Indian Agriculture Analysis

Presented By:- Shivam Shivhare

Project Overview

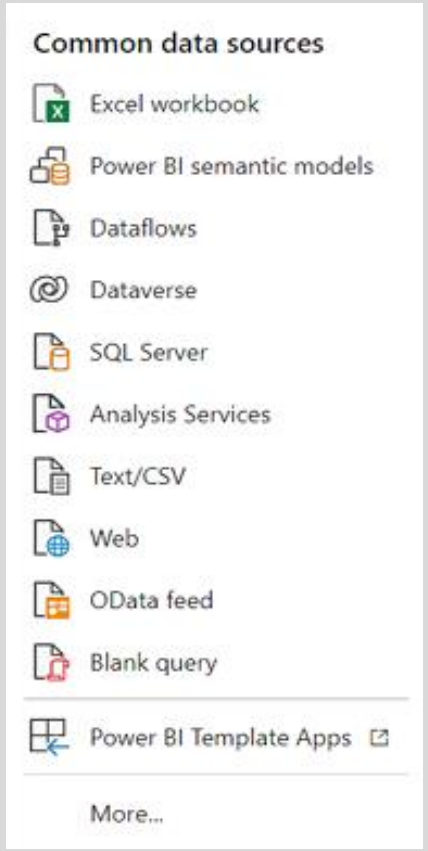
This project aims to analyse Indian agriculture using district-wise and year-wise data. The collection contains precise information on agricultural acreage, productivity, and yields for several districts and years. Our objective is to use Power BI to create interactive visualisations that highlight trends and discrepancies in agricultural practices. This research enables stakeholders to make educated decisions about sustainable farming and resource allocation.

Dataset Overview

Dist Code	Year	State Code	State Name	Dist Name	RICE AREA (1000 ha)	RICE PRODUCTION (1000 tons)	RICE YIELD (Kg per ha)	WHEAT AREA (1000 ha)	WHEAT PRODUCTION (100
93	1987	11	Tamil Nadu	The Nilgiris	2	3	1500	0	
93	1993	11	Tamil Nadu	The Nilgiris	2	3	1500	0	
93	2005	11	Tamil Nadu	The Nilgiris	1.43	4.72	3300.7	0	
94	1993	11	Tamil Nadu	Kanyakumari	42	142	3380.95	0	
95	1966	7	Maharashtra	Bombay	2	3	1500	0	
95	1967	7	Maharashtra	Bombay	2	3	1500	0	
95	1968	7	Maharashtra	Bombay	1.3	2	1538.46	0	
95	1969	7	Maharashtra	Bombay	1.4	2	1428.57	0	
95	1970	7	Maharashtra	Bombay	1.2	2.1	1750	0	
95	1971	7	Maharashtra	Bombay	1.5	2.3	1533.33	0	
95	1972	7	Maharashtra	Bombay	1.1	0.8	727.27	0	
95	1973	7	Maharashtra	Bombay	1.1	2.1	1909.09	0	
95	1974	7	Maharashtra	Bombay	1.1	1.8	1636.36	0	
95	1975	7	Maharashtra	Bombay	1.1	1.6	1454.55	0	
95	1976	7	Maharashtra	Bombay	1.2	1.7	1416.67	0	
95	1977	7	Maharashtra	Bombay	1.2	2.2	1833.33	0	
95	1978	7	Maharashtra	Bombay	1.1	2	1818.18	0	
95	1979	7	Maharashtra	Bombay	1	1.3	1300	0	
95	1981	7	Maharashtra	Bombay	0.9	0.8	888.89	0	

The dataset contains many agricultural variables, including crop land, amounts of production, and yields for rice, wheat, sorghum, millets, pulses, oilseeds, sugarcane etc.

Import Data From MS Excel To Power BI



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95	1970	7	Maharashtra	Bombay	1.2	2.1	1750
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Project Objectives

1. Data Exploration:

- Explore the dataset to understand the distribution of agricultural variables across districts and years.

2. Crop-specific Analysis:

- Analyze the trends in the cultivation of major crops, including rice, wheat, and pulses, focusing on changes in area, production, and yield.

3. Regional Disparities:

- Identify disparities and variations in agricultural practices and outcomes across different districts and states.

4. Seasonal Patterns:

- Explore seasonal patterns in crop cultivation, considering kharif and rabi seasons.

5. Impact of External Factors:

- Investigate the impact of external factors like weather conditions on crop performance.

