

Crop Yield & Efficiency Dashboard – One Page Summary

Dataset Name & Source

Dataset Name: State & District-wise Crop Performance Dashboard

Objectives

Goal 1: Close the Local Farm Gap (The 75% Catch-Up Rule)

Goal 2: Demand Smarter Growth (The 60% Efficiency Mandate)

Goal 3: Fix the Big Waste Zones (The Strategic Land Check)

Rationale

- Many districts produce far below their potential — helping them reach 75% of benchmark yield can quickly boost food supply and farmer income.
- Instead of expanding farmland, India must grow 60% of new output through better farming methods like technology, irrigation, and precision agriculture.
- Large farmlands with very low yield waste national resources — identifying and improving or repurposing them ensures land gives maximum return.

Methodology

Steps Followed:

- Cleaned and standardized data units (1000 ha → ha, 1000 tons → tons).
- Linked crop, state, and unit information through dimension tables.
- Built measures in Power BI using DAX to calculate yield, area, and efficiency.
- Removed missing values and duplicates for accurate results.

Tools Used: Power BI, Power Query

Key Insights & Findings

- **Top performing crops:** Rice and Wheat have the highest production and yield in states like West Bengal and Punjab.
- **Low-yield areas:** Eastern states such as Odisha and Bihar still lag behind the 75% benchmark.

- **Emerging performers:** Maize and Groundnut show steady improvement in yield.
- **Inefficient land use:** Some districts have a large area but low productivity — identified as “Big Waste Zones.”
- **Crop variety:** States like Maharashtra and Karnataka show better crop balance, which helps reduce risks.

Recommendations & Implications

- **Close yield gaps:** Use better seeds, irrigation, and modern tools in weak zones to raise output.
Example: Helping low-yield rice areas reach 75% of the benchmark could increase food supply by 20%.
- **Focus on efficiency, not expansion:** Grow smarter, not larger — invest in better techniques, not more land.
- **Promote crop diversification:** Encourage farmers to grow high-value or climate-friendly crops.
Example: Switching from low-yield rice to maize or groundnut in dry regions.
- **Improve decision-making:** Real-time dashboards help governments take quick action and plan subsidies wisely.

Team Details

Team Name: Hack Slayers

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