Dr. ZAKIR HUSAIN COLLEGE , ILAYANGUDI

PG DEPARTMENT OF MATHEMATICS

PROJECT TITLE:

India 's Agricultural Crop Production Analysis (1997-2021)

SUBMITTED BY:

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1. INTRODUCTION

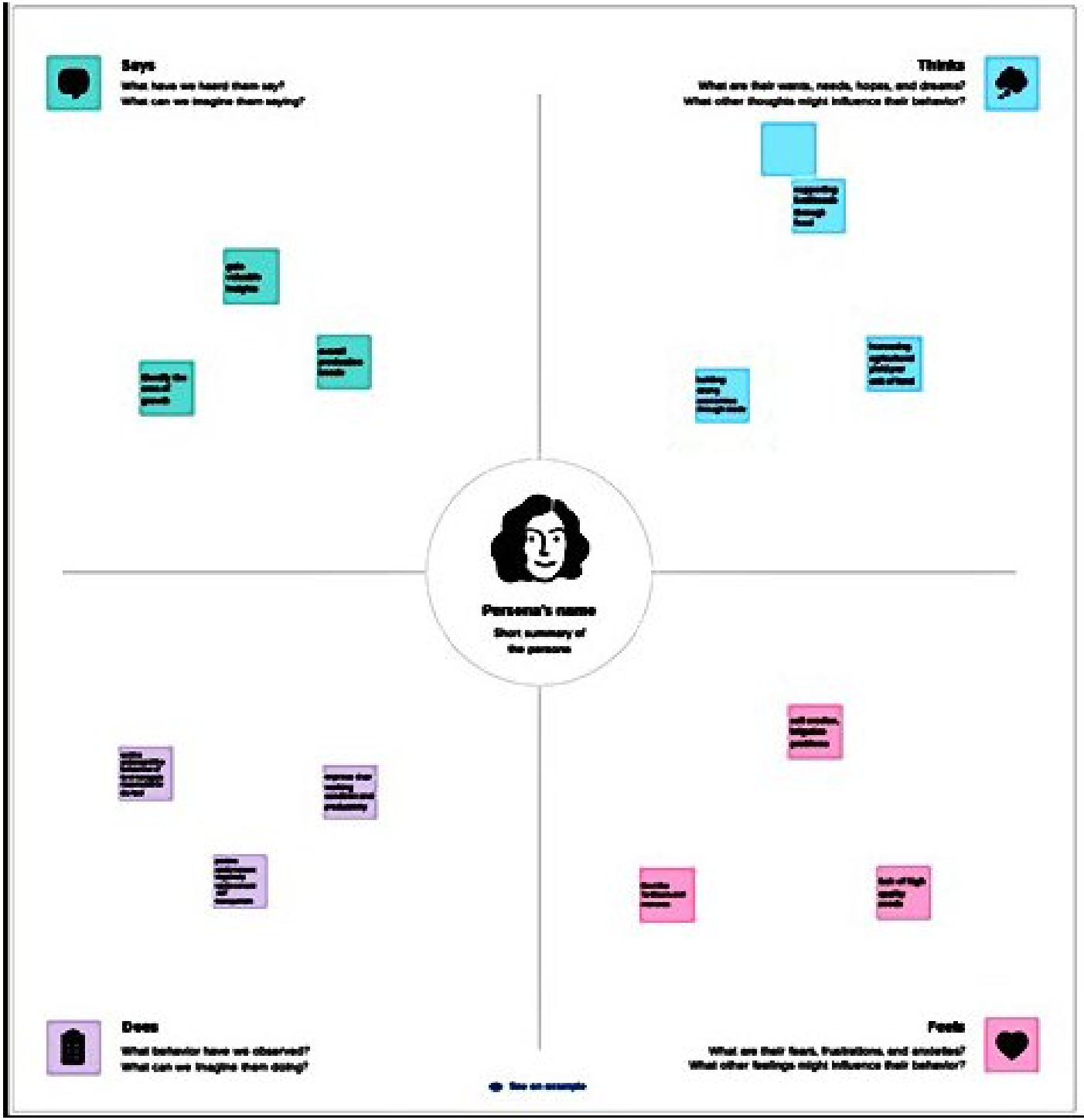
1.1 Overview

According to The World Bank, India is a global agricultural powerhouse. It is the world's largest producer of milk, pulses, and spices, and has the world's largest cattle herd (buffaloes), as well as the largest area under wheat, rice and cotton. It is the second largest producer of rice, wheat, cotton, sugarcane, farmed fish, sheep & goat meat, fruit, vegetables and tea. While agriculture's share in India's economy has progressively declined to less than 15% due to the high growth rates of the industrial and services sectors, the sector's importance in India's economic and social fabric goes well beyond this indicator.

