Agriculture Data Analytics in Crop Yield Estimation using IBM Cognos

1. Introduction

1.1 Overview of the Project

In GDP of India, more that 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

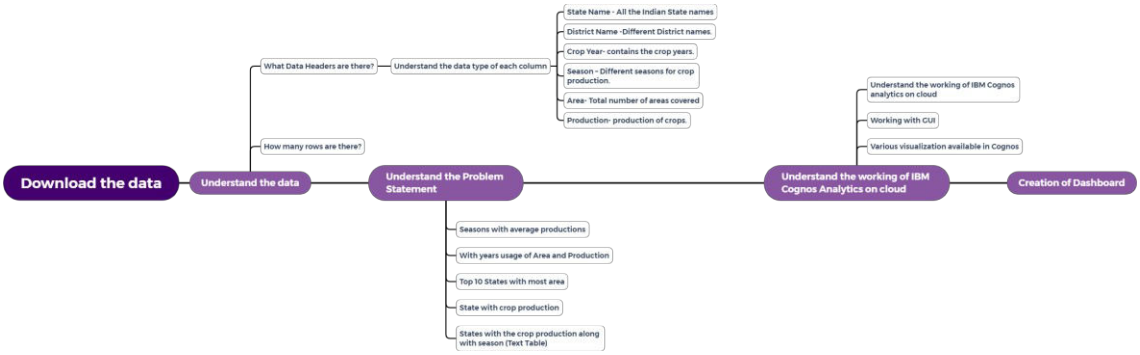
In this problem the dataset of Crop production is used. The dataset was downloaded from Kaggle using https://www.kaggle.com/abhinand05/crop-production-in-india link. The dataset contains the data of Agriculture production from year 1997 to 2015 in csv format. The data have 7 columns i.e. State, District, 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 Aslo use Microsoft Excel, but when data size is large, it is difficult to handle Microsoft Excel.

3. THEORITICAL ANALYSIS

3.1 Block Diagram



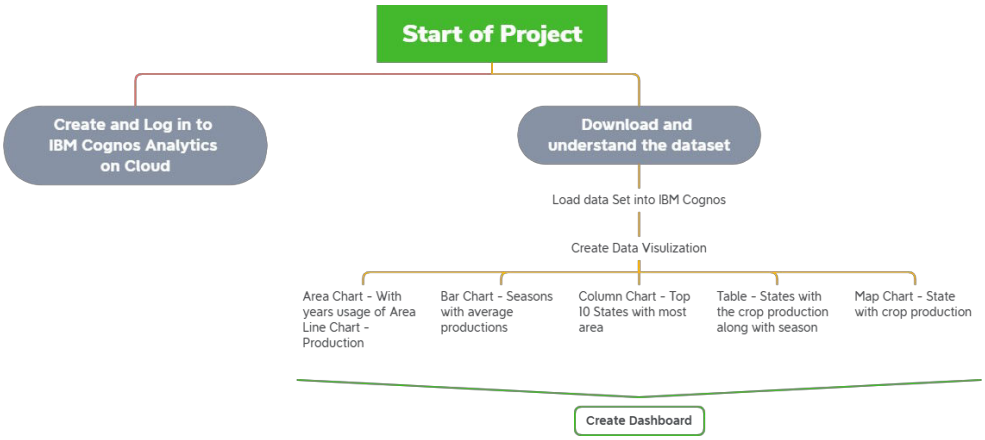
3.2 Hardware / Software designing

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.

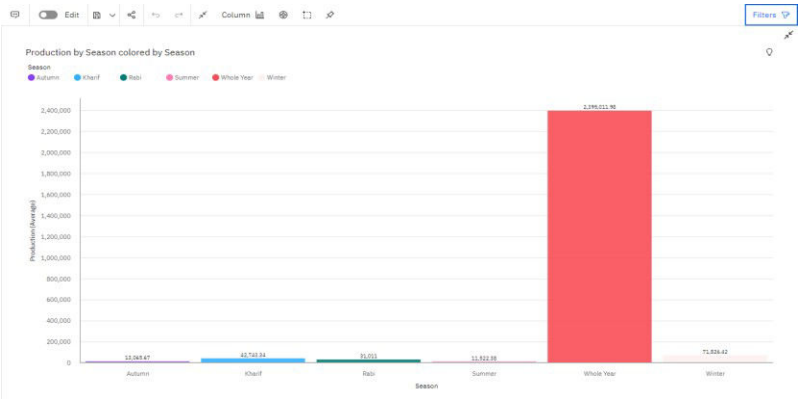
5. FLOW CHART OF THE PROJECT



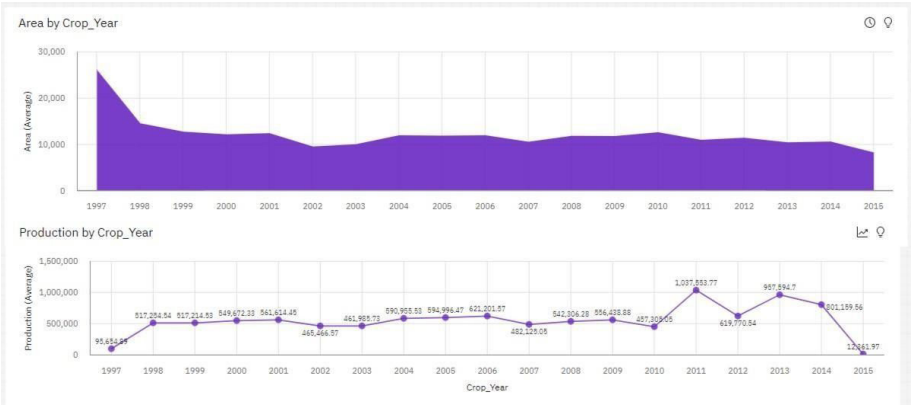
6. OUTPUT

Various outputs of the visualization are given below.

