

# A Study of the influence of Rainfall Variability on Paddy Production in Telangana State

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## Abstract:

Rainfall is the primary factor affecting agricultural production. The rainfall intensity varies from district to district, state to state, country to country, place to place and region to region. Changes in the amount of rainfall definitely affects the soil moisture meanwhile agricultural crops production. Paddy is the basic food of Telangana people and also the most important source of employment and income of the rural population. The rural population of Telangana still depends upon the traditional methods of crop production depending upon the monsoons. So, the amount of rainfall received will influence the crop production. For the increasing population of Telangana state, there is a definite need for sustainable practice of producing paddy crop, as it forms the staple food for its people.

**Keywords:** Rainfall, Production, Population, Monsoons.

## Introduction:

The state of Telangana is situated in a semi-arid region. So, the distribution of Rainfall is one of the most important factors determining agricultural production. It receives about 906.1mm rainfall. Sufficient amount of rainfall is necessary for the sustained agricultural growth.

In the year 2020-2021 (from June to May) Telangana received 1322.4 millimetres (mm) of rainfall, which is excess of normal rainfall. In the years 2017-18, 2018-19 and 2019-2020, Telangana state received normal rainfall. In the year 2020-21, it received excess rains due to which ground water resources were improved.

There are number of factors which could contribute to the agricultural production. They are

1. Natural factors
2. Anthropogenic factors

One among the most important natural factors is rainfall. Rainfall is identified as contributing factor to the changes in the agricultural production of Telangana state.

## Need for the Study:

For the increasing population burden, there is a definite need for raising sustainable paddy production practices. One of the most influencing factors which affects the production of cereal crops is rainfall. So, there is a definite need for studying about the relationship between rainfall and paddy production.

## Review of Literature:

**Kasula Sekhara (2019)** discusses the area under paddy crop and its productivity trends in different crop periods. The study revealed that the Compound growth rate of the productivity of the paddy during 1991-

92 to 1999-2000 is 1.33% and the t value is significant at 1% level. But it decreased to 1.60% during 2000-01 to 2009-10 yet the t value is significant at 1% level. The study says that during the entire study period the compound growth in the production of paddy is 1.38% but the t value is insignificant.

**S. Mathan Raj and M.I.M Kaleel (2018)** examines the influence of rainfall variability on Paddy Production: A case study in Batticalloa District. The study revealed that, there is a strong positive relationship between rainfall and Maha season production. The study shows p value of 0.002 is less than significant level of 0.01. And it revealed that, there is a negative relationship between rainfall and Yala season production, the correlation p value 0.053 is greater than the significant level of 0.05. Overall analysis, there are strong and negative relationship between rainfall and paddy production.

**Objectives:**

1. To identify the rainfall variability in Telangana State.
2. To study the production of paddy in Telangana State.
3. To examine the relationship between Rainfall and Paddy production.

**Methodology:**

The present paper is based on the secondary data during the period from 2014-15 to 2019-20. The secondary data has been collected for the purpose of present study. Data has been collected from the Directorate of Economics & Statistics, Telangana Socio-economic Outlook, books, published research reports, journals, various government reports etc.,

**Table 1: Relationship between Rainfall and Paddy production in Telangana**

Year	Rainfall (in mm)	Paddy Production (in tonnes)
2014-15	682	6817273
2015-16	717	4570677
2016-17	1019	9898243
2017-18	841	9394768
2018-19	748	10002947
2019-20	1033	17826799

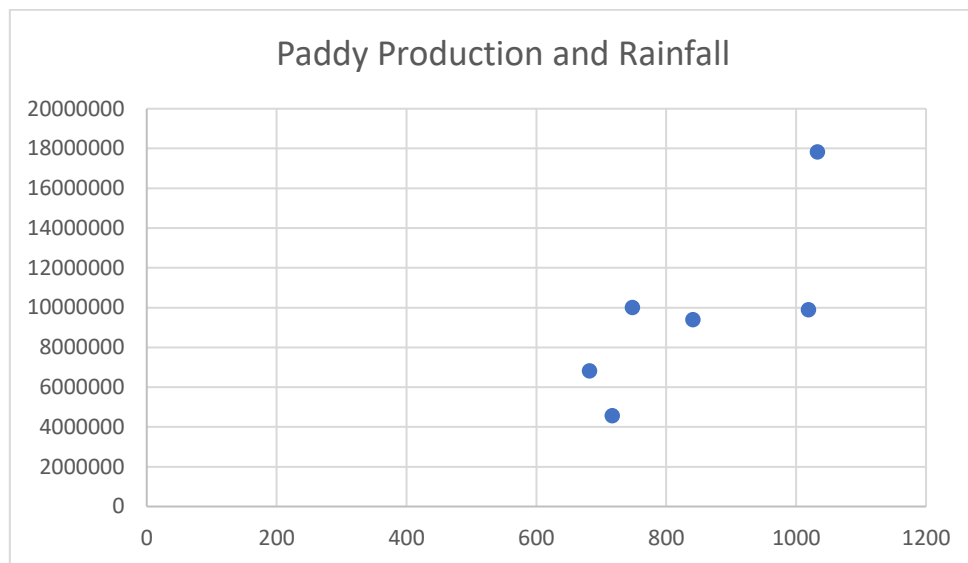
**Source:** Directorate of Economics & Statistics

The rainfall in Telangana varied with huge fluctuations. The rainfall received in the initial year of study period was low with 682 mm in 2014-15 and increased to 1022 mm during 2019-20. The highest amount of rainfall received in 2019-20 and lowest was recorded inn the year 2014-15. During the entire study period the production of paddy crop increased. It was observed that, there is an increasing trend in the paddy production. It was increased from 6817273 tonnes in 2014-15 to 17826799 tonnes in 2019-20.

	<i>Rainfall (in mm)</i>	<i>Paddy Production (in tonnes)</i>
Rainfall (in mm)	1	
Paddy Production (in tonnes)	0.772121	1

Table shows Karl Pearson’s Coefficient of Correlation (CoC). The ‘r’ value is which shows 77.21%, which clearly indicates a strong positive correlation. When there is more rainfall, then there is a tendency for

higher production of paddy.



### Conclusion:

The rainfall contribution for the crop production takes a major role in the Telangana state. The average rainfall in Telangana is 906.1mm. The production of paddy recorded high with 17826799 tonnes in the year 2019-20 due to higher rainfall received. It was recorded lower production with 4570677 tonnes in 2015-16. According to the correlation analysis, positive impact was discovered. There is a strong positive relationship between rainfall and production of paddy crop in Telangana. As cereal crops forms the basic food requirements of Telangana people, it is necessary for continuous research with latest data.

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