

# Crop Prediction using Geographically Distributed Big Data

Rashmi K

Dept. of Master of Computer Application,  
P.E.S College of Engineering, Mandy,  
Karnataka, India

K M Sowmyashree,

Asst. Professor

Dept. of Master of Computer Application,  
P.E.S College of Engineering, Mandy,  
Karnataka, India

**Abstract**— Geographical Distribution is the natural arrangement of various forms of animals and plants in different regions on earth. Cultivating is one of the real division for developing yields or keeping creatures by individuals for sustenance and crude materials. Cultivating is a piece of farming. India is the world's third biggest economy worth \$ 2.1 trillion after the US and China. Second biggest maker of rice, wheat, sugarcane, groundnut, vegetables, foods grown from the ground. Smart agriculture pushed with the aid of Information Technology is the rising trend within the studies on this area in current days. One of the areas being explored is the problem of yield prediction that's a chief concern. This project can predict the profitable crop details based on location details for the farmer through internet to the farmer's smart phones.

**Keywords**— Machine Learning, Geo Location, Soil Ph, Number of acres.

## I. INTRODUCTION

Agriculture bureaucrat the idea for food and as a give up surrender end result it is virtual. In India, majority of the population i.e., above fifty 5% is counting on agriculture as ordinary with the present day data. Agriculture is the sector that permits the farmers to boom notable flora according with the environmental stability. In India, wheat and rice are the number one grown plant life along aspect sugar cane, Jxitatoes, soil seeds and so forth. Farmers additionally develop non- meals devices like rubber, cotton, jute and hundreds of others. This is the widest eco nomic quarter and has an vital function concerning the framework of socio -economic fabric of India. Farming is based absolutely upon on different factors like weather and economic elements like temperature, irrigation, cultivation, soil, rain fall, pesticide and fertilizers. Historical information concerning crop yield gives fundamental enter for agencies engaged in this region. These organizations make use of agriculture merchandise as raw substances, animal feed, paper manufacturing and so on. The estimation of production of crop permits the ones companies in making plans supply chain desire like manufacture scheduling. Agriculture zone is suffering to growth the production less of crop in India. Monsoon rainfall is the precept supply of water for introduced than 60 percentage of the flora. Smart agriculture pushed with the useful aid of Information Technology is the growing fashion within the studies on this vicinity in contemporary days. One of the areas being

explored is the problem of yield prediction it's miles a chief trouble [1-6].

## II. PROPOSED SYSTEM

In the proposed system, we are giving a simple and powerful approach to ad lib the agrarian choice for expanding benefit to the ranchers. Exactness agribusiness is an up and coming field which gives an option in contrast to conventional yield determination procedures. Customary yield determination technique for the most part depends on rancher's harvest impulses and intuition's. Consolidating Machine learning and information mining with customary technique would build the effectiveness of yield choice and hence will improve the proficiency of choosing crop. Here we use dataset model to think about the information brought by dissecting the area utilizing GPS module to estimate crop with the goal that rancher can develop it and get great yield and sell in the market. So that formers can't make benefit.

- Accuracy is increased
- Crop for the particular soil is identified
- Time consumption is reduced.
- concentrated on the crop growth based on the factors of the location forecasting to get good yield.

## III. IMPLEMENTATION AND WORKING

The objective is to put new or revised system that has been tested into operational while holding coasts, risks, and personal irritation minimum.

The main aim here is to put the system which is proposed that has been tested into operational while holding all the factors like cost, risk, and also personal irritation to as minimum as possible.

### SVM:

It is a classification algorithm based on user input. It starts to make classification by comparing with the dataset. Compared to other two classification algorithms it gives more accurate data. After completion of classification finally we get a value (cluster) that is highest classification cluster.

**K-Means:**

it is also a classification algorithm. Here we find mean value and then compare it with our dataset, we get finally highest mean.

**KNN:**

it is also a classification algorithm. Here we find the nearest neighbour and compare with the dataset. all the nearest values are combined and make a cluster(highest cluster)

The output of all these three algorithms is the input to linear regression.

