

MYSURU DISTRICT TALUK-WISE AGRICULTURAL CROP DISTRIBUTION AND PRODUCTION: A GEOGRAPHICAL ANALYSIS

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Abstract: Agriculture is a major component of the rural economy and cultural landscape of the Mysuru district in southern Karnataka. The pattern of distribution of agricultural crops varies greatly from one taluk to another because of variations in rainfall, soil, irrigation, relief, ground water availability, agro-climatic conditions, market accessibility and agricultural methods. The present study deals with the taluk wise distribution and production of major agricultural crops in the district of Mysuru with special reference to cereals and millets, pulses, oilseeds, commercial crops, plantation crops and horticultural crops. The study mainly relies on secondary data for the year 2023-24 from the Directorate of Economics and Statistics and ICAR-JSS Krishi Vigyan Kendra, Suttur, Mysuru. The agricultural profile gives information at taluk level for nine administrative units, namely, H.D. Kote, Hunsur, K.R. Nagar, Mysuru, Nanjangud, Periyapatana, Saligrama, Saraguru and T. Narasipura. The analysis reveals significant spatial differentiation. T. Narasipura is famous for its vast paddy area and sugarcane production, Periyapatana and Hunsur have large ragi cultivation. H.D. Kote and Hunsur are important maize producing areas. Nanjangud is a major producer of paddy, sugarcane, pulses and horticultural products. Irrigation also showed great spatial variation with T. Narasipura having the highest percentage of net irrigated area. The study concludes that the agricultural system in Mysuru district is diversified and spatially differentiated and suggests that future agricultural planning should adopt taluk specific strategies.

Keywords: Agricultural Geography, Mysuru district, taluk, crop distribution, crop production, irrigation, paddy, ragi, maize, sugarcane.

INTRODUCTION

Agriculture is an important part of the economic and geographical structure of Mysuru district. Mysuru city has evolved as an important urban, educational, administrative and tourism center while large rural areas continue to be dependent on agriculture and allied activities. The district lies on the southern Karnataka plateau and has a variety of agricultural landscapes ranging from irrigated river-valley and command areas to relatively dryland farming areas.

Agricultural production is not uniform in space. The kind, area and production of crops vary greatly with environmental and socio-economic conditions. Paddy and sugarcane generally require relatively assured supplies of water whereas crops such as ragi, horsegram, pulses and maize can occupy areas with relatively greater dependence on rainfall. Thus, by examining crop distribution we have an important way of understanding the relationship between physical geography, irrigation, and human agricultural decisions.

The Official Mysuru District Statistics at a Glance 2023–24 is a crucial government statistical reference for district-level analysis. ICAR–JSS Krishi Vigyan Kendra district profile based on Directorate of Economics and Statistics data for the year 2023-24, taluk-wise agricultural data on irrigation, crop area and production.

