INDIA'S AGRICULTURAL CROP PRODUCTION ANALYSIS(1997-2021)

1. INTRODUCTION:

1.1 Overview:

Agriculture is the practice of cultivating plants and livestock for various purposes, such as food, fiber, medicinal plants, and other products used to sustain and enhance human life. It is a vital industry that provides the foundation for food security and supports economies worldwide. Agricultural practices have evolved significantly over the centuries, from manual labor and traditional farming methods to modern, mechanized, and technologically advanced techniques.

1.2 Purpose:

The purpose of agriculture is to cultivate crops and raise animals for various purposes, such as providing food, raw materials, and resources for human consumption and industrial use. Agriculture plays a crucial role in ensuring food security, supporting economies, and sustaining livelihoods worldwide. It also contributes to environmental conservation and provides a foundation for many industries and sectors within society.

2. PROBLEM DEFINITION AND DESIGN THINKING:

2.1 Empathy Map:

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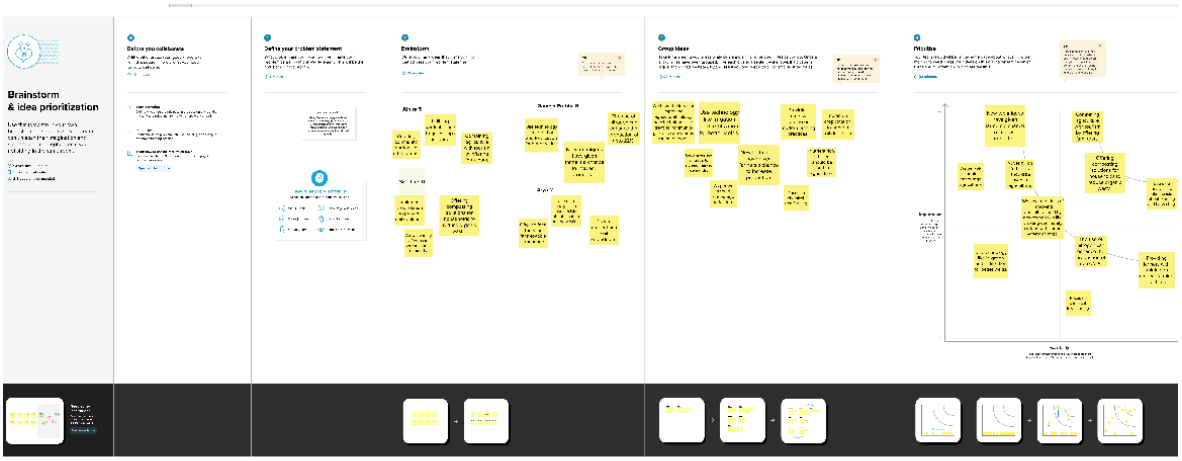
Project Report Titles

2.2 Ideation and Brainstorming Map:



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3. RESULT:

We created the data visualization such as dashboard and story using the dataset provided.

DASHBOARD 1:

