

INDIA AGRICULTURE CROP PRODUCTION ANALYSIS (1197-2021)

**LONG TERM INTERNSHIP
PROJECT REPORT**

TEAM LEADER :

GEDELA MANIKANTA

TEAM MEMBERS :

GORLI CHAITANYA LAKSHMI

GANDI SAI KUMAR

GANDI VIVEK

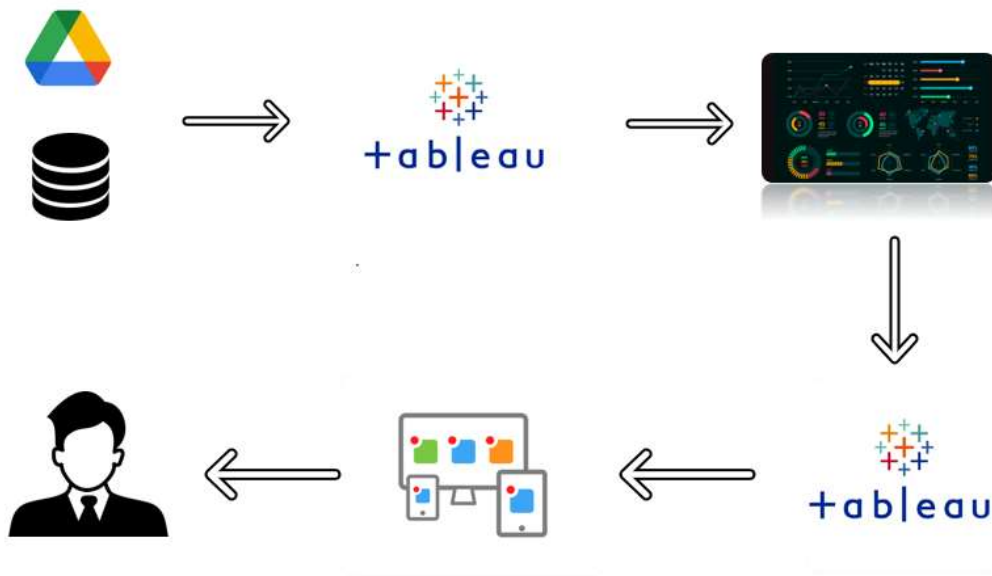
GANGIREDLA RAJA

India's Agricultural Crop Production Analysis(1197-2021)

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.

Technical Architecture:



Project Flow

To accomplish this, we have to complete all the activities listed below,

- Define Problem / Problem Understanding
 - Specify the business problem
 - Business requirements
 - Literature Survey
 - Social or Business Impact.
- Data Collection & Extraction from Database
 - Collect the dataset,
 - Storing Data in DB
 - Perform SQL Operations
 - Connect DB with Tableau
- Data Preparation
 - Prepare the Data for Visualization
- Data Visualizations
 - No of Unique Visualizations
- Dashboard
 - Responsive and Design of Dashboard
- Story
 - No of Scenes of Story
- Performance Testing
 - Amount of Data Rendered to DB ‘
 - Utilization of Data Filters
 - No of Calculation Fields
 - No of Visualizations/ Graphs
- Web Integration
 - Dashboard and Story embed with UI With Flask
- Project Demonstration & Documentation
 - Record explanation Video for project end to end solution
 - Project Documentation-Step by step project development procedure

Milestone 1: Define Problem / Problem Understanding

Activity 1: Specify the business problem

Refer Project Description

Activity 2: 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.

Activity 3: 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.

Activity 4: Social or Business Impact.

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.

Milestone 2: Data Collection & Extraction from Database

Data collection is the process of gathering and measuring information on variables of interest, in an established systematic fashion that enables one to answer stated research questions, test hypotheses, evaluate outcomes and generate insights from the data.

Activity 1: Downloading the dataset

Please follow link to download:

<https://www.kaggle.com/datasets/pyatakov/india-agriculture-crop-production>

Activity 1.1: Understand the data

Data consists of 345409 rows and 10 columns that correspond to different values.

Column Description of the Dataset:

State : The name of the Indian states.

District : The name of the districts of Indian states.

Crop : Name of different crops grown in India

Year : Date

Season : India has 5 seasons for crop cultivation kharif, rabi, autumn, winter and summer.

