

# Using Advanced Visualization techniques to analyze Indian Agriculture

## **Problem**

Agriculture dataset representing statistics of different crops grown in India

## **Data set description**

### Dataset – 1 :

Crop - categorical (nominal)

State - spatial attribute

Cost of cultivation - numeric

Cost of production – numeric

Yield – numeric

### Dataset – 2 :

Year - temporal

Arhar\_yield (numeric)

Cotton\_yield (numeric)

Gram\_yield (numeric)

Groundnut\_yield (numeric)

Maize\_yield (numeric)

Rapeseed and mustard\_yield (numeric)

Sugarcane\_yield (numeric)

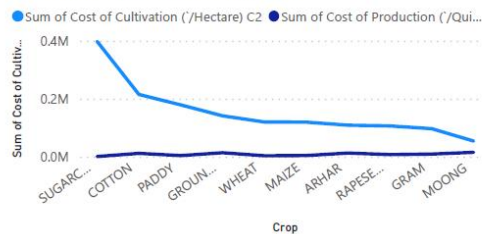
Wheat\_yield (numeric)

## **Dashboard :**

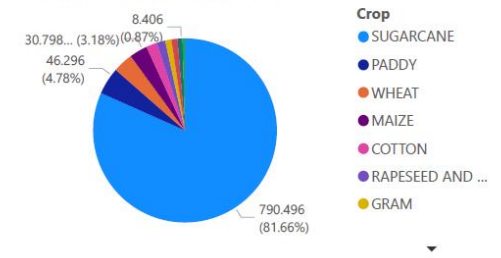
Crop filter

ARHAR	MAIZE	SUGARCANE
COTTON	MOONG	WHEAT
GRAM	PADDY	
GROUNDNUT	RAPESEED AND MUSTARD	

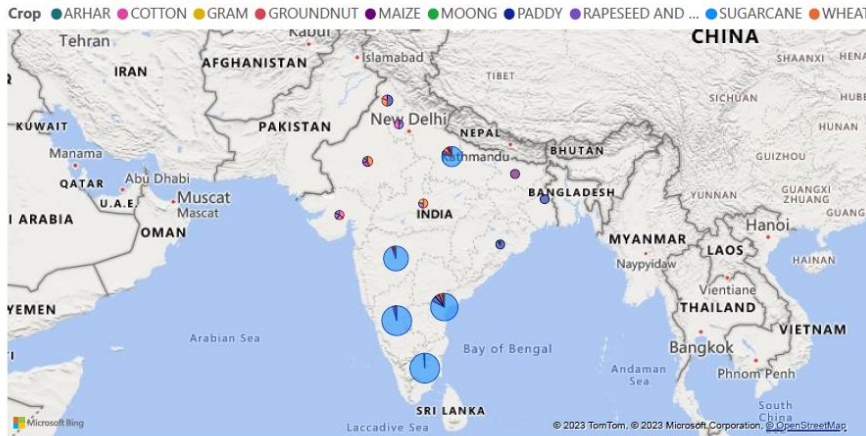
Sum of Cost of Cultivation (₹/Hectare) C2 and Sum of Cost of Production (₹/Quintal) C2 by Crop



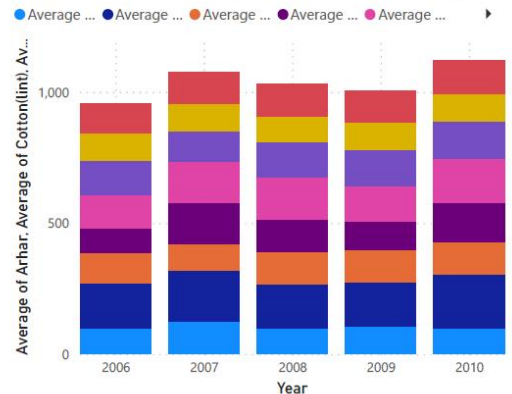
Average of Yield (Quintal/ Hectare) by Crop



