India's Agricultural Crop Production (1997-2021)

India’s Agricultural Crop Production Analysis(1997-2021)

This report delves into the captivating realm of India's agricultural cultivation, providing a comprehensive visual exploration of key aspects and trends in the agricultural sector. Through the visual representations, readers can gain valuable insights into crop production, seasonal variations, regional distribution, and overall production trends. These visualizations enable intuitive analysis, allowing stakeholders to uncover patterns, identify areas of growth or concern, and make data-driven decisions.

Introduction:

This Document delivers what we have done in this project and what we experienced by this project. Here we attached the step by step procedure we followed to complete this project successfully. Also we attached the links of our project for reference .

1. Creating Empathy Map:

- By observing the topic of this project **India's Agricultural Crop Production 1997-2021** first me and my teammates discuss about the topic.

- With the help of **Mural** application we create an "**Empathy Map".**

- We express our **Ideas, Thinks, Does, Feel** in the form of mappings.

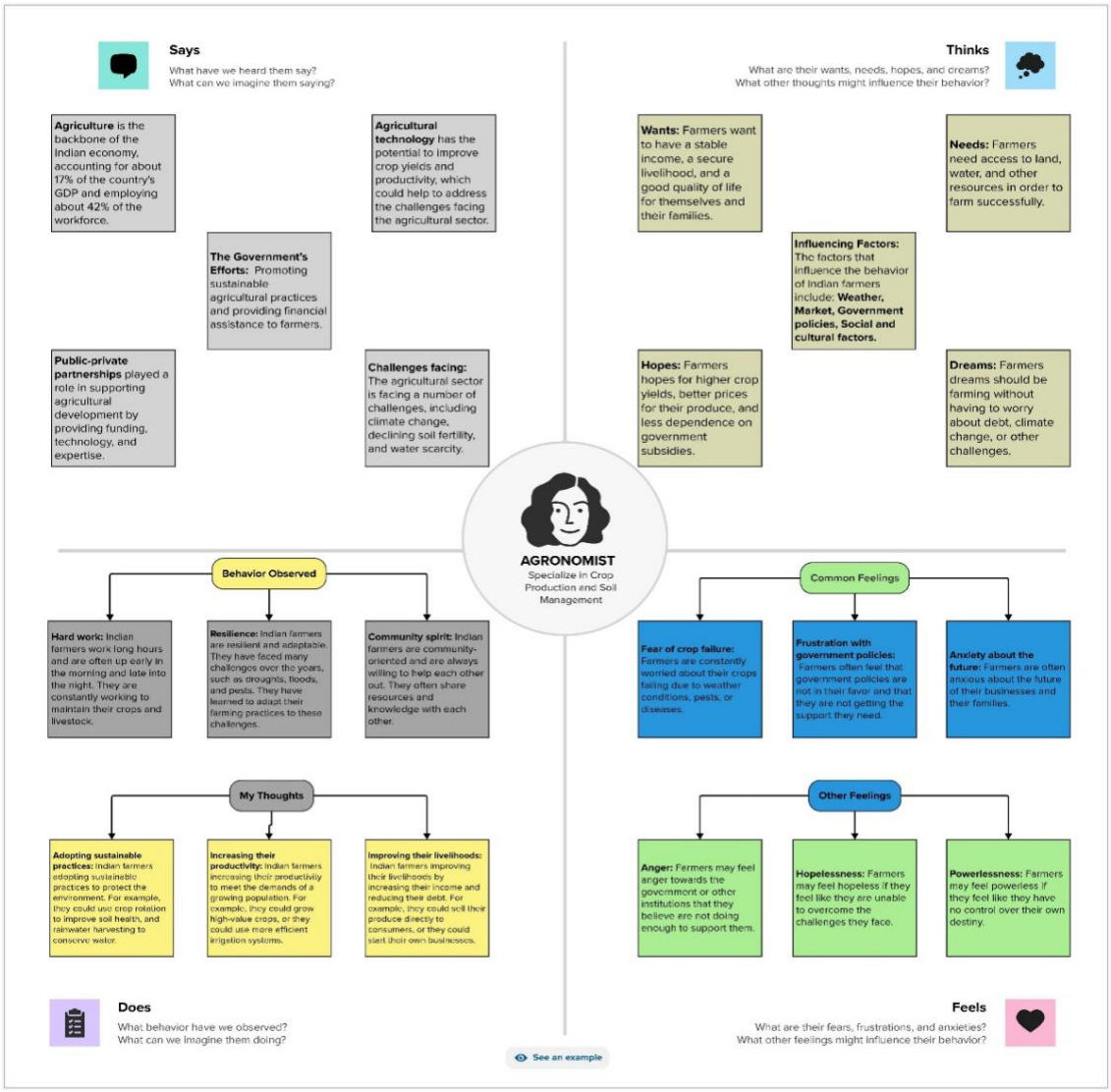


Fig 1: Empathy Map

2. Creating Brainstorm:

- With the help of **Mural** application we create a “**Brainstorm” .**

- In this Activity me and my teammates discuss the solution for the given problem statement.

- The important points are highlighted and ranked based by its effectiveness.

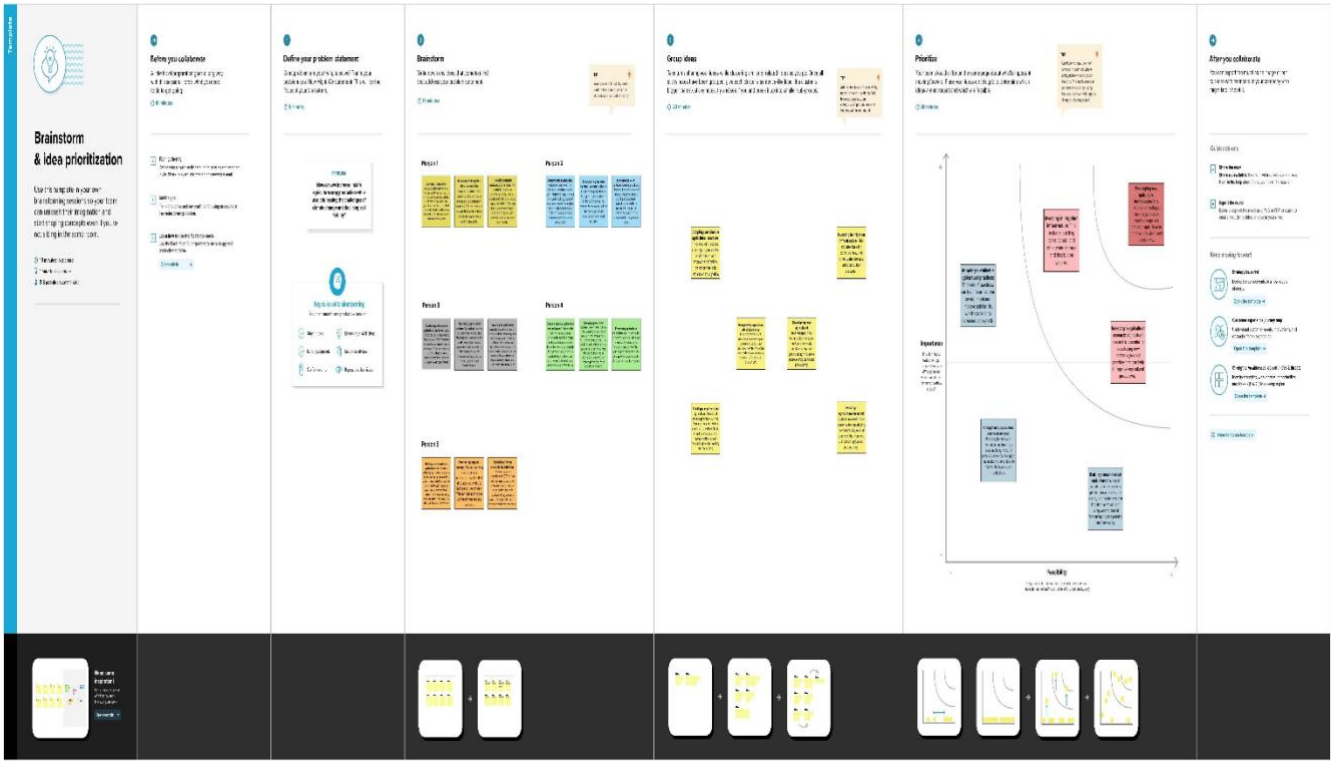


Fig 2: Brainstorm

3. Files upload in GitHub

1: GitHub Link for see our Profile:

https://github.com/teamSakthi

By clicking this above link you may see our GitHub profile.