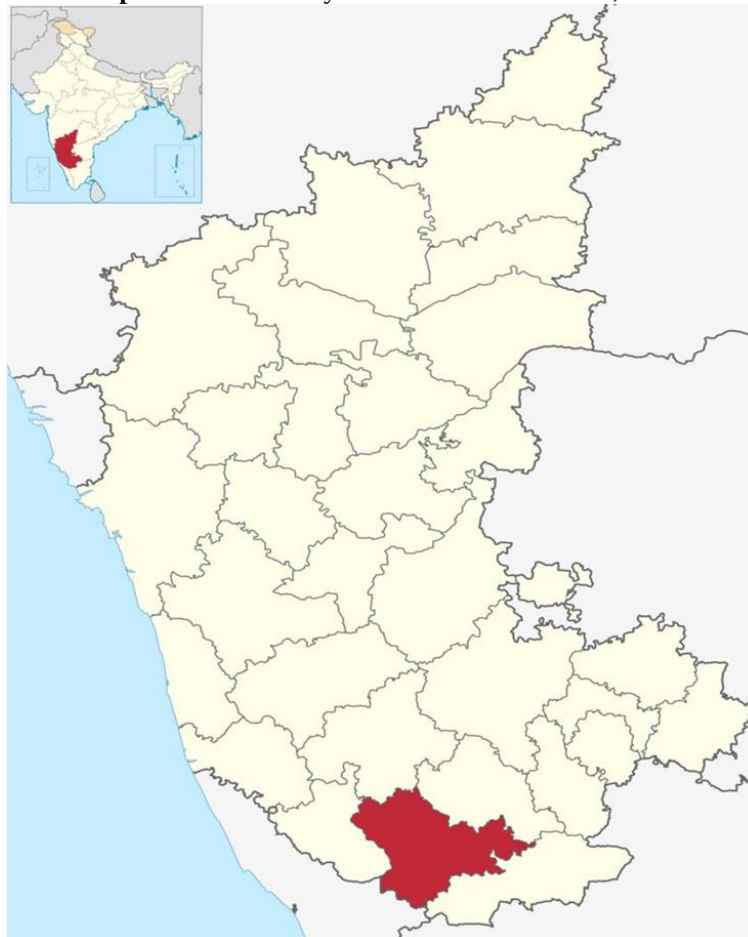
STUDY AREA

Mysuru district is located in the southern part of Karnataka. The district is in the Cauvery river system and has varied

agricultural environments. According to the district agricultural profile the district has a geographical area of about 6,307 km² and a population of 3,001,127 (2011 Census). The agricultural statistics used in this paper for nine taluks viz., H.D. Kote, Hunsur, K.R.Nagar, Mysuru, Nanjangud, Periyapatana, Saligrama, Saraguru and T. Narasipura are available in district profile. It has specifically mentioned that the statistics district-wise has been published with the data of the Directorate of Economics and Statistics for the year 2023-24.

The district has two broad agro-ecological settings, namely Southern Dry Zone and Southern Transition Zone, which contribute to differences in conventional agricultural methods and crop combinations. According to ICAR-JSS KVK, the district receives average annual rainfall of about 782 mm and has a large area under cultivation.

Map: 1 Location of Mysuru District in Karnataka, India.



Source: Adapted from Wikimedia Commons (<https://commons.wikimedia.org/>), administrative boundary map of Karnataka.

Objectives of the Study

1. To study the geographical features of agriculture of Mysuru district.
2. To study the taluk-wise distribution of major agricultural crops.
3. To study the spatial variability of crop production.
5. To investigate the association between irrigation and crop specialization.
5. To identify the major agricultural zones of the district.
6. To study the geographical factors responsible for variation in the distribution of crops.
7. To recommend suitable strategies for sustainable agricultural development.

Methodology

The study is primarily based on secondary data. The taluk-wise agricultural statistics for 2023-24 are taken from ICAR-JSS Krishi Vigyan Kendra district profile and the statistical source mentioned in the profile is the

Directorate of Economics and Statistics. The official Mysuru district website has the Mysuru District Statistics at a Glance 2023-2024.

The data have been classified under the following heads; irrigation, cereals and millets, pulses, oilseeds, commercial crops, plantation crops and horticultural crops. The methods of descriptive statistical and geographical analysis are used. Variations in taluk-wise have been explained in terms of rainfall, irrigation, agro-ecological conditions and agricultural specialization.

Geographical Basis of Agricultural Development

- **Relief and Physiography:** The district of Mysuru is part of the southern Karnataka plateau. The terrain is characterized by an undulating surface with variations in elevation and drainage. These variations influence soil moisture, erosion, groundwater recharge, and agricultural suitability. Intensive cultivation is especially appropriate for lower-lying areas connected with river and irrigation systems. Geographically, the agricultural landscape can be broadly divided into relatively intensive irrigated agricultural areas and relatively extensive dryland agricultural areas.
- **Rainfall:** One of the most important factors in the distribution of agriculture is rainfall. Annual rainfall in taluks is stated to have wide variations in the district agricultural profile. In 2023, H.D. Kote received about 1,391.4 mm, K.R. Nagar received about 1,399.3 mm, Mysuru received about 1,355.9 mm and T. Narasipura received about 1,344.9 mm whereas Saraguru received about 1,183 mm. Such spatial differences in rainfall affect crop choice especially where irrigation is limited. But the distribution of crops cannot be explained by rainfall alone, since the natural moisture regime is greatly modified by irrigation.

Taluk-wise Irrigation Pattern

Irrigation is a major factor influencing the agricultural geography of Mysuru district. The 2023–24 agricultural profile reports 166,433 hectares of total net irrigated area, equivalent to approximately 40.01% of the reported net area.

Table 1. Taluk-wise Net Irrigated Area, Mysuru District, 2023–24

Sl. No.	Taluk	Net irrigated area (ha)	% of net area irrigated
1	H.D. Kote	19,086	33.80
2	Hunsur	23,008	34.16
3	K.R. Nagar	12,783	63.77
4	Mysuru	15,961	39.26
5	Nanjangud	29,580	44.15
6	Periyapatana	16,133	30.75
7	Saligrama	13,215	50.74
8	Saraguru	5,011	21.32
9	T. Narasipura	31,656	82.11
Total Mysuru District		166,433	40.01

Source: Compiled from ICAR–JSS Krishi Vigyan Kendra, Mysuru District Profile, 2023–24.

