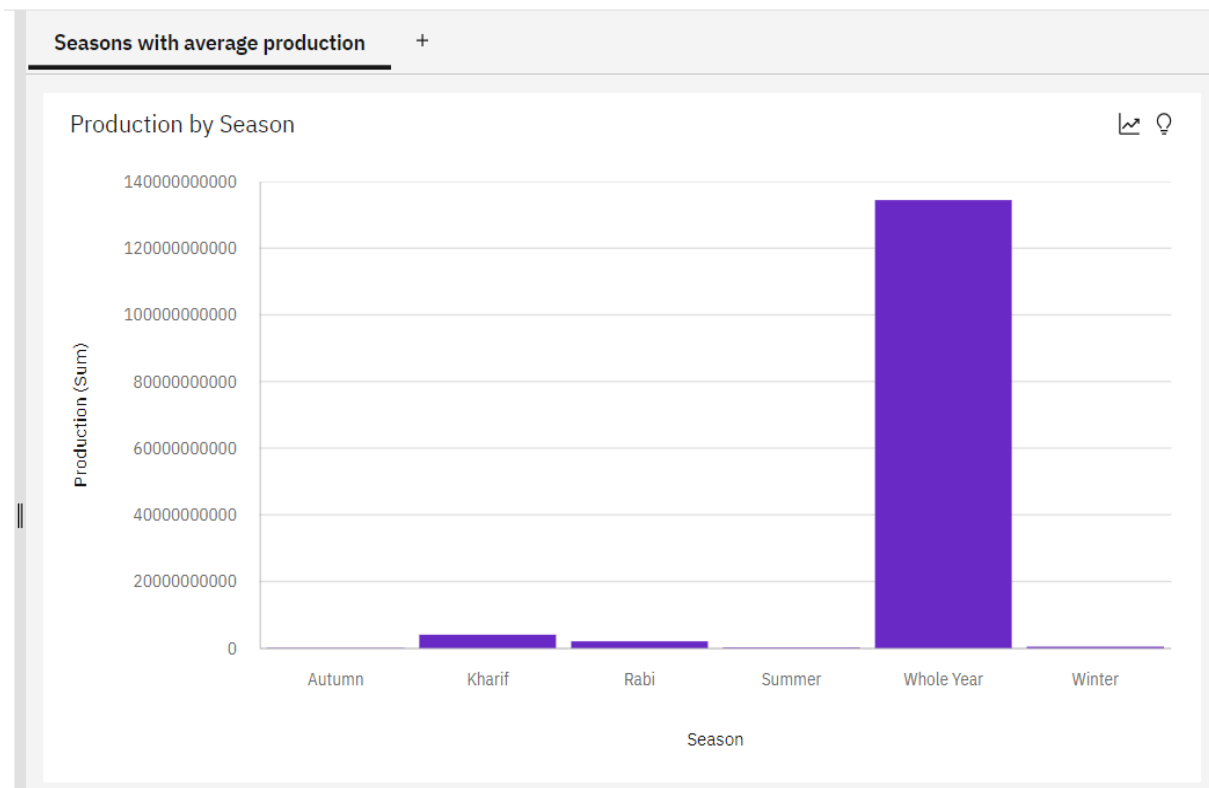


## **Proposed Solution For Estimate Of Crop Yield Using Data Analytics**

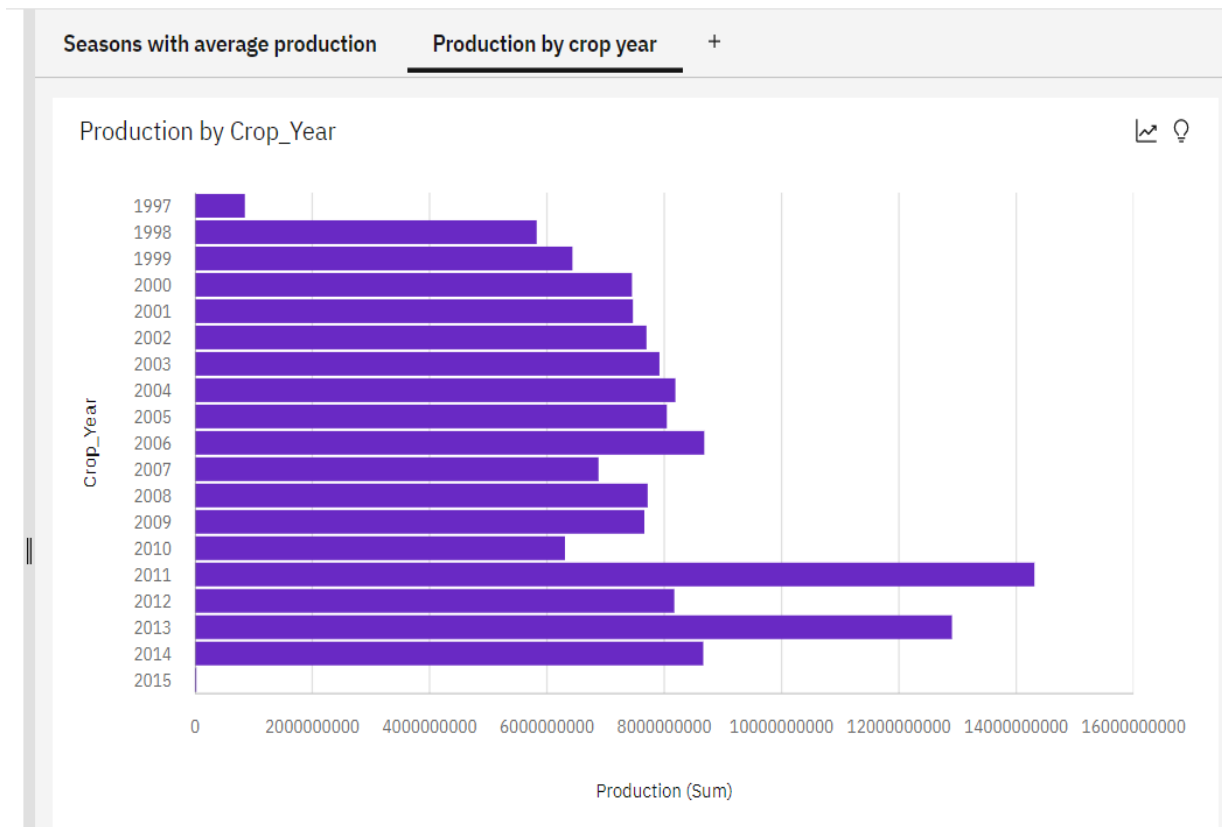
Analytics is the interpretation of data pattern that assist decision- making and performance improvement. Data analytics in crop yield helps in analysing some important visualization, creating a dashboard and by going through these we will get most of the insights of Crop production in India. IBM Cognos Analytics integrates reporting, modelling, analysis, exploration, dashboards, stories, and event management so we can understand our organization's data, and make effective decisions. A dashboard helps us to monitor events or activities at a glance by providing key insights and analysis about our data on one or more pages or screens. In this project, we visualize, analyse and gain most of the insights by creating a dashboard.

At present we are at the immense need of another Green revolution to supply the food demand of growing population. With the decrease of available cultivable land globally and the decreased cultivable water resources, it is almost impossible to report higher crop yield. Agricultural based big data analytics is one approach, believed to have a significant role and positive impact on the increase of crop yield by providing the optimum condition for the plant growth and decreasing the yield gaps and the crop damage and wastage. With this aim the present paper reviews about the various advances, design models, software tools and algorithms applied in the prediction assessment and estimation of the crop yield. India is basically agriculture based country and approximately 70% our country economics is directly or indirectly related to the agricultural crops. The principle crop which occupies the highest (60-70%) percentage of cultivable land in the Indian soil is the paddy culture and it is the major crop especially in central and south parts of the India. Rice crop cultivation plays an imperative part in sustenance security of India, contributing over 40% to general yield generation. The enhanced yield of the rice crop depends largely on the water availability and climatic conditions. For example, low precipitation or temperature extremes can drastically diminish rice yield. Growing better strategies to foresee yield efficiency in a mixture of climatic conditions can help to understand the role of different principle factors that influence the rice crop yield. Big data analytic methods related to the rice crop yield prediction and estimation will certainly support the farmers to understand the optimum condition of the significant factors for the rice crop yield, hence can achieve higher crop yield.

