

Janata Shikshan Sanstha's  
Kisan Veer Mahavidyalaya, Wai  
Department of Statistics  
Project List  
B.Sc. III (2020-21)

Sr.No.	Student Name	Project Title
1.	WADKAR SNEHA SHASHIKANT	Statistical Study of Dietary Habit in Satara District
2.	WADKAR RUTUJA GANESH	Statistical Study of Dietary Habit in Satara District
3.	WADKAR MAHESH RAJENDRA	Statistical Study of Dietary Habit in Satara District
4.	GADHAVE PRIYA DATTATRAYA	Statistical Study of Dietary Habit in Satara District
5.	SONAWANE GAURAVI DATTATRAYA	Statistical Study of Dietary Habit in Satara District
6.	JAGTAP AKASH RAVINDRA	Statistical Analysis of Crime Offence Recorded in Wai Tehsil
7.	PAWAR VAIBHAV BABURAO	Statistical Analysis of Crime Offence Recorded in Wai Tehsil
8.	ZANJURNE ANKITA PRATAP	Statistical Analysis of Crime Offence Recorded in Wai Tehsil
9.	KUMBHAR VAISHNAVI PRUTHVIRAJ	Statistical Analysis of Crime Offence Recorded in Wai Tehsil
10.	BHOSALE NIKITA RAMCHANDRA	Statistical Analysis of Crime Offence Recorded in Wai Tehsil
11.	SARGAR SHREYA VITTHAL	Agriculture Crop Production In India
12.	SHELAR AKSHADA ANANDA	Agriculture Crop Production In India
13.	CHAVAN AKSHADA NAMDEV	Agriculture Crop Production In India
14.	RAJPURE AISHWARYA JITENDRA	Agriculture Crop Production In India
15.	PHARANDE RASIKA AVINASH	Statistical Analysis of Clothes Size Prediction
16.	JADHAV KIRTI RAMESH	Statistical Analysis of Clothes Size Prediction
17.	GAIKWAD SANCHITA ANIL	Statistical Analysis of Clothes Size Prediction
18.	KSHIRSAGAR RUTUJA SANTOSH	Statistical Analysis of Clothes Size Prediction



  
Head  
Department of Statistics  
Kisan Veer Mahavidyalaya, Wai



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**Certificate**

This is to certify that following students of B.Sc. III

Sr. No	Name of Students
1.	AKSHADA ANANDA SHELAR
2.	CHAVAN AKSHADA NAMDEV
3.	SARGAR SHREYA VITTHAL
4.	RAJPURE AISHWARYA JITENDRA

have successfully completed their project work in the statistics entitled "**Agriculture Crop Production in India**" prescribed by the SHIVAJI UNIVERSITY, KOLHAPUR during academic year 2020-21 in partial fulfilment of requirement of Statistics Practical Examination.

**PROJECT GUIDE**

**EXAMINER**

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Department of Statistics  
Kisan Veer Mahavidyalaya, Wai



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2.	GAURAVI DATTATRAY SONAWANE
3.	WADKAR RUTUJA GANESH
4.	WADKAR SNEHA SHASHIKANT
5.	WADKAR MAHESH RAJENDRA

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**B.Sc. III**  
**Sample Copy**  
**of Project**



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**HEAD, DEPT. OF STATISTICS**

Head  
Department of Statistics  
Kisan Veer Mahavidyalaya, Wai

A  
Project Report  
On  
***“AGRICULTURE CROP PRODUCTION IN  
INDIA”***

Submitted To  
Kisan Veer Mahavidyalaya, Wai

By

Miss.Akshada Ananda Shelar.

Miss.Aishawarya Jitendra Rajpure.

Miss.Akshada Namdev Chavan.

Miss.Shreya Vitthal Sargar.

(Of B.Sc. Part III)

*Under The Guidance Of -: Miss. Akshata lembhe*

Department Of Statistics



# ACKNOWLEDGEMENT

Although the project is a part of syllabus it gives us an opportunity to apply the knowledge of subject in real life problem. It is actual field work experience, which may be useful to secure our future.

We are really thankful to Shivaji University, Kolhapur, for this opportunity.

From this project, we would come to know about the various Statistical tools and also how to apply them in this project. We also knew how the statistics is useful to solve various problems and issues.

We would like to thank all faculty members of department of statistics. He not only helps us for our project but also stood us with every time. We are also thankful to teaching and non-teaching faculties of department.

Last but not the least we thank to our friends and parents who were always supported during project completion. We want to remain their debt.

