

Agriculture Data Analytics in Crop Yield

Estimation using IBM Cognos

1. Introduction

1.1 Overview of the Project

In GDP of India, more than 19% share is from Agriculture. So, It is important to analyze the Crop Production data of Indian Agriculture market. This project is aimed to create fruitful visualization using Cognos Analytics on cloud for said data.

In this project various types of visualization is created to find the insights from Crop Production data of Indian market.

1.2 Purpose

The purpose of this project is to know about the fundamental concepts of IBM Cognos on cloud, the working with IBM Cognos, to work with various graph and charts and to create meaningful dashboard.

2. LITERATURE SURVEY

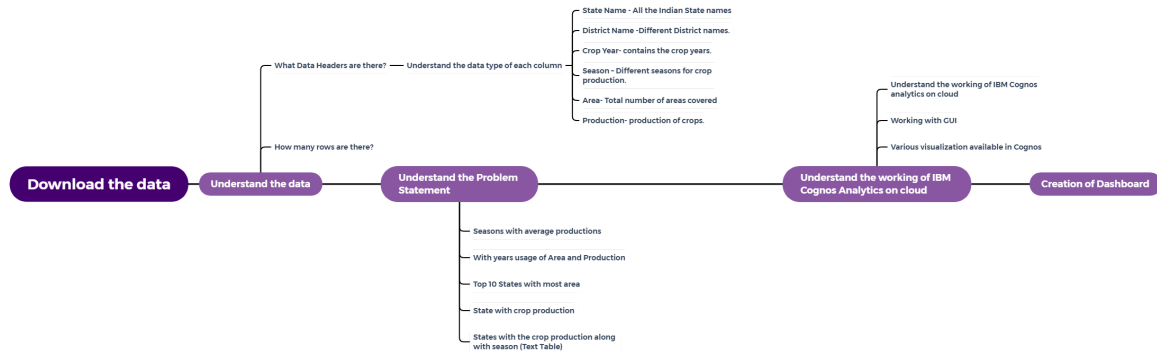
In this problem the dataset of Crop production is used. The dataset was downloaded from Kaggle using <https://www.kaggle.com/abhinand05/crop-production-in-india> link. The dataset contains the data of Agriculture production from year 1997 to 2015 in csv format. The data have 7 columns i.e. State, District, Year, Season, Area and Production.

There were 24000+ data in csv. The problem is find meaningful graphs from the data. For meaningful insights we have bar graph, line-graph, map chart etc. So, to create meaningful insights the IBM Cognos Analytics on cloud was used to create the dashboard. It is very easy and user friendly tool by which with minimum time we can create analytics.

For such analysis we can also use Microsoft Excel, but when data size is large, it is difficult to handle Microsoft Excel.

3. THEORETICAL ANALYSIS

3.1 Block Diagram



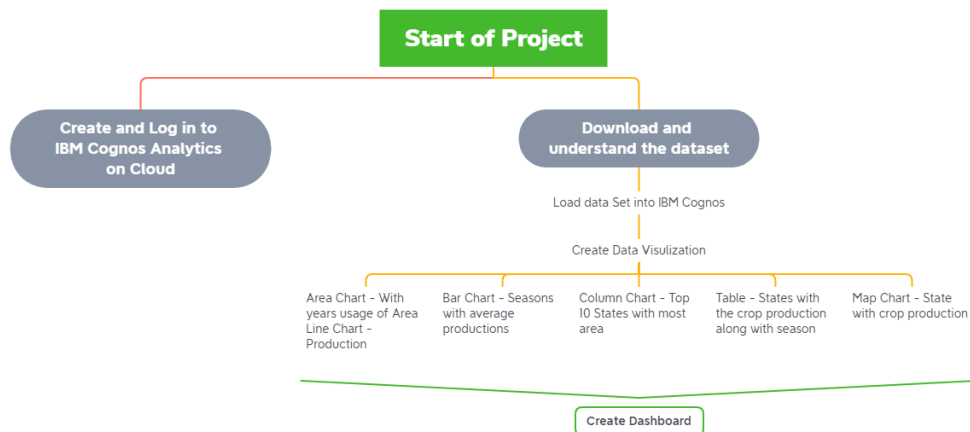
3.2 Hardware / Software designing

In this project no hardware is required because its on cloud. We need IBM Cognos Analytics on cloud for this project.

4. EXPERIMENTAL INVESTIGATIONS

In this project, before starting, the knowledge of various visualization is required. The knowledge of IBM Cognos Analytics on Cloud is must.

