

Pradhan Mantri Fasal Bima Yojana: Comparison with National Agriculture Insurance Scheme Concerning Threshold Yield

Shalaka Sarwate¹, Dr. Amruta Suryawanshi²

¹Research Scholar, Gokhale Institute of Politics & Economics, Pune, M.A. (Economics), MBA (Finance)
Email: shalaka.sarwate[at]gmail.com

²Assistant Professor, Gokhale Institute of Politics & Economics, Pune
Email: amruta.suryawanshi[at]gipe.ac.in

Abstract: India, being a country largely dependent on agriculture, has around 60% of its population engaged in this sector. Despite its significance, agriculture faces challenges such as the unpredictable monsoon season resulting in crop failures. To address the losses faced by farmers, the Indian government introduced the Pradhan Mantri Fasal Bima Yojana (PMFBY) in 2016. This scheme aims to provide insurance coverage and financial support to farmers in the event of crop failures, pest attacks, or natural calamities. To analyze and compare the effectiveness of the National Agricultural Insurance Scheme (NAIS) and PMFBY schemes in calculating the threshold yield method, we conducted a study. Our findings suggest that the PMFBY calculation method is more suitable for crops like soybean, while the NAIS method is preferred for wheat-like crops. This could be attributed to the differences in the calculation of threshold yield, which is a crucial factor in determining the compensation amount for crop losses.

Keywords: Pradhan Mantri Fasal Bima Yojana, Madhya Pradesh, Agriculture, Insurance Premium, Agriculture Insurance, NAIS

1. Introduction

Agriculture is an indispensable vital sector in India, providing employment for almost half of the population, albeit contributing only 16% to the GDP. Sadly, farmers face daunting challenges, including crop failure, low pricing, and indebtedness. The government has implemented various measures to address these critical issues, such as loan waivers, direct transfers, and insurance. Among these measures, crop insurance has emerged as a popular and efficacious solution, with the Pradhan Mantri Fasal Bima Yojana (PMFBY) being the latest scheme launched in 2016. As the world's largest crop insurance scheme, its primary aim is to provide financial support to farmers in case of unforeseen events and stabilise their income to ensure the continuity of agriculture.

2. Objective & Methodology

The paper's objective is to check the volatility of the scheme compared to the National Agriculture Insurance Scheme (NAIS). In both schemes, the calculation of the loss in yield is based on the analysis of threshold yield. The threshold yield is similar to the average yield, and the threshold yield for the notified crop is the average yield multiplied by the indemnity level.

The paper compares the National Agriculture Insurance Scheme and Pradhan Mantri Fasal Bima Yojana for the three heads – calculation of threshold yield, loss in yield, and loss in income. The estimates are performed for the two crops – soyabean (Kharif) and wheat (Rabi), for 2016-17, 2017-18, and 2019-20.

The calculation of threshold yield differs for both schemes, whereas the loss in yield and loss in income is the same. The loss in yield is calculated by subtracting actual yield from threshold yield, and the loss in income is the product of the loss in yield and minimum support price.

Calculation of loss in yield

= Threshold yield – Actual Yield

Calculation of loss in income

= loss in yield * Minimum Support Price

The method of analysis of threshold yield differs in both schemes. As per NAIS, threshold yield is the moving average based on the past three years' average yield in rice & wheat and five years' average yield in the case of other crops, multiplied by the level of indemnity. And as per PMFBY, the threshold yield is derived from the best 5 of the immediate last seven years' crop yield data and notified indemnity level.