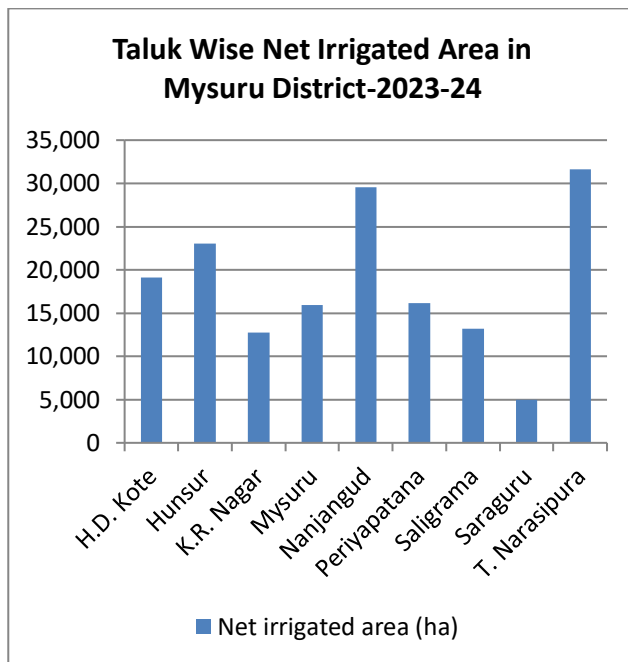


Figure 1

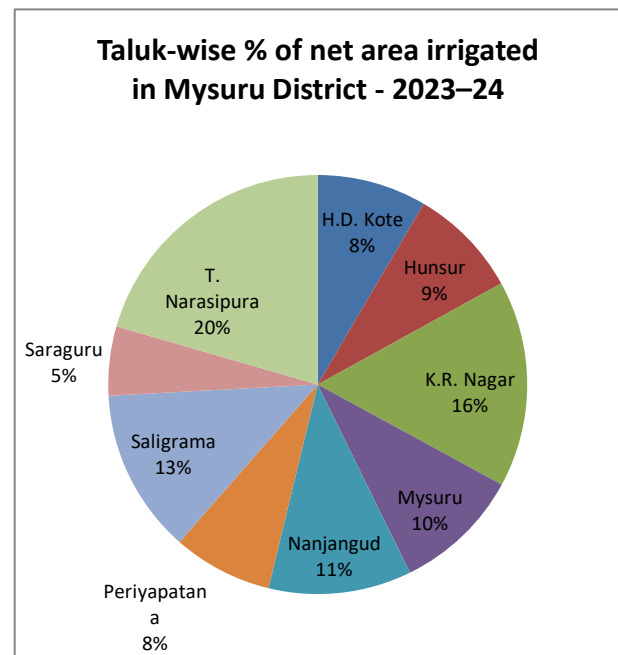


Figure 2

Geographical interpretation

Table 1 shows a large variation in the level of irrigation. Highest proportion of net irrigated area has been reported in T. Narasipura 82.11 per cent, K.R. Nagar 63.77 per cent and Saligrama 50.74 per cent. Saraguru has the lowest percentage of 21.32% reported. This is an important pattern in the explanation of agricultural specialization. More irrigation availability means farmers can grow water-intensive crops and need not depend as much on uncertain rainfall. The strong irrigation position of T. Narasipura is of special significance as the taluk also reports the largest paddy area and very high sugarcane production.

Distribution of Cereals and Millets Taluk-wise

Cereals and millets are the major food crop component of Mysuru district. Paddy, ragi and maize show a very strong spatial differentiation.

Table 2. Taluk-wise Area under Major Cereals and Millets, 2023-24
 Area in hectares

Taluk	Paddy	Jowar	Bajra	Maize	Ragi
H.D. Kote	4,272	0	1	13,600	14,845
Hunsur	8,361	0	0	12,936	27,358
K.R. Nagar	10,280	14	4	379	12,128
Mysuru	8,059	265	0	267	6,528
Nanjangud	16,484	3,285	1	972	2,453
Periyapatana	9,005	0	0	2,089	33,560
Saligrama	10,392	17	2	1,723	10,295
Saraguru	2,429	0	0	2,089	5,279
T. Narasipura	29,057	0	1	2,976	420
Total	98,339	3,581	9	51,055	103,882

Source: ICAR-JSS Krishi Vigyan Kendra, Mysuru District Profile, 2023-24.