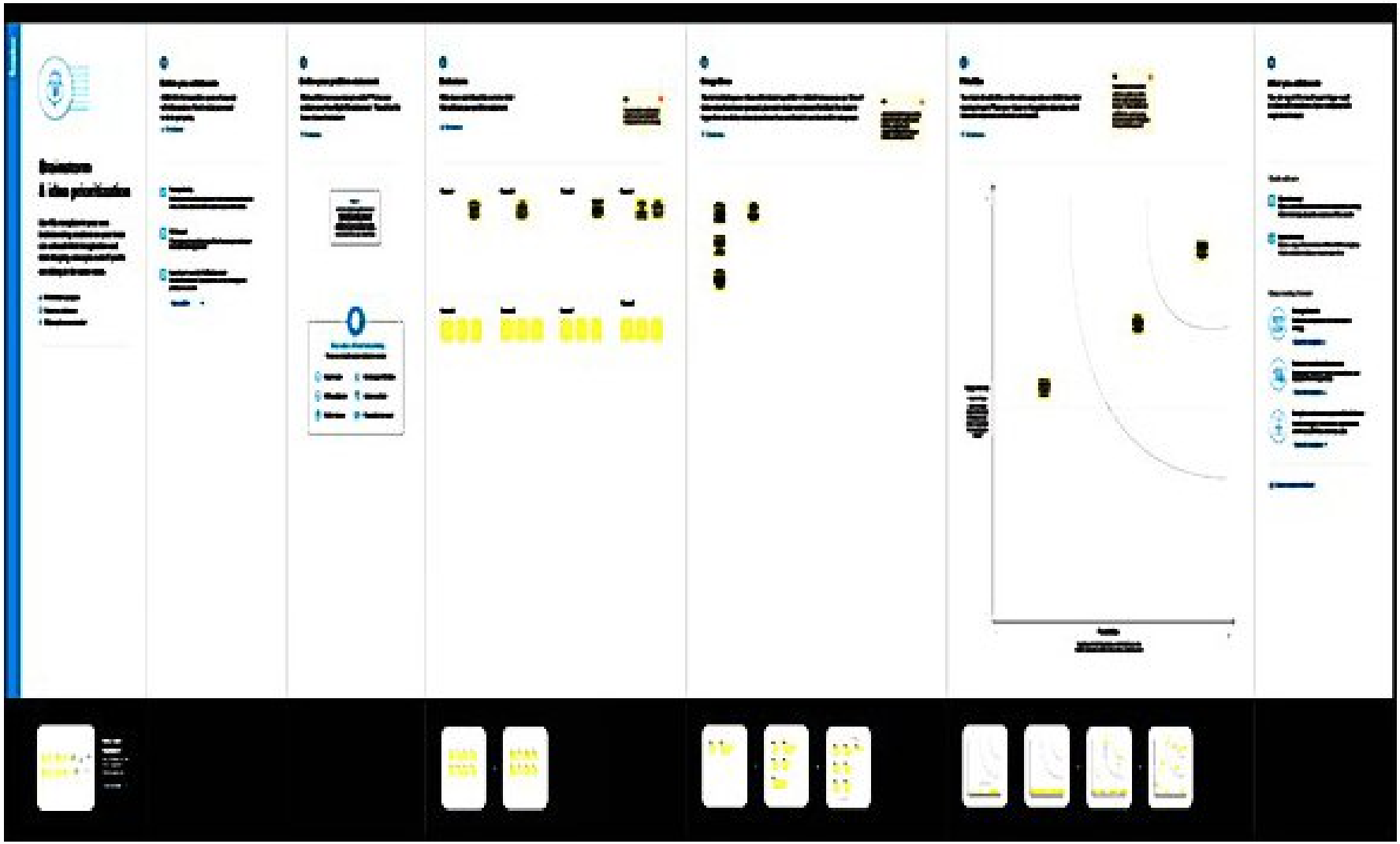
1.2.purpose

- Agriculture is an important sector in India. It is indispensible for the sustenance and growth of the Indian economy. On an average, about 70% of the households and 10% of the urban population is dependent on agriculture as their source of livelihood. Today, India is a major supplier of several agricultural commodities like tea, coffee, rice, spices, oil meals, fresh fruits, fresh vegetables, meat and its preparations and marine products to the international market.
- *India is a large producer of several agricultural products. In terms of quantity of production, India is the top producer in the world in milk, and second largest in wheat and rice.*
- *Agricultural production is prone to several risks which affect both producers and consumers. In order to enhance investment and achieve a sustained increase in production, coherent and integrated long-term strategies and policies are required to reduce risk aversion and build flexibility among Indian rural producers. There is a need to provide remunerative prices for farmers in order to increase the incomes of farmers.*

2.PROBLEM DEFINITION AND DESIGN THINKING

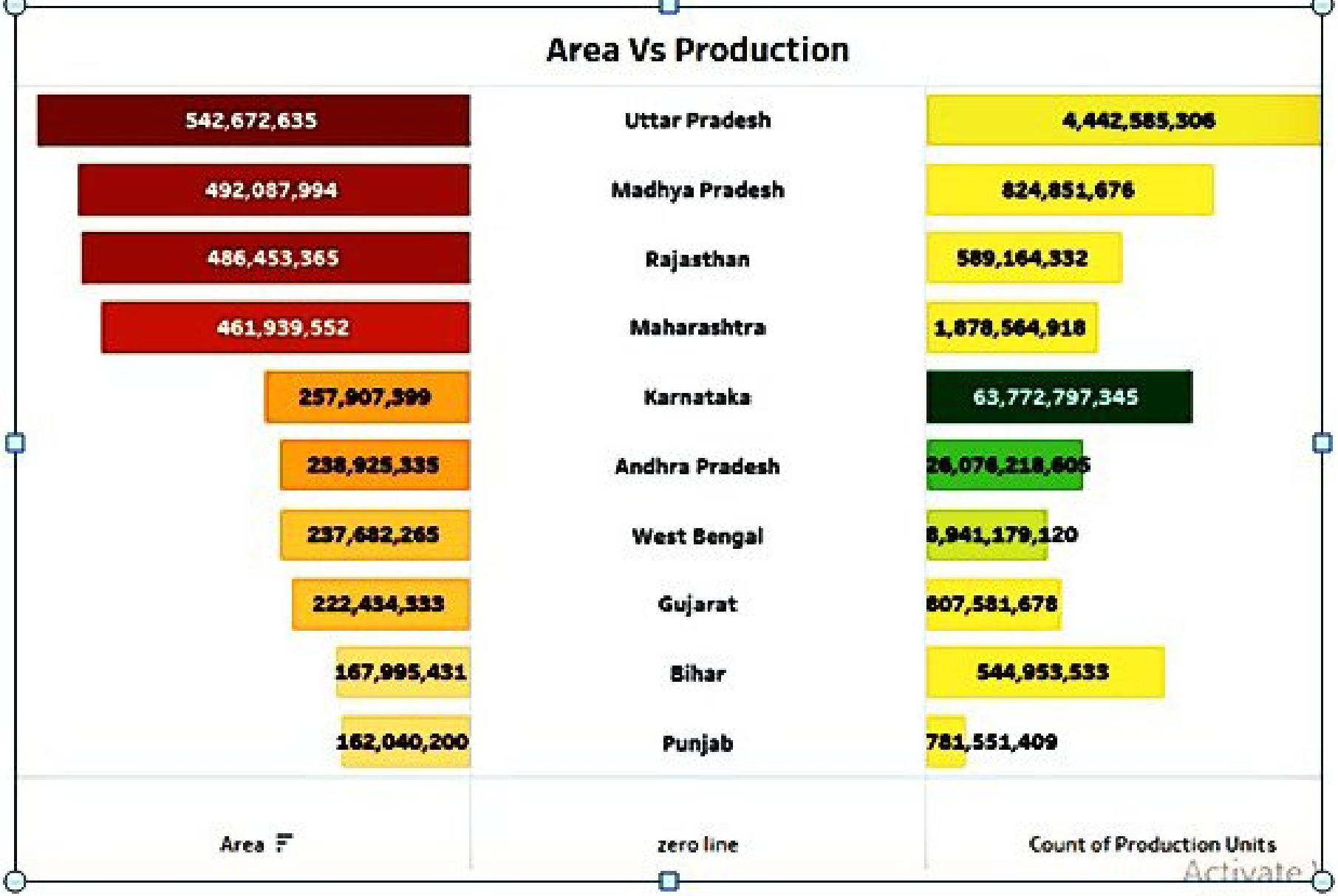

Says
What have we heard them say?
What can we imagine them saying?
Thinks
What are their wants, needs, hopes, and dreams?
What other thoughts might influence their behavior?
Persona's name
Short summary of the persona
Does
What behavior have we observed?
What can we imagine them doing?
Feels
What are their fears, frustrations, and anxieties?
What other feelings might influence their behavior?