4.Downloading the dataset

We download the required data set from this below website :

https://www.kaggle.com/datasets/pyatakov/india-agriculture-crop-production

Understand the data

Data consists of 345409 rows and 10 columns that correspond to different values.

Column Description of the Dataset:

State : The name of the Indian states.

District : The name of the districts of Indian states.

Crop : Name of different crops grown in India

Year : Date

Season : India has 5 seasons for crop cultivation: kharif, rabi, autumn, winter and summer.

Area: Area for crop cultivation in acres

Production : Production of crops in tonnes

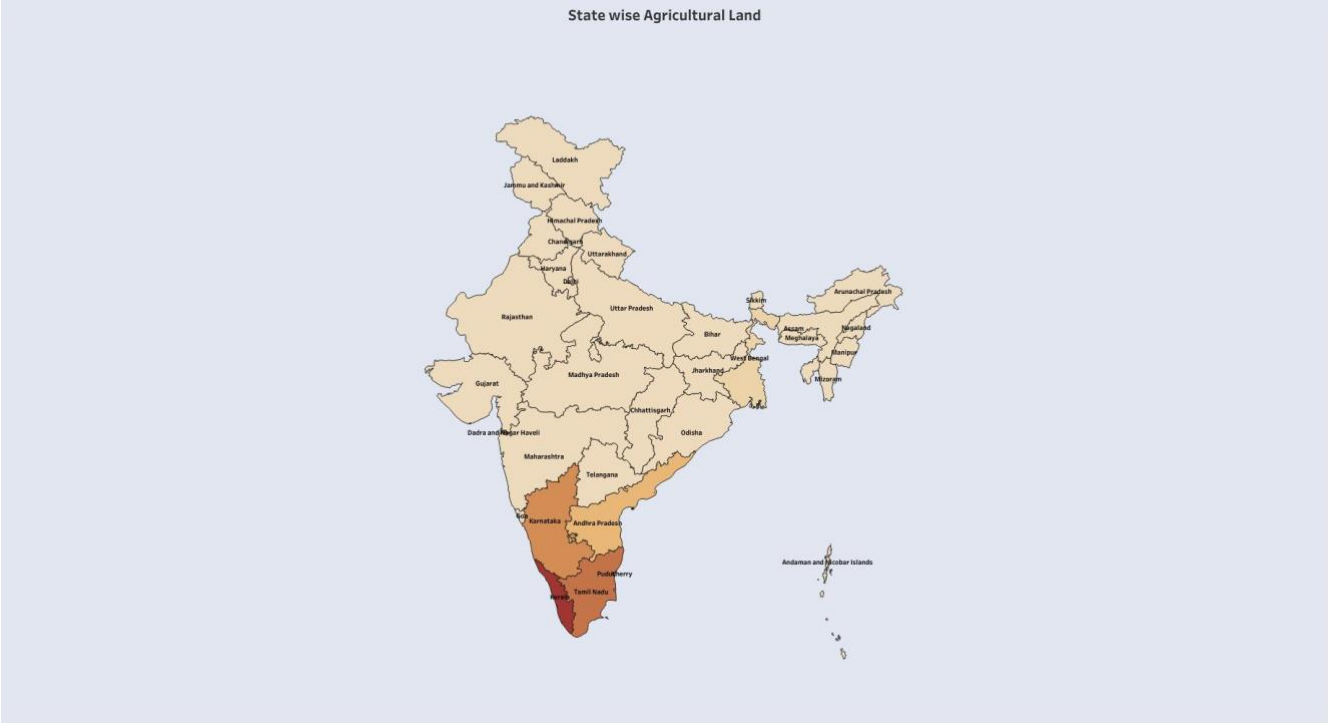
Yield : Yield by the crops under cultivation

5. Data Visualization:

Activity 1: No of Unique Visualizations

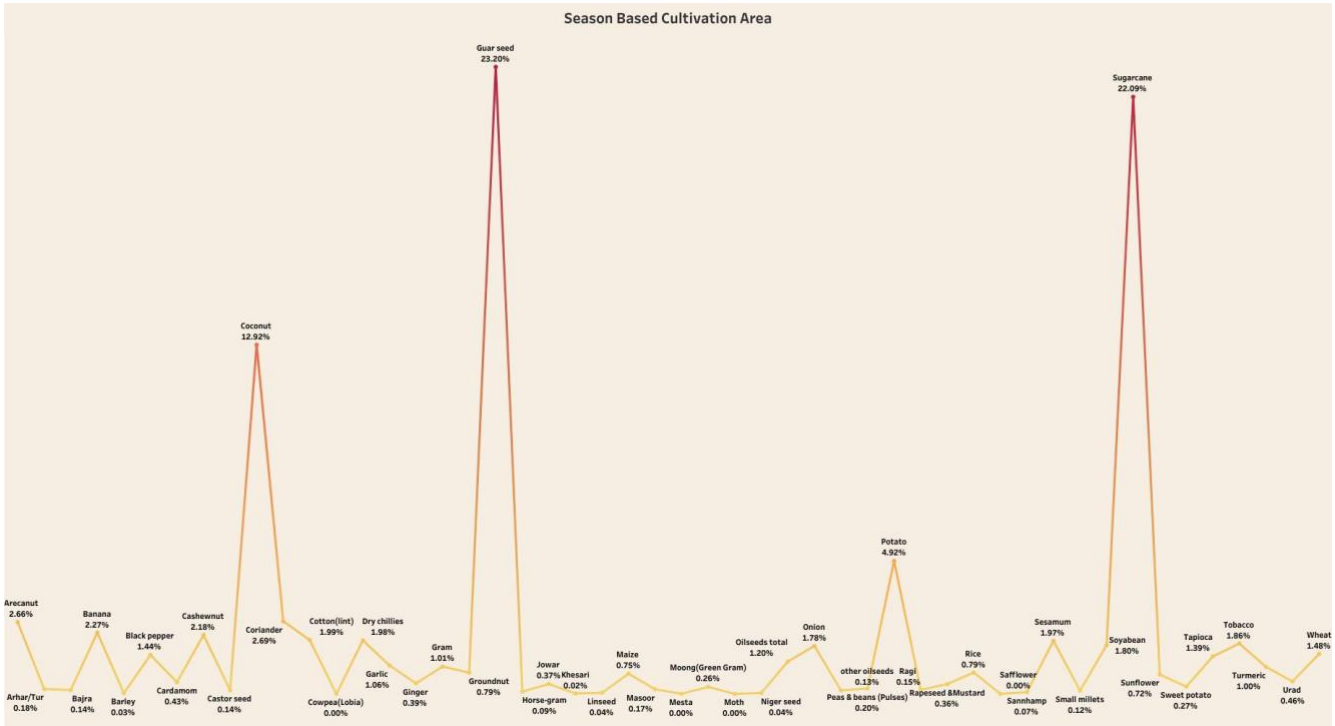
The number of unique visualizations that can be created with a given dataset. Some common types of visualizations that can be used to analyze the performance and efficiency of banks include bar charts, line charts, heat maps, scatter plots, pie charts, Maps etc.