6. Fruits and Vegetables Analysis:

- Analyze the cultivation trends of fruits, vegetables, and their overall contribution to agricultural practices.

7. Sustainable Farming Insights:

- Derive insights that can contribute to promoting sustainable farming practices and optimizing resource allocation.

Data Explorations

Indian Agriculture Analysis Dashboard - Data Exploration

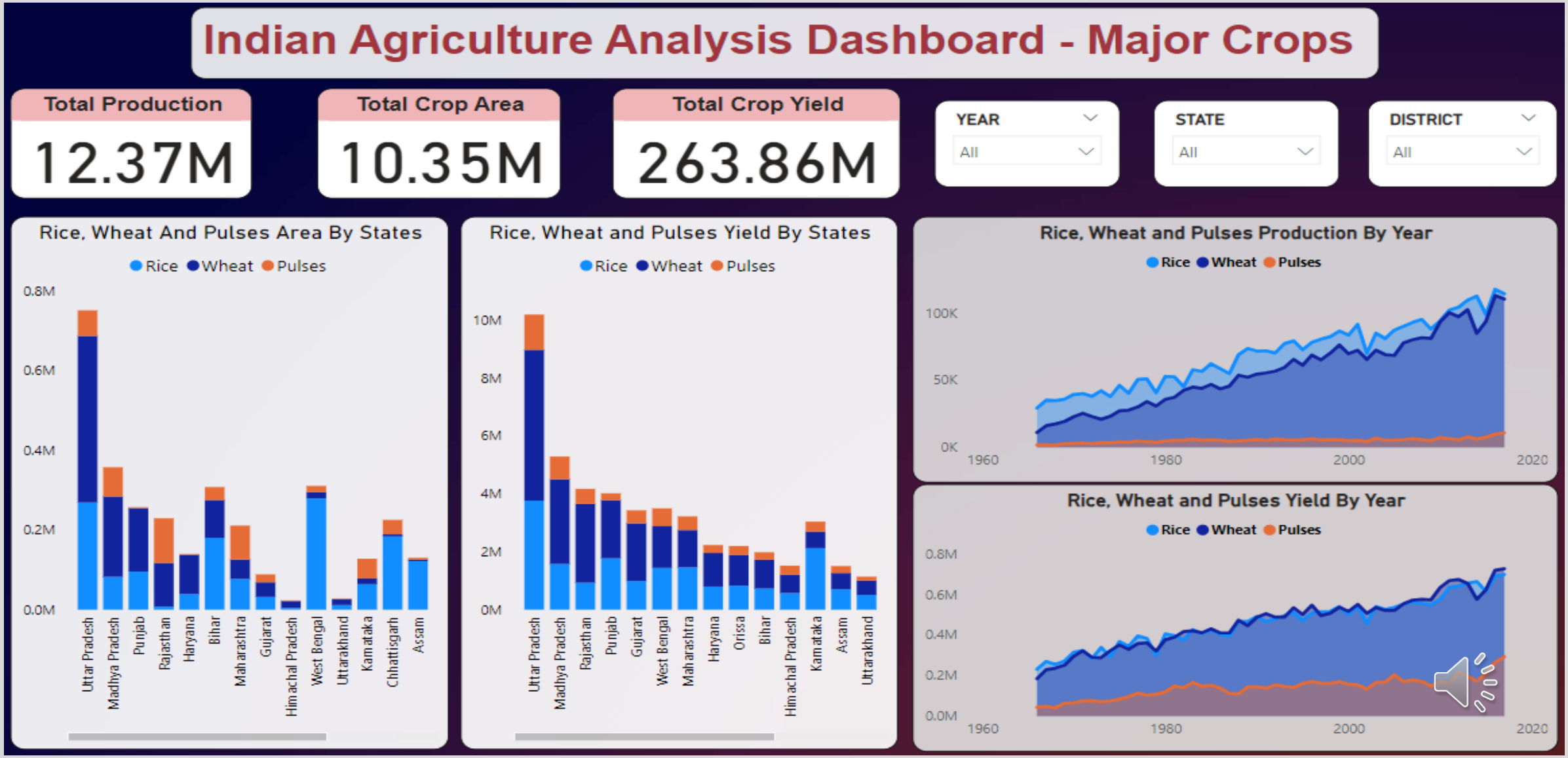
Count Of State Code	Count Of District Code	Count Of Year	Minimum Of Year	Maximum Of Year
20	311	52	1966	2017

