Project Design Phase-
IProposedSolutionTemplate

Date	24September2022
Team ID	PNT2022TMID52468
ProjectName	Project-EstimatetheCropYieldusingDataAnalytics
MaximumMarks	2 Marks

ProposedSolutionTemplate:

S.No.	Parameter	Description
1.	ProblemStatement(Problem tobe solved)	Crop production in India is one of the most important sources of incomeand India is one of the top countries to produce crops. Where DigitalFarming and Precision Agriculture allow precise utilization of inputs likeseed, water, pesticides, and fertilizers at the right time for the crop formaximizing productivity, quality, and yields. Most farmers practicetraditional farming patterns to decide on crops to be cultivated in a field.Based onanalyticsfarmerscanmakebetterdecisionsforhealthycrop production.
2.	Idea /Solutiondescription	India is a country where farming and Agriculture based industries are themajor resourceofeconomy. Predicting the crop yield well in advance prior to its harvest can help thefarmersandGovernmentorganizationstomakeappropriateplanninglikestoring,selling,fixingminimumsupportprice,importing/exportingetc. Predicting a crop well in advance requires a systematic study of huge datacoming from various variables like soil quality, pH, essential elements(N,P,K) quantity etc. As Prediction of crop deals with large set of Databasethus making this prediction system a perfect candidate for application ofdata mining methodologies which majorly helps in acquiring a knowledgeto achievehighercropyield. The success of any crop yield prediction system heavily relies on howaccuratelythefeatureshavebeenextractedandhowappropriately classifiershavebeenemployed.
3.	Novelty /Uniqueness	Optimizing and improving the accuracy of data visualization.PersonalizationandServiceprovidedwithdeepanalysisofdata.
4.	SocialImpact /CustomerSatisfaction	Increasing innovation and productivity.Reducingwasteandimproving profits.

5.	Business Model(Revenue Model)	Extreme weather events, such as periods of high temperature, heavystorms,or droughts,canseverelydisrupt cropproduction.
6.	Scalability of theSolution	In coming decades, two most significant and important factors found toinfluence crop yield is increase in the global population and economy,which greatly demands the higher and sustainable agricultural based cropyields. Thecapacitiesoffoodproductionatgloballevelisgoingtobeverylimiteddue to the less availability of cultivable land, water resources, difficultiesin maintaining the sustainable crop production levels, effects of changesintheglobalclimaticconditionsandalsobyvariousbiophysicalparameterswhich influencethecropyield. Keepinganaimofdiscussingtheimpactofthevariousmethodspracticedin measuring the yield gaps with a spotlight on the local-to-globalimportanceofoutcomes,aresearchgroupcarried outasurveyonthe variousmethodsappliedtoestimateyield gaps.