

Project Proposal (Proposed Solution)

To address the challenges of analyzing and interpreting six decades of global food production data, this project proposes the development of **interactive Power BI dashboards** that transform the raw dataset into meaningful insights. The solution focuses on enabling exploratory analysis, comparative evaluation, and trend discovery through a clean, intuitive interface.

◆ Key Elements of the Proposed Solution:

1. Data Integration & Preparation

- Import the *World Food Production dataset (1961–2023)* from Kaggle into Power BI.
- Perform comprehensive data cleaning in Power Query to remove null values, standardize country/commodity names, and ensure accurate data types.
- Develop a commodity classification system to group over 100 food items into broader categories (Cereals, Fruits, Oilseeds, Root Crops, Cash Crops).

2. Dashboard Development

- **Global Production Overview:** High-level visual insights including commodity breakdown, top producers, sugarcane trend analysis, and regional contributions.
- **Analytical Report View:** Narrative-style dashboard with crop-specific trends, country-level insights, and contextual textual analysis.

3. Analytical Features

- Use of **DAX measures** for dynamic KPIs such as total production, commodity share, and year-on-year change.
- Slicers and filters for **year, country/entity, and commodity**, enabling customized exploration.
- Visual storytelling through pie charts, treemaps, line charts, bar charts, and KPI cards.

4. User Experience (UX) Design

- Consistent and professional layout with a clean, brown-themed design for readability.
- Combination of visuals and narrative text panels to ensure both **data-driven analysis** and **interpretive insights**.

◆ Expected Outcomes:

- Clear identification of **top food-producing countries and commodities**.
- Recognition of **regional specializations** and commodity dominance (e.g., sugarcane, wheat, rice).
- Enhanced ability to track **historical production trends (1961–2023)**.
- An **interactive, user-friendly tool** that supports policymakers, researchers, and businesses in data-driven decision-making related to global food production.