IBM Course_Data Analytics
Project Report

Project Title : Agriculture Data Analytics in Crop Yield Estimation using IBM Cognos

DataSet: crop_production.csv

Project Objectives

- To understand concepts of data analytics and work on IBM Cognos Analytics.
- To gain an insight of multiple visualizations available in IBM Cognos Analytics.
- To create dashboards for given requirements.

About Dataset :

This project is based on a understanding the crop production of India .It has 2,46,092 data points (rows) and 6 features (columns) describing each crop production related details.

A brief overview of dataset representation:

1. State Name - All the Indian State names.

2. District Name -Different District names.

3. Crop Year- contains the crop years.

We begin with loading the dataset in IBM Cognos Analytics. One the dataset is loaded, we go to the content tab and select the dataset. Using the Crop production in Indian dataset, we plan to create various graphs and charts to highlight the insights and visualizations.

Data Visualizations:

1. **Seasons With Average Productions**

We select the column visualization. Drag and drop Season and Production from sources. By default, Production is displayed for sum which we change to average from the left fields panel by selecting average in summarize tab for production. We can display label by enabling show labels. Also Colours can be added to season so that we have colour displayed for evry season.

2. With Years Usage Of Area And Production

In our dataset we also have a year's columns by which we will plot a line and area graphs to see the change in these both data with respect to increase in years.

3. Top 10 States With Most Area

As we have an area data in our dataset, we will be plotting some graphs to visualize the top 10 Indian states with the most area. We select top 10 as count to display only top 10 state names as per the area.

4. State With Crop Production

There are so many different crops produced in Indian and most of us don't know which crop is belongs to which state so we will be plotting and highlight the states in map according to different crops. We drag and drop crop to filters and later select the crop we want to visualize. also we can add the filter to canvas by making appropriate selection.

5. States With The Crop Production Along With Season (Text Table)

Taking forward the previous plot we will be fetching the state name and showing it in a text table whenever different crops are chosen. We select table visualization and drag and drop state and crop. same like previous visualization we can add crop to filter and add it to canvas. we move the crop in fields tab to top for better visualization.

Once we have created views on different tabs in Cognos analytics, we pull them into a dashboard. Copy and paste individual plots to the same canvas and create dashboard. now when we make changes to selections they are reflected in all individual graph plots.

Finally we can click on the share icon and export to pdf and share with others.