

Agricultural Productivity and Farm Price Realisation in Raichur District, Karnataka: A Taluk-wise Analysis of Crop Yields and Paddy Prices

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Abstract—Agricultural performance varies significantly across districts, and district-level averages can obscure crucial differences in crop productivity and farm price realisation. This study examines the variation in agricultural productivity and the Grade-A paddy Farm Harvest Price (FHP) in the Raichur District of Karnataka. The analysis is based on secondary data from the "District at a Glance – Raichur Statistical Report, FY 2024–25," published by the Department of Economics and Statistics, Government of Karnataka.

We analyse taluk-wise productivity of major Kharif and Rabi crops for the 2023–24 season, along with the Grade-A paddy FHP and the Minimum Support Price (MSP) for 2024–25. The methods used include percentage analysis, productivity gaps, absolute differences, FHP–MSP margins, and descriptive comparisons, correlation analysis and paired samples T test.

The results reveal substantial variation in crop productivity among the taluks. In Kharif 2023–24, paddy productivity ranges from 3,534 kg/ha in Raichur to 4,462 kg/ha in Maski, demonstrating significant spatial differences. The analysis of Grade-A paddy prices shows that the FHP exceeds the MSP of ₹2,300 per quintal across all cultivating taluks, although margins range from ₹147 to ₹539 per quintal. Sindhanuru records the highest FHP at ₹2,839 per quintal, while Raichur has the lowest at ₹2,447 per quintal.

Interestingly, the findings indicate that higher paddy productivity does not consistently lead to higher FHP across the taluks. This study highlights the notable differences in paddy productivity among the taluks but does not establish a clear relationship between productivity and FHP.

The study recommends that agricultural policy in Raichur should shift from a production-centred approach to an integrated framework that combines productivity enhancement with improved market access and price realisation. Suggested policy directions include taluk-specific extension services, enhanced post-harvest infrastructure, stronger procurement and market linkages, collective marketing efforts, and better integration of productivity, cost, and price data. Additionally, it emphasises the importance of multi-year and farm-level research to identify the factors influencing spatial differences in productivity and price realisation.

Index Terms—Agricultural productivity, Farm Harvest Price, Minimum Support Price, Paddy, Price realisation, Taluk-level analysis, Raichur, Karnataka

I. Introduction

Agriculture continues to occupy a central position in India's rural economy, contributing to food Security, employment, and household livelihoods, which are closely tied to agricultural performance. However, assessing agriculture solely based on aggregate production is insufficient. It is also essential to consider differences in crop productivity, cropping patterns, and farmers' prices received to understand the economic performance of agricultural regions. In a country with significant variations in rainfall, irrigation,

soil conditions, cropping systems, and market access, agricultural performance can vary considerably, even within the same district.

Productivity plays a crucial role in this context, especially since the scope for expanding cultivated land is limited. Improving the yield per hectare is one of the main ways to increase agricultural output without proportionately increasing the land under cultivation. The Economic Survey 2024–25, therefore, highlights productivity enhancement, remunerative prices, and crop diversification as key factors for sustained agricultural growth (Government of India, 2025).

Farmers' economic outcomes depend not only on their production volume but also on the prices they receive for their produce. The Directorate of Economics and Statistics (DES) within the Ministry of Agriculture and Farmers Welfare systematically collects data on agricultural prices, including Farm Harvest Prices (FHP), wholesale prices, and other agricultural price indicators. The Farm Harvest Price is an important measure for assessing the price environment that farmers face around the harvest period (Directorate of Economics and Statistics, Government of India).

Comparing the Farm Harvest Price to the Minimum Support Price (MSP) is particularly relevant for paddy. MSP serves as a crucial price benchmark for agricultural producers. However, the actual price received at the farm level can fluctuate based on market conditions, quality, timing of sale, procurement arrangements, and access to markets. Therefore, a Farm Harvest Price above the MSP does not guarantee that every farmer will receive the same price or that the entire marketed surplus will be sold at that price.

Raichur District in Karnataka serves as a significant case study for examining these issues. It is an important agricultural region in North-Eastern Karnataka, where substantial paddy cultivation is associated with the irrigated areas of the Tungabhadra and Krishna command systems. Previous research in the district has documented the economic characteristics of paddy cultivation, including input-use efficiency, productivity, and profitability. The current study utilises officially reported taluk-level secondary data to address these questions. It examines the productivity of major Kharif and Rabi crops and analyses the Farm Harvest Prices of Grade-A paddy in relation to the MSP. The focus is on identifying and interpreting the observed spatial differences in crop yields and paddy price realisation within Raichur District, rather than establishing a causal relationship between specific agricultural technologies and productivity.

II. Review of Literature

Agricultural productivity is a critical concern in agricultural economics, as improving yield is essential for maximising output on limited land. The Economic Survey for 2024–25 recognises productivity enhancement, assured remunerative prices, and crop diversification as vital for sustained growth (Government of India, 2025).

Keshava and Hanumantharayappa (2025) examine the decline in poverty in India following the economic reforms, with particular emphasis on government-led poverty alleviation and development initiatives. The study highlights the contribution of various policies and programmes in improving the socio-economic conditions of vulnerable and disadvantaged sections of society. It also emphasizes the role of sustained government interventions and development efforts in reducing poverty and promoting inclusive growth. The study provides a useful basis for understanding the relationship between economic reforms, public policy, and poverty reduction in India.

