

1)INTRODUCTION

1.1 Overview

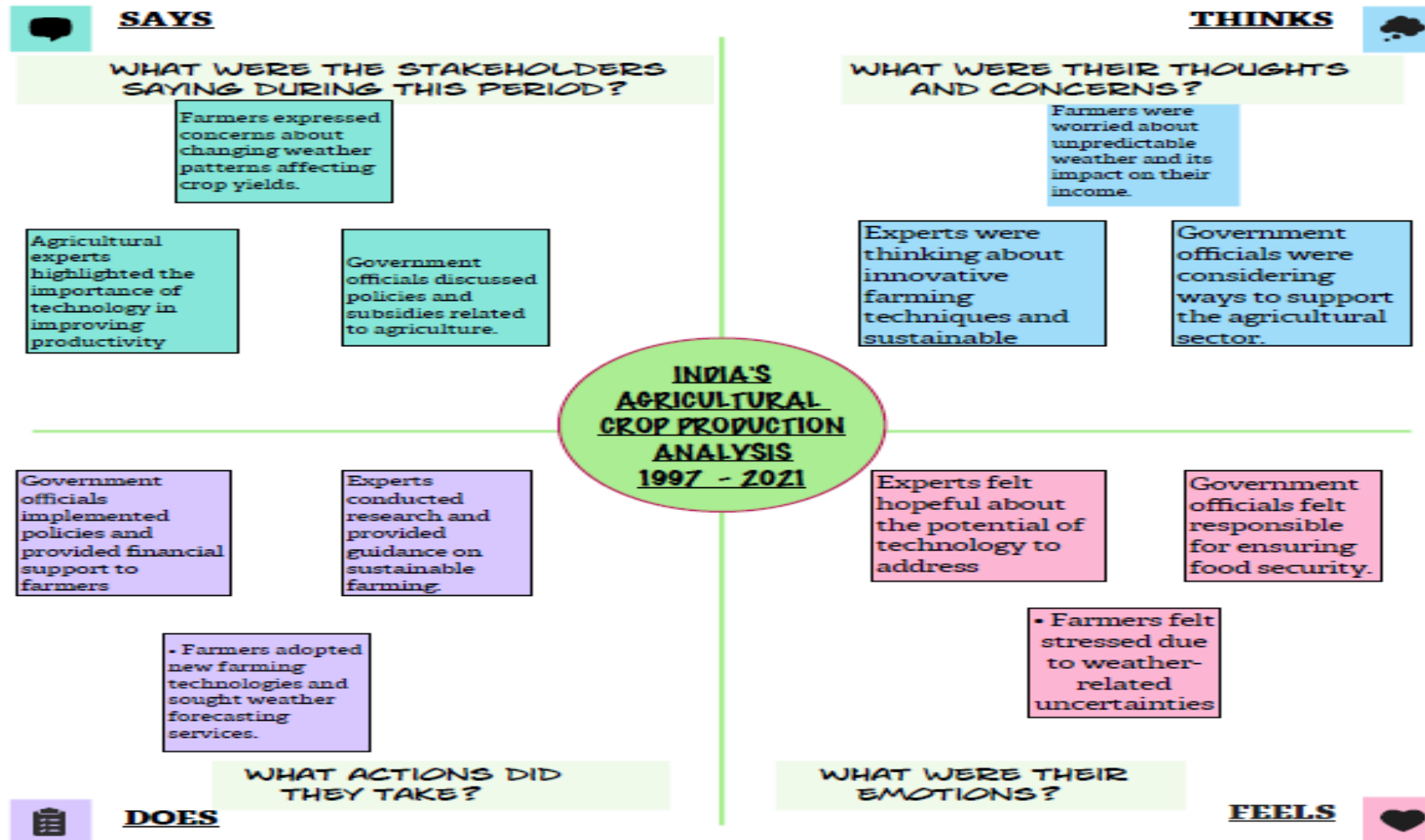
The objective of this project is to conduct a comprehensive analysis and understand the key aspects of India's agricultural crop production spanning the years 1997 to 2021

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



Brainstorm & Idea prioritization

Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

- 10 minutes to prepare
- 1 hour to collaborate
- 2-3 people recommended

1 PROBLEM

Objective

The objective of this project is to conduct a comprehensive analysis and understand the key aspects of India's agricultural crop production spanning the years 1957 to 2020, and aims to 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 BRAINSTORM

PERSON 1

Crop Yield Trends: Create a visual timeline of crop yield trends over the years. Identify crops that have shown consistent growth and those that have declined. This can help stakeholders visualize specific crops for improvement.

