1) INTRODUCTION

1.1 Over view

Please note that agricultural production can vary from year to year due to factors like weather conditions and government policies. For the most up-to-date information, I recommend checking the latest reports and statistics from the Indian government or relevant agricultural agencies.The major crops are wheet ,rice, sugar cane and etc...

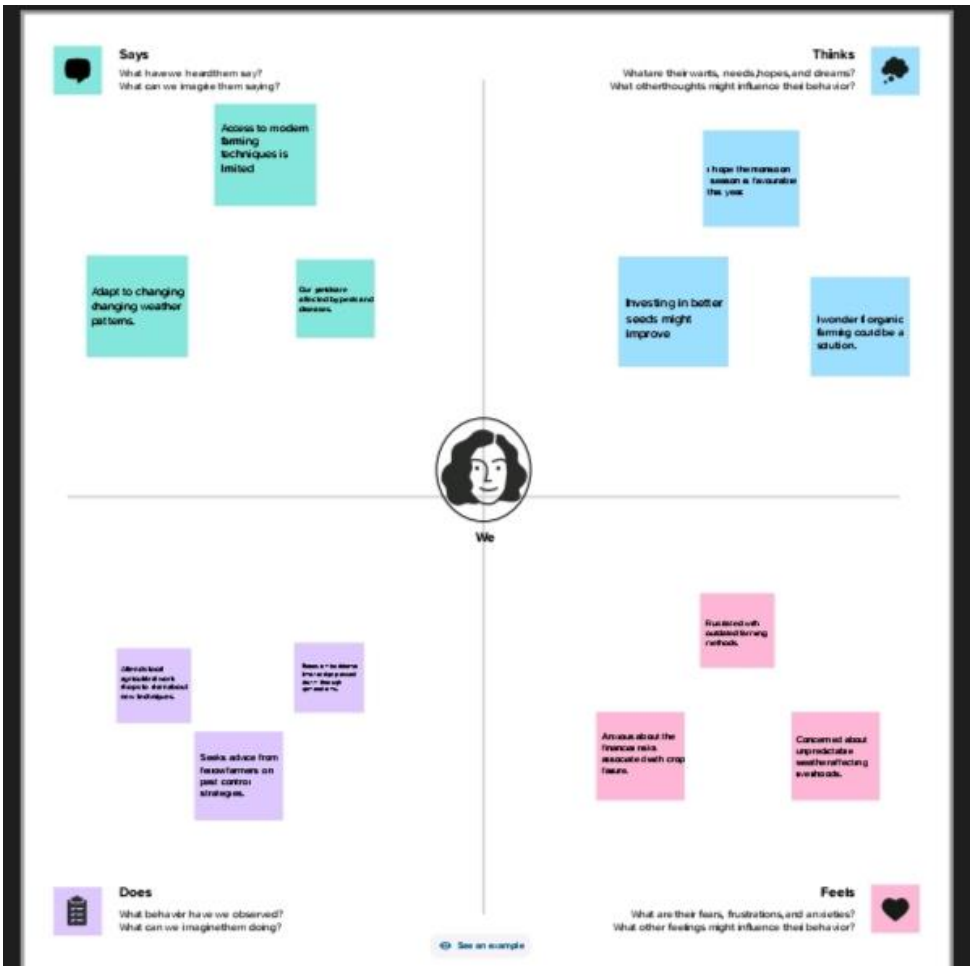
1.2 Purpose

The purpose of agricultural crop production in India is multifaceted:

Food Security: Crop production is essential to ensure an adequate food supply for the country's growing population. It helps meet the dietary needs of the people .

2)PROBLEM DEFINITION AND DESIGN THINKING

2.1 Empathy Map



2.2 Brain Storming Map

1

Define your problem statement

What problem are you trying to solve? Frame your problem as a How Might We statement. This will be the focus of your brainstorm.

5 minutes

PROBLEM

Increasingly volatile weather and more extreme events · like floods and droughts · change growing seasons, limit the availability of water, allow weeds, pests and fungi to thrive,and can reduce crop producivity.

Key rules of brainstorming

To run an smooth and productive session

- Stay in topic.
- Encourage wild ideas.
- Defer judgment.
- Listen to others.
- Go for volume.
- If possible, be visual.

2

Brainstorm

Write down any ideas that come to mind that address your problem statement.

10 minutes

TIP

You can select a sticky note and hit the pencil [switch to sketch] icon to start drawing!

Person 1

Implement technologies like GPS-guided tractors and drones to optimize planting and harvesting for maximum efficiency.

Rotate crops to prevent soil depletion and reduce the risk of pests and diseases.

Person 2

Utilize data analytics to monitor and optimize crop growth,enabling real -time decision - making.

Construct climate - controlled green houses to extend the growing season and protect crops from extreme weather.

Person 3

Provide farmers with training and educational resources to keep them updates on the latest agricultural practices.

Conduct market research to understand consumer preferences and adjust crop production accordingly.

Person 4

Regularly test soil quality to determine nutrient levels and adjust fertilizer application accordingly.

Implement efficient irr gation techniques lke drip irrigation and rain water harvesting to conserve water resources.

3

Group ideas

Take turns sharing your ideas while clustering similar or related notes as you go. Once all sticky notes have been grouped, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you and break it up into smaller sub-groups.

20 minutes

TIP

Add customizable tags to sticky notes to make it easier to find, browse, organize, and categorize important ideas as themes within your mural.

Investing in agricultural research can lead to the development of new crop varieties that are more resistant to pests, diseases and environmental stresses.