Keshava (2022) evaluates India's economic development over the 75 years since independence, examining major achievements as well as persistent developmental challenges. The study discusses changes in economic growth, structural transformation, poverty reduction, employment, and other key indicators of development. It highlights the role of economic policies and reforms in shaping India's development trajectory while identifying issues that continue to constrain inclusive and sustainable growth. The study

provides a useful foundation for understanding India's economic progress and the policy measures required to address emerging developmental challenges.

Farm-level productivity depends on the efficiency with which land, water, labour, fertilisers, and other inputs are combined. Research by Chavan et al. (2019) in Raichur District found substantial variation in paddy cultivation efficiency, with many farmers below optimal efficiency levels, indicating a need for more efficient use of production inputs.

Patil et al. (2012) highlighted medium input-use efficiency in the Tungabhadra Project area and noted overuse of fertilisers and pesticides, recommending better integrated nutrient and pest management practices. Irrigation and water management also significantly impact paddy productivity. Barikar et al. (2020) showed that alternative irrigation practices, such as alternate wetting and drying, can reduce water use while improving productivity compared with conventional methods. The choice of cropping systems is crucial as well. Basavanneppa and Gaddi (2020) found variations in productivity and profitability among rice-based systems in the Tungabhadra Project area, emphasising the importance of evaluating agricultural performance within the broader cropping system.

Additionally, agricultural prices affect farmers' returns. The Directorate of Economics and Statistics maintains a comprehensive database on agricultural prices, including Farm Harvest Prices, which serves as a key measure of the farm-level price environment (Directorate of Economics and Statistics, Government of India).

The relationship between Minimum Support Price (MSP) and actual price realisation has gained attention. A study titled "Role of Agricultural Marketing Channels in Price Realisation" revealed that different marketing channels significantly influence the prices farmers receive compared to the official MSP (Journal of Agribusiness in Developing and Emerging Economies, 2023).

This finding is relevant to the present study because comparing the Farm Harvest Price (FHP) and the Minimum Support Price (MSP) highlights how farm-level prices relate to policy benchmarks. The actual price received by individual farmers varies based on factors like quality, location, timing of sale, market access, and marketing channels.

The literature on Raichur emphasises the examination of paddy from both production and economic perspectives. Studies in the district and the Tungabhadra command area have focused on paddy production efficiency, irrigation practices, and rice-based cropping systems, primarily through farm-level surveys or field experiments (Patil et al. 2012; Chavan et al. 2019; Basavanneppa and Gaddi 2020; Barikar et al. 2020).

Keshava (2010) provides a systematic discussion of fundamental economic concepts that are relevant to understanding the broader dimensions of economic development. The study covers key issues including economic growth, national income, inflation, poverty, unemployment, and public finance, thereby providing a conceptual foundation for analysing economic conditions. It also emphasizes the significance of government policies and economic institutions in addressing developmental challenges and promoting economic stability. The work is therefore useful as a theoretical reference for examining economic issues and understanding their implications within the context of the Indian economy.

Keshava (2013) examines the socio-economic exclusion experienced by Indian farmers in the process of economic growth and development. The study highlights the disparities faced by the agricultural community and discusses how existing patterns of economic growth may not adequately address the needs of rural and farming populations. It emphasizes the importance of appropriate policy interventions to promote greater economic inclusion, improve farmers' socio-economic conditions, and reduce inequalities. The study provides valuable insights into the need for inclusive agricultural and development policies to ensure that the benefits of economic growth reach marginalized farming communities.

Overall, agricultural productivity is shaped by production conditions, input use, and irrigation practices, while farm price realisation is influenced by market conditions. However, these dimensions are often studied separately. This study integrates them at the taluk level, using a common official statistical source to analyse crop productivity and paddy price realisation in Raichur District.

III. Research Gap

The existing literature provides substantial evidence on agricultural productivity, paddy cultivation, irrigation, input efficiency, and agricultural prices. However, three key gaps are relevant to this study.

First, much research on crop productivity in Raichur and surrounding areas relies on primary farm surveys or field experiments, which often fail to capture broader spatial variations across all taluks.

Second, productivity and price realisation are typically analysed separately. High crop productivity does not necessarily lead to higher farm-level price realisation, so examining both dimensions together offers a more complete understanding of agricultural performance.

Third, there is limited analysis of official taluk-level secondary statistics. While government publications offer crop-wise productivity and price data useful for identifying spatial differences, these data are rarely subjected to systematic comparative analysis.

This study addresses these gaps by analysing taluk-level agricultural data for Raichur District. It compares the productivity of major Kharif and Rabi crops, identifies differences across taluks, and examines the Farm Harvest Price of Grade-A paddy in relation to the Minimum Support Price (MSP). It also explores whether variations in paddy productivity correspond to differences in Farm Harvest Price. The study's contribution is primarily descriptive and spatial, as it does not seek to establish causal relationships due to limitations in available secondary data. of productivity and price realisation. Instead, it provides an empirical account of the agricultural differences evident in officially reported taluk-level statistics.

IV. Objectives of the Study

1. To examine the productivity of major Kharif and Rabi crops across the taluks of Raichur District.
2. To compare the productivity of paddy with that of other major crops and identify variations in crop yields among different taluks.
3. To assess the farm harvest price of Grade-A paddy on a taluk-wise basis and compare it to the Minimum Support Price.
4. To measure the extent of variation in paddy price realisation across the various taluks of Raichur District.
5. To determine whether differences in paddy productivity are associated with variations in farm harvest prices across the cultivating taluks.

V. Research Hypotheses

H₀1: There is no meaningful association between paddy productivity and farm harvest prices across the cultivating taluks of Raichur District.

