

Big Data Analytics in Farming and Circulation Network

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Abstract: Agriculture rely on various aspects most important is climate, if climate is potential growth for farmer, he does not get that much gain .When weather a base and rain come less farming abate directly .When farmer enhance more crops then brought to market and storage is not provided to keep his product for longer period so that this farmer force to sell his production in minimum price and face loss in farming product. In this paper we are conveying about the trouble in distribution network and storage of food product, and precession farming decision making. That gives real time analyzer report about climate, soil, and on-going market and storage strength and demand of market. We used big data analysis with Hadoop framework that is most commonly used for big data analysis it is quite accurate also speed in performance. And for reporting and judgment making we used PENTAHO BI that access us to produce interactive report and apex customize dashboard that help UI to easily understand and make resolution.

Keywords: Data Source, Data Analysis with Hadoop Framework, PENTAHO BI (Pentaho Business Intelligence)

I. INTRODUCTION

In Big data analytics we are surveying huge data sets to uncover Abscond patterns, undisclosed correlations, market trends, customer needs and other important business information. The analytical discovering can take us to more effective marketing, new revenue golden times, better farming scheme, Ameliorate farmer production, contest advantages over rival community and other business profit. In modern world the agricultural zone requires development in processes for judgment making, that can use the significant ascend in the amount of data and knowledge, which comes from a broad number of various sources, i.e. from soils, trees, climate, management systems, and others. In this effort, we advocate a Big Data environment for agricultural in distribution of storage and trade. In this paper we show what quantity does agriculture depends on rain fall and how could we establish storage according to use. we also discuss precision agriculture and how the Big Data environment is constructed.

II. EXACTITUDE AGRICULTURE

Farming is backbone of India, and the country has huge cultivated resources to encounter the needs of public and to harvest fibers and sustainable energy. Its greatest significant agronomic products include coffee, soybeans, wheat, rice, maize, sugarcane, cocoa, citrus, and beef. To range Such outcomes a set of farmed methods are mandatory, and nowadays the practice of precision agriculture has become central as it lets a cogent use of ideas, at mutable rates, and likewise agrees an improved empathetic of the longitudinal and temporal changeability in soil and plant constraints. Exactitude agronomy give or take that don't track the tradition and effort conferring to climate that's means if this period rain falls low accountant farm for that type of harvests that can straightforwardly raise in that state for such type of choice can receipts by the deep analysis of conditions report and climate anticipating. Meant for such job can be complete by the big data analysis [1]

Cultivating largely reliant on whether ailment rain fall, and precise water level help the farmer to strategy their harvest according to present circumstance big data with map reduce support well weather forecasting [2]

Soil investigation is most significant for crop and made conclusion of which crop can give finest production in this condition for this big data with map reduce using CT image analysis provide best outcome [3]

Exactitude agriculture offerings great contests and sole prospects for Computer Researchers, mainly those in the zones of data analysis and decision encouragement [4]

III. METHODOLOGY

Map Reduce is a handling method and a program typical for circulated computing. The Map Reduce fragment data in two portion, key and value. First it maps data with comparative facts and decrease it with different nodes. Entirely nodes mapped with the key nodes of stored data. So forth data in the nodes by using infer function that comprehend

analytical function to lessen them and provide speedy and dependable data set as result .With exhausting this procedure acquire data rapid and reliable view it drive input to the BI application that create the 3D data sight for decision manufacture and analytical reports

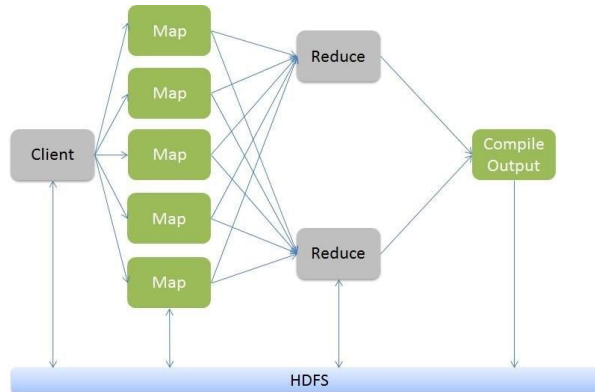


Fig (1) MapReduce model

Predictive analysis we can make analysis of different type of factors that provide us whatever analysis. Agricultural decision creation be contingent on several parameters like weather condition, soil condition and for accomplishment of well selling and income likewise necessity to examination market state. Anticipated resolution for this all kind of problematic practice big data for distributed computing with MapReduce algorithm additionally use imperiousness analytical application like PENTAHO BI that deliver 3d data picturing with dissimilar parameters like climate, soil analysis with graphic chart and diagrams by using it we can produce decision of which kind crops appropriate for present location.

