



Original Article

A Study on Cropping Pattern in Hyderabad Karnataka Region

Dr. Laxyapati ET

Guest Faculty Department of Studies and Research in Economics,
VSKUB, PG Center Nandihalli Sandur, Karnataka, India

Manuscript ID:
RIGJAAR-2025-020701

ISSN: 2998-4459
Volume 2
Issue 7
Pp. 1-6
July 2025

Submitted: 06 June 2025

Revised: 20 June 2025

Accepted: 10 July 2025

Published: 31 July 2025

Correspondence Address:

Dr. Laxyapati ET
Guest Faculty Department of
Studies And Research in
Economics, VSKUB, PG
Center Nandihalli Sandur,
Karnataka, India
Email:
laxyapatiet@gmail.com

Quick Response Code:



Web: <https://rlgjaar.com>



DOI:
10.5281/zenodo.16602202

DOI Link:
<https://doi.org/10.5281/zenodo.16602202>



Creative Commons



Abstract

Karnataka is divided in ten agro-climatic zones, taking into consideration the rainfall pattern, soil types, texture, depth and physio-chemical properties, elevation, topography, major crops and the type of vegetation. The state's rich and diverse agriculture contributes 28.6% to the Gross State Domestic Product (GSDP). 64.6% of the geographical area of the state is under cultivation and farmers and agricultural laborers account for 56.5% of the Karnataka's workforce (Census 2001). The cropping pattern of a region reflects the agricultural practices, economic priorities, and environmental conditions prevailing in that area. In the context of the Hyderabad-Karnataka region—comprising districts like Bidar, Kalaburagi, Yadgir, Raichur, Koppal, and Ballari—agriculture plays a significant role in sustaining the rural economy and livelihoods. This region is characterized by semi-arid climatic conditions, varying soil types, and dependency on monsoon rainfall, all of which significantly influence the selection and distribution of crops. Over the years, changes in irrigation facilities, market demand, government policies, and climatic variability have led to notable shifts in cropping patterns. This study aims to analyze these shifts, identify the dominant crops, understand the factors influencing crop choices, and assess the implications for food security and sustainable agriculture in the region. Understanding these dynamics is crucial for planning appropriate agricultural interventions and improving productivity and income for the farming communities of Hyderabad-Karnataka.

Keywords: Agriculture, Cropping Pattern, Trends, land utilization Karnataka, horticulture, cropping seasons, sustainability, technology, police.

Introduction

Karnataka is divided in ten agro-climatic zones, taking into consideration the rainfall pattern, soil types, texture, depth and physio-chemical properties, elevation, topography, major crops and the type of vegetation. The state's rich and diverse agriculture contributes 28.6% to the Gross State Domestic Product (GSDP). 64.6% of the geographical area of the state is under cultivation and farmers and agricultural laborers account for 56.5% of the Karnataka's workforce (Census 2001).

Agriculture remains the backbone of the Indian economy, and the analysis of cropping patterns provides valuable insight into the agricultural development, resource utilization, and economic priorities of a region. The Hyderabad-Karnataka region, which includes the districts of Kalaburagi, Yadgir, Bidar, Raichur, Koppal, and Ballari, represents one of the most agriculturally significant yet underdeveloped regions of Karnataka. This region is predominantly rain-fed, with a semi-arid climate, erratic monsoon patterns, and varying soil types—ranging from black cotton soil to red loamy soil—making crop selection a critical decision for farmers.

The cropping pattern in this region has traditionally revolved around food grains such as jowar, bajra, red gram, and paddy, alongside oilseeds like groundnut and sunflower. However, in recent decades, the region has witnessed a gradual shift in its cropping pattern due to a combination of factors including improved irrigation facilities (notably through the Krishna and Tungabhadra rivers), changing climatic conditions, access to markets, availability of high-yielding crop varieties, and government policy support. Commercial crops such as sugarcane and cotton have also begun to gain prominence in certain pockets. Studying the cropping pattern of the Hyderabad-Karnataka region is essential for multiple reasons. It helps to assess the efficiency of land use, the degree of crop diversification, and the region's vulnerability to climate change and market fluctuations. Moreover, such a study can guide policymakers and agricultural planners in promoting sustainable agricultural practices, improving water management, and enhancing farmers' income and food security.

