

Crop Insurance in Rajasthan: Challenges and the Way Ahead

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Abstract: *Agriculture continues to play a vital role in the Indian economy, particularly in Rajasthan, where a large section of the population relies on farming and related activities for their livelihood. However, the agricultural sector in the state faces constant risks due to unpredictable weather conditions such as drought, irregular rainfall, hailstorms, pest infestations, and increasing desertification. These uncertainties often lead to crop losses and financial instability among farmers. To reduce the impact of such risks, crop insurance has become an essential support system for securing farmers' incomes. In this direction, the Government of India introduced many crop insurance schemes from time to time. Pradhanmantri Fasal Bima Yojana (PMFBY) is a major initiative taken by government since 2016 with the objective of providing wider crop insurance coverage at subsidized premium rates. Rajasthan, being highly dependent on climate-sensitive agriculture, has emerged as one of the leading states in the implementation of PMFBY. Although the scheme was designed to protect farmers against agricultural losses, its implementation in Rajasthan has faced many practical difficulties such as delays in claim settlement, inaccurate assessment of crop damage, limited awareness among farmers administrative shortcomings. This paper explores the development of crop insurance in Rajasthan and critically analyzes the challenges faced by farmers, insurance agencies and policymakers in Rajasthan. Further, the study suggests measures to improve the effectiveness of the scheme.*

Keywords: Insurance, Crop, Farmer, Rajasthan, PMFBY

I. INTRODUCTION

Since ancient times, agriculture has played an crucial role in man's life and is one of major industries in the economy. It primarily relates to the cultivation of crops, rearing of animals, and the production of food and other raw material required for life and industries. Apart from food needs, agriculture also provides jobs, helps trade and contributes to the development of rural areas. Agriculture is a significant source of livelihood and income in our country as a majority of the population lives in villages and their day to day life depends on agriculture. Agricultural activities include different types of agriculture such as farming, horticulture, dairy, animal husbandry, fisheries and agro-forestry. Agriculture is heavily dependent on natural resources including land, water, rainfall and soil quality, so is sensitive to climate and environmental changes. This means that farmers are exposed to uncertainty from natural disasters and changes in weather patterns.

Agriculture in Rajasthan

Agriculture is an important sector in the rural economy of Rajasthan, the largest state in India. Many people depend on agriculture and agriculture-related activities for jobs and livelihoods. Despite the tough climatic conditions and scarcity of water in the state, agriculture remains the primary livelihood in many areas of Rajasthan. The state has a wide variety of climatic and geographical conditions. The eastern and south-eastern parts of the state of Rajasthan are comparatively fertile with better irrigation facilities, whereas the Thar desert covers the western parts, which are dry and arid. Wheat, barley, bajra, maize, gram, mustard, cotton, guar and pulses are grown by farmers in Rajasthan. The

state is particularly known for its good yields of mustard, bajra and guar. Rainfall is critical for agriculture in Rajasthan as there are still several areas where irrigation facilities are not adequate. The monsoon season is the key time of cultivation for many farmers, making them at risk to drought and unpredictable rainfall. The Indira Gandhi Canal has made irrigation and agricultural production better in some western districts, but water shortage is a serious problem in many parts of the country. In addition to crop cultivation livestock farming is also a significant livelihood source especially in desert or semi-arid areas where farming conditions are tough.

Risks involved in Agriculture

The agriculture sector is one of the most volatile and risky sectors of the economy as it relies heavily on nature, markets and various support mechanisms provided by the government. Farming is one of the few professions directly affected by circumstances which are often outside the farmer's control. The weather, water availability, market prices, and agricultural policies can all have a negative impact on the productivity of crops and farmers' income. These risks are even greater in a state such as Rajasthan, where agriculture is very much dependent upon the monsoon rains and climatic conditions. The economic instability of farmers, particularly small and marginal farmers, is often experienced because of crop failure and low returns. The major risks involved in agriculture are discussed below in detail:

Climatic and Weather Risks: Farmers are exposed to a number of the most serious risks, such as climate and weather risks. Weather plays an important role in agricultural production and is vital for the optimal production of crops and livestock. But, environmental fluctuations like drought, flood, hailstorm, cyclone, heat wave and unseasonal rainfall can have a significant impact on crop performance and agricultural output. Low and irregular rainfall is one of the most common issues in the state of Rajasthan due to drought. In many districts, water shortage and dry weather are frequent and have a negative impact on the growth of crops.

