

1.Introduction:

1.1.Overview:

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. By harnessing the power of Tableau, this report not only presents the data in a visually appealing manner but also provides an interactive experience for readers to explore the intricacies of India's agricultural cultivation. To Extract the Insights from the data and put the data in the form of visualizations, Dashboards and Story we employed Tableau tool.

1.2.Purpose:

Business requirements:

The primary business requirements for this report are to visualize and analyze business expenses, provide industry-specific insights, identify cost drivers, highlight outliers, and offer interactive functionality. Stakeholders need a visual representation of expenses to compare and analyze spending patterns across different businesses and industries. The report should facilitate the identification of key cost drivers, enabling stakeholders to understand the primary factors contributing to expenses. Additionally, it should flag any outliers or anomalies for further investigation. The report should provide a user-friendly and intuitive experience that empowers stakeholders to make data-driven decisions and drive positive change in the agricultural sector.

Literature Survey:

The literature survey section of the report provides a concise overview of India's agricultural sector, focusing on key aspects and insights from existing studies and publications. It examines the historical context of agricultural practices in India and highlights the role of government policies and initiatives in supporting the sector's growth and development. The survey explores the diversity of crops cultivated across different regions, along with trends in production and the impact of climate variability. It also addresses the adoption of technology and innovation in agriculture, along with the challenges faced by farmers and potential research gaps. Additionally, the section showcases best practices and success stories that have contributed to improved productivity and sustainability in Indian agriculture. This literature review forms the basis for the subsequent analysis and visualization of agricultural data in the report.

Social Impact:

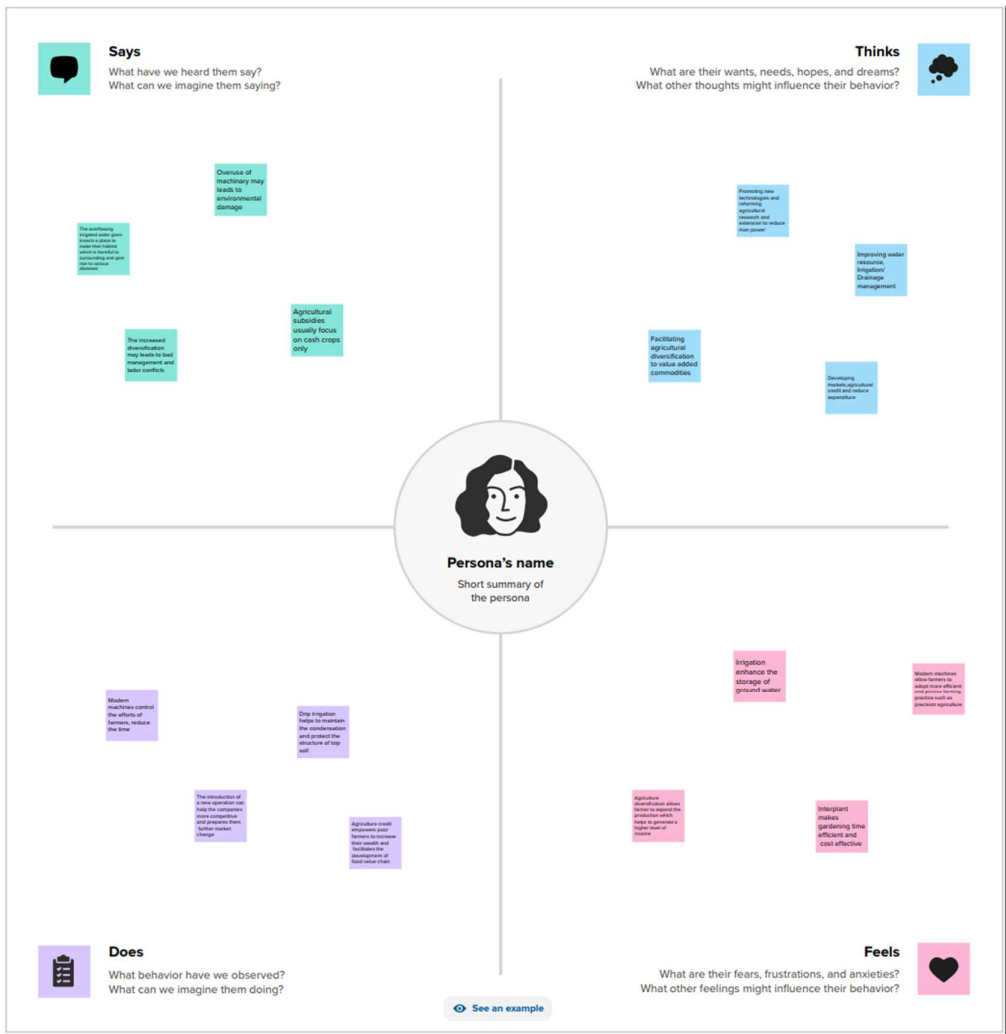
On the social front, agriculture serves as a vital source of livelihood for a large portion of the population, especially in rural areas. It plays a crucial role in ensuring food security and alleviating poverty by providing employment opportunities and income generation. Moreover, agricultural activities contribute to the overall socio-economic development of rural communities, fostering social cohesion and preserving cultural traditions.