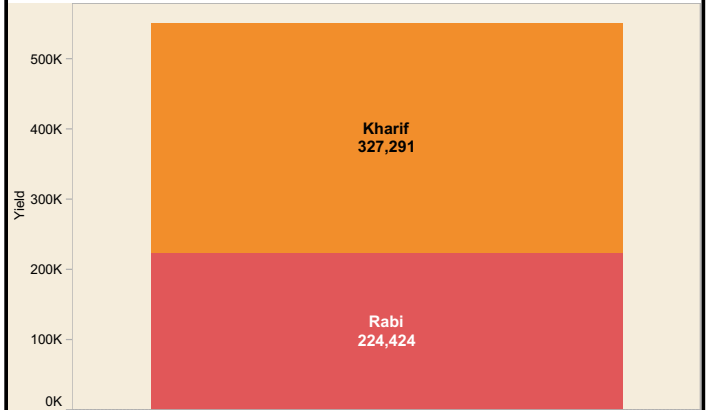
Area: Area for crop cultivation in acres

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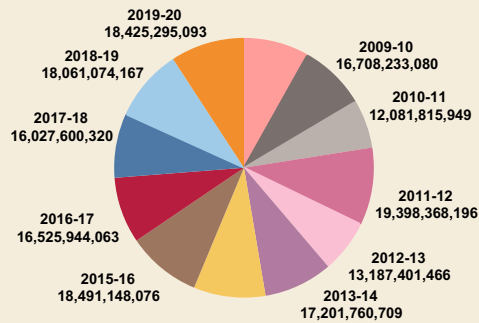
CROPS(PLANTATION BY COUNT)



YIELDING OF CROPS IN KHARIF AND RABI SEASONS



CROP PRODUCTION IN INDIA FROM 2008-2020

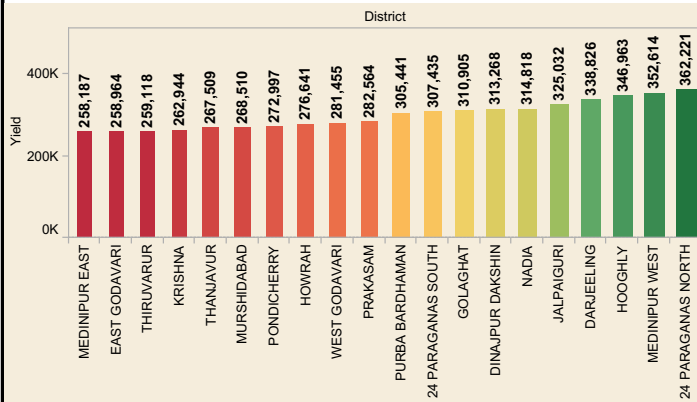


PRODUCTION OF TOP 15 CROPS IN WHOLE YEAR

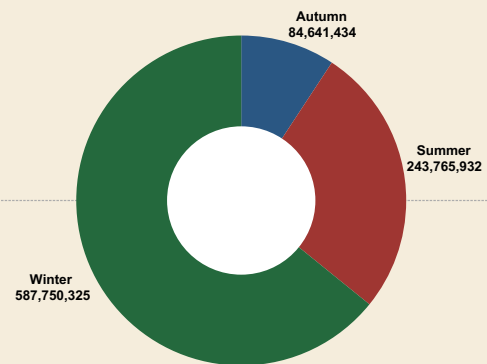
Season	Crop	Production
Whole Year	Arhar/Tur	432,556
	Dry chillies	6,915,394
	Gram	3,247,931
	Groundnut	4,504,982
	Jowar	1,006,178
	Maize	5,893,279
	Moong(Green..	319,444
	Onion	76,624,094
	Potato	251,289,394
	Rapeseed &...	1,056,207
	Rice	2,616,273
	Sesamum	3,208,163
	Sugarcane	4,869,417,949
	Urad	583,544
	Wheat	8,865,390

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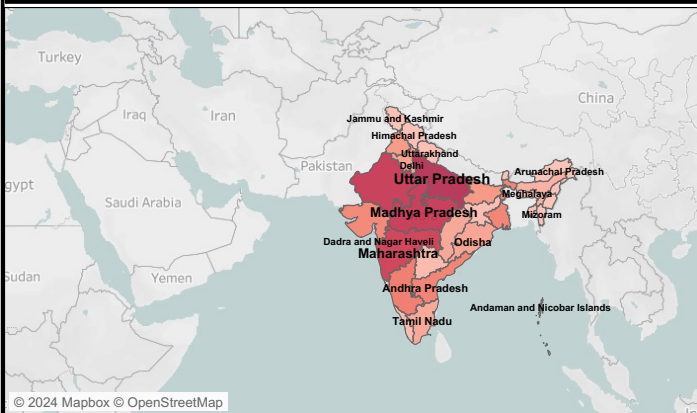
TOP 20 DISTRICTS IN INDIA BY YIELDING