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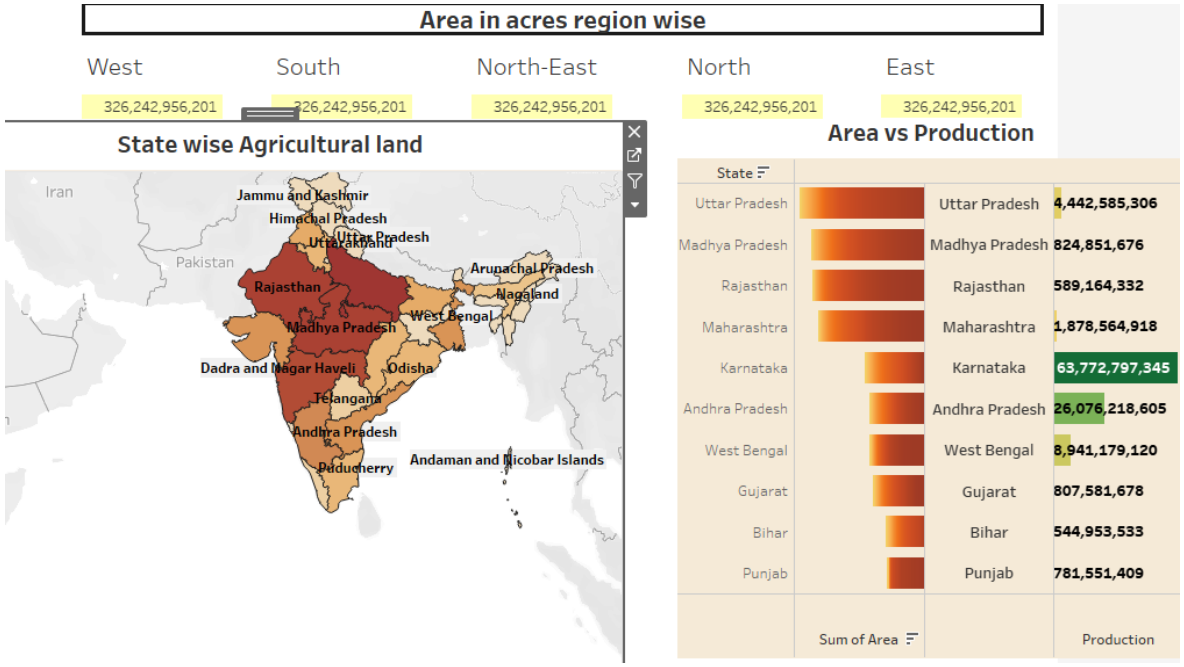
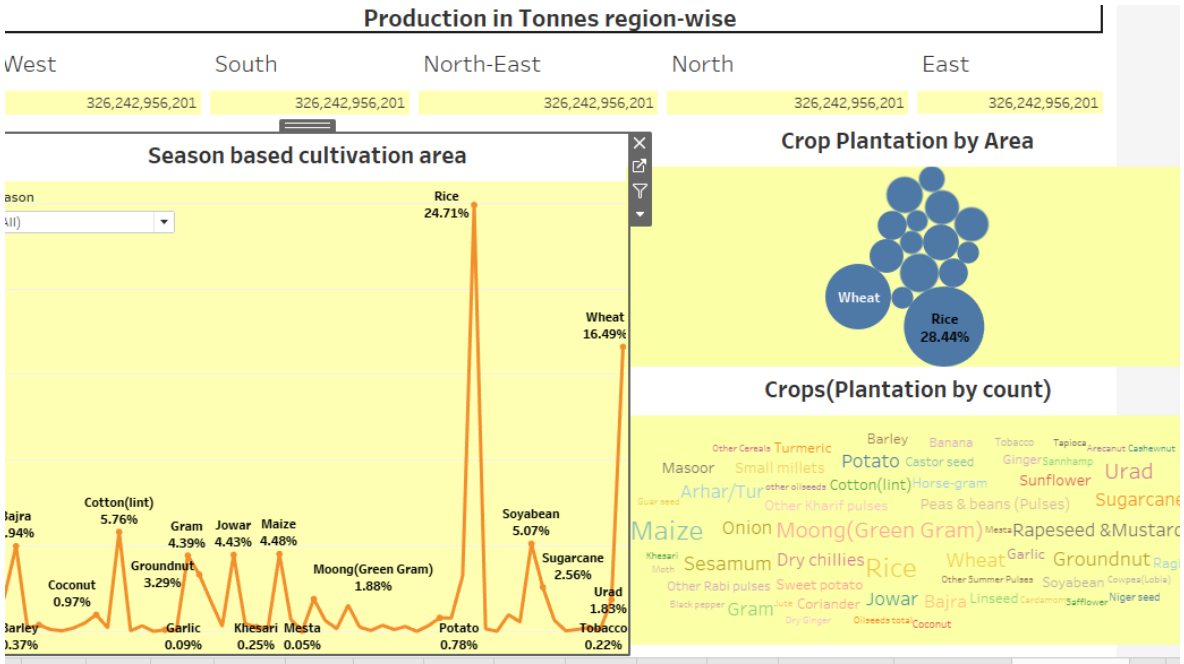


