Project Initialization and Planning Phase

Date	30 July 2025
Team ID	xxxxxx
Project Title	Global Food Production Trends and Analysis using Power BI
Maximum Marks	3 Marks

Project Proposal (Proposed Solution)

This project proposal outlines a solution to address global food production data analysis challenges. 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	To design a dynamic and insightful Power BI dashboard that visualizes global food production trends from 1961 to 2023, aiding stakeholders in understanding, forecasting, and addressing food security challenges.
Scope	• Covers data from over 60 years and multiple food categories (rice, wheat, maize, tea, fruits, coffee, etc.) • Includes region/entity-based and time-series analytics • Enables visual comparison across years, crop types, and continents • Focused on decision-making, resource allocation, and policy planning for stakeholders in agriculture and food sectors
Problem Statement	
Description	Food production is fundamental to global food security and economic stability. However, increasing global demand, climate change, resource depletion, and trade disruptions pose significant challenges to agricultural output. Understanding food production trends is crucial for policymakers, agribusinesses, and farmers to optimize crop yields and ensure food availability.

Impact	Solving this challenge through data visualization empowers stakeholders to: • Make informed decisions • Forecast food production needs • Improve sustainability and efficiency in agriculture • Mitigate risks due to geopolitical or climate-based shocks
Proposed Solution	
Approach	• Aggregate historical food production data from FAO or similar datasets • Clean and preprocess the data using Power Query in Power BI • Design multiple charts and visuals: bar, donut, ribbon, area, and KPI cards • Use DAX for custom metrics and trend analysis • Create an interactive Power BI dashboard for visual storytelling and insights
Key Features	• Clean and professional UI with dynamic visuals • Time-based trend analysis using area charts • Crop-type analysis using bar and donut charts • Country-wise and continent-wise comparisons using ribbon charts • KPI cards to highlight total production figures • Branded thumbnail and visual assets for reporting and presentation

Resource Requirements

Resource Type	**Description**	**Specification/Allocation**
Hardware		
Computer Resources	Laptop (Macbook Air M1)	Apple Silicone M18-core CPU
Memory	RAM specifications	8 GB
Storage	Disk space for data, models, and logs	256 GB SSD
Software		

Frameworks	Data Visualization Tool	Power BI Desktop
Libraries	DAX, M code (built-in)	Built-in in Power BI
Development Environment	Power BI Desktop	Version 2023 or later
Data		
Dataset	FAOSTAT Global Food Dataset	CSV/XLSX, 1961–2023