance journey began with the Comprehensive Crop Insurance Scheme (1985), followed by the National Agricultural Insurance Scheme (NAIS) in 1999, and later, the Modified NAIS (MNAIS). In 2016, these were merged into the Pradhan Mantri Fasal Bima Yojana (PMFBY), which today covers millions of farmers across states.

Objectives of Crop Insurance

- To provide financial support to farmers in the event of crop loss.
- To stabilize farm income and promote confidence in farming as a profession.
- To encourage investment in agriculture through reduced risk aversion.
- To protect against climate shocks and strengthen food security.

Implementation and Benefits

Under PMFBY, farmers pay a nominal premium (1.5% for food grains, 2% for oilseeds, and 5% for horticultural crops), while the remaining cost is borne by the central and state governments. Compensation is provided when actual yields fall below the insured threshold.

Positive outcomes include:

- Increased adoption of improved seeds and fertilizers.
- Reduction in informal borrowing.
- Improved creditworthiness of farmers.
- Restoration of confidence to reinvest after a loss year.

However, studies show that delays in claim settlement, limited awareness, and basis risk—when reported yield differs from actual field yield—remain major barriers.

Employment support through MGNREGA

The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), launched in 2005, guarantees at least 100 days of paid employment per rural household per year. It is the world's largest public works program, aimed at providing wage income and creating durable rural assets.

Key Features

- Self-targeted—any rural household can demand work.
- Equal wages for men and women.
- Focus on water conservation, land development, and afforestation.
- Direct transfer of wages to bank accounts to reduce corruption.

Impact on Rural Households

MGNREGA plays a major role in income stabilization and consumption smoothing, especially during agricultural lean seasons or droughts. Empirical studies show that it has:

- Increased rural wage rates and reduced distress migration.
- Improved food security and nutrition of poor households.
- Provided a platform for women's empowerment, as nearly half of the workforce are women.
- Created productive assets that enhance farm productivity, such as check dams, contour bunds, and soil conservation structures.

Social and Psychological Benefits

MGNREGA not only improves economic security but also contributes to dignity and self-reliance. It reduces anxiety during crop failure and gives farmers a sense of control over their livelihood.

Linking Crop Insurance and Employment Support

While both programs function independently, their combined effect on agricultural well-being is greater than the sum of their parts.

Dimension	Crop Insurance	Employment Support (MGNREGA)	Synergistic Impact
Risk Coverage	Protects against yield loss	Provides income during lean or disaster periods	Comprehensive protection against both income and production risk
Liquidity	Compensation may be delayed	Provides immediate wage income	MGNREGA bridges liquidity gap until insurance payout
Investment Behavior	Encourages input use and diversification	Reduces need for distress sales	Promotes long-term investment and asset creation
Social Impact	Builds financial confidence	Strengthens community ties, women's participation	Enhances social resilience and cooperation

Evidence from Indian States

Field evidence from Rajasthan, Odisha, and Maharashtra shows that households accessing both PMFBY and MGNREGA:

- Have 20–25% higher income stability compared to those without either scheme.
- Are less likely to take informal loans after crop failure.
- Report better food consumption patterns during drought years.
- Exhibit higher school attendance among children due to reduced distress.

These programs together contribute to multi-dimensional well-being—not just economic stability, but also improved nutrition, social inclusion, and psychological security.

Challenges in Implementation

Despite their success, several operational barriers persist:

1. Crop Insurance Issues

Delayed Claims: Long processing times discourage participation.

Basis Risk: Weather or yield index may not reflect true losses.

Low Awareness: Many smallholders are unaware of claim procedures.

Exclusion of Tenants: Land ownership requirement excludes sharecroppers.

2. MGNREGA Challenges

Work Demand-Supply Gap: Not all who demand work receive it on time.

Delayed Wage Payments: Payment delays erode trust.

Regional Inequality: Some states perform far better than others.

Asset Quality: Some worksites have limited long-term impact.

3. Coordination Deficit

There is little integration between agriculture insurance databases and employment schemes, leading to inefficient targeting. During disasters, farmers must apply separately for compensation and job work instead of receiving an integrated response.

Policy Recommendations

To maximize household well-being, the following measures are recommended:

1) Timely Payments and Transparency:

Strict deadlines for insurance claim settlement and wage disbursement should be enforced.

2) Inclusion of Tenant and Women Farmers:

Flexible documentation and community verification should allow non-owners to participate.

3) Integrated Digital Platforms:

Linking PMFBY and MGNREGA databases can ensure automatic job offers or cash transfers in disaster-affected regions.

4) **Technology for Monitoring:** Satellite imaging and remote sensing should be used to assess losses faster and more accurately.

5) **Capacity Building:** Training farmers and local officials to understand insurance products, application processes, and grievance systems.

6) **Decentralized Implementation:** Empower Gram Panchayats to coordinate between employment and insurance schemes based on local vulnerability.

7) **Awareness Campaigns:** Use farmer field schools, radio, and digital platforms for information dissemination.

Broader Impact on Rural Well-being

Economic Stability: Households benefit from income diversification—agriculture, insurance, and wage labor together provide multiple income sources, reducing vulnerability to shocks.

Social Inclusion: Programs like MGNREGA have improved women's participation, while insurance schemes have enhanced financial literacy and encouraged use of formal banking systems.

Psychological Security: Knowing that there is a safety net increases farmers' confidence to experiment with better crops, invest in irrigation, and plan long-term. This reduces distress migration and even improves community cooperation.

Contribution to Sustainable Development

Goals (SDGs): Both schemes support multiple UN SDGs—SDG 1 (No Poverty), SDG 2 (Zero Hunger), SDG 8 (Decent Work and Economic Growth), and SDG 13 (Climate Action)—by promoting resilience and social protection.

CONCLUSION

The well-being of India's agricultural households depends as much on risk management as on productivity. Crop insurance and employment support programs represent two strong pillars of rural resilience. Crop insurance protects against unpredictable production losses, while MGNREGA guarantees income and promotes asset creation. Evidence from across India confirms that when these programs are

implemented efficiently and inclusively, they lead to higher incomes, better food security, reduced debt, and improved mental health. Yet, for their full potential to be realized, timeliness, transparency, and integration must be prioritized. A future where every farmer is insured, employed when needed, and empowered to invest in their land is not only achievable—it is essential for building a just, resilient, and prosperous rural India.

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