Creative Commons (CC BY-NC-SA 4.0)

This is an open access journal, and articles are distributed under the terms of the [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International Public License](https://creativecommons.org/licenses/by-nc-sa/4.0/), which allows others to remix, tweak, and build upon the work noncommercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

How to cite this article:

Laxyapati ET. (2025). A Study on Cropping Pattern in Hyderabad Karnataka Region. *Royal International Global Journal of Advance and Applied Research*, 2(7), 1–6. <https://doi.org/10.5281/zenodo.16602202>

This research aims to provide a comprehensive analysis of the existing cropping patterns in the Hyderabad-Karnataka region, identify trends and shifts over recent years, and evaluate the socioeconomic and environmental factors driving these changes. By doing so, the study seeks to contribute valuable insights that can aid in formulating region-specific agricultural strategies and support the long-term development of the agricultural sector in this part of Karnataka.

Agriculture is not only a means of livelihood but also a way of life for a vast majority of the Indian population, particularly in rural areas. In this context, the analysis of cropping patterns holds great importance, as it reveals the prevailing agricultural trends, the use of land and water resources, and the economic orientation of farmers in a given region. The cropping pattern refers to the proportion of land under various crops at a point in time or over a period, and its study helps in understanding the dynamics of agricultural development, sustainability, and rural economy.

The Hyderabad-Karnataka region, officially referred to as the Kalyana-Karnataka region after its renaming, comprises the districts of Kalaburagi, Yadgir, Bidar, Raichur, Koppal, and Ballari. This region is historically backward in terms of socio-economic indicators, yet it holds substantial agricultural potential due to its vast cultivable land, river basins, and diverse agro-climatic zones. Despite its potential, the region faces several challenges, such as inconsistent rainfall, frequent droughts, lack of irrigation infrastructure in some areas, poor access to technology, and low investment in agriculture. These factors have led to a cropping pattern that is highly sensitive to both natural and man-made influences.

Traditionally, the region has been dominated by dryland crops like jowar (sorghum), bajra (pearl millet), tur (pigeon pea), and other pulses and oilseeds. With time, due to improved irrigation facilities from major rivers like Krishna and Tungabhadra, the cultivation of water-intensive crops like paddy, cotton, and sugarcane has increased. However, the shift toward commercial and cash crops also raises concerns about sustainability, soil health, and water resource management. In addition, market forces, input costs, support prices, and government policies like subsidies and minimum support price (MSP) schemes have influenced farmers' decisions in changing their crop preferences.

This study is an attempt to critically examine the existing cropping patterns in the Hyderabad-Karnataka region and analyze how they have evolved over time. It seeks to explore the relationship between cropping choices and factors such as rainfall variability, soil type, irrigation availability, market access, policy incentives, and socio-economic conditions of the farming community. By doing

so, the study aims to provide valuable insights that can aid in designing region-specific agricultural policies, promoting crop diversification, ensuring resource sustainability, and enhancing farmers' income and resilience.

Moreover, in the wake of climate change, understanding cropping patterns becomes even more crucial. With unpredictable monsoons, rising temperatures, and declining groundwater levels, farmers are forced to reconsider traditional practices and adopt adaptive strategies. Hence, this research also attempts to assess the adaptive capacity of the region's agriculture and suggest ways to strengthen it through better planning, technology adoption, and institutional support.

Methodology:

The present study aims to analyze the cropping patterns in the Hyderabad-Karnataka region and examine the factors influencing changes in agricultural practices over time. To achieve this, a systematic methodology was adopted, involving both qualitative and quantitative research techniques. The study is primarily based on secondary data sources, supplemented by limited primary data where necessary.

Objectives:

1. To understand the cropping pattern in Karnataka.
2. To analyze the district wise trends of cropping pattern in Karnataka.

Review of literature:

H. R. Sharma (2023): In "Patterns, Sources, and Determinants of Agricultural Growth in India," Sharma underlined the continued importance of agriculture for employment and poverty reduction. He recognized technology and crop diversification as key drivers of growth and advocated increasing agricultural R&D expenditure to 3% of GDP to sustain progress.