Calculation of threshold yield (TY)

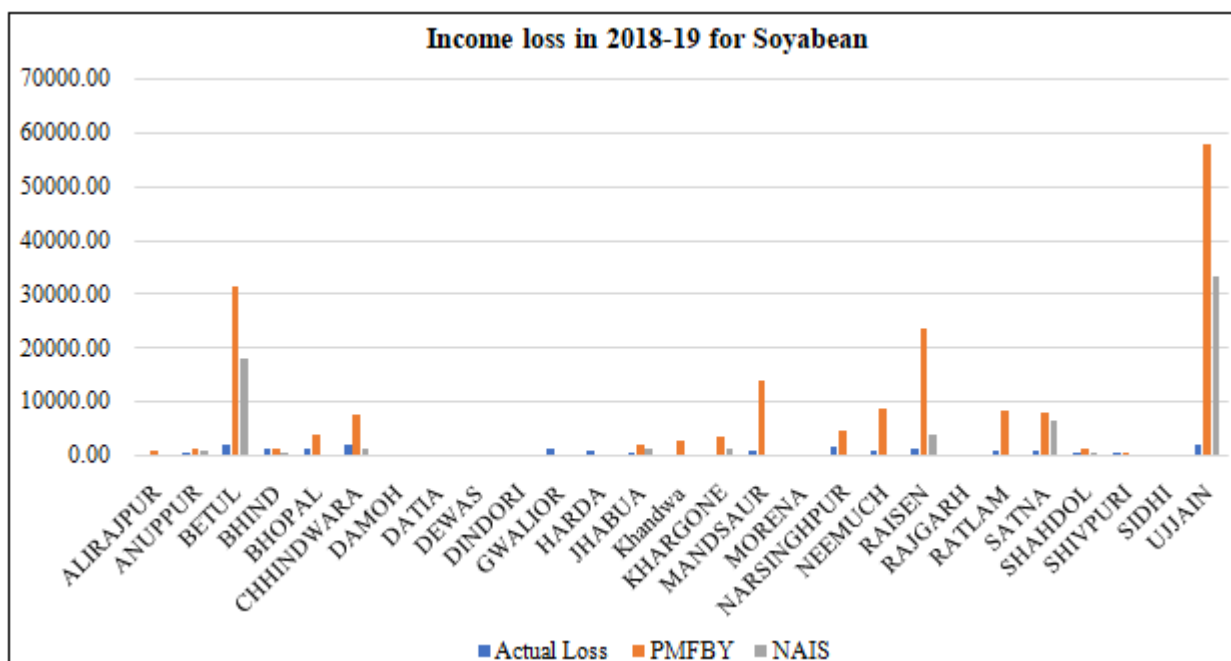
