

Data Visualization

Project Title: Global Food Production Trends and Analysis (1961–2023)

Developing Visualizations

Using the cleaned and pre-processed dataset, **two main dashboards** were designed in Power BI to answer the business questions above.

Dashboard 1: Global Production Overview

Objective: Provide a high-level snapshot of food production trends by commodity and country.

Visuals Developed:

- **Pie Chart:** Commodity-wise production breakdown (Cereals, Fruits, Oilseeds, Root Crops, Cash Crops).
- **Line Chart:** Long-term trend of Sugarcane production (1961–2023).
- **KPI Cards:** Total production volume (e.g., Sugarcane: 621.62 billion tonnes).
- **Clustered Bar Chart:** Annual comparison of Coffee, Tea, and Cocoa production.
- **Treemap:** Entity-wise total production distribution across countries.
- **Slicers/Filters:** Interactive controls for Year, Entity, and Commodity Item.
- **Donut Chart + KPI:** Commodity or entity-specific production summary.

Dashboard 2: Analytical Report View

Objective: Enable deeper drill-down analysis and interpretation of production trends.

Visuals Developed:

- **Bar Chart:** Top entities ranked by total food production.
- **Textual Analysis Panels:** Key observations about:
 - Crop-specific trends
 - Regional production patterns
 - Country-level highlights
 - Sugarcane dominance
- **Comparative Analysis Charts:** Side-by-side insights into multiple commodities.
- **Narrative Cards:** Summary of visual interpretations to assist decision-makers.

Outcome of Visualization

- **Business Insights Made Accessible:** Complex agricultural datasets translated into intuitive visual stories.
- **Interactive Exploration:** Stakeholders can filter by year, country, or commodity for custom insights.
- **Strategic Relevance:** Dashboards highlight global leaders, emerging trends, and commodity dominance useful for policy, trade, and sustainability discussions.

With these dashboards, the project successfully bridges **raw data** → **business questions** → **visual answers**, making the analysis meaningful for both researchers and decision-makers.