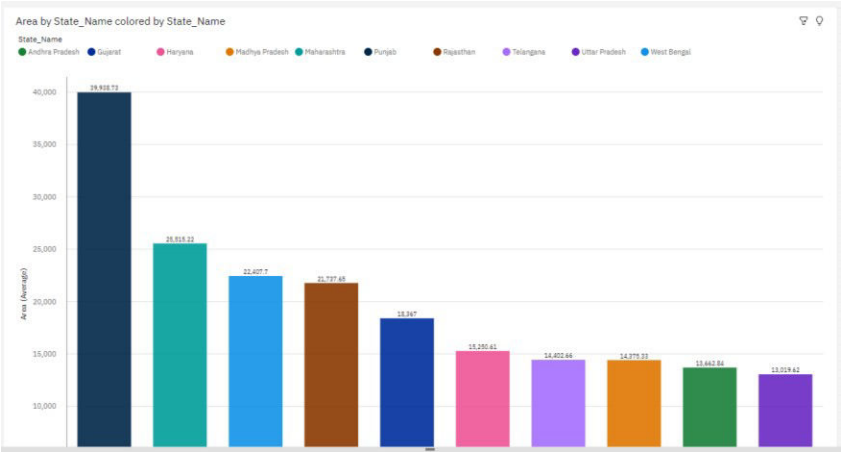
1. Seasons with average productions



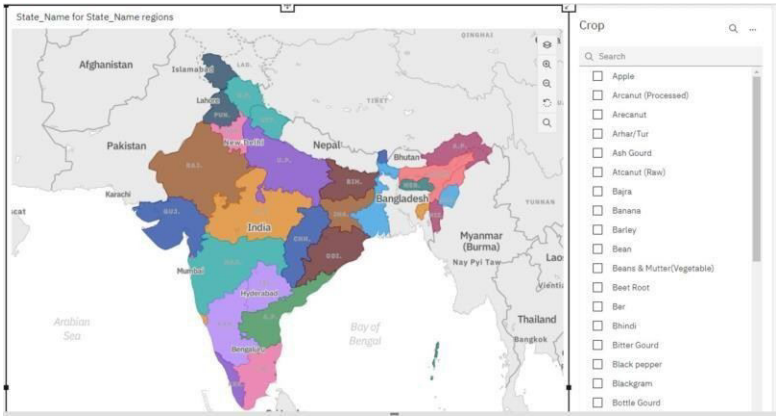
2. With years usage of Area and Production



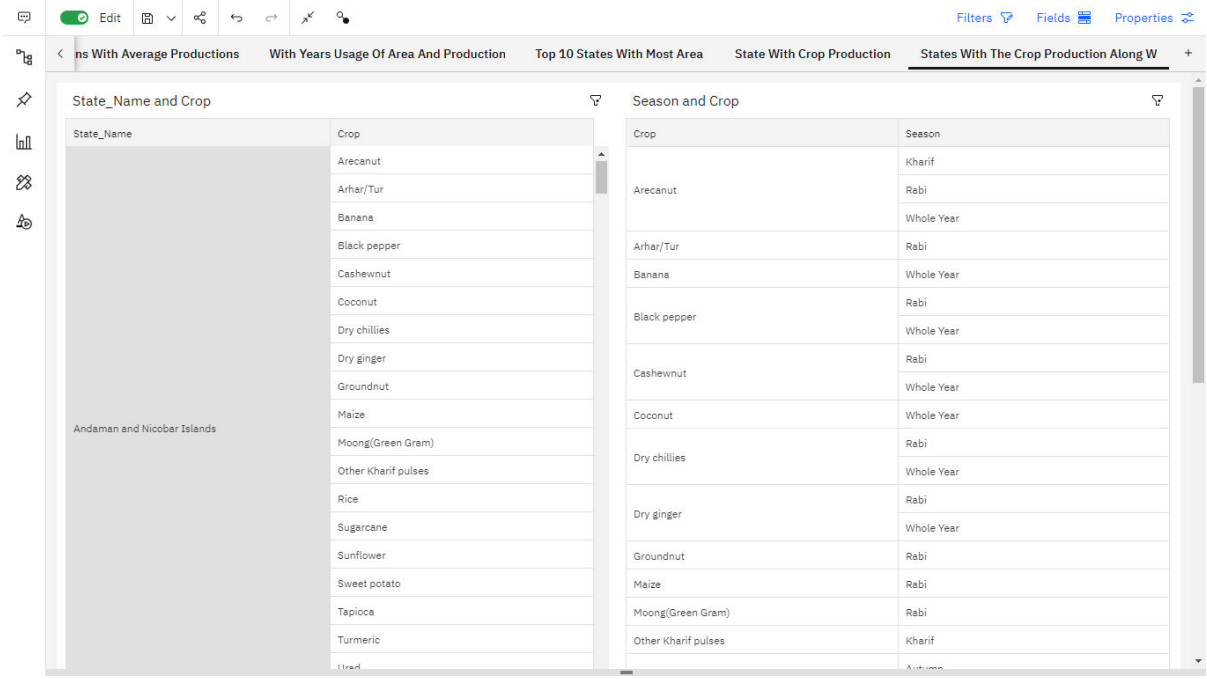
3. Top 10 States with most area



4. State with crop production



5. States with the crop production along with season



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.