Business Impact:

From a business perspective, the agricultural sector plays a pivotal role in India's economy. It contributes to the country's GDP and serves as a source of raw materials for various industries, such as food processing, textile, and pharmaceuticals. The growth and productivity of the agricultural sector have direct implications for the overall economic performance and stability of the nation. Furthermore, advancements in agricultural practices and technology have the potential to enhance

productivity, optimize resource utilization, and promote sustainable practices. This, in turn, can lead to increased profitability and competitiveness for agricultural businesses.

2.1 Empathy Map

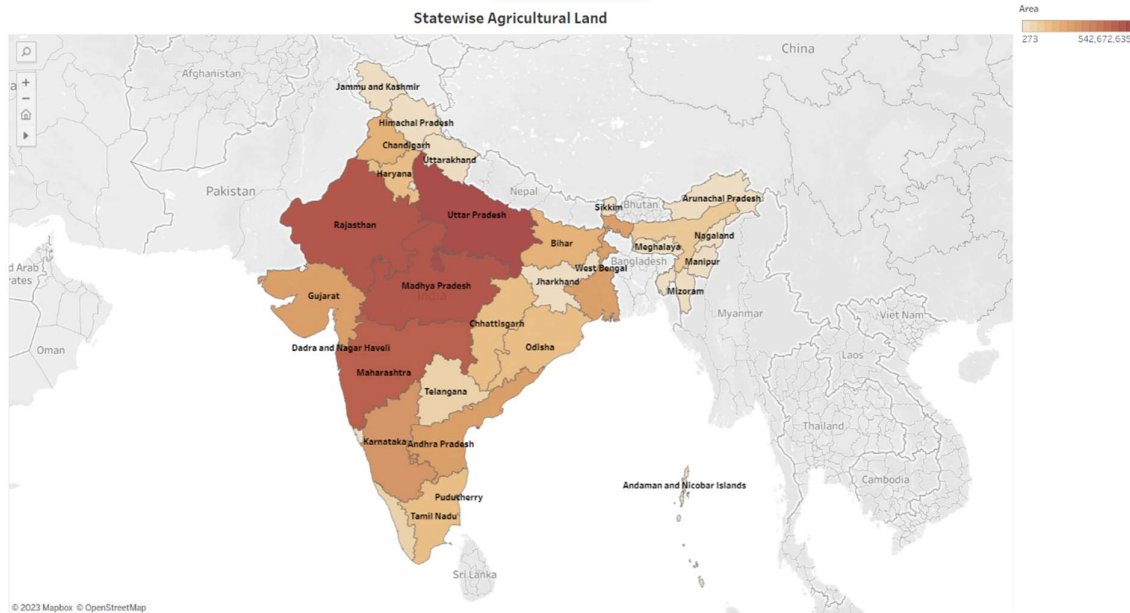


2.2 Brainstorming



Result:

Activity 1.1 : State wise Agricultural Land



Explanation video link:

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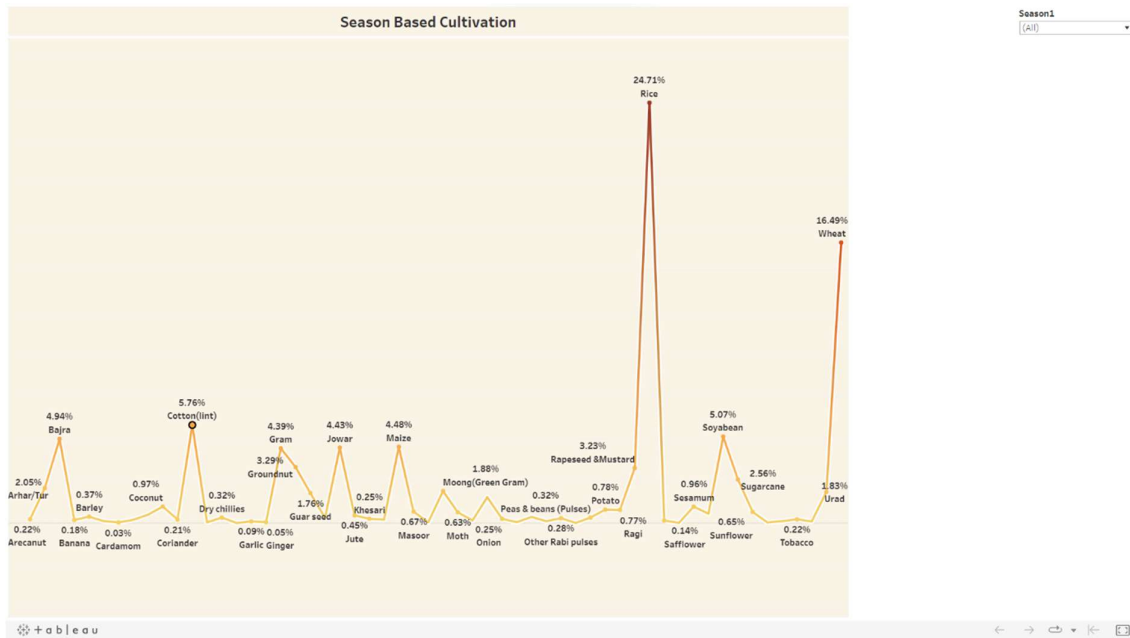
Activity 1.2 : Area vs Production



Explanation video link;

https://public.tableau.com/views/Book1_16971989825260/AreavsProduction?:language=en-GB&publish=yes&:display_count=n&:origin=viz_share_link

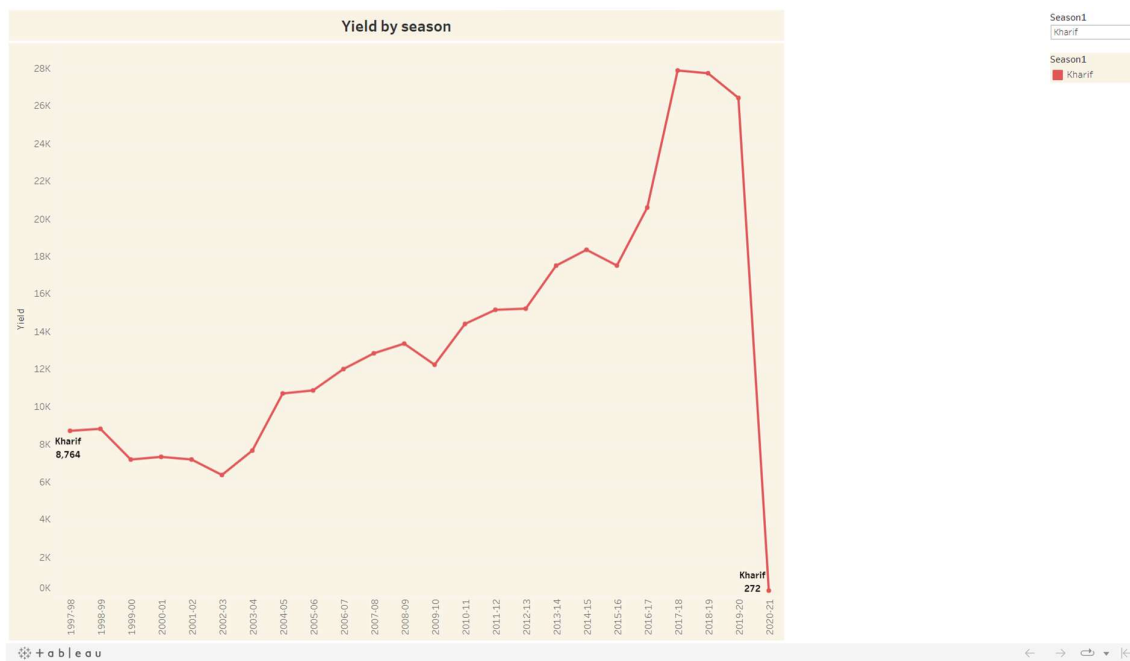
Activity 1.3 : Season based cultivation:



Explanation video link;

