

# ESTIMATE THE CROP YIELD USING DATA ANALYTICS

## INTRODUCTION:

Agriculture forms the basis for food security and hence it is important. Agriculture forms the basis for food security and hence it is important. In the farm output, India ranks second considering the world wide scenario. This is the widest economic sector and has an important role regarding the framework of socio-economic fabric of India. Farming depends on various factors like climate and economic factors like temperature, irrigation, cultivation, soil, rain fall, pesticide and fertilizers. Farmers experience was the only way for prediction of crop yield in the past days. Technology penetration into agriculture field has led to automation of the activities like yield estimation, crop health monitoring etc.

Crop yield prediction helps the farmers in various ways by providing the record of previous crop yield. This is helpful to government in framing policies related to crops such as crop insurance policies, supply chain operation policies. Knowing what crops has been grown, and how much area of it had been shown historically, combined with the prices at which it could have been sold at the nearest market-place provides the income-growth profile of the farmer.

Data Mining is widely applied to agricultural problems. Data Mining is used to analyze large data sets and establish useful classifications and patterns in the data sets. Yield prediction is an important agricultural problem. Every farmer is interested in knowing, how much yield he is about expect. In the past, yield prediction was performed by considering farmer's previous experience on a particular crop. The volume of data is enormous in Indian agriculture. The data when become information is highly useful for many purposes.

## **ABSTRACT:**

Agriculture is important for human survival because it serves the basic need. A well-known fact that the majority of population in India is into agriculture. Various factors 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 main challenge in using big data in agriculture is identification of effectiveness of big data analytics. Efforts are going on to understand how big data analytics can agriculture productivity.

## **LITERATURE SURVEY:**

It expresses the large amount of data which is collected and stored for analysis. Making appropriate use of these data often leads to considerable gains in efficiency and therefore economic advantages. There are several applications of Data Mining techniques in the field of agriculture.

Soil profile descriptions were proposed by the researcher for classifying soils in combination with GPS based technologies. They were applied K-Means approach for the soil classification. In a similar approach, crop classifications using hyper spectral data was carried out by adopting one of the data mining approach i.e. Support Vector Machines they were applied K Means approach for the soil classification. Crop classifications using hyper spectral data was carried out by adopting one of the data mining approach.

In the agricultural science, clustering techniques are found in grading apples before marketing. Weeds were detected on precision agriculture. The effect of observed seasonal climatic conditions such as rainfall and temperature variability on crop yield prediction was considered through an empirical crop model. In these approaches, a given cluster continues to grow as long as the number of objects in the neighbourhood which exceeds some parameter, this is considered to be different from the idea in partitioning algorithms that use iterative relocation of points that give a certain number of cluster.

## **CONCLUSION:**

The statistical model Multiple Linear Regression technique is applied on existing data. The results so obtained were verified and analyzed using the Data Mining technique namely Density-based clustering technique. In the subsequent work a comparison of the crop yield prediction can be made with the entire set of existing available data and will be dedicated to suitable approaches for improving the efficiency of the proposed technique.

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