



India's Agriculture Crop Production Analysis (1997-2021)

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INTRODUCTION:

Agriculture encompasses crops and livestock production, aquaculture, fisheries and forestry for food and non-food products. Agriculture was the key development in the rise of sedentary human civilization, whereby farming of domesticated species created food surpluses that enabled people to live in cities.

India is the second largest producer of wheat and rice, the world's major food staples. India is currently the world's second largest producer of several dry fruits, agriculture-based textile raw materials, roots and tuber crops, pulses, farmer fish, eggs, coconut, sugarcane and numerous vegetables.

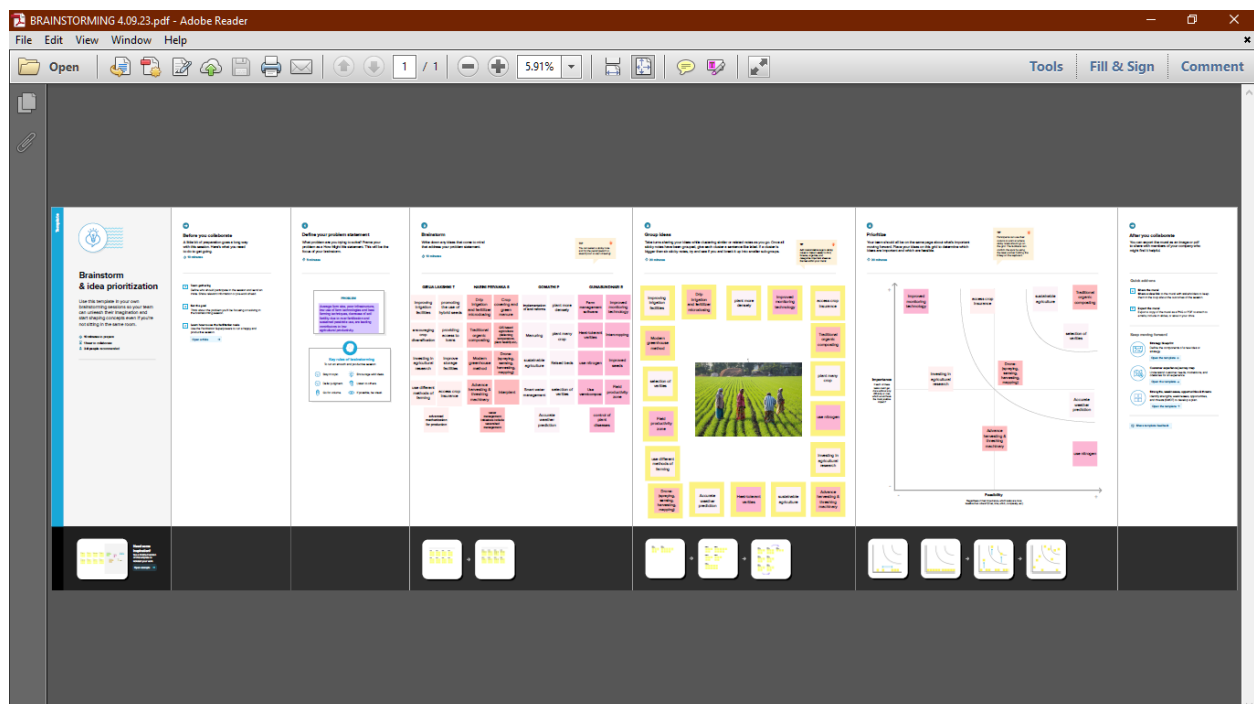
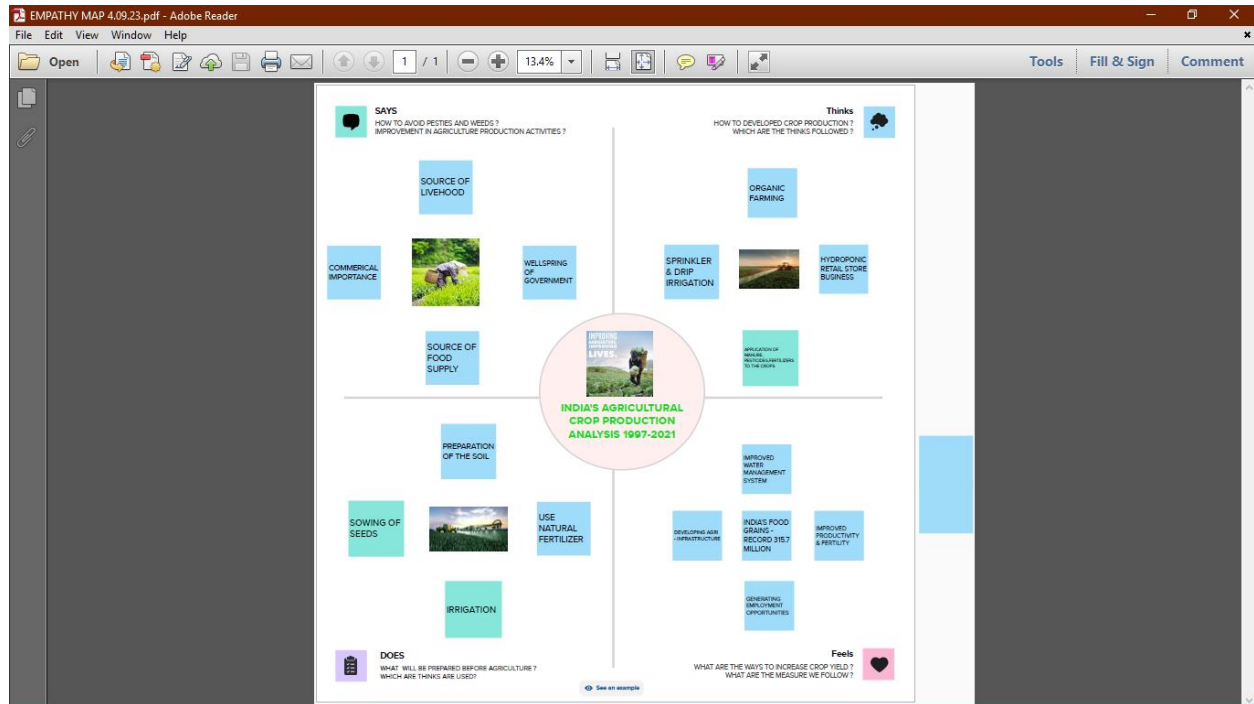
The farming systems that majorly contribute to the agriculture sector in India are subsistence farming, organic farming, and commercial farming. Due to India's geographical location, certain parts experience different climates, thus affecting each region's agricultural productivity differently.

The agricultural states in the country are producing high-quality food grains and other food good as well. The Indian agriculture business is growing at a rapid rate and continues to contribute to a global trade.

Agriculture plays a significant role in the Indian economy as the main source of food. Dairy, poultry, fisheries etc. come under animal husbandry, a sub-sector of agriculture.

Milestone 1: Define Problem / Problem Understanding

- Specify the business problem
- Business requirements
- Literature Survey
- Social or Business Impact



Milestone 2: Data Collection & Extraction

Activity 1: Downloading the dataset

India Agriculture Crop Production - Excel

girija lakshmi

File Home Insert Page Layout Formulas Data Review View Help Tell me what you want to do

Clipboard Font Alignment Number Styles Cells Editing

POSSIBLE DATA LOSS Some features might be lost if you save this workbook in the comma-delimited (.csv) format. To preserve these features, save it in an Excel file format. Don't show again Save As...

State

State	District	Crop	Year	Season	Area	Area Units	Production	Yield
Andaman	NICOBAR	Arecanut	2001-02	Kharif	1254	Hectare	2061 Tonnes	1.643541
Andaman	NICOBAR	Arecanut	2002-03	Whole Yr	1258	Hectare	2083 Tonnes	1.655803
Andaman	NICOBAR	Arecanut	2003-04	Whole Yr	1261	Hectare	1525 Tonnes	1.209358
Andaman	NORTH AN	Arecanut	2001-02	Kharif	3100	Hectare	5239 Tonnes	1.69
Andaman	SOUTH AN	Arecanut	2002-03	Whole Yr	3105	Hectare	5267 Tonnes	1.696296
Andaman	SOUTH AN	Arecanut	2003-04	Whole Yr	3118	Hectare	5182 Tonnes	1.661963
Andaman	NICOBAR	Banana	2002-03	Whole Yr	213	Hectare	1278 Tonnes	6
Andaman	NICOBAR	Banana	2003-04	Whole Yr	266	Hectare	1763 Tonnes	6.62782
Andaman	SOUTH AN	Banana	2002-03	Whole Yr	1524	Hectare	10882 Tonnes	7.14042
Andaman	SOUTH AN	Banana	2003-04	Whole Yr	1530	Hectare	11558 Tonnes	7.554248
Andaman	NICOBAR	Black pepi	2002-03	Whole Yr	63	Hectare	13.5 Tonnes	0.214286
Andaman	NICOBAR	Black pepi	2003-04	Whole Yr	75.5	Hectare	15.86 Tonnes	0.210066
Andaman	SOUTH AN	Black pepi	2002-03	Whole Yr	487	Hectare	102.5 Tonnes	0.210472
Andaman	SOUTH AN	Black pepi	2003-04	Whole Yr	497	Hectare	104.37 Tonnes	0.21
Andaman	NICOBAR	Cashewnut	2001-02	Whole Yr	719	Hectare	192 Tonnes	0.267038
Andaman	NICOBAR	Cashewnut	2002-03	Whole Yr	719	Hectare	208 Tonnes	0.289291
Andaman	NICOBAR	Cashewnut	2003-04	Whole Yr	717	Hectare	208.5 Tonnes	0.290795
Andaman	NORTH AN	Cashewnut	2001-02	Whole Yr	81	Hectare	33 Tonnes	0.407407
Andaman	SOUTH AN	Cashewnut	2002-03	Whole Yr	81	Hectare	24 Tonnes	0.296296
Andaman	SOUTH AN	Cashewnut	2003-04	Whole Yr	116.5	Hectare	26.14 Tonnes	0.224378
Andaman	NICOBAR	Coconut	2001-02	Whole Yr	18190	Hectare	64430000 Nuts	3542.056
Andaman	NICOBAR	Coconut	2002-03	Whole Yr	18240	Hectare	67490000 Nuts	3700.11

Activity 1.1: Understand the data

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

Column Description of the Dataset:

FIELDS	DESCRIPTION
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

Activity 3: Connect Dataset with Tableau

The screenshot shows the Tableau Public interface with the 'India Agriculture Crop Production' dataset connected. The left sidebar displays the 'Connections' pane with the dataset listed as 'India Agricult...rop Production' (Text file). Below it, the 'Files' pane shows the dataset as 'India Agricul...roduction.csv'. The main workspace displays the dataset name 'India Agriculture Crop Production' and a message 'Need more data? Drag tables here to relate them. [Learn more](#)'. The bottom pane shows the 'Data Source' section with a table view of the dataset. The table has 10 fields and 345,407 rows. The fields are: Name (India Agriculture Crop Production.csv), State (Maharashtra), District (AMRAVATI, AURANGABAD), Crop (Gram), and Year (2004-0, 2005-0, 2006-0). The 'Fields' section shows the 'State' and 'District' fields selected.

Tableau Public - Book1

File Data Window Help

Connections Add

India Agricult...rop Production
Text file

Files

☐ Use Data Interpreter
Data Interpreter might be able to clean your Text file workbook.

India Agricul...roduction.csv

New Union

New Table Extension

India Agriculture Crop Production

India Agriculture Crop Pro...