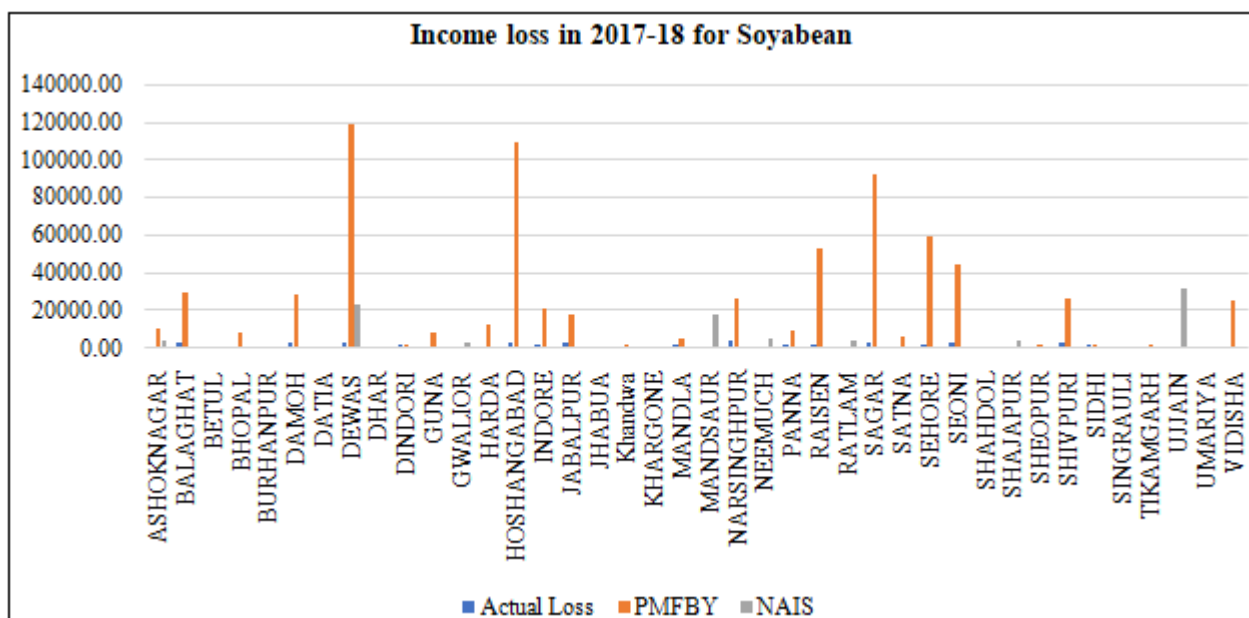
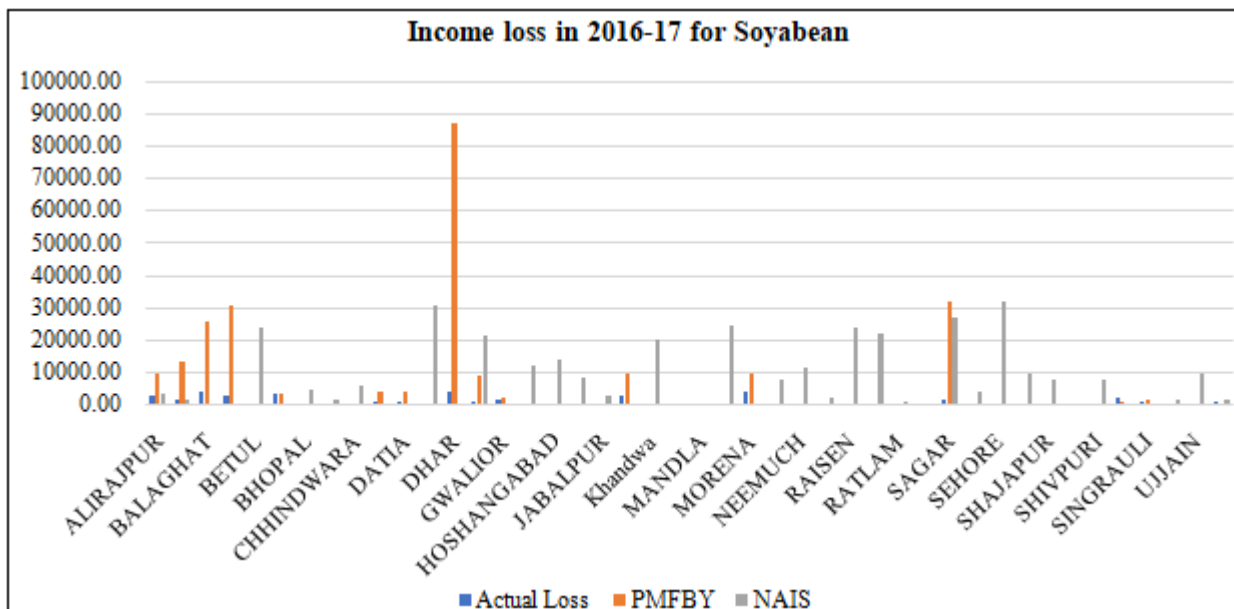
PMFBY