**Linear regression:**

The output of above values are considered as input for linear algorithm. It makes comparison along with datasets and finally display the output.

**Working steps:**

Step1: admin upload the dataset

Step2: user register

Step3: user login

Step4: geo location (automatically shows the location)

Step5: user enters the soil Ph and number of acres.

Step6: based on this inputs (location, longitude, latitude, soil pH, num of acres) identify the nearest neighbour by using KNN algorithm.

Step7:It provides prediction (predicted crop details and Overall revenue)

**IV. EXPERIMENTAL RESULT**

Fig 1.Home Page

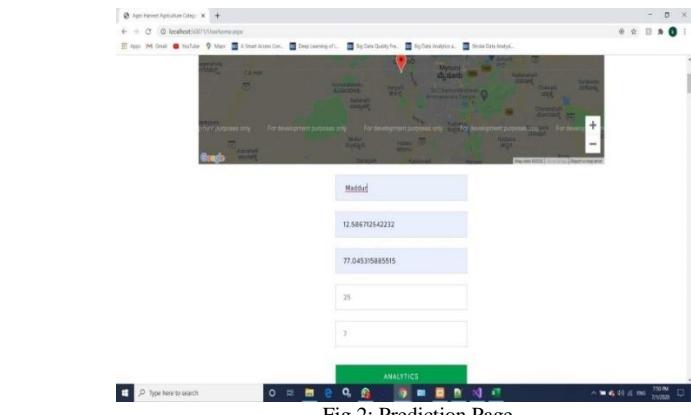


Fig 2: Prediction Page

Crop Name	Investment Per Hectare	Profit	Seeds Per Acre	Fertilizers Per Acre	Approx Investment
Sugarcane	1621 Rs	12204	1814	52	4125.86
Sugarcane	1622 Rs	20494	1861	50	43000.86
Sugarcane	1623 Rs	20788	1863	49	43000.86
Sugarcane	1624 Rs	12204	1819	49	43000.86
Sugarcane	1623.86	19831	1859	49	4325.86
Sugarcane	1625.86	20304	1864	49	4325.86
Sugarcane	1625.86	12280	1803	53	4325.86
Sugarcane	1624.86	20268	1869	48	4350.86
Sugarcane	1624.86	20789	1861	51	4350.86
Sugarcane	1624.86	12090	1865	49	4350.86
Sugarcane	1625.86	20443	1810	48	4375.86
Sugarcane	1625.86	20568	1801	48	4375.86

Fig 3: Result Page

Jan	1621 Rs	962398.86	1275	5.3	41425.86
Jan	1625.86	16246.65	1869	5.3	41650.86

Overall Crop Predicted For Above Query

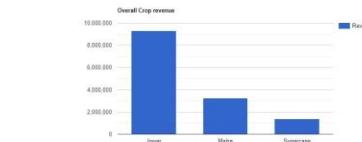


Fig 4.Overall Revenue Page

**V. CONCLUSION**

The innovations have led to new principles like virtual agriculture, clever farming, precision agriculture and plenty of others. In the literature, it's far been placed that evaluation has been carried out on agriculture soils, hidden patterns discovery using facts set related to climatic situations and crop yields facts. It can be concluded that the studies inside the area of agriculture with regards to the use of IT tendencies like facts analytics is in its infancy. As the meals is the vital need of people, the requirement of getting the most olds using pass 1d popular beneficial resource will become the necessity in close to destiny due to growing populace. The survey effects propose the want for superior techniques in crop yield analytics. There exists loads of studies scope on this research region.

Challenges of agricultural manufacturing are growing, making the want to beneath-stand the complicated agricultural ecosystems extra imperative than ever.

Machine studying techniques are widely applied in precision agriculture because of their capabilities to mine facts hidden in agricultural statistics. The increasing availability of information thru improvements in ICT seems promising for boosting innovation on strategic selection-making by increasing fashions' accuracy and generalization capability. Without using the records generated by using precision agriculture practices, it's far difficult to expect if massive records could have significant effect. On the opposite hand, studying from massive statistics is expected to convey significant possibilities and transformative capability for precision agriculture.

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