H₀2: There is no significant difference between rice productivity and the productivity of the other major Kharif crop in the rice-dominant cultivating taluks of Raichur District.

VI. Research Methodology

6.1 Research Design: This study employs a descriptive and comparative research design that relies entirely on secondary data. It focuses on analysing differences in paddy crop productivity and price realisation across the taluks of Raichur District. The aim is not to establish causal relationships between productivity and individual factors such as irrigation, input use, technology, or market access. Rather, the study identifies patterns and associations observable in the available official statistics.

6.2 Data Source

The research utilises data from the "District at a Glance – Raichur Statistical Report, FY 2024–25," published by the Department of Economics and Statistics, Government of Karnataka.

The crop productivity data pertains to the Kharif and Rabi seasons of 2023–24 and is expressed in kilograms per hectare (kg/ha). The paddy price data is relevant for Grade-A paddy for the 2024–25 period and is reported in Indian Rupees (₹) per quintal. To ensure consistency, the study uses Farm Harvest Prices as part of the agricultural price statistics maintained by the Directorate of Economics and Statistics, Ministry of Agriculture and Farmers Welfare, Government of India. This body collects data on Farm Harvest Prices and other agricultural price indicators.

6.3 Study Area and Unit of Analysis

Raichur District serves as the geographical unit of the study, while each taluk represents the unit of analysis. The district consists of eight taluks: Arakera, Devdurga, Lingasuguru, Manvi, Maski, Raichur, Sindhanuru, and Sirivara. Arakera reports zero values in the crop productivity tables for the reference period. Here, a zero indicates the absence of reported crop cultivation, not an observed yield of zero kg/ha. Therefore, Arakera is excluded from the crop productivity comparisons. The analysis thus focuses on the seven cultivating taluks.

6.4 Variables Considered:

The analysis covers three key variables:

1. Crop Productivity: Measured in kilograms per hectare (kg/ha) for the principal crops reported in the Kharif and Rabi seasons.
2. Farm Harvest Price (FHP): The reported Farm Harvest Price for Grade-A paddy, expressed in ₹ per quintal.
3. Minimum Support Price (MSP): The reported Minimum Support Price for Grade-A paddy, also expressed in ₹ per quintal.

6.5 Derived Indicators

To improve the analytical value of the descriptive tables, several indicators are derived from the reported data.

Productivity gap

For each taluk:

$$PG_i = Y_{higher,i} - Y_{lower,i}$$

where Y represents the productivity of the two major crops reported for the taluk.

This measure indicates the magnitude of the productivity difference between the two reported crops.

Difference between FHP and MSP

$$D_i = FHP_i - MSP_i$$

A positive value indicates that the Farm Harvest Price is above MSP.

Percentage deviation of FHP from MSP

$$PD_i = \frac{FHP_i - MSP_i}{MSP_i} \times 100$$

This provides a standardised measure of the price premium over MSP, enabling comparison across taluks.

Mean of FHP and MSP

Where required for descriptive presentation:

$$M_i = \frac{FHP_i + MSP_i}{2}$$

This is treated as a **mathematical midpoint**, rather than an independently observed market price.

6.6 Statistical Techniques

The study uses simple descriptive statistical techniques, including:

- arithmetic mean;
- percentage analysis;
- absolute differences;
- productivity gaps;
- percentage deviation from MSP; and
- taluk-wise ranking.
- Correlation Analysis
- Paired Sample T Test

The analysis compares the reported productivity of major crops across Kharif and Rabi seasons and examines the variation in Grade-A paddy FHP relative to MSP.

The relationship between paddy productivity and FHP is examined using comparative and percentage-based analyses. Given that the study has only seven cultivating taluks and lacks farm-level or panel data, the analysis does not employ complex econometric techniques.

6.7 Interpretation Criterion

A 10% benchmark is used to assess the significance of percentage differences. A difference or deviation of 10% or more is deemed significant, while a difference below 10% is regarded as relatively minor. This guideline is for descriptive purposes only and should not be confused with traditional statistical significance.

6.8 Data Treatment

The district-level totals and averages reported are kept as they appear in the official statistical report. They are not replaced by independently calculated values unless the methodology allows direct aggregation. Additionally, the zero values reported for Arakera are considered non-observations for crop cultivation rather than indicating actual zero productivity or zero market prices. This approach helps prevent distortion in the comparative analysis.

6.9 Limitations of the Study

The study has several limitations that should be noted when interpreting its findings. First, it relies on secondary data, which in turn depend on the definitions and reporting procedures of official statistics. Second, the crop productivity analysis is cross-sectional and pertains to a single agricultural reference period, making it impossible to establish long-term trends or yield stability.

Additionally, the Farm Harvest Price is an aggregate measure and does not reflect individual farmers' prices, which can vary based on crop quality, timing of sale, procurement arrangements, market access, and marketing channels. Research indicates that these channels significantly influence the prices farmers receive relative to the Minimum Support Price (MSP).

Finally, the data do not provide sufficient information to isolate factors such as irrigation, input intensity, soil characteristics, farm size, technology, rainfall, or market access. Therefore, the observed differences between taluks should be seen as associations rather than causal effects.

VII. Discussion

This section presents findings on paddy productivity and its market-return implications across the taluks of Raichur District. The discussion occurs in three stages:

1. Comparing paddy yield with other major cereal crops at the taluk level.
2. Examining productivity of the two leading crops in each taluk during the Kharif and Rabi seasons.
3. Assessing the relationship between Farm Harvest Price and Minimum Support Price for paddy to test the study's hypothesis.