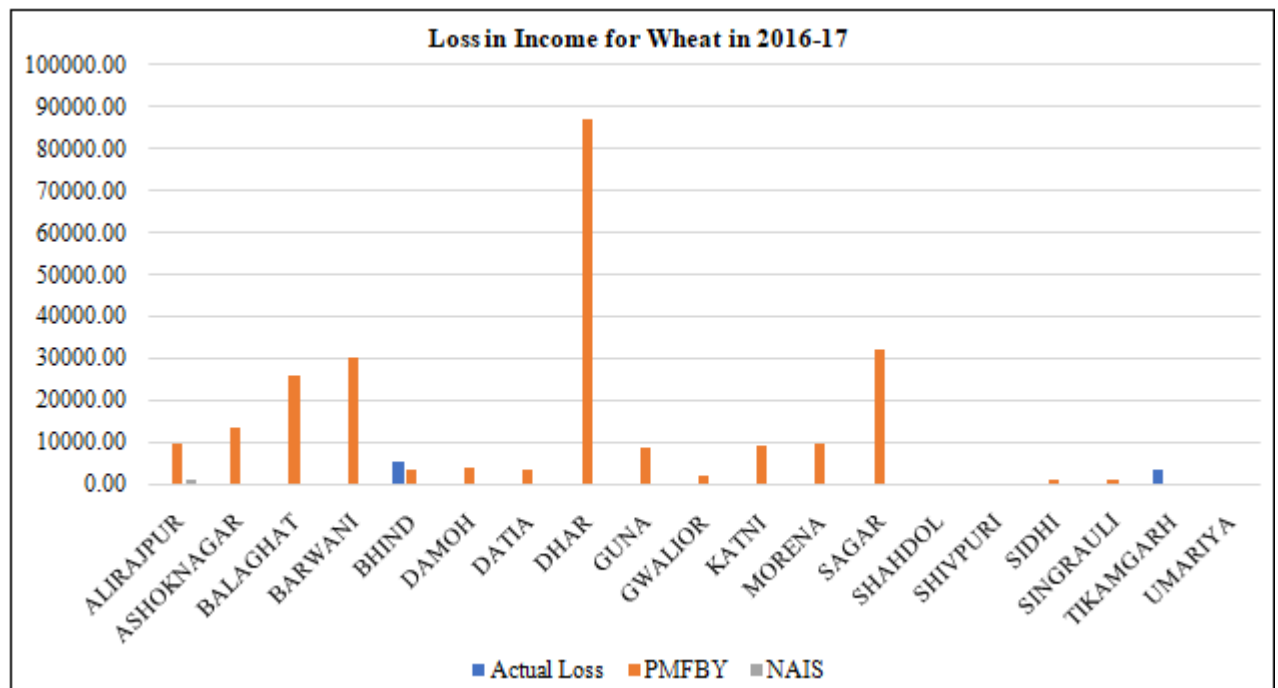
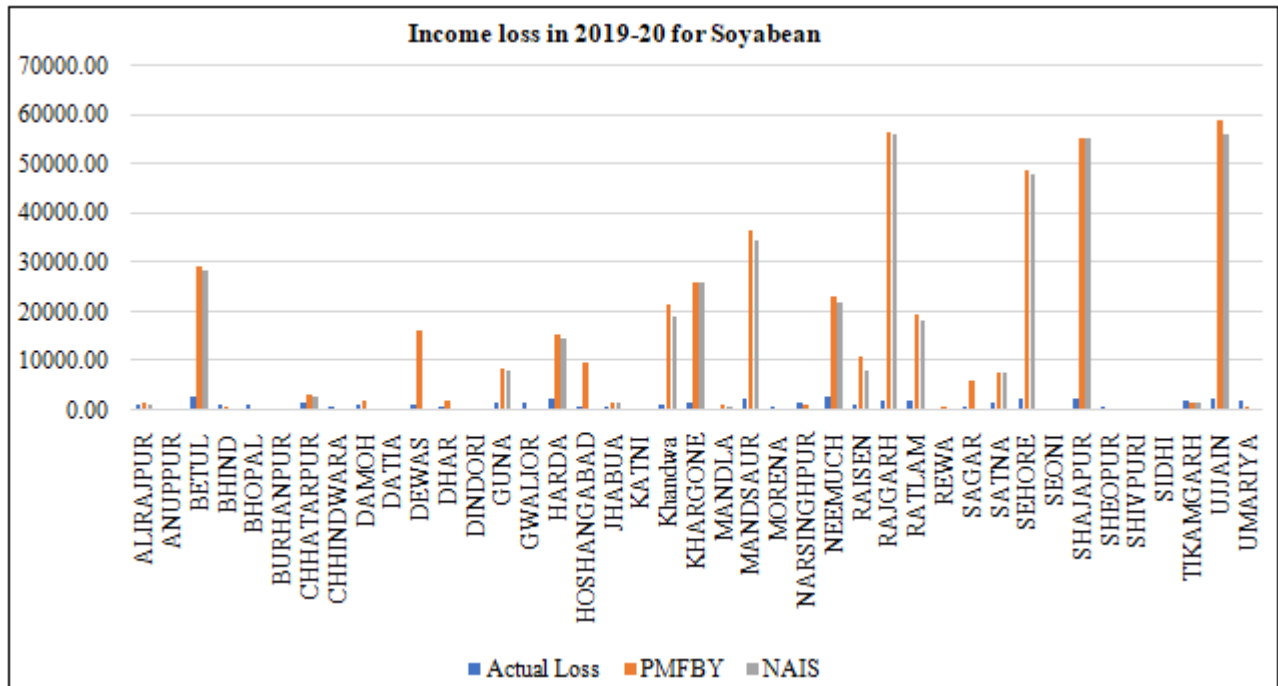
$TY = [(\sum \text{Best 5 year Yield}) \times \text{Notified Indemnity level}] \div 5$

