

# A study on Inter District Disparities of Agriculture in select district of Telangana.

Mr. Bethu Sudhakar

*Research Scholar- Ph.D. Economics, University college of Arts & social sciences,  
Department of Economics, Osmania University, Telangana*

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## ABSTRACT

In order to achieve comprehensive state development, it is essential that all regions reach their maximum potential, allowing the people of all regions to benefit from their progress. This study investigates regional differences at the district level within the region of Telangana, spanning the time period from 2014-2015 to 2020-21. For this objective, nine districts have been chosen, specifically Adilabad, Nizamabad in, the Medak district, RangaReddy, Mahbubnagar, Warangal, and Khammam. Intermediate For a selection of Telangana districts, the differences in agricultural production for paddy, cotton, green chilli, and maize between 2014-15 and 2021-22 are examined. The report proposed that the farming industry in Telangana requires more focused endeavours to ensure that disparities among regions at the district level exhibit a decreasing trend, rather than the current, albeit slight, upward one. To address this, it is necessary to present a comprehensive strategy based on the agroclimatic ranges of the state, with each district being considered as a primary unit.

**Key words :** Regional Disparities, Agriculture Development, Composite Index, Ranks, District level

## I. INTRODUCTION

The persistence of inter-district and regional differences is a significant concern for policy makers in India. The persistence of regional disparity remains a significant worry for policymakers and researchers, despite our economic planning's primary objective of fostering the growth of undeveloped regions within the country. The disparity in development indices across various regions can be attributable to divergent policy orientations, historical context, and an uneven distribution of natural resources. Regional disparities in peripheral development can be linked to factors such as nature, resources, and other related considerations. Despite seven decades

of autonomy, agriculture remains the prevailing component within the Indian economy. Agricultural expansion has a good impact on the development of the country's primary and secondary industries. Consequently, a significant portion of the country's population relies on the agriculture industry either directly or indirectly. An effective development strategy should prioritise the enhancement of agricultural production by focusing on improving productivity in the farming sector.

Regional differences in development are a prevalent issue in almost every country, regardless of whether it is developed or developing. Numerous scholars, researchers, agencies, and institutions have done several empirical studies on regional disparities and associated topics at the world, national, and state levels. However, there is a scarcity of studies specifically focused on Agricultural Inequalities in Telangana. This study aims to address this issue. This study examines the variations in the scope of agricultural growth at the district level in Telugu between the years 2014-15 and 2021-22. Ranking is utilised to assess the inter-district contrast in the agricultural growth in Telangana.

## II. LITERATURE REVIEW

In his study titled "Trends and Patterns in Farming Credit in India: A District-Based Analysis of Uttar Pradesh," Dr. Vinod Kumar (2021) found that the availability and allocation of agricultural credit in India are biased towards districts and regions that have more resources. Additionally, within the same region, agricultural credit tends to favour wealthier farming households.

In their 2017 study titled "Inter District Inequalities in the Agricultural Growth of Rajasthan: Possible Policy Issues for Lagged Districts," Ms. Sapna Newar as well as Dr. Nidhi Sharma examined six indicators related to the agriculture industry. The composite index has been formulated and thereafter districts are rated based on their composite index. The article proposed that

the agricultural industry in Rajasthan need more focused endeavors to ensure that regional differences at the district level exhibit a decreasing trend, rather than the current marginal upward trend. It is recommended that a comprehensive plan be proposed based on the agroclimatic areas of the state, with each district being considered as a primary unit.

In their 2013 study titled "Determinants of Inter-district disparities in the level of Development in Agriculture in the Kashmir Valley Valley," Javaid Ahmad Andrabi and Jakarta Iqbal Khan aimed to investigate the factors that contribute to differences in agricultural development across districts in the Kashmir Valley. By employing the Z-Score technique, we assess and rank the districts based on their degrees of development, as indicated by comparable factors utilised in other locations. An analysis of the underlying factors contributing to the discrepancies has also been conducted.

