

# **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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