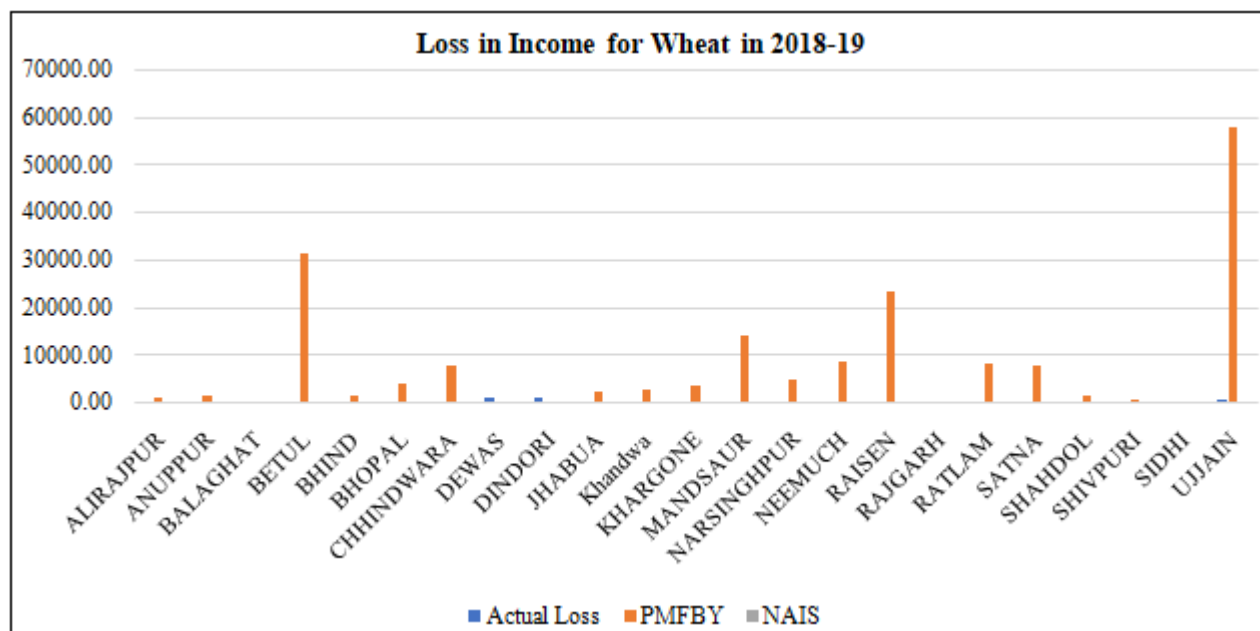
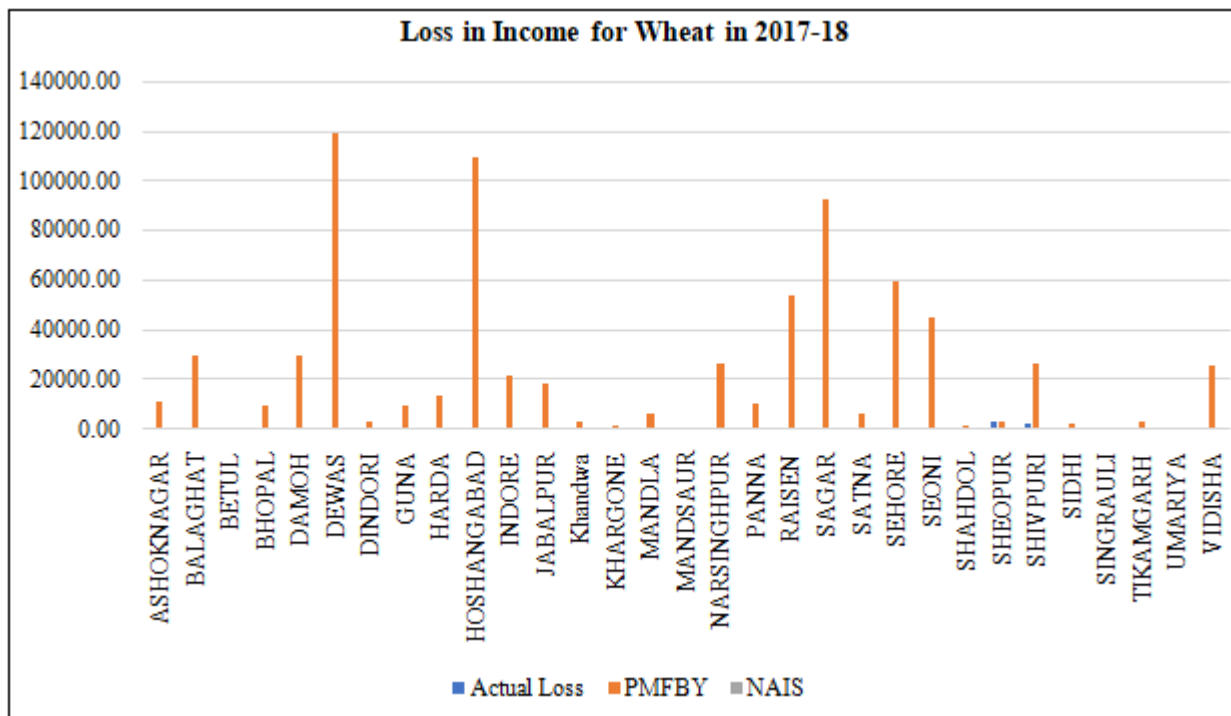
NAIS