The analysis employs simple averages and percentage-deviation measures to highlight significant disparities, excluding Arakera due to its lack of crop reporting. This organised approach connects productivity patterns to their price implications, fulfilling the study's objectives.

7.1 Yield of Important Cereal Crops

Agricultural productivity within a region varies across its administrative units due to several factors, including irrigation facilities, soil conditions, availability of agricultural inputs, climatic conditions, cropping practices, and the adoption of modern agricultural technologies. In Raichur District, agriculture is a vital part of the rural economy, with significant crops such as rice, jowar, bajra, and maize contributing to the overall cropping pattern. Thus, analysing productivity at the taluk level is crucial for understanding the spatial variations in agricultural performance.

7.1 Table 1: Yield of Important Cereal Crops (Kg/ha), 2023–24

Sl. No.	Taluk	Rice	Jowar	Bajra	Maize	Total of 4 Crops
1	Arakera	0	0	0	0	0
2	Devdurga	3944	1497	53	4815	10309
3	Lingasuguru	4410	1314	1553	4240	11517
4	Manvi	4053	1518	1010	4135	10716
5	Maski	4428	1342	1973	4458	12201
6	Raichur	3448	906	2176	4018	10548
7	Sindhanuru	4175	2314	1808	4934	13231
8	Sirivara	4086	1690	113	3908	9797
	District Average (as reported)	3984	1578	790	4437	10789

Source: District At A Glance – Raichur Statistical Report FY 2024–25, Department of Economics and Statistics, Government of Karnataka.

The table outlines the taluk-wise productivity of four major crops—rice, jowar, bajra, and maize—in Raichur District. It reveals significant variation in the production of these cereal crops across the different taluks. Maski has the highest rice productivity at 4,428, while Sindhanuru leads in jowar production at 2,314. Raichur taluk reports the highest bajra production at 2,176, and Sindhanuru again tops the list for maize with 4,934.

When considering the total values of all four crops, Sindhanuru stands out with a combined total of 13,231, highlighting its strong position in cereal cultivation. Conversely, Sirivara has the lowest combined value among the taluks with non-zero figures, at 9,797. It is worth noting that Arakera reports zero values for all four crops. This may reflect differences in reporting practices, cropping patterns, or data availability rather than the absence of agricultural activity.

Overall, the data indicate notable differences in crop concentration across the taluks, with Sindhanuru, Maski, and Lingasuguru emerging as significant cereal-producing areas.

7.1.1 Table 2: Taluk-wise Yield of Major Cereal Crops: Average, Percentage Deviation and Variation (kg/ha)

Taluk	Rice	Rice % Dev.	Jowar	Jowar % Dev.	Bajra	Bajra % Dev.	Maize	Maize % Dev.
Devdurga	3,944	-3.28%	1,497	-0.96%	53	-95.73 %	4,815	10.48%

Lingasuguru	4,410	8.15%	1,314	-13.07%	1,553	25.16%	4,240	-2.72%
Manvi	4,053	-0.60%	1,518	0.43%	1,010	-18.60%	4,135	-5.12%
Maski	4,428	8.59%	1,342	-11.22%	1,973	58.92%	4,458	2.29%
Raichur	3,448	-15.45%	906	-40.07%	2,176	75.36%	4,018	-7.81%
Sindhanuru	4,175	2.39%	2,314	53.09%	1,808	45.70%	4,934	13.21%
Sirivara	4,086	0.20%	1,690	11.80%	113	-90.89%	3,908	-10.79%
Average	4,077.71	0.00%	1,511.57	0.00%	1,240.86	0.00%	4,358.29	0.00%
Standard Deviation	331.08	—	430.21	—	872.35	—	394.20	—
Coefficient of Variation (CV)	8.12%	—	28.46%	—	70.30%	—	9.04%	—
Yield Range (Max–Min)	980	—	1,408	—	2,123	—	1,026	—

Source: District At A Glance – Raichur Statistical Report FY 2024–25, Department of Economics and Statistics, Government of Karnataka.

Note: Average, standard deviation and CV are calculated from the seven non-zero taluk observations supplied. $CV = (\text{Standard Deviation} / \text{Mean}) \times 100$. Percentage deviation is calculated from the respective crop average.

Table 2 indicates that yield variation among the four major cereal crops in Raichur district is not uniform. Rice has a stable yield with a coefficient of variation (CV) of 8.12%, while maize shows a consistent CV of 9.04%. In contrast, jowar has a higher CV of 28.46%, mainly due to significant yield differences between Sindhanuru and Raichur. The most notable variation is in bajra, which has a CV of 70.30% and the widest yield range of 2,123 kg/ha, with Raichur recording the highest yield at 2,176 kg/ha, while Devdurga and Sirivara have very low yields.

Taluk-level patterns are also evident. Sindhanuru excels in jowar and maize, with yields 53.09% and 13.21% above average, respectively. Maski has the highest yield for rice and a significantly above-average yield for bajra. Meanwhile, Raichur has below-average yields for rice, jowar, and maize but the highest for bajra, indicating that crop performance is closely tied to local agricultural conditions.

Overall, the low variation in rice and maize suggests consistent cultivation, while the high variation in bajra indicates significant differences in cropping conditions across taluks. These findings highlight the need for crop- and taluk-specific agricultural interventions rather than a uniform district-wide strategy.

