1)INTRODUCTION

1.1 Overview

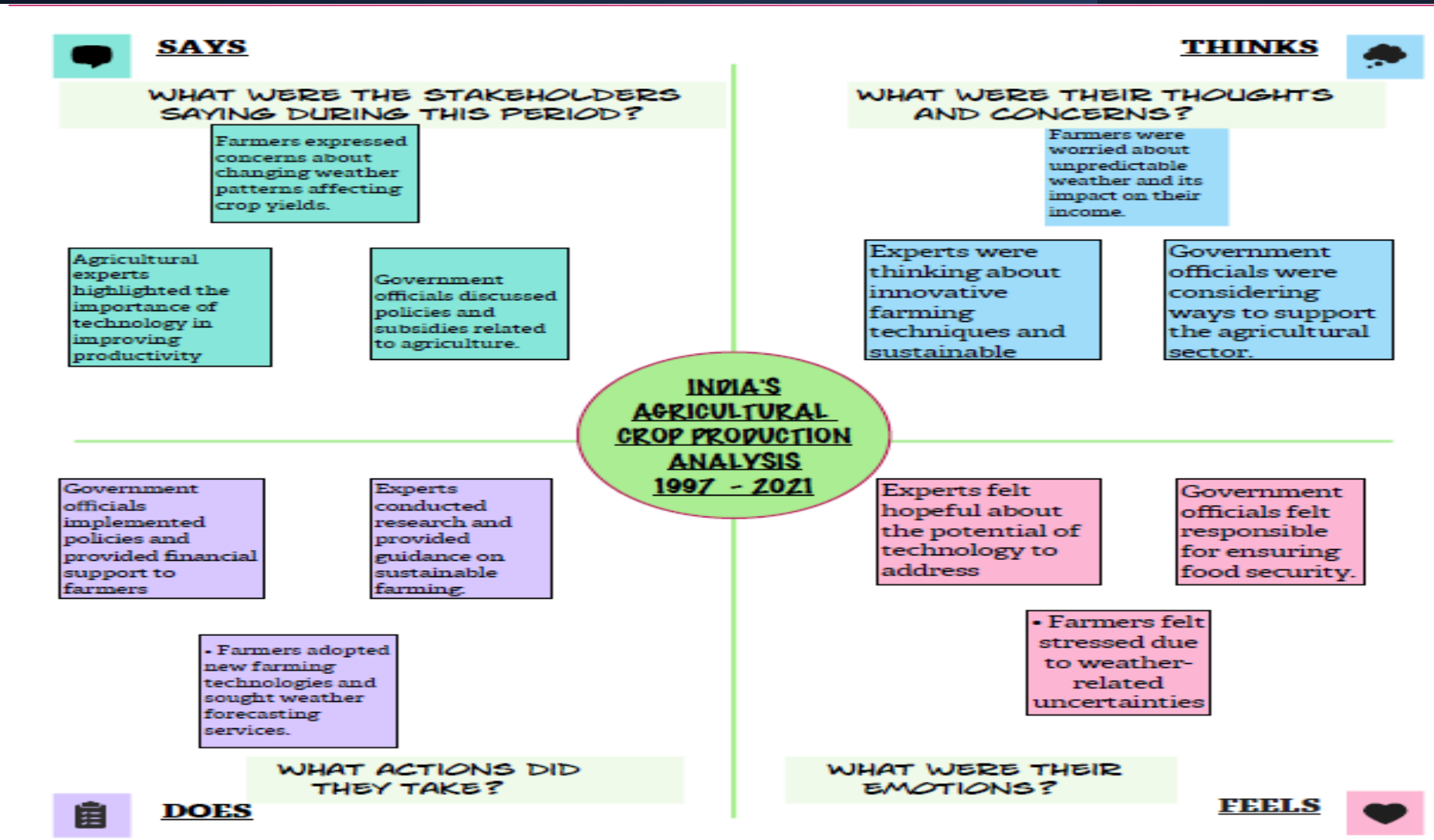
The objective of this project is to condect a comprehensively analyze and understand the key aspects of India's agricultural crop production spanning the years 1997 to 2021

1.2 Purpose

These visualizations enable stakeholders to uncover meaningful patterns, identify areas of both growth and concern within the agricultural sector, and ultimately make informed, data-driven decisions.