#### Need of the study

The significance of Telangana's agriculture in the region stems from several factors. Firstly, a significant proportion of the labour force relies on this industry. Furthermore, it exhibits substantial interconnections with both the manufacturing and service sectors, both in terms of inputs and outputs. Therefore, it is imperative to enhance agricultural production, efficiency, and

concurrently, profitability. The agricultural sector in Telangana has experienced significant changes since the creation of the new state. The use of contemporary methodologies has revolutionised agricultural practices, leading to substantial transformations in land utilisation for crops. At this point, it is crucial to examine the differences between districts in Telangana State.

#### “Objective of the study”

1. “To analyze the extent and nature of inter-district disparities variations in agriculture productivity of selected crops in the Telangana State during the period under study.”

#### “Research Methodology”

Data sources: Information regarding the proportion of agriculture in the Gross State Domestic Product (GSDP) and specific details on the production of certain crops, both food and non-food, are obtained from secondary sources. These sources include the Directorate for Economics and Stats of Telangana State & Economic Survey reports spanning from the years 2014-2015 to 2021-2022.

#### Data Analysis

An attempt has been made to analyze the Inter District Disparities of Selected Districts in Telangana For the period 2014-15 to 2022-23.

**Table-1.1**  
**Inter District variations in Agricultural productivity of Paddy in selected districts of Telangana for the period of 2014-15 to 2021-22 (Kg/Ha)**

Districts	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	Total
Adilabad	1529	1600	1583	1475	1943	2220	3250	4215	<b>17815</b>
Nizamabad	2225	1627	1635	1220	1298	1720	1976	2326	<b>14027</b>
Karimnagar	2160	1973	2012	1559	2049	1978	2234	2584	<b>16549</b>
Medak	1988	1729	1867	1806	2016	2284	2450	2800	<b>16940</b>
Ranga Reddy	1587	1535	2464	2290	2494	2486	2742	3092	<b>18690</b>
Mahbubnagar	1579	1356	2283	1901	2452	2502	2758	3108	<b>17939</b>
Nalgonda	1955	1770	2513	2080	2401	2402	2658	3008	<b>18787</b>
Warangal	1870	1921	2098	1683	2155	2045	2301	3008	<b>17081</b>
Khammam	1901	1842	2180	1930	2056	2161	2417	2767	<b>17254</b>
<b>Telangana</b>	<b>16794</b>	<b>15353</b>	<b>18635</b>	<b>15944</b>	<b>18864</b>	<b>19798</b>	<b>22786</b>	<b>26908</b>	<b>155082</b>
<b>Average</b>	<b>1866.0</b>	<b>1705.89</b>	<b>2070.56</b>	<b>1771.56</b>	<b>2096</b>	<b>2199.78</b>	<b>2531.78</b>	<b>2989.778</b>	<b>17231.3</b>
<b>Standard Deviation</b>	<b>253.26</b>	<b>196.80</b>	<b>331.79</b>	<b>326.37</b>	<b>362.64</b>	<b>256.54</b>	<b>370.44</b>	<b>526.45</b>	<b>2624.30</b>
<b>Coefficient of Variations(CV)</b>	<b>13.57</b>	<b>11.54</b>	<b>16.02</b>	<b>18.42</b>	<b>17.30</b>	<b>11.66</b>	<b>14.63</b>	<b>17.61</b>	<b>120.76</b>

**Figure-1.1**  
**Inter District variations in Agricultural productivity of Paddy in selected districts of Telangana for the period of 2014-15 to 2021-22**