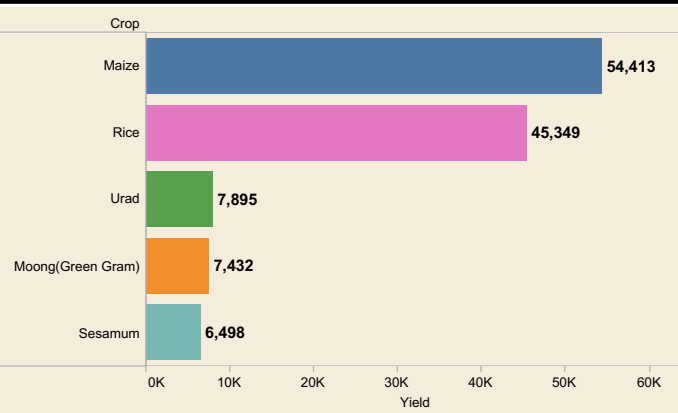
SEASON WISE PRODUCTION



STATE WISE AREA

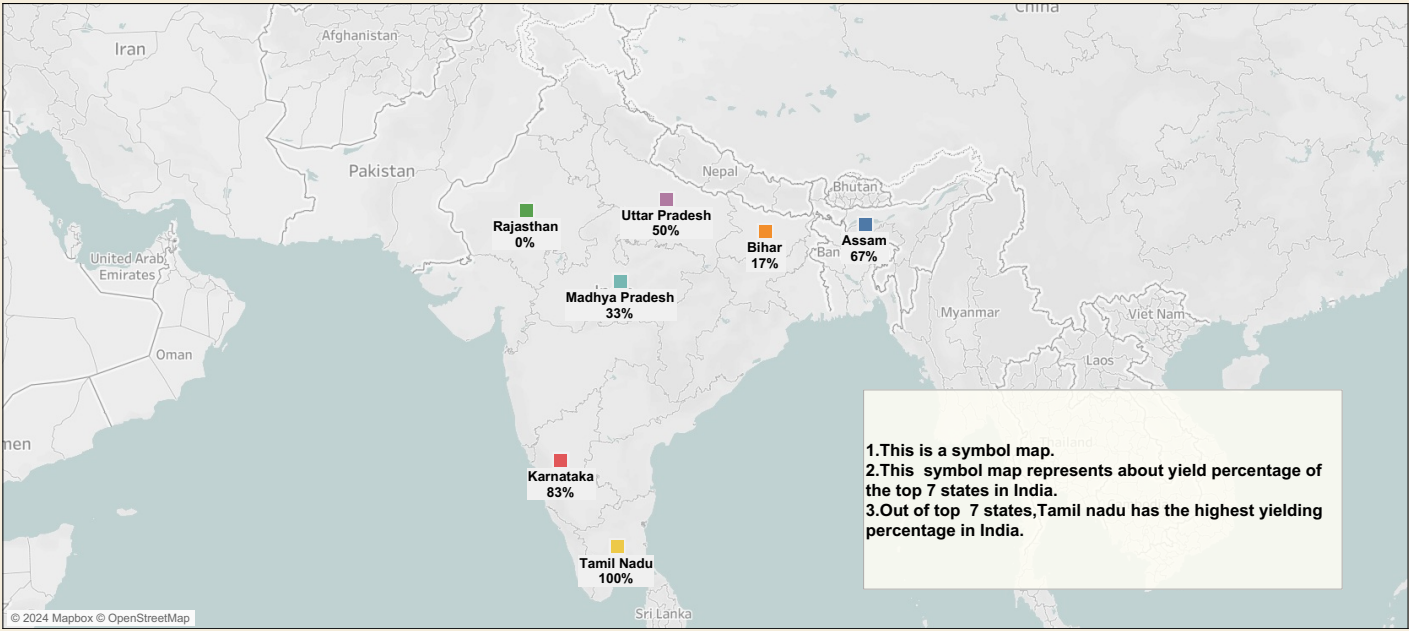


TOP 5 CROPS BY YIELD



INDIA AGRICULTURE CROP PRODUCTION ANALYSIS (1197-2021)