Activity 1.1 : State wise Agricultural Land

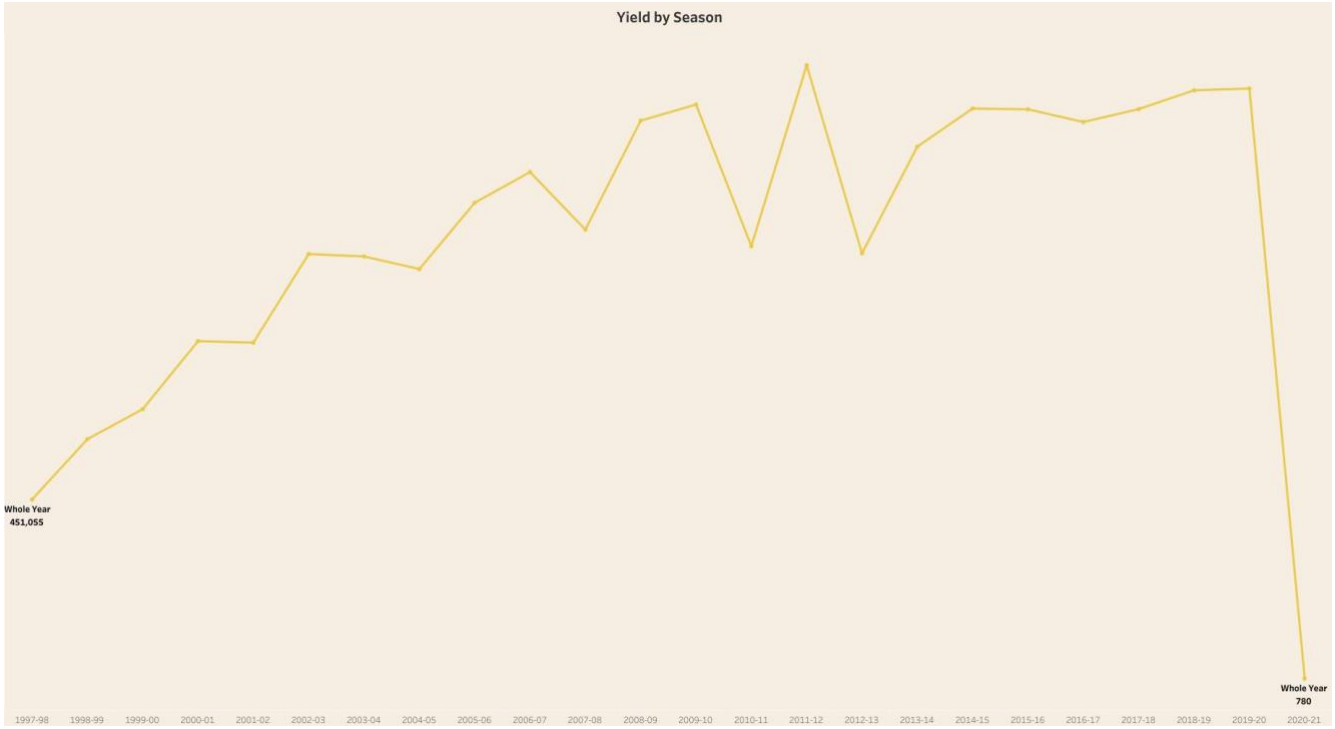


Activity 1.2 : Area vs Production

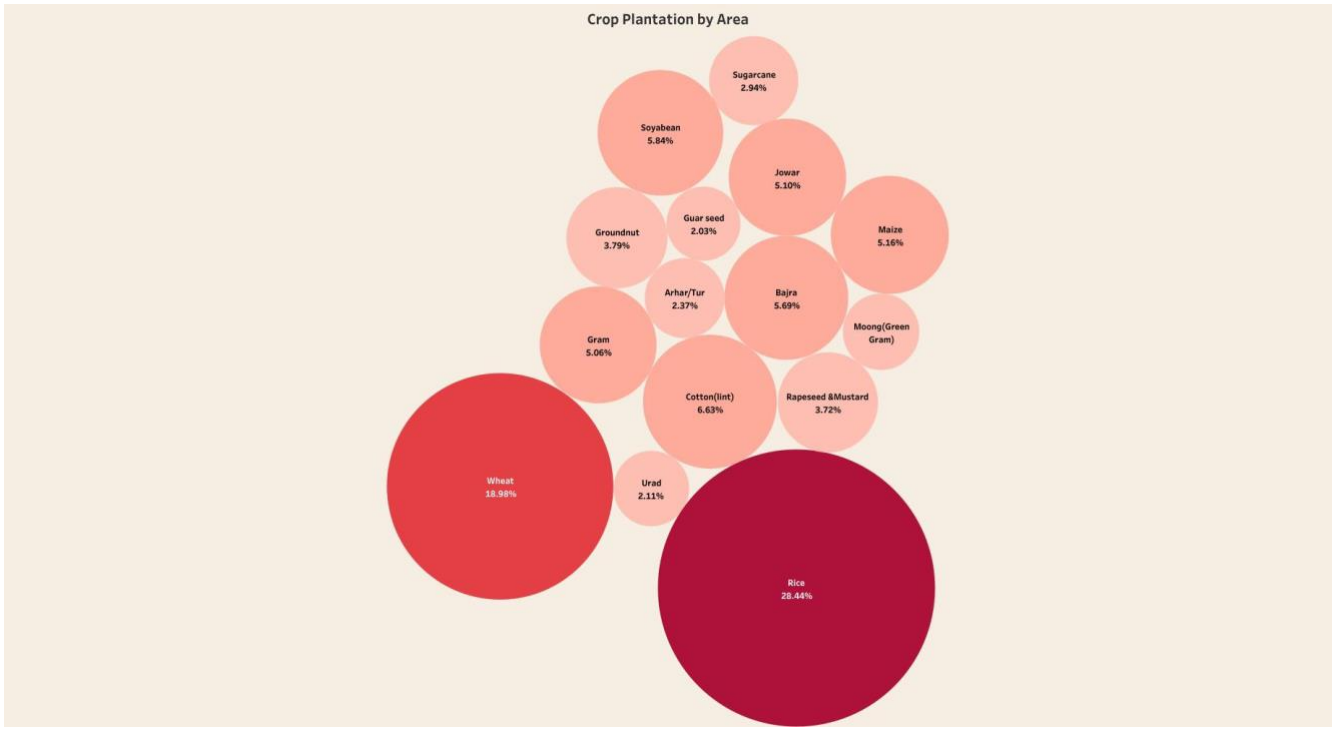
Activity 1.3 : Season based cultivation



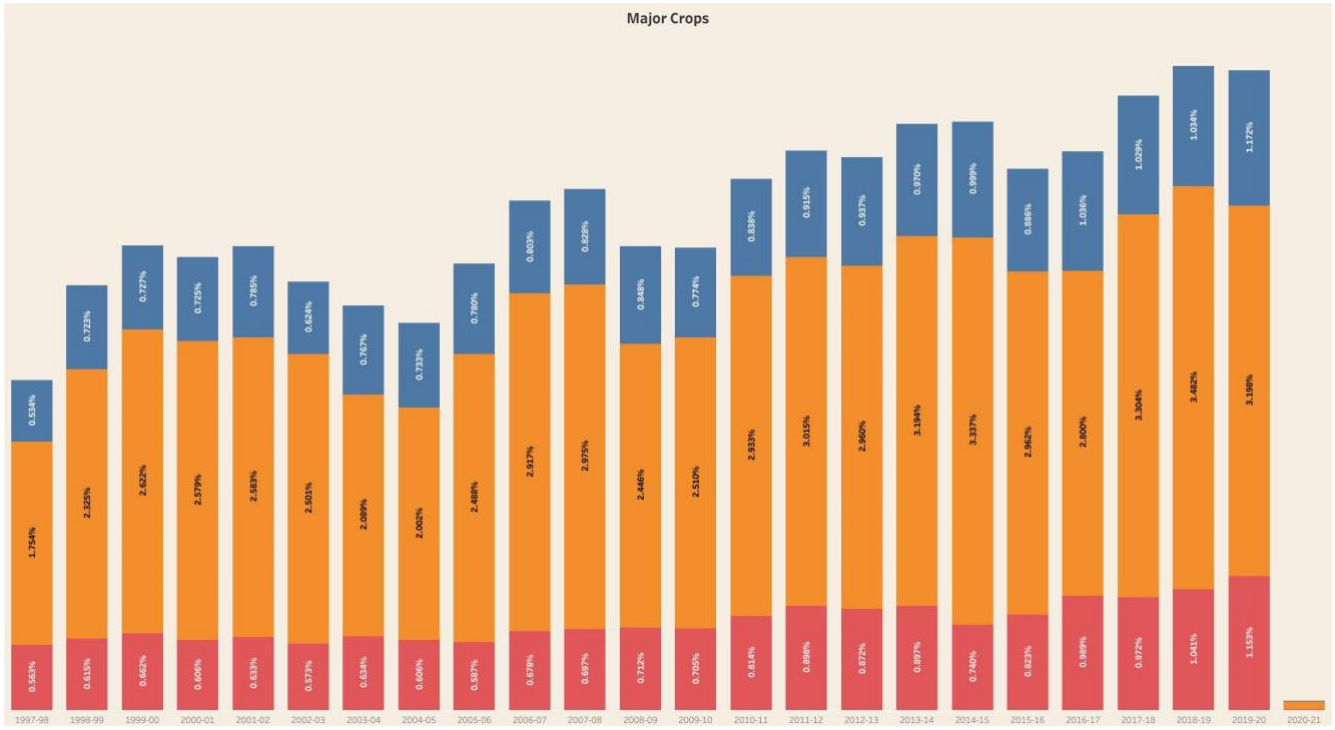
Activity 1.4 : Yield by season



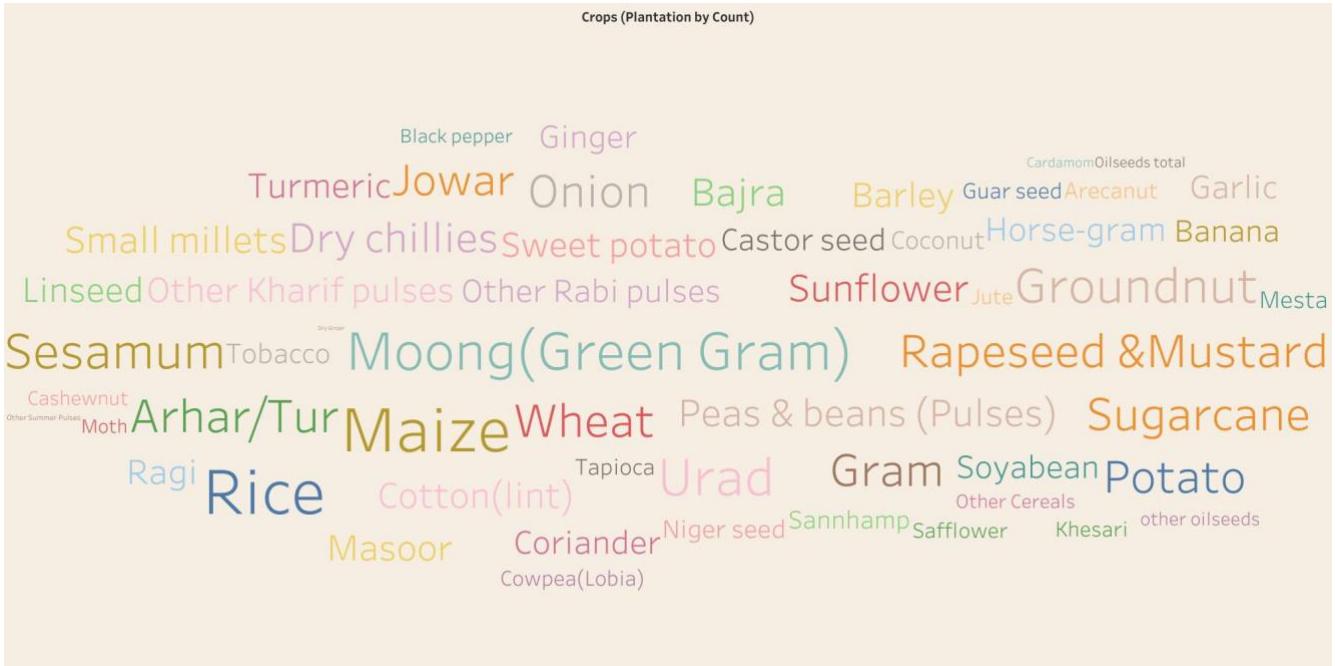
Activity 1.5 : Crop plantation by area



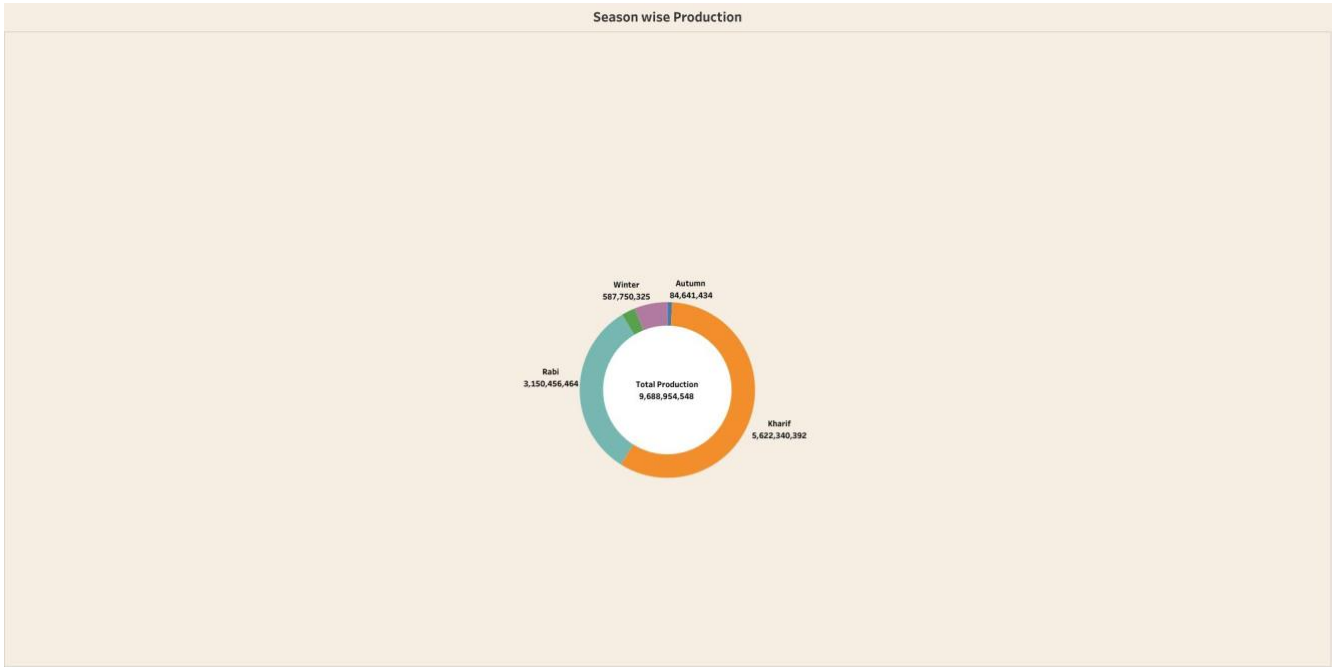
Activity 1.6 : Major crops growth