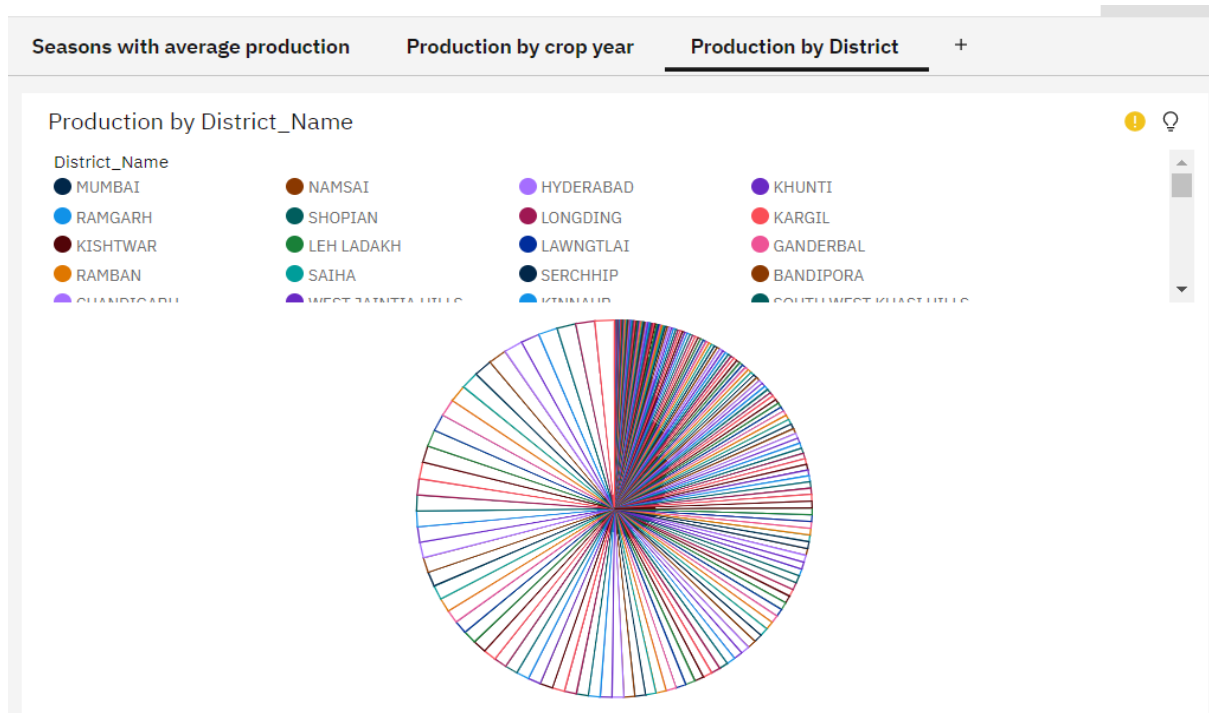
1) Seasons with average productions:



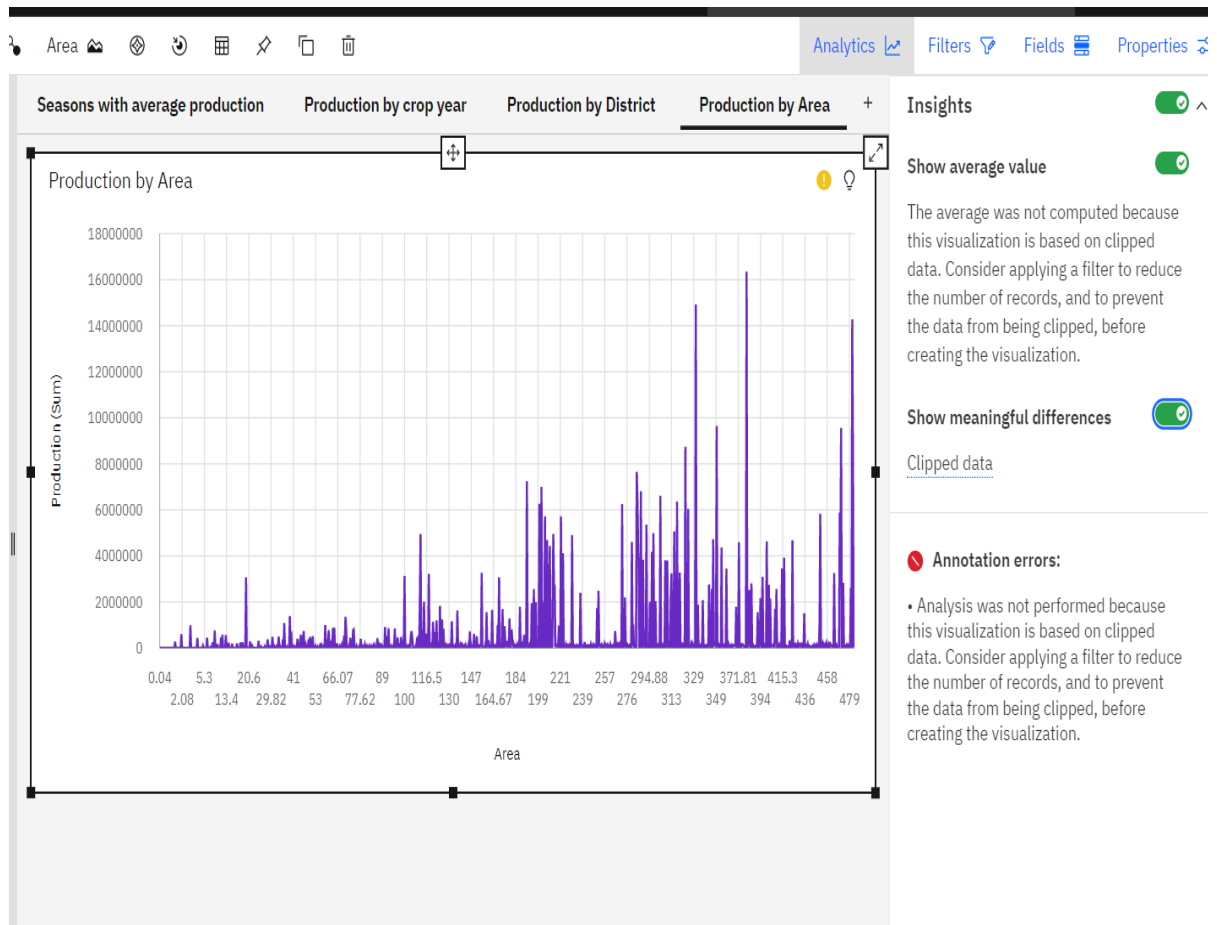
## 2) Production by crop year:



## 3) Production by District:



#### 4) Production by Area:



As a result of penetration of technology into agriculture field, there is a marginal improvement in the productivity. The innovations have led to new concepts like digital agriculture, smart farming, precision agriculture etc. In the literature, it has been observed that analysis has been done on agriculture productivity, hidden patterns discovery using data set related to seasons and crop yields data . We have noticed and made analysis about different crops cultivated, area and productions in different states and districts using IBM Cognos some of them are

- 1) Seasons with average productions, In this analytics we come to know in which seasons the average production is more and in which seasons the production is less,
  - 2) Production by crop year. In this analysis we come to know in Which years the production is high and low.
  - 3) Production by District. With this analytics we can aware of the districts with the selected crops cultivated and states too.
  - 4) Production by Area, From this we can know how much area should be cultivated and the production will be getting will be estimated,
- Finally created the dashboard and made analysis that in which state and in which year with crop area and to what extent the production will be are analysed.