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# INTRODUCTION

India's agriculture is composed of many crops, with the foremost food staples being rice and wheat.

Indian farmers also grow pulses, potatoes, sugarcane, oilseeds, and such non-food items as cotton, tea, coffee, rubber, and jute.

Despite the overwhelming size of the agricultural sector, however, yields per hectare of crops in India are generally low compared to international standards.

Improper water management is another problem affecting India's agriculture.

At a time of increasing water shortages and environmental crises, for example, the rice crop in India is allocated disproportionately high amounts of water.

It is estimated that as much as one-fifth of the total agricultural output is lost due to inefficiencies in harvesting, transport, and storage of government-subsidized crops. So let's us analyse more about the crop cultivation, cost invested, seasons for cultivation.

# DATA COLLECTION

- This study uses the secondary data set. The data required for this project work has been collected from [www.kaggle.com](http://www.kaggle.com)
- There are 6 types of crops in the data. Each crop is record in the cost of cultivation, cost of production & yields are computed in state wise which is suitable for us to analyse.
- The yield sugarcane is less in state UtterPradesh. The yield of Moong is more in Maharashtra state.

# METHODOLOGY

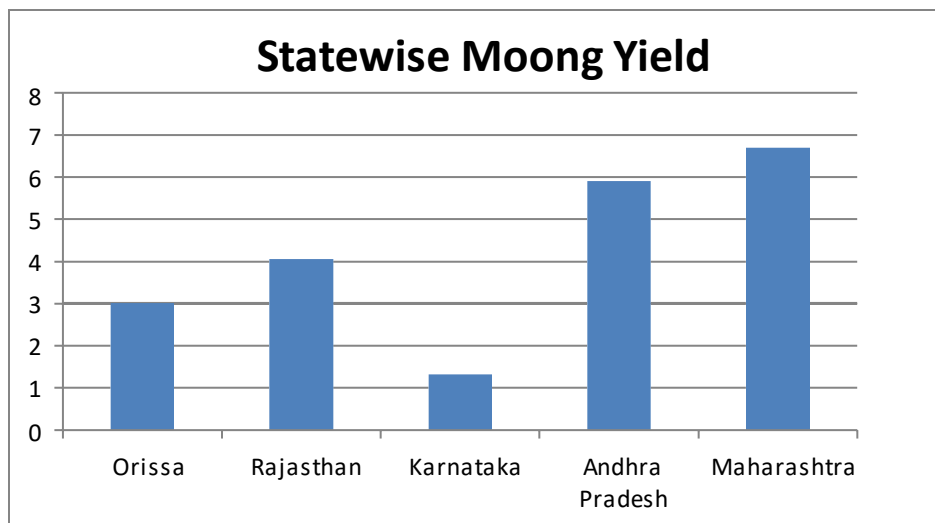
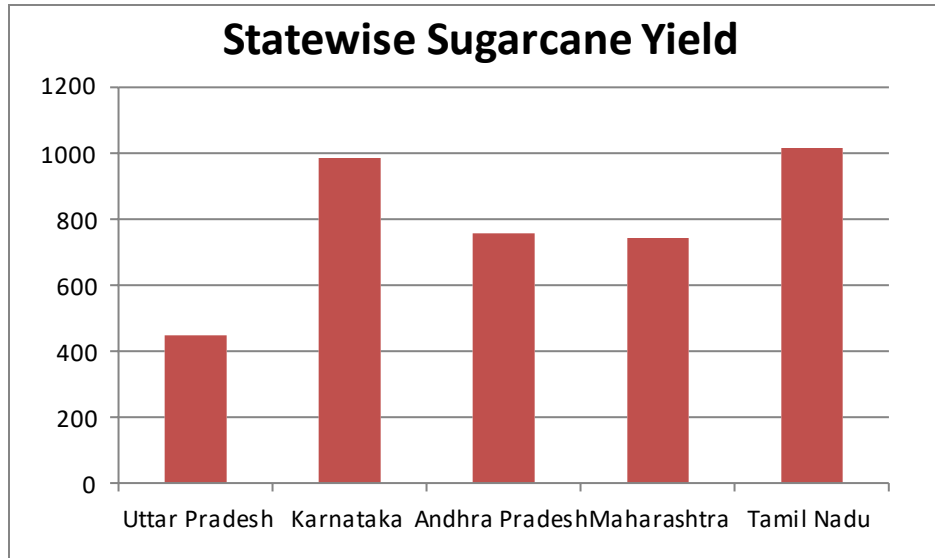
After Data collection some statistical tools are applied to data like Correlation, Regression. As well as ANOVA with degrees of freedom, F ratio etc. and intercepts the data corresponding with standard error t-stat, p value and analysed by using Scatter diagrams. The Data is analysed on Excel.