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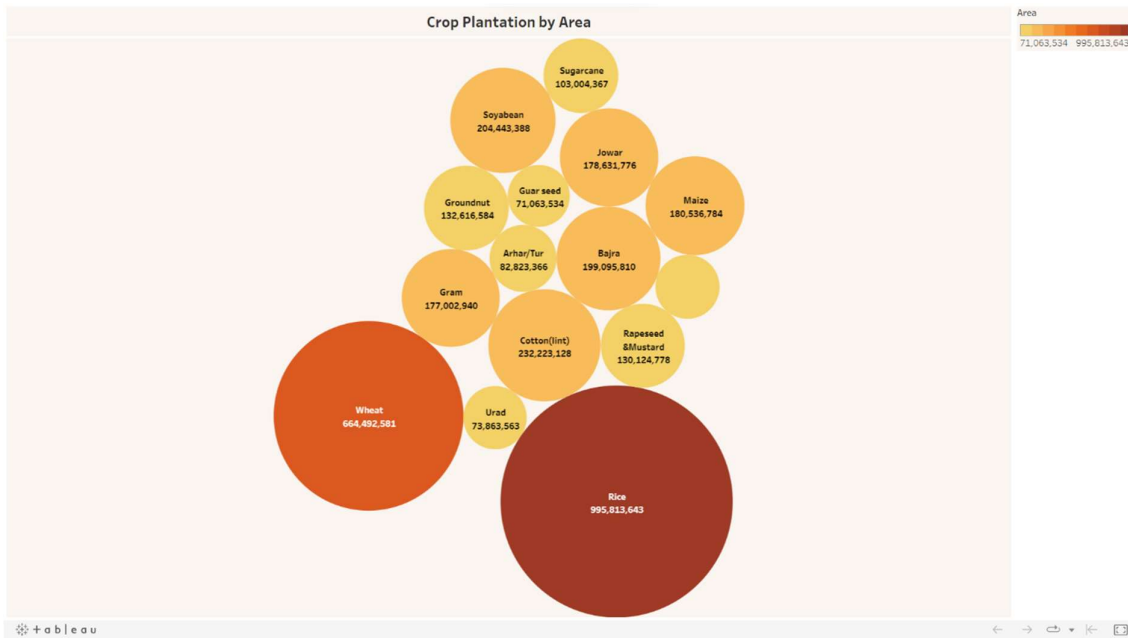
Activity 1.4 : Yield by season;



Explanation video link:

https://public.tableau.com/views/Book1_16971989825260/Yieldbyseason?:language=en-GB&publish=yes&:display_count=n&:origin=viz_share_link

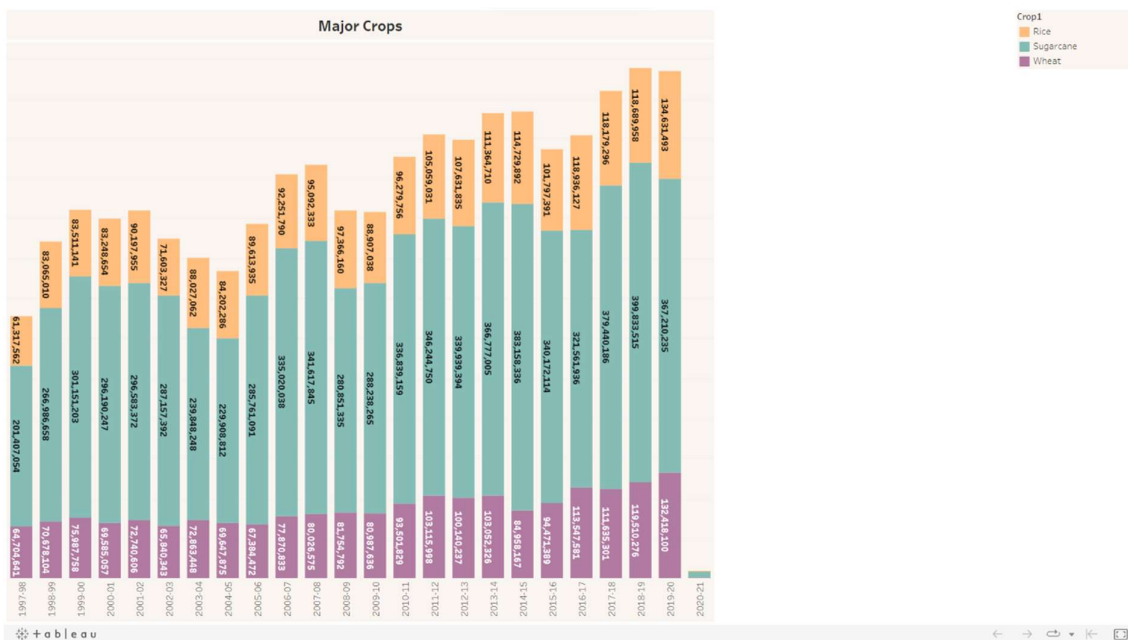
Activity 1.5 : Crop plantation by area:



