

**Project Design Phase-II**  
**Solution Requirements (Functional & Non-functional)**

Date	24 March 2025
Team ID	PNT2025TMID06686
Project Name	<b>Global Food Production Trends and Analysis A Comprehensive Study from 1961 to 2023 Using Power BI</b>
Maximum Marks	4 Marks

**Functional Requirements:**

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	Data Collection	Gather food production data from multiple sources (FAO, USDA, etc.)
		Collect crop-wise production statistics (Rice, Wheat, Maize, etc.)
		Include regional production data (Asia, Europe, Americas, etc.)
FR-2	Data Processing	Clean and preprocess global food production datasets
		Handle missing or inconsistent data values
		Aggregate data by year, region, and crop type
FR-3	Analysis & Insights	Identify trends in crop production over time
		Compare production growth across regions
		Detect major shifts in food production due to climate or policies
FR-4	Visualization	Develop Power BI dashboards to display production trends
		Create interactive charts for crop-wise analysis
		Provide forecasting insights for future production
FR-5	Reporting & Decision Making	Generate reports for policymakers and agronomists
		Offer insights for optimizing global food distribution
		Recommend actions to improve sustainability in production

**Non-functional Requirements:**

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	<b>Usability</b>	Simple and intuitive UI/UX for non technical users

NFR-2	<b>Security</b>	Implement authentication ,role-based access and data encryption
NFR-3	<b>Reliability</b>	Ensure consistent data accuracy and uptime
NFR-4	<b>Performance</b>	Dashboard should load with in 5 sec for large data set
NFR-5	<b>Availability</b>	System should be available 99.9% of the time
NFR-6	<b>Scalability</b>	Support increase data volume and additional user without performance drops.