2) Problem Definition & Design thinking

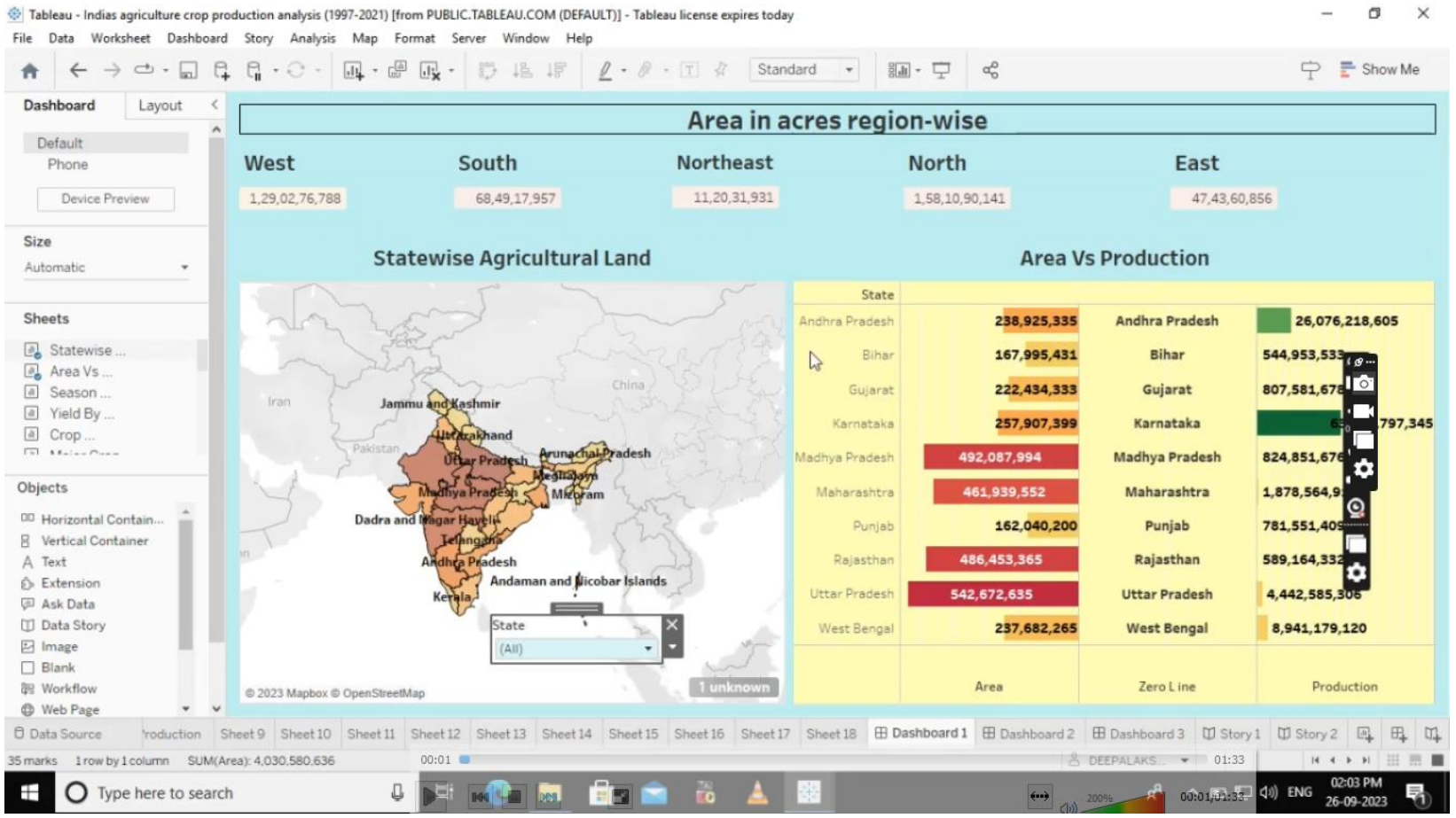
Empathy Map



Brainstorming Map

3) RESULT

Dashboard 1



Dashboard 2

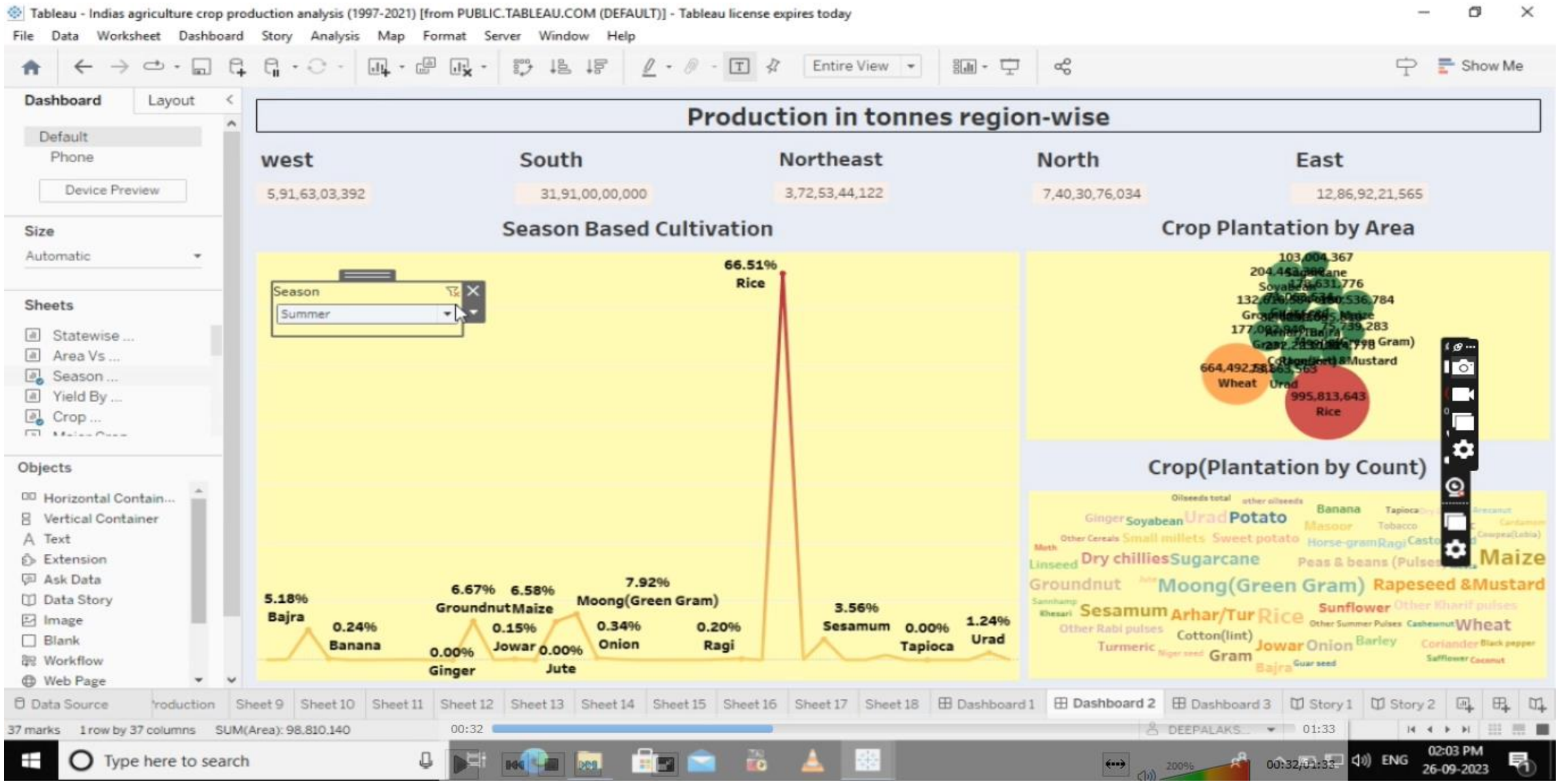


Tableau - Indias agriculture crop production analysis (1997-2021) [from PUBLIC.TABLEAU.COM (DEFAULT)] - Tableau license expires today
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Entire View
Show Me
Dashboard
Layout
Default
Phone
Device Preview
Size
Automatic
Sheets
Statewise ...
Area Vs ...
Season ...
Yield By ...
Crop ...
Objects
Horizontal Contain...
