

# **LONG TERM INTERNSHIP ON DATA ANALYTICS USING TABLEAU**

# **INDIA AGRICULTURE CROP PRODUCTION ANALYSIS (1197-2021)**



# **TEAM MEMBERS :**

**GEDELA MANI KANTA**

**GORLI CHAITANYA LAKSHMI**

**GANDI SAI KUMAR**

**GANDI VIVEK**

**GANGIREDLA RAJA**

## INTRODUCTION :

Analyzing India's agricultural crop

Production from 1197 and 2021 is quite task, considering the vast historical and agricultural diversity of the country. This analysis would likely cover shifts in crop cultivation patterns, technological advancements, socio-economic factors, and their impact on production over centuries. It would provide valuable insights into India's agrarian history and its journey towards becoming one of the world's leading agricultural procedures.



### Overview:

Certainly! An overview of India's agriculture from 1197 to 2021 would highlight significant milestones, trends, and transformations. This includes the introduction of various crops, the influence of climate and geography, the adoption of modern agricultural practices, policy interventions, the green revolution, and the role of technology in boosting productivity. Additionally, it would address challenges such as land degradation, water scarcity, fluctuating market prices, and the need for sustainable farming practices. An overview would offer a holistic understanding of India's agricultural landscape over centuries.

Purpose:

Analyzing India's agricultural crop production from 1997 to 2021 serves various purposes, such as:

Trend identification: understanding long-term trends in crop production can help policy makers, researchers and farmers anticipate future challenges and opportunities in the agriculture sector.

Policy formulation: Government can use this data to formulate policies aimed at improving agricultural productivity, ensuring food security and promoting sustainable farming practices.

Resource allocation: Analyzing crop production data helps in allocating resources more efficiently, such as subsidies, irrigation facilities and research funding, to areas where they are most needed.

Market forecasting: it provides insights in the market trends and helps stakeholders make informed decisions related to investment, trade, and pricing strategies.

Climate change impact: Monitoring crop production over time helps assess the impact of climate change on agriculture and develop adaptation strategies to mitigate its effects.

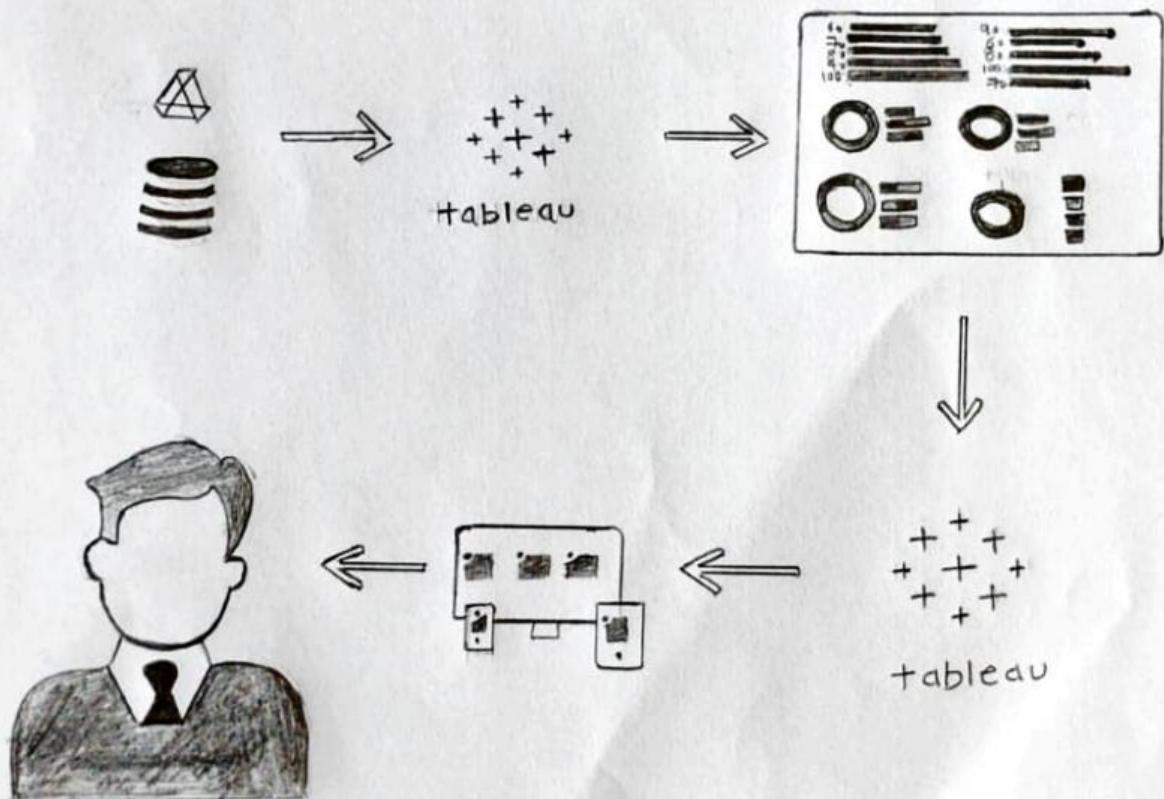
Research and Development: Researchers can use this data to identify areas for further research and innovation in agricultural practices, crop breeding, and technology adoption.

Use this data to identify areas for further research and innovation in agricultural practices, crop breeding, and technology adoption.

### Literature Survey:

Analyzing crop production in India from 1997 to 2021 would be quite a task! Assuming you meant 1997, conducting a literature survey on India's agriculture and crop production during that period would involve researching academic journals, government reports, and agricultural databases. Key factors to consider would include technology advancements, policy changes, climate variations, and socio-economic influences on crop yields. Do you need assistance finding specific literature or data sources for your survey?

### Theoretical analysis:



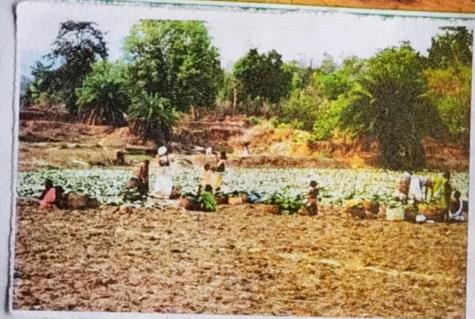
(U)

the centuries. While the specifier would be conjectural drawing parallels with known historical events and socio-economic trends could help construct a theoretical analysis of India's agriculture during this vast time frame.

Hard ware / Soft ware requirements of the project

Hard ware required:

- Processor: Intel i3, i5 or 11th gen processor or similar processor
- RAM: 4GB or above.
- Hard disk: 100GB or above.
- Input devices: Key board, mouse.
- Output device: monitor.
- Required space: min: 400mb  
max: 1GB



Software required:

- Any operating system
- Tableau
- Python for data analysis, exploratory data analysis
- Front-end Development - HTML for structuring content, Java Script for interactivity.
- Back-end development - Python
- Frame works and libraries - Flask





Data Analytics

agriculture

Search

Tables

Area Units

Crop

Crop Set

District

Production Units

Season

Season Set

State

Year

Measure Names

Area

Calculation1

Production

year1 (Count (Distinct))

Yield

agriculture.csv (Count)

Latitude (generated)

Longitude (generated)

Measure Values

Pages

Columns

Rows

SUM(Yield)

Filters

Season

SUM(Yield)