State Names
Andhra Pradesh
Assam
Bihar
Chhattisgarh
Gujarat
Haryana
Himachal Pradesh
Jharkhand
Karnataka
Kerala
Madhya Pradesh
Maharashtra
Orissa
Punjab
Rajasthan
Tamil Nadu
Telangana

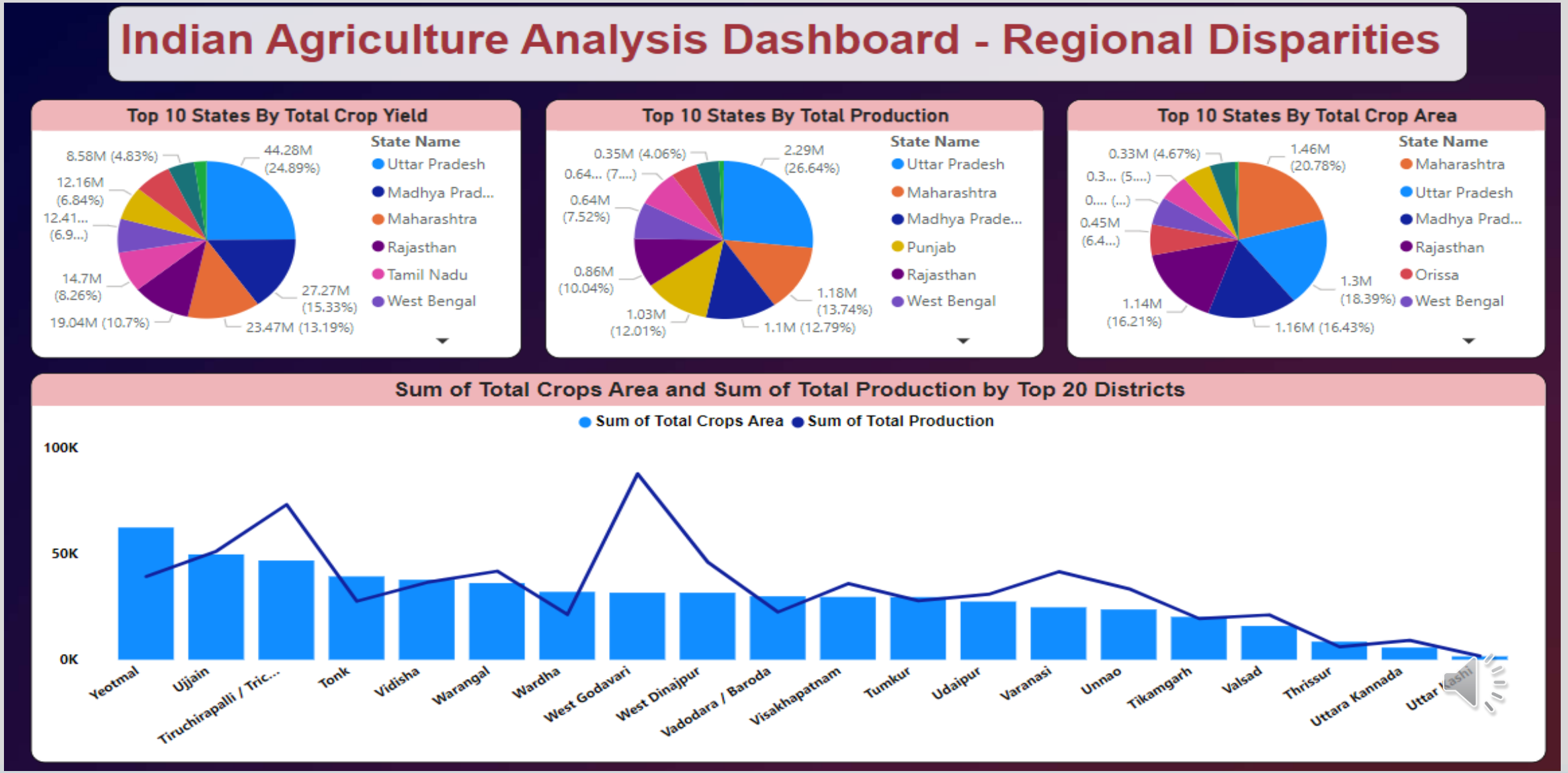
District Names
Yeotmal
West Godavari
West Dinajpur
Wardha
Warangal
Visakhapatnam
Vidisha
Varanasi
Valsad
Vadodara / Baroda
Uttara Kannada
Uttar Kashi
Unnao
Ujjain
Udaipur
Tumkur
Tonk

The dataset contains 29 crop columns, including rice, wheat, Kharif Sorghum, Rabi Sorghum, Sorghum, Pearl Millet, Maize, Finger Millet, Barley, Chickpea, Pigeon Pea, Minor Pulses, Groundnut, Sesamum, Rapeseed and Mustard, Safflower, Castor, Linseed, Sunflower, Soybean, Oilseeds, Sugarcane, Cotton, Fruits and Vegetables, Potatoes, Onion, and Fodder.