Activity 1.7 : Crops



Activity 1.8 : Season wise production



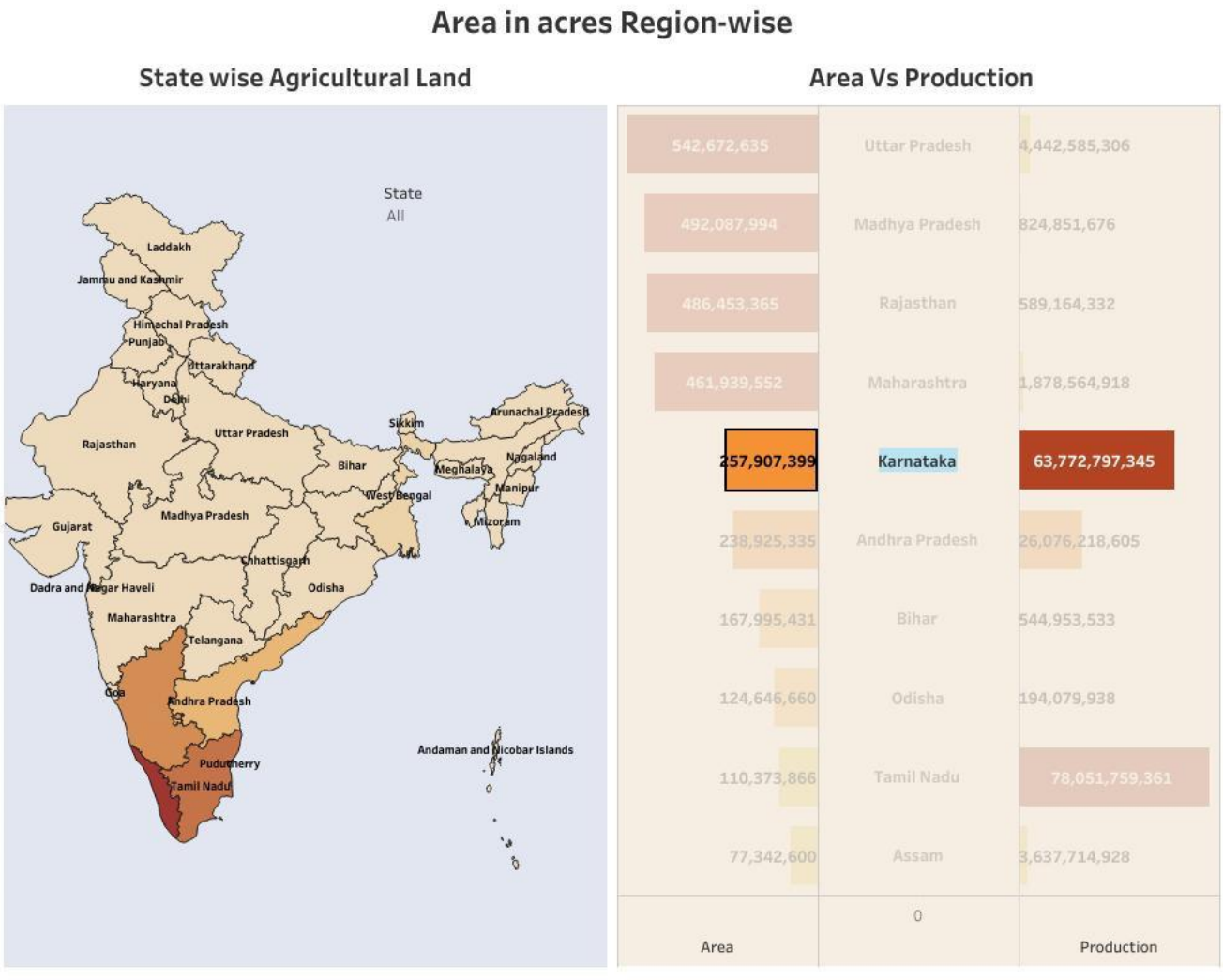
6. Dashboard:

A dashboard is a graphical user interface (GUI) that displays information and data in an organized, easy-to-read format. Dashboards are often used to provide real-time monitoring and analysis of data and are typically designed for a specific purpose or use case. Dashboards can be used in a variety