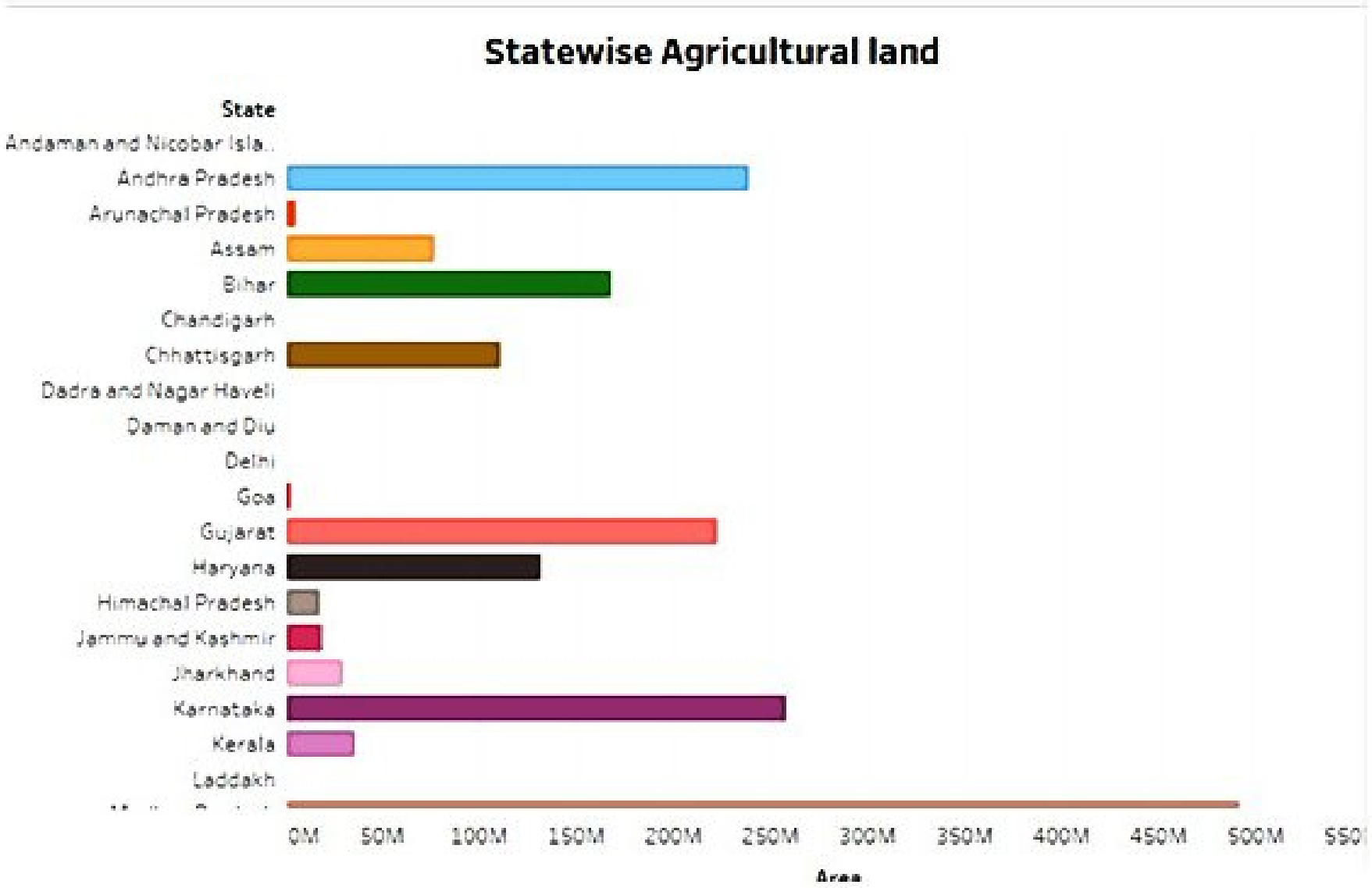
2.2 IDEATION AND BRAINSTORMING MAP

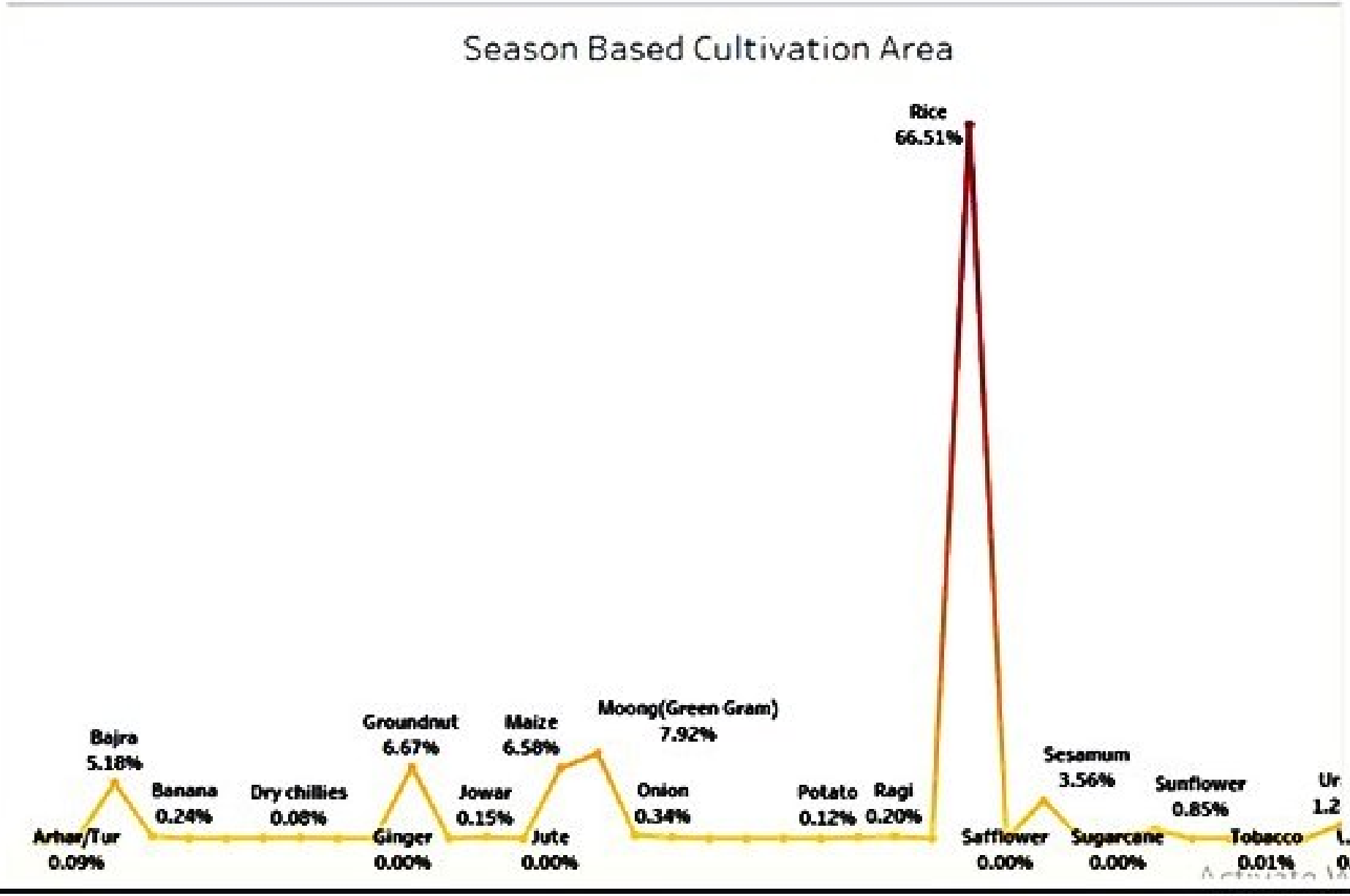


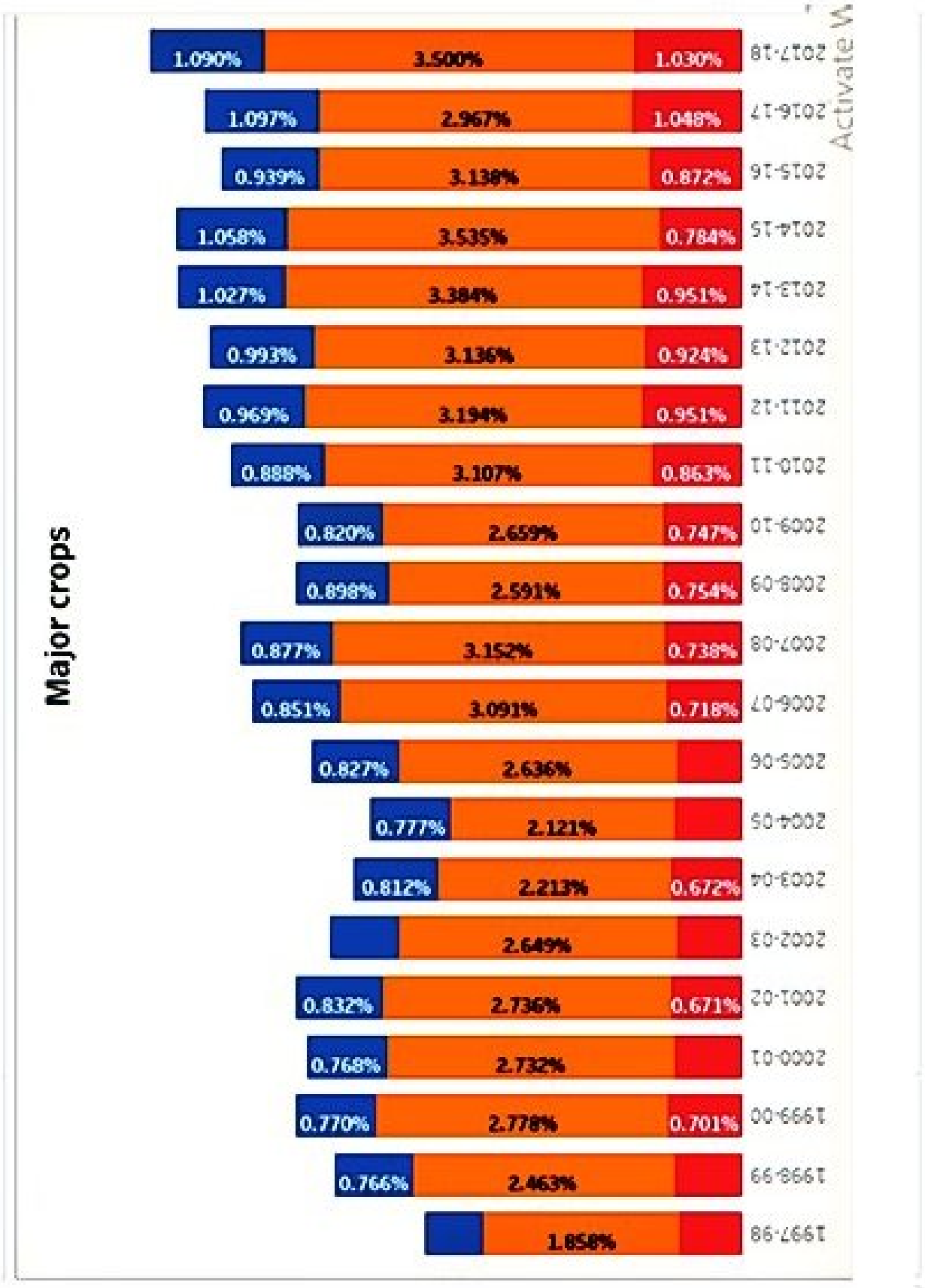
3.RESULT

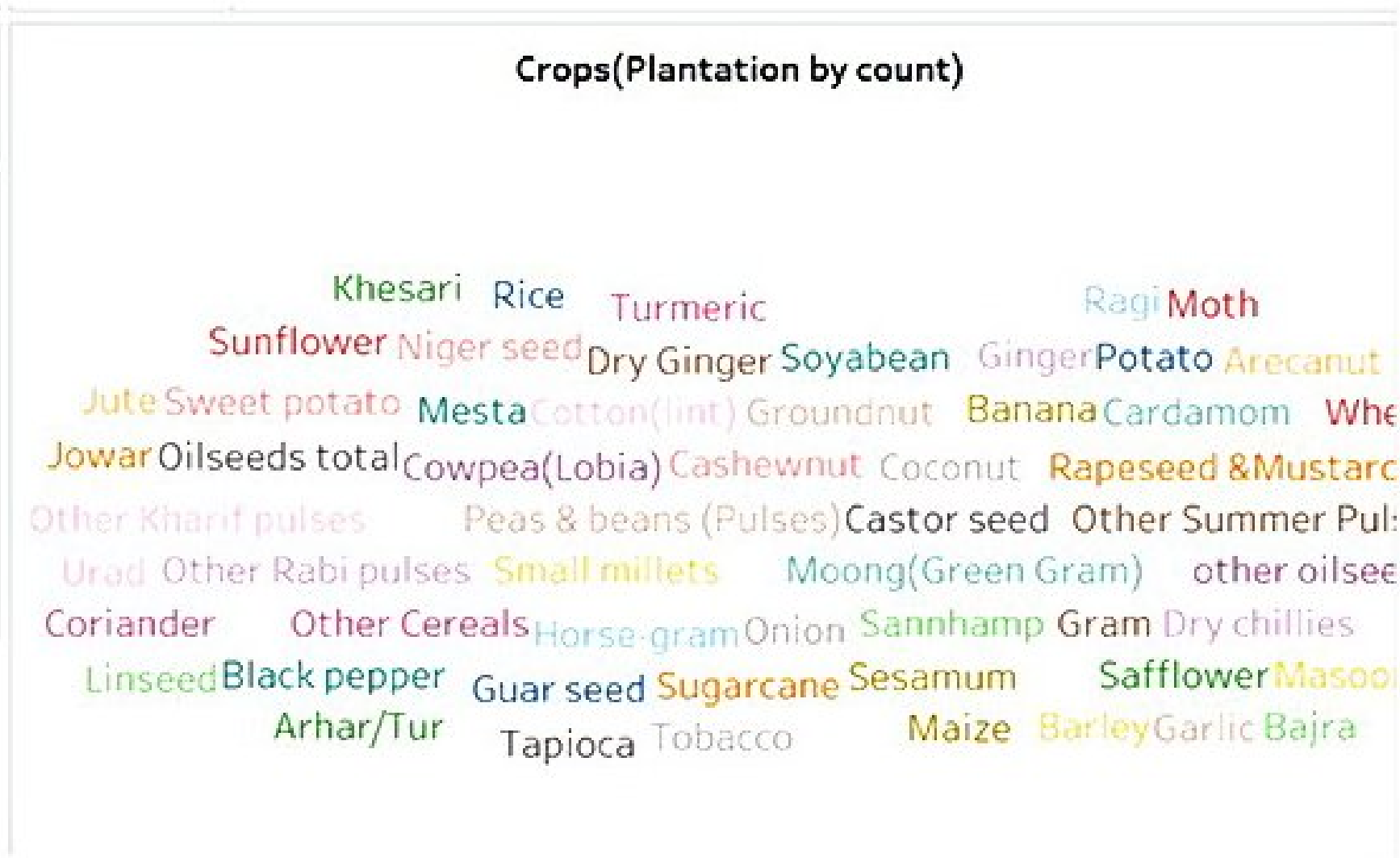
DASHBOARDS AND STORIES



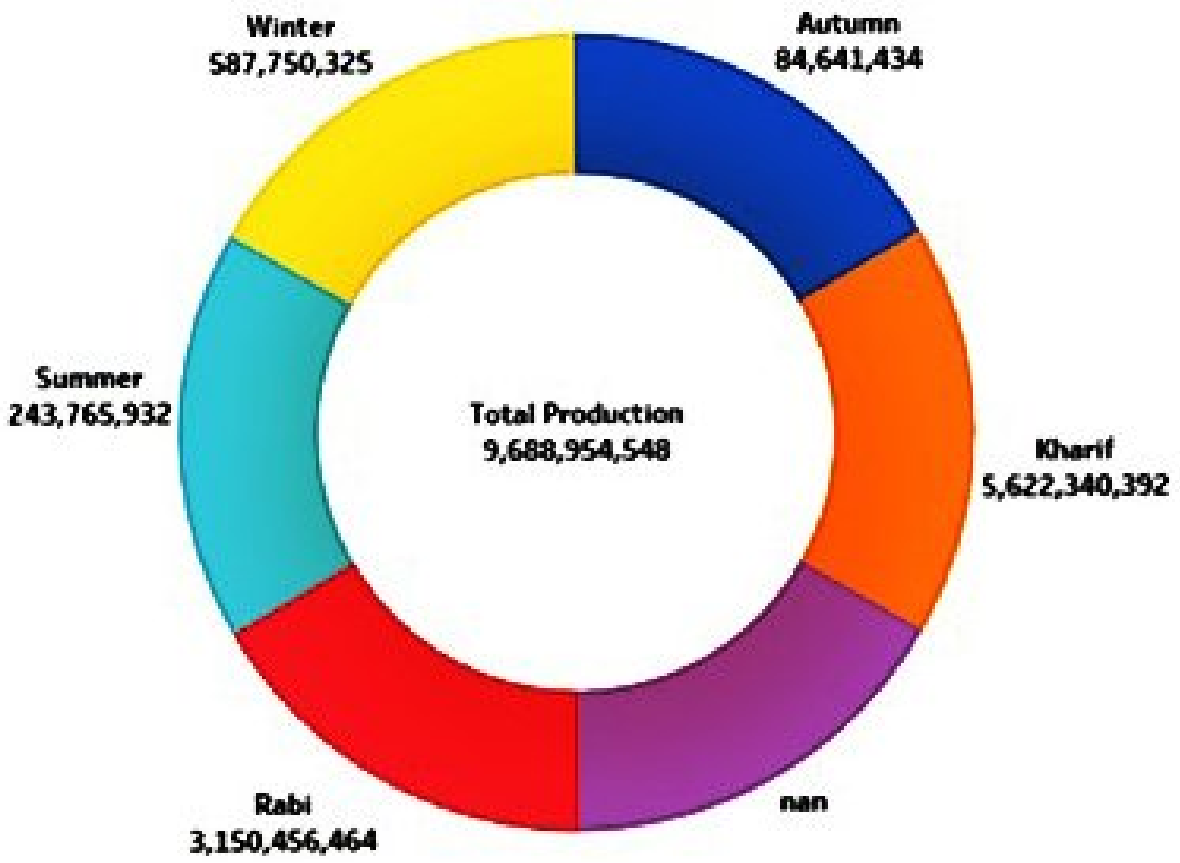

Statewise Agricultural land
State
