Project Design Phase-I
Proposed Solution Template

Date	19 September 2022
Team ID	PNT2022TMID40880
Project Name	Project – Exploratory analysis of rainfall data in India for Agriculture.
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	• Heavy and irregular rainfall can have many impacts like destruction of crops and farmer lands • Limited food access • Unsustainable Agricultural practice • Leading poor growth and overall health of crop.
2.	Idea / Solution description	• Proper analysis of amount of rainfall helps to prevent crop losses • By calculating the product of the rainfall intensity and the duration (i.e., the rainfall depth) for each rainfall duration, the cumulative rainfall distribution can be derived • It is important to exactly determine the rainfall for effective use of water resources, crop productivity and pre-planning of water structures • With advance in science and technology numerous techniques such as Data Mining, Artificial Intelligence, Deep Learning and Machine Learning are employed in the field of rainfall prediction
3.	Novelty / Uniqueness	• Application uses IBM Watson to predict the future outcomes • With the help of Machine Learning we can predict rainfall by extracting the hidden patterns from historical weather data • The speed and accuracy of AI technologies when it comes to processing data in extreme weather conditions that scientist will have a better chance of alerting people in danger • Exploratory Data Analysis is valuable to Machine learning problem since it allows to get closer to the certainty that the future results will be valid, correctly interpreted and applicable to desired business contexts

4.	Social Impact / Customer Satisfaction	• It is very useful to take decision for farmers • It prevents from the damage of crops • Irrigation method is improved with the help of weather forecasting • Accurate weather data can assist farmers in determining when they should work most efficiently in their day-to-day operations.
5.	Business Model (Revenue Model)	• Implementing this method can help the farmers to cultivate the crops based on the water need • This method can prevent the wastage of crops • By predicting the rainfall in correct manner, it helps the farmer to cultivate seasonable crops and have a better gain • It avoids the wastage of crops and provide better yield for the farmers.
6.	Scalability of the Solution	• This will help the major Agriculture based company to maximize their growth efficiency, save resources and optimize their production • It will predict the amount of rain in a specific well or division in advance by various regression technique • It will help to make a proper plan.