Water Scarcity Risk: Water is a key requirement in agriculture but Rajasthan has many regions which are experiencing severe water scarcity issues. Heavily dependent on monsoons, the state gets comparatively less rainfall. Lack of timely and adequate rainfall poses challenges for farmers to irrigate crops. Over-extraction and poor recharge of the groundwater are also causing rapid decreases in groundwater levels. Many small farmers in several rural areas have limited or no access to irrigation facilities, like canals, tube wells or drip irrigation systems. The scarcity of water also impacts crop production and restricts ability to grow water intensive crops.

Pest and Disease Risk: Pests, insects, grasshoppers and plant diseases can greatly affect agricultural crops. These biological hazards can affect various growth stages of crops and can substantially affect the amount and quality of agricultural products. Without preventive measures taken at the proper time, pest infestations can quickly get out of hand and are hard to control. Pesticides, insecticides and disease control measures are costly for farmers and this raised the cost of cultivation. Overuse or misuse of chemicals can also adversely affect soil fertility and environmental health in many cases.

Risk of markets and prices: Another significant uncertainty that exists in agriculture is the volatility of the market and prices. The selling prices are not under the control of farmers generally. Agricultural commodity prices often fluctuate depending on the demand and supply, market competition, transportation costs and government policies. Most farmers cannot store their produce properly and have to sell it shortly after harvest due to the lack of storage space and the need for immediate cash. This is also a time when there's an abundance of produce and the market price is typically low. Middlemen and traders can also be a problem for farmers as they may offer lesser price for their produce.

Financial Risk: Continuous monetary investment is needed in agriculture, to buy seeds, fertilizers, pesticides, machines, irrigation and labour. The majority of farmers, especially small and marginal farmers borrow funds from bank, cooperative societies and private money-lenders to finance cultivation expenses. Farmers experience great hardships when crops are lost because of drought, flooding, pests or other natural disasters, as they are then required to repay their loan. This means that debt accumulates and finances become strained.

Technological and Infrastructure Risk: The adoption of modern agricultural technology and provision of appropriate infrastructure are important factors that will enhance productivity and minimise agriculture risk. But in

Rajasthan there are still a number of farmers who are not able to use modern farming technologies, quality seeds, modern farm machines, farm storage, transport and market information. Inadequate road, electricity supply, irrigation facilities and warehousing facilities are some of the other challenges that are faced due to poor rural infrastructure and could hamper agricultural development. Lack of awareness and lack of training in the scientific farming methods also impact the efficiency and productivity.

Objectives of this Study:

- To Study the concept and importance of crop insurance in Rajasthan.
- To identify the major challenges faced by Farmers and Government agencies.
- To explore future strategies to strengthen crop insurance schemes.

II. THE KEY CHALLENGES OF CROP INSURANCE IN RAJASTHAN

Many crop insurance schemes were launched in India and Rajasthan as well from time to time including Pradhan Mantri Fasal Bima Yojana (PMFBY) to safeguard farmers from financial losses due to crop failure and natural disasters. In a state like Rajasthan, where agriculture is highly dependent on rainfall and climatic conditions, crop insurance plays an important role in supporting farmers during difficult times. The scheme has proved successful for many farmers, but there are also some problems in implementing it. In many areas the scheme is not working well for various reasons. Key challenges are as follows:

Delay in Settlement of Claims: The delayed settlement of compensation after the damage to the crop is one of the most common complaints of farmers about PMFBY. Hard hit farmers have to wait for an extended period before receiving the insurance amount, especially during drought, heavy rainfall, hailstorm or other natural calamities. Many settlements take a couple of months, and in some instances, even longer. The farmers have their primary livelihood from agriculture and timely compensation is extremely important. There are several reasons behind these delays. At times, state government withholds the payment of subsidy to the insurance companies. In other cases, experiments for cutting the crops are not finished within a timely period and field reports are not filled out. Administrative procedures, lack of coordination within departments and between insurance companies and state authorities add to the delays.

Issues in Claim initiation and Crop Loss Assessment: Correct evaluation of crop losses is crucial for adequate remuneration to the farmers. But in Rajasthan, it takes a long time and can be risky to estimate crop losses. Manual surveys and crop cutting experiments continue to be employed on a traditional basis. These methods are time consuming and involve large number of officials hence these are difficult to implement in a large state such as Rajasthan. Many farmers think that the true loss due to the crop damage is not adequately documented. Consequently, their pay is less than what they are able to get. Farmers in drought and semi-arid areas can be very vulnerable to the consequences of inaccurate assessment, especially for their livelihoods and income.