IV. BIG DATA ENVIRONMENT

In overall, the research of a certain farming region requires a significant number of data trials, and thus the quantity of data can go above Petabytes of information in each examination. we have been creating an atmosphere that utilizes techniques and tools based on Big Data and lets toward performing agricultural soil analysis from meteorological conditions and production data.

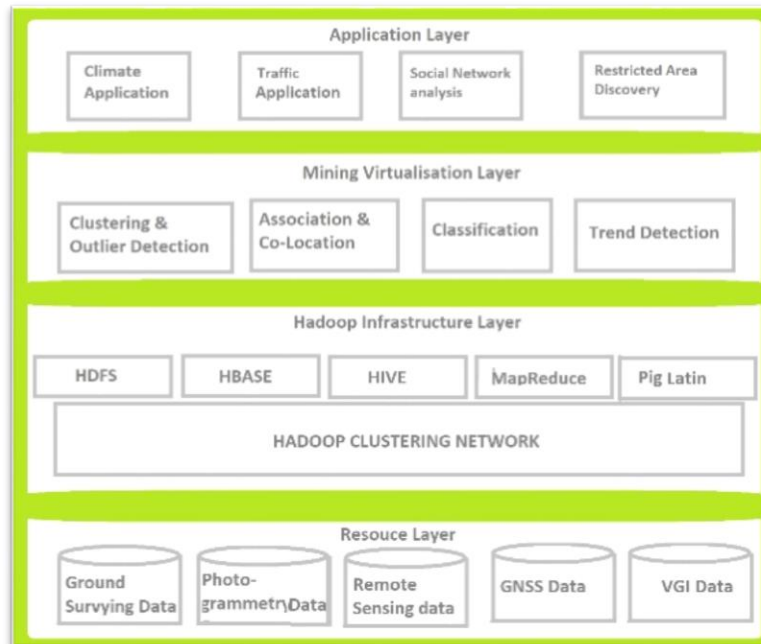


FIG (2) big Data environment

The judgment making a good data picture is highly essential just display various froth of report not enough still its trim detail data. persons mind realizes the images and diagrams much clearer and faster than straightforward text reports, this methodology supports a lot in decision making [6]

1. Descriptions of figure

In above picture reveal exactly how big data job data originate from several source and assembling all together to produce report for decision cause. In this pattern our data come from weather forecasting segment then region wise ground for farming and floor data compile to create report for administrator to formulate the proper circulation network and storage space. These data likewise help our grower to accurate farming that provide precise statement about weather and market condition that support cultivator to examine the report and detailed the farming, simply doesn't rise the income of farmer but also improve the financial system of country

2. Data source

Data originate from multiple source like climatological department for weather forecasting, region level data of agriculture crops production, FCI storage capacity and available storage, market feasting day to day, soil analysis, water level etc. Although data essential on soil, crop and environmental aspects can be obtained, most methods are labor-concentrated and costly. The data must be produced by automatic sensor systems sensing specific features or appropriate surrogates or developed a tool to achievement data reckless [5]. Fig (3) rain fall in this area 2001-2015