YIELD PERCENTAGE OF TOP 7 STATES IN INDIA	YEAR WISE CROP YIELD IN INDIA FROM 2000-2020	TOP 10 CROPS BY AREA	PRODUCTION OF RICE IN TOP 15 STATES	YEAR WISE PRODUCTION OF MAJOR CROPS
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INDIA AGRICULTURE CROP PRODUCTION ANALYSIS (1197-2021)

YIELD PERCENTAGE OF TOP 7 STATES IN INDIA

YEAR WISE CROP YIELD IN INDIA FROM 2000-2020

TOP 10 CROPS BY AREA

PRODUCTION OF RICE IN TOP 15 STATES

YEAR WISE PRODUCTION OF MAJOR CROPS

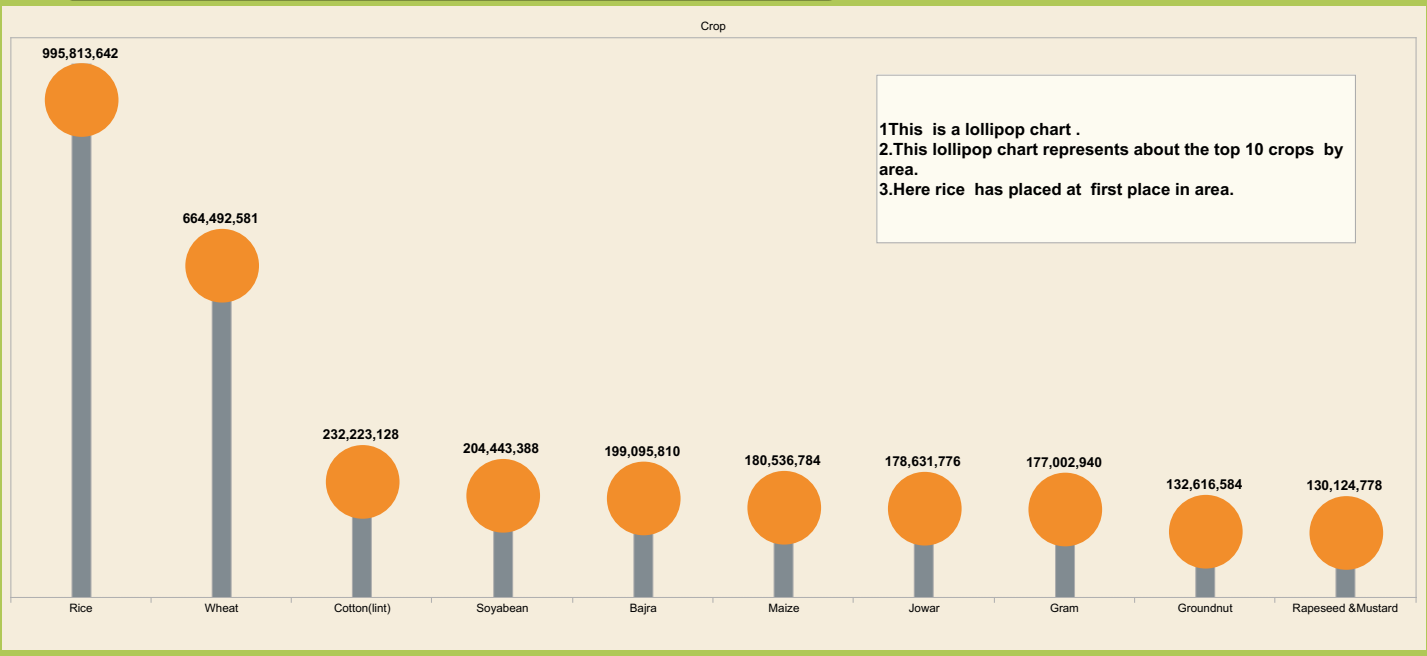
Year	Crop									
	Sesamum	Small millets	Soyabean	Sugarcane	Sunflower	Sweet potato	Tapioca	Tobacco	Turmeric	
2000-01	167	192	158	24,550	230	1,636	1,581	182	676	
2001-02	185	216	175	25,038	336	1,443	582	349	584	
2002-03	165	205	145	23,582	297	1,989	1,539	373	650	
2003-04	186	245	213	23,655	354	2,016	1,696	333	694	
2004-05	191	189	200	22,361	372	2,835	1,732	303	763	
2005-06	215	203	207	25,339	301	2,875	1,729	301	789	
2006-07	202	191	203	24,320	371	2,374	1,921	323	791	
2007-08	224	171	191	24,573	334	2,418	2,061	233	642	
2008-09	217	193	202	25,797	322	2,724	2,169	237	810	
2009-10	177	175	171	26,087	295	2,267	2,086	323	732	
2010-11	251	204	256	26,801	298	1,573	1,146	268	612	
2011-12	255	205	246	26,233	289	2,427	2,355	303	916	
2012-13	884	184	282	29,063	239	2,278	1,285	270	772	
2013-14	261	218	252	29,695	308	2,670	2,366	382	1,020	
2014-15	276	255	249	29,961	295	2,240	2,442	303	1,000	
2015-16	274	271	219	28,934	268	2,643	2,329	374	1,728	
2016-17	863	214	341	28,738	291	2,725	2,219	348	1,867	
2017-18	350	286	335	29,360	331	3,175	2,491	351	1,974	
2018-19	333	271	370	30,395	263	3,378	2,663	306	2,979	
2019-20	346	306	324	32,389	355	4,136	2,913	313	2,015	