Marks

Automatic

Color

Size

Label

Detail

Tooltip

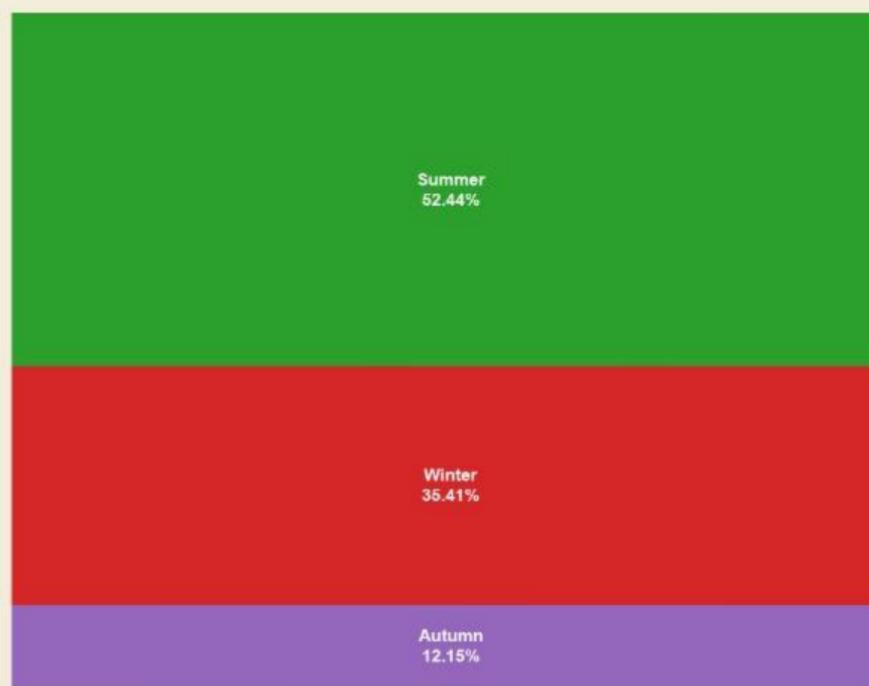
Season

MIN(Season)

SUM(Yield)

140K  
130K  
120K  
110K  
100K  
90K  
80K  
70K  
60K  
50K  
40K  
30K  
20K  
10K  
0K

## YIELDING OF CROPS IN SEASONS BY PERCENTAGE



SUM(Yield)

17,090 26,732.937

Season

Summer

Winter

Autumn



Data      Analytics

agriculture

Pages      Columns

Rows      AGG(AVG(0))      AGG(AVG(0))

Search

Tables

- Alez Area Units
- Alez Crop
- ④ Crop Set
- Alez District
- Alez Production Units
- Alez Season
- ④ Season Set
- ④ State
- Alez Year
- Alez Measure Names
- # Area
- # Calculation1
- # Production
- Alez year1 (Count (Distinct))
- # Yield
- # agriculture.csv (Count)
- ④ Latitude (generated)
- ④ Longitude (generated)
- # Measure Values

Filters

Season

Marks

All

Pie

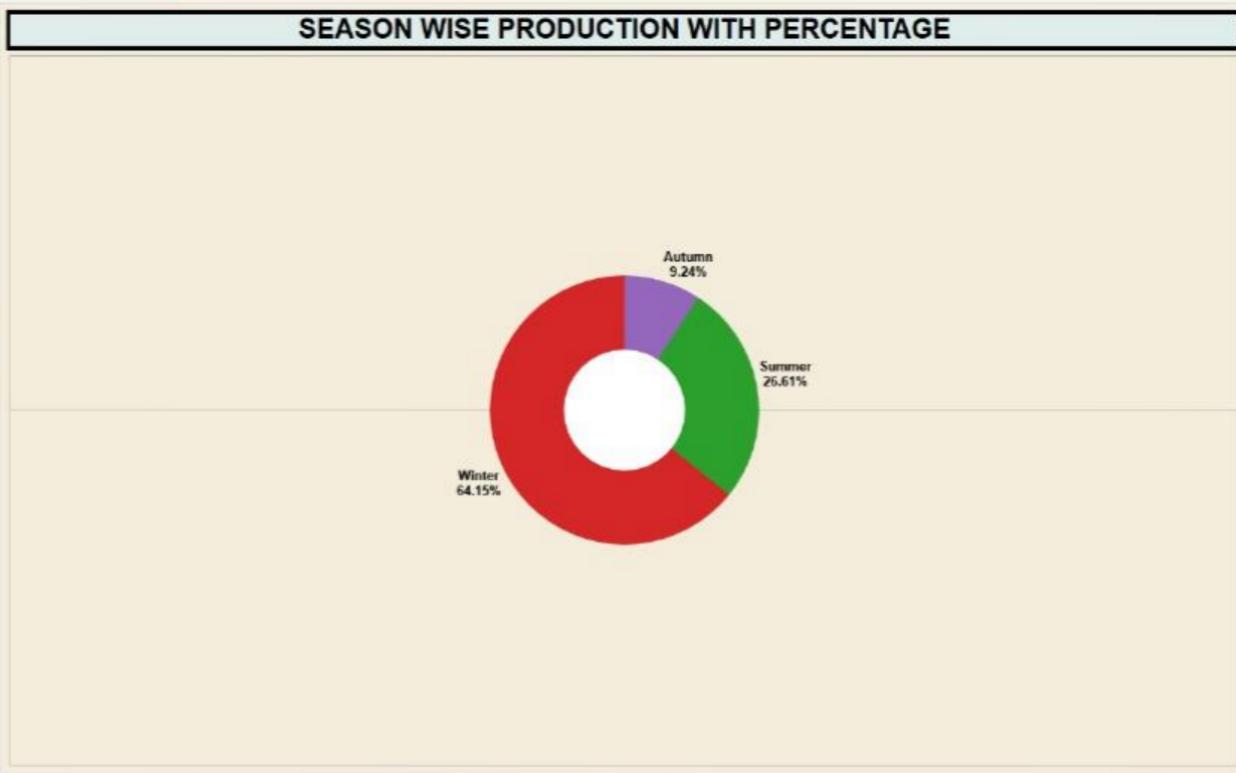
- Color
- Size
- Label
- Detail
- Tooltip
- Angle

Multiple fields

Multiple fields

AGG(AVG(0))

AGG(AVG(0))



Season

- Autumn
- Summer
- Winter

SUM(Production)

916,157,691



Data Analytics

Pages Columns District

Rows SUM(Yield)

Filters

District

Marks

Automatic

Color

Size

Label

Detail

Tooltip

SUM(Yield)

SUM(Yield)

SUM(Yield)

agriculture

Search

Tables

Area Units

Crop

Crop Set

District

Production Units

Season

Season Set

State

Year

Measure Names

Area

Calculation1

Production

year1 (Count(Distinct))