7.2 Productivity of Major Crop 1 & 2 in Kharif:

Crop productivity is a key indicator of agricultural performance, reflecting the efficiency of land use and resources. In Raichur district, productivity varies across taluks and between Kharif and Rabi seasons due to factors like crop choice, rainfall, irrigation, soil conditions, and cultivation practices. Tables 3 and 4 show the productivity of the two main crops in each taluk for Kharif and Rabi 2023–24. This comparison highlights variations in productivity and the significance of different crops across the district.

Table 3. Productivity of Major Kharif Crops across Taluks of Raichur District, 2023–24 (kg/ha)

Sl. No.	Taluk	Crop 1	Productivity (kg/ha)	Crop 2	Productivity (kg/ha)	Higher Productivity Crop	Productivity Gap (kg/ha)
1	Arakera	No Crop	0	No Crop	0	—	0
2	Devdurga	Cotton	787	Rice	4,420	Rice	3,633
3	Lingasuguru	Tur	786	Bajra	1,721	Bajra	935
4	Manvi	Cotton	491	Rice	4,225	Rice	3,734
5	Maski	Tur	623	Rice	4,462	Rice	3,839
6	Raichur	Cotton	592	Rice	3,534	Rice	2,942
7	Sindhanuru	Rice	4,180	Jowar	1,744	Rice	2,436
8	Sirivara	Cotton	627	Rice	4,226	Rice	3,599
Total	—	Cotton	629	Rice	4,119	—	

Source: *District At A Glance – Raichur Statistical Report FY 2024–25*, Department of Economics and Statistics, Government of Karnataka.

Notes: The productivity gap is the absolute difference in yields between the two crops reported for each taluk.

Table 3 highlights significant variations in the productivity of major Kharif crops across the taluks of Raichur district. Rice stands out as the highest productivity crop in most taluks where it is reported, with yields exceeding 4,000 kg/ha in Devdurga, Manvi, Maski, and Sirivara. Among these, Maski records the

highest rice productivity at 4,462 kg/ha, closely followed by Devdurga at 4,420 kg/ha. In contrast, cotton productivity is much lower, ranging from 491 kg/ha in Manvi to 787 kg/ha in Devdurga.

Lingasuguru shows a different trend, with Bajra yielding 1,721 kg/ha and Tur yielding 786 kg/ha. A striking difference is observed in Sindhanuru, where rice productivity reaches 4,180 kg/ha, compared to 1,744 kg/ha for Jowar. The disparity between these two crops is particularly pronounced in Maski, Manvi, and Devdurga, where the difference exceeds 3,600 kg/ha. Notably, Arakera reports no crops in either category.

Overall, the data suggest that rice has a significant productivity advantage during the Kharif season in the irrigated agricultural areas studied, whereas cotton, Tur, and other crops show substantially lower productivity. The substantial differences in productivity between Kharif and Rabi crops may be linked to variations in irrigation availability, soil moisture, crop characteristics, and cultivation practices; however, these factors would require separate empirical investigation.

7.3 Productivity of Major Rabi Crops across Taluks of Raichur District

Table 4. Productivity of Major Rabi Crops across Taluks of Raichur District, 2023–24 (kg/ha)

Sl. No.	Taluk	Rabi Crop 1	Productivity (kg/ha)	Rabi Crop 2	Productivity (kg/ha)	Higher Productivity Crop	Productivity Gap (kg/ha)
1	Arakera	No Crop	0	No Crop	0	—	0
2	Devdurga	Bajra	1,310	Rice	2,694	Rice	1,384
3	Lingsugur	Jowar	1,309	Bengal Gram	1,011	Jowar	298
4	Manvi	Jowar	1,432	Cotton	170	Jowar	1,262
5	Maski	Jowar	1,273	Bengal Gram	714	Jowar	559
6	Raichur	Jowar	897	Rice	2,694	Rice	1,797
7	Sindhanur	Jowar	2,659	Bengal Gram	857	Jowar	1,802
8	Sirivar	Jowar	1,684	Cotton	170	Jowar	1,514
Total	—	Jowar	1,539	Bajra	0	—	—

Note: The productivity gap represents the absolute difference between the two crops reported for each taluk.

Source: *District At A Glance – Raichur Statistical Report FY 2024–25*, Department of Economics and Statistics, Government of Karnataka

Table 4 indicates that Jowar is the most frequently reported major Rabi crop across the taluks, ranking as the primary crop in five out of seven taluks where cultivation is reported. However, its productivity varies considerably. The highest productivity for Jowar is in Sindhanur, at 2,659 kg/ha, significantly above the district average of 1,539 kg/ha. Conversely, Raichur records a low productivity of only 897 kg/ha. This difference of 1,762 kg/ha between the two taluks highlights the substantial variation in Rabi crop performance within the district.

In terms of rice, both Devdurga and Raichur report a higher productivity of 2,694 kg/ha, making it the leading crop in these taluks. On the other hand, Bengal Gram shows moderate productivity, ranging from 714 kg/ha in Maski to 1,011 kg/ha in Lingsugur. Cotton records the lowest productivity in the table, at just 170 kg/ha in both Manvi and Sirivar. The productivity gap between Jowar and cotton is especially

pronounced in Sindhanur (1,802 kg/ha) and Raichur (1,797 kg/ha), indicating significant disparities between leading and secondary crops in these regions.

A comparison with the Kharif table reveals an important seasonal trend: rice dominates the higher-productivity category during the Kharif season, while Jowar emerges as the more prominent crop in the Rabi season. This shift suggests that cropping choices vary significantly between the two seasons, as farmers adjust their crop selections in response to water availability, soil conditions, and other local agricultural conditions. Nevertheless, these trends cannot be solely determined from productivity figures; a separate analysis would be required for a more comprehensive understanding.