Andaman and Nicobar Isla..
Andhra Pradesh
Arunachal Pradesh
Assam
Bihar
Chandigarh
Chhattisgarh
Dadra and Nagar Haveli
Daman and Diu
Delhi
Goa
Gujarat
Haryana
Himachal Pradesh
Jammu and Kashmir
Jharkhand
Karnataka
Kerala
Ladakh
0M
50M
100M
150M
200M
250M
300M
350M
400M
450M
500M
Area

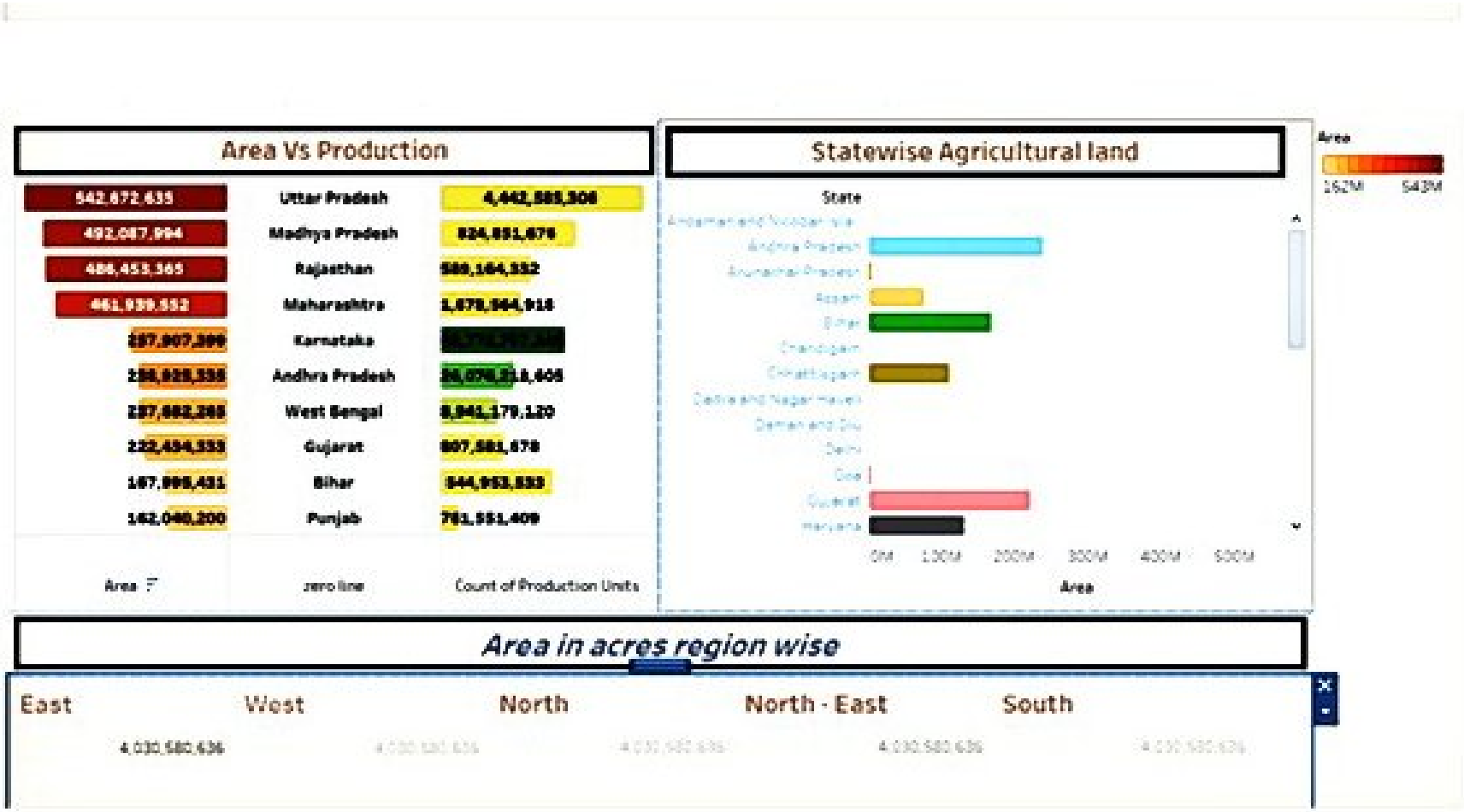

Season Based Cultivation Area
Rice
66.51%
Bajra
5.18%
Groundnut
6.67%
Maize
6.58%
Moong(Green Gram)
7.92%
Sesamum
3.56%
Sunflower
0.85%
Ur
1.2
Arhar/Tur
0.09%
Banana
0.24%
Dry chillies
0.08%
Ginger
0.00%
Jowar
0.15%
Jute
0.00%
Onion
0.34%
Potato
0.12%
Ragi
0.20%
Safflower
0.00%
Sugarcane
0.00%
Tobacco
0.01%