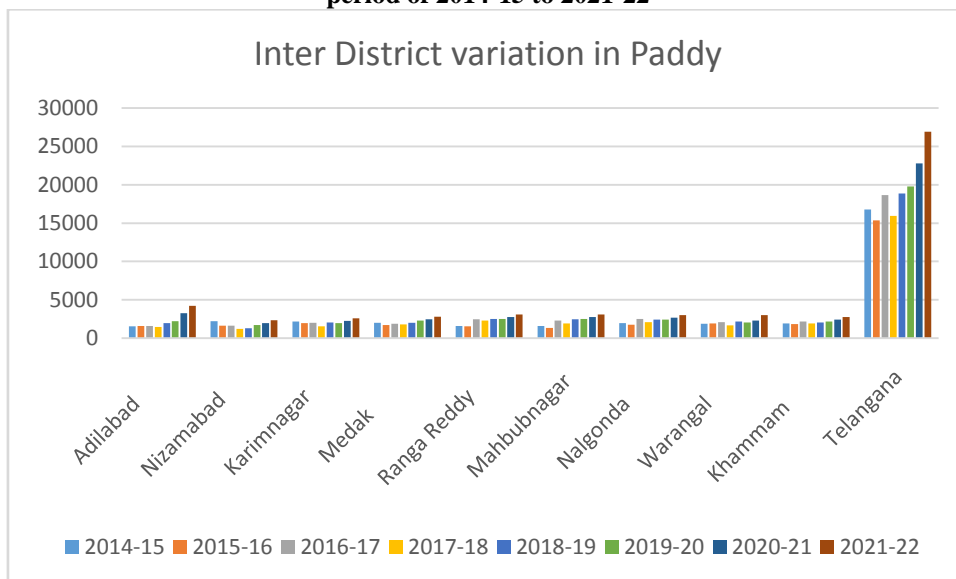


Table-1.1 demonstrates significant spatial and temporal fluctuations in paddy yield throughout the years. The temporal fluctuations demonstrate the susceptibility of agriculture for the unpredictable nature of monsoons and specifically to changes in rainfall. The disparities in crop productivity between districts are substantial and have been increasing over time, as indicated by both the range the coefficient of variation.

Regarding paddy. The coefficients in variation of yield for paddy in the corresponding years are as follows: 253.26, 196.8, 331.79, 326.37, 326.37, 362.64, 256.54, 370.44, and 526.45. It is worth mentioning that the disparity in crop yields between different districts has significantly increased between 2014-15 and 2015-16, as well as in previous years such as 2016-17 and 2018-19.

**Table-1.2**  
**Inter District variations in Agricultural productivity of Cotton in selected districts of Telangana for the period of 2014-15 to 2021-22 (kg/Ha)**

Districts	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	Total
Adilabad	392	1009	599	681	566	1056	1158	1260	<b>6721</b>
Nizamabad	249	401	599	459	522	730	786	864	<b>4610</b>
Karimnagar	569	557	599	745	726	641	686	751	<b>5274</b>
Medak	364	344	599	724	586	659	715	747	<b>4738</b>
Ranga Reddy	641	612	233	863	782	857	792	2463	<b>7243</b>
Mahbubnagar	361	196	705	697	703	669	685	711	<b>4727</b>
Nalgonda	342	384	667	547	649	789	937	1057	<b>5372</b>
Warangal	556	522	745	843	540	762	886	981	<b>5835</b>
Khammam	363	386	352	152	85	605	670	772	<b>3385</b>
<b>Telangana</b>	<b>3837</b>	<b>4411</b>	<b>5098</b>	<b>5711</b>	<b>5159</b>	<b>6768</b>	<b>7315</b>	<b>9606</b>	<b>47905</b>
<b>Average</b>	<b>426.3</b>	<b>490.111</b>	<b>566.444</b>	<b>634.556</b>	<b>573.222</b>	<b>752</b>	<b>812.778</b>	<b>1067.333</b>	<b>5322.778</b>
<b>Standard Deviation</b>	<b>129.98</b>	<b>231.16</b>	<b>166.81</b>	<b>221.71</b>	<b>203.66</b>	<b>139.13</b>	<b>159.48</b>	<b>553.49</b>	<b>1805.412</b>
<b>Coefficient of Variations(CV)</b>	<b>30.49</b>	<b>47.16</b>	<b>29.45</b>	<b>34.94</b>	<b>35.53</b>	<b>18.50</b>	<b>19.62</b>	<b>51.86</b>	<b>267.5486</b>

**Figure-1.2**  
**Inter District variations in Agricultural productivity of Cotton in selected districts of Telangana for the period of 2014-15 to 2021-22**

