Project Initialization and Planning Phase

Date	1 September 2025
Team ID	**SWUID20250213607**
Project Title	Global Food Production Trends and Analysis: A Comprehensive Study from 1961 to 2023 Using Power BI
Maximum Marks	3 Marks

Project Proposal (Proposed Solution) template

This project proposal outlines a solution to address a specific problem. With a clear objective, defined scope, and a concise problem statement, the proposed solution details the approach, key features, and resource requirements, including hardware, software, and personnel.

Project Overview	
Objective	Analyze global food production data (rice, wheat, maize, coffee, tea, grapes, apples, bananas, oranges) from 1961–2023 using interactive Power BI dashboards to visualize trends, patterns, crop-wise and country-wise comparisons, and provide decision support for researchers and policymakers.
Scope	Focus on FAO and major international sources of crop production datasets. Build Power BI dashboards with interactive filters for crop, country/region, and year. Highlight key insights such as top-producing crops and regions, temporal production trends, and comparative outputs. Only descriptive and diagnostic analytics—no predictive models.
Problem Statement	
Description	Global food production datasets are large and complex, making it difficult for stakeholders to quickly interpret trends, patterns, and regional differences. Data without visualization is inaccessible for policy and planning.
Impact	Solving this problem will enable better policy decisions, targeted resource allocation, and identification of growth or risk areas in food supply chains.

Proposed Solution	
Approach	• Import and clean crop production datasets in Power BI (handle missing data, remove duplicates, standardize names). • Transform and model data: define relationships, create calculated columns and DAX measures. • Create interactive, multi-crop dashboards with maps, bar charts, line charts, and KPIs. • Design end-to-end Power BI dashboard for browsing, filtering, comparison, and exporting reports for stakeholder use.
Key Features	• Interactive slicers for crop, country/region, and year. • Visual maps to show spatial differences in production. • Temporal trend analysis across decades. • KPI cards for top crops or regions. • Exportable dashboard/report for sharing results.

Resource Requirements

Resource Type	Description	Specification/Allocation
Hardware		
Computing Resources	Laptop with multi-core CPU for Power BI/Desktop work	Intel i5/i7 or equivalent
Memory	RAM for dataset processing and dashboard loading	8 GB
Storage	Space for data files, Power BI files, exports	100 GB SSD
Software		
Frameworks	Data analysis/visualization tools	Power BI Desktop/Web
Libraries	Built-in Power BI visual libraries, DAX functions	Data Visualization
Development Environment	IDE, version control for scripts/dashboard	Power BI Data Visualization, Excel, Git

Data		
Data	Source, size, format	Kaggle dataset, CSV,836KB