Need more data?
Drag tables here to relate them. [Learn more](#)

India Agriculture Crop Pro... 10 fields 345407 rows 100 rows

Name
India Agriculture Crop Production.csv

Fields

Type	Field Name	Physical Table	Rem...
State	India Agriculture Cr...	State	
District	India Agriculture Cr...	District	

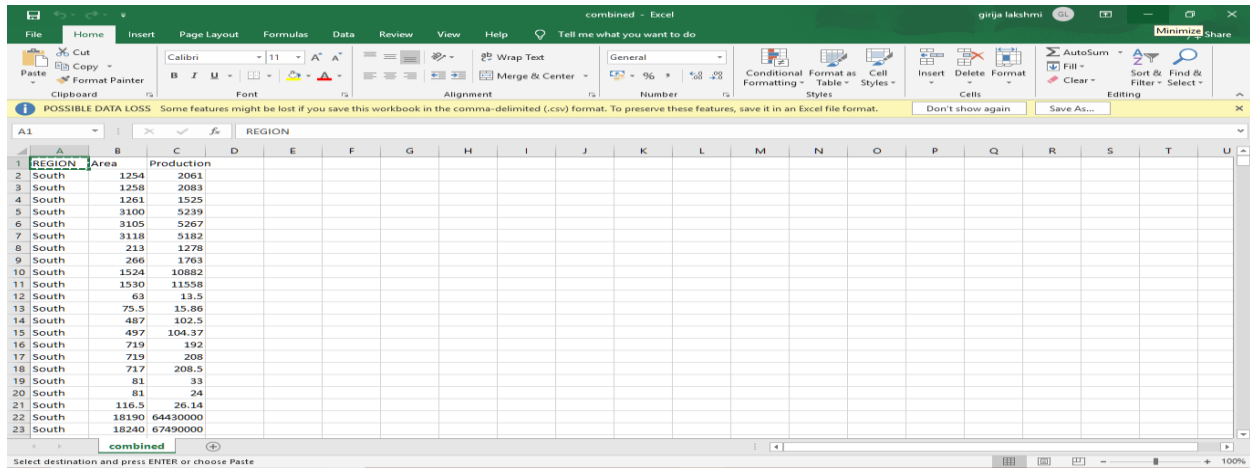
Go to Worksheet

Data Source Sheet 1

State	District	Crop	Year
Maharashtra	AMRAVATI	Gram	2004-0
Maharashtra	AMRAVATI	Gram	2005-0
Maharashtra	AMRAVATI	Gram	2006-0
Maharashtra	AURANGABAD	Gram	2004-0
Maharashtra	AURANGABAD	Gram	2005-0

Milestone 3: Data Preparation

Activity 1: Prepare the Data for Visualization



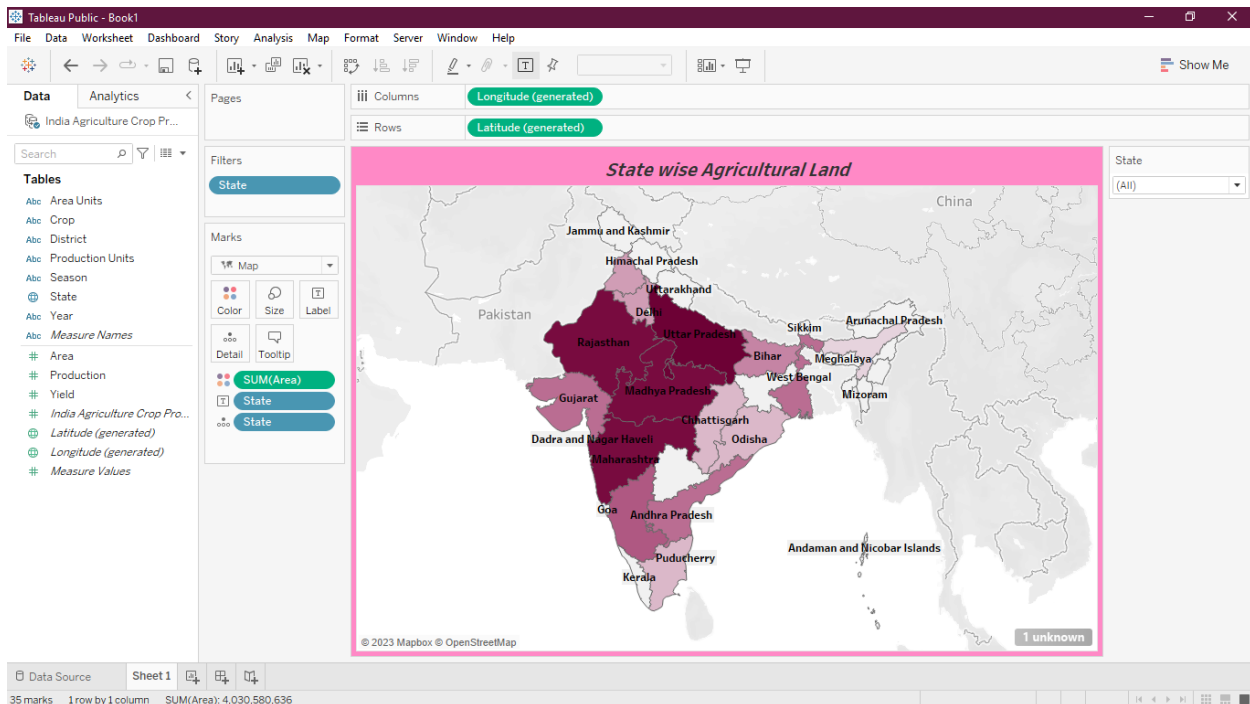
REGION	Area	Production
South	1254	2061
South	1256	2083
South	1261	1525
South	3100	5239
South	3105	5267
South	3118	5182
South	213	1278
South	266	1763
South	1524	10882
South	1530	11558
South	63	13.5
South	75.5	15.86
South	487	102.5
South	497	104.37
South	719	192
South	719	208
South	717	208.5
South	81	33
South	81	24
South	116.5	26.14
South	18190	64430000
South	18240	67490000

Milestone 4: Data Visualization

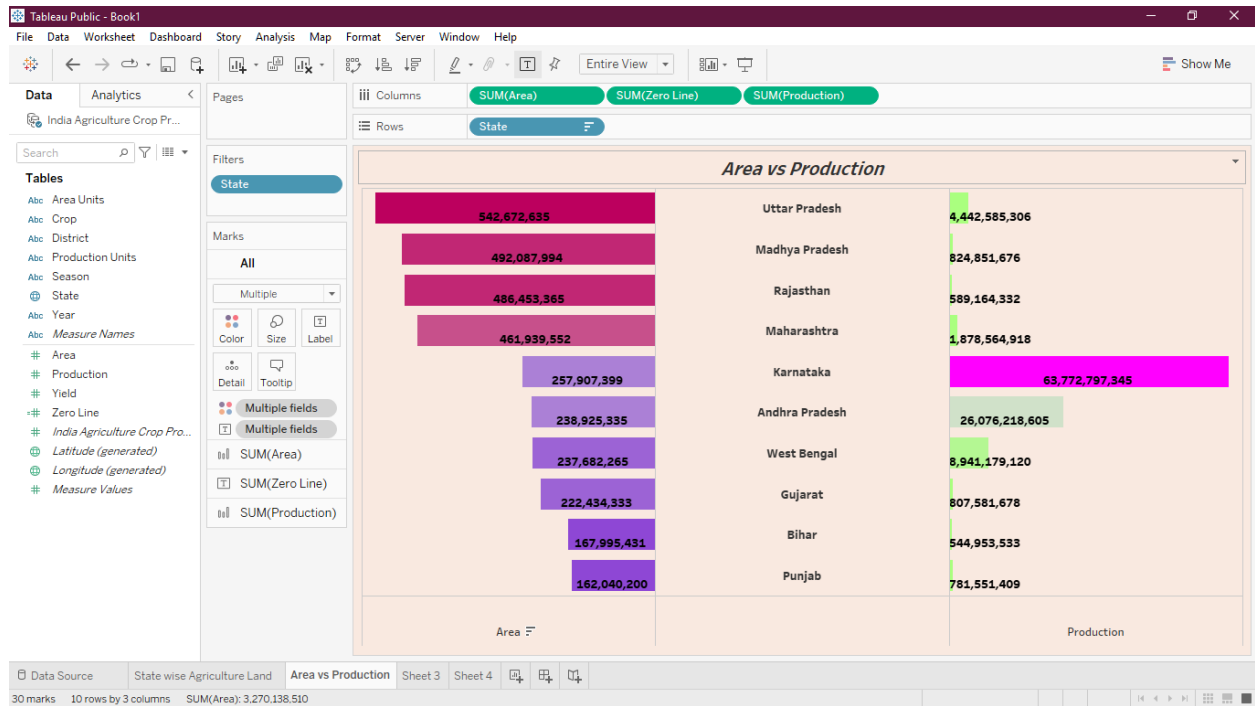
Activity 1: No of Unique Visualizations

The number of unique visualizations that can be created with a given dataset.

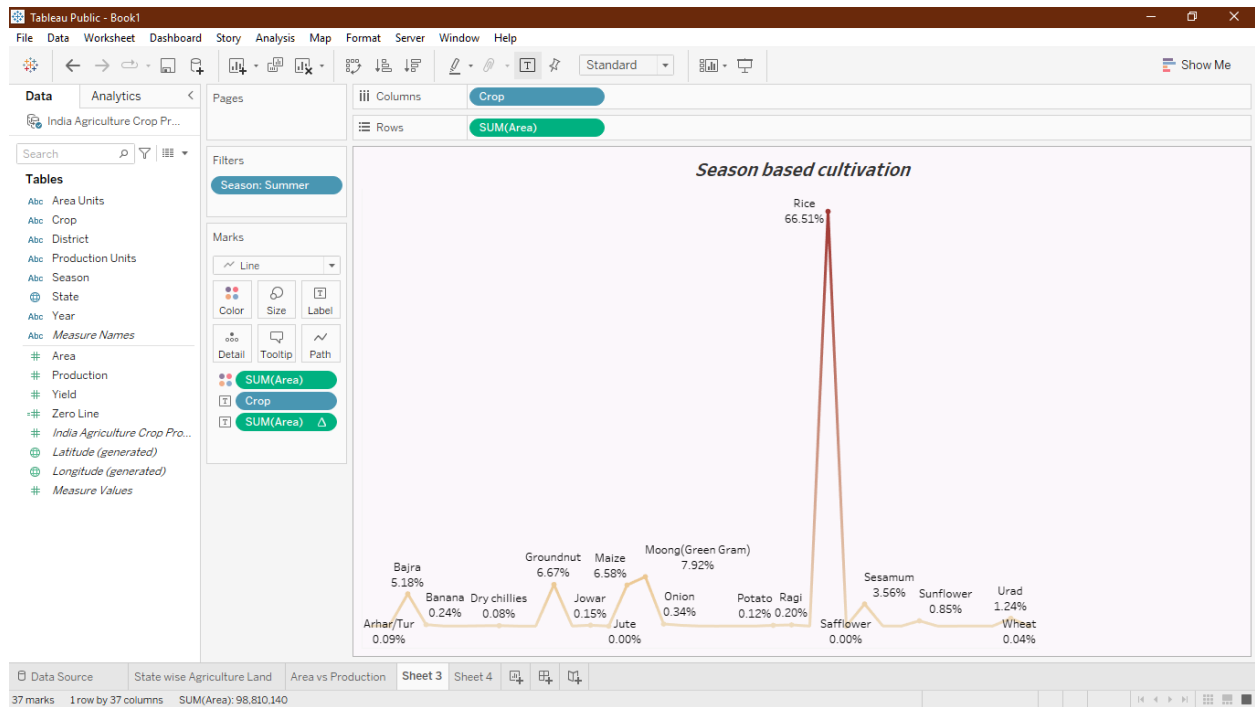
Activity 1.1: State wise Agricultural Land