Overall, the Rabi productivity figures underscore significant variations across taluks, particularly for Jowar. Sindhanur stands out for its exceptionally high Jowar productivity, while both Devdurga and Raichur show relatively strong Rabi rice production. The wide range of productivity rates also suggests that agricultural planning in the district would benefit from developing taluk-specific strategies that account for crop suitability, irrigation conditions, and local farming practices, rather than a one-size-fits-all approach across the district.

7.4 Farm Harvest Price & Minimum Support Price for Paddy

Productivity measures output per hectare, but farmers' actual returns also depend on product prices. By comparing the Farm Harvest Price (FHP)—what farmers receive locally—with the Minimum Support Price (MSP) set by the government, we can assess whether productivity advantages at the taluk level translate into better market returns.

Since the MSP is uniform across districts or states, variations in FHP among different taluks can reveal how local market conditions and productivity are rewarded beyond the set price.

Table 5 presents the taluk-wise FHP and MSP for Paddy (Grade-A) in Raichur District for the 2024–25 period, providing a foundation for evaluating price premiums in relation to productivity patterns.

7. 4.2 Table 5: Farm Harvest Price & Minimum Support Price for Paddy (Grade-A), 2024–25 (₹/Quintal)

Sl. No.	Taluk	Paddy (Grade-A) FHP (₹/Quintal)	MSP (₹/Quintal)	FHP–MSP Difference (₹)	Premium over MSP (%)
1	Arakera	0	0	—	—
2	Devdurga	2,794	2,300	494	21.48
3	Lingasuguru	2,776	2,300	476	20.70
4	Manvi	2,769	2,300	469	20.39
5	Maski	2,794	2,300	494	21.48
6	Raichuru	2,447	2,300	147	6.39
7	Sindhanuru	2,839	2,300	539	23.43
8	Sirivara	2,714	2,300	414	18.00
Total		2,733	2,300	433	18.83

Note: FHP–MSP Difference = FHP – MSP. Premium over MSP (%) = [(FHP – MSP)/MSP] × 100.

Source: *District At a Glance – Raichur Statistical Report FY 2024–25*, Department of Economics and Statistics, Government of Karnataka.

Table 6 illustrates that the Farm Harvest Price (FHP) of Grade-A paddy exceeded the Minimum Support Price (MSP) in all seven taluks for which prices were reported during the 2024–25 period. With an MSP set at ₹2,300 per quintal, the district's recorded FHP was ₹2,733, resulting in a price advantage of ₹433 per quintal, or approximately 18.83% above the MSP.

Sindhanuru reported the highest FHP at ₹2,839 per quintal, representing a ₹539 premium over the MSP. Devdurga and Maski followed closely with FHPs of ₹2,794, while Lingasuguru and Manvi recorded prices of ₹2,776 and ₹2,769, respectively. Sirivara also showed a relatively favourable price of ₹2,714. In contrast, Raichuru reported the lowest FHP at ₹2,447, with a more modest margin of ₹147 above the MSP.

These figures highlight the variation in prices received by farmers across different taluks, even though the MSP was consistent. The ₹392 difference between the highest and lowest FHP is notable. Such variations may be influenced by local market conditions, procurement arrangements, quality of the produce, timing of sales, and farmers' access to markets, though these factors are not detailed in the table.

Overall, the data indicate that paddy farmers generally received prices above the MSP during 2024–25; however, the extent of these benefits varied across taluks. The narrower margin in Raichuru compared to Sindhanuru suggests that the market price advantage over the MSP was not uniform throughout the district. The zero values reported for Arakera should be viewed with caution, as they may signify non-reporting or a lack of relevant activity rather than an actual paddy price of zero.

7.3.2 Table 6: Taluk-wise Farm Harvest Price and MSP of Paddy (Grade-A), Average and Deviation from MSP, 2024–25

Sl. No.	Taluk	FHP (₹/Quintal)	MSP (₹/Quintal)	Average (₹/Quintal)	Difference from MSP (₹)	% Deviation from MSP	FHP Rank
1	Arakera	0	0	0	—	—	—
2	Devdurga	2,794	2,300	2,547	494	21.48%	2
3	Lingasuguru	2,776	2,300	2,538	476	20.70%	3
4	Manvi	2,769	2,300	2,535	469	20.39%	4
5	Maski	2,794	2,300	2,547	494	21.48%	2
6	Raichuru	2,447	2,300	2,374	147	6.39%	6
7	Sindhanuru	2,839	2,300	2,570	539	23.43%	1
8	Sirivara	2,714	2,300	2,507	414	18.00%	5
Total		2,733	2,300	2,517	433	18.83%	—

Note: Average = (FHP + MSP) / 2. Difference from MSP = FHP – MSP. Percentage deviation from MSP = [(FHP – MSP) / MSP] × 100. FHP Rank is based on the reported Farm Harvest Price, excluding Arakera because both FHP and MSP are reported as zero.

Source: *District At a Glance – Raichur Statistical Report FY 2024–25*, Department of Economics and Statistics, Government of Karnataka.

Table 6 offers a clear view of the price trends for Grade-A paddy across the taluks of Raichur district during the 2024–25 period. One key observation is that the Farm Harvest Price (FHP) exceeded the Minimum Support Price (MSP) in all seven taluks for which data was available. The average FHP for the district was ₹2,733 per quintal, ₹433 above the MSP of ₹2,300, representing a premium of 18.83%.