of settings, such as business, finance, manufacturing, healthcare, and many other industries. They can be used to track key performance indicators (KPIs), monitor performance metrics, and display data in the form of charts, graphs, and tables.

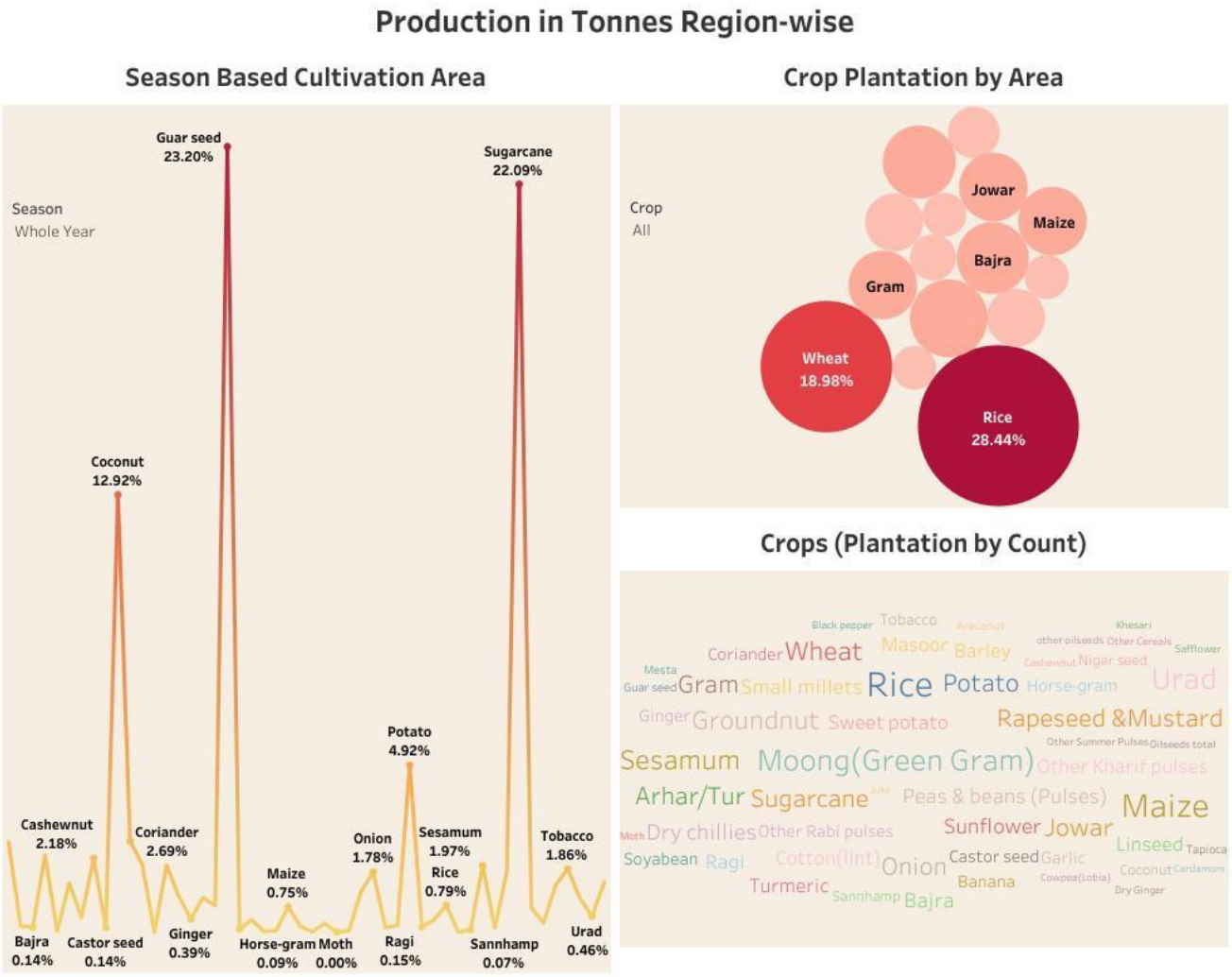
Activity 1: Responsive and Design of dashboard

Once you have created views on different sheets in Tableau, we pull them to into a dashboard.