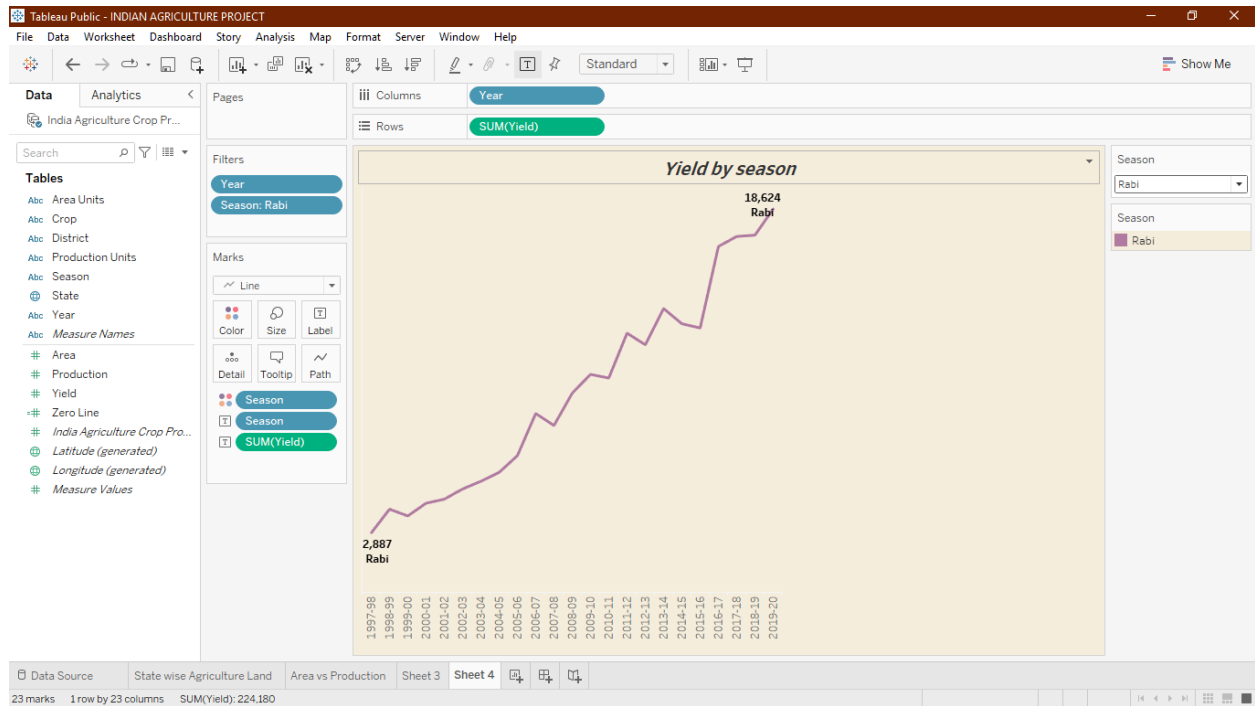
Activity 1.2: Area vs Production



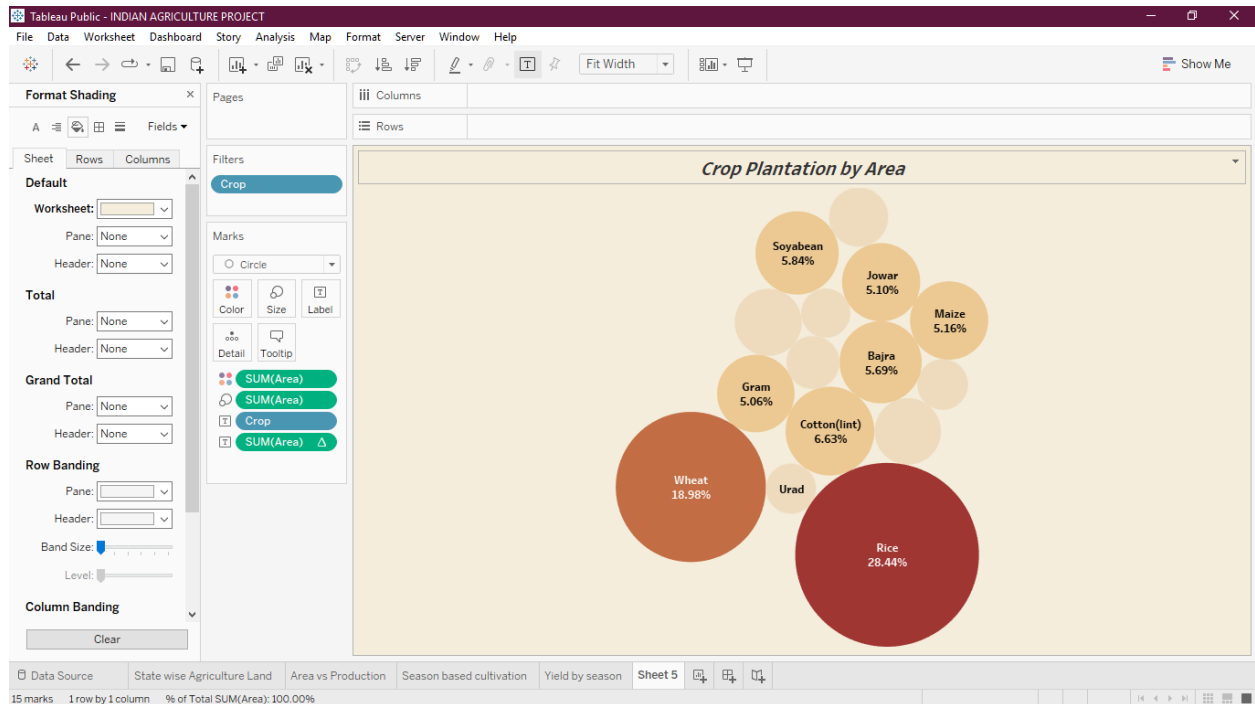
Activity 1.3: Season based cultivation



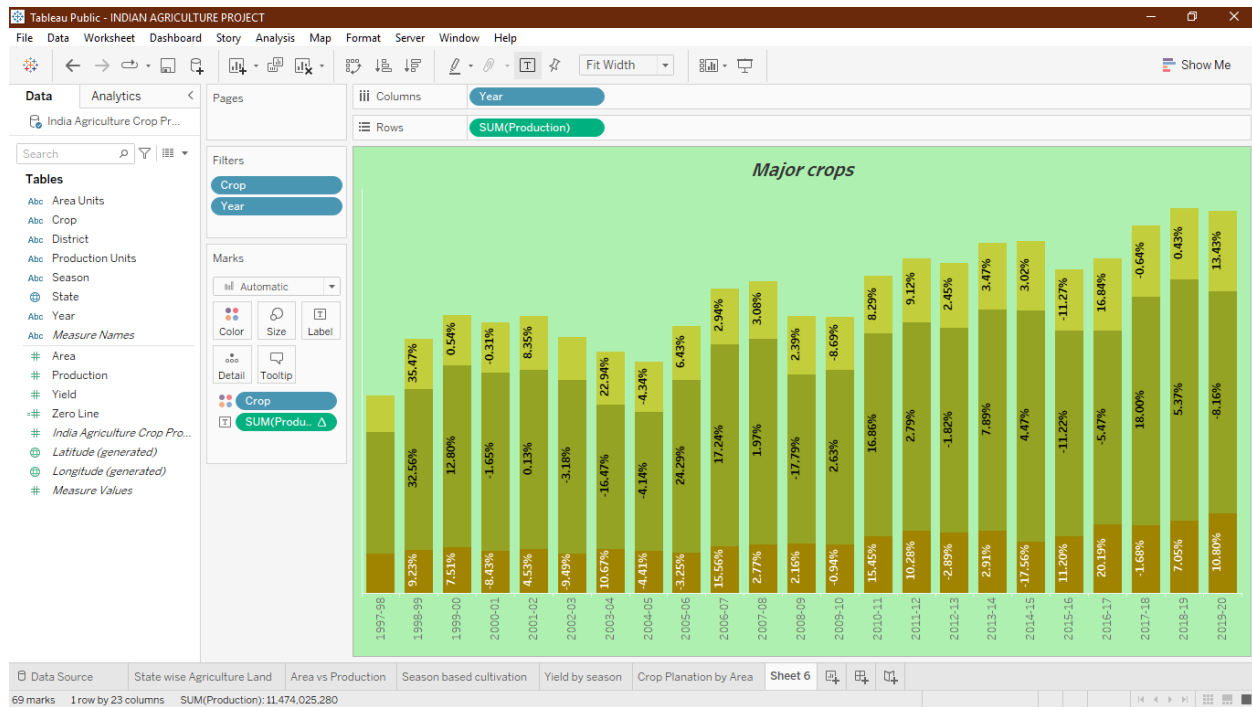
Activity 1.4: Yield by season



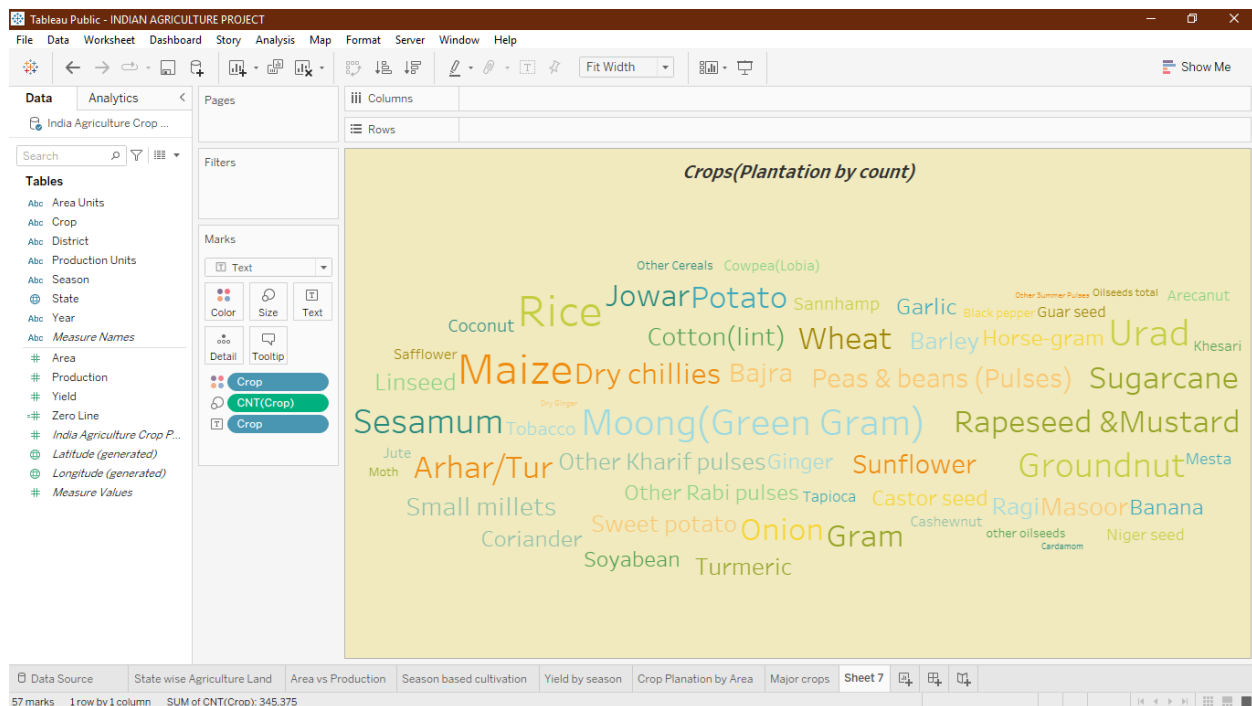
Activity 1.5: Crop plantation by area



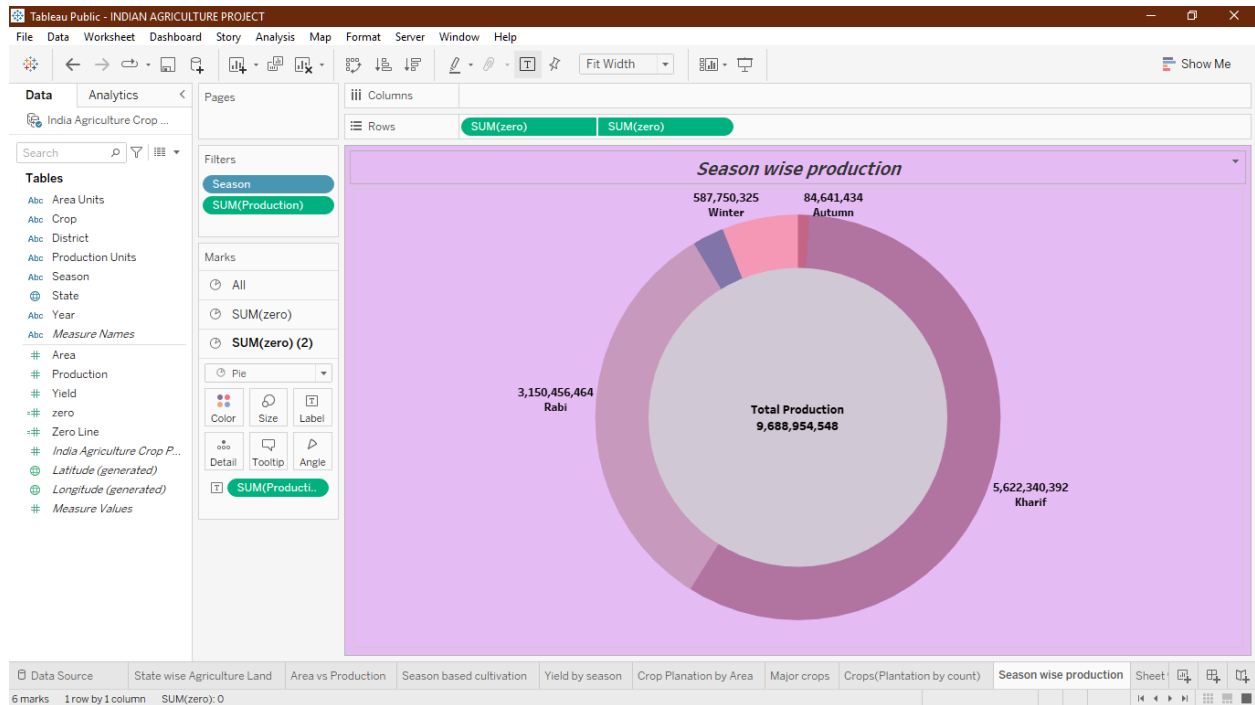
Activity 1.6: Major crops growth year on year.