Sindhanuru had the highest FHP at ₹2,839 per quintal, resulting in the largest margin over the MSP at ₹539, or 23.43%. Devdurga and Maski followed with FHPs of ₹2,794, while Lingasuguru and Manvi recorded FHPs of ₹2,776 and ₹2,769, respectively. In contrast, Raichur reported the lowest FHP at ₹2,447, only ₹147 above the MSP. Therefore, while farmers in all reporting taluks received prices above the MSP, the degree of this price advantage varied significantly.

The difference between the highest and lowest FHP is ₹392 per quintal, which is substantial. This indicates that the market conditions faced by paddy producers were not uniform across the district. Factors such as local demand and supply conditions, paddy quality, procurement arrangements, sales timing, and market access may partly explain these variances, though the current table does not provide the capacity to analyse these factors directly.

It is also worth noting that while the MSP is consistent across all reporting taluks, the FHP fluctuates. This distinction is crucial because the MSP serves as a common reference price, whereas the actual price received at the farm level can vary with local market conditions. Sindhanuru's relatively high FHP indicates a stronger market return, while the small premium in Raichur suggests a more limited advantage over the MSP.

Overall, the data suggest that the paddy market was generally favourable to producers during 2024–25, with farm-harvest prices remaining above the announced MSP. However, the uneven margins across taluks indicate that the benefits of favourable prices were not distributed equally. This highlights the need for improved market access, procurement facilities, and better price information, particularly in regions where the farm harvest price is close to the MSP.

Interpretation of Hypotheses

Hypothesis 1: Association between Paddy Productivity and Farm Harvest Price

H_{01} : There is no meaningful association between paddy productivity and Farm Harvest Price (FHP) in the cultivating taluks of Raichur District.

Descriptive Statistics of Paddy Productivity and Farm Harvest Price

Variable	N	Mean	Std. Deviation	Minimum	Maximum
Paddy Productivity (kg/ha)	7	4,077.71	331.08	3,448	4,428
Farm Harvest Price (₹/quintal)	7	2,733.29	130.12	2,447	2,839
Valid N (listwise)	7				

Source: Computed from Table 1 and Table 5.

Correlations

	Paddy Productivity	Farm Harvest Price
Paddy Productivity Pearson Correlation	1.000	0.839
Sig. (2-tailed)	—	0.018
N	7	7
Farm Harvest Price Pearson Correlation	0.839	1.000

Sig. (2-tailed)	0.018	—
N	7	7

Note: Correlation is significant at the 0.05 level (2-tailed).

Table 7.3: Hypothesis Testing

Hypothesis	Statistical Test	Pearson Correlation (r)	Sig. (2-tailed)	Level of Significance	Decision
H ₀₁ : There is no meaningful association between paddy productivity and FHP	Pearson Product-Moment	0.839	0.018	0.05	Reject H ₀₁

The Pearson correlation coefficient ($r = 0.839$) indicates a **strong positive relationship** between paddy productivity and Farm Harvest Price. The significance value ($p = 0.018$) is lower than the 5% significance level (**0.05**).

Therefore, the null hypothesis (H₀₁) is **rejected**. The analysis indicates that there is a **statistically significant positive association between paddy productivity and Farm Harvest Price** among the cultivating taluks of Raichur District.

The result suggests that taluks with higher paddy productivity tend to record higher Farm Harvest Prices. However, this result represents **association and not causation**, particularly because the analysis is based on only seven aggregate taluk-level observations.

Hypothesis 2: Inter-Taluk Difference in Paddy Productivity

H₀₂: There is no significant difference between rice productivity and the productivity of the other major Kharif crop in the rice-dominant cultivating taluks of Raichur District.

Paired Samples Statistics

Pair	Mean	N	Std. Deviation	Std. Error Mean
Other Kharif Crop Productivity	810.67	6	463.83	189.36
Rice Productivity	4,174.50	6	341.75	139.52

Paired Samples Correlations

Pair	N	Correlation	Sig.
Other Crop Productivity & Rice Productivity	6	-0.302	0.560

Paired Samples Test

Paired Difference	Mean Difference	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)
Other Crop – Rice	-3,363.83	542.48	221.46	-15.19	5	<0.001

Hypothesis Testing Decision

Hypothesis	Test	t	df	Sig. (2-tailed)	Decision
H ₀₂ : No significant difference between Rice and other major Kharif crop productivity	Paired-Samples t-test	-15.19	5	<0.001	Reject H ₀₂

The results indicate a substantial difference between rice productivity and the productivity of the other major Kharif crop in the six rice-dominant taluks. The mean productivity of rice is **4,174.50 kg/ha**, compared with only **810.67 kg/ha** for the corresponding other Kharif crops.

The average productivity gap is **3,363.83 kg/ha**, indicating that rice productivity is considerably higher in these taluks. The Paired-Samples t-test produces a **t-value of -15.19** with **5 degrees of freedom**, with **p < 0.001**.

Since **p < 0.05**, the null hypothesis is rejected.

Therefore, there is a statistically significant difference between rice productivity and the productivity of the other major Kharif crops in the rice-dominant cultivating taluks of Raichur District.

7. Challenges and Policy Implications

The study highlights two key challenges in the agricultural economy of Raichur District: variation in crop productivity across taluks and the limited reflection of productivity gains in farm-level prices. The analysis shows significant spatial differences in agricultural performance, with higher productivity not necessarily leading to higher Farm Harvest Prices (FHP).