Yield

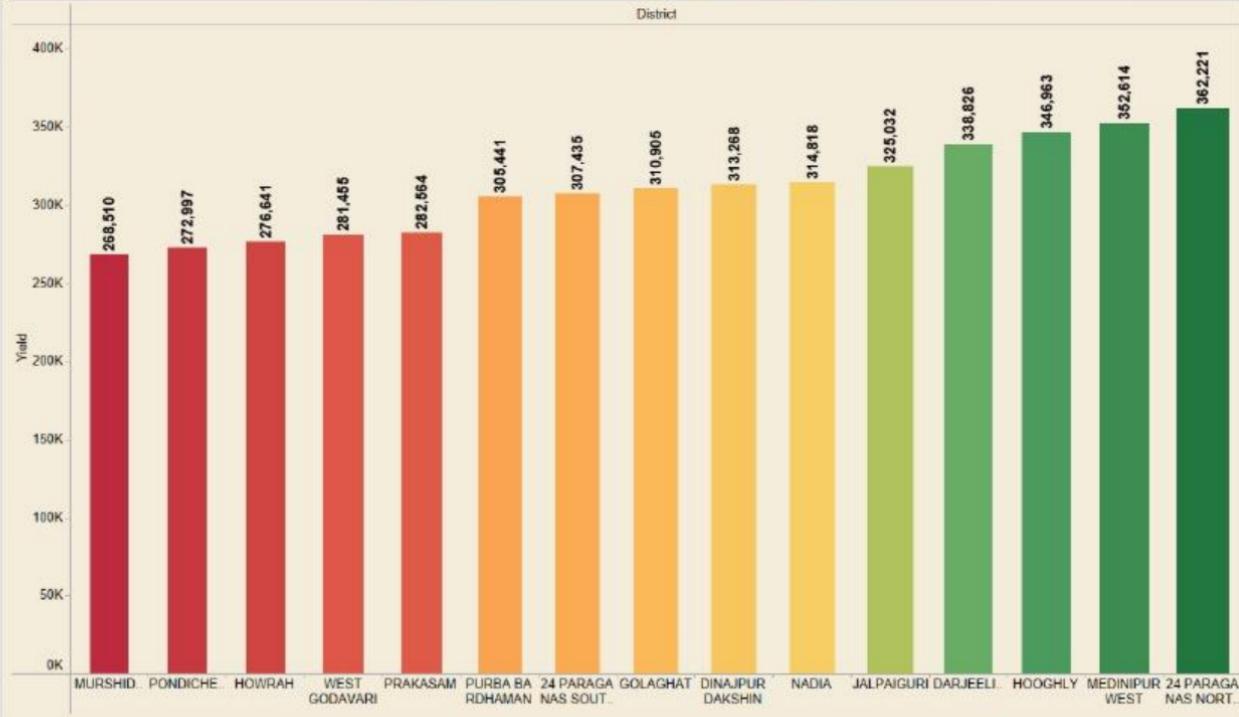
agriculture.csv (Count)

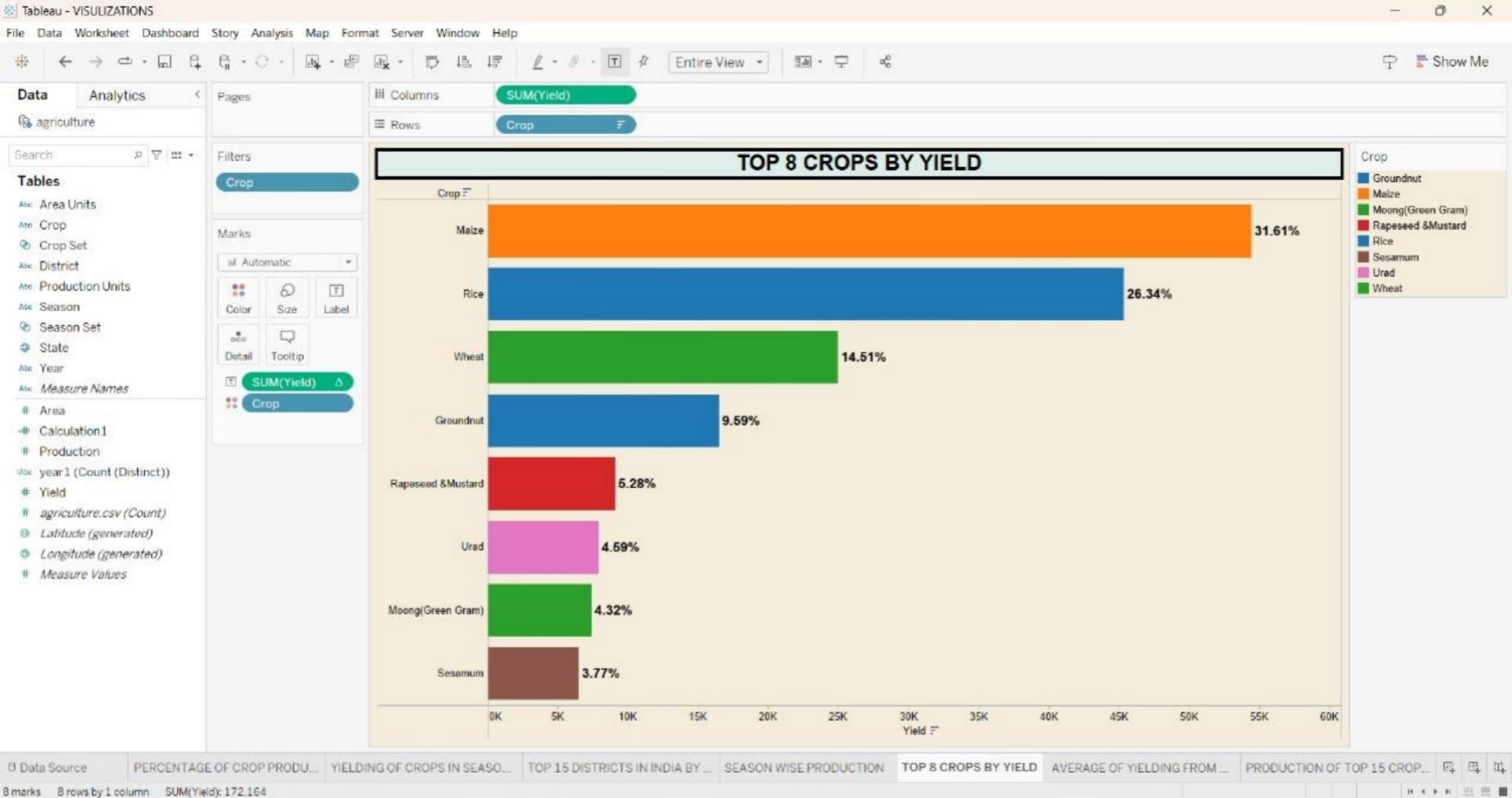
Latitude (generated)

Longitude (generated)