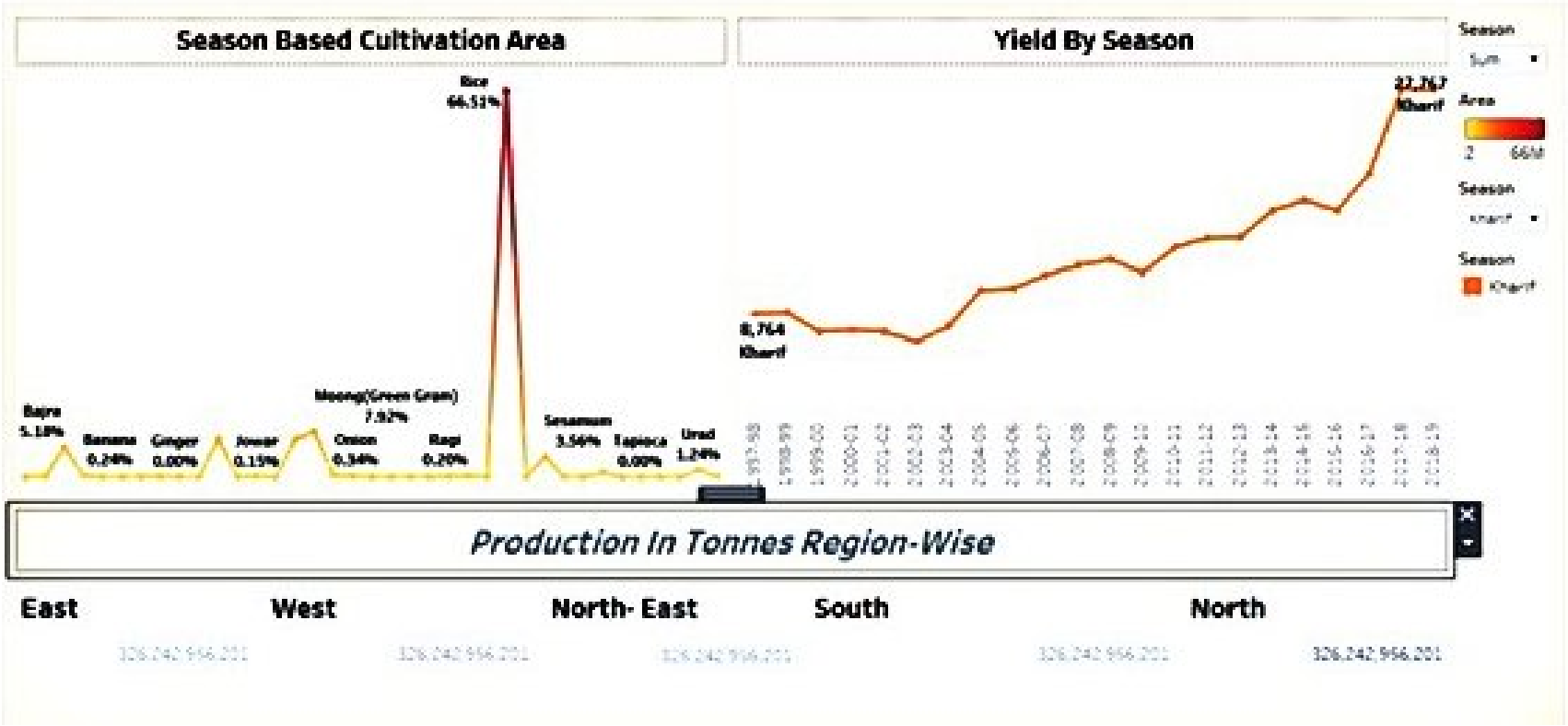

Major crops
2017-18
1.090%
3.500%
1.030%
2016-17
1.097%
2.967%
1.048%
2015-16
0.939%
3.138%
0.872%
2014-15
1.058%
3.535%
0.784%
2013-14
1.027%
3.384%
0.951%
2012-13
0.993%
3.136%
0.924%
2011-12
0.969%
3.194%
0.951%
2010-11
0.888%
3.107%
0.863%
2009-10
0.820%
2.659%
0.747%
2008-09
0.898%
2.591%
0.754%
2007-08
0.877%
3.152%
0.738%
2006-07
0.851%
3.091%
0.718%
2005-06
0.827%
2.636%
2004-05
0.777%
2.121%
2003-04
0.812%
2.213%
0.672%
2002-03
2.649%
2001-02
0.832%
2.736%
0.671%
2000-01
0.768%
2.732%
1999-00
0.770%
2.778%
0.701%
1998-99
0.766%
2.463%
1997-98
1.858%


Crops(Plantation by count)
Khesari
Rice
Turmeric
Ragi
Moth
Sunflower
Niger seed
Dry Ginger
Soyabean
Ginger
Potato
Arecanut
Jute
Sweet potato
Mesta
Cotton(lint)
Groundnut
Banana
Cardamom
Whe
Jowar
Oilseeds total
Cowpea(Lobia)
Cashewnut
Coconut
Rapeseed &Mustarc
Other Kharif pulses
Peas & beans (Pulses)
Castor seed
Other Summer Pul
Urad
Other Rabi pulses
Small millets
Moong(Green Gram)
other oilsee
Coriander
Other Cereals
Horse-gram
Onion
Sannhamp
Gram
Dry chillies
Linseed
Black pepper
Guar seed
Sugarcane
Sesamum
Safflower
Masoo
Arhar/Tur
Tapioca
Tobacco
Maize
Barley
Garlic
Bajra

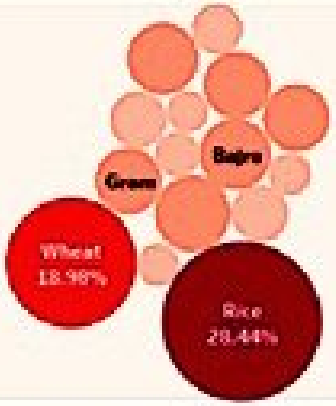
Season wise production



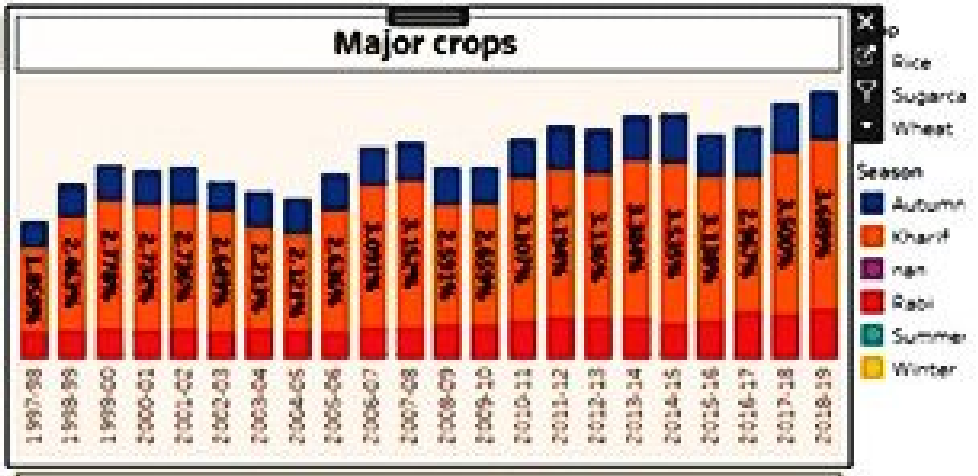

Area Vs Production
542,672,635
Uttar Pradesh
4,442,585,508
492,087,994
Madhya Pradesh
824,851,879
486,453,565
Rajasthan
580,184,552
461,939,552
Maharashtra
1,878,984,918
287,807,399
Karnataka
288,928,558
Andhra Pradesh
287,682,288
West Bengal
8,941,179,120
232,494,533
Gujarat
807,581,678
187,998,431
Bihar
844,953,833
162,040,200
Punjab
781,551,409
Area
zero line
Count of Production Units
Statewise Agricultural land
State
Area
162M
543M
0M
100M
200M
300M
400M
500M
Area
Area in acres region wise
East
West
North
North - East
South
4,030,580,636
4,030,580,636


Season Based Cultivation Area
Yield By Season
Rice
66.51%
Bajra
5.18%
Banana
0.24%
Ginger
0.00%
Jowar
0.15%
Moong(Green Gram)
7.92%
Onion
0.34%
Ragi
0.20%
Sesamum
3.56%
Tapioca
0.00%
Urad
1.24%
8,764
Kharif
Season
Sum
Area
2
Season
Kharif
Season
Kharif
Production In Tonnes Region-Wise
East
West
North- East
South
North
326,242,966,201
326,242,966,201
326,242,966,201
326,242,966,201
326,242,966,201