Vertical Container
Text
Extension
Ask Data
Data Story
Image
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Workflow
Web Page
Production in tonnes region-wise
west
5,91,63,03,392
South
31,91,00,00,000
Northeast
3,72,53,44,122
North
7,40,30,76,034
East
12,86,92,21,565
Season Based Cultivation
Season
Summer
66.51% Rice
5.18% Bajra
0.24% Banana
6.67% Groundnut
0.00% Ginger
6.58% Maize
0.15% Jowar
0.00% Jute
7.92% Moong(Green Gram)
0.34% Onion
0.20% Ragi
3.56% Sesamum
0.00% Tapioca
1.24% Urad
Crop Plantation by Area
103,004,367
Wheat
Urad
995,813,643
Rice
Crop(Plantation by Count)
Potato
Soyabean
Banana
Dry chillies
Sugarcane
Maize
Groundnut
Moong(Green Gram)
Rapeseed &Mustard
Sesamum
Arhar/Tur
Rice
Sunflower
Wheat
Cotton(lint)
Jowar
Onion
Barley
Gram
Bajra
Data Source
Sheet 9
Sheet 10
Sheet 11
Sheet 12
Sheet 13
Sheet 14
Sheet 15
Sheet 16
Sheet 17
Sheet 18
Dashboard 1
Dashboard 2
Dashboard 3
Story 1
Story 2
37 marks
1 row by 37 columns
SUM(Area): 98,810,140
00:32
01:33
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ENG
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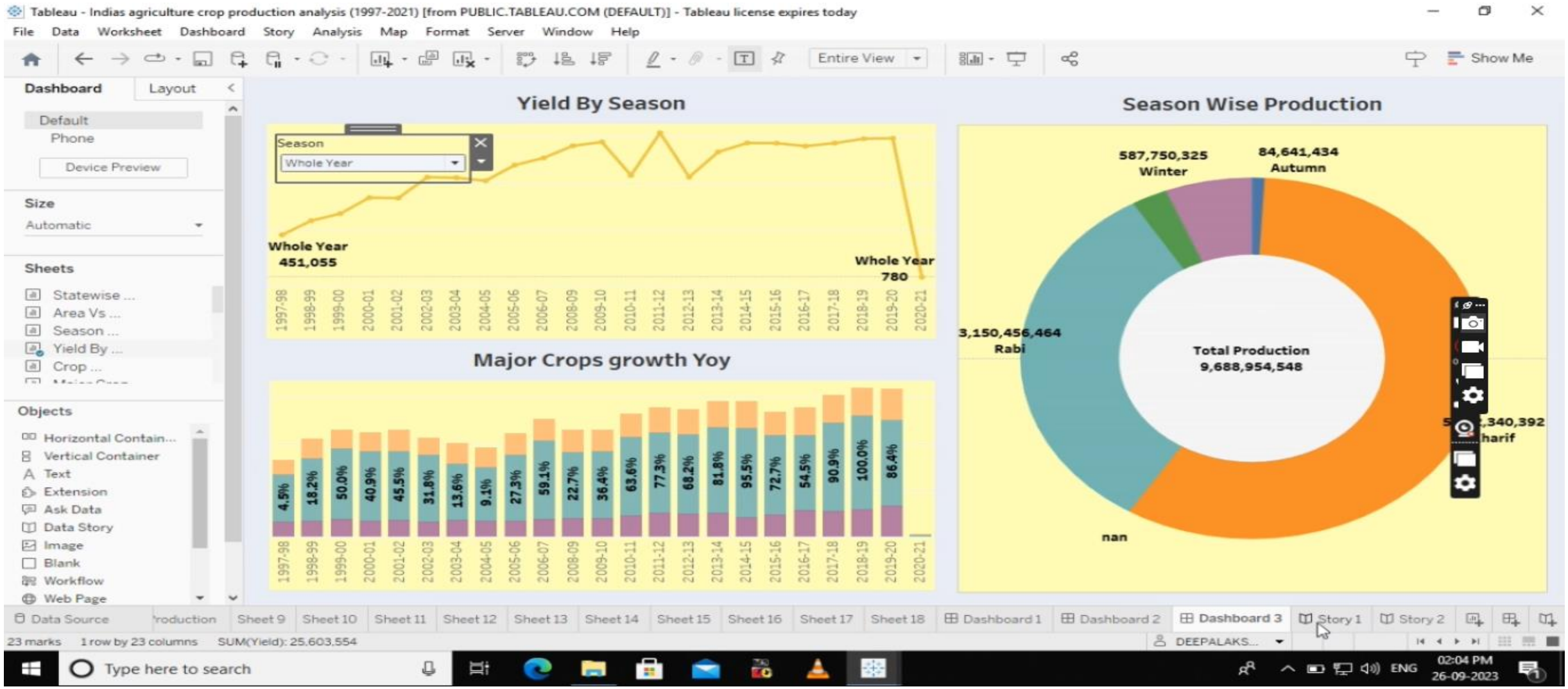
26-09-2023