V.B. Pardhi, S.S. Khandave, and B.T. Kolgane (2024): Their study, "Identification of Factors Responsible for Shifts in Cropping Patterns," analysed biological, physical, technological, social, and resource-related factors affecting cropping patterns. They found biological factors, such as pest and disease outbreaks, most influential, while industrialization and urbanization further influenced cropping patterns. The study stressed a comprehensive approach to address these challenges

Dr. Vinod Kumar (2022): In his study, "Five Decades of India's Agricultural Growth across Crops: Emerging Trends and Patterns," he identified a shift towards high-value crops, driven by improved yields and technological advancements. He emphasized the importance of crop diversification, integrated farming systems, and increased investment in agricultural R&D for sustainable growth. The need for climate-resilient technologies to enhance productivity and double farmers' incomes was also highlighted.

Data Analys

Table No 4.1 Bajra Productions in Hyderabad-Karnataka Region.

Sl No	District/Crop	2006	2007	2008	2009	2010	2011	2012	2013	2014
	Bajra	2006	2007	2008	2009	2010	2011	2012	2013	2014
1	Ballari	7505	13500	7336	8249	11295	9253	16954	17201	16700
2	Bidar	7831	8456	7065	4372	5117	5837	5772	3356	3743
3	Kalaburgi	43042	48530	41894	20403	13796	16845	16961	19870	18218
4	Koppal	16612	61349	35840	18512	82517	75596	97196	99363	88910
5	Yadagiri	0	0	0	0	18167	9655	18977	20531	15552
6	Raichur	17692	43211	36280	24202	47919	40543	51281	56876	33806
	Total /Production in tons	92682	175046	128415	75738	178811	157729	207141	217197	176929
	Mean	15447	29174	21403	12623	29801.83	26288.2	34523.5	36199.5	29488.2

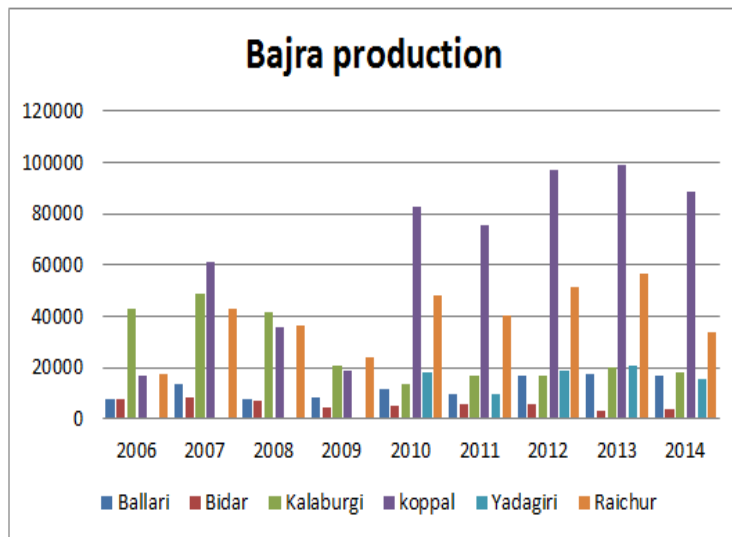


Figure4.1 Bajra production

Above the table 4.1 shows that Bajra production in Kalaburgi division from 2006 to 2014. In period of 2006 Kalaburgidistrict hashigherthe productionBajra is 43042 tones and second highest production inKoppal district

Whereas, lower the production of Bajra in Ballaridistrictis 7505 tones. Meanwhile, in 2014 higher the production Bajra in Koppal district (33806) similarly lower the production is shown in Bidar district (3743).