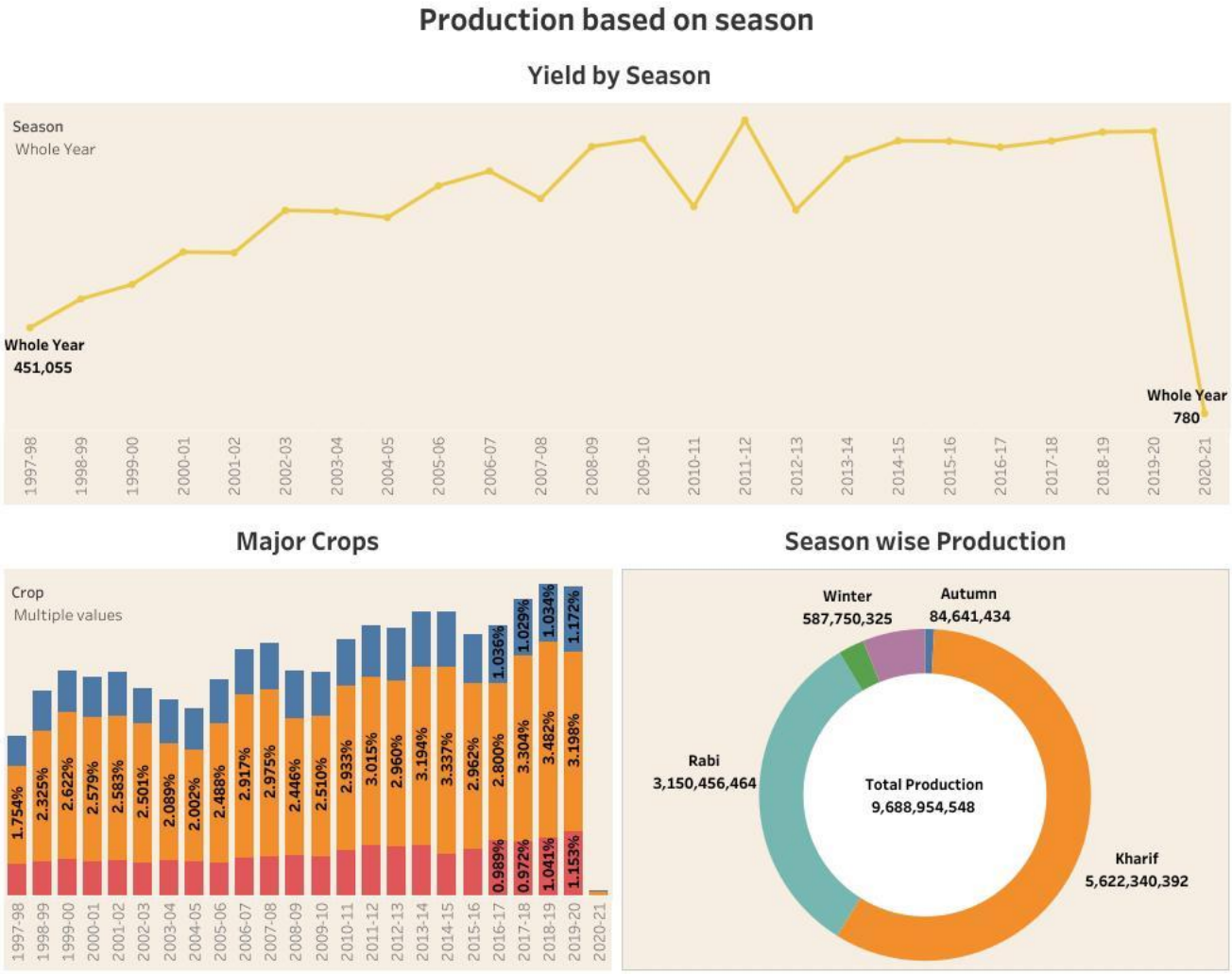
Activity 1.1 : Dashboard 1



Activity 1.2 : Dashboard 2



Activity 1.3 : Dashboard 3



7. Story:

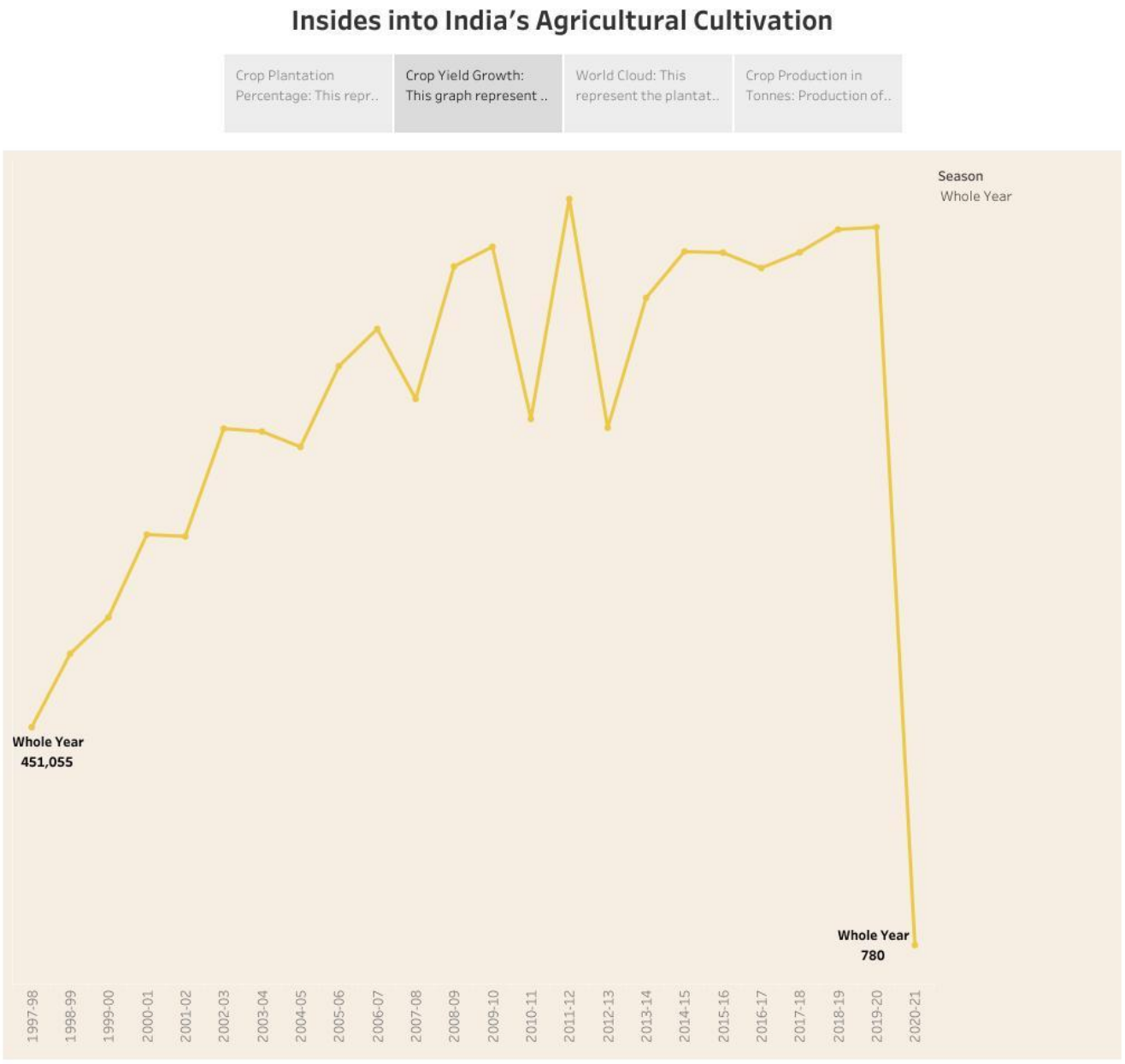
A data story is a way of presenting data and analysis in a narrative format, intending to make the information more engaging and easier to understand. A data story typically includes a clear introduction that sets the stage and explains the context for the data, a body that presents the data and analysis logically and systematically, and a conclusion that summarizes the key findings and highlights their implications.