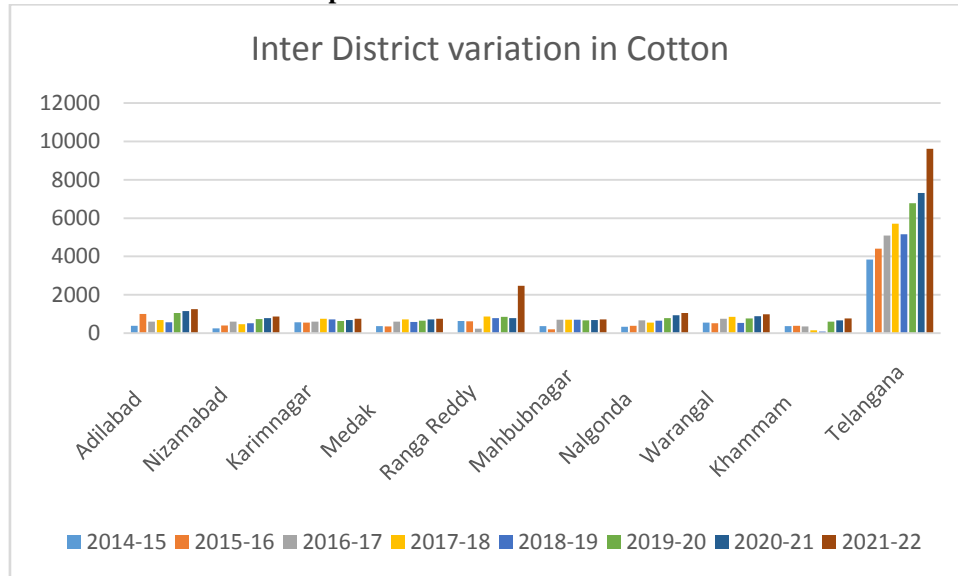


Table-1.2 demonstrates significant spatial and temporal fluctuations in cotton yield throughout the years. The temporal fluctuations demonstrate the susceptibility of agriculture for the nuances of monsoon and specifically to variations in rainfall. The disparities in crop productivity between districts are substantial and have been increasing over time, as indicated by both the range

the coefficient of variation. The coefficients for variation for cotton yield in the corresponding years were 129.98, 231.16, 166.81, 221.71, 221.71, 203.66, 139.13, 159.48, and 553.49. It is worth mentioning that the disparity in crop yields between different districts has significantly increased during several years, such as 2014-15, 2015-16, 2016-17, and 2018-19.

**Table-1.3**  
**Inter District variations in Agricultural productivity of Green Chilli in selected districts of Telangana for the period of 2014-15 to 2021-22 (Kg/Ha)**

Districts	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	Total
Adilabad	1030	447	959	2189	1938	3250	4504	5743	<b>20060</b>
Nizamabad	1475	4456	4821	2353	1882	3027	3273	3527	<b>24814</b>
Karimnagar	634	661	677	496	527	486	609	704	<b>4794</b>
Medak	625	635	524	406	224	216	250	306	<b>3186</b>
Ranga Reddy	1004	2001	1287	2603	2583	4281	4407	4552	<b>22718</b>
Mahbubnagar	1435	8131	4062	1307	2143	3119	3575	4139	<b>27911</b>
Nalgonda	1369	4522	2629	2164	1902	2875	3106	3231	<b>21798</b>
Warangal	2205	3874	4524	5477	1483	3046	3170	3392	<b>27171</b>
Khammam	3199	3322	5067	5191	5333	5469	5514	5689	<b>38784</b>
<b>Telangana</b>	<b>12976</b>	<b>28049</b>	<b>24550</b>	<b>22186</b>	<b>18015</b>	<b>25769</b>	<b>28408</b>	<b>31283</b>	<b>191236</b>
<b>Average</b>	<b>1441.8</b>	<b>3116.56</b>	<b>2727.78</b>	<b>2465.11</b>	<b>2001.67</b>	<b>2863.22</b>	<b>3156.44</b>	<b>3475.889</b>	<b>21248.44</b>
<b>Standard Deviation</b>	<b>818.35</b>	<b>2502.22</b>	<b>1908.42</b>	<b>1808.28</b>	<b>1461.50</b>	<b>1648.28</b>	<b>1734.44</b>	<b>1918.22</b>	<b>13799.71</b>
<b>Coefficient of Variations(CV)</b>	<b>56.76</b>	<b>80.29</b>	<b>69.96</b>	<b>73.35</b>	<b>73.01</b>	<b>57.57</b>	<b>54.95</b>	<b>55.19</b>	<b>521.0823</b>