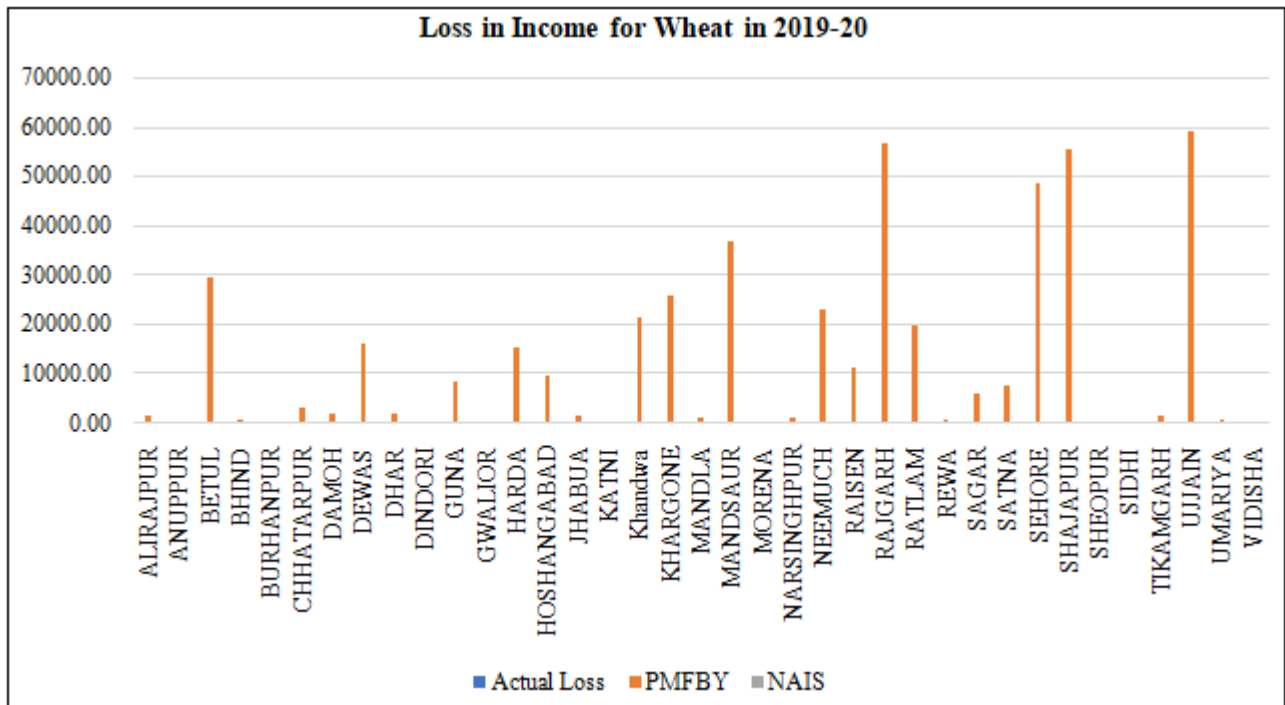
TY = the moving average based on the past three years' yield in the case of Rice & Wheat and five years' average yield in the case of other crops, multiplied by the level of indemnity.