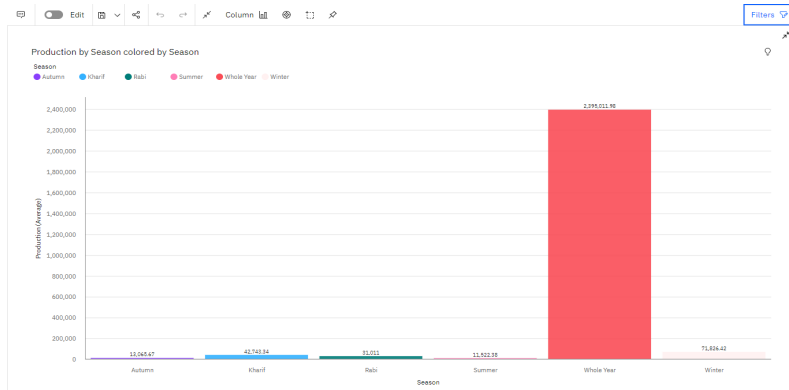
5. FLOW CHART OF THE PROJECT



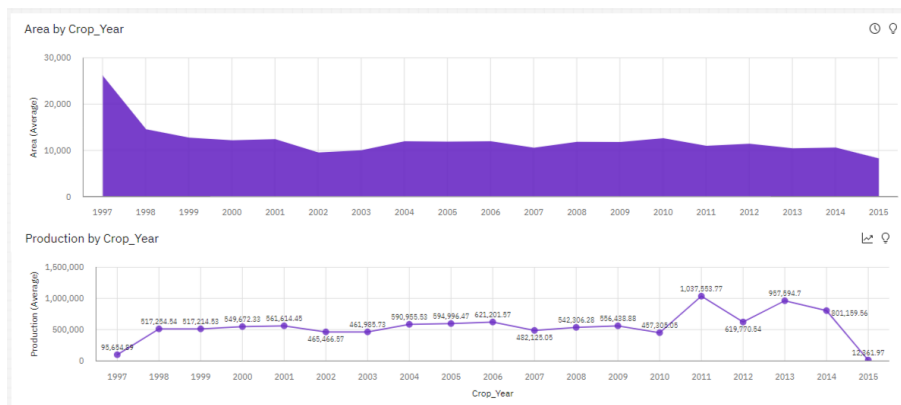
6. OUTPUT

Various outputs of the visualization are given below.

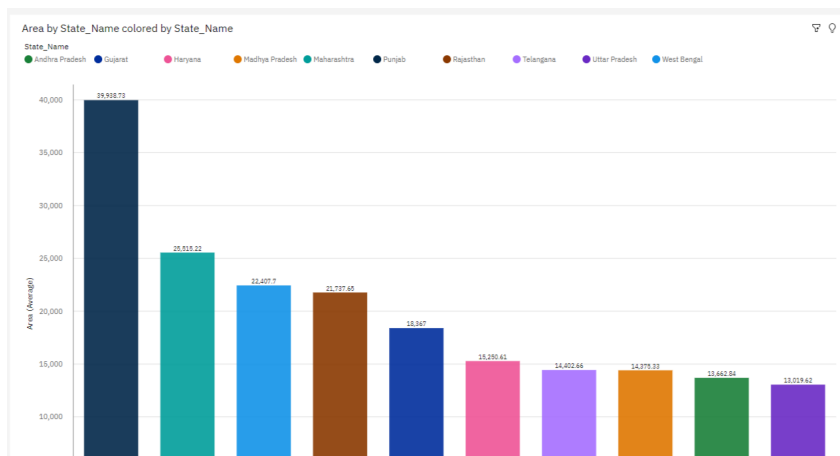
1. Seasons with average productions



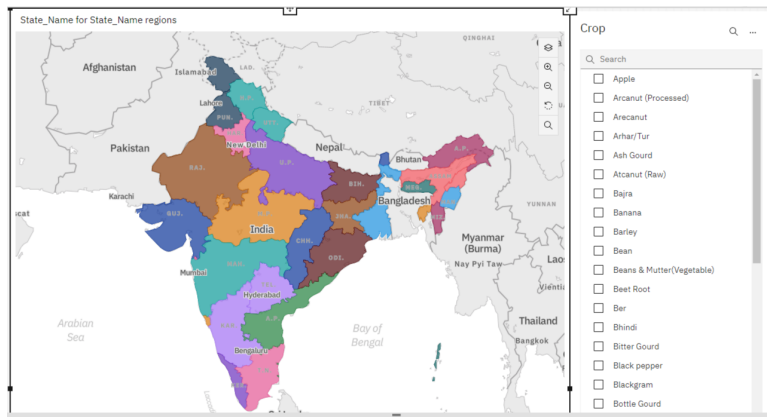
2. With years usage of Area and Production



3. Top 10 States with most area



4. State with crop production



5. States with the crop production along with season

States With Average Productions		With Years Usage Of Area And Production		Top 10 States With Most Area		State With Crop Production		States With The Crop Production Along W	
State_Name and Crop		Season and Crop							
State_Name	Crop	Crop	Season						
Andaman and Nicobar Islands	Areca nut		Kharif						
	Arhar/Tur		Rabi						
	Banana		Whole Year						
	Black pepper		Rabi						
	Cashewnut		Whole Year						
	Coconut		Rabi						
	Dry chillies		Whole Year						
	Dry ginger		Rabi						
	Groundnut		Whole Year						
	Maize		Whole Year						
	Moong(Green Gram)		Rabi						
	Other Kharif pulses		Whole Year						
	Rice		Rabi						
	Sugarcane		Whole Year						
	Sunflower		Rabi						
	Sweet potato		Rabi						
	Tapioca		Rabi						
	Turmeric		Kharif						
	Urad		Autumn						

By clubbing all above visualization Dashboard is prepared.

7. ADVANTAGES & DISADVANTAGES

Following are the Advantages of Proposed solution.

- Use of varied data sources like csv, .txt, json, etc.
- An intuitive and straightforward user-friendly interface.
- Personalized experience.
- Smart search works in context.
- Easy to understand
- Ease of access
- Sharing visualization with team.

Following are the Disadvantages of Proposed solution.

- Need access of IBM Cognos analytics on cloud.

- It can only be shared if the person have access of IBM Cognos Analytics.

8. APPLICATIONS

Following are the applications of such project.

- Creation of dashboard for any dataset
- Sharing with team members
- Find-out business insights
- To predict the future requirements

9. CONCLUSION

In this project, the new things of data analytics was explore. It was found the large number of datasets are available on Kaggle, data.gov.in, etc for data analytics. It was concluded that it is very easy to create dashboard on IBM Cognos Analytics on cloud. Even as a beginner it is very easy to start journey with IBM Cognos Analytics. Overall so many things were learnt form this project.