4

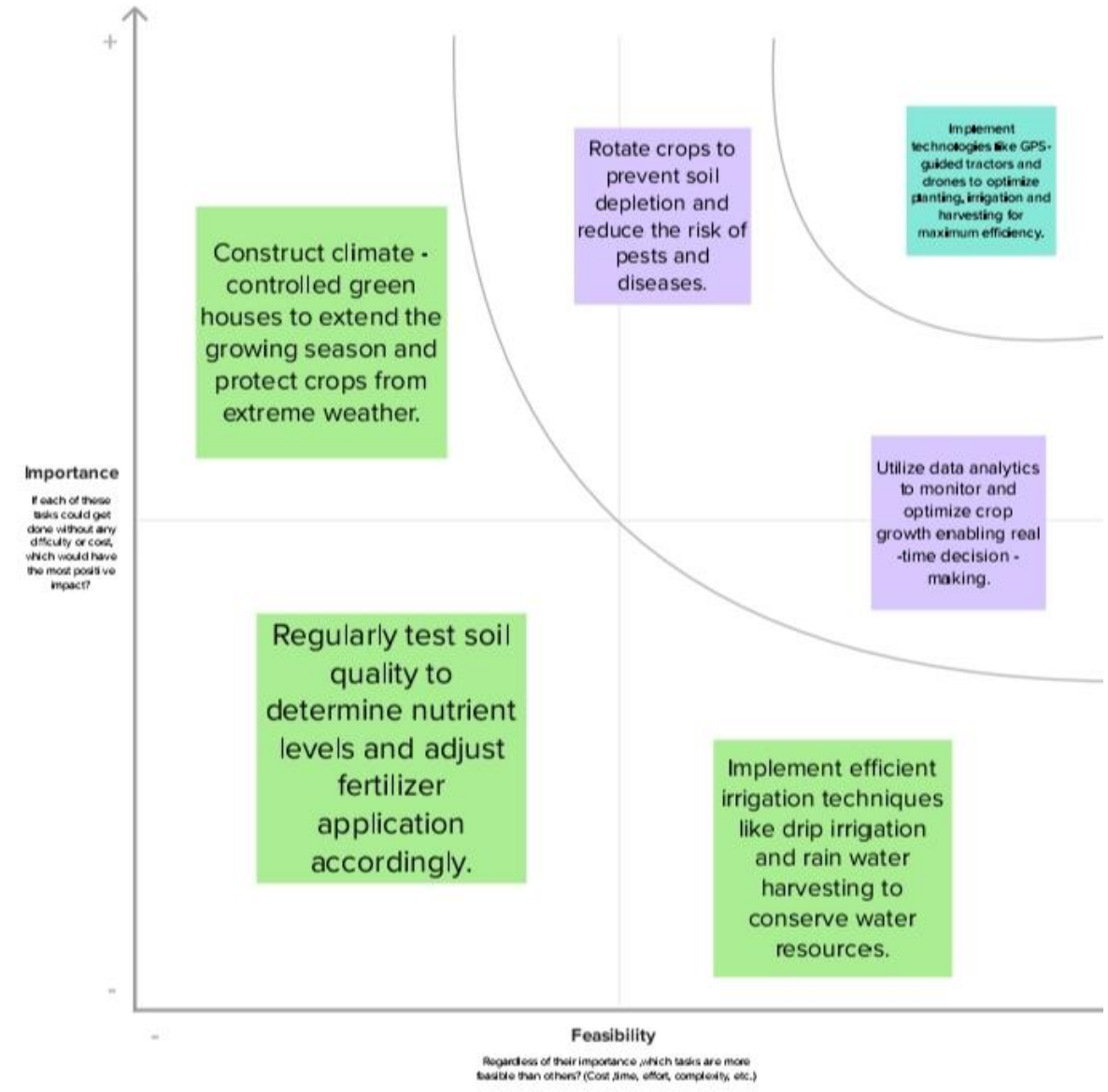
Prioritize

Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.