Measure Values

## TOP 15 DISTRICTS IN INDIA BY YIELDING







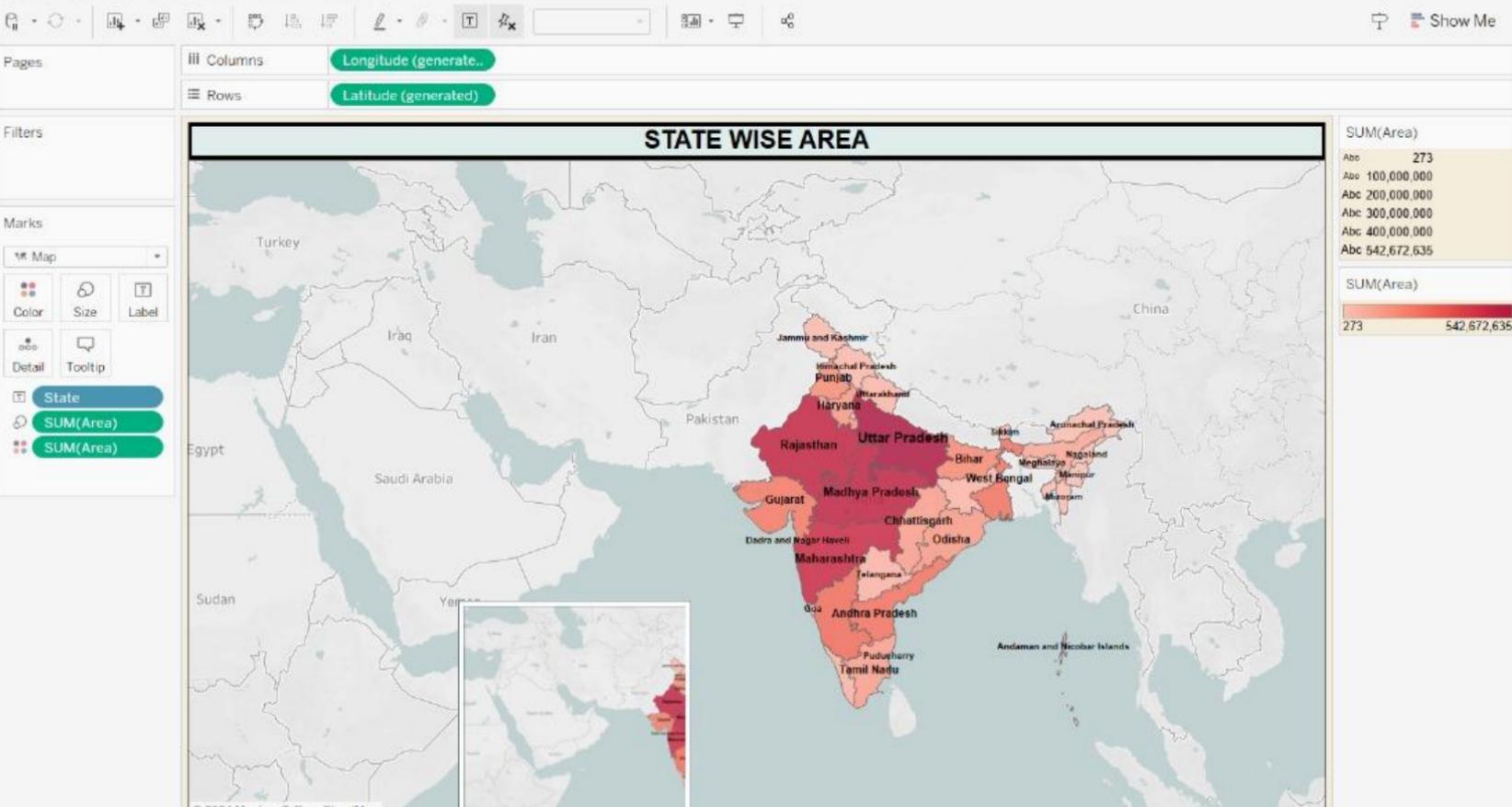
**Data**    Analytics <

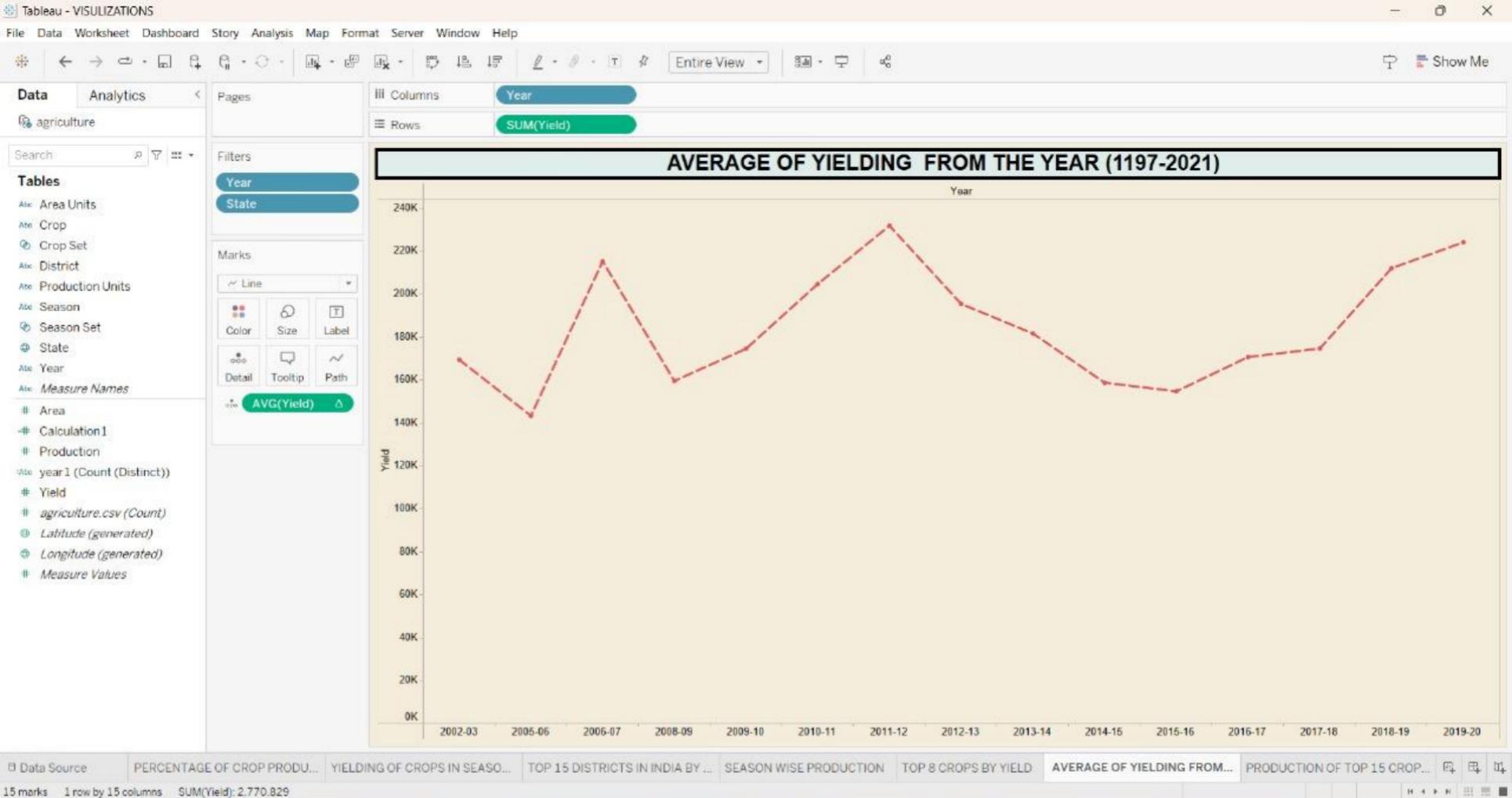
agriculture

Search  Y ⋮

**Tables**

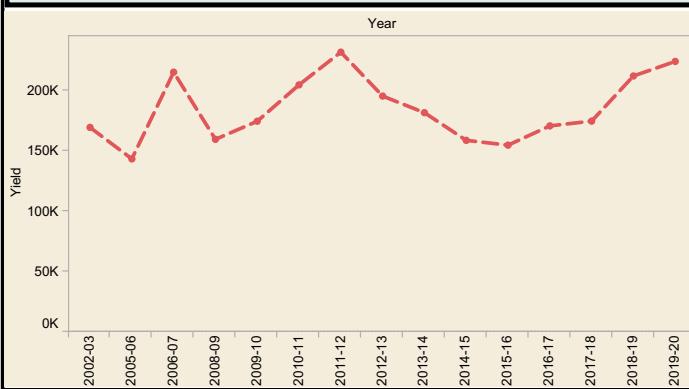
- Ale Area Units
- Ale Crop
- Crop Set
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- Ale Production Units
- Ale Season
- Season Set
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- Year
- Ale Measure Names
- # Area
- # Calculation1
- # Production
- year1 (Count (Distinct))
- # Yield
- # agriculture.csv (Count)
- Latitude (generated)
- Longitude (generated)
- # Measure Values