3. Analysis









4. Conclusion & Policy Implication

The study on two major crops, soybean and wheat, has yielded some interesting findings. The PMFBY scheme has proven to be accurate in reflecting the yield threshold for soybean. The estimated yield threshold closely matches the actual average yield, and the scheme accurately represents the yield loss suffered by farmers. Additionally, the income loss endured by farmers is also appropriately reflected in the PMFBY scheme.

When it comes to wheat, the PMFBY scheme's estimated yield threshold closely matches the actual average yield, but it tends to overestimate both the loss in crop yield and the loss in farmers' income compared to the actual losses experienced. This suggests that the scheme may need to be reviewed and revised to better reflect the actual losses suffered by wheat farmers.

When considering crop insurance, it's important to take into account which specific crops you are dealing with. For example, the PMFBY scheme is well-suited for crops like soybean, while the NAIS methodology may be a better choice for crops such as wheat.

References

- [1] www.pmfby.gov.in
- [2] www.statista.com
- [3] Department of Farmers Welfare and Agriculture Development, Govt of Madhya Pradesh.
- [4] Revamped Operational Guidelines of PMFBY
- [5] Economic survey of India 2020-2021
- [6] Sharma, Hari Om and Rathi, Deepak (2018) "Performance Evaluation of Pradhan Mantri Fasal Bima Yojana (PMFBY) in Madhya Pradesh" Research Study No. 124, Agro-Economic Research Centre, JNKVV, Jabalpur
- [7]