DASHBOARD 2:



DASHBOARD 3:

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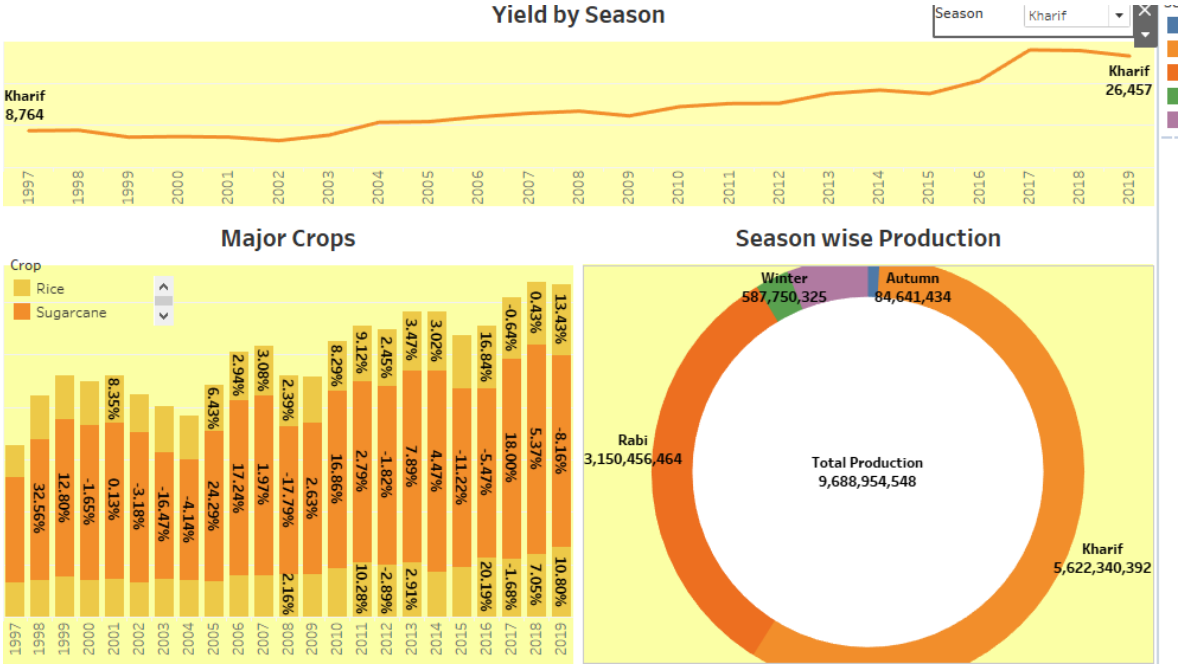
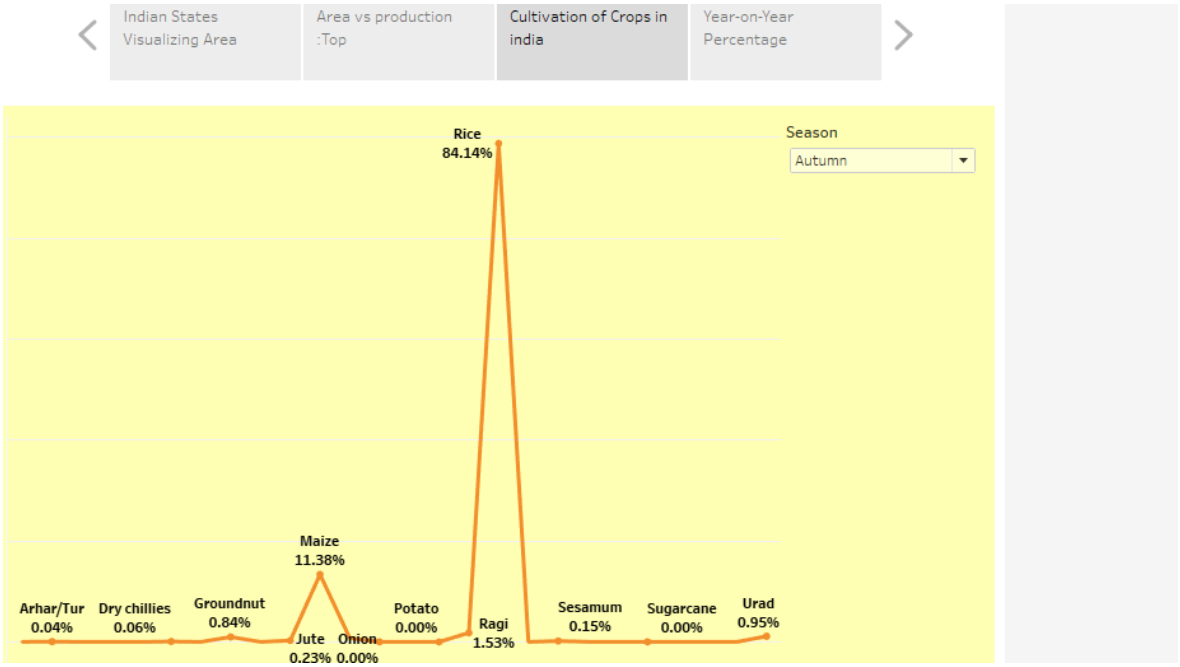