20 minutes

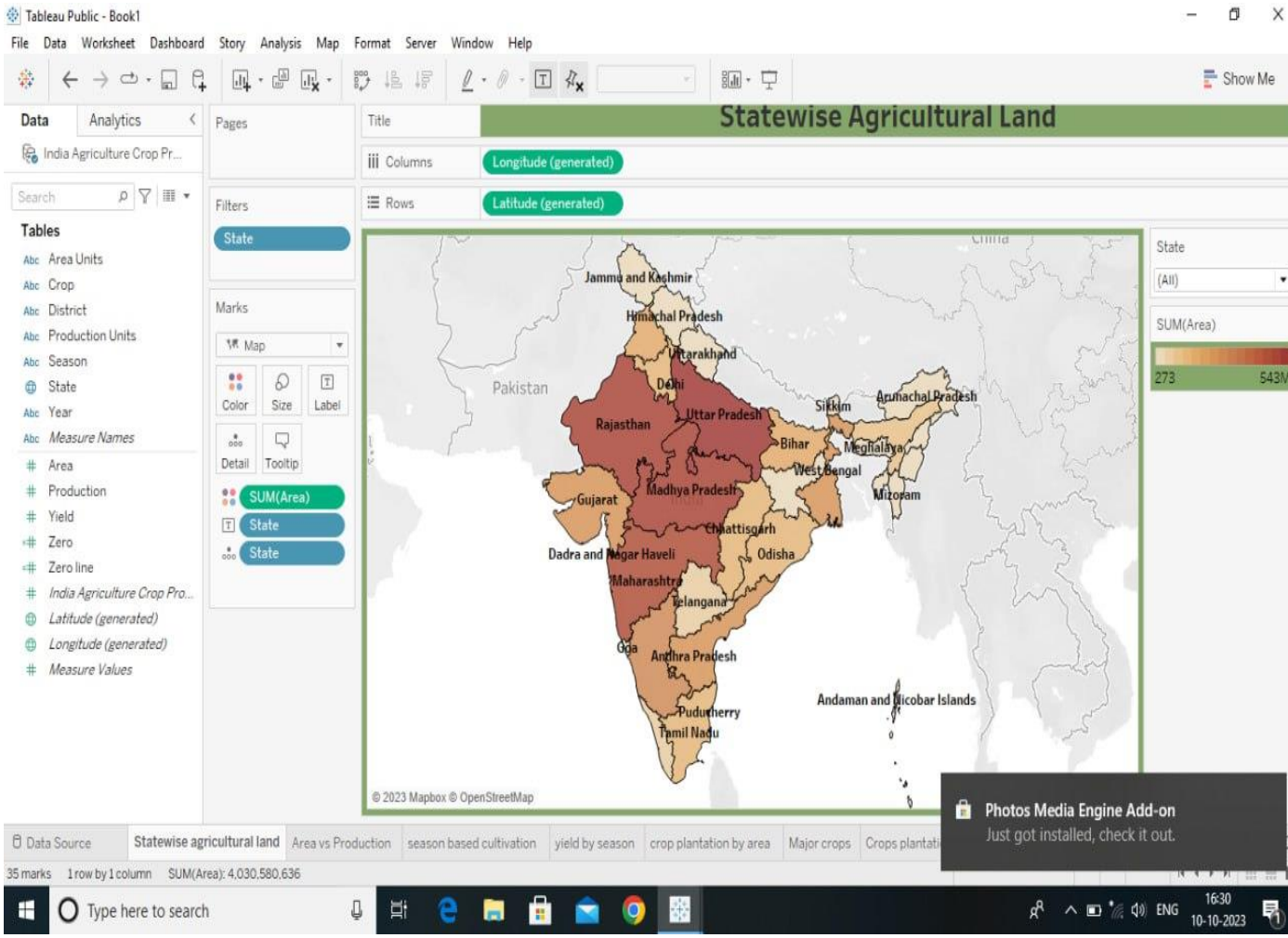
TIP

Participants can use their cursors to point at where sticky notes should go on the grid. The facilitator can confirm the spot by using the laser pointer holding the H key on the keyboard.