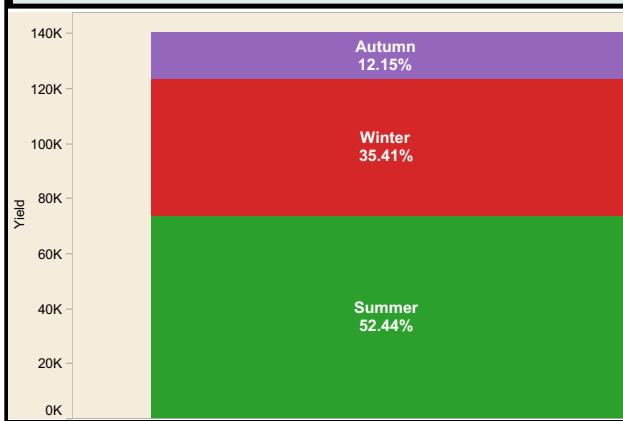


# INDIA AGRICULTURE CROP PRODUCTION ANALYSIS (1197-2021)

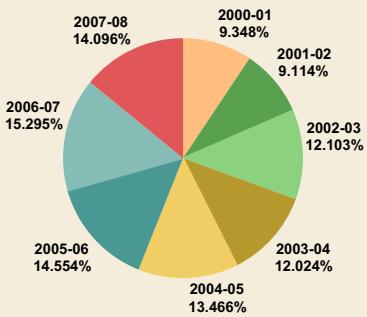
## YIELDING OF AVERAGE FROM THE YEAR (1197-2021)



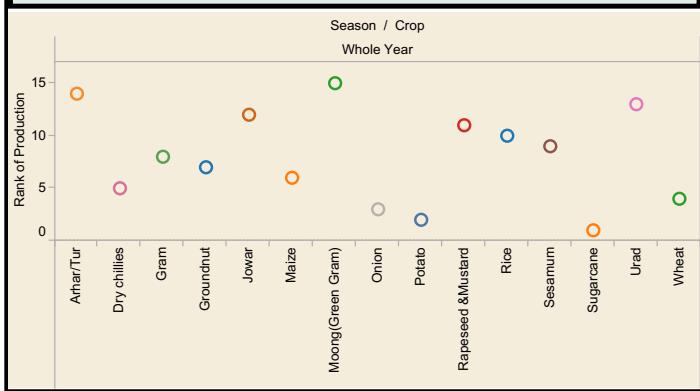
## YIELDING OF CROPS IN SEASONS BY PERCENTAGE



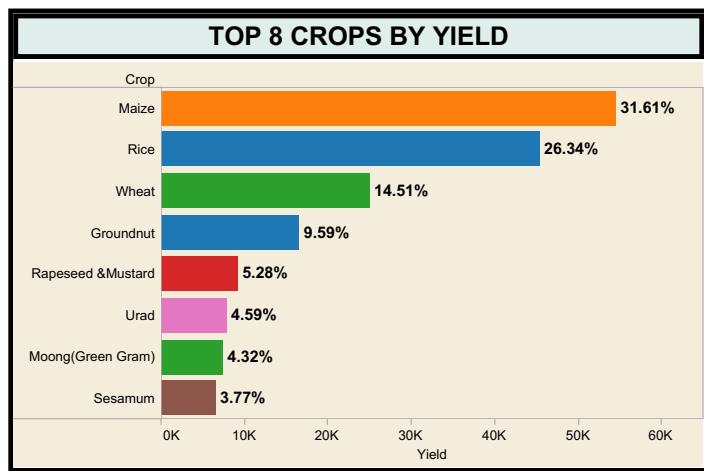
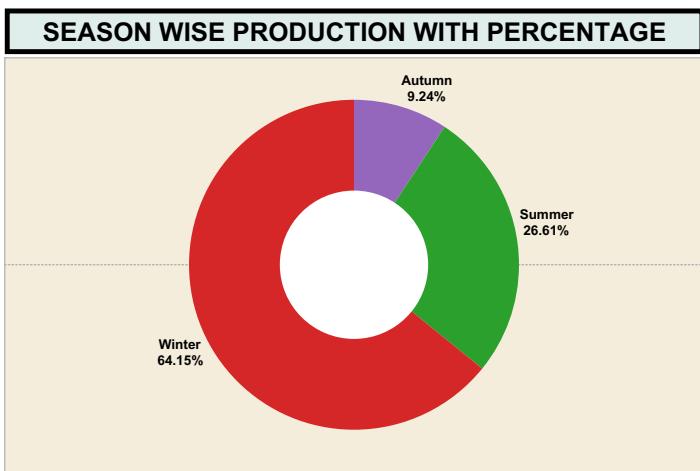
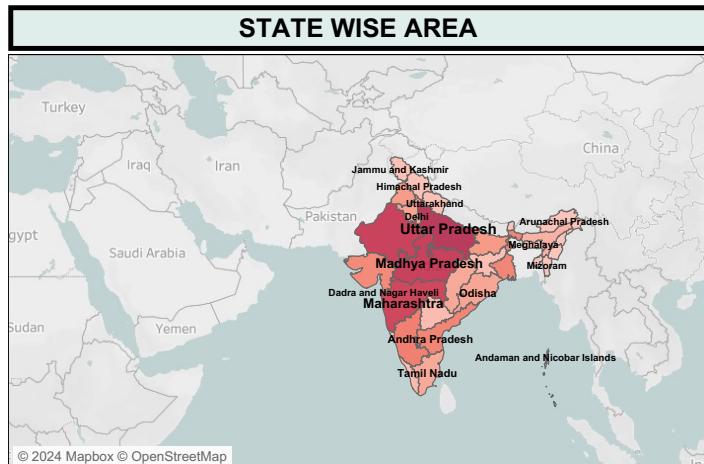
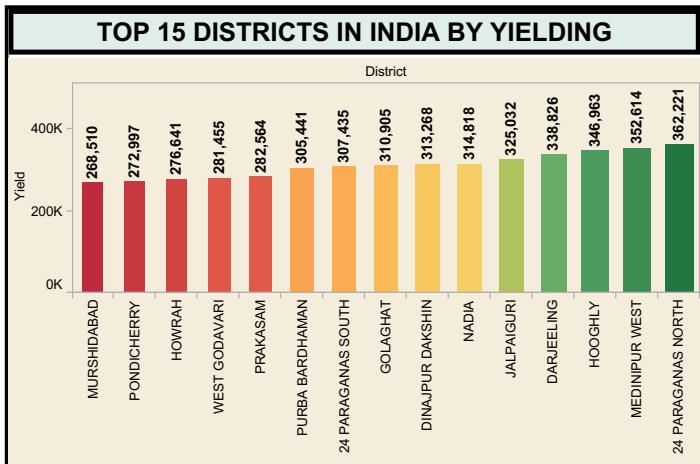
## PERCENTAGE OF CROP PRODUCTION IN INDIA FROM 2001-2008



