<h1 style="text-align:center">Project Design Phase-I
Proposed Solution Template</h1>

Date	24 September 2022
Team ID	PNT2022TMID10801
Project Name	Project - Estimate the Crop Yield using Data Analytics
Maximum Marks	2 Marks

Proposed Solution Template:

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	India is one of the leading crop-producing nations, and crop production is one of the most significant sources of income in India. To improve production, quality, and yield, digital agriculture and precision agriculture enable the timely application of inputs including seeds, water, herbicides, and fertilizers. The majority of farmers decide which crops to cultivate on a field using conventional agricultural techniques. Farmers may make better decisions for healthy crop production based on statistics.
2.	Idea / Solution description	The primary economic drivers in India are agriculture and agro-based industry. Crop production predictions made before to harvest will assist farmers and government organizations in creating effective strategies for marketing, minimum support prices, import/export, storage, and other factors.. Big data from numerous variables, such as soil quality, pH, and essential element (N, P, and K) levels, must be systematically analyzed in order to predict a harvest. This prediction approach uses a vast database to predict crops. It is the ideal candidate for the application of data mining techniques, which are essential for learning how to increase crop yields. Any agricultural production forecasting system's ability to accurately extract characteristics and employ classifiers in the right way is crucial to its success.
3.	Novelty / Uniquenesss	the accuracy of data visualization should be improved. Data analysis was done with in-depth results in the delivery of personalization and service.
4.	Social Impact / Customer Satisfaction	Increasing productivity and innovation. Lowering waste and increasing revenue.
5.	Business Model (Revenue Model)	Crop productivity can be significantly hampered by extreme weather conditions like high temperatures, violent storms, or droughts.

6.	Scalability of the Solution	In coming decades, two most significant and important factors found to influence crop yield is increase in the global population and economy, which greatly demands the higher and sustainable agricultural based crop yields. The capacities of food production at global level is going to be very limited due to the less availability of cultivable land, water resources, difficulties in maintaining the sustainable crop production levels, effects of changes in the global climatic conditions and also by various biophysical parameters which influence the crop yield. Keeping an aim of discussing the impact of the various methods practiced in measuring the yield gaps with a spotlight on the local-to-global importance of outcomes, a research group carried out a survey on the various methods applied to estimate yield gaps.