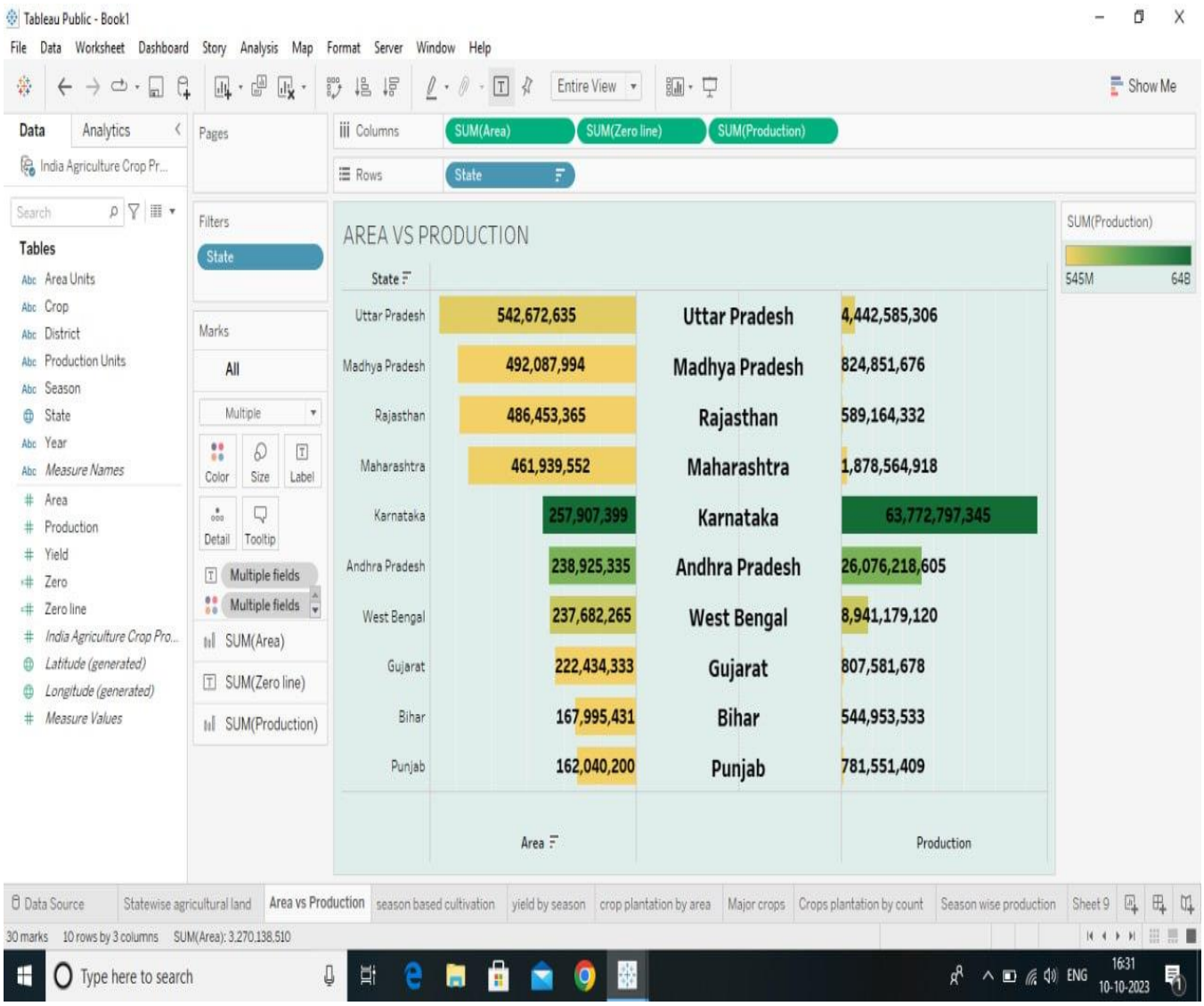
3.RESULT

3.1 Sheet Creation



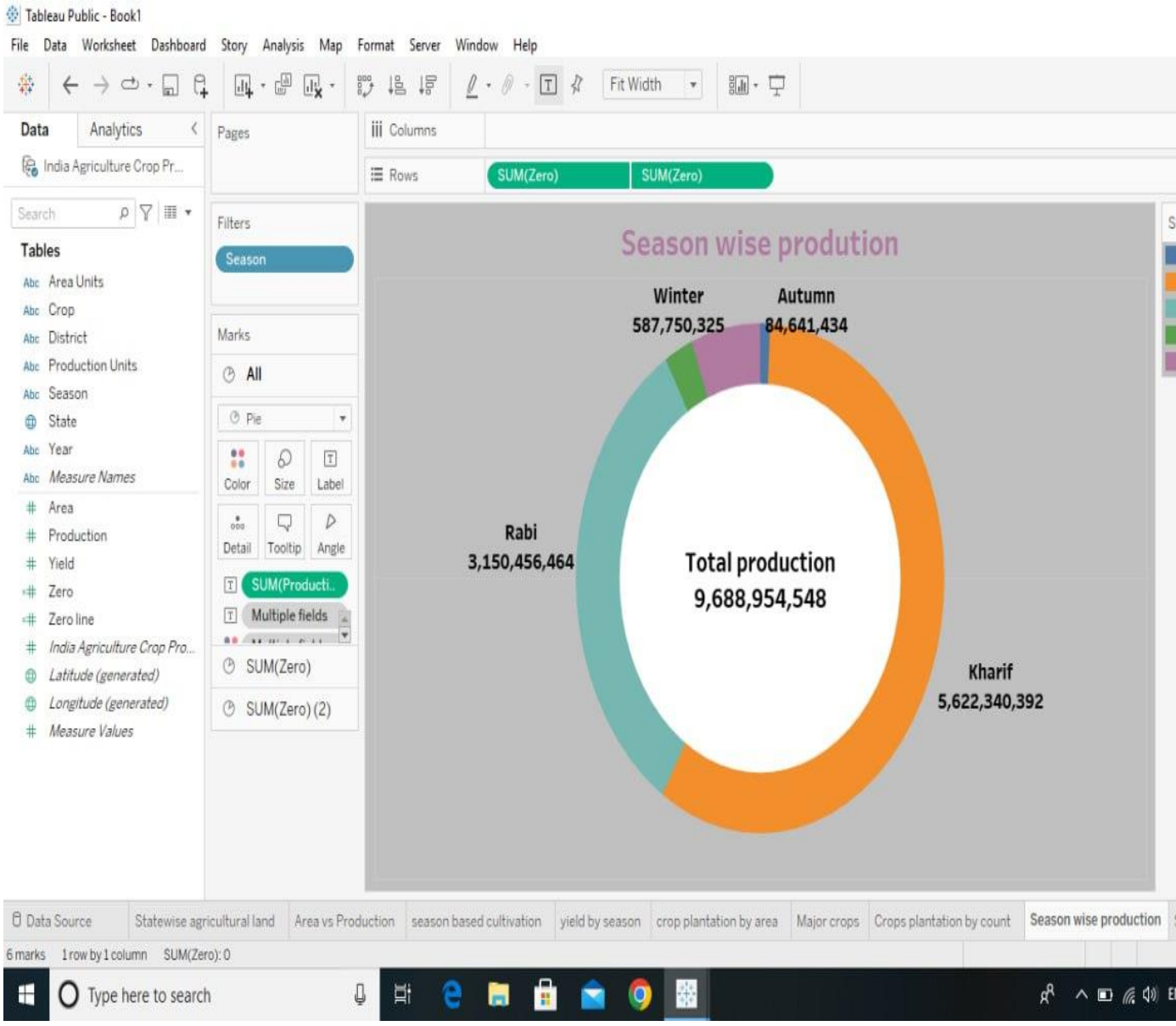
The location of the data can the determined using this sheet. Here,we

used geographical map for finding the location.