Table No 4.2 Maize Production in Hyderabad-Karnataka Region

Sl No	District/Crop	2006	2007	2008	2009	2010	2011	2012	2013	2014
	Maize	2006	2007	2008	2009	2010	2011	2012	2013	2014
1	Ballari	179807	260481	221134	189500	254848	207485	241566	220977	249999
2	Bidar	407	927	1028	930	17201	2017	4967	8359	1329
3	Kalaburgi	3015	4887	8820	4138	110188	13977	13278	13705	12713
4	koppal	26306	70315	64894	44074	109285	127395	2187	212637	172189
5	Yadagiri	0	0	0	0	921	374	318	202	2316
6	Raichur	2778	1188	1103	662	1029	1074	311	870	293
	toteal /production in tons	212313	337798	296979	239304	493472	352322	262627	456750	438839
	Mean	35386	56300	49496.5	39884	82245.3	58720.3	43771.2	76125	73140

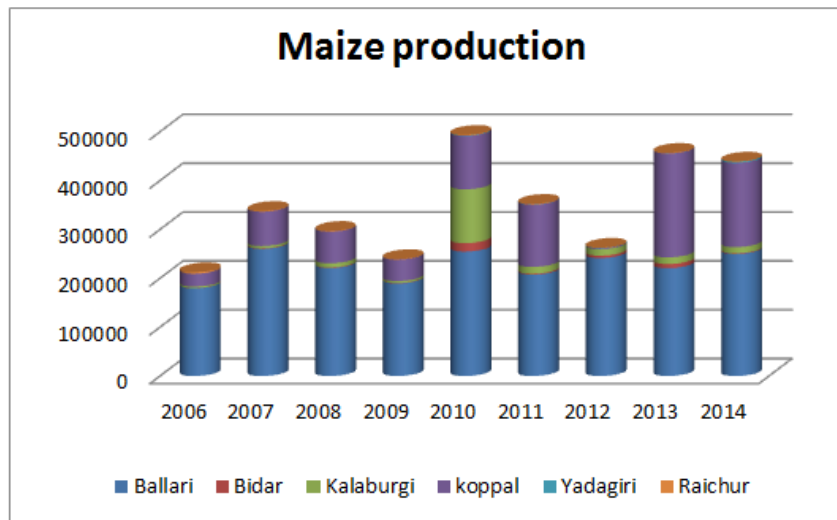


Figure 4.2 Maize production

Above the table 4.2 Refers that Maize production in Kalaburgi division from 2006 to 2014. In period of 2006 Bellary district has higher the production Maize is 179809 tons and second highest production in Koppal

district. Whereas, lower the production of Bajra in Bidar district is 407 tons. Meanwhile, in 2014 higher the production Maize in Ballari district (249999) similarly lower the production is shown in Bidar district (293).

Table No 4.3 Gram Production in Hyderabad-Karnataka Region

Sl No	District/Crop	2006	2007	2008	2009	2010	2011	2012	2013	2014
1	Ballari	17799	18833	25555	1926	42262	35113	50846	46223	50611
2	Bidar	4416	17123	21799	0	28154	19274	37424	39733	14138
3	Kalaburgi	9920	84324	113619	256	147961	116889	129137	155732	155482
4	koppal	1	9311	9162	1319	25045	6299	37397	32528	31352
5	Yadagiri	0	0	0	0	18141	4627	9328	8711	12026
6	Raichur	3	35870	27376	187	45180	26348	103013	127170	57474
	total /production in tons	32139	165461	197511	3688	306743	208550	367145	410097	321083
	Mean	5356.5	27577	32918.5	614.667	51123.8	34758.3	61190.8	68350	53514

