Project Initialization and Planning Phase

Date	14 Sept 2025
Team ID	SWUID20250185946
Project Title	Global Food Production Trends and Analysis:
Maximum Marks	3 Marks

Project Proposal (Proposed Solution) template

This project proposal presents a strategic solution to overcome the challenges in analyzing and interpreting global food production data. With a well-defined objective, clear scope, and a focused problem statement, the proposed approach utilizes data visualization and analytics to deliver actionable insights for informed decision-making.

Project Overview	
Objective	Develop an interactive Power BI dashboard that effectively visualizes global food production trends across time periods, geographic regions, and crop categories—enabling policymakers, researchers, and industry leaders to make data-driven decisions with clarity and confidence.
Scope	This project involves preparing and analyzing global food production data to reveal trends in yield, harvested area, and output over time. It offers interactive filtering and drill-down features, focusing solely on descriptive and diagnostic insights.
Problem Statement	
Description	The sheer volume and fragmentation of global food production data make it difficult for stakeholders—such as policymakers, distributors, and analysts—to extract meaningful insights. Without a centralized and visual analytics platform, planning, decision-making, and resource management become inefficient and disconnected.
Impact	Resolving this issue will equip stakeholders with transparent insights into food production trends, enabling early detection of supply imbalances and supporting strategic policy and business decisions.

	This contributes directly to enhancing global food security, optimizing trade operations, and promoting economic resilience.
Proposed Solution	
Approach	• Load and prepare global food production datasets within Power BI. • Perform data cleaning and transformation tasks, including handling missing values, trimming whitespace, and converting data types. • Build calculated metrics such as crop yield (e.g., yield = production ÷ harvested area). • Design interactive dashboards with filtering options by year, region, and crop type. • Deliver visual insights using charts, KPI cards, and summary reports for effective data storytelling.
Key Features	• Build an interactive dashboard with drill-down functionality for deeper data exploration. • Visualize comparative trends in production, yield, and harvested area across years and regions. • Use card visuals to highlight key performance indicators at a glance. • Incorporate filter controls for tailored, user-specific analysis. • Enable report export features to support stakeholder communication and decision-making.

Resource Requirements

Resource Type	**Description**	**Specification/Allocation**
Hardware		
Computing Resources	CPU/GPU specifications, number of cores	Desktop/Laptop with i5/i7 Processor
Memory	RAM specifications	Minimum 8 GB Ram
Storage	Disk space for data, models, and logs	256 GB SSD / 500 GB HDD
Software		

Frameworks	Python frameworks	Microsoft Power Bi Desktop
Libraries	Additional libraries	Dax query view / Power query
Development Environment	IDE, version control	Power BI Service, GitHub.
Data		
Data	Source, size, format	Kaggle datasets on Global Food Production.