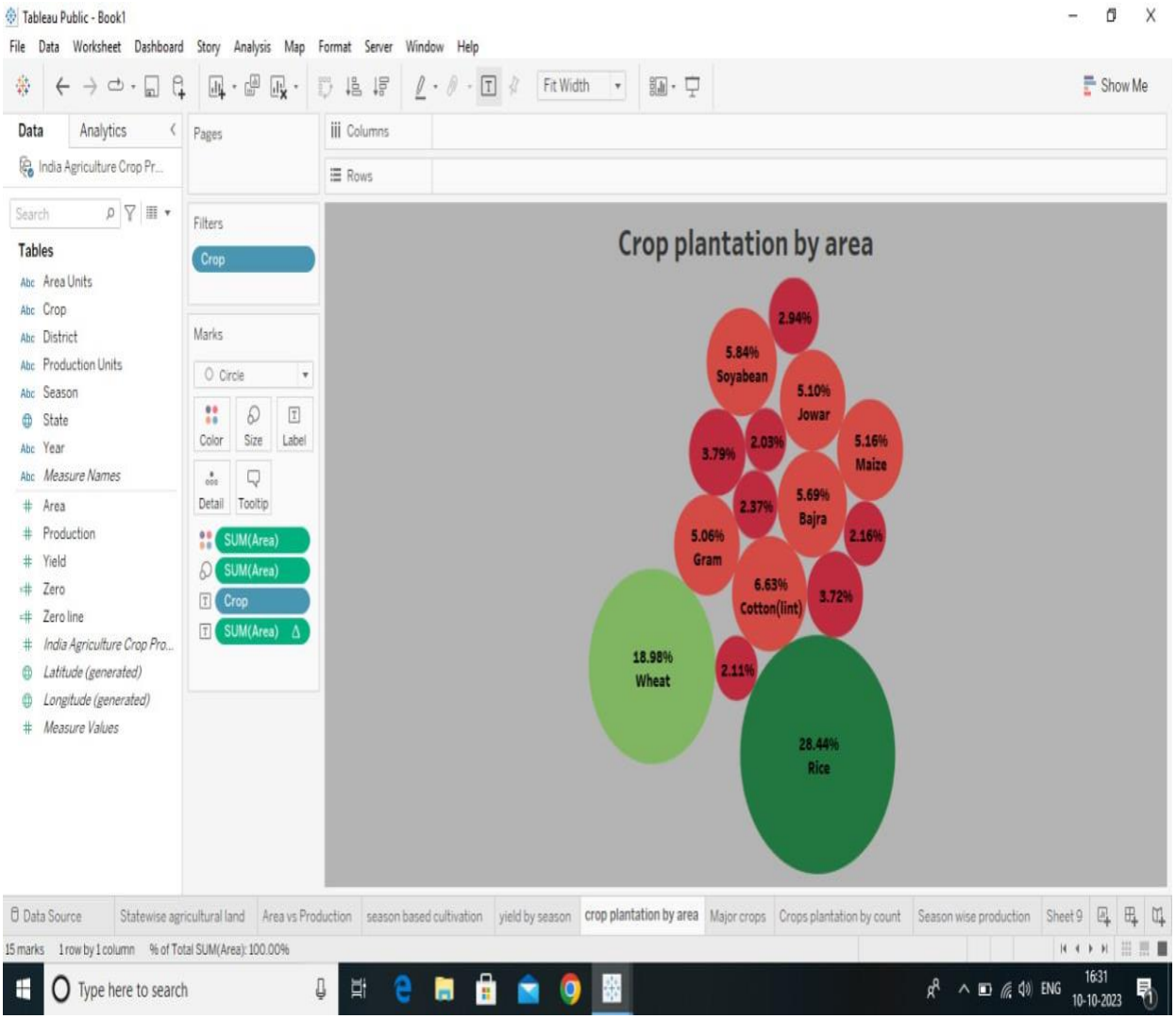


Analysing the area vs production in a given area based acres can provided

insight into they production in that states.



Using piechart, we have created a visualisation which shows they availability of season wise production.



Using bubble chart,we have created a visualisation which shows

they availability of crop plantation by area.