**Figure-1.3**

**Inter District variations in Agricultural productivity of Green Chilli in selected districts of Telangana for the period of 2014-15 to 2021-22**

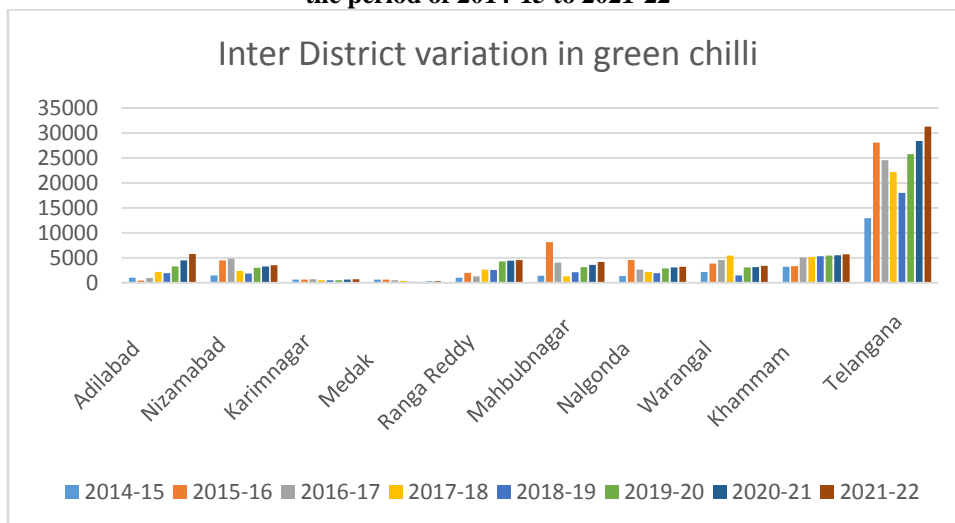


Table-1.3 demonstrates significant fluctuations in the productivity of green chilli across different locations and time periods. The temporal fluctuations demonstrate the vulnerability of agriculture towards the nuances of monsoon and specifically to changes in rainfall. The disparities in crop productivity between different districts are significant and have been increasing over time, as indicated by both the range & coefficient of

variability. The coefficients the variation of yield for green chilli in the different years are as follows: 818.35, 2502.22, 1908.42, 1808.28, 1808.28, 1461.5, 1648.28, 1734.44, and 1918.22. It is worth mentioning that the disparity in crop yields between different districts has significantly increased during several years, such as 2014-15, 2015-16, 2016-17, and 2018-19.

**Table-1.4**

**Inter District variations in Agricultural productivity of Maize in selected districts of Telangana for the period of 2014-15 to 2021-22 (Kg/Ha)**

Districts	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	Total
Adilabad	1190	1387	2312	3758	1938	2610	2730	2870	<b>18795</b>
Nizamabad	1993	1729	2198	2211	2313	2523	2774	3102	<b>18843</b>
Karimnagar	2030	1793	2556	2439	2512	2498	2730	2875	<b>19433</b>
Medak	718	901	1190	1590	1212	1890	2035	2258	<b>11794</b>
Ranga Reddy	1202	1553	1268	906	308	1348	1798	1876	<b>10259</b>
Mahbubnagar	775	532	2010	2314	1718	2277	3062	3298	<b>15986</b>
Nalgonda	773	479	1063	1931	1986	2348	486	1151	<b>10217</b>
Warangal	1981	1956	2833	3123	3062	2645	7090	7534	<b>30224</b>
Khammam	1943	1987	2003	2258	2589	2948	3171	3616	<b>20515</b>
<b>Telangana</b>	<b>12605</b>	<b>12317</b>	<b>17433</b>	<b>20530</b>	<b>17638</b>	<b>21087</b>	<b>25876</b>	<b>28580</b>	<b>156066</b>
<b>Average</b>	<b>1400.6</b>	<b>1368.56</b>	<b>1937</b>	<b>2281.11</b>	<b>1959.78</b>	<b>2343</b>	<b>2875.11</b>	<b>3175.556</b>	<b>17340.67</b>
<b>Standard Deviation</b>	<b>582.36</b>	<b>589.68</b>	<b>629.87</b>	<b>822.54</b>	<b>820.65</b>	<b>472.30</b>	<b>1785.84</b>	<b>1803.60</b>	<b>7506.833</b>
<b>Coefficient of Variations(CV)</b>	<b>41.58</b>	<b>43.09</b>	<b>32.52</b>	<b>36.06</b>	<b>41.87</b>	<b>20.16</b>	<b>62.11</b>	<b>56.80</b>	<b>334.1871</b>