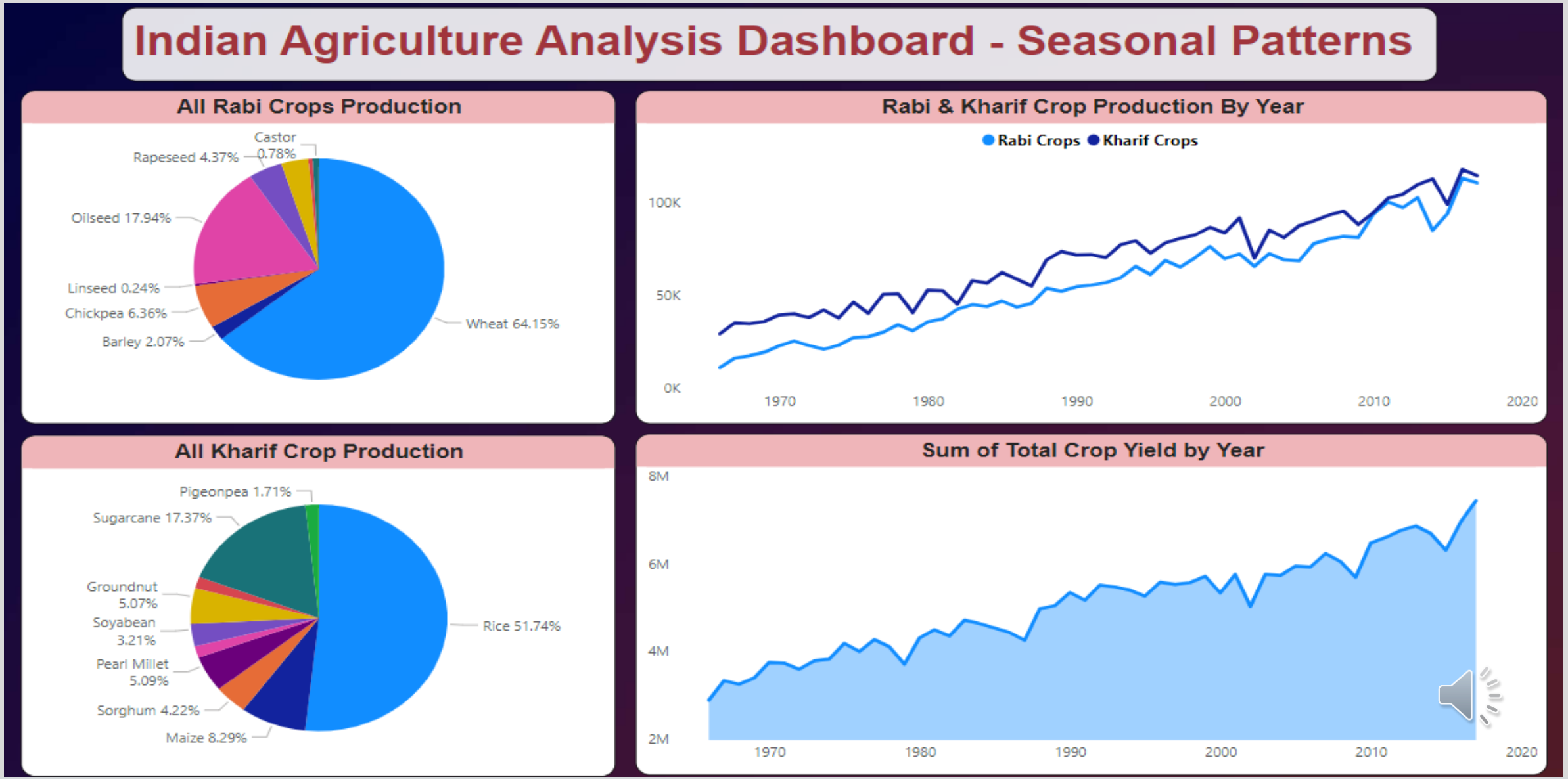
Crop-Specific Analysis



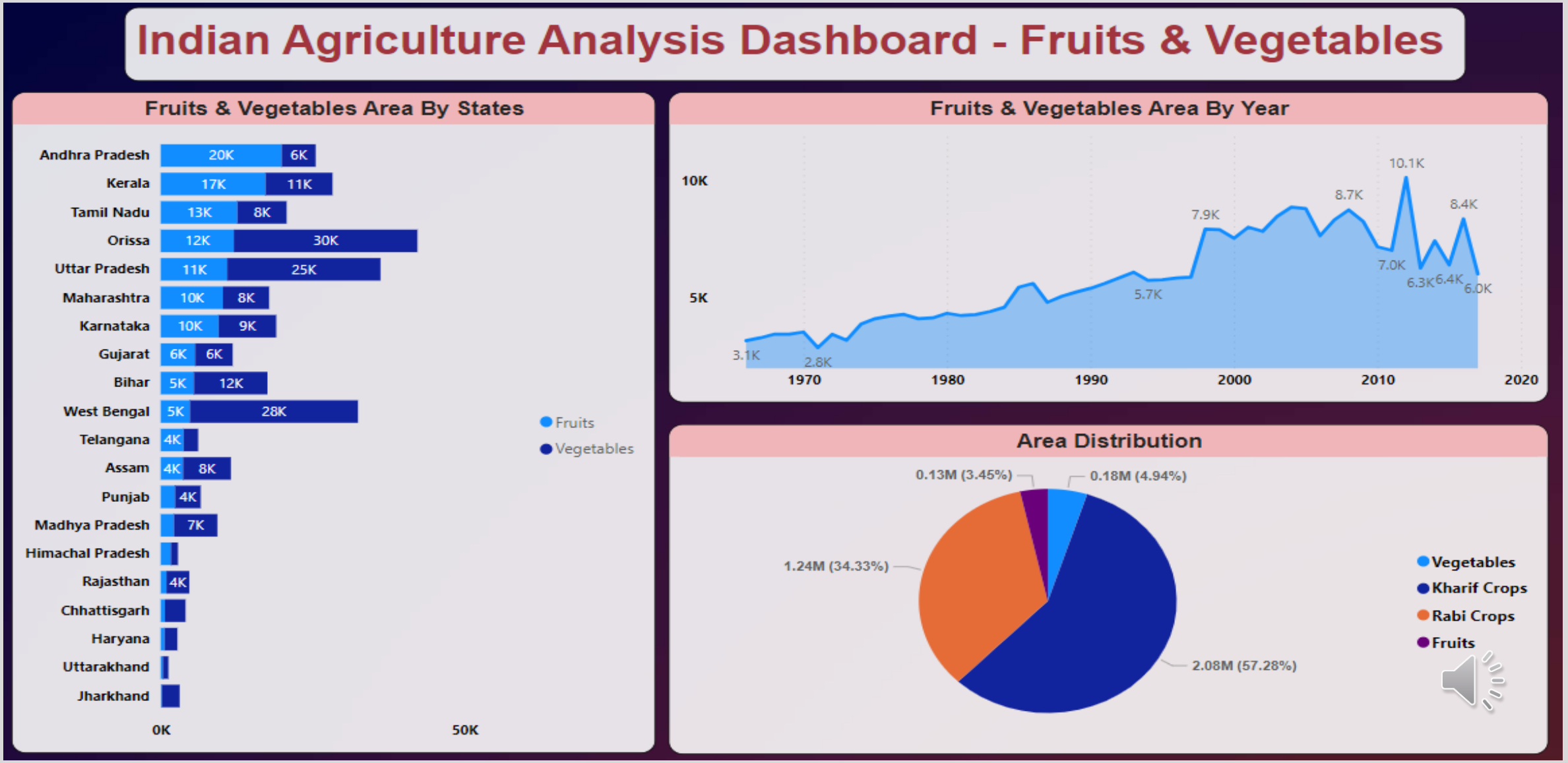
Regional Disparities



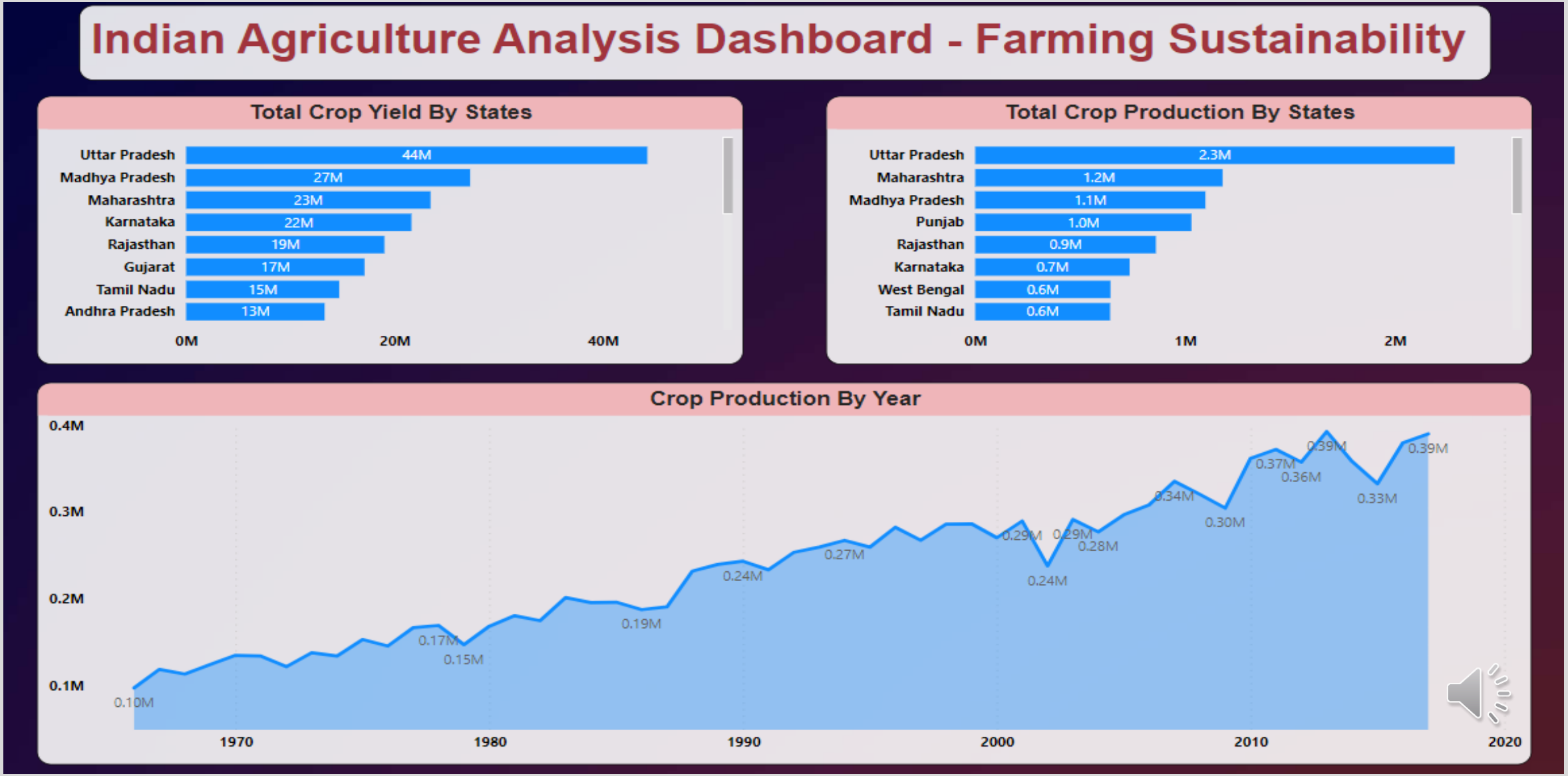
Seasonal Patterns



Fruits & Vegetables Analysis



Sustainable Farming Insights



Summary

- In overall, stakeholders are empowered with actionable insights through the Indian Agriculture Data Visualization project in Power BI, allowing them to improve agricultural production, resilience, and sustainability. Stakeholders can drive informed decision- making, manage difficult agricultural obstacles, and progress Indian agriculture with the use of intuitive visualizations.
- The Indian agriculture project aims to transform the agricultural sector by leveraging technology, knowledge, and partnerships to address the challenges faced by smallholder farmers and promote sustainable and inclusive growth.

Conclusion

- Enhance post-harvest infrastructure to minimize wastage and ensure quality, alongside strengthening market connections for better prices.
- Encourage farmers to grow a variety of crops beyond staples like rice and wheat, focusing on high value options like fruits, vegetables, and pulses.
- Promote organic farming practices to meet growing consumer demand for chemical-free produce and improve soil health in the long term.
- Allocate resources for agricultural research to develop resilient crop varieties and sustainable farming practices tailored to local conditions.

THANK YOU