We analysed the tabulated data by using different statistical tools.

# OBJECTIVES

- 1) To Check the State-wise yield.
- 2) To study cost of crop cultivation per hectare.
- 3) To study the cost of cultivation (Quintal) for crops.
- 4) To analyse which crop yield is more in India.

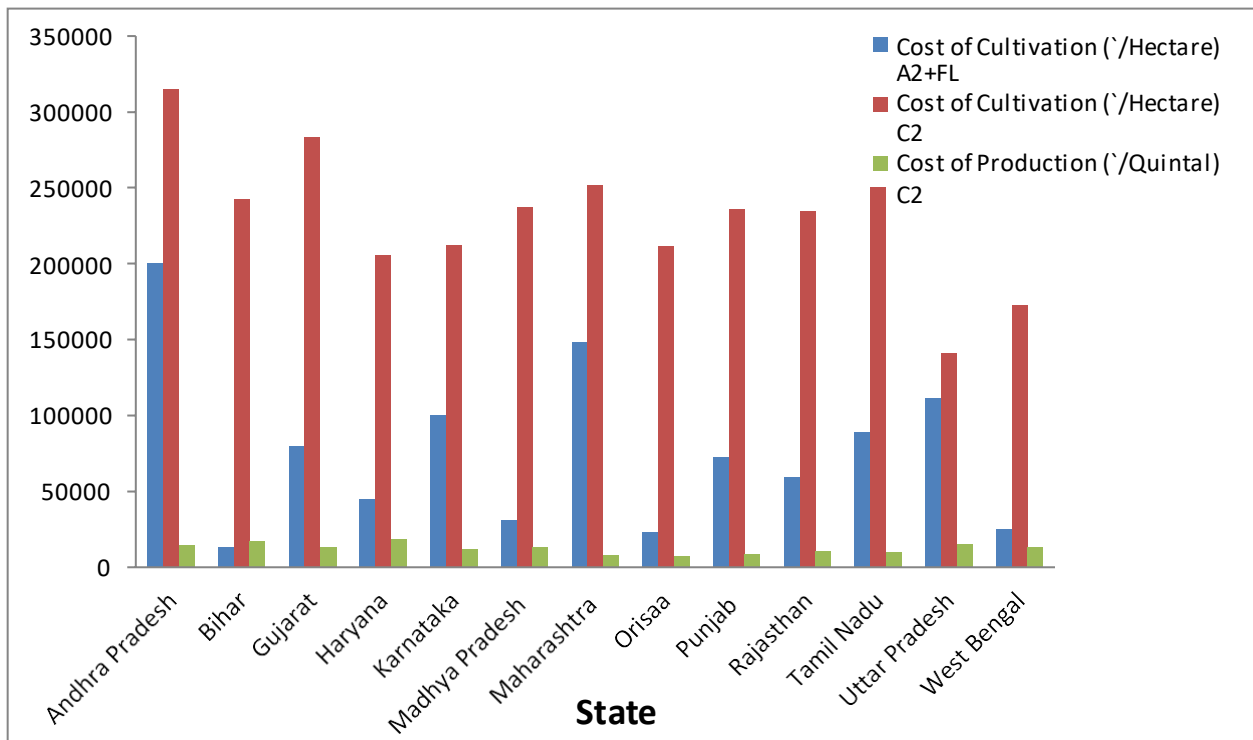
# GRAPHICAL STUDY



## **Interpretation:**

**Yield of Sugarcane is more in Tamil Nadu.**

**Yield of Moong is less in Karnataka.**



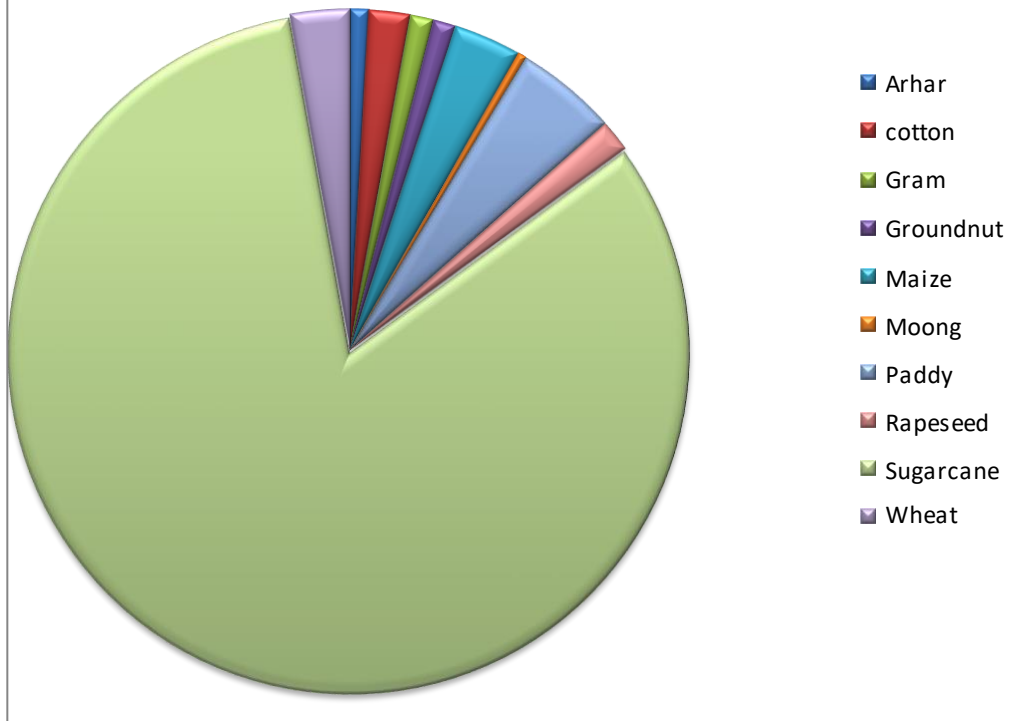
**Interpretation:**

**Cost of cultivation per Hectare for crops is more in Andhra Pradesh.**

**Cost of production per Quintal for crops is less in Orissa**



**Crop-wise Yield(Quintal/ Hectare)**



**Interpretation:**

**The Yield of Sugarcane is the most.**

**The Yield of Moong is the least.**

# STATISTICAL ANALYSIS

## Correlation Matrix

	<i>Cost of Cultivation (/Hectare) A2+FL</i>	<i>Cost of Cultivation (/Hectare) C2</i>	<i>Cost of Production (/Quintal) C2</i>	<i>Yield (Quintal/Hectare)</i>
<i>Cost of Cultivation (/Hectare) A2+FL</i>	1			
<i>Cost of Cultivation (/Hectare) C2</i>	0.981225337	1		
<i>Cost of Production (/Quintal) C2</i>	-0.434422288	-0.497092212	1	
<i>Yield (Quintal/Hectare)</i>	0.863400361	0.866423678	0.487271574	1

### Interpretation:

In above correlation matrix, the corresponding values show positive correlation.

Cost of Cultivation(“/Hectare)A2+FL & Yield(Quintal/Hectare) are correlated with 0.86340 showing positive correlation.

Cost of Cultivation(“/Hectare)A2+FL & Yield(Quintal/Hectare ) are correlated with 0.86642 showing positive correlation.

Cost of Production(“/Quintal)C2 & Yield(Quintal/Hectare) are correlated with -0.48727 showing Negative Correlation.