Dashboard 3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Season ...
Yield By ...
Crop ...
Objects
Horizontal Contain...
Vertical Container
Text
Extension
Ask Data
Data Story
Image
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Workflow
Web Page
Yield By Season
Season
Whole Year
Whole Year
451,055
Whole Year
780
1997-98 1998-99 1999-00 2000-01 2001-02 2002-03 2003-04 2004-05 2005-06 2006-07 2008-09 2009-10 2010-11 2011-12 2012-13 2013-14 2014-15 2015-16 2016-17 2017-18 2018-19 2019-20 2020-21
Major Crops growth Yoy
4.5% 18.2% 50.0% 40.9% 45.5% 31.8% 13.6% 9.1% 27.3% 59.1% 22.7% 36.4% 63.6% 77.3% 68.2% 81.8% 95.5% 72.7% 54.5% 90.9% 100.0% 86.4%
1997-98 1998-99 1999-00 2000-01 2001-02 2002-03 2003-04 2004-05 2005-06 2006-07 2008-09 2009-10 2010-11 2011-12 2012-13 2013-14 2014-15 2015-16 2016-17 2017-18 2018-19 2019-20 2020-21
Season Wise Production
587,750,325
Winter
84,641,434
Autumn
3,150,456,464
Rabi
Total Production
9,688,954,548
nan
Data Source
Sheet 9
Sheet 10
Sheet 11
Sheet 12
Sheet 13
Sheet 14