3.2 Dashboard and Story Creation

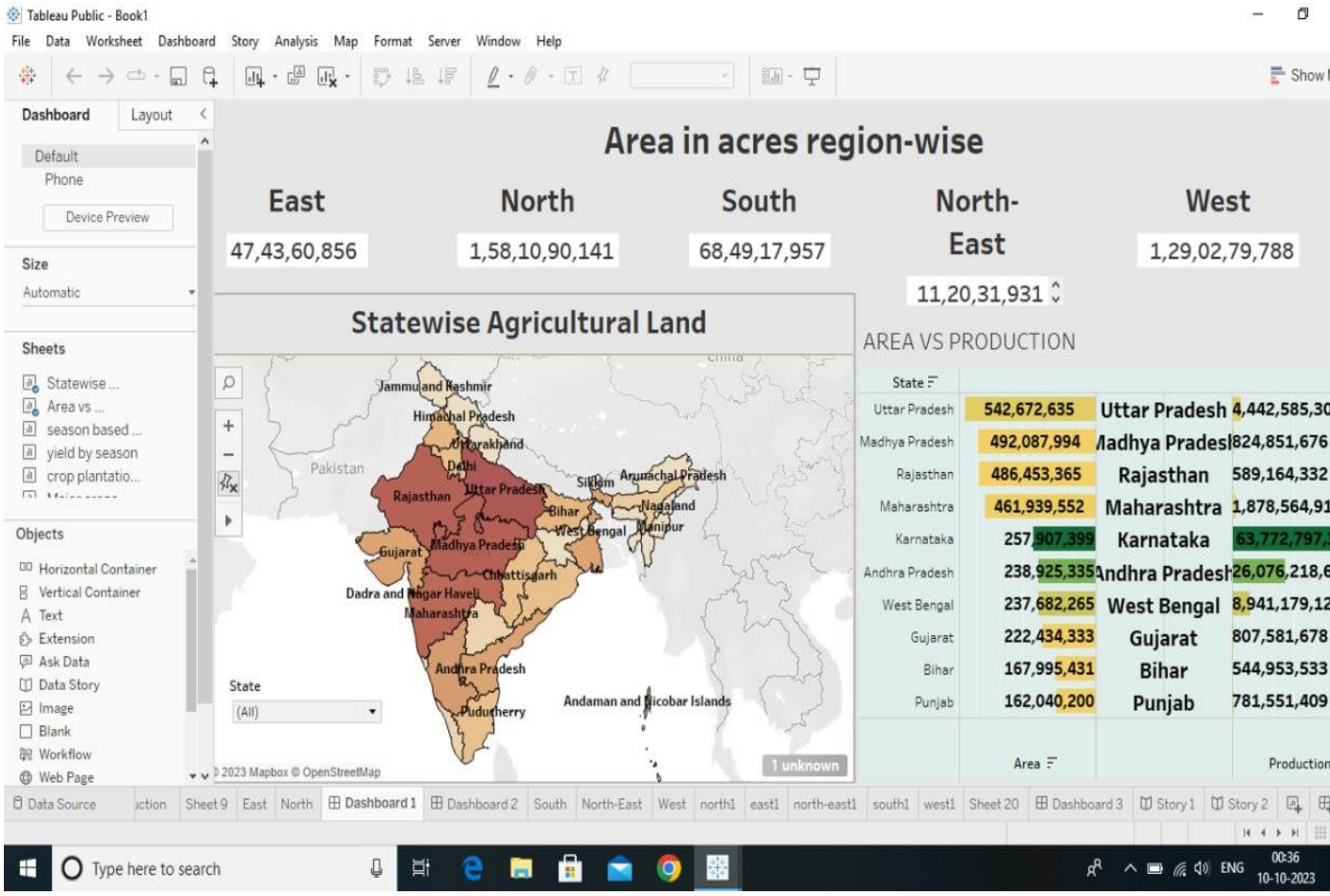


Tableau Public - Book1
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Dashboard Layout
Default
Phone
Device Preview
Size
Automatic
Sheets
Statewise ...
Area vs ...
season based ...
yield by season
crop plantatio...
Objects
Horizontal Container
Vertical Container
Text
Extension
Ask Data
Data Story
Image
Blank
Workflow
Web Page
Area in acres region-wise
East
47,43,60,856
North
1,58,10,90,141
South
68,49,17,957
North-East
11,20,31,931
West
1,29,02,79,788
Statewise Agricultural Land
Jammu and Kashmir
Himachal Pradesh
Uttarakhand
Delhi
Pakistan
Rajasthan
Uttar Pradesh
Sikkim
Arunachal Pradesh
Bihar
Nagaland
West Bengal
Manipur
Gujarat
Madhya Pradesh
Chhattisgarh
Dadra and Nagar Haveli
Maharashtra
Andhra Pradesh
Puducherry
Andaman and Nicobar Islands
State
(All)