## **Regression Analysis**

**Aim:** To find Regression Analysis between Cost of Production & Yield & Calculate Summary Output.

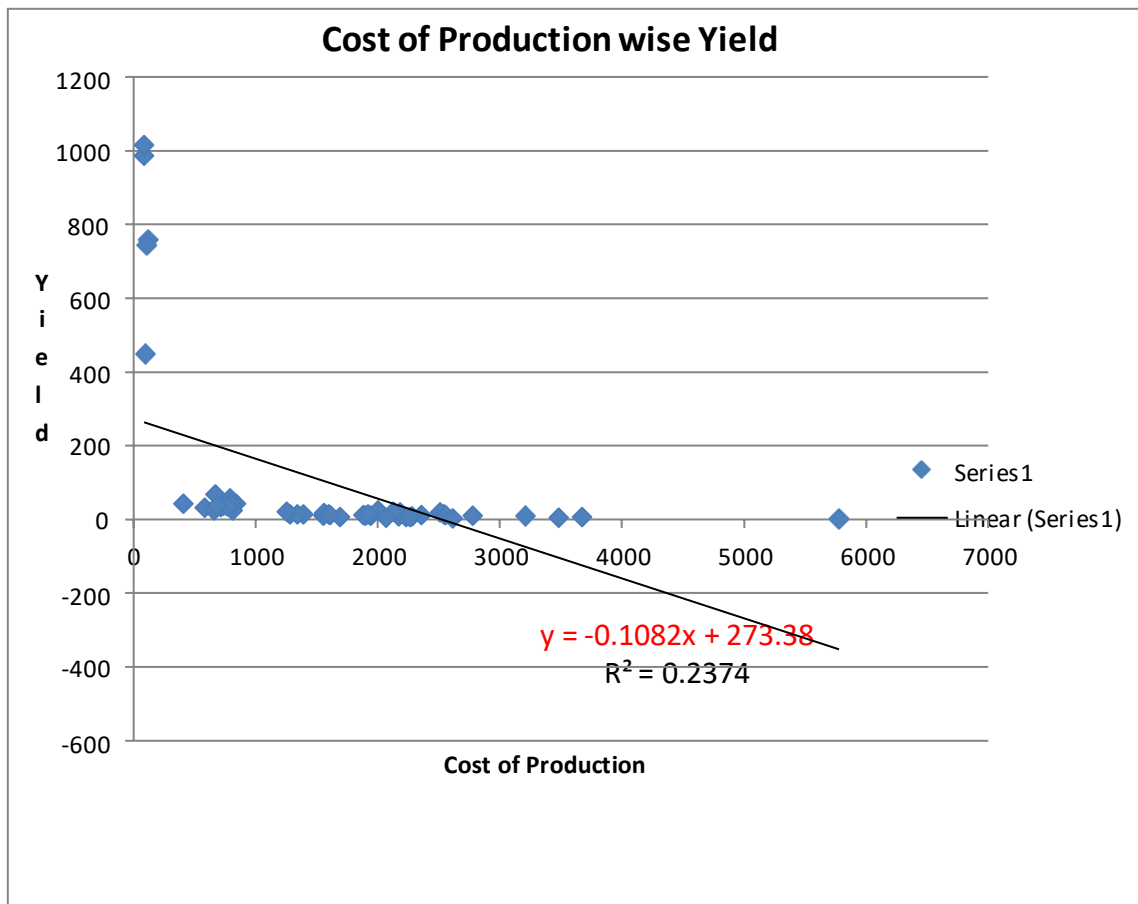
**Hypothesis:**

**H<sub>0</sub>:** There is relationship between Cost of Production and Yield.

**Vs**

**H<sub>1</sub>:** There is no relationship between Cost of Production & Yield.

# Regression graph of Cost of Production Vs Yield:-



SUMMARY  
OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.487271574
R Square	0.237433587
Adjusted R Square	0.22120877
Standard Error	216.4690939
Observations	49

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	685731.5586	685732	14.63398	0.000384029
Residual	47	2202366.824	46858.9		
Total	48	2888098.383			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	273.3767061	55.28089281	4.94523	1.01E-05	162.1658944	384.58752	162.1658944	384.5875179
Cost of Production (/Quintal) C2	-0.10816778	0.02827592	-3.82544	0.000384	0.165051594	-	0.165051594	-0.05128397

**Interpretation:**

From the above graph, we get Goodness-of-Fit to measure which is R<sup>2</sup> explaining strength of relationship between Cost of Production & Yield.

**Result:-**

As the P-value is less than 0.05, we accept null hypothesis.

So there is relationship between Cost of Production & Yield.

# CONCLUSION

From above analysis we can see that Cost of Cultivation per Hectare for Crops is more in Andhra Pradesh State and Cost of Production per Quintal for Crops is less in Orissa.

By Graphical representation we observed that, Sugarcane is most cultivated crop in Tamil Nadu and Moong is less cultivated crop in Karnataka.

# SCOPE

India is the top producer of milk, spices, pulses, tea, cashew and jute, and the second-largest producer of rice, wheat, oilseeds, fruits and vegetables, sugarcane and cotton. In spite of all these facts, the average productivity of many crops in India is quite low.

# LIMITATION

- Reduce the Fertility of the Soil. The excessive usage of technology in the fields reduces the fertility of the soils. ...
- Lack of Education in Farmers. ...
- Use of Fertilizers and Pesticides. ...
- High Maintaining Cost. ...
- Environmental Damage.



# REFERENCE

1. Kanwar, J.S.- “Indian Agriculture at Cross Roads- Challenges and Strategies”.
2. Gill, S.S. and J.S. Brar- “Global Market and Competitiveness of Indian Agriculture–Some Issues”

## SOFTWARE USED-

- MS-EXCEL
- MS-WORD