1.This is a highlight tables.
2 .This highlight tables represents about the year wise crop yield from 2000-2020
3.Sugarcane has the highest yielding from 2000-2020.

- Crop
- ☐ Null
 - ☐ Arecanut
 - ☐ Arhar/Tur
 - ☐ Bajra
 - ☐ Banana
 - ☐ Barley
 - ☐ Black pepper
 - ☐ Cardamom
 - ☐ Cashewnut
 - ☐ Castor seed
 - ☐ Coconut
 - ☐ Coriander
 - ☐ Cotton(lint)
 - ☐ Cowpea(Lobia)
 - ☐ Dry chillies
 - ☐ Dry Ginger
 - ☐ Garlic
 - ☐ Ginger
 - ☐ Gram
 - ☐ Groundnut
 - ☐ Guar seed
 - ☐ Horse-gram
 - ☐ Jowar
 - ☐ Jute
 - ☐ Khesari
 - ☐ Linseed
 - ☐ Maize
 - ☐ Masoor
 - ☐ Mesta
 - ☐ Moong(Green Gram)
- Yield
- 145 32,389

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YIELD PERCENTAGE OF TOP 7 STATES IN INDIA	YEAR WISE CROP YIELD IN INDIA FROM 2000-2020	TOP 10 CROPS BY AREA	PRODUCTION OF RICE IN TOP 15 STATES	YEAR WISE PRODUCTION OF MAJOR CROPS