Activity 1.7: Crops



Activity 1.8: Season wise production

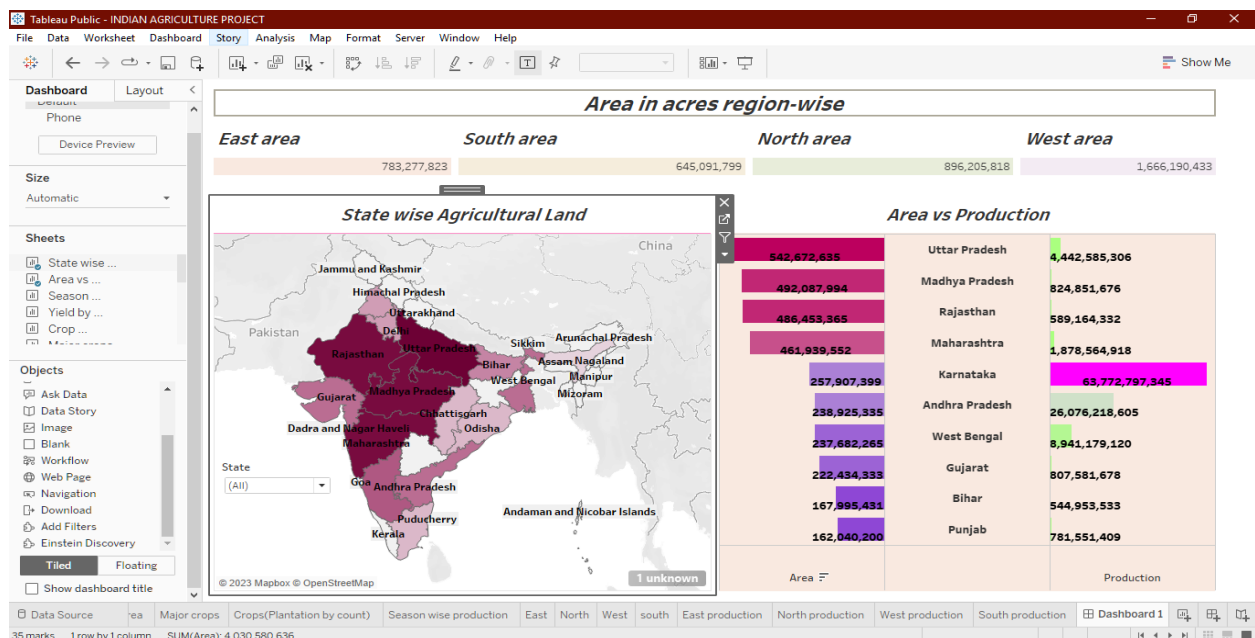


Milestone 5: Dashboard

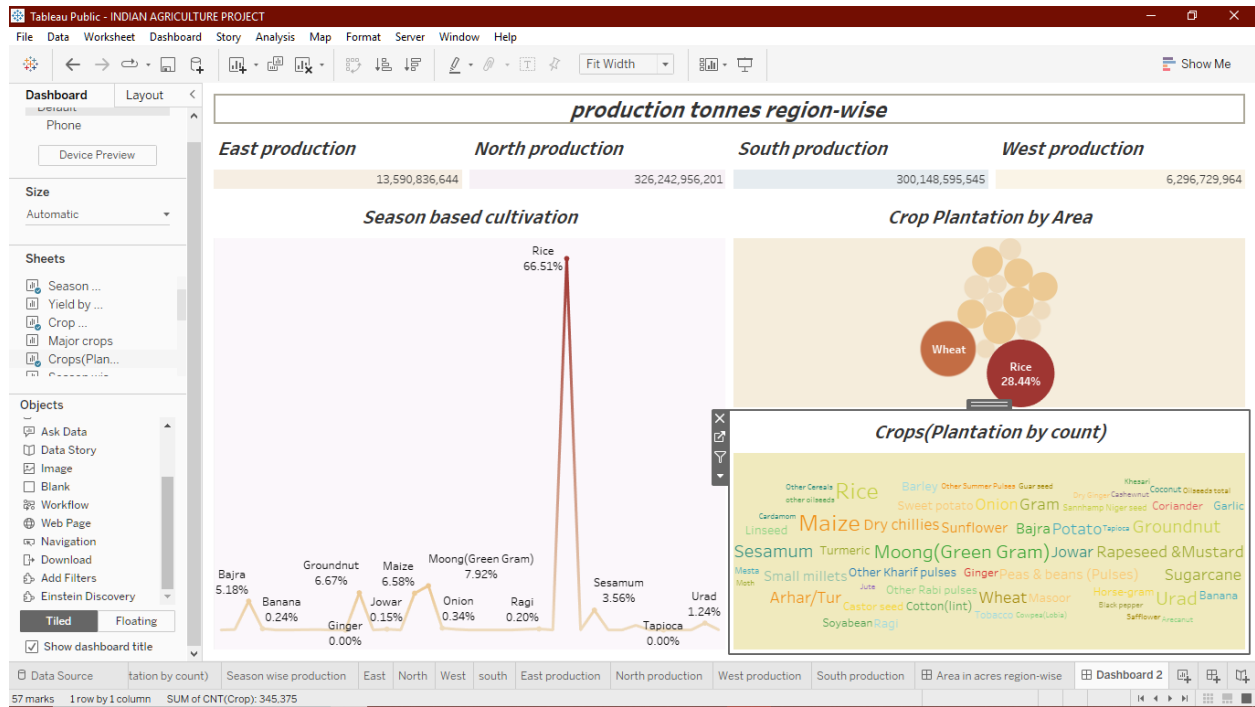
Activity 1: Responsive and Design of dashboard