Crop Plantation By Area

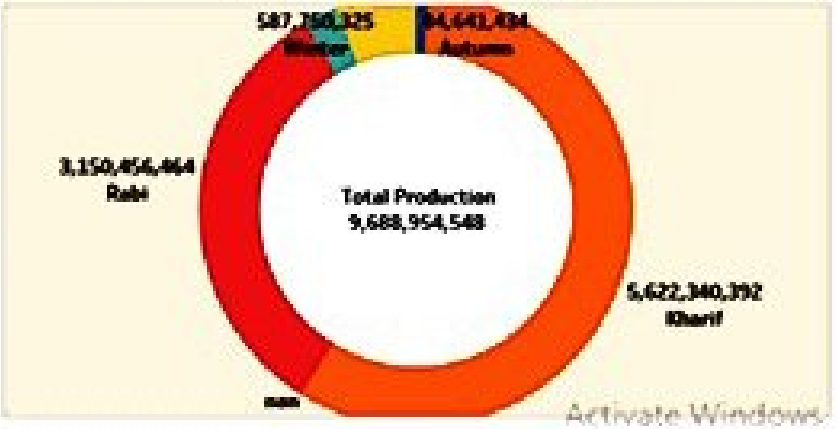


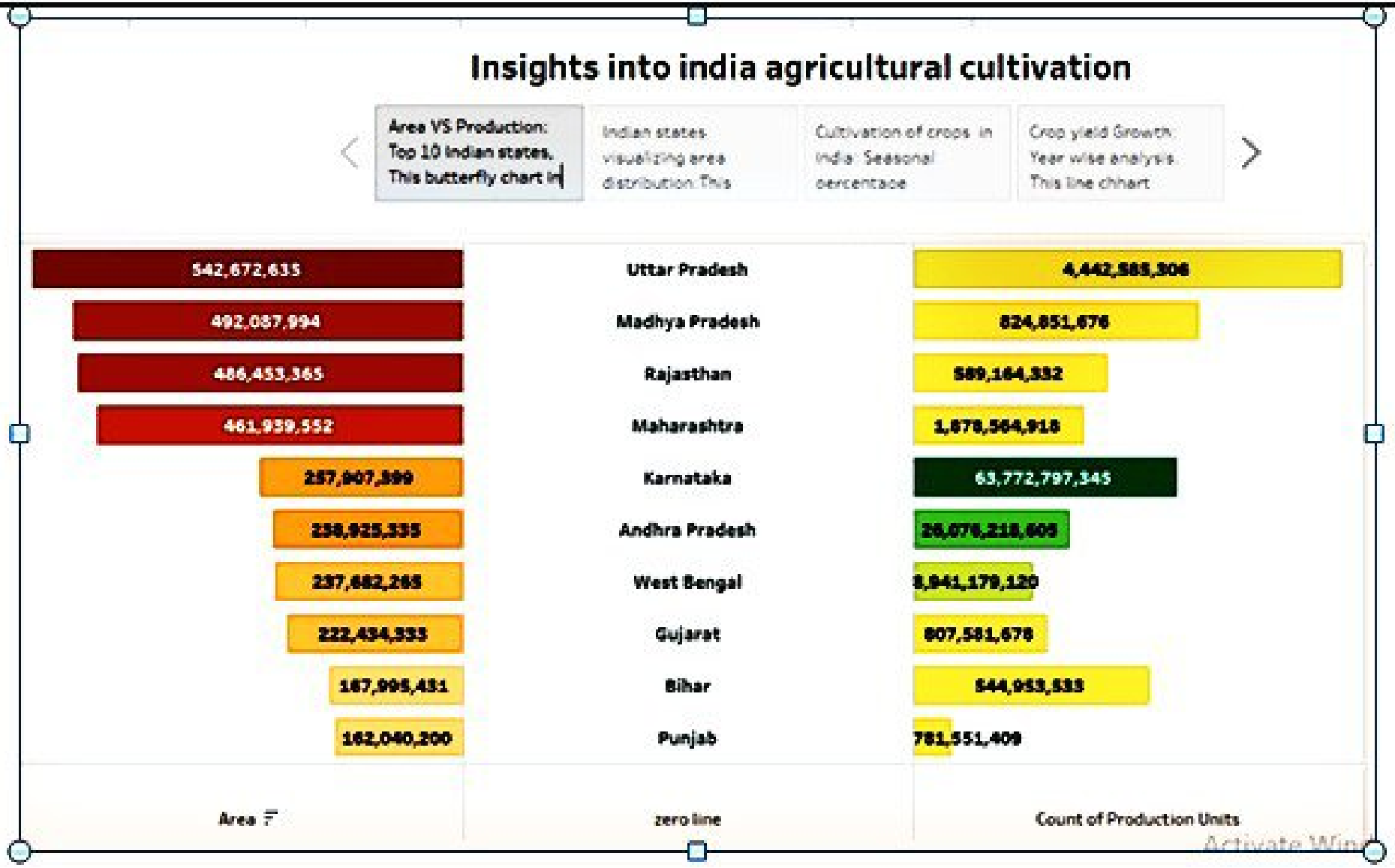
Major crops

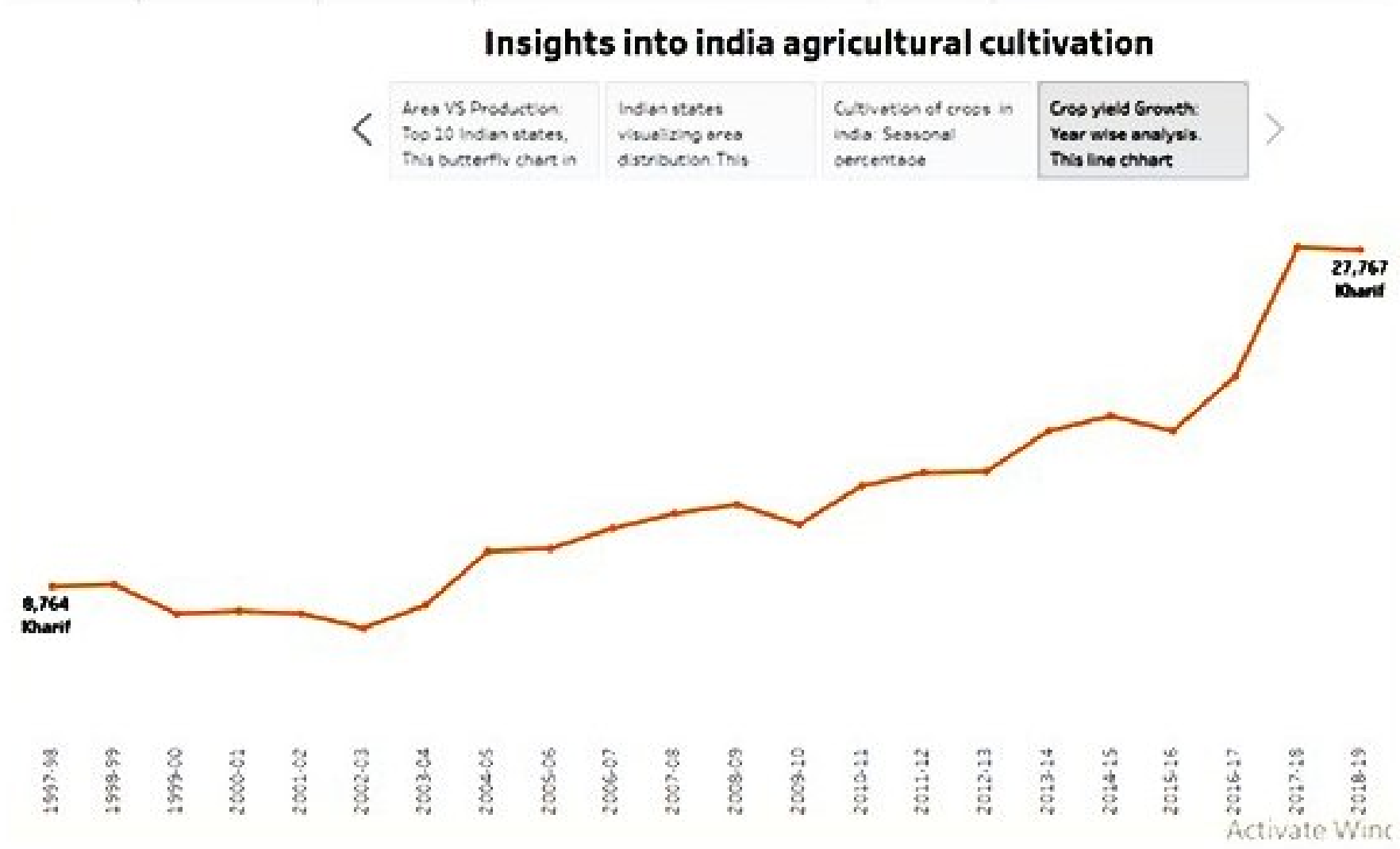


Crops(Plantation by count)