Transparency in the Scheme.: Crop insurance schemes including PMFBY are not transparent in its execution. Many farmers are not aware of the rules, conditions and procedures of the scheme. Many do not know how compensation is computed, how claims are processed and why some claims are denied. This is a problem of lack of information, which makes it hard for farmers to understand. Many people turn to banks or to local officials in rural areas for advice. At times, they don't receive the right information, leading to greater misunderstanding and mistrust. Farmers are often left with a sense of helplessness because it is hard for them to find out what's happening with their claims or why they are taking so long. There is a lack of a simple and transparent communication system which make farmers less confident about the scheme.

Low Awareness Among Farmers: Despite PMFBY being one of the biggest schemes of crop insurance in India, there is a lack of awareness amongst many farmers in Rajasthan. Unregistered small and marginal farmers, particularly the ones residing in villages away from the city, are often not fully aware of the registration process, premium payments, claims filing process, and compensation rules. There are many farmers who don't know some important dates, the documents they need, or the eligibility conditions. Illiteracy and the absence of access to information is also a big

problem. Consequently, many farmers who are eligible are not subscribed to the scheme and/or are unable to claim its benefits on time. Tenant farmers and sharecroppers are in even worse condition because they typically have no official documents of land ownership. Though many of them are active in farming activities, there is no proper record so that many of them are not covered by insurance system.

Strong reliance on Loanee Farmers: The farmers who had availed of agricultural loans from banks are automatically enrolled in the insurance scheme of PMFBY. Such farmers are called loanee farmers. Though in the name of providing increased insurance cover to the farmers, a few problems occur. Farmers are usually not made aware of the scheme or they are not properly informed. Some farmers have no idea that their insurance premiums have been deducted from their bank accounts. This results in beneficiaries' dissatisfaction and confusion. Meanwhile, farmers who do not borrow from banks are involved in a lesser extent. Due to this, the scheme is also largely dependent on the enrolment through loan. This leads to a dependency on enrollment by loan and not through voluntary enrollment based on awareness and trust.

Financial pressure on the State Government: In crop insurance schemes like PMFBY, the farmers contribute towards the insurance premium, along with central and state governments. The financial burden on the Government of Rajasthan can be massive in agriculture which is very prone to the risks of drought and adverse weather conditions. If the costs in the worst of the years of damage to the crops are large, the premium subsidy is also large. Some time delayed payment from Government side leads to slow down the claims settlement process by insurance companies. The delay in compensation causes dissatisfaction among farmers waiting for compensation and reduces the efficiency of the scheme.

Technological and Digital Challenges: PMFBY is increasingly relying on digital systems for farmer enrollment, data collection and claim processing. Digital technology can help in increasing efficiency but many farmers in remote areas of Rajasthan are struggling with the use of online platforms. Many farmers find it difficult to register or verify their claim status due to poor internet connectivity in the villages, lack of smartphones and a lack of digital literacy.

The effect of climate change: Climate change has emerged as one of the greatest challenges that the agricultural sector in Rajasthan faces in the long term. The state's drought, temperature, heat wave and other extreme weather events are frequent occurrences. These changes in climate have heightened uncertainties in agricultural production. The frequent occurrence of natural calamities leads to increased crop losses and the size of the insurance claims under PMFBY. This puts the insurance industry and governments in a financial bind. At the same time, changing weather patterns make it more difficult to accurately estimate agricultural risks and insurance requirements.

III. THE WAY AHEAD FOR CROP INSURANCE IN RAJASTHAN

Timely Claim Settlement: The timely settlement of insurance claims is of great significance for the success of the PMFBY scheme in Rajasthan. Farmers suffer financial stress and a loss of faith in the scheme when they do not get compensation in time. Hence, Insurance Companies and Government should speed up the claims processing. Having an efficient monitoring system and imposing strict sanctions on delays that are not justified can contribute to achieving higher efficiency and farmer confidence.

More use of technology: New technology can enhance crop insurance systems to be more efficient, transparent, and reliable. The use of technology like Artificial Intelligence, satellite imagery, drones and GIS mapping can contribute to correct and prompt identification of crop damage. Such technologies have the potential to minimize errors in surveys and accelerate compensation processes. Additionally, the use of digital systems can help to reduce conflicts and enhance the effective implementation of PMFBY.

Strengthening Farmer Awareness: Many farmers are not fully benefiting from PMFBY due to lack of information about PMFBY. The awareness campaign should be conducted in the Panchayats, agricultural offices, local newspapers, radio, and mobile application. Farmers require information on registration, premium payments, crop damage reporting and claims. Greater awareness can raise the participation and enable the farmers to utilize the scheme effectively during tough times.