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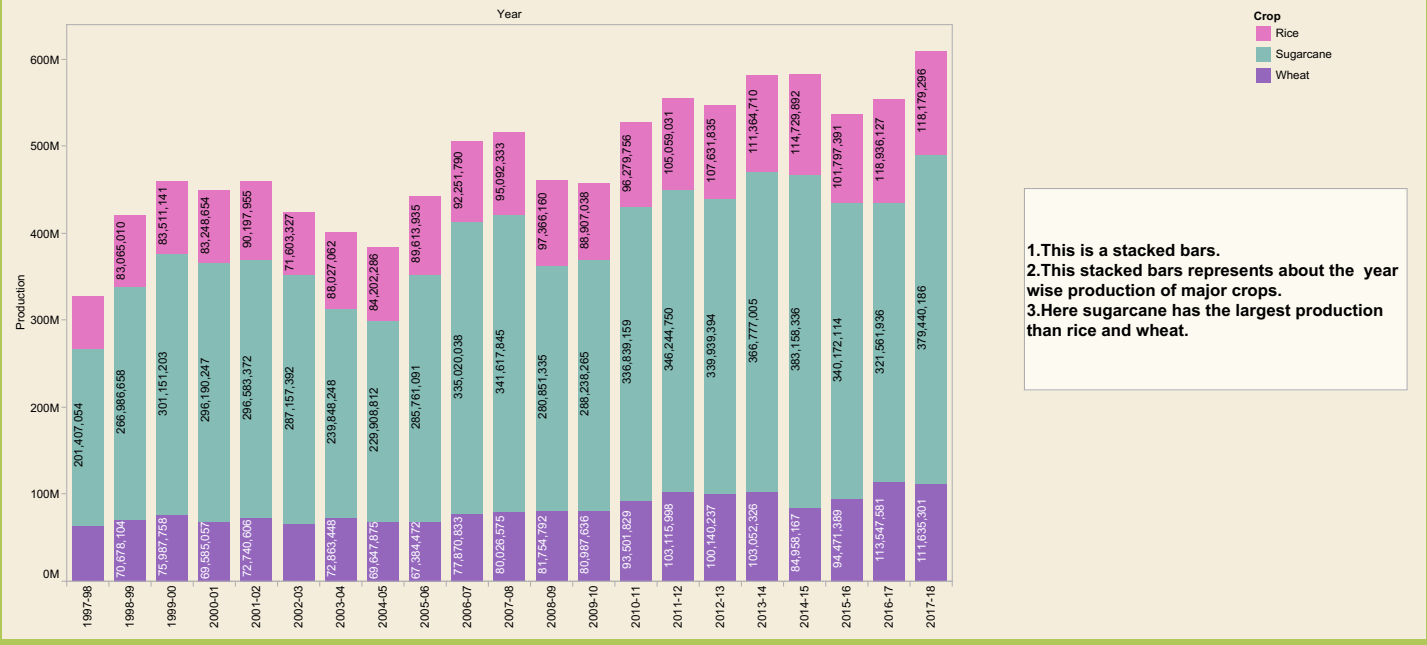
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YEAR WISE CROP YIELD IN INDIA FROM 2000-2020	TOP 10 CROPS BY AREA	PRODUCTION OF RICE IN TOP 15 STATES	YEAR WISE PRODUCTION OF MAJOR CROPS	SEASON WISE PRODUCTION AND YIELD
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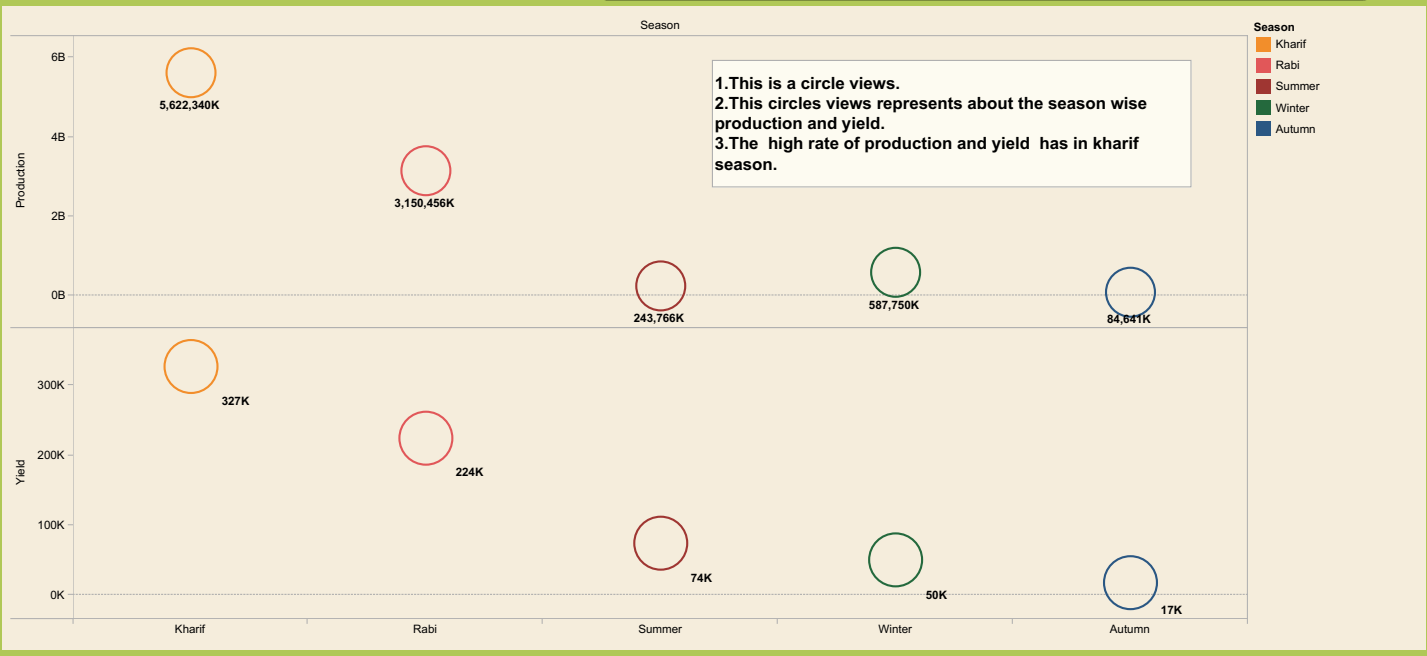
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TOP 10 CROPS BY AREA	PRODUCTION OF RICE IN TOP 15 STATES	YEAR WISE PRODUCTION OF MAJOR CROPS	SEASON WISE PRODUCTION AND YIELD	YEAR WISE YIELDING OF COCONUT IN KERALA