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

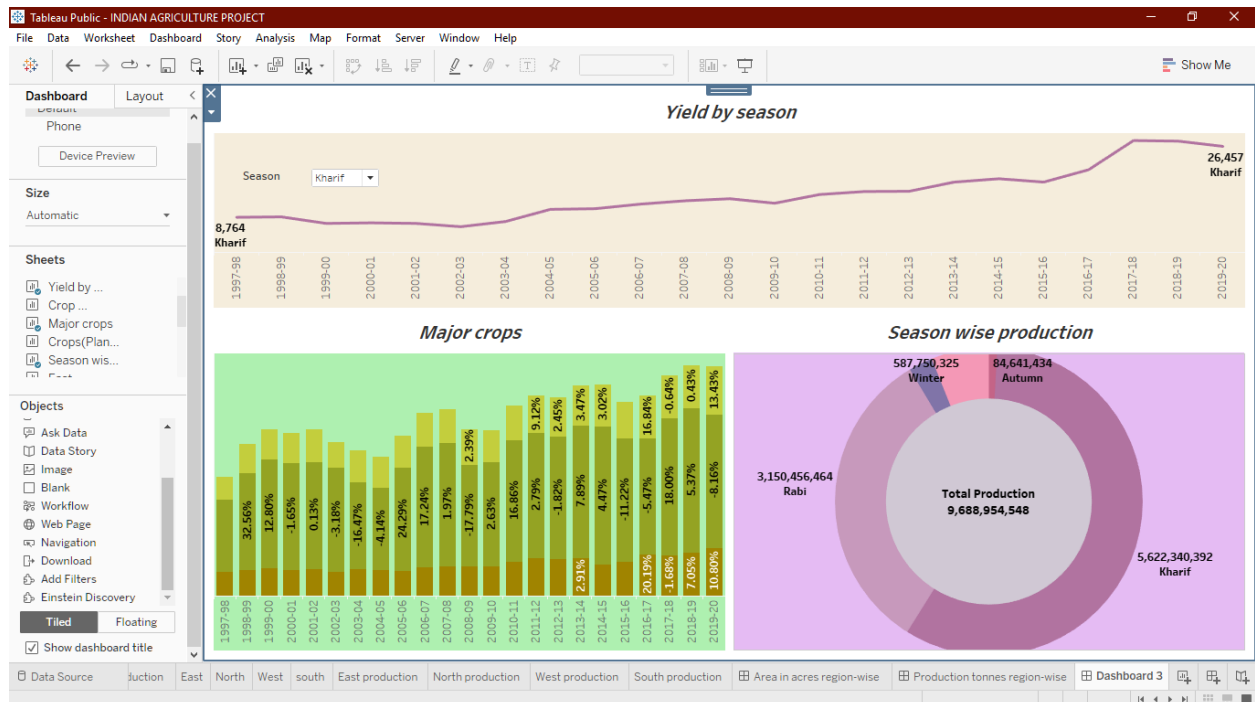
Activity 1.1: Dashboard 1

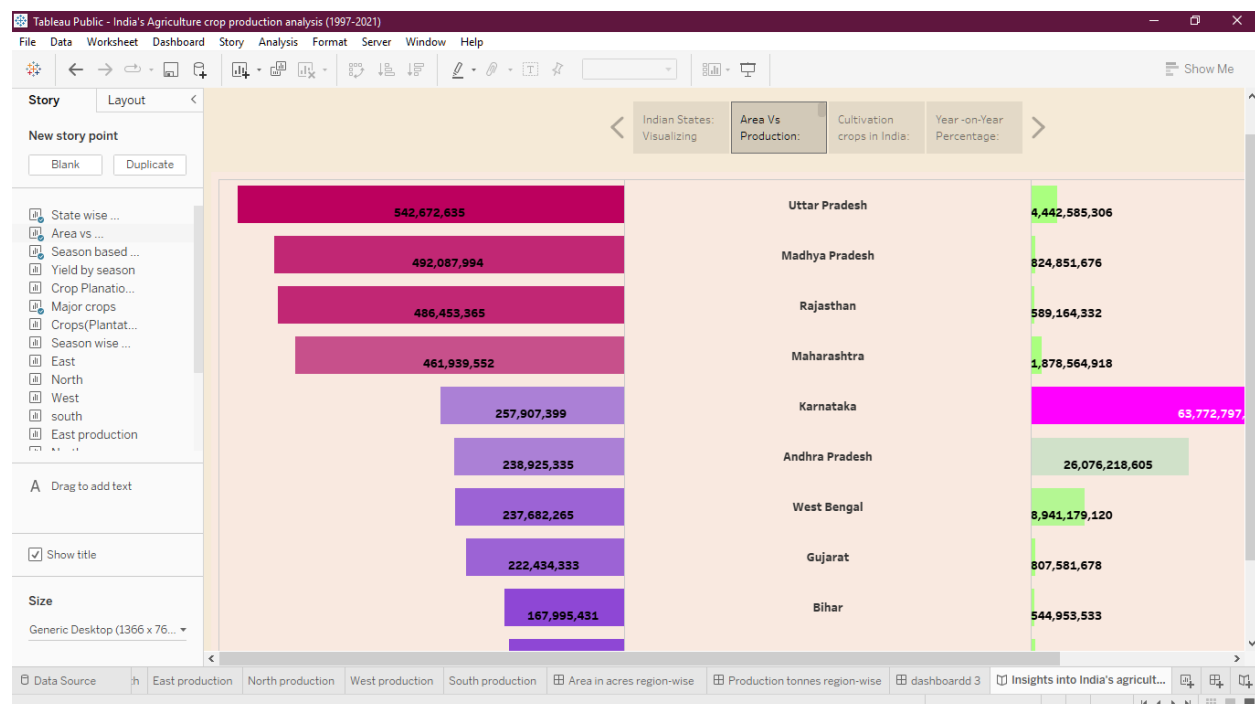


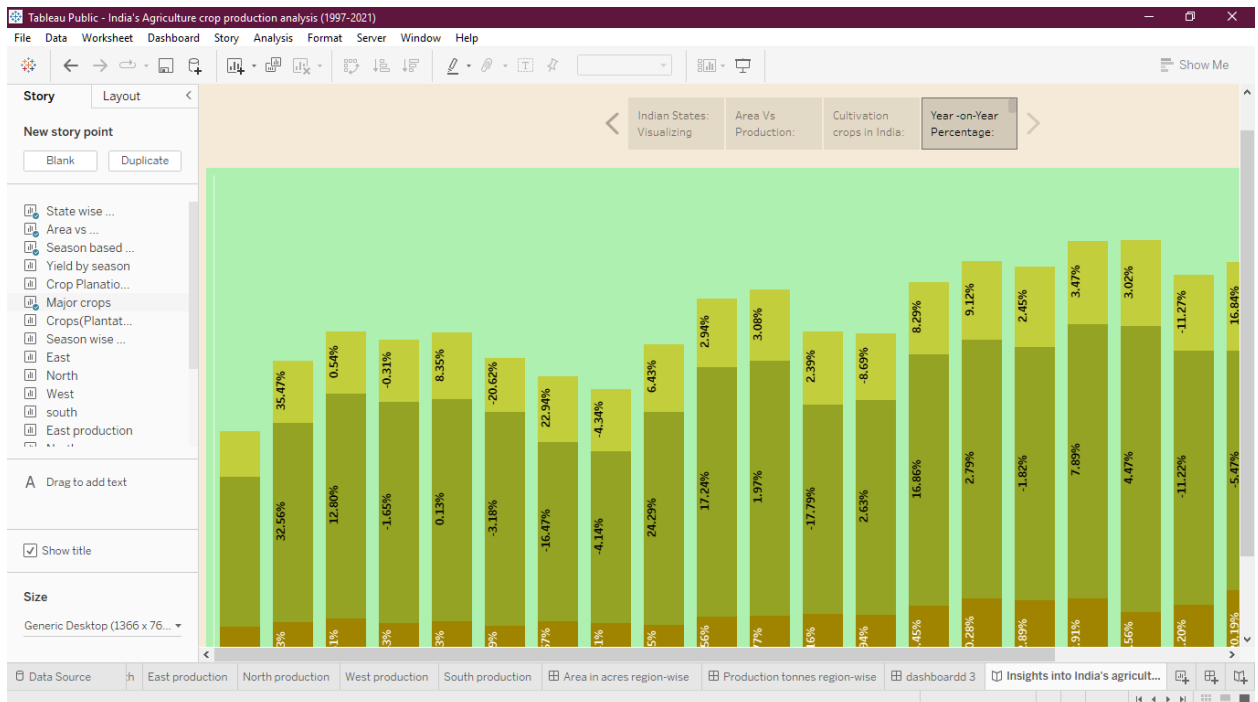
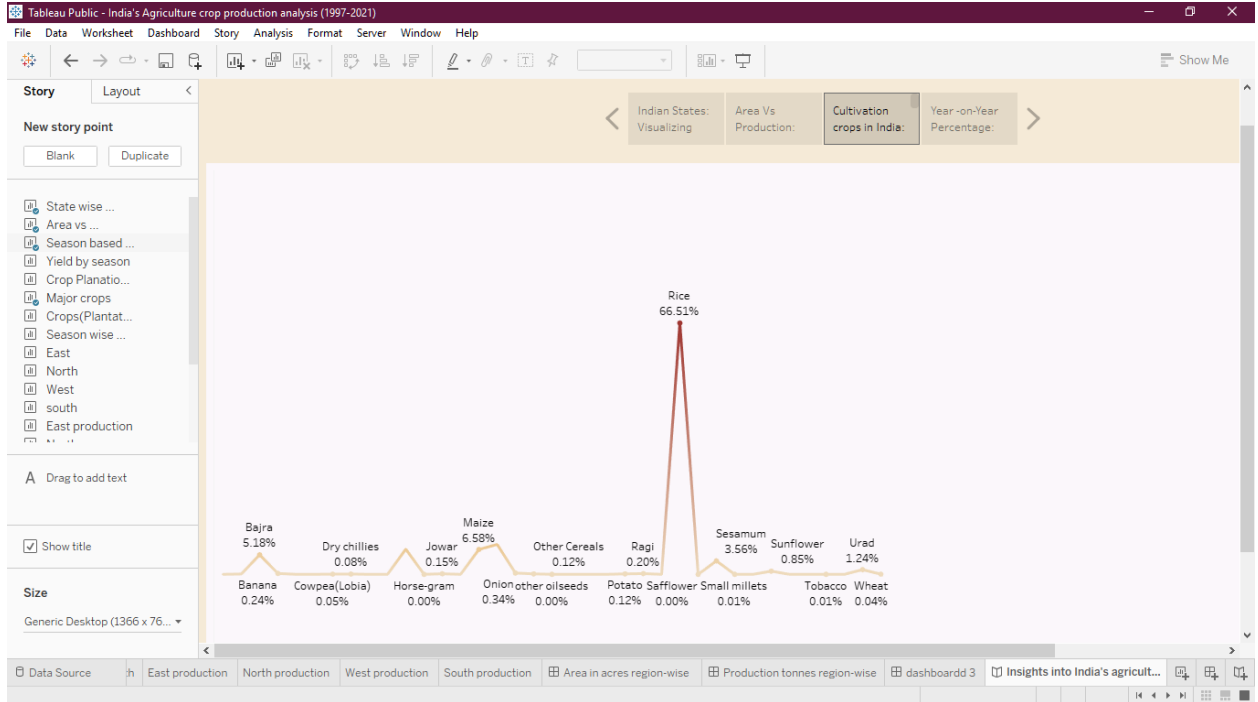
Activity 1.2: Dashboard 2



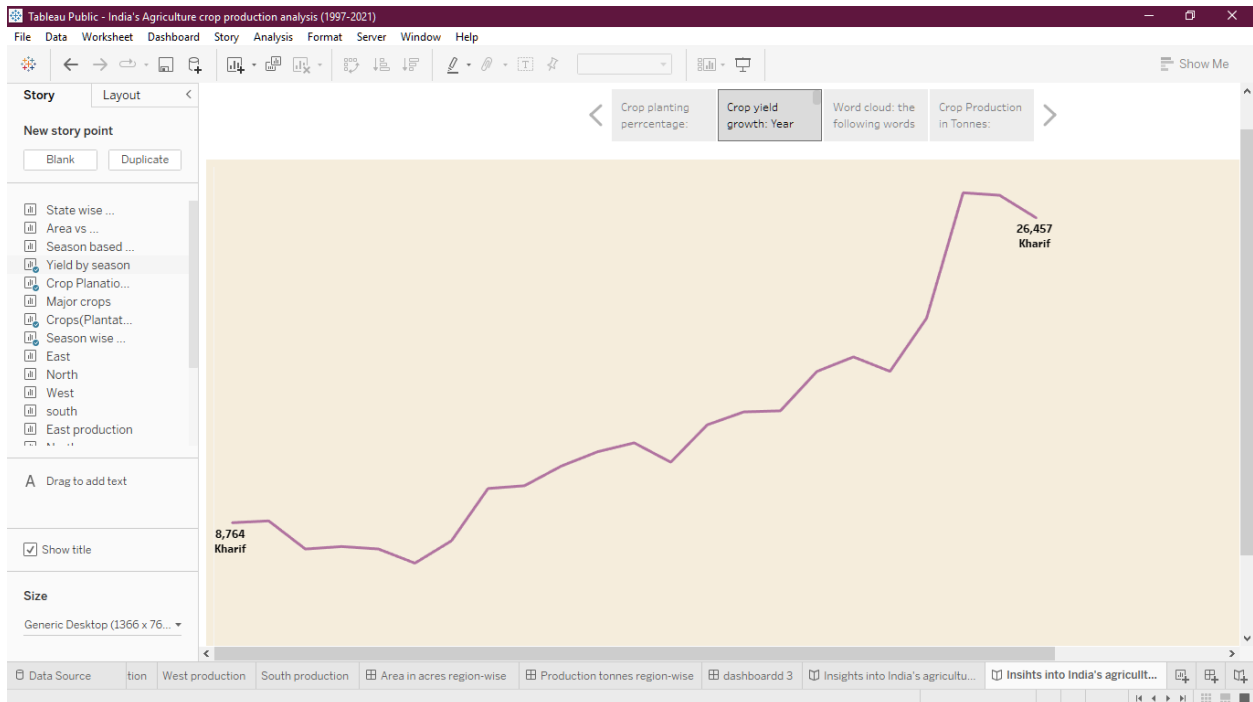
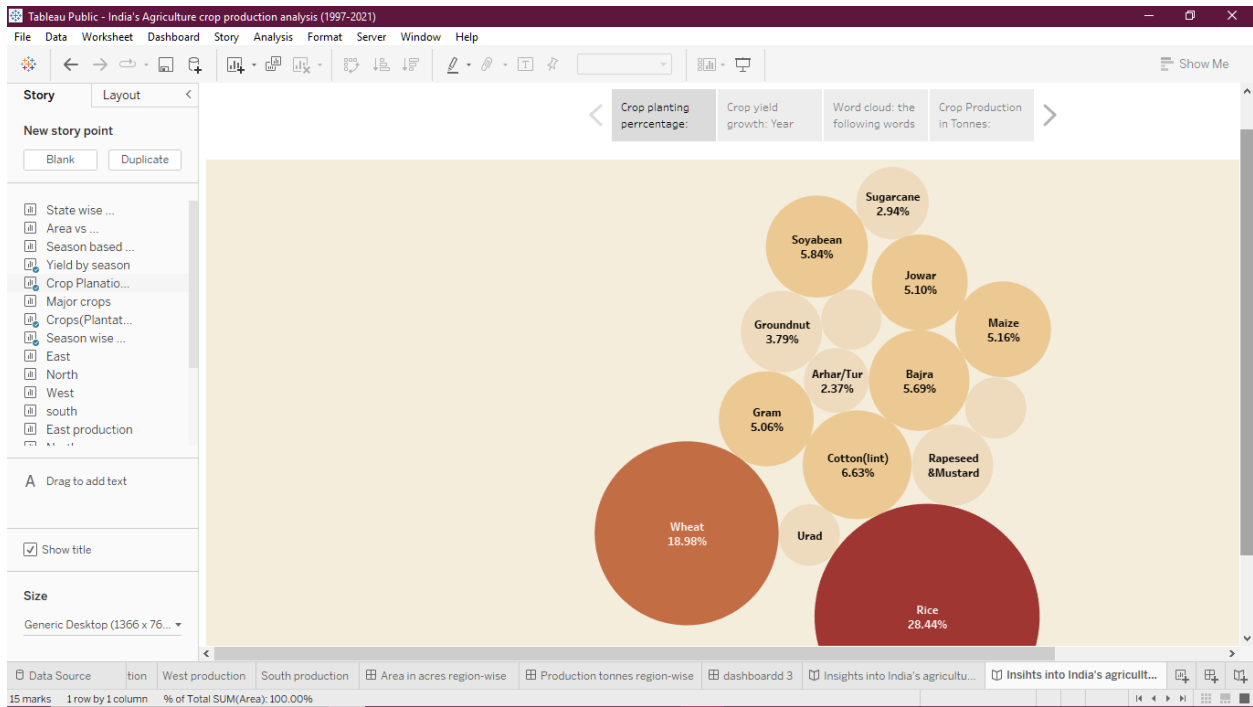
Activity 1.3: Dashboard 3