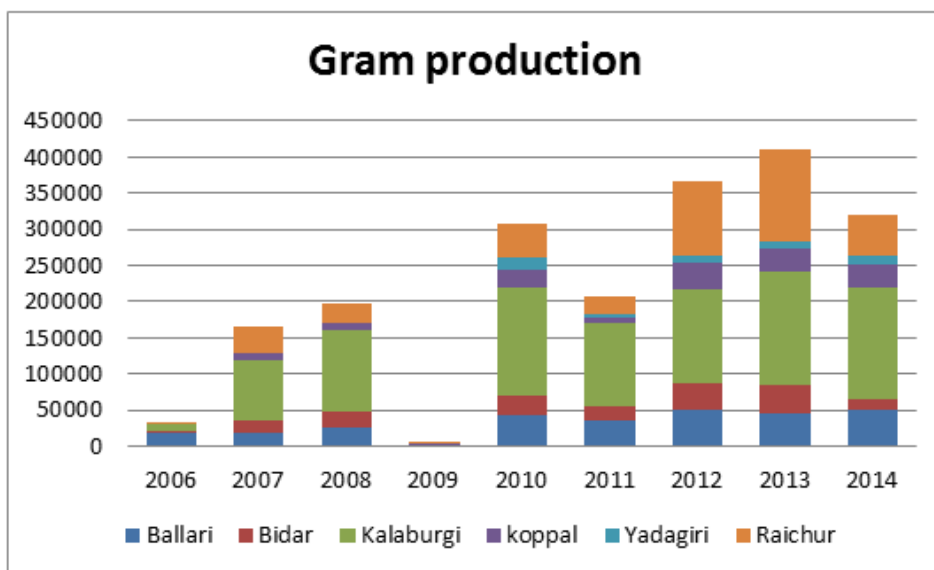


Figure 4.3 Gram production

Above the table 4.3 Shows that Gram production in Kalaburgi division from 2006 to 2014. In period of 2006 Bellary district hashigherthe production Gram is 17799tones and second highest production inKalaburgi district.

Whereas, lower the production of Gram in Yadagiri districtis 12026 tones. Meanwhile, in 2014 higher the production Gram in Ballari district (50611) similarly lower the production is shown in Yadgiri district (12026).

Table No 4.4 Rice Production in Hyderabad-Karnataka Region

Sl No	District/Crop	2006	2007	2008	2009	2010	2011	2012	2013	2014
	RAICE									
1	Ballari	204553	283719	283650	248380	339376	288837	289394	290788	286690
2	Bidar	4449	4223	4077	3877	4816	5836	4880	5541	1989
3	Kalaburgi	107324	141389	122202	91024	4822	5331	4834	11335	2887
4	koppal	141720	145069	149430	114920	170981	161960	131451	134099	14559
5	Yadagiri	0	0	0	0	106769	102798	64608	10169	146014
6	Raichur	285068	286365	334587	252315	309529	346950	354865	347511	320982
	Total	743114	860765	893946	710516	936293	911712	850032	799443	773121
	mean	12852	143461	148991	118419`3	156049	151952	141672	133241	128854

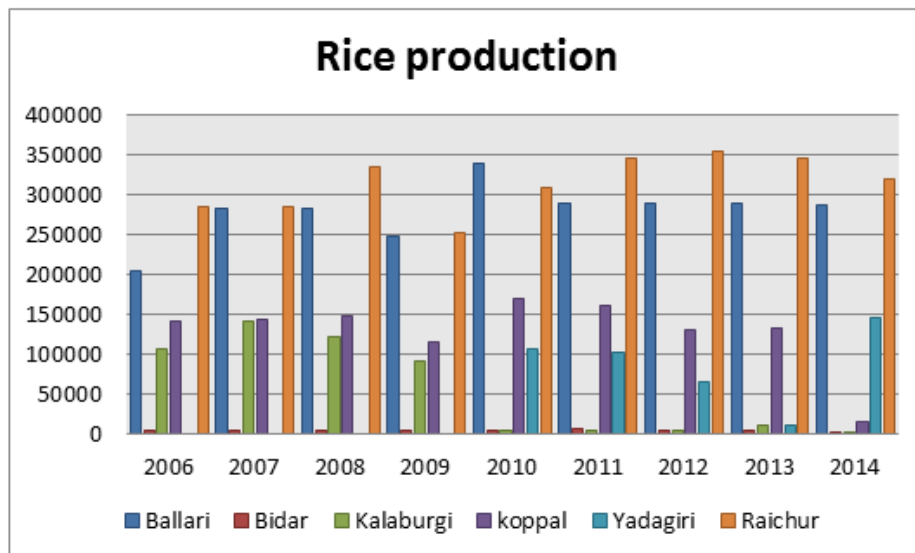


Figure4.4 Rice production

Above the table 4.4 Examine that Rice production in Kalaburgi division from 2006 to 2014. In period of 2006 Bellary district hashigherthe production Rice is 285068 tones and second highest production in Ballari district. Whereas, lower the production of Rice in Bidar districtis 1989 tones. Meanwhile, in 2014 higher the production rice in Raichur district (320982) similarly lower the production is shown in Bidar district (1989).