Explanation video link;

https://public.tableau.com/views/Book1_16971989825260/cropplantationbyArea?:language=en-GB&publish=yes&:display_count=n&:origin=viz_share_link

Activity 1.6 : Major crops growth Yoy;



Explanation video link:

https://public.tableau.com/views/Book1_16971989825260/MajorCrops?:language=en-GB&publish=yes&:display_count=n&:origin=viz_share_link

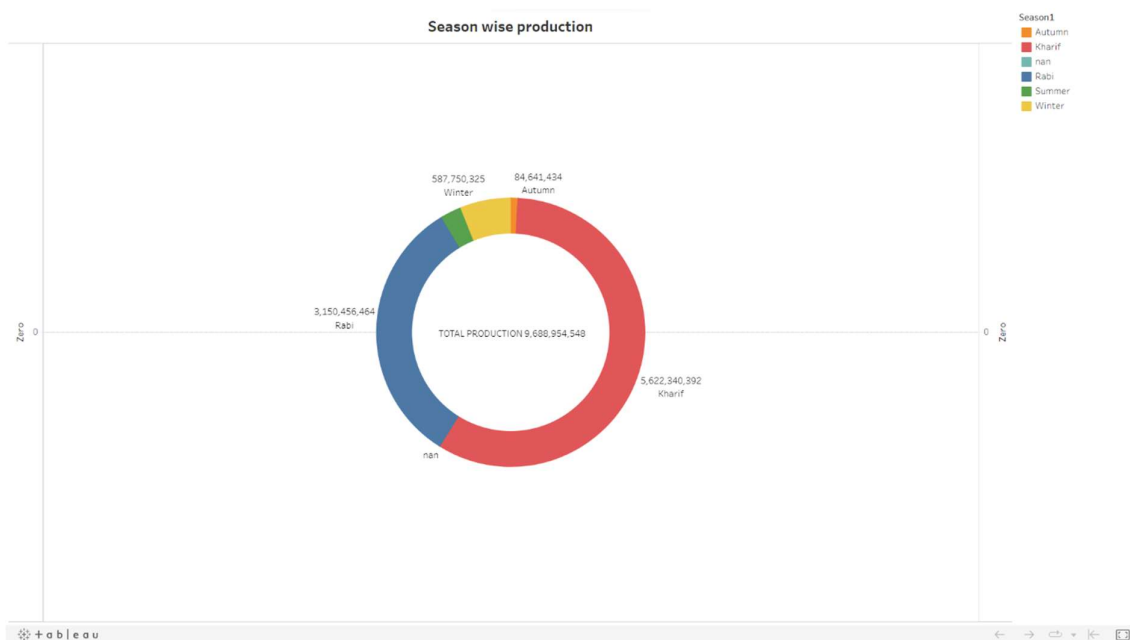
Activity 1.7 : Crops;



Explanation video link;

https://public.tableau.com/views/Book1_16971989825260/cropplantationbycount?:language=en-GB&publish=yes&:display_count=n&:origin=viz_share_link

Activity 1.8 : Season wise production;



Explanation video link;

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Activity 1.9 : Kpi's;

East
1,254

tableau

Explanation link; https://public.tableau.com/views/Book1_16971989825260/East?:language=en-GB&publish=yes&:display_count=n&:origin=viz_share_link

North
East

1,261

Explanation link; https://public.tableau.com/views/Book1_16971989825260/northEast?:language=en-GB&publish=yes&:display_count=n&:origin=viz_share_link

North

1,258

Area: 1,258

tableau

Explanation link; https://public.tableau.com/views/Book1_16971989825260/North?:language=en-GB&publish=yes&:display_count=n&:origin=viz_share_link