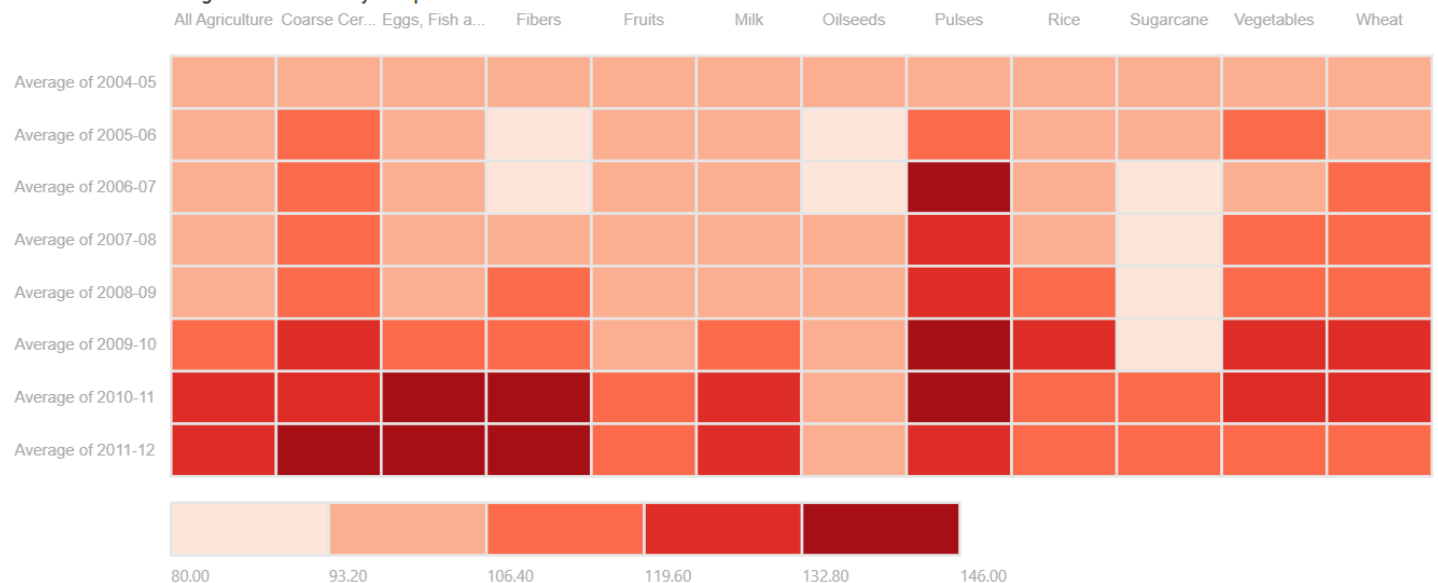
Sum of Yield (Quintal/ Hectare) by State and Crop



Average of Arhar, Average of Cotton(lint), Average of Gram, Average of Groundnut, Average of Maize, Average of Rapeseed & Mustard, Average of Sugarcane and Average of Wheat



Average of 2004-05, Average of 2005-06, Average of 2006-07, Average of 2007-08, Average of 2008-09, Average of 2009-10, Average of 2010-11 and Average of 2011-12 by Crop



Crop filter

All Agriculture	Eggs, Fish and Meat	Fruits	Oilseeds	Rice	Vegetables
Coarse Cereals	Fibers	Milk	Pulses	Sugarcane	Wheat

Description :

### **Crop filter :**

It is used to select a particular crop and display visualization of that particular crop

### **Cost of cultivation and cost of production vs crop :**

Created using line plot visualization in power bi

Displays a line plot of cost of cultivation and cost of production (numerical) with respect to crop (categorical)

#### Inference :

Cost of cultivation for sugarcane is the highest and lowest for Moong

Cost of production is more or less same for all the crops

### **Yield vs crop :**

Pie chart of yield vs crop is created using pie chart visualization in power bi

The pie chart depicts the different crops grown in India with each proportion representing the percentage of yield given by each crop

#### Inference :

Sugarcane gives the most yield among all other crops

### **Crops in different states of India with yield :**

The above map is proportional symbol map representing crops grown in each state with each pie chart in state representing the proportion of yield of each crop in that state

#### Inference :

Paddy and sugarcane are the most grown crops in south India

Wheat , rapeseed and mustard are the most grown crops in north India

### **Year vs crop yield :**

The above plot is a temporal stacked bar plot with x axis representing 5 years (i.e 2006,2007,2008,2009,2010) and y axis representing yield of each crop in each year

Inference :

Cotton has the highest yield in all the years with rapeseed and mustard being lowest

**Cost of cultivation with each crop :**

The above plot is a heat map representing aggregated year vs crop filled with cost of cultivation

Inference :

Cost of cultivation is highest during the year 2011-12 . Least being in the year 2004-05

Cost of cultivation is increasing with each year