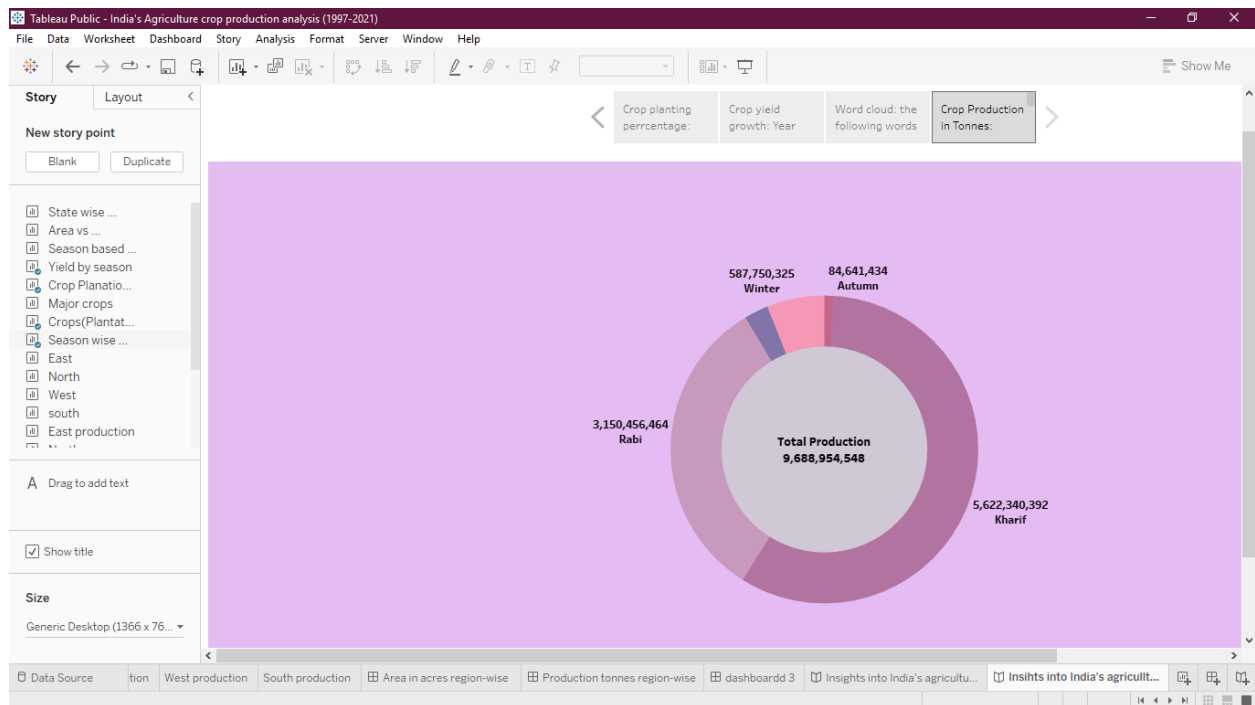
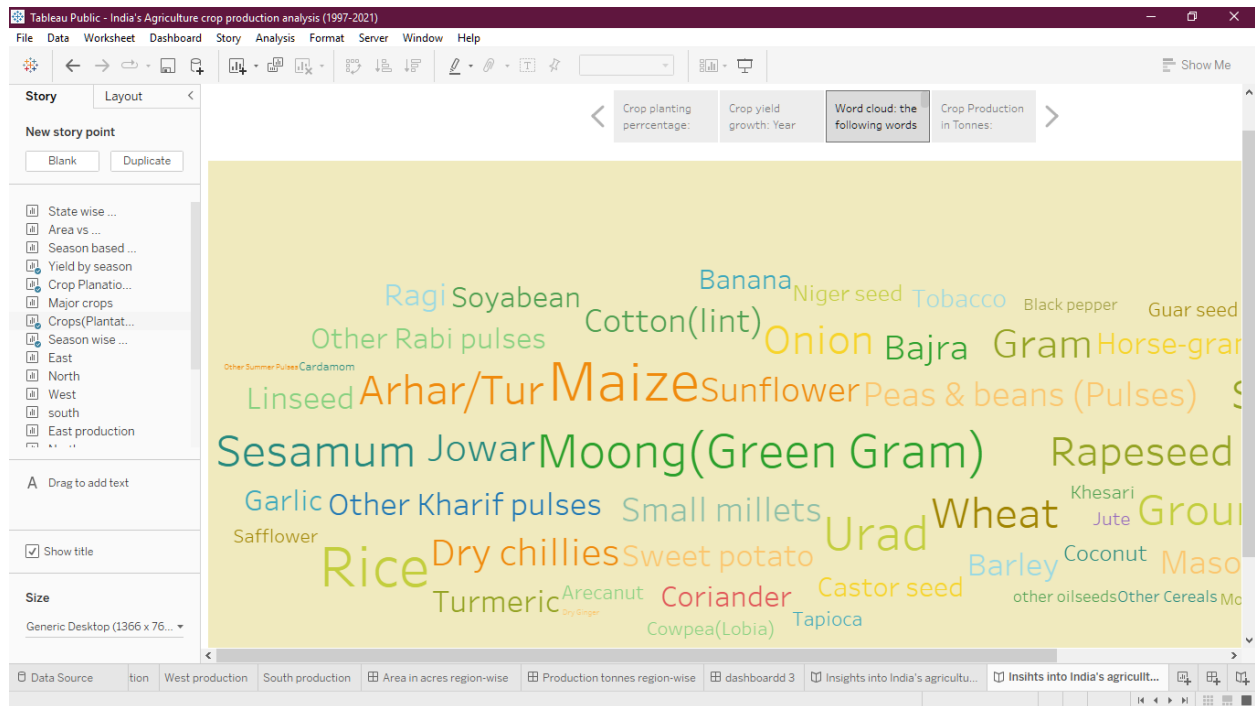






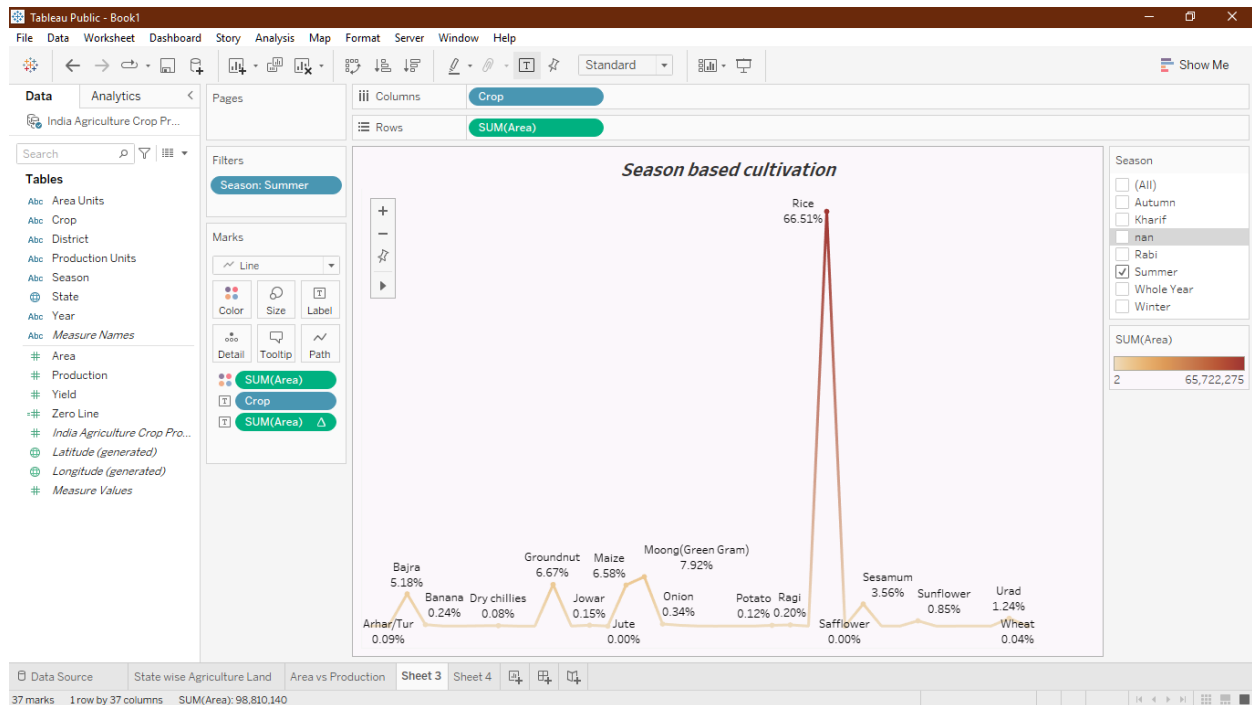
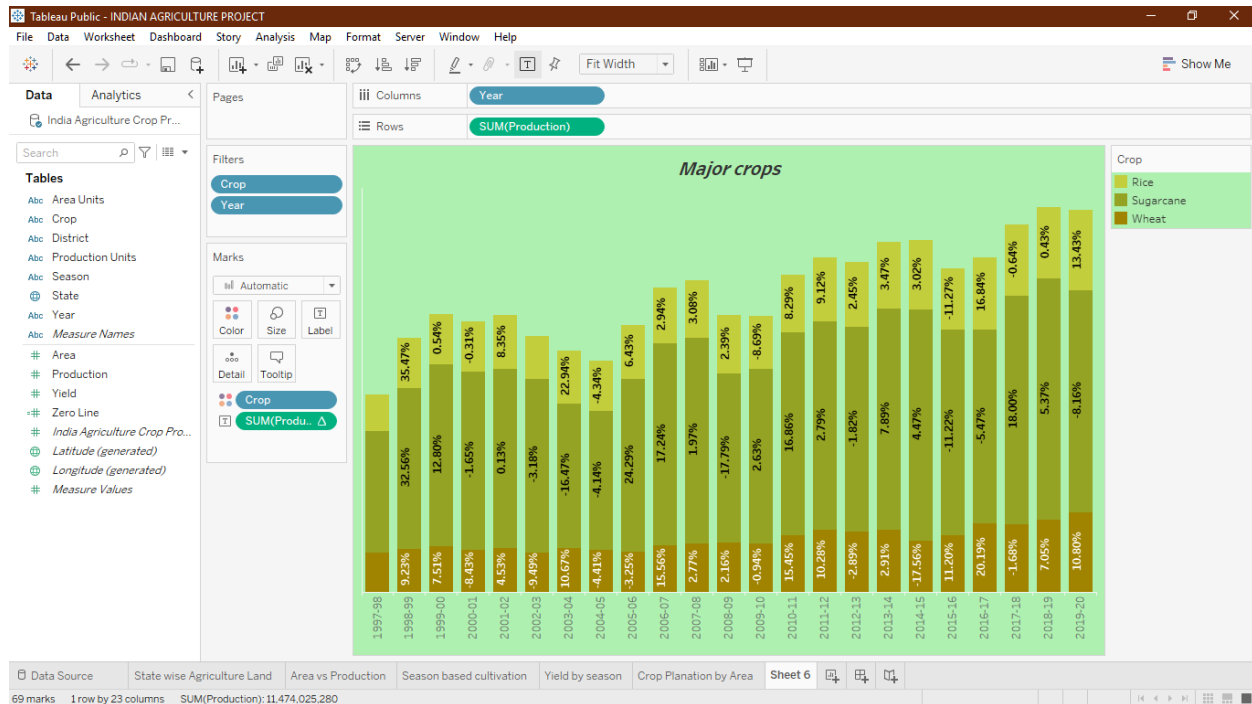
Activity 1.2: Story 2