Geospatial Analysis: Use maps to show regional variations in crop production. Highlight areas with significant growth or decline and investigate factors contributing to these patterns.

Crop Diversification: Investigate changes in crop diversification over time. Are there shifts towards more profitable or sustainable crops? What are the economic implications?

Government Policies: Explore the impact of government policies and subsidies on crop production. Identify policies that have positively or negatively affected the sector.

Climate Change: Analyze the impact of climate change on crop production. Identify areas where crop yields have decreased and investigate factors contributing to these patterns.

Technology Adoption: Analyze the adoption of modern agricultural technologies, such as precision farming or genetically modified crops. Assess their impact on crop production.

PERSON 3

Market Trends: Examine the relationship between crop production and market trends. Identify which crops are in high demand and if production aligns with market needs.

Sustainability Metrics: Assess the sustainability of agricultural practices. Calculate indicators like water usage, pesticide consumption, and soil health to promote sustainable farming.

Crop Rotation: Examine the impact of crop rotation practices and their effects on soil quality and yield. Recommend optimal rotation strategies.

PERSON 4

Crop Disease: Investigate the prevalence of crop diseases and their impact on production. Suggest disease management strategies.

Farmer Income: Analyze data related to farmer income and livelihoods. Determine whether there are disparities and potential interventions.

Export Trends: Examine the export of agricultural products. Identify growth opportunities in international markets.

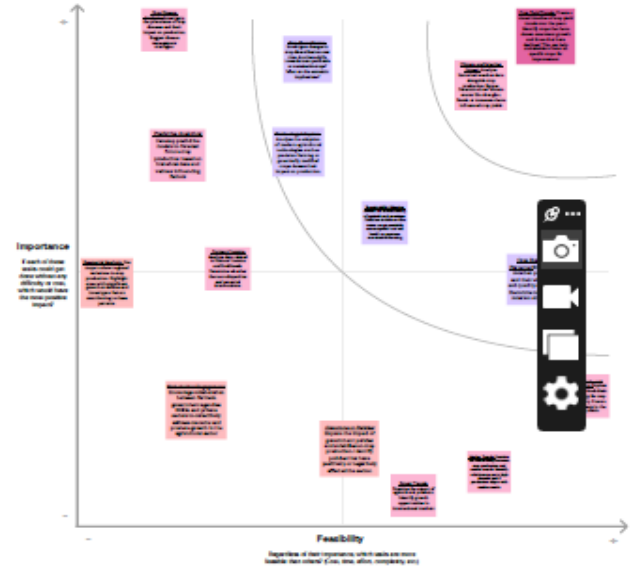
3 GROUP IDEAS

Predictive Analytics: Develop predictive models to forecast future crop production based on historical data and various influencing factors.

Blockchain and Traceability: Explore the use of blockchain technology for crop traceability. Ensure transparency in the supply chain.

Stakeholder Engagement: Foster collaboration between farmers, government agencies, NGOs, and private sector to address common issues and promote growth in the agricultural sector.

