PMFBY Scheme Analysis Report

About the Pradhan Mantri Fasal Bima Yojana(PMFBY)

The Pradhan Mantri Fasal Bima Yojana (PMFBY), launched in 2016, aims to protect Indian farmers from crop losses due to natural calamities. It offers affordable premiums and covers a wide range of crops and risks, from pre-sowing to post-harvest. Implemented through a multi-agency framework, PMFBY has enrolled millions of farmers and paid out significant claims. While facing challenges like enrollment fluctuations and claim delays, it strives to stabilize farmer incomes and encourage modern agricultural practices, contributing to food security.

Problem Statement

As a student exploring the impact of the PMFBY (Pradhan Mantri Fasal Bima Yojana) scheme, my goal was to assess how effectively it offers financial protection to farmers across different districts. The challenge was to efficiently handle and analyze multi-year data to identify trends and present meaningful insights. To do this, I relied on structured data analysis and SQL queries to extract critical metrics about premiums collected, claims paid, and the demographic spread of enrolled farmers.

Objective

This project has significantly enhanced my proficiency in handling large-scale relational databases and leveraging advanced SQL techniques for meaningful analysis. Throughout the process, I became adept at performing complex queries, including multiple table JOINs, GROUP BY operations, and the use of nested subqueries. Additionally, I explored database optimization techniques such as indexing and constraints to improve performance and ensure data integrity. Beyond technical execution, this project taught me how to translate raw, multi-year insurance data into strategic insights. These insights not only help assess the reach and efficiency of the PMFBY scheme but also inform recommendations for enhancing policy effectiveness.

Analysis Approach

To carry out the analysis, I followed a structured workflow:

- I started by importing the data and cleaning it to ensure consistency.
- I used SQL queries to extract relevant data points, focusing on claims, premiums, and demographics.
- I analyzed region-wise participation, seasonal coverage (Kharif/Rabi), and the distribution by farmer category and gender.
- Where feasible, I attempted to assess claim efficiency and coverage using available financial metrics.
- I visualized the results and compiled them into a concise report, summarizing the key findings and recommendation.

Key Findings

- Participation was highest in Bid, Latur, and Nanded, showing strong regional adoption.
- The scheme sees a large gender gap: 85% male and only 15 % female enrollment.
- Most participants are small farmers (62%), highlighting the scheme's relevance for marginal landholders.
- Financial efficiency analysis was limited due to missing or inconsistent data fields like sum insured.
- Compared to older schemes like NAIS, PMFBY shows better reach but delayed claims reduce trust.

- Seasonal Imbalance: Participation is significantly higher in the Kharif season compared to the Rabi season, indicating potential gaps in seasonal outreach or perceived need.
- Dominance of Marginal & Small Farmers: Marginal (36%) and small (26%) farmers make up the majority of enrollees, emphasizing the scheme's critical role for economically vulnerable farmers.
- District-Wise Disparity: While some districts like Bid and Latur show high adoption, others lag behind, suggesting unequal awareness or access to the scheme across regions.

Recommendations

- Streamline claim settlement to improve farmer satisfaction.
- Increase awareness campaigns for women and marginalized groups.
- Introduce mobile-based claim tracking to enhance transparency and allow farmers to stay updated on the status of their claims in real-time.
- Promote collaboration with local institutions and NGOs to ensure last-mile awareness.
- Establish feedback mechanisms where farmers can share their experiences with the government.