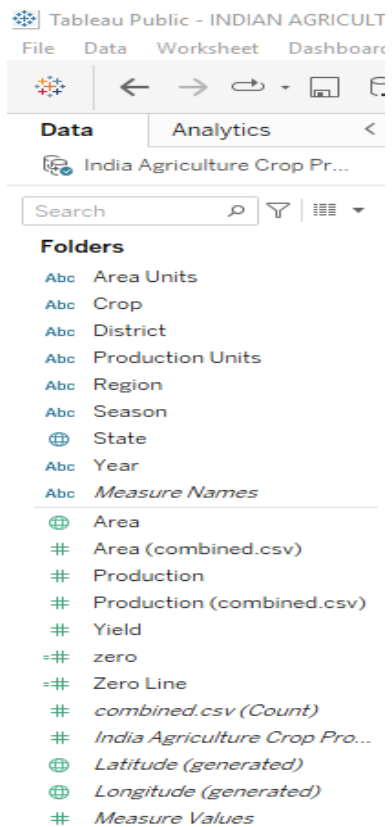
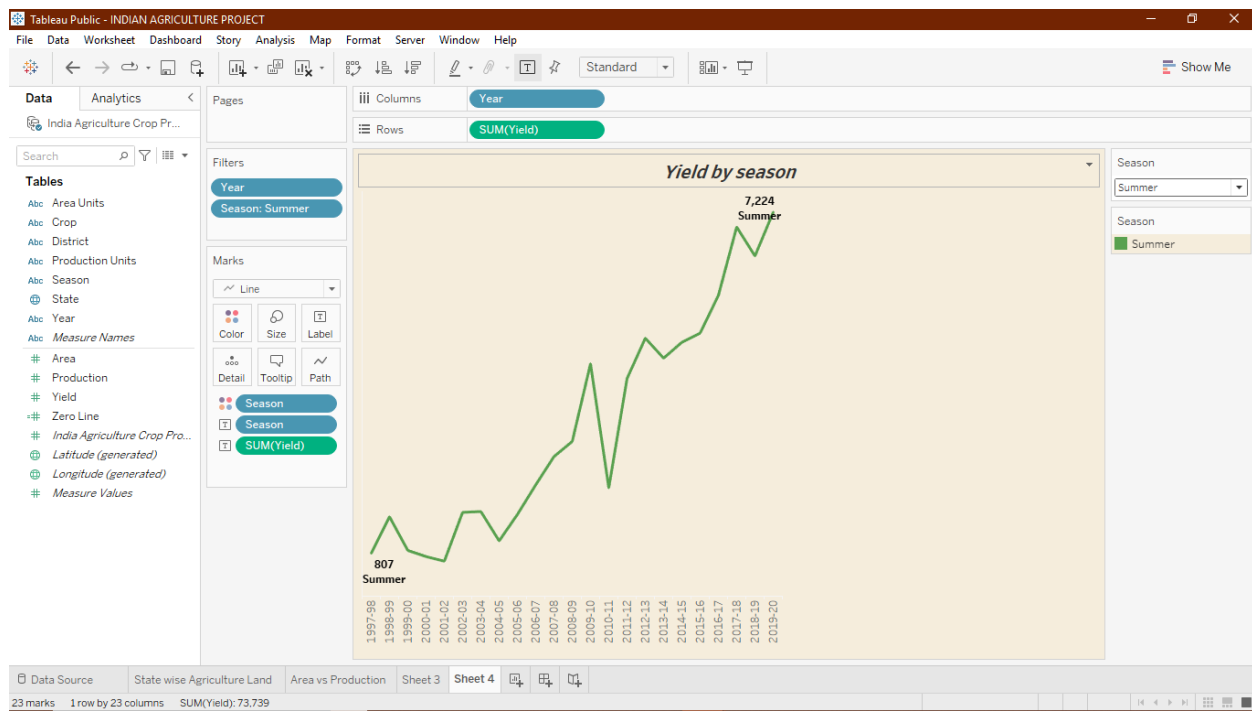




Milestone 7: Performance Testing

Activity 1: Utilization of Filters

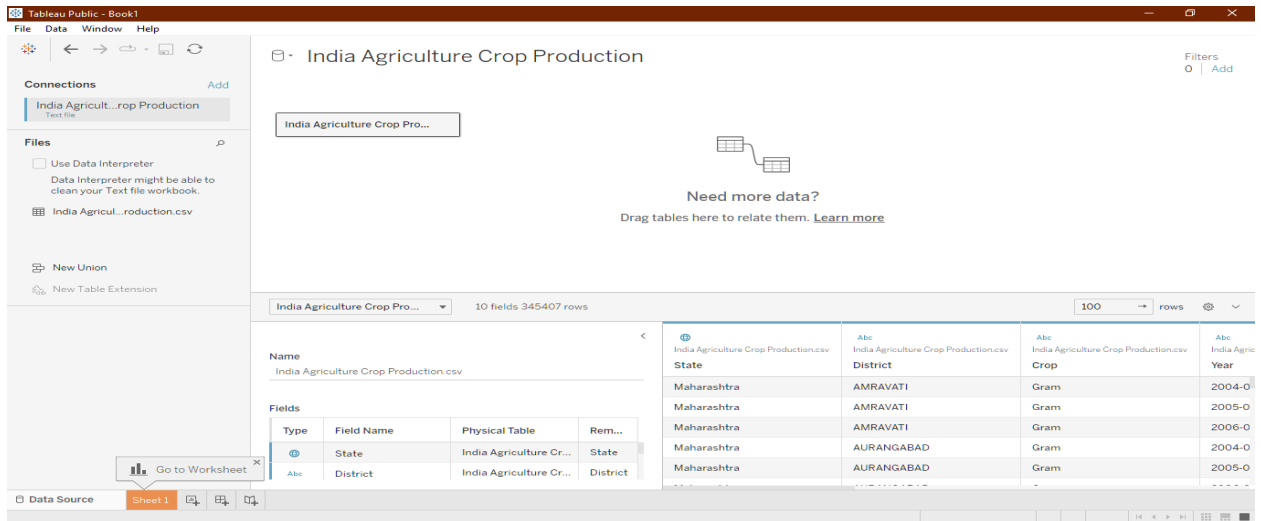




Milestone 8: Publishing

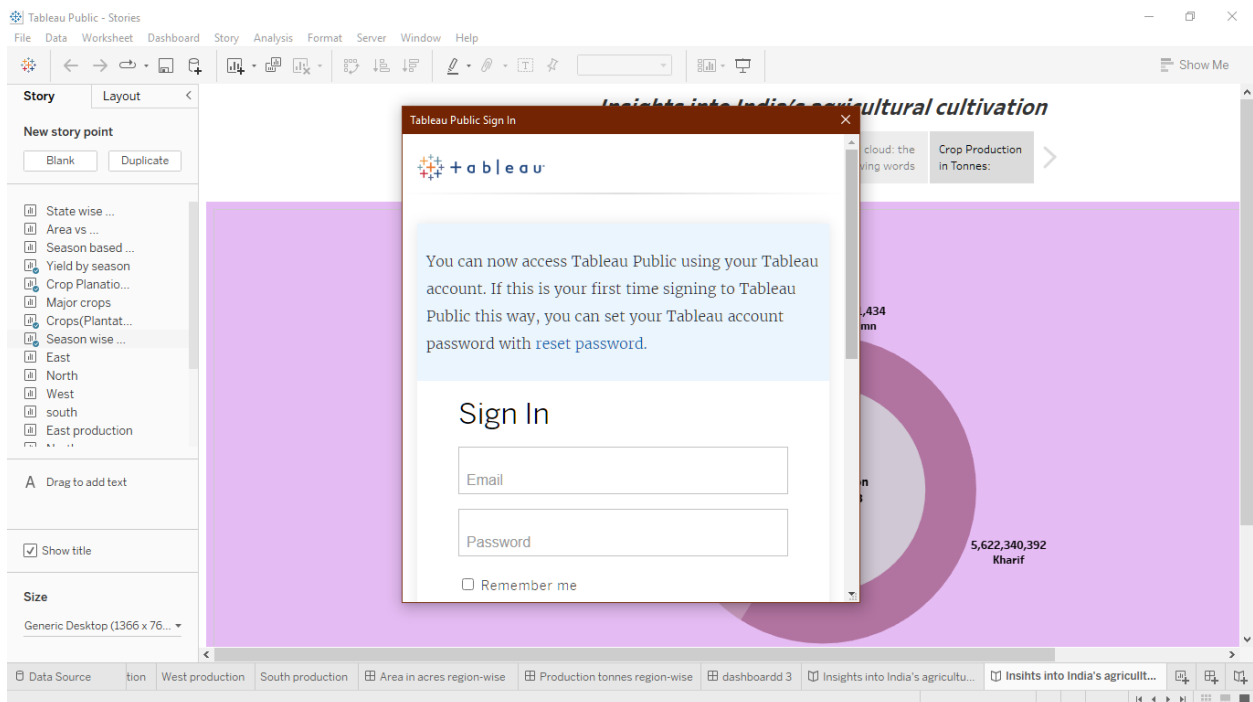
Publishing dashboard and reports to tableau public

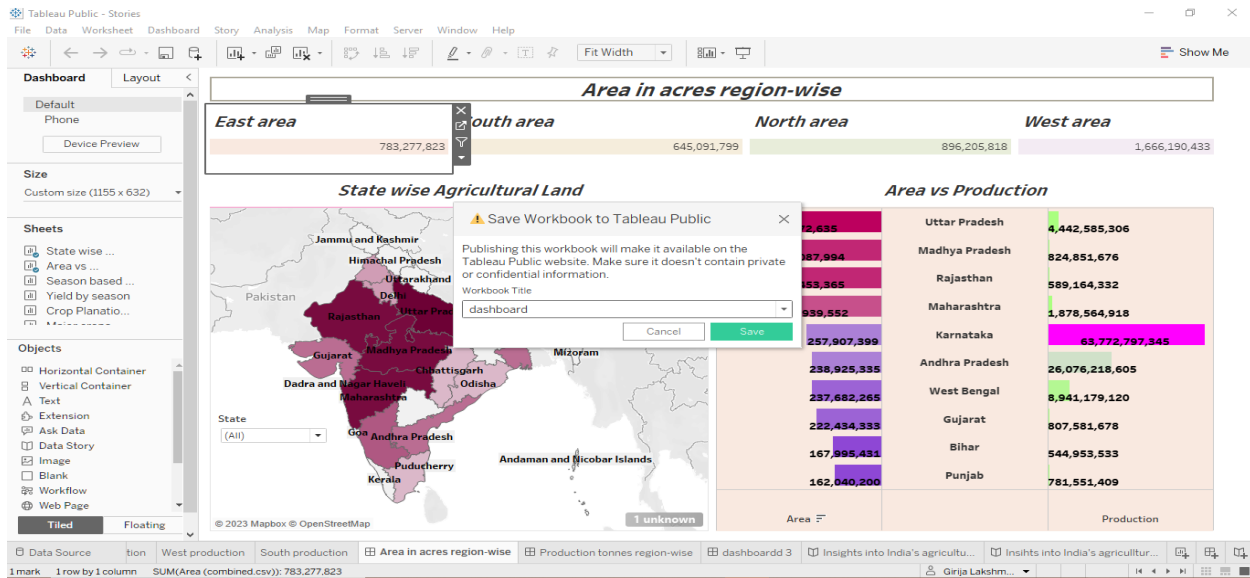
Step 1 Go to data Source and Select Extract so that hyper extension files are created and save it at your desktop.