## PRODUCTION OF TOP 15 CROPS IN WHOLE YEAR BY RANK

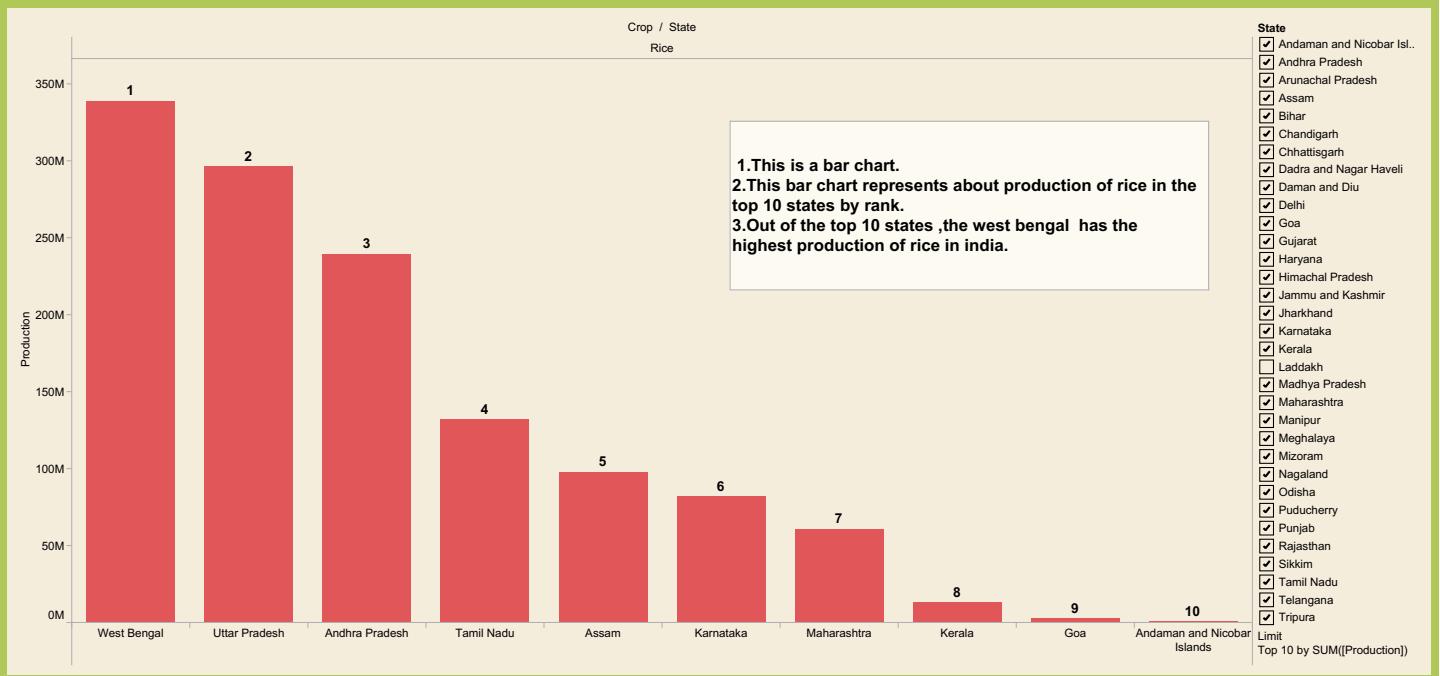


# INDIA AGRICULTURE CROP PRODUCTION ANALYSIS (1197-2021)



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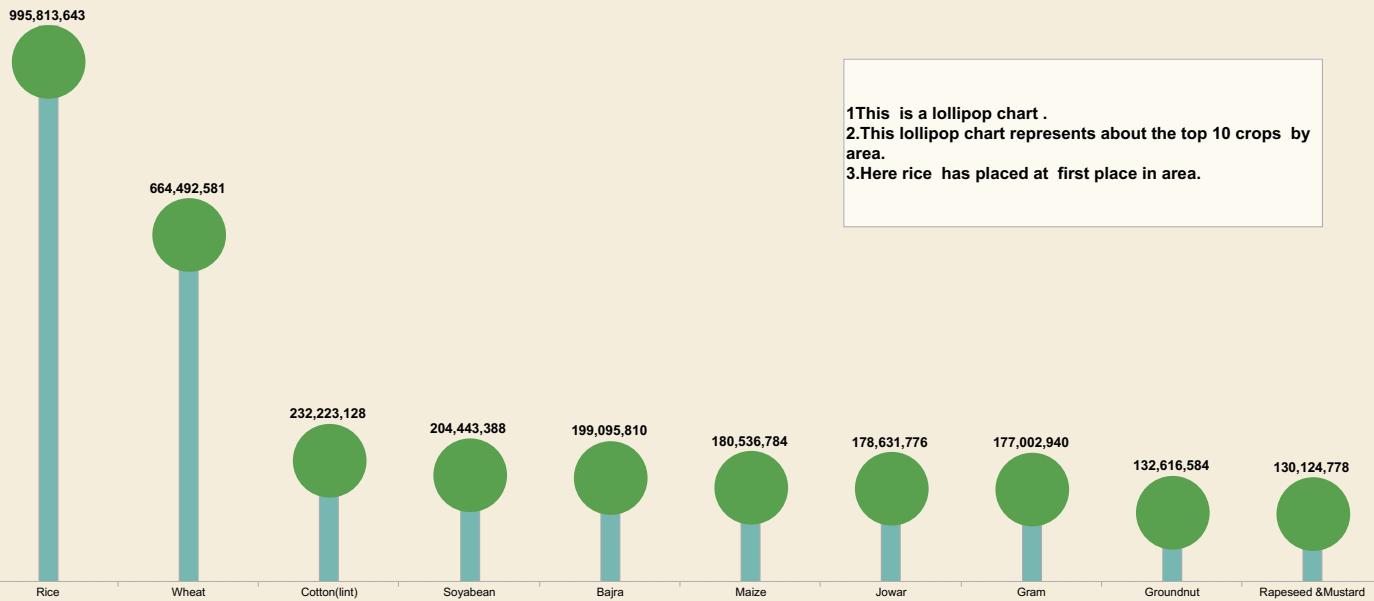
1 2 3 4 5 6 7 8



## INDIA AGRICULTURE CROP PRODUCTION ANALYSIS (1197-2021)

1 2 3 4 5 6 7 8

Crop



# INDIA AGRICULTURE CROP PRODUCTION ANALYSIS (1197-2021)

1 2 3 4 5 6 7 8

Year	Crop								Crop
	Sesamum	Small millets	Soyabean	Sugarcane	Sunflower	Sweet potato	Tapioca	Tobacco	
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

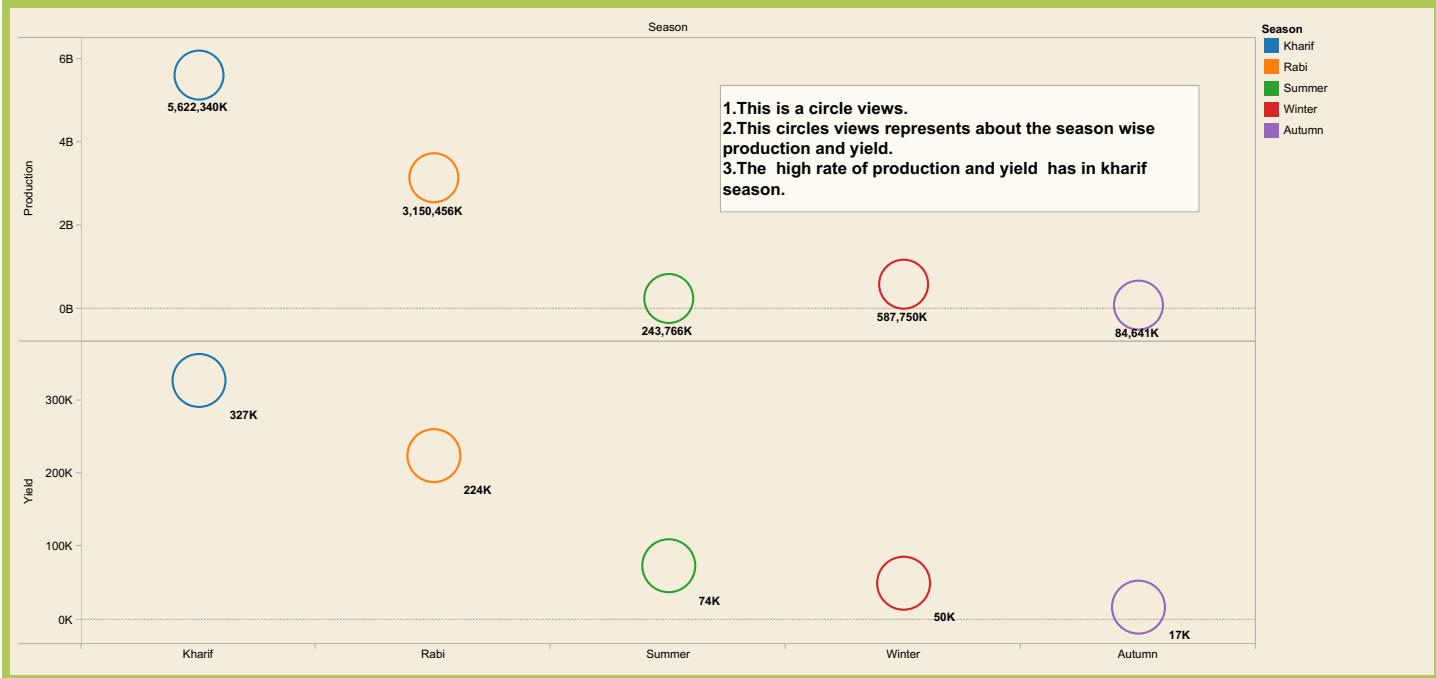
3.Sugarcane has the highest yielding from 2000-2020.

