2.3. Project Proposal (Proposed Solution)

Date	02 Oct 2025
Team ID	xxxxxx
Project Title	Analysis and Visualization of Global Food Production Data (1961–2023)
Maximum Marks	3 Marks

Project Proposal (Proposed Solution)

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	The primary objective of this project is to analyze **global food production trends from 1961 to 2023** using **Power BI** dashboards, enabling stakeholders such as policymakers, researchers, and agribusinesses to derive actionable insights and support strategic decision-making in agriculture and food security.
Scope	• The project covers production data for major crops (wheat, rice, maize, tea, coffee) and fruits (grapes, apples, bananas, oranges, avocados). • Time period: 1961–2023 (62 years). • Geographic scope: Global (with regional and country-level breakdowns). • Tools: Microsoft Power BI for visualization. • Deliverables: Interactive dashboards, analytical report, and insights presentation.

Problem Statement	
Description	Global food production data is vast and fragmented across regions, commodities, and decades. Analyzing such large datasets in raw format is challenging, making it difficult to identify meaningful patterns, growth trends, and regional contributions
Impact	By solving this problem, stakeholders gain: • A **consolidated, interactive view** of global food production trends. • The ability to **compare commodities and regions** effectively. • Support for **policy decisions, investment strategies, and food security planning**.
Proposed Solution	
Approach	• Collect historical food production dataset (1961–2023). • Perform preprocessing to clean and structure the data. • Import dataset into **Power BI**. • Design interactive dashboards with multiple visualizations: i. Trend analysis (by year) ii. Regional contribution (by entity) iii. Commodity comparison (fruits vs grains) • Derive insights and recommendations. • Prepare final report and demo presentation.
Key Features	• Multi-decade agricultural production trends. • Regional and commodity-wise comparisons. • Interactive filters (year, crop, region). • Intuitive Power BI dashboards for better decision-making. • Business insights and storytelling with data.

Resource Requirements

Resource Type	Description	Specification/Allocation
Hardware		
Computing Resources	Laptop/PC for Power BI & data preprocessing	Intel i3, 4+ cores
Memory	RAM specifications	8 GB
Storage	Disk space for dataset & dashboards	512 SSD
Software		
Frameworks	Visualization platform	Microsoft Power BI Desktop
Libraries	Data processing (if using Python/Excel)	pandas, numpy, matplotlib
Development Environment	Tools for development/reporting	Power BI, Excel, GitHub
Data		
Data	Global food production dataset (1961–2023)	CSV format (~12k rows, 24 cols)