Activity 1: Number of scenes in a story

A storyboard is a visual representation of the data analysis process and it breaks down the analysis into a series of steps or scenes.

Activity 1.1 : Story 1

Activity 1.2 : Story 2

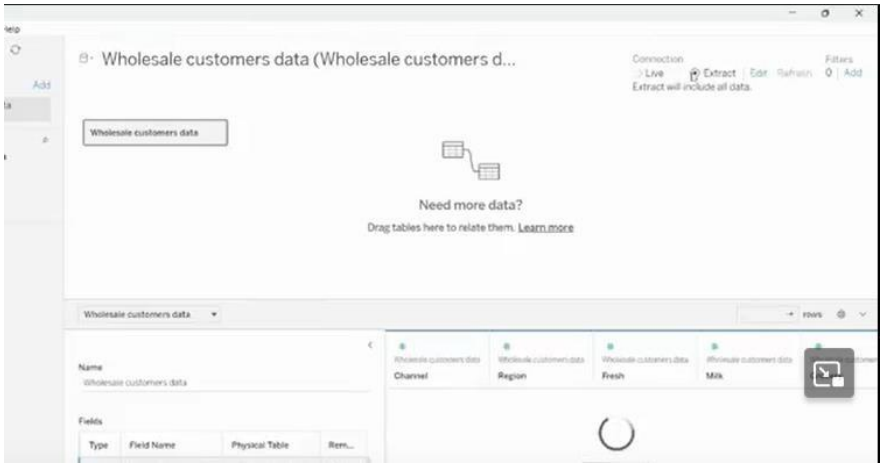


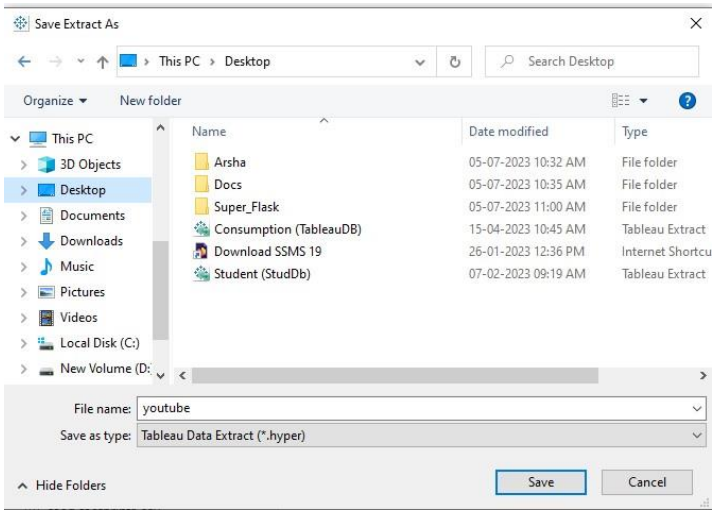
8. Publishing:

Publishing helps us to track and monitor key performance metrics and to communicate results and progress. help a publisher stay informed, make better decisions, and communicate their performance to others.

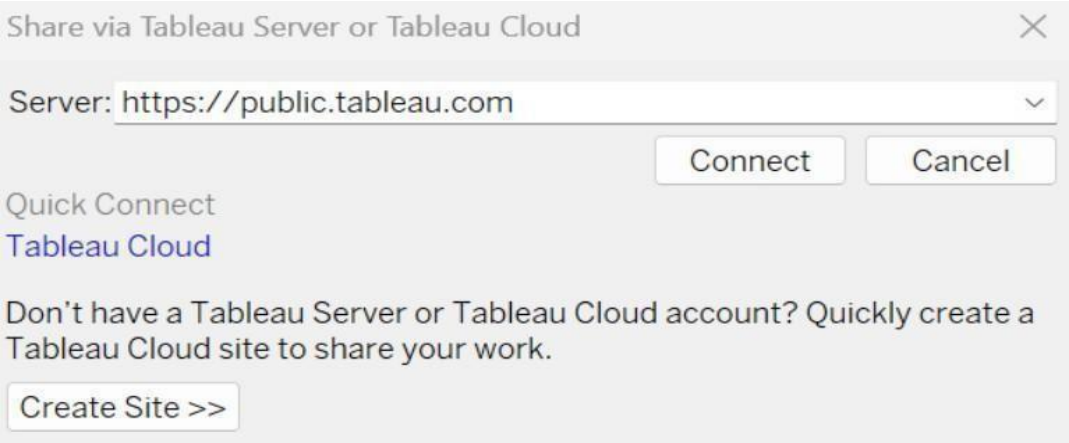
Publishing dashboard and reports to tableau public

Step 1 Go to data Source and Select Extract so that .hyper extension files are created and save it at your desktop.
(please wait for pop up of file to save)

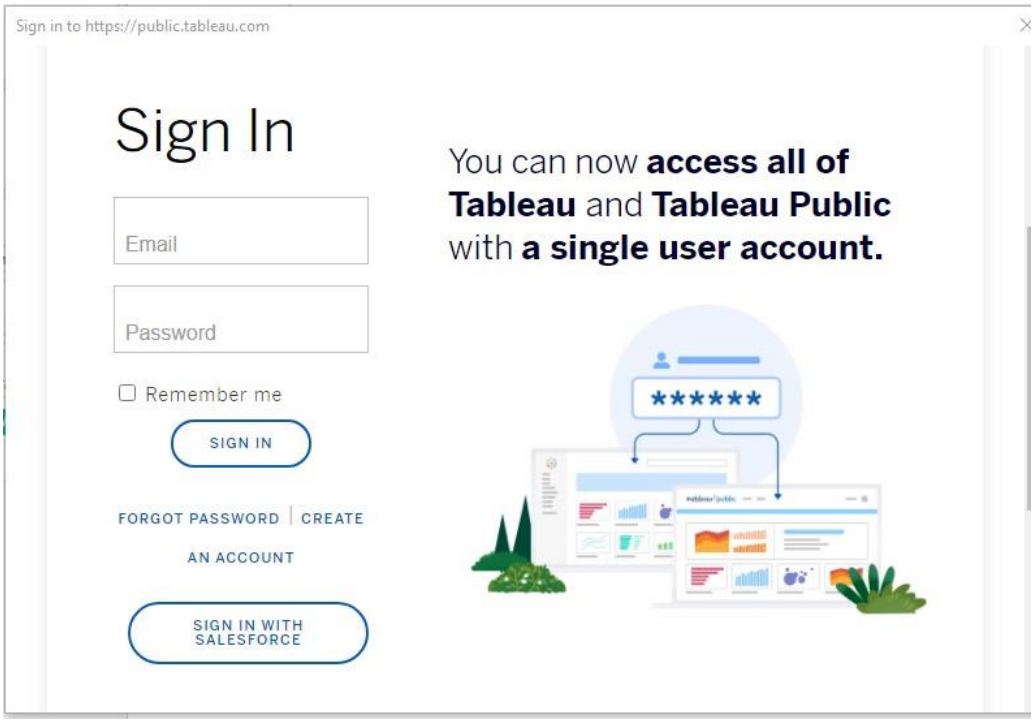




Step 2: Go to Dashboard/story, click on share button on the top ribbon



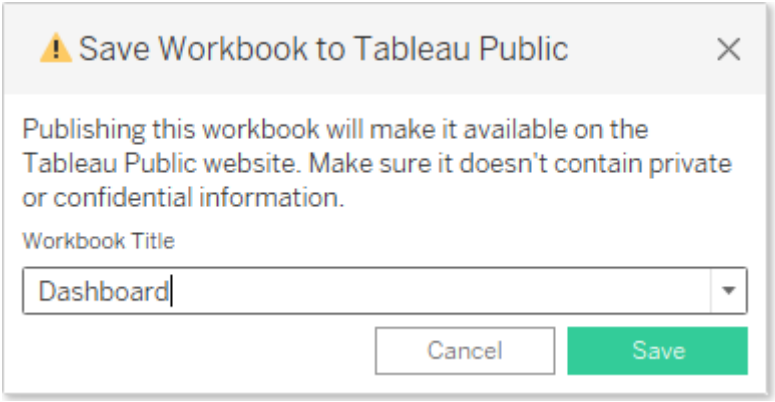
Give the server address of your tableau public account and click on connect.