- 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)
  - Moth
  - Minor seed

Yield

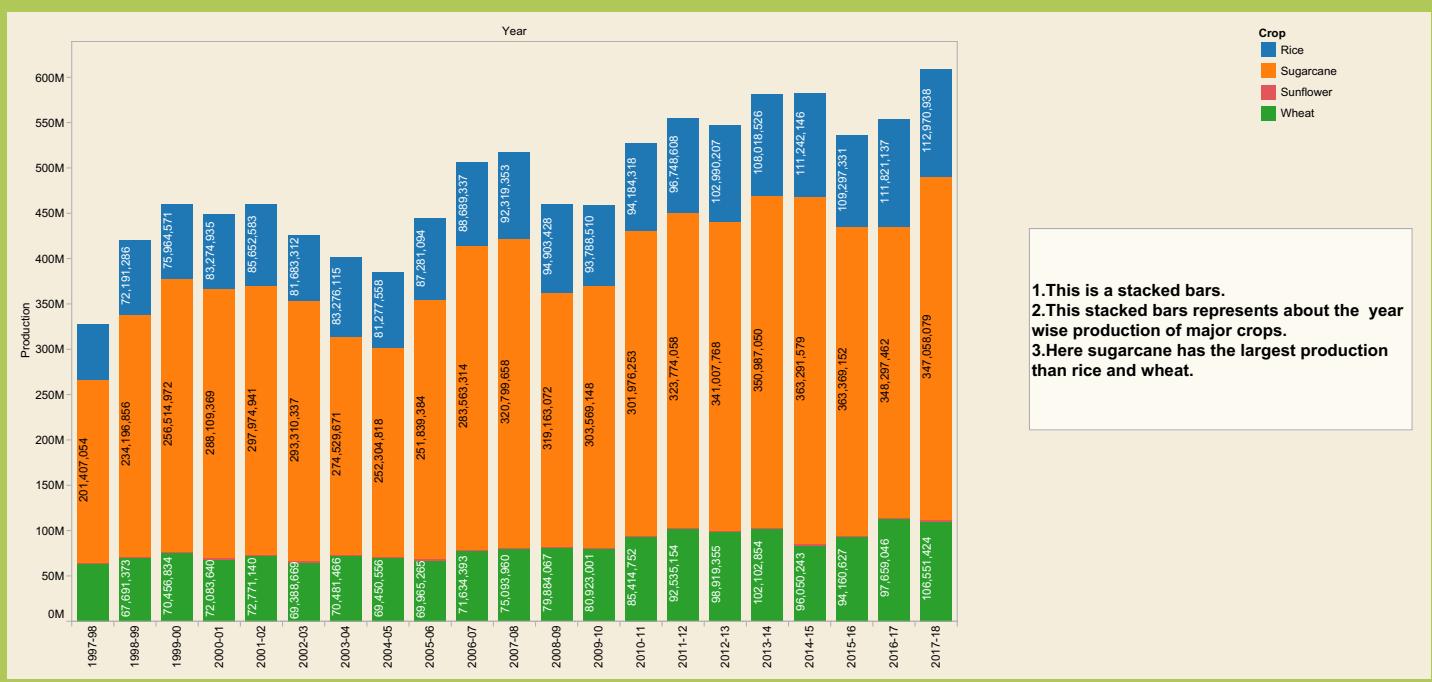
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1 2 3 4 5 6 7 8



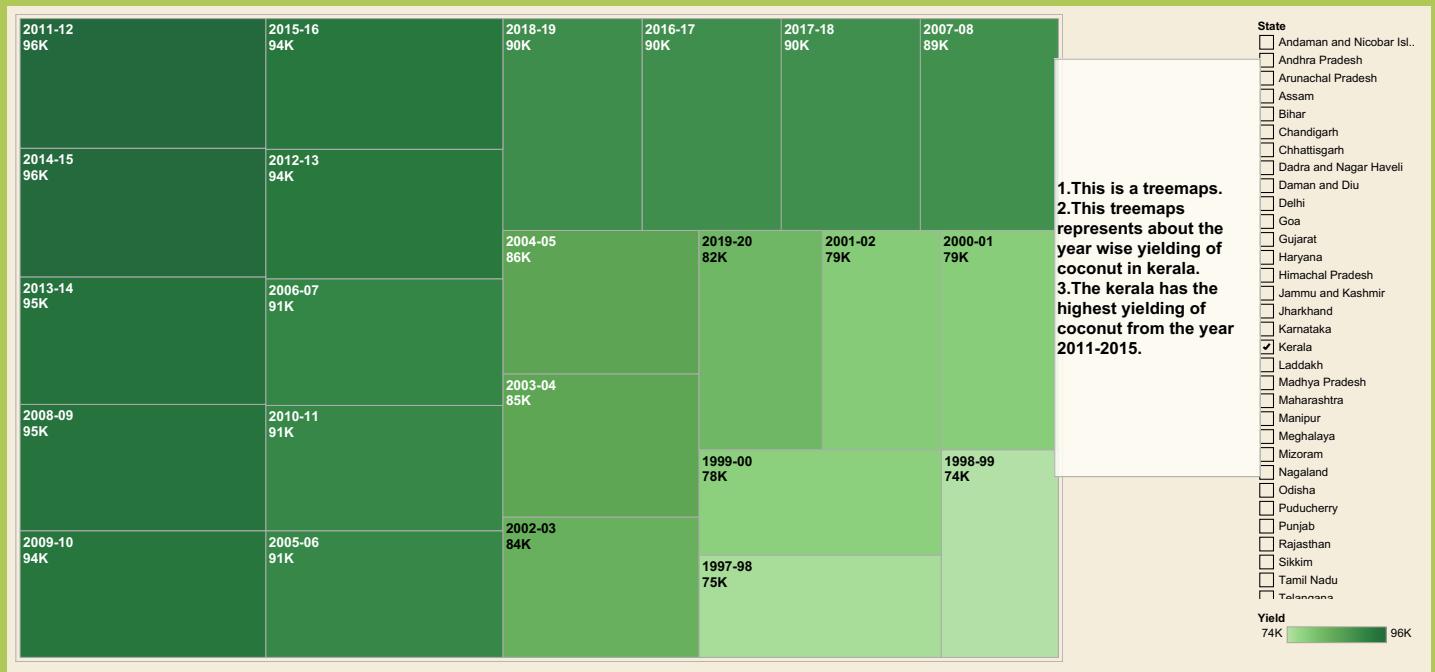
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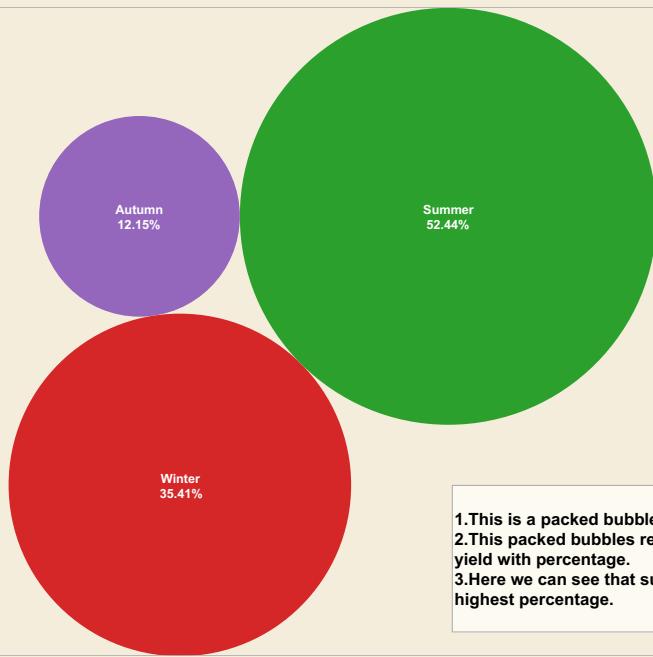
# INDIA AGRICULTURE CROP PRODUCTION ANALYSIS (1197-2021)