4 PRIORITIZE

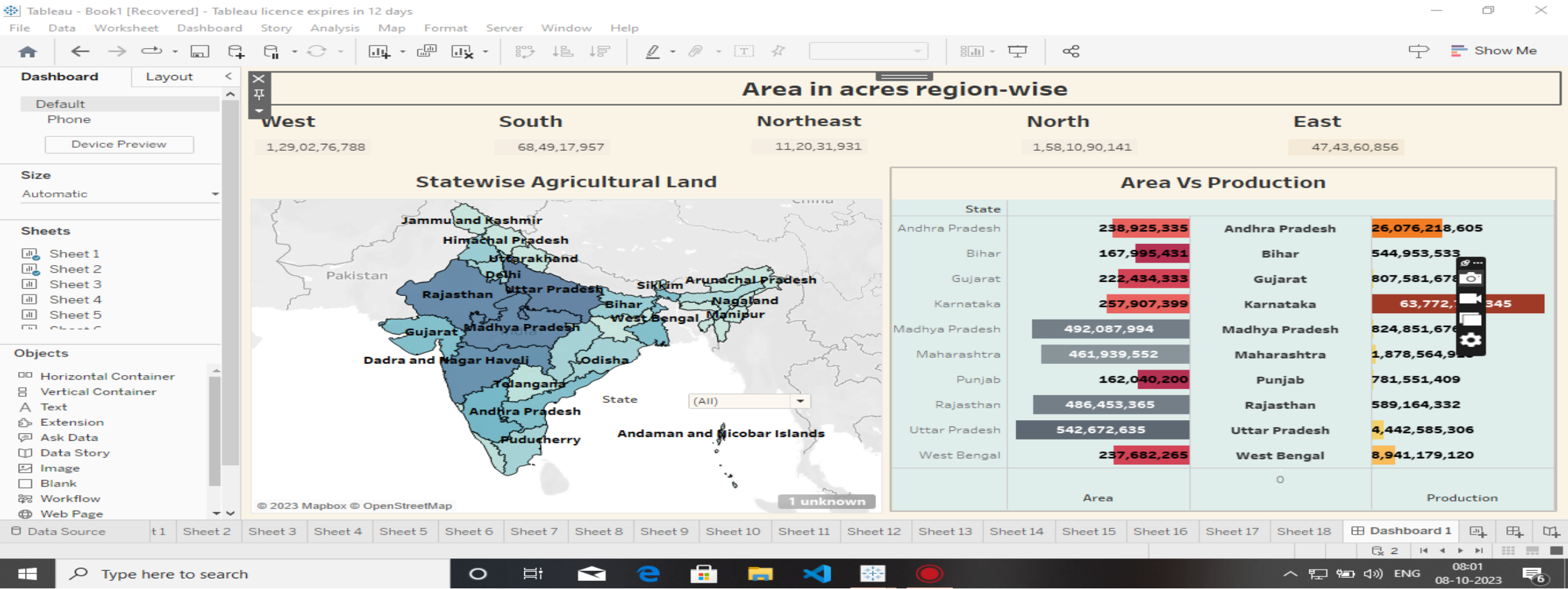


Visual notes
Keep a visual record of the meeting or session. Use sticky notes, markers, and other visual aids to capture ideas and discussions.

