ESTIMATE THE CROP YIELD USING DATA ANALYTICS

LITERATURE SURVEY

PROBLEM STATEMENT:

Crop production in India is one of the most important sources of income and India is one of the top countries to produce crops. As per this project we will be analyzing some important visualization, creating a dashboard and by going through these we will get most of the insights of Crop production in India.

REFERRED JOURNALS:

AUTHOR	TITLE	CONTENT	PUBLISHED
1.B.M. Sagar, Cauvery N K	Agriculture Data Analytics in Crop Yield Estimation: A Critical Review	Agriculture is important for human survival because it serves the basic need. A well-known fact that the majority of population ($\geq$ 55%) in India is into agriculture. Due to variations in climatic conditions, there exist bottlenecks for increasing the crop production in India. It has become challenging task to achieve desired targets in Agri based crop yield. Factors like climate, geographical conditions, economic and	December 2018-Indonesia n Journal of Electrical Engineering and Computer

		political conditions are to be considered which have direct impact on the production, productivity of the crops. Crop yield prediction is one of the important factors in agriculture practices. Farmers need information regarding crop yield before sowing seeds in their fields to achieve enhanced crop yield. The use of technology in agriculture has increased in recent year and data analytics is one such trend that has penetrated into the agriculture field being used for management of crop yield and monitoring crop health. The recent trends in the domain of agriculture have made the people to understand the significance of Big data. The main challenge using big data in agriculture is identification of impact and effectiveness of big data analytics. Efforts are going on to understand how big data analytics can be used to improve the productivity in agricultural practices. The analysis of data related to agriculture helps in crop yield prediction, crop health monitoring and other such related activities. In literature, there exist several studies related to the use of	

		data analytics in the agriculture domain. The present study gives insights on various data analytics methods applied to crop yield prediction. The work also signifies the important lacunae points' in the proposed area of research.	
2.Loubna Rabhi	Digital agriculture based on big data analytics: a focus on predictive irrigation for smart farming in Morocco	Due to the spead of objects connected to the internet and objects connected to each other, agriculture nowadays knows a huge volume of data exchanged called big data. Therefore, this paper discusses connected agriculture or agriculture 4.0 instead of a traditional one. As irrigation is one of the foremost challenges in agriculture, it is also moved from manual watering towards smart watering based on big data analytics where the farmer can water crops regularly and without wastage even remotely. The method used in this paper combines big data, remote sensing and data mining algorithms (neural network and	Indonesian Journal of Electrical Engineering and Computer Science

		support vector machine). In this paper, we are interfacing the data bricks platform based on the apache Spark tool for using machine learning to predict the soil drought based on detecting the soil moisture and temperature.	
3.Jharna Majumdar	Analysis of agriculture data using data mining techniques: application of big data	In agriculture sector where farmers and agribusinesses have to make innumerable decisions every day and intricate complexities involves the various factors influencing them. An essential issue for agricultural planning intention is the accurate yield estimation for the numerous crops involved in the planning. Data mining techniques are necessary approach for accomplishing practical and effective solutions for this problem. Agriculture has been an obvious target for big data. Environmental conditions, variability in soil, input levels, combinations and commodity prices have made it all the more relevant for farmers to use	Published: 05 July 2017

| | | information and get help to make critical farming decisions. This paper focuses on the analysis of the agriculture data and finding optimal parameters to maximize the crop production using data mining techniques like PAM, CLARA, DBSCAN and Multiple Linear Regression. Mining the large amount of existing crop, soil and climatic data, and analysing new, non-experimental data optimizes the production and makes agriculture more resilient to climatic change. | |

BOOKS REFERRED:

Dr. Anil Maheshwari- 1 July 2017	Data Analytics Made Accessible
Mohiuddin Ahmed (Editor), Al-Sakib Khan Pathan (Editor)– 30 June 2020	Data Analytics: Concepts, Techniques, and Applications Paperback
Eric Siegel -12 January 2016	Predictive Analytics: The Power to Predict Who Will Click, Buy, Lie, or Die

OUTCOME:

Therefore crop yield estimation is very important in national and regional scale. Crop yield is necessary, particularly in countries that depend on agriculture as their main source of economy. Such predictions warn the decision makers about potential reduction in crop yields and allow timely import and export decision.As a result of penetration of technology into agriculture field, there is a marginal improvement in the productivity. The innovations have led to new concepts like digital agriculture, smart farming, precision agriculture etc. In the literature, it has been observed that analysis has been done on agriculture soils, hidden patterns discovery using data set related to climatic conditions and crop yields data. The activities of agriculture field are numerous like weather forecasting, soil quality assessment, seeds selection, crop yield prediction etc. In this survey, the specific activity, crop yield prediction has been surveyed and the major trends have been identified. The survey outcomes indicate the need for improved techniques in crop yield analytics. There exists a lot of research scope in this research area.