V. ANALYZER REPORTS

A. Rain falls in this area

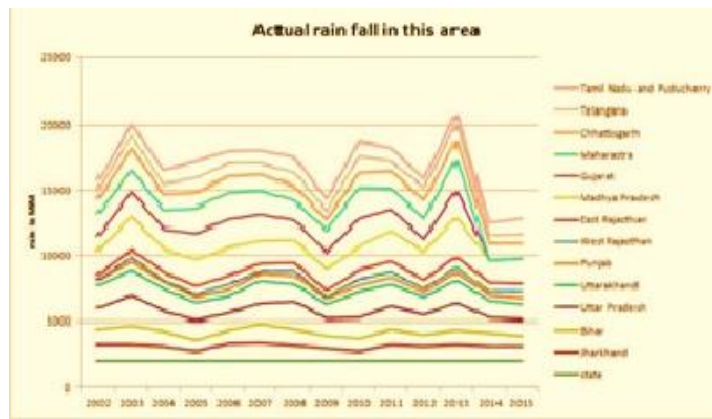


Fig (3) rain fall in this area 2001-2015

B. Food production during

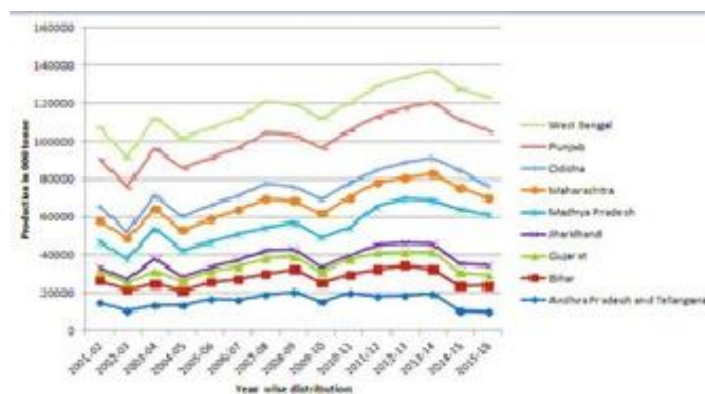


Fig (4) food production in this area 2001-2015

C. Examining graphs

- When analysis this to diagram we find that how rain fall directly affect cultivation. Picture indicate if rain fall a smaller amount then agriculture drop although when intense rain fall that defects the agriculture and food production in such case, we want a scheme that give the correct analysis in weather forecasting
- Difficulty with circulation network and storage
- We have current system for weather forecasting and require some progress on that but when climate and rain conference good that time production come with huge margin but our distribution.

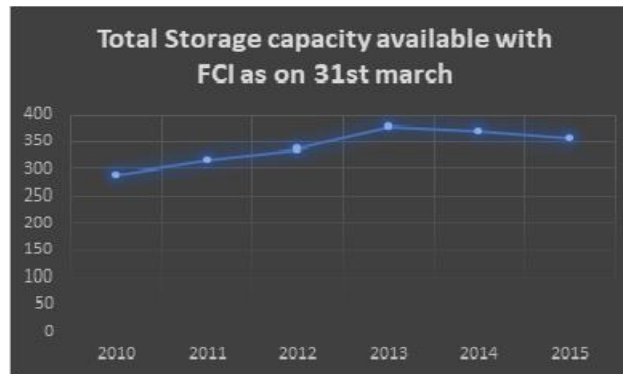


Fig (5) food storage available in this area 2001-2015

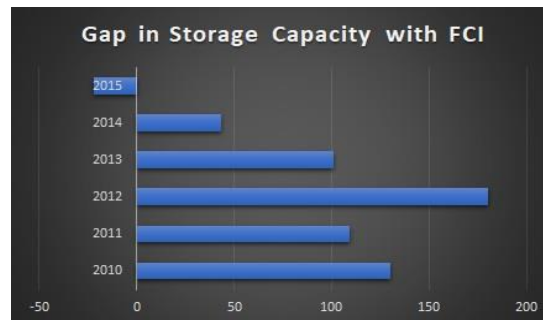


Fig (6) food storage gap in this area 2001-2015

VI. EVALUATION OF GRAPHS

Upstairs figure obviously say that we have fewer storage when production occurred goods, while storage goes out of size in above figure and study how in given year when climate is helpful for farmer and they produce good crop motivate them for not able to get proper profit since our circulation network and storage is not organized, hence unpaid to their food waist and former not get his profits as well as purchaser also suffered by that type of negligence.

VII. CONCLUSION

Big data analytical tool is extremely energy full tool that support the understating of data and analysis the data in various opinion. we utilize its analytical report which provide us thought around circulation network of farming and dependence of farmer on climate. Decision creating not just data image is most important not only chart report have ability to show various opinion.

ACKNOWLEDGMENT

The authors would like to thank **Prof. Srinatha D K** master's in computer engineering department to help in this research paper. the work was done Alliance collage of engineering and design students

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