



## **4. An Analysis of the Impact of Minimum Support Price Policy on Area, Yield and Production of Paddy and Wheat Crops in India**

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### **ABSTRACT**

*The present study seeks to find out the correlations between minimum support prices and area, yield and production of paddy and wheat crops in India. The study is pertained to the whole of the India and covers the period ranging from 1993-94 to 2022-23. The data have been collected from Handbook of Statistics on Indian Economy published by RBI. The analysis tools and techniques used in the study include correlation analysis to determine the relationship between MSP and area under cultivation, production, and productivity of paddy and wheat crops. The Statistical software SPSS has been used to calculate the coefficient of correlation between the selected variables.*

### **KEYWORDS**

*Agriculture, Correlations, Prices, Significant, Yield.*

### **Introduction:**

Agriculture is a crucial component of India's economy, contributing significantly to the nation's Gross Domestic Product (GDP) and providing employment opportunities to a substantial proportion of the population. The sector's growth is influenced by various factors, such as changing climatic conditions, the use of modern agricultural inputs, access to sufficient markets, and adequate infrastructure facilities. Agriculture is not only providing employment opportunities but also promoting economic growth in various regions. The government of India has introduced various policies and schemes to ensure the welfare and progress of the farming community. One such policy is the Minimum Support Price (MSP), which aims to provide farmers with a fair price for their crops and protect them from market fluctuations.

The policy is aimed at supporting the farmers in the procurement of essential inputs and ensuring a minimum profit margin for their produce. Several previous studies have investigated the impact of MSP on area, yield and production of different crops in India. A blend of results has been revealed through various investigation in different crops. To study the association of Minimum Support Price (MSP) with area, production and productivity of paddy and wheat is the prime objective of the study.

**Methodology:**

The research methodology used in the present study involves the selection of paddy and wheat crops and the collection of time series data from secondary sources ranging from 1903-94 to 2022-23. The analysis tools and techniques used in the study include correlation analysis to determine the relationship between MSP and area under cultivation, production, and productivity of paddy and wheat crops. The Statistical software SPSS has been used to calculate the coefficient of correlation between the selected variables.

**Results and Discussion:** The furnished results related to the correlations between prices of paddy and wheat crop and their respective area, yield and production in India.

**Correlations Between Price and Area of Rice in India:**

The furnished results related to the correlation between price of rice and area of the same crop are presented in table 1. It is found that there exists a moderate degree of correlation between price and area of rice in India as value of r has been obtain as 0.493 in this case. It is also worth mentioning here that the correlations between the variables under consideration have been remained significant at 1 per cent level of significance.

**Table 1**

**Correlations Between Price and Area of Rice in India**

		<b>Rice Price</b>	<b>Rice Area</b>
Rice Price	Person Correlation	1	.493**
	Sig. (2-tailed)		.006
	N	30	30
Rice Area	Person Correlation	.493**	1
	Sig. (2-tailed)	.006	
	N	30	30

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**Correlations Between Price and Area of Wheat in India:**

The presented results about the correlation between wheat price and area are shown in Table 2. In this case, the correlation coefficient (r) was found to be 0.926, suggesting a strong relationship between wheat price and crop acreage in India. It is also crucial to remember that the correlation between the relevant variables has been persisted at the one percent significance level.

**Table 2**

**Correlations Between Price and Area of Wheat in India**

		<b>Wheat Price</b>	<b>Wheat Area</b>
Wheat Price	Person Correlation	1	.926**
	Sig. (2-tailed)		.000
	N	30	30
Wheat Area	Person Correlation	.926**	1
	Sig. (2-tailed)	.000	
	N	30	30

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**Correlations Between Price and Yield of Rice in India:**

Table 3 displays the results of the study about the relationship between rice price and yield of the crop under consideration. The correlation coefficient (r) in this instance was determined to be 0.970, indicating a good association between rice prices and crop yield in India. It shows that with the increase in price of rice in India, there will be rise in the yield of the same crop. It is also critical to keep in mind that the correlation at the one percent significance level has remained constant between the pertinent variables.

**Table 3**

**Correlations Between Price and Yield of Rice in India**

		<b>Rice Price</b>	<b>Rice Yield</b>
Rice Price	Person Correlation	1	.970**
	Sig. (2-tailed)		.000
	N	30	30

		Rice Price	Rice Yield
Rice Yield	Pearson Correlation	.970**	1
	Sig. (2-tailed)	.000	
	N	30	30

\*\* . Correlation is significant at the 0.01 level (2-tailed).

### Correlations Between Price and Yield of Wheat in India:

The study's findings about the correlation between wheat price and crop yield are shown in Table 4.

In this case, the correlation coefficient (r) was found to be 0.963, suggesting a strong relationship between wheat price and crop yield in India. It's also crucial to remember that the relevant variables' association has stayed stable at the one percent significance level.

**Table 4**

### Correlations Between Price and Yield of Wheat in India

		Wheat Price	Wheat Yield
Wheat Price	Person Correlation	1	.963**
	Sig. (2-tailed)		.000
	N	30	30
Wheat Yield	Person Correlation	.963**	1
	Sig. (2-tailed)	.000	
	N	30	30

\*\* . Correlation is significant at the 0.01 level (2-tailed).

### Correlations Between Price and Production of Rice in India:

Table 5 displays the provided findings regarding the relationship between rice price and production of the same crop. The value of r in this instance was determined to be 0.951, indicating a high degree of correlation between rice production and price in India.

Additionally, it is important to note that the correlation between the variables in question has remained significant at the one percent significance level.

**Table 5**

**Correlations Between Price and Production of Rice in India**

		<b>Rice Price</b>	<b>Rice Product</b>
Rice Price	Pearson Correlation	1	.951**
	Sig. (2-tailed)		.000
	N	30	30
Rice Production	Pearson Correlation	.951**	1
	Sig. (2-tailed)	.000	
	N	30	30

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**Correlations Between Price and Production of Wheat in India**

The final results related to the price and production of wheat in India is reflected through the figures presented in table 6. The correlation coefficient indicates that there exists a high degree of correlation between price and production of wheat in India. Thus, it can be concluded on the basis of the value of r that if there is an increase in the price of wheat, it will affect the production of wheat positively. The correlations have been found significant at 1 per cent level of significance.

**Table 6**

**Correlations Between Price and Production of Wheat in India**

		<b>Wheat Price</b>	<b>Wheat Production</b>
Wheat Price	Pearson Correlation	1	.981**
	Sig. (2-tailed)		.000
	N	30	30
Wheat Production	Pearson Correlation	.981**	1
	Sig. (2-tailed)	.000	
	N	30	30

\*\* . Correlation is significant at the 0.01 level (2-tailed).

## **Conclusion:**

It can be concluded on the basis of the above discussion that the correlations of price of paddy and wheat with their respective area, yield and production were found to be positive throughout the study period in all cases. It was also revealed that there existed a moderate degree of correlation between price and area of rice in India. It was also found that there existed a strong relationship between wheat price and crop acreage in India. It was also indicated that a good association between rice prices and crop yield was prevailed in India as high degree of correlation was observed in that case. Besides, the correlation coefficient (r) was found to be 0.963, suggesting a strong relationship between wheat price and crop yield in India. Regarding correlation between price of rice and its production, the value of r in this instance was determined to be 0.951, indicating a high degree of correlation between rice price and production in India. It can also be concluded on the basis of the value of r that if there is an increase in the price of wheat, it will affect the production of wheat positively. The correlations have been found significant at 1 per cent level of significance in all cases of paddy and wheat.

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