Season wise production




Insights into india agricultural cultivation
Area VS Production: Top 10 Indian states. This butterfly chart in
Indian states visualizing area distribution This
Cultivation of crops in India: Seasonal percentage
Crop yield Growth: Year wise analysis This line chhart
542,672,635
492,057,994
486,453,365
461,959,552
257,907,899
238,825,335
237,682,265
222,434,333
187,995,431
162,040,200
Uttar Pradesh
Madhya Pradesh
Rajasthan
Maharashtra
Karnataka
Andhra Pradesh
West Bengal
Gujarat
Bihar
Punjab
4,442,585,306
824,851,676
589,164,332
1,678,564,918
63,772,797,345
26,076,218,605
8,941,179,120
807,581,676
544,953,533
781,551,409
Area
zero line
Count of Production Units


Insights into india agricultural cultivation
Area VS Production: Top 10 Indian states, This butterfly chart in
Indian states visualizing area distribution This
Cultivation of crops in india: Seasonal percentage
Crop yield Growth: Year wise analysis. This line chhart
27,767
Kharif
8,764
Kharif
1997-98
1998-99
1999-00
2000-01
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16
2016-17
2017-18
2018-19
Activate Winc

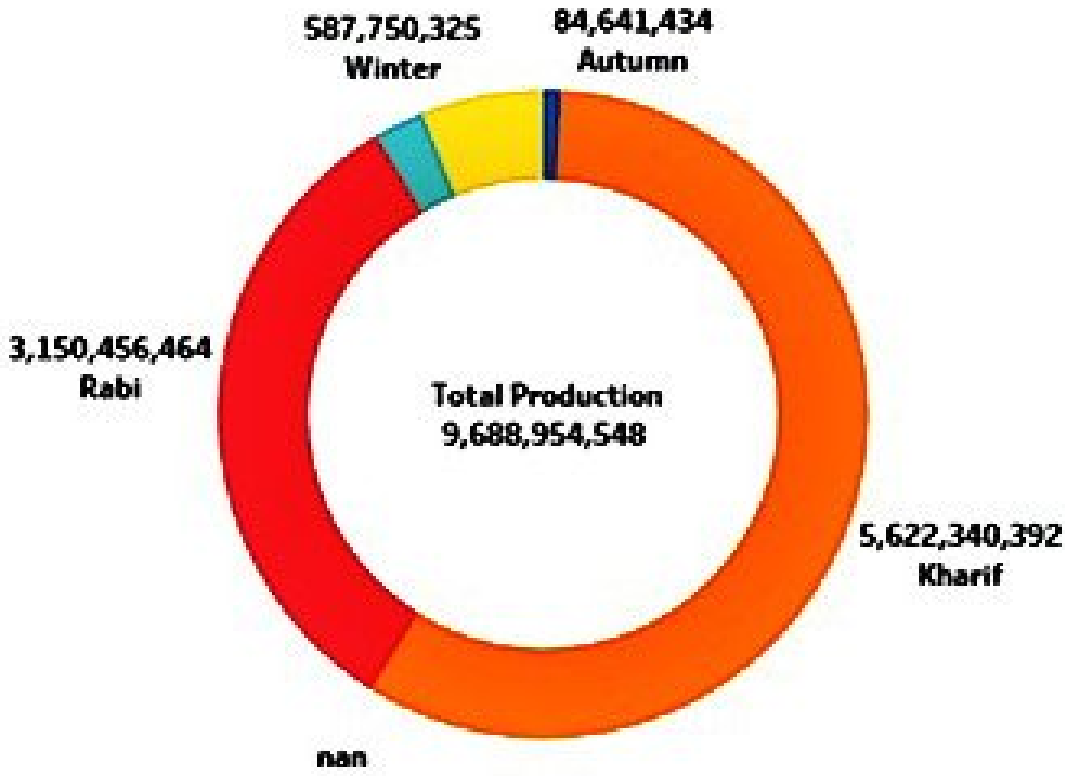
Insights into india agricultural production

Crop planting oercentage: This chart orovides shhowcases

Year on Year percentage: Growth of malor represetation of

Word cloud : The following year clod olves a representation

Crops production in tonnes: Season wise distribution. This



4.ADVANTAGES AND DISADVANTAGES

ADVANTAGES OF INDIIA'S AGRICULTURE

❖ RAW PROVIDING RAW MATERIALS:

Materials Are A Core Building Block Of The Global Economy. Without Access To Raw Materials, Manufacturers Can't Make Products. Nonagricultural Raw Materials Include Steel, Minerals, And Coal. However, Many Raw Materials Derive From Agriculture — From Lumber For Construction Materials To Herbs For Adding Flavor To Food.

❖ FRUITS AND VEGETABLES

Fruits and vegetables are essential sources of fiber, proteins, and carbohydrates in human diets. Vitamins, such as A, C, and E, and minerals, such as magnesium, zinc, and phosphorus, are naturally occurring in many fruits and vegetables.

❖ COTTON FOR CLOTHING:

From cotton to clothes, the journey starts with agricultural production. Cotton is grown, harvested, and then processed, spun, and woven into fabric before it becomes a piece of clothing.

PHARMACEUTICAL PRODUCTS:

For thousands of years, humans have turned to plants to help treat what ails them. For example, ginger, a plant root typically consumed in tea, can help aid digestion. Substances derived from plants and herbs can also help in healthcare.

DISADVANTAGES:

WATER SCARCITY & IRRIGATION:

India's agriculture is heavily dependent on monsoon rain, making it vulnerable to droughts and inconsistent rainfall patterns. Access to irrigation facilities and water management are crucial challenges, particularly in regions with limited water resources.

SOIL DEGRADATION& LAND EROSION:

Chemical fertilizers and pesticides and Improper land use practices, excessive use of inadequate soil conservation measures contribute to soil degradation and erosion. This leads to reduced soil fertility and increased vulnerability to pests and diseases, besides reducing agricultural productivity.

❖ CLIMATE CHANGE & NATURAL DISASTER:

Increasingly unpredictable weather patterns, climate change and occurrences of natural disasters—such as floods, cyclones and droughts—pose significant challenges to the country's agriculture industry. These events can lead to crop losses, livestock mortality and increased vulnerability for farmers.

❖ *BIOCIDES:*

Biocides are used in the form of pesticides to kill the insects and others pests that destroy crop. However they can also have the harmful effects on human and animal who eat foot that has been treated with them. This may result in health problem such as cancer or infertility.

Applications:

- India is the world's second most populated country. And there is always a continuing demand for food to feed such a large population. As a result, there is a need for agriculture and a need for the Economy to be less reliant on the agriculture sector.
- Agriculture supplies raw materials to various agro-based industries like sugar, jute, cotton textile and Vanaspati industries. Food processing industries are similarly dependent on agriculture. Therefore, the development of these industries entirely is dependent on agriculture.
- Agriculture has been practised in India for thousands of years, and two-thirds, i.e., 60-70% of India's population, depend on agriculture for their livelihood. Agriculture is a primary activity in India that produces most of the food that people consume.

Conclusion:

The Indian economy is an agro-economy and depends highly on the agricultural sector. Despite just supporting the Indian Economy, the agricultural sector also supports the industrial sector and international trade in imports and exports.

Although the contribution of the Agricultural Sector to the Indian Economy is reducing, it is the sector with the most number of people working in it around the country.

Future scope:

Future scopes: Increasing population, increasing average income and globalization effects in India will increase demand for quantity, quality and nutritious food, and variety of food.

Agriculture sector have an enormous scope in India as of the future reference because agriculture sector is the largest sector with 49% of country's population works in Agriculture sector by occupation. By integrating technology into farming practices, farmers can access advanced tools and methodologies that enhance productivity, optimize resource utilization, and reduce environmental impact.