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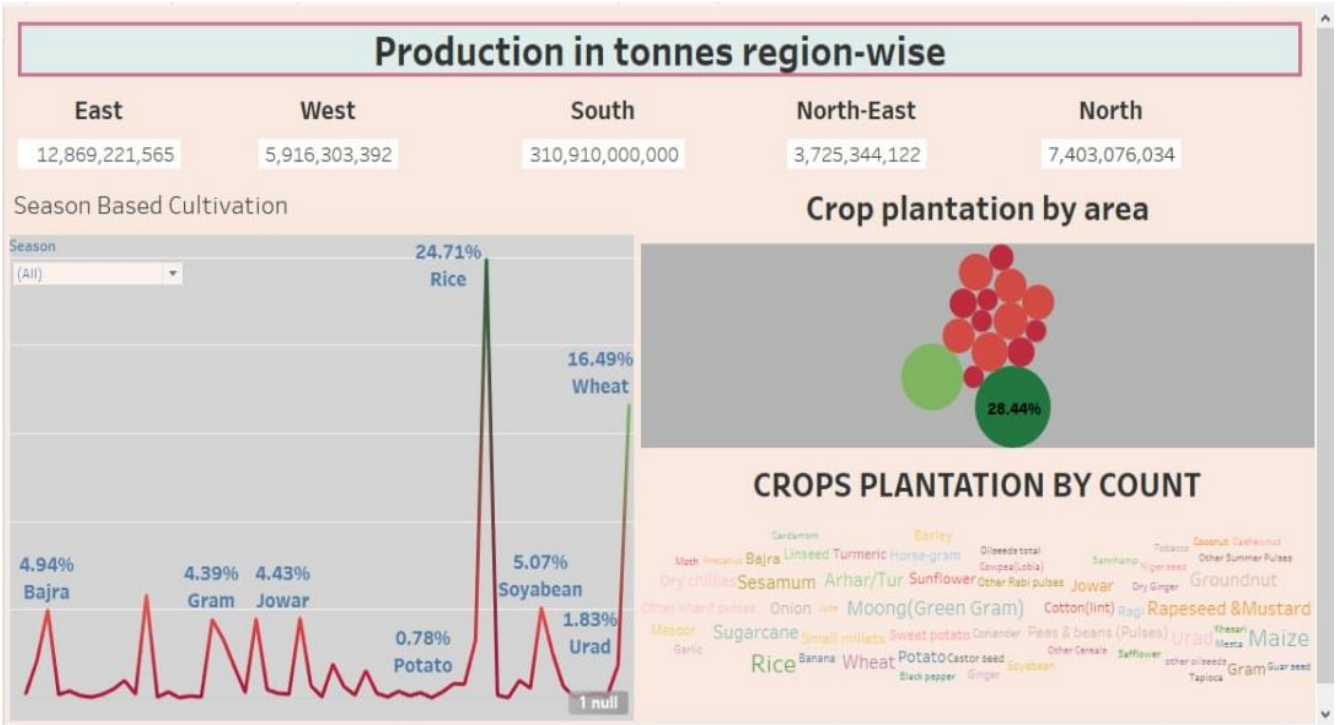
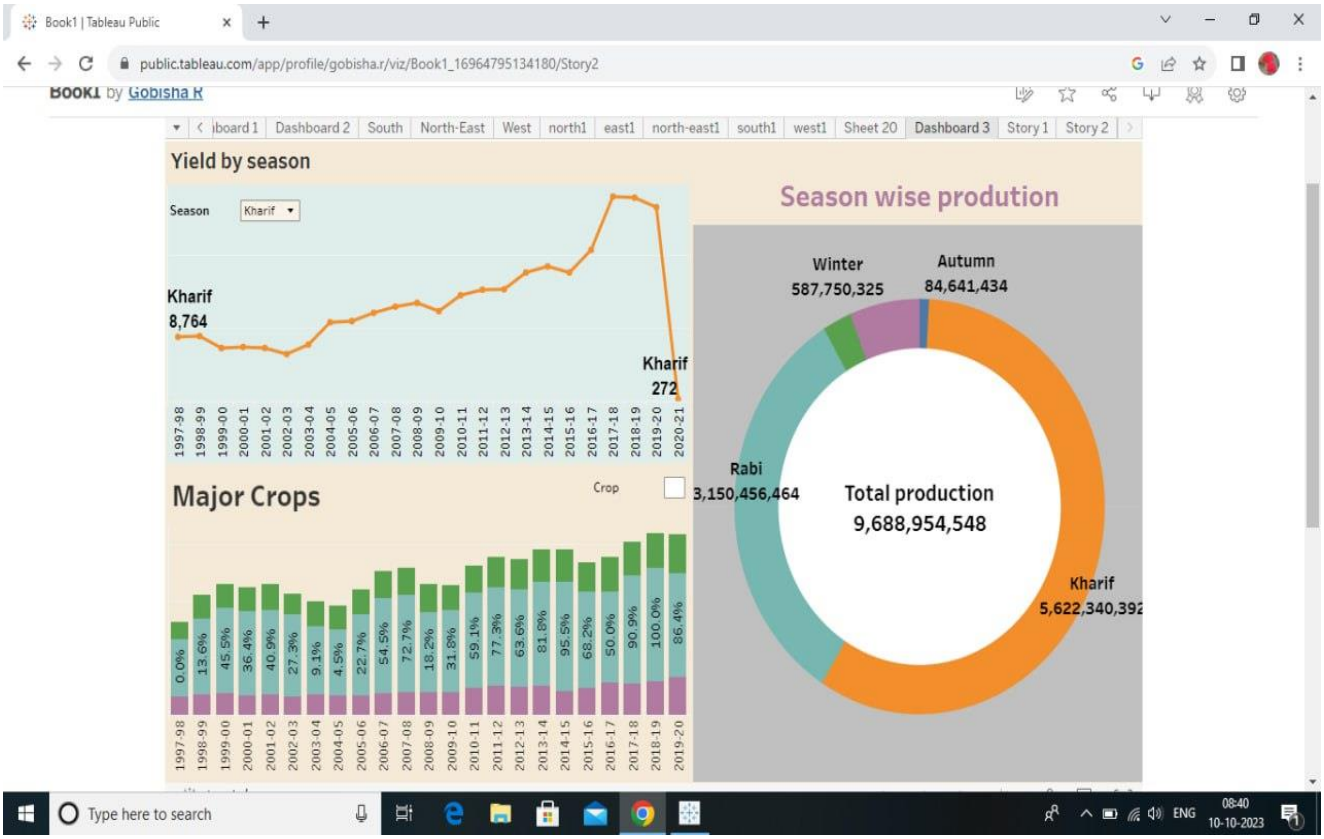
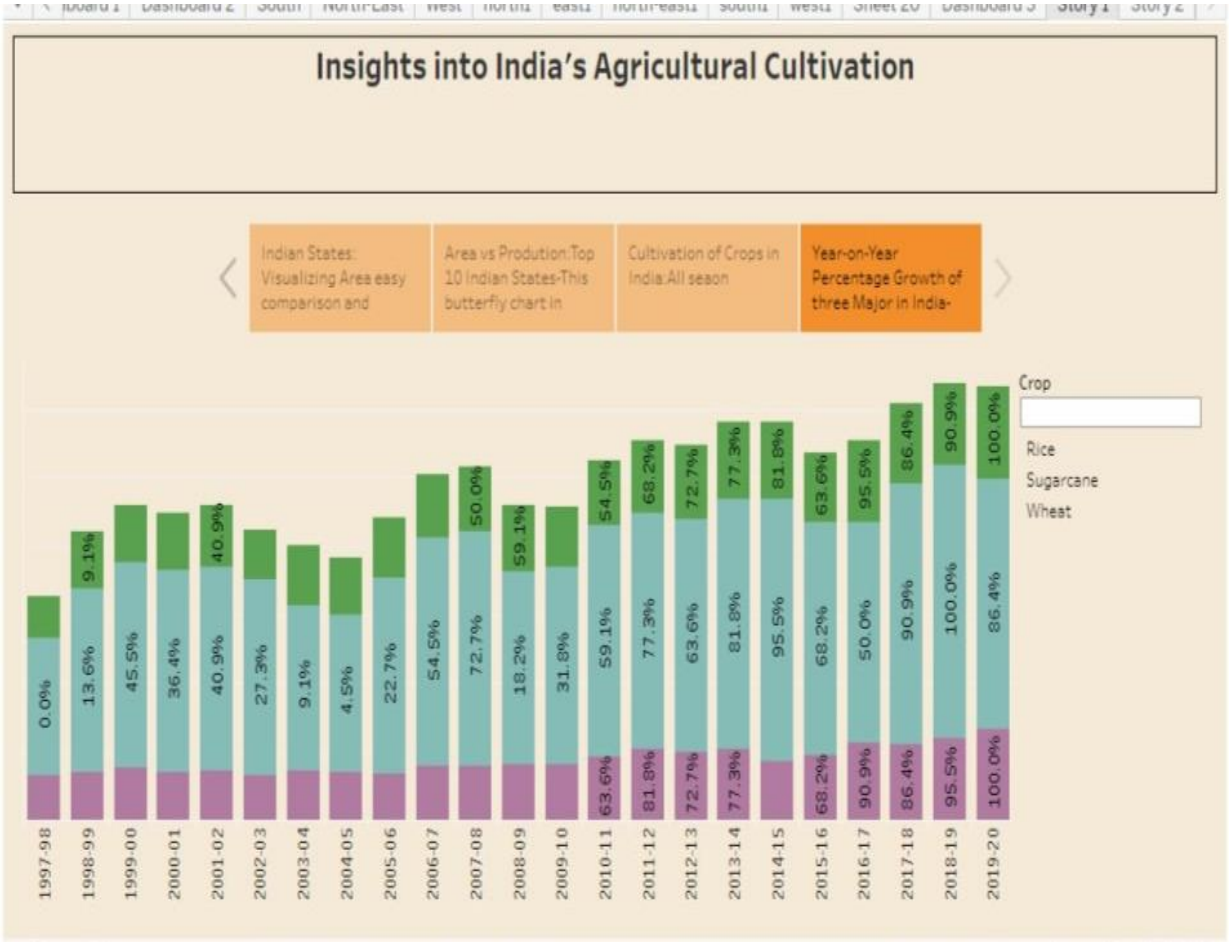
1 unknown
AREA VS PRODUCTION
State
Uttar Pradesh 542,672,635 Uttar Pradesh 4,442,585,30
Madhya Pradesh 492,087,994 Madhya Pradesh 824,851,676
Rajasthan 486,453,365 Rajasthan 589,164,332
Maharashtra 461,939,552 Maharashtra 1,878,564,91
Karnataka 257,907,399 Karnataka 63,772,797
Andhra Pradesh 238,925,335 Andhra Pradesh 26,076,218,6
West Bengal 237,682,265 West Bengal 8,941,179,12
Gujarat 222,434,333 Gujarat 807,581,678
Bihar 167,995,431 Bihar 544,953,533
Punjab 162,040,200 Punjab 781,551,409
Area
Production
Data Source
Sheet 9
East
North
Dashboard 1
Dashboard 2
South
North-East
West
north1
east1
north-east1
south1
west1
Sheet 20
Dashboard 3
Story 1
Story 2
Type here to search
ENG
00:36
10-10-2023


Production in tonnes region-wise
East
12,869,221,565
West
5,916,303,392
South
310,910,000,000
North-East
3,725,344,122
North
7,403,076,034
Season Based Cultivation
Season
(All)
24.71%
Rice
16.49%
Wheat
4.94%
Bajra
4.39%
Gram
4.43%
Jowar
0.78%
Potato
5.07%
Soyabean
1.83%
Urad
1 null
Crop plantation by area
28.44%
CROPS PLANTATION BY COUNT
Bajra
Linseed
Turmeric
Horse-gram
Sesamum
Arhar/Tur
Sunflower
Jowar
Groundnut
Onion
Moong(Green Gram)
Cotton(lint)
Rapeseed &Mustard
Sugarcane
Maize
Rice
Banana
Wheat
Potato
Gram



The major crops based on yield by season and season wise production. Analysing the correlation between Crop plantation by area and crop plantation by crops can help in predicting the value of they major based on it yields.


Insights into India's Agricultural Cultivation
Indian States: Visualizing Area easy comparison and
Area vs Prodution:Top 10 Indian States-This butterfly chart in
Cultivation of Crops in India:All seaon
Year-on-Year Percentage Growth of three Major in India-
Crop
Rice
Sugarcane
Wheat
1997-98
1998-99
1999-00
2000-01
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
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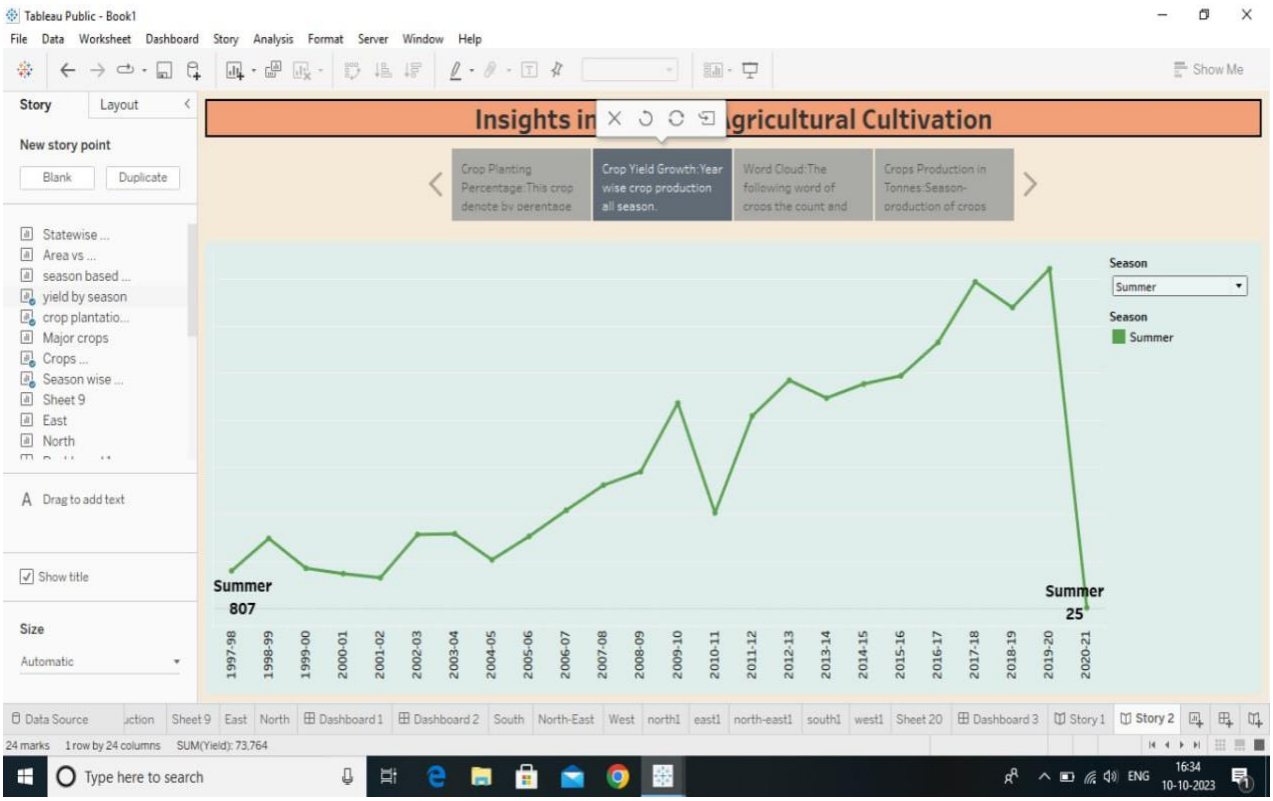
2011-12
2012-13
2013-14
2014-15
2015-16
2016-17
2017-18
2018-19
2019-20



Story is a graphical visualisation with a caption that helps to present our visualisation in an effective way.

Here,we analysed the insight into India's agricultural crop production.

4.ADVANTAGES

1. Food security
2. Economic contribution
3. Export potential
4. Sustainability

DISADVANTAGES

1. Data quality
2. Weather dependence
3. Market volatility
4. Land degradation

5) APPLICATION

Food Security: Monitoring crop production helps ensure food security for the country. It allows the government to assess the availability of essential crops and plan interventions in case of shortages.

Resource Allocation: Understanding which crops are grown where and in what quantities helps in allocating resources effectively. This can include distributing subsidies, providing irrigation facilities, or promoting certain crops in specific regions.

Crop Planning: Analysis of historical data can aid in crop planning. Farmers and policymakers can use this information to decide which crops to plant in a given season, taking into account market demand and environmental factors.

Pricing and Trade: Crop production data influences commodity prices and international trade. It's valuable for making decisions on exports and imports, which can have economic implications.

Risk Management: Crop production analysis can help in managing risks related to climate change and extreme weather events. It aids in developing strategies to mitigate the impact of such events on agriculture.

Research and Development: Researchers can use this data for studying long-term trends, the impact of agricultural practices, and the development of new technologies to enhance crop yield.

6.CONCLUSION

In conclusion, India's agricultural crop production analysis is of paramount significance for the nation's food security, economic development, and sustainable agriculture. This data serves as the foundation for informed decision-making in various domains, ranging from government policies and resource allocation to research and development. It plays a pivotal role in ensuring that the diverse agricultural needs of India's vast and populous

landscape are met efficiently, while also promoting sustainable practices and resilience in the face of environmental challenges. As India continues to evolve and adapt in the realm of agriculture, the analysis of crop production remains a critical tool for shaping the future of this vital sector.

7)FUTURE SCOPE

Precision Agriculture: The use of technology, such as drones, IoT, and AI, will continue to grow. This enables farmers to make data-driven decisions,

optimizing resource utilization and crop yields.

Climate Resilience: As climate change poses challenges, there is a need for advanced analysis to develop resilient crop varieties and adapt farming practices to changing conditions.

Market Analysis: Analyzing market trends and consumer demands can help farmers make informed choices about which crops to cultivate, leading to better income opportunities.