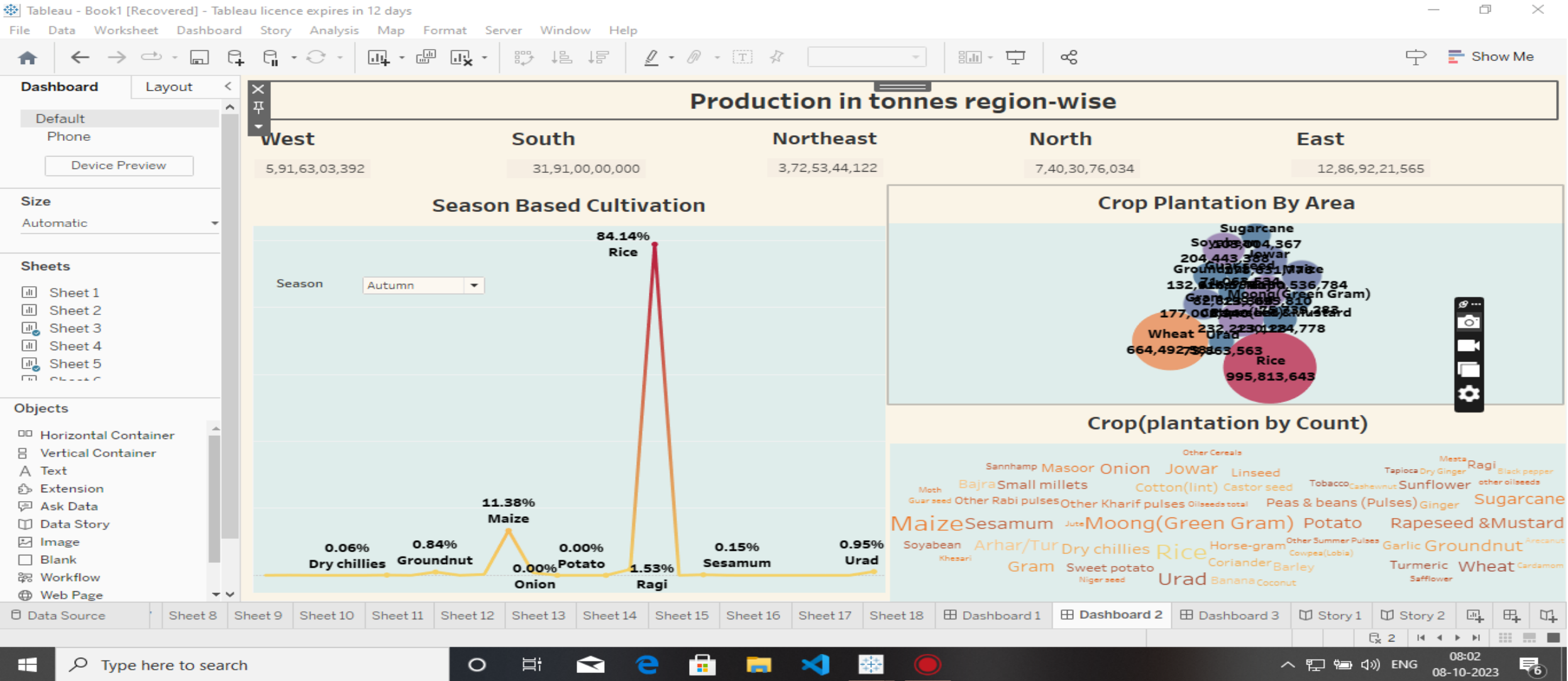


3) RESULT

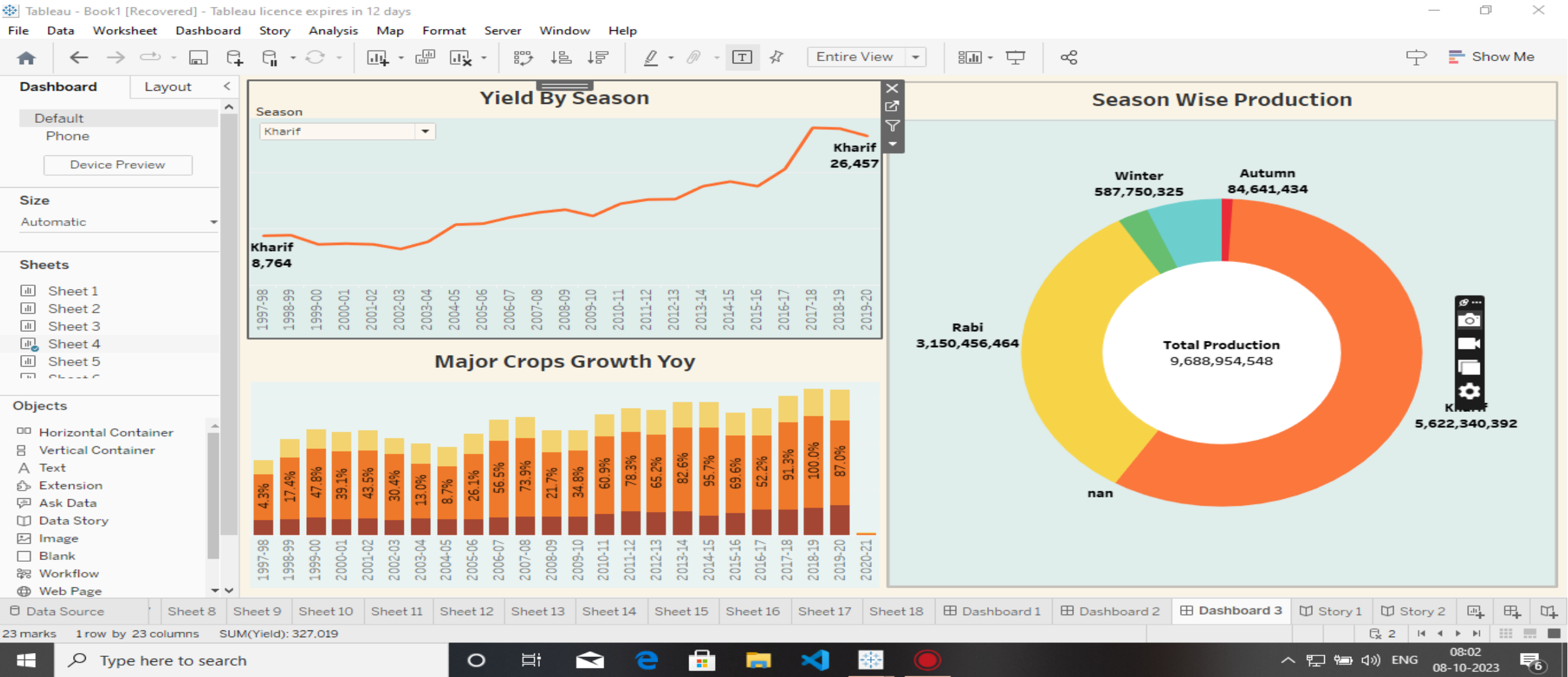
Dashboard 1



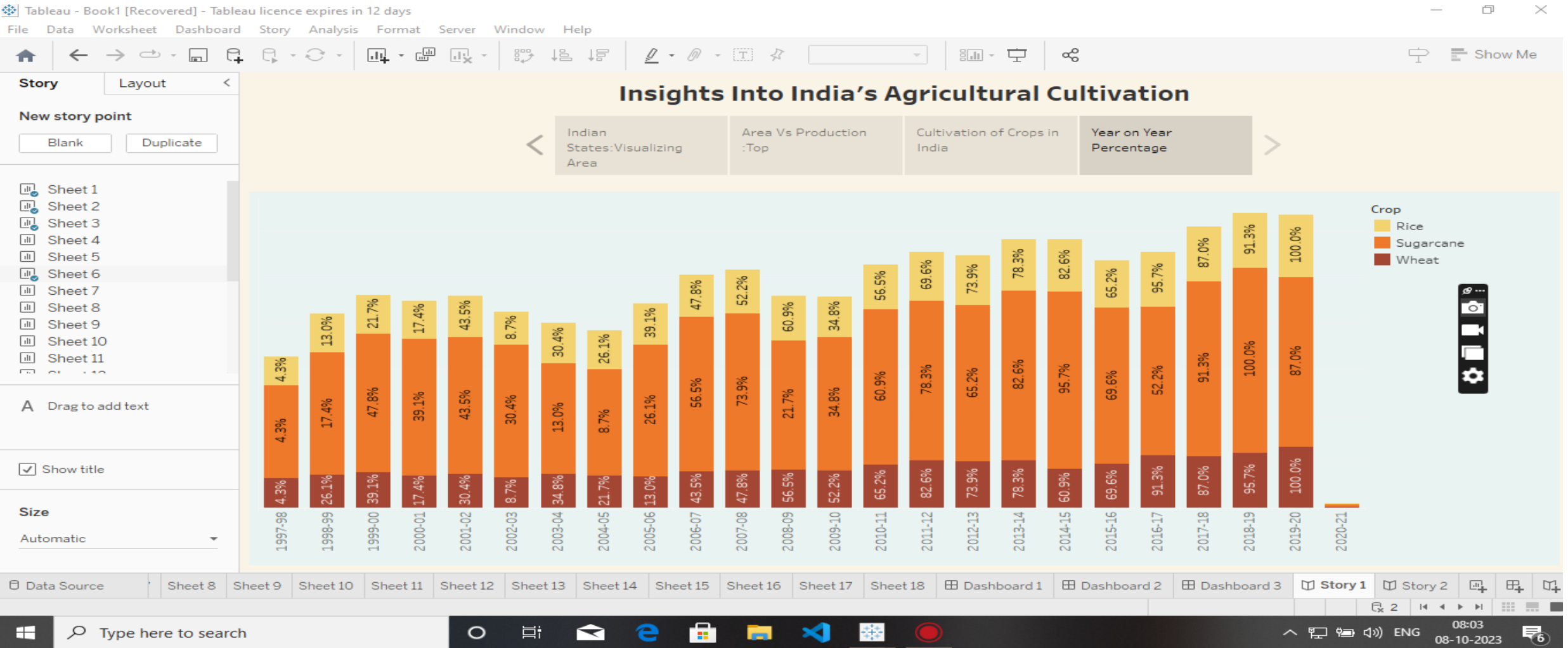
Dashboard 2



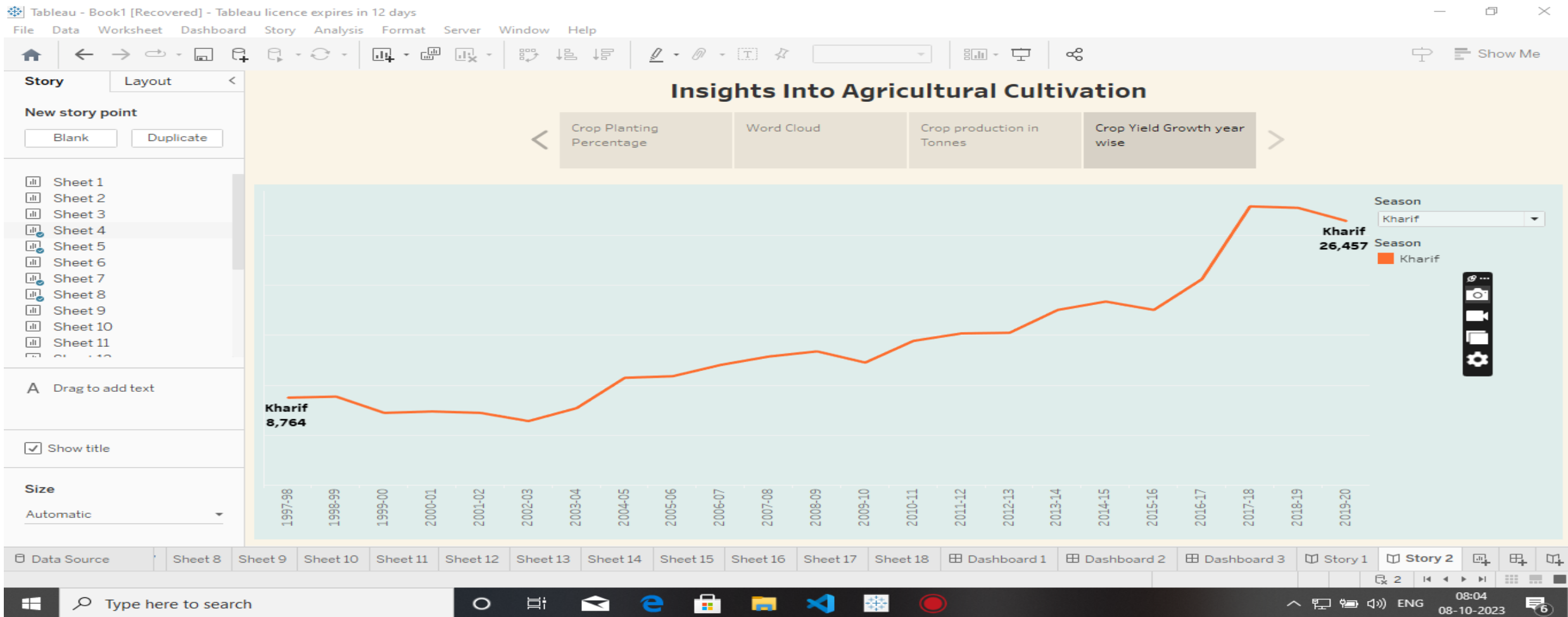
Dashboard 3



Story 1



Story 2



4) 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

- **Government Policies:** Crop production analysis can aid in the formulation of effective government policies, subsidies, and support mechanisms for the agricultural sector.
- **Sustainability:** Sustainability is a growing concern. Analysis can help identify sustainable farming practices and crop varieties that reduce environmental impact.
- **Crop Insurance:** Better analysis can lead to more accurate crop insurance policies, reducing the financial risks for farmers during crop failures.
- **Exports:** Understanding production trends can enable India to strategically export surplus crops to international markets, boosting the agricultural economy.
- **Rural Development:** Enhanced agricultural production can contribute to rural development by creating more job opportunities and improving livelihoods.