STORY:



4. ADVANTAGES AND DISADVANTAGES:

Advantages:

1. Food for Human beings: It provides food that can be consumed by human beings. These include vegetables, fruits and meat.

2. Food for Animals: Animals also feed on food grown through agriculture for instance hay, fodder, silage and more.

3. Source of Livelihood: Many people spend their lives engaging in agriculture.They include farmers, agronomists, transporters and many others.

4. Source of Income: People earn their living directly or indirectly through agriculture.

Disadvantages:

1. Environmental degradation: Intensive agriculture can lead to soil erosion, deforestation, water pollution, and loss of biodiversity.

2. Depletion of natural resources: Agriculture can lead to the depletion of natural resources such as water and soil, and can lead to land degradation and desertification.

3. Pesticide and fertilizer use: The use of pesticides and fertilizers can harm human health and the environment, and can also lead to the development of pesticide-resistant pests.

4.Climate change: Agriculture is responsible for a significant portion of greenhouse gas emissions and contributes to climate change.

5. APPLICATIONS:

The Application of agriculture has diverse applications that are vital for our society and economy.

i, Food Production: Agriculture is the primary source of food

for humans and animals.

ii, Livestock Farming: Agriculture involves raising animals for meat, dairy, wool, and other products. Livestock farming contributes to the production of meat, milk, leather, and other by-products.

iii, Raw Materials: Many industries rely on agricultural products as raw materials.

iv, Biofuel Production: Certain crops like corn and sugarcane are used to produce biofuels, reducing dependence on fossil fuels and promoting sustainable energy sources.

v, Medicinal Plants: Agriculture cultivates medicinal plants used in the pharmaceutical industry to produce drugs and herbal medicines.

6. CONCLUSION:

i) Define Problem/ Problem Understanding

- **Specify the business problem**
- **Business requirements**
- **Literature survey(student will write)**
- **Social or business impact**

ii) Data collection and extraction

- **Collect the dataset**
- **Connect dataset with tableau**

iii) Data preparation

- **Prepare the data for visualization**

iv) Data visualization

- **No of unique visualization**

v) Dashboard

- **Responsive and design of dashboard**

vi) Story

- **No of scenes of story**

vii) Performance testing

- **Utilization of filters**
- **No of visualizations/ graphs**

viii) Publishing:

- **Publishing dashboard and reports to tableau public**

ix) Project demonstration and documentation

- **Record an explanation video for end to end solution**

By this we conclude our project.

7. FUTURE SCOPE:

The future of agriculture is promising as technology continues to play a vital role in transforming the industry. Advancements such as precision farming, automation, and artificial intelligence are enhancing efficiency and crop yields. Sustainable agriculture practices are becoming increasingly important to address environmental concerns. Additionally, there's a growing focus on genetic engineering, vertical farming, and hydroponics to ensure food security for the growing global population. Embracing these innovations can lead to more efficient, sustainable, and resilient agricultural systems in the future.