7.1 Inter-Taluk Differences in Agricultural Productivity

A major challenge is the uneven distribution of crop productivity among taluks. For instance, Maski recorded paddy productivity of 4,462 kg/ha in Kharif 2023–24, while Raichur recorded only 3,534 kg/ha. This suggests that district-level averages may hide important local variations.

Policy implications include the need for tailored agricultural programs. Taluks with lower productivity need focused support in extension services and agronomic practices, while better-performing taluks can provide successful examples for adaptation.

7.2 Productivity Gains and Price Realisation

The second challenge is the unclear link between productivity and price realisation. Sindhanur has high paddy productivity and the highest FHP of ₹2,839 per quintal, while Raichur's FHP is significantly lower at ₹2,447 per quintal. This indicates that increasing productivity alone does not guarantee better economic returns for farmers. The Economic Survey also emphasises the importance of achieving remunerative prices.

7.3 Differences in Farm Harvest Prices Across Taluks

All cultivating taluks report Grade-A paddy FHPs above the Minimum Support Price (MSP) of ₹2,300 per quintal, but margins vary significantly—ranging from ₹147 in Raichur to ₹539 in Sindhanuru. This variation suggests that MSP alone does not fully explain realised prices, highlighting the need for better market access and transparent pricing for farmers.

7.4 Limitations in the Existing Evidence Base

The study also faces limitations due to a lack of disaggregated data linking productivity with the conditions of sale. Based on official secondary statistics, it does not account for factors such as farm size, irrigation, and marketing dynamics. Hence, observed differences should be seen as spatial patterns rather than causal relationships. A more detailed understanding of agricultural performance requires comprehensive integration of production, cost, and market data.

VIII. Suggestions and Policy Recommendations

Agricultural policy in Raichur District should shift from a sole focus on increasing production to an integrated approach encompassing productivity, market access, and price realisation.

8.1 Taluk-Specific Productivity Strategies

Programs should target taluk-specific productivity gaps instead of relying on district averages. Extension services must focus on areas with lower productivity and share successful practices from higher-performing regions to ensure tailored interventions.

8.2 Strengthening Paddy Productivity

Since paddy is vital to the district, efforts should focus on improved crop management, timely access to quality seeds, balanced nutrient and water management, and proper extension support. The goal should be stable, economically viable productivity while minimising costs.

8.3 Enhancing Market Access and Price Realisation

Disparities between Farm Harvest Prices (FHP) and Minimum Support Prices (MSP) highlight the need for better market access. Strengthening procurement centres, regulated markets, and farmer organisations can enhance farmers' bargaining power. Transparency in market pricing will help inform selling decisions.

8.4 Strengthening Farmer Producer Organisations

Encouraging Farmer Producer Organisations (FPOs) can improve collective marketing and reduce transaction costs. Effective FPOs depend on institutional capacity and connections with buyers, so policy support should enhance operational capabilities.

8.5 Improving Storage and Post-Harvest Infrastructure

Better storage facilities offer farmers flexibility in selling their produce, allowing them to benefit from favourable market conditions. Investments in storage, drying, and quality assessment facilities are essential.

8.6 Linking Productivity with Cost of Cultivation

Future policies should assess productivity alongside cultivation costs. Higher yields must translate into adequate returns, necessitating integration of cost and productivity data for meaningful evaluations.

8.7 Developing a Taluk-Level Agricultural Monitoring System

A taluk-level agricultural dashboard could consolidate information on crop area, yield, FHP, MSP, and other indicators. This system would help policymakers identify productivity and price gaps and enhance evidence-based planning for diverse agricultural conditions within the district.

IX. Way Forward

The study suggests that future agricultural policy in Raichur should adopt a productivity-to-income approach instead of focusing solely on production. While improving crop yields is essential, farmers are primarily concerned with whether higher production yields better economic returns.

First, it's crucial to identify the reasons behind productivity differences among taluks. Future research should examine factors such as irrigation, rainfall, soil characteristics, input intensity, seed quality, farm size, and cropping practices to better understand these disparities.

Second, the factors influencing differences in Farm Harvest Prices (FHP) need to be investigated. Although the study shows that FHP varies across taluks and that margins above the Minimum Support Price (MSP) differ, the reasons remain unclear. Research should explore marketing channels, access to procurement, sale timing, and farmers' bargaining power.

Third, integrating productivity and price data with cost of cultivation would help estimate meaningful indicators such as gross and net returns. This would allow for a better assessment of how productivity improvements affect farm incomes.

Creating a multi-year, taluk-level database would also strengthen future research by identifying trends in productivity and pricing over time.

X. Conclusion

This study examined agricultural productivity and price realisation in Raichur District using official data. It highlights significant spatial variations in crop productivity, particularly in paddy. While certain taluks show high paddy productivity, substantial differences exist.

FHP exceeds the MSP of ₹2,300 per quintal across all cultivating taluks, but margins vary widely, with Sindhanuru reporting the highest and Raichur the lowest FHP. Notably, the relationship between paddy productivity and FHP is inconsistent.

The findings indicate that while productivity is crucial, it does not guarantee higher price realisation. Agricultural policy must enhance both productivity and the market conditions for farmers.

For Raichur, a differentiated policy approach combining productivity interventions with improved market access and storage options is needed. Future research should also focus on farm-level data to better understand the mechanisms underlying productivity and pricing differences.

Overall, this study underscores the importance of evaluating agricultural development not just by output volume but also by addressing productivity gaps and the extent to which production translates into farm income.

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