Inclusion of Tenant Farmers: Tenant farmers, sharecroppers, and oral lessees are not always covered by the crop insurance program because they lack a formal land ownership document. The government should put in place simple and flexible verification processes to include these farmers in PMFBY. Their participation can be enhanced with alternative documentation and at local level certification. Covering these vulnerable groups with insurance coverage is essential for ensuring inclusive agricultural development and financial security.

Transparency and Accountability: Transparency plays an important role in increasing farmers' trust in crop insurance schemes. The insurance companies should routinely provide data on such things as premium collection, payment of claims and crop survey results. Independent audits and monitoring mechanisms should also be put in place to ensure that it is implemented fairly. An increase in the accountability can help in minimizing corruption, stop the misuse of funds and help to make the working of PMFBY more dependable and farmers friendly.

Improved Grievance Redressal Mechanism: Farmers face problems in raising complaints about insurance claims and survey error. Thus, an effective grievance redressal system needs to be established at the village, block and district level. Helplines, online complaint centers, and local farmers' support centers should be available to farmers. Prompt resolution of complaints can help enhance farmer satisfaction and build confidence in the crop insurance system.

Climate-Resilient Agriculture: Crop insurance would not only do a duty of compensation for losses, it would also work as a tool for agricultural sustainability. Climate adaptation measures like water management, drought-tolerant seeds, diversification and sustainable farming practices need to be linked to PMFBY. The measures can help the farmers to mitigate the climate change impact and boost productivity. Integrating insurance with resilient farming can help farmers achieve greater economic protection.

Participation of Local organizations in Assessment System: Role of local institutions in enhancing the crop loss assessment under PMFBY can be significant. Community-based organisations such as panchayats, farmer producer organisations (FPOs) and local agricultural committees are expected to play an active role in survey and verification activities. They can help to improve transparency and minimize reporting delays associated with crop loss. Participation of local organizations in assessment systems can also help to make compensation decisions based on local conditions and actual losses of farmers.

Public Sector Participation: More involvement of the public sector insurance companies could enhance the performance of PMFBY. Generally public institutions are more concerned with the welfare of the farmer and its social responsibilities. Their input can contribute to equitable claims settlement, greater accountability and transparency in settlements.

IV. CONCLUSION

Crop insurance acts as a safety net for farmers by safeguarding against various risks involved with farming, particularly in climatically vulnerable areas such as Rajasthan, where occasional droughts, unpredictable rainfall, hailstorms, and other natural disasters often impact farmers' crop production. The Government of India, realising the need for a reliable risk management mechanism, introduced various crop insurance schemes including Pradhan Mantri Fasal Bima Yojana (PMFBY) to offer farmers an affordable and comprehensive insurance coverage for their crops losses. The scheme has helped to extend the coverage of insurance and provided some financial assistance to the farmers in difficult times. However, in Rajasthan, many issues have arisen with the implementation that has not yet enabled it to reach its full potential. Farmers' trust in the scheme has been eroded due to delays in claim settlement, the lack of strength in the assessment of crop losses, lack of transparency, limited awareness, exclusion of tenant and share cropping farmers, and occasional allegations of irregularities. The adoption of modern technologies, transparent administration, institutional accountability and proper awareness among farmers can definitely strengthen the crop insurance scheme and perfect execution of the scheme. In the context of agriculture's vulnerability to natural calamities in the State of Rajasthan, a robust and effective system of crop insurance is critical to mitigate agrarian distress and to strengthen sustainable agriculture growth. Therefore, the strengthening of PMFBY is not merely an administrative need, but a social and

economic imperative to improve the welfare of farmers, promote rural stability and ensure food security in Rajasthan and the country..

REFERENCES

- [1]. Agriculture Department, Rajasthan website- <https://agriculture.rajasthan.gov.in>.
- [2]. Pradhan Mantri Fasal Bima Yojana - <https://pmfby.gov.in>
- [3]. <https://agriwelfare.gov.in/>
- [4]. Duhan Anju and Singh Utbiv (2014): "Factors Affecting Awareness Level of Farmers about Crop Insurance: A Case Study of Haryana." Asian Journal of Agricultural Extension, Economics and Sociology Issue-25, No-5, pp-11 17.
- [5]. Jain R.C. A. (2014): "Challenges in Implementing Agriculture Insurance and Re-insurance in Developing Countries." The Journal, Vol-5, No-1, PP 14-23.
- [6]. Kumar Amlendu and Kant Shashi (2017): "Crop Insurance in India: Scope for Improvement." International Journal of Advance Engineering and Research Development, Vol-4, Issue-6, pp-23-27.