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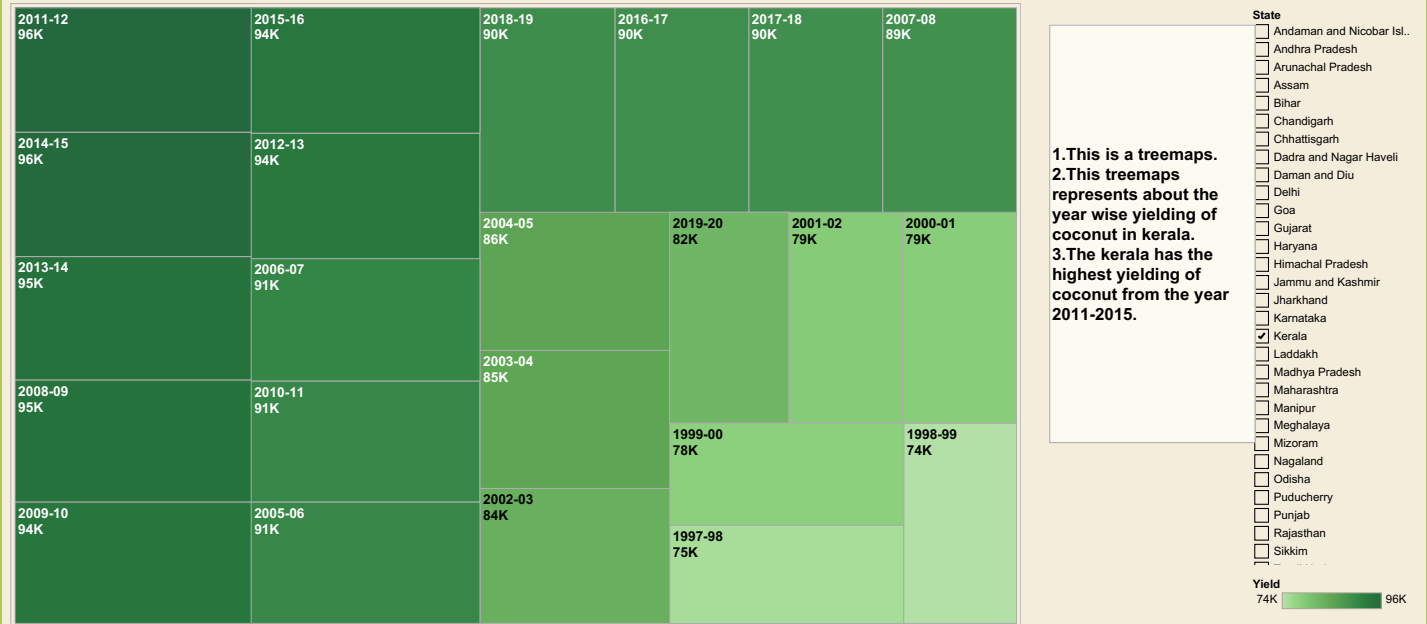
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PRODUCTION OF RICE IN TOP 15 STATES	YEAR WISE PRODUCTION OF MAJOR CROPS	SEASON WISE PRODUCTION AND YIELD	YEAR WISE YIELDING OF COCONUT IN KERALA	SEASON WISE YIELD
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PRODUCTION OF RICE IN TOP ..	YEAR WISE PRODUCTION OF MAJOR CROPS	SEASON WISE PRODUCTION AND YIELD	YEAR WISE YIELDING OF COCONUT IN KERALA	SEASON WISE YIELD
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PRODUCTION OF RICE IN TOP ..	YEAR WISE PRODUCTION OF MAJOR CROPS	SEASON WISE PRODUCTION AND YIELD	YEAR WISE YIELDING OF COCONUT IN KERALA	SEASON WISE YIELD
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