South

3,100

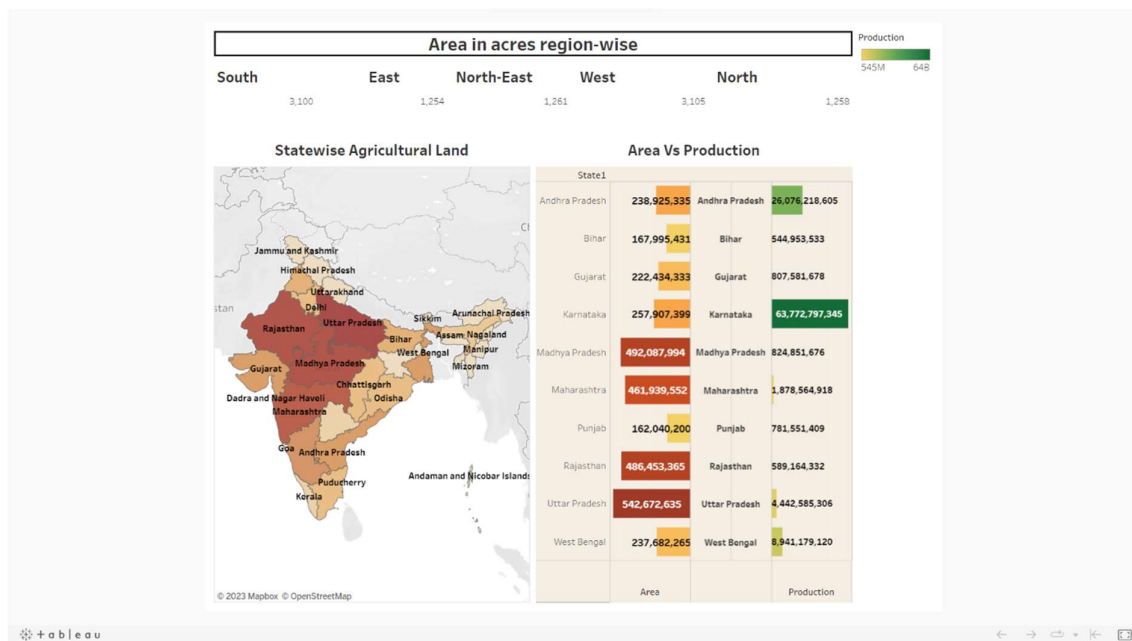
Explanation link;
https://public.tableau.com/views/Book1_16971989825260/South?:language=en-GB&publish=yes&:display_count=n&:origin=viz_share_link

West

3,105

Explanation link; https://public.tableau.com/views/Book1_16971989825260/West?:language=en-GB&publish=yes&:display_count=n&:origin=viz_share_link

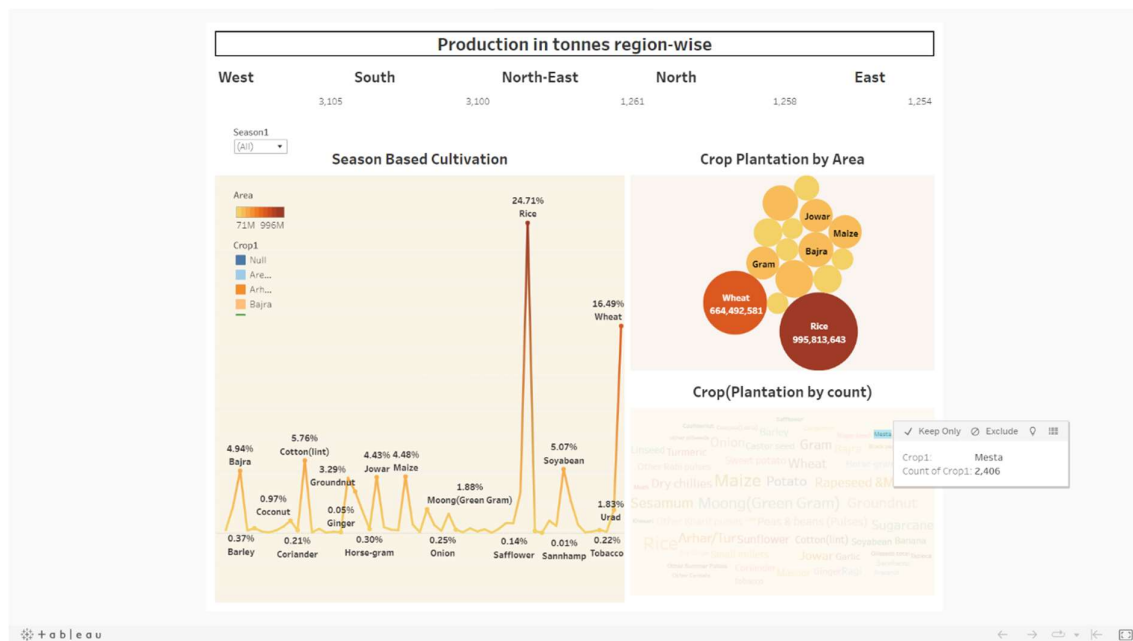
Activity 1.1 : Dashboard 1;



Explanation video link:

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Activity 1.2 : Dashboard 2 ;

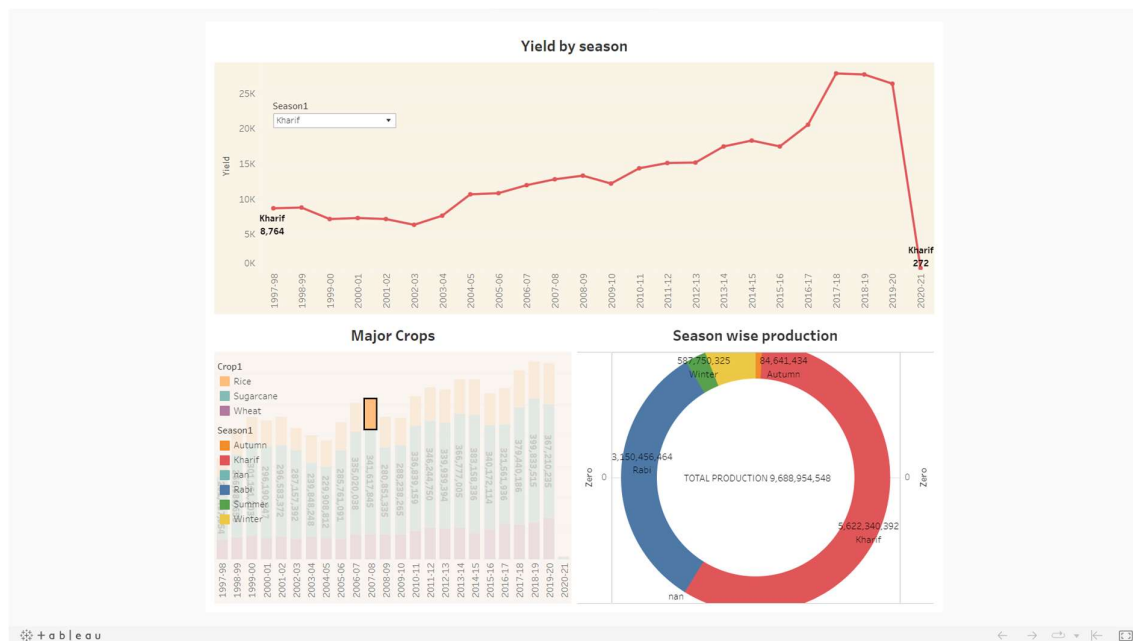


Explanation video link:

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Activity 1.3 :

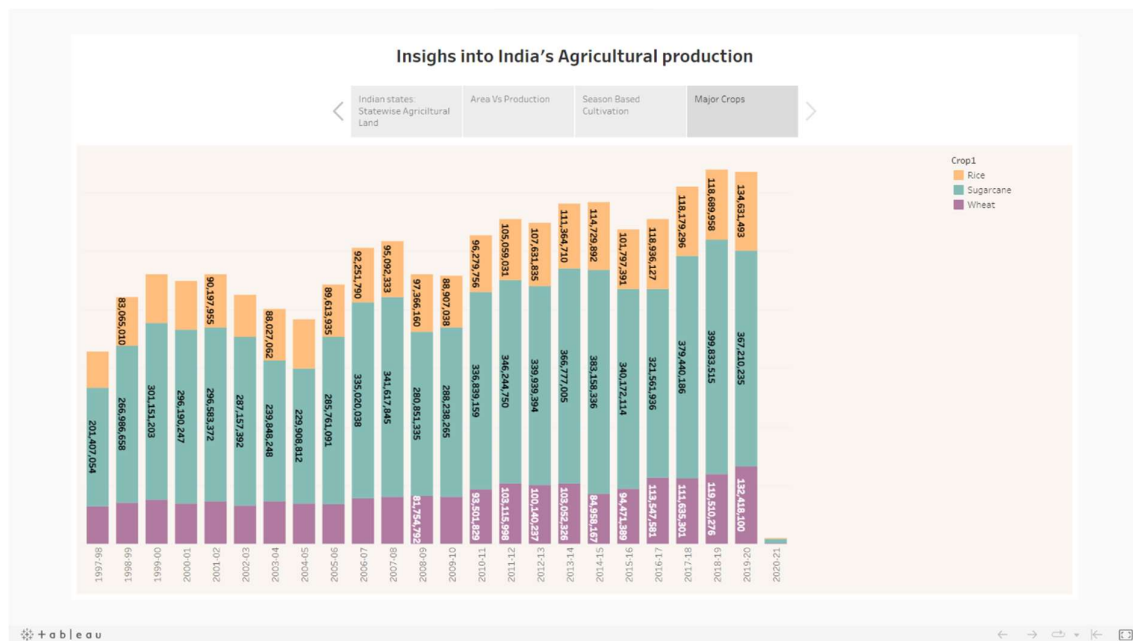
Dashboard 3:



Explanation video link:

https://public.tableau.com/views/Book1_16971989825260/Yieldbyregion?:language=en-GB&publish=yes&:display_count=n&:origin=viz_share_link

Activity 1.1 : Story 1:



Explanation video link:

https://public.tableau.com/views/Book1_16971989825260/InsightsintoIndiasAgriculturalproduction?:language=en-GB&publish=yes&:display_count=n&:origin=viz_share_link

Activity 1.1 : Story 2



Explanation video link:

https://public.tableau.com/views/Book1_16971989825260/InsightsintoIndiasagriculturalcultivation2?:language=en-GB&publish=yes&:display_count=n&:origin=viz_share_link

4. Advantages and Disadvantage:

Advantages:

- Harvesting/adapting crops in different climatic conditions

- Making crops resist pests and common diseases
- Bringing uniformity in crop growth
- Caring for the needs of both producers and consumers alike
- Making crop production more efficient
- Improving soil health, pest and disease management, weed control, nutrient cycling, and farm sustainability through crop rotation

Disadvantages:

- Modern farming methods have overused the natural resource base.
- Increased use of fertilizers has led to the loss of soil fertility.
- The use of groundwater for tube well irrigation has led to water depletion.
- Modern farming methods require a great deal of capital
- Possibility of poor Quality food products

5.Applications:

Faster establishment of the crop.

- Facilitating application and distribution of fertilizers and pesticides.
- Protection in cold temperatures (frost).
- Facilitating harvesting of underground crops in dry soils.
- Cooling of the leaves during respiration.
- Sowing of seeds.
- Irrigation.
- Application of manure, pesticides, and fertilizers to the crops.
- Protecting and harvesting crops.
- Storage and preserving the produced crops.

6.Conclusion:

- ✓ The agricultural sector is of vital importance for the region. It is undergoing a process of transition to a market economy, with substantial changes in the social, legal, structural, productive and supply set-ups, as is the case with all other sectors of the economy.
- ✓ Agriculture is the primary source of livelihood for about 58 per cent of India's population. Other natural resource-based enterprises are also the foundation for the country's economic growth.
- ✓ 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, farmed fish, eggs, coconut, sugarcane and numerous vegetables.

- ✓ Organic farming yields more nutritious and safe food. The popularity of organic food is growing dramatically as consumer seeks the organic foods that are thought to be healthier and safer. Thus, organic food perhaps ensures food safety from farm to plate.
- ✓ The agricultural sector is of vital importance for the region. It is undergoing a process of transition to a market economy, with substantial changes in the social, legal, structural, productive and supply set-ups, as is the case with all other sectors of the economy

7. Future Scope:

1. Changing demand due to increase in incomes, globalisation and health consciousness is affecting and going to affect more the production in future. Demand for fruits and vegetables, dairy products, fish and meat is going to increase in future.
2. Researches, technology improvements, protected cultivation of high value greens and other vegetables will be more. There will be more demand of processed and affordable quality products.
3. More competition will be there among private companies giving innovative products, better seeds, fertilisers, plant protection chemicals, customised farm machinery and feed for animals etc in cost effective ways at competitive prices giving more returns on investment by farmers. Use of biotechnology and breeding will be very important in developing eco-friendly and disease resistant, climate resilient, more nutritious and tastier crop varieties.
4. Some technologies will be frequently and widely used in future and some will become common in a short time while some will take time to mature. For producing the same products in other way so as to use resources judiciously and using new resources also like hydroponics, use of plastics and bio-plastics in production. There will be more of vertical and urban farming and there will also be efforts in long term to find new areas for production like barren deserts and seawater.
5. Precision farming with soil testing-based decisions, automation using artificial intelligence will be focused for precise application inputs in agriculture. Sensors and drones will be used for precision, quality, environment in cost effective manner.

Small and marginal farmers will also be using these technologies with the help of private players, government or farmer producer organisations (FPO). Use of GPS technology, drones, robots etc controlled by smart phones etc can make life of farmers easy and exciting with good results. These advanced devices will make agriculture be more profitable, easy and environmentally friendly.

8. APPENDIX:

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- ❖ [Printline.pmd \(planningcommission.gov.in\)](#)