Sign in to your Tableau Public account or create a new account if you don't have one. You can visit the Tableau Public website (public.tableau.com) and click on the "Sign In" or "Join" button.

In the "Tableau Public Sign In" window, enter your Tableau Public account credentials and click "Sign In."

Next, you'll need to provide a title and description for your workbook. Fill in the appropriate details in the provided field of workbook Title



Click on the "Save" button to start the publishing process. Tableau Desktop will upload your workbook to Tableau Public.

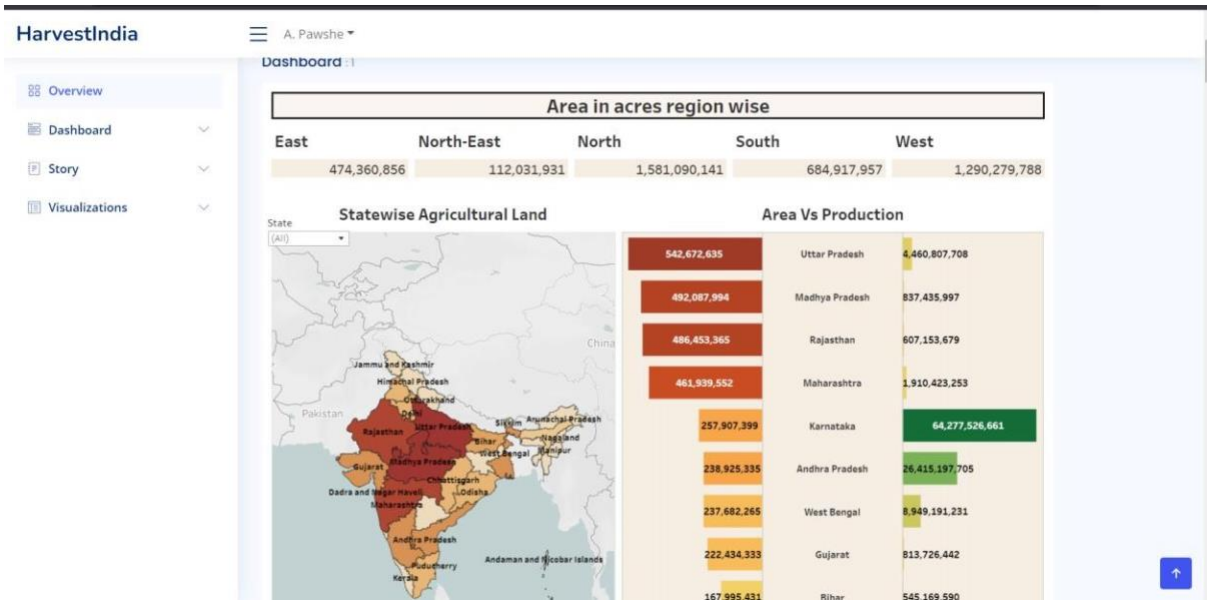
Once the upload is complete, a browser window will automatically open, displaying your published workbook on Tableau Public. Review the workbook to ensure that everything appears as expected.

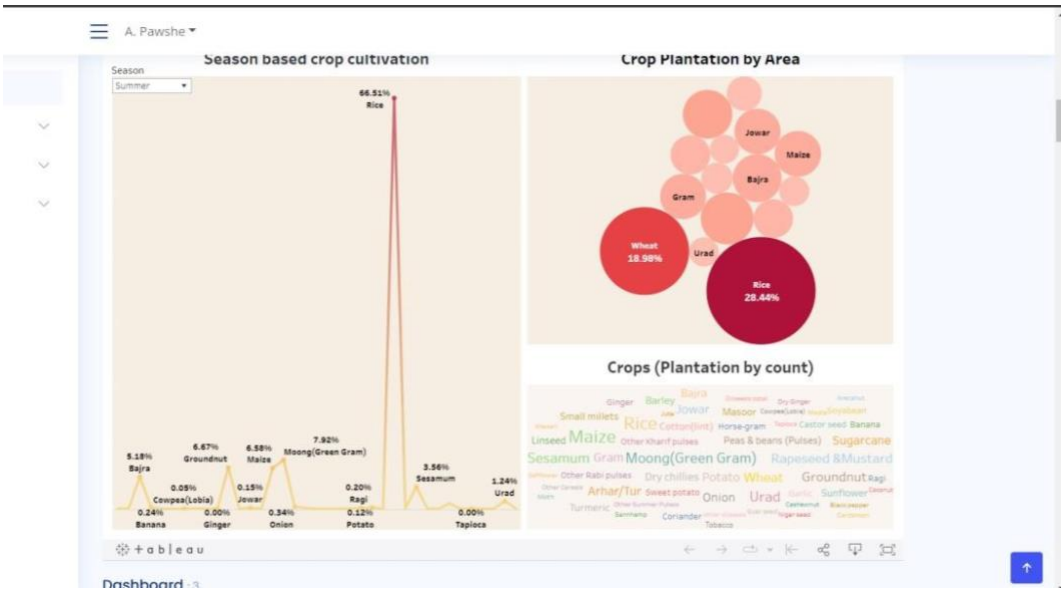
So in Similar way we can also publish Story to tableau public.

9. Publishing dashboard and reports to tableau public:

Our Tableau Public Link:

https://public.tableau.com/views/IndiasAgriculturalCropProduction_16971315346990/Productionbasedonseason?:language=en-US&:display_count=n&:origin=viz_share_link


HarvestIndia
A. Pawshe
Overview
Dashboard
Story
Visualizations
Dashboard 1
Area in acres region wise
East
North-East
North
South
West
474,360,856
112,031,931
1,581,090,141
684,917,957
1,290,279,788
Statewise Agricultural Land
State
(All)
Area Vs Production
542,672,635
Uttar Pradesh
4,460,807,708
492,087,994
Madhya Pradesh
837,435,997
486,453,365
Rajasthan
607,153,679
461,939,552
Maharashtra
1,910,423,253
257,907,399
Karnataka
64,277,526,661
238,925,335
Andhra Pradesh
26,415,197,705
237,682,265
West Bengal
8,949,191,231
222,434,333
Gujarat
813,726,442
167,995,431
Bihar
545,169,590


A. Pawshe
Season based crop cultivation
Season
Summer
66.51%
Rice
5.18%
Bajra
0.24%
Banana
0.05%
Cowpea(Lobia)
6.67%
Groundnut
0.00%
Ginger
6.58%
Maize
0.15%
Jowar
0.34%
Onion
7.92%
Moong(Green Gram)
0.20%
Ragi
0.12%
Potato
3.56%
Sesamum
0.00%
Tapioca
1.24%
Urad
Crop Plantation by Area
Jowar
Maize
Bajra
Gram
Wheat
18.98%
Urad
Rice
28.44%
Crops (Plantation by count)
Ginger
Barley
Bajra
Jowar
Masoor
Small millets
Rice
Cotton(lint)
Horse-gram
Castor seed
Banana
Linseed
Maize
Other Kharif pulses
Peas & beans (Pulses)
Sugarcane
Sesamum
Gram
Moong(Green Gram)
Rapeseed &Mustard
Other Rabi pulses
Dry chillies
Potato
Wheat
Groundnut
Ragi
Arhar/Tur
Sweet potato
Onion
Urad
Sunflower
Turmeric
Other Summer Pulses
Safflower
Coriander
Tobacco
Dashboard 3

10. Record explanation Video for project end to end solution:

Google drive link for Explanation video:

https://drive.google.com/file/d/17lKtt4P6SUFCoMSi6uREpqXqX5k3pJ9R/view?usp=drivesdk