Conclusions

Agriculture sector is playing a pivotal role and making a significant contribution to the country's economic development. Numerous factors, both positive and negative, influence the growth of the agriculture sector in India. The study reveals that the agriculture sector has consistently made substantial contributions to the Indian economy. Compared to other countries, India has achieved remarkable progress in the production of agricultural crops. Despite the challenges such as micro and macro environmental conditions and certain government policies, the production of various crops has shown an upward trend during the study period. The government has implemented policy measures periodically, particularly during the Five-Year

Plans, to promote the growth and development in the agriculture sector. However, diverse environmental conditions across different regions have contributed to uneven regional development, creating an imbalance that affects the sector's overall progress. To address this, it is imperative for the government to focus on achieving balanced regional development. Identifying specific regional issues and implementing targeted solutions will help resolve agricultural challenges and boost productivity, ensuring sustainable growth in the sector.

Acknowledgment

I extend my heartfelt gratitude to the Department of Studies and Research in Economics, VSKUB, PG Center, Nandihalli, Sandur, for providing the necessary academic support and resources to undertake this study. I am especially thankful to my colleagues and mentors for their insightful suggestions and encouragement throughout the research process.

I sincerely acknowledge the valuable secondary data made available by government agencies, agricultural departments, and previous scholarly works that formed the foundation of



this study. My thanks are also due to the farming community of the Hyderabad-Karnataka region, whose resilience and experiences inspired this research.

Financial support and sponsorship

Nil.

Conflicts of interest

The authors declare that there are no conflicts of interest regarding the publication of this paper.

References:

1. Dr. Vinod Kumar, 'Five Decades of India's Agricultural Growth Across Crops: Emerging Trends and Patterns', NABARD Working Papers 2022-1, pp 1-27 <https://www.nabard.org/auth/writereaddata/tender/2609222521five-decades-of-indias-agricultural-growth-across-crops-emerging-trends-and-patterns>.
2. H. R. Sharma, 'Patterns, Sources and Determinants of Agricultural Growth in India', Indian Journal of Agricultural Economics, Volume 78, Number 1, pp. 26-53, January-March 2023
3. Pardhi, V.B, S.S. Khandave, and B.T. Kolgane, 'Identification of Factors Responsible for Shifts in Cropping Pattern', Asian Journal of Agricultural Extension, Economics & Sociology vol.42, no. 6, pp. 334-338, 2024; Article no.AJAEES.117688 <https://doi.org/10.9734/ajaees/2024/v42i62496>.
4. Reserve Bank of India, Annual Report 2016-17 (Mumbai, 2017), Box II, 2, p.18. 5. Government of India, Planning Commission, Twelfth five year plan 2012-17(Delhi 2012), Volume II, p.42 6. Government of India, Economic Survey, 2022-23, (Delhi, 2023), Box VIII, 2, pp.251-52
5. Geetha Mohan (2017) "Determinants of Cropping Pattern Changes in Andhra Pradesh, India" Asian Journal of Agricultural Extension, Economics & Sociology 20(3): 1-15, 2017; Article no.AJAEES.36892 ISSN: 2320-7027
6. DR.B.N channaveeregowda*; DR. K.G sureshkumar * (2014) "farming systems and cropping pattern in hassan district of karnataka" International Interdisciplinary Research Journal__ISSN 2347-6915 GIIRJ, Vol.2 (1), JANUARY (2014)
7. D. P. Angadi (April 2014) "Levels of Agricultural Development: A Case study of Belgaum District, Karnataka-India" Research Forum: International Journal of Social Sciences; ISSN: 2348 4411 (Volume-2, Issue-2)
8. Ajay Kumar* K.K. Saxena** "Study of shifts in cropping pattern of Kharif season crops in Haryana using cluster analysis" International Journal of Engineering, Science and Mathematics Vol. 6 Issue 1, March 2017, ISSN: 2320-0294 Impact Factor: 6.765