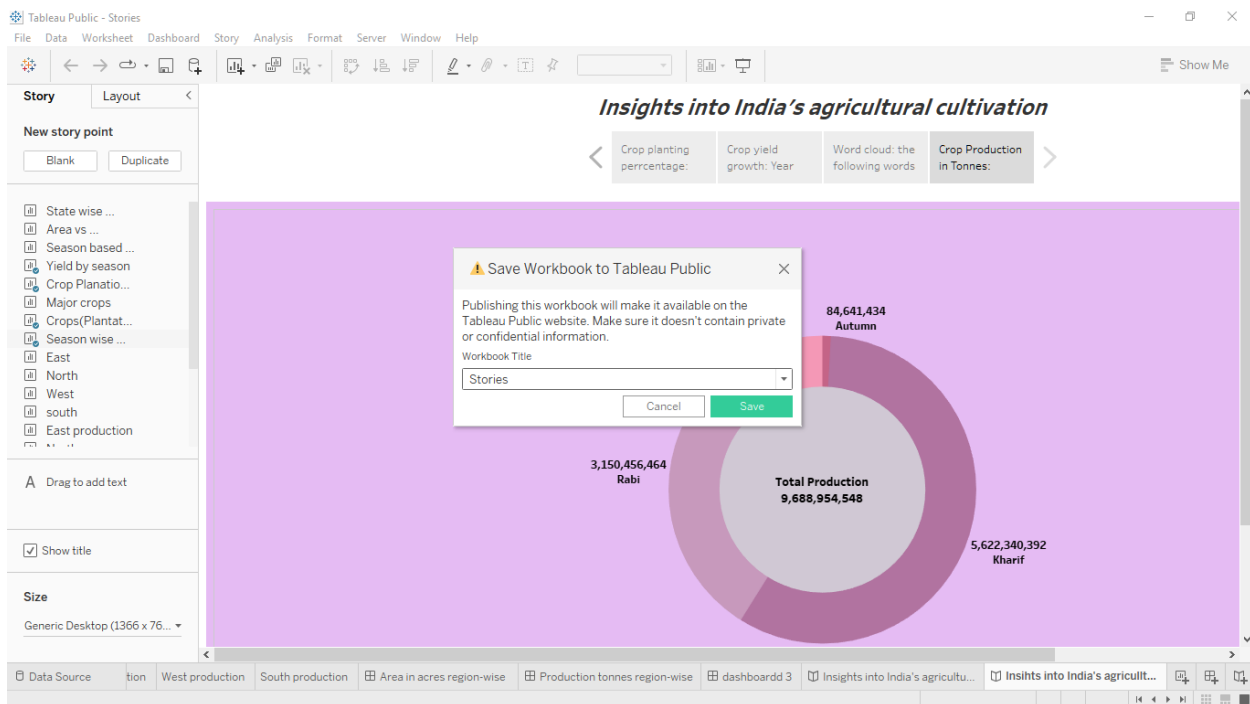
Step 2: Go to Dashboard/story, click on share button on the top ribbon

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

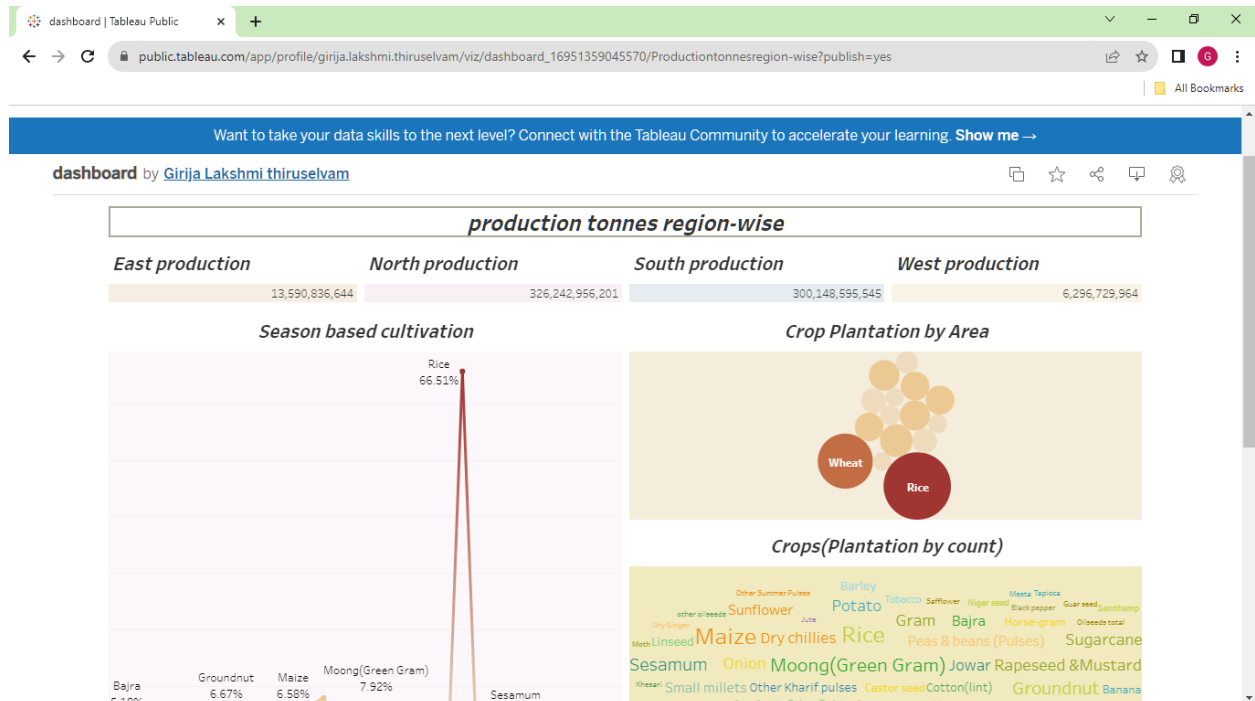
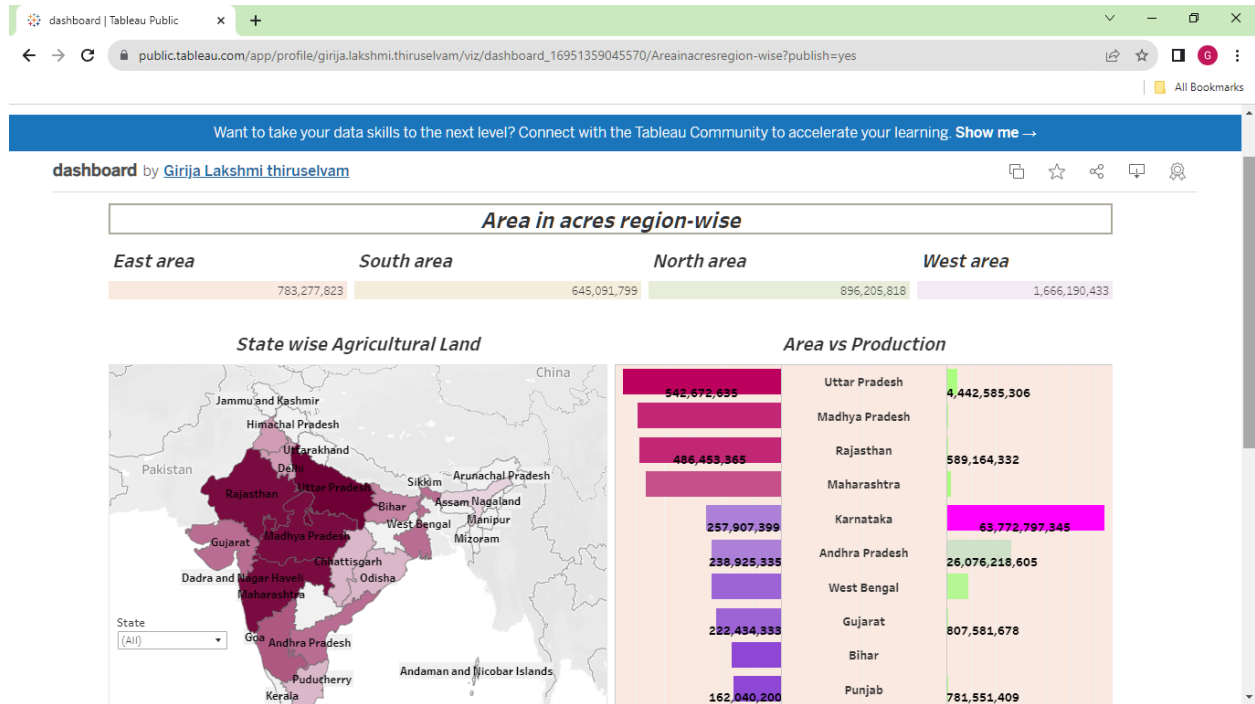


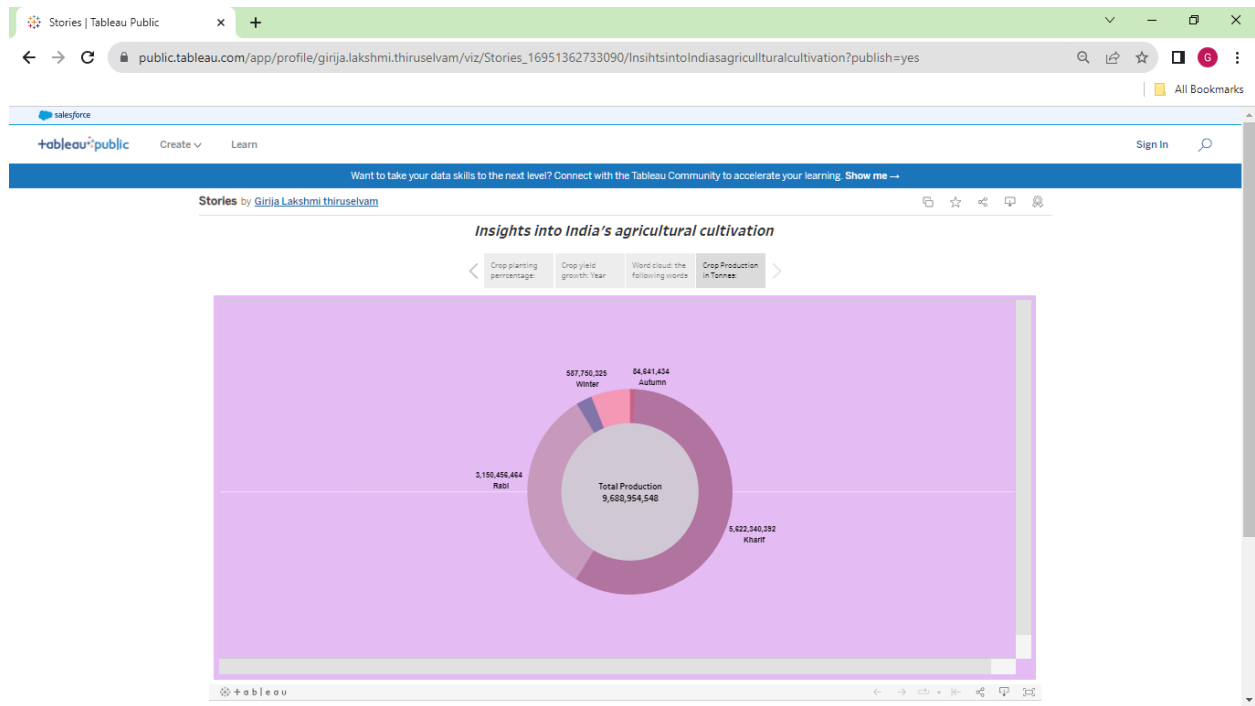


Publishing story and reports to tableau public



Activity 1: Publishing dashboard and reports to tableau public





ADVANTAGES & DISADVANTAGES

Advantages:

- **Increased Efficiency** modern farming methods are more efficient than traditional methods, with advanced machinery and equipment, allowing farmers to produce larger quantities of crops in less time and with less labor.
- **Improved Crop Quality** the use of advanced techniques such as precision farming and genetic engineering has led to the development of higher quality crops that are more resistant to pests and disease.
- **Reduced Environmental Impact** agriculture techniques are designed to be more sustainable, with a focus on reducing waste, conserving resources, and minimizing the use of harmful chemicals.
- **Increased Food Production** agriculture has enabled farmers to produce larger quantities of food, helping to address food shortages and hunger in many parts of the world.

- **Economic Benefits** modern agriculture has had a positive impact on the economy, by creating jobs and generating revenue for farmers, agribusinesses, and related industries.

DISADVANTAGES

- **Soil Degradation** the intensive use of modern farming practices, such as heavy use of chemical fertilizers and pesticides, can lead to soil degradation over time, reducing soil fertility and leading to erosion.
- **Biodiversity Loss** modern agriculture can have a negative impact on biodiversity, with the use of monoculture and genetically modified crops leading to a loss of natural diversity in plant and animal species.
- **Water Pollution** the excessive use of chemical fertilizers and pesticides in modern agriculture can lead to runoff and contamination of nearby water sources, potentially harming aquatic ecosystems and human health.
- **Health Risks** the use of chemicals in modern agriculture can pose health risks to farmers and farm workers who are exposed to these chemicals on a regular basis.
- **Food Safety Concerns** the use of genetically modified crops and hormones in modern agriculture has raised concerns about the safety of the food supply, with some studies suggesting potential long-term health effect.

CONCLUSION

In this project, we analysis crop production India states year on year. We improve our crop production, we use organic fertilizers and improve soil managements, irrigation system. We use

the hybrid seeds to crop. We investing in agricultural technology. Government provides to farmer to new policy schemes.

FUTURE SCOPE

- Future agriculture will use sophisticated technologies such as robots, temperature and moisture sensors, aerial images, and GPS technology.
- These advanced devices and precision agriculture and robotic systems will allow farms to be more profitable, efficient, safe, and environmentally friendly.