1 2 3 4 5 6 7 8



## INDIA AGRICULTURE CROP PRODUCTION ANALYSIS (1197-2021)

1 2 3 4 5 6 7 8

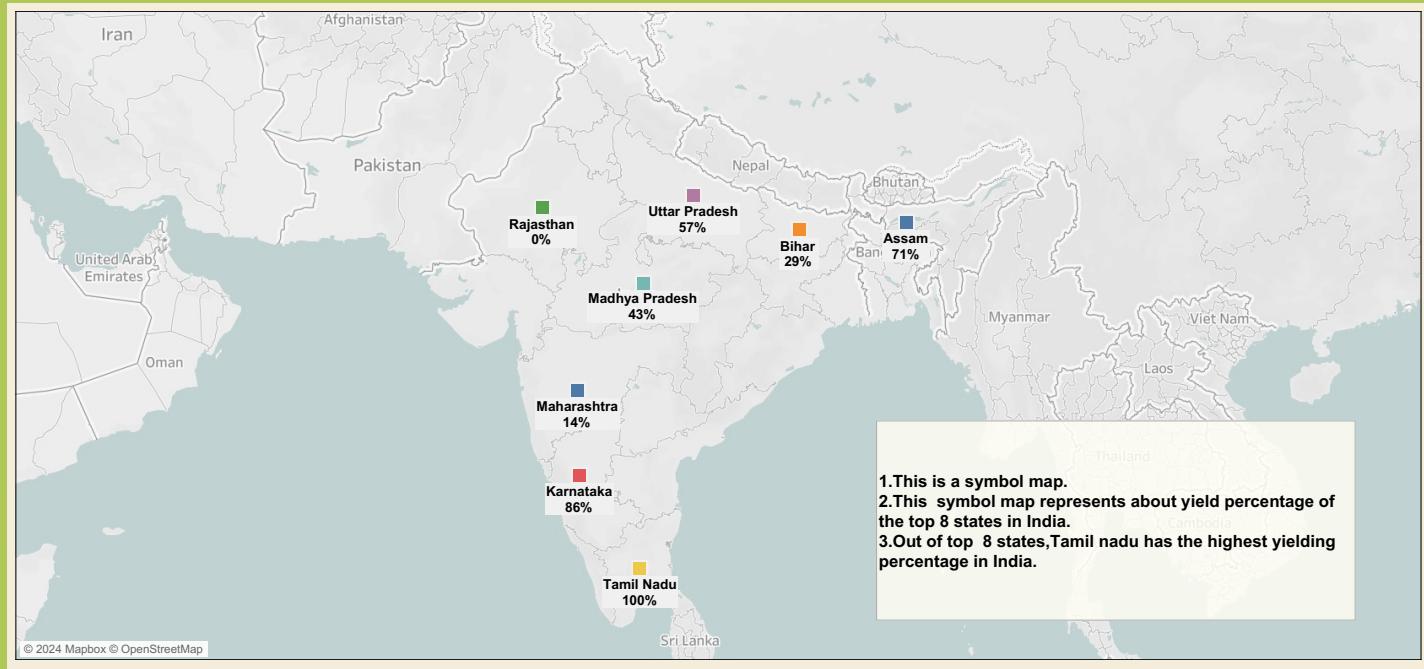


Season  
Autumn  
Summer  
Winter

- 1.This is a packed bubbles.
- 2.This packed bubbles represents about the season wise yield with percentage.
- 3.Here we can see that summer stands at top in yield with highest percentage.

## INDIA AGRICULTURE CROP PRODUCTION ANALYSIS (1197-2021)

1 2 3 4 5 6 7 8



## ADVANTAGES AND DISADVANTAGES

### ADVANTAGES:

1. Diverse crop production: India's varied climate and geography allow for a wide range of crops, contributing to food security and economic stability.
2. Increased yield: Technological advancement and improved agricultural practices have led to higher crop yields, meeting the demands for a growing population.
3. Employment generation: Agriculture remains a significant source of employment, particularly in rural areas, supporting livelihoods and reducing poverty.

### DISADVANTAGES:

1. Dependency on monsoons: Agriculture in India heavily relies on monsoon rains, making crops vulnerable to unpredictable weather patterns and droughts.
2. Small land holdings: Fragmented land ownership limits economies of scale and hinders investment in modern technology and infrastructure.
3. Pesticide overuse: Excessive pesticide and fertiliser use have led to environmental degradation, soil depletion, and health risks for farmers and consumers.

Addressing these challenges requires comprehensive policies focusing on sustainable agriculture, etc.

## APPLICATION:

1. Policy formulation: Government can use this data to formulate agricultural policies, such as subsidies, incentives, and infrastructure development to support farmers and enhance productivity.
2. Market forecasting: Business involved in agriculture such as agribusiness firms and commodity traders can use crop production data to forecast market trends, make informed decisions about supply chain management and optimize pricing strategies.
3. Food security: Analysis of crop production trends helps in assessing the country's food security status, identifying regions vulnerable to food shortages, and designing interventions to ensure adequate food supply for the population.
4. International Trade: Crop production statistics are crucial for assessing India's position in the global market and negotiating trade agreements with other countries. Overall, crop production analysis serves as a cornerstone for informed decision-making across various sectors.

## CONCLUSION:

1. Diversification of crops: India has seen a diversification of crops growth with a shift towards high-value crops like fruits, vegetables, and cash crops alongside traditional staples like rice and wheat.

2. Green Revolution impact: The green revolution in the 1960s played a crucial role in increasing agricultural productivity, particularly in wheat and rice production, through the adoption of high-yielding varieties, irrigation techniques, and chemical fertilizers.

In conclusion while India has made significant strides in agricultural crop production over the years, there are ongoing challenges and opportunities for further growth sustainability and equality in the sector. Continued investment in research in infrastructure etc.

### Future scope:

Analyzing India's agriculture crop production from 1997 to 2021 would involve examining policies, government policies, technological advancements, and market trends. Future scope could involve forecasting potential challenges like climate change impacts, water scarcity, and the need for sustainable farming practices, as well as opportunities such as leveraging infrastructure, enhancing market access for farmers. Additionally, exploring innovations like vertical agriculture could shape the future of India's agriculture sector.