**Figure-1.4**  
**Inter District variations in Agricultural productivity of Maize in selected districts of Telangana for the period of 2014-15 to 2021-22**

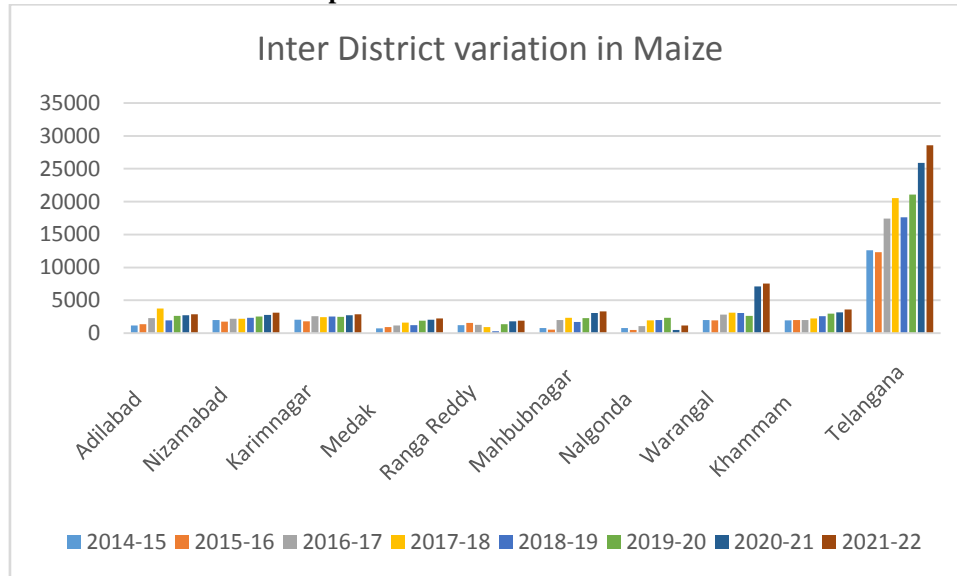


Table-1.4 demonstrates significant spatial and temporal fluctuations in maize production throughout the years. The temporal variations demonstrate the susceptibility of agriculture to the nuances of monsoon and specifically to fluctuations in rainfall. The variations in yield between different districts are significant and have been increasing over time, as seen by both the range and coefficient for variation. The coefficients for variation of maize yield in the corresponding years were 582.36, 589.68, 629.87, 822.54, 822.54, 820.65, 472.3, 1785.84, and 1803.6. It is worth mentioning that the disparity in crop yields between different districts has significantly increased during several years, such as 2014-15, 2015-16, 2016-17, and 2018-19.

### III. CONCLUSION

The emergence of the welfare state notion has prompted significant efforts to comprehend the various aspects of regional inequity. Comprehending the reasons and characteristics of these disparities in development levels between regions is crucial because any form of inequality has clear detrimental effects on future growth and development. Furthermore, it exacerbates social, political, and economic tensions among regions, resulting in inefficient allocation of resources.

The central authority has a crucial role in fostering equitable development, ensuring that all regions and states within them have equal opportunities for growth. However, it is crucial to comprehend the nature and magnitude of these

disparities and accurately identify underdeveloped areas in order to achieve regional equilibrium.

Telangana possesses significant potential for economic expansion. The state government must implement efficient legislative measures to accelerate development in underdeveloped regions and foster sustainable growth in the more developed regions in the state. The analysis yields the following policy implications: Greater emphasis must be placed on the agricultural sector to ensure that disparities between regions at the district level show a decreasing tendency rather than the current, albeit slight, upward trend. To address this, it is necessary to develop a comprehensive strategy based on the agro-climatic zones in the state, with each district being considered as a primary unit.

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