Sheet 15
Sheet 16
Sheet 17
Sheet 18
Dashboard 1
Dashboard 2
Dashboard 3
Story 1
Story 2
23 marks
1 row by 23 columns
SUM(Yield): 25,603,554
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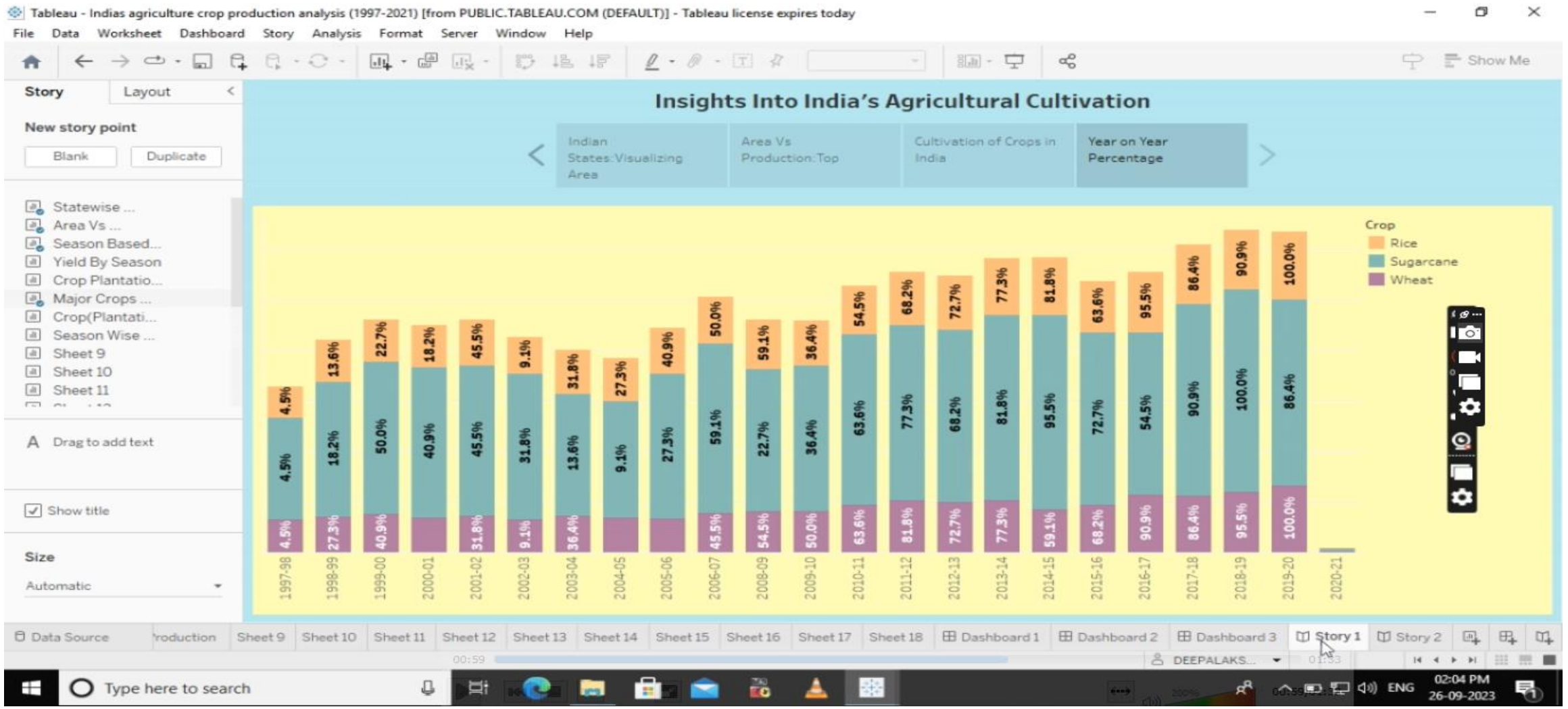
Story 1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Statewise ...
Area Vs ...
Season Based...
Yield By Season
Crop Plantatio...
Major Crops ...
Crop(Plantati...
Season Wise ...
Sheet 9
Sheet 10
Sheet 11
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Insights Into India's Agricultural Cultivation
Indian States:Visualizing Area
Area Vs Production:Top
Cultivation of Crops in India
Year on Year Percentage
Crop
Rice
Sugarcane
Wheat
1997-98 1998-99 1999-00 2000-01 2001-02 2002-03 2003-04 2004-05 2005-06 2006-07 2008-09 2009-10 2010-11 2011-12 2012-13 2013-14 2014-15 2015-16 2016-17 2017-18 2018-19 2019-20 2020-21
Data Source
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Sheet 18
Dashboard 1
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Dashboard 3
Story 1
Story 2
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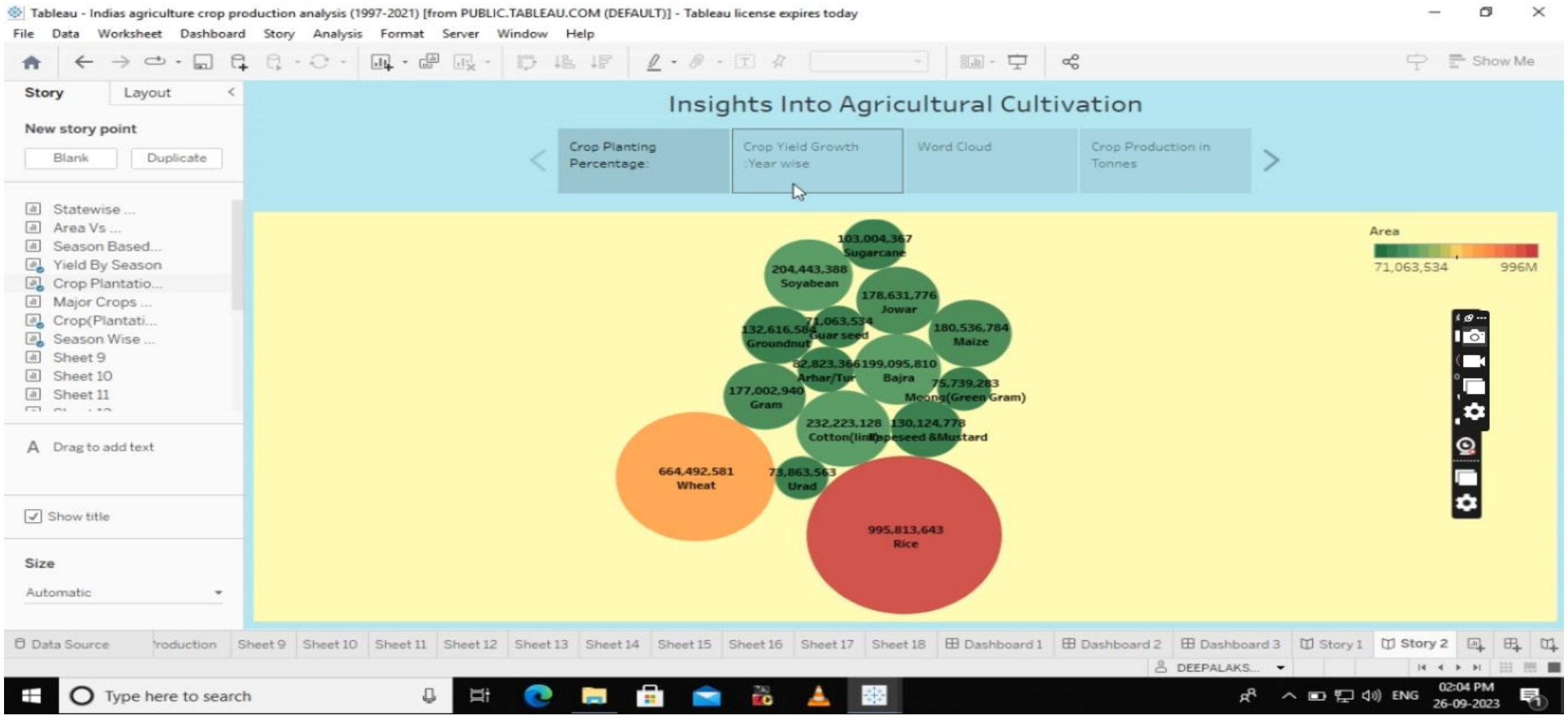
Story 2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Crop(Plantati...
Season Wise ...
Sheet 9
Sheet 10
Sheet 11
Drag to add text
Show title
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Insights Into Agricultural Cultivation
Crop Planting Percentage:
Crop Yield Growth :Year wise
Word Cloud
Crop Production in Tonnes
Area
71,063,534
996M
103,004,367 Sugarcane
204,443,388 Soyabean
178,631,776 Jowar
132,616,584 Groundnut
71,063,534 Guar seed
180,536,784 Maize
82,823,366 Arhar/Tur
199,095,810 Bajra
75,739,283 Moong(Green Gram)
177,002,940 Gram
232,223,128 Cotton(lint)
130,124,778 Rapeseed &Mustard
664,492,581 Wheat
73,863,563 Urad
995,813,643 Rice
Data Source
Sheet 9
Sheet 10
Sheet 11
Sheet 12
Sheet 13
Sheet 14
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Sheet 16
Sheet 17
Sheet 18
Dashboard 1
Dashboard 2
Dashboard 3
Story 1
Story 2
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ADVANTAGES &DISADVANTAGES

Data Visualization: tableau allows for the creation of interactive and visually appealing dashboards, making it easier to understand and communicate complex agricultural data trends.

Trend Identification: Through Tableau, you can identify long-term trends in crop production, helping policymakers and farmers make informed decisions.

Geographic Insights: Tableau's mapping capabilities can show regional variations in crop yields, helping target interventions in specific areas.

Data Quality: The analysis is only as good as the quality of the data. Inaccurate or incomplete data can lead to misleading conclusions

. **Technical Skills:** Using Tableau effectively requires technical skills, which may be a barrier for some analysts or policymakers.

5) APPLICATIONS

- **Crop Yield Assessment:** Tableau can help visualize trends in crop yields over the years, enabling policymakers and farmers to identify areas of improvement and assess the effectiveness of agricultural policies.
- **Regional Disparities**: It can highlight regional disparities in crop production, helping in targeted interventions to support underperforming regions.
- **Crop Diversification:** Analyzing data can reveal shifts in crop choices over time, assisting in decisions related to crop diversification for better risk management.
- **Climate Change Impact:** Visualization can show how climate change affects crop production by analyzing trends in extreme weather events and their correlation with yield variations.
- **Market Predictions:** By examining historical data, Tableau can assist in predicting market trends, enabling better decisions for farmers and traders.

6) CONCLUSION

These visualizations enables intuitive analysis ,allowing stakeholders to uncover patterns, identify areas of growth or concern, and make data-driven decisions

7) FUTURE SCOPE

- **Precision Agriculture:** The adoption of technology such as IoT, drones, and AI can enable precision agriculture, where farmers can optimize resource use like water and fertilizers, leading to higher crop yields and sustainability.
- **Climate Change Resilience:** With the increasing unpredictability of weather patterns due to climate change, analyzing crop data can help farmers adapt to changing conditions and choose crops that are more resilient.
- **Data-Driven Decision Making:** Data analytics can empower farmers to make informed decisions about crop selection, planting times, and pest control strategies, ultimately improving productivity and profitability.
- **Market Predictions:** Analyzing crop production data can help predict market trends and prices, allowing farmers to make strategic decisions on what crops to grow to maximize their income.
- **Government Policies:** Crop production analysis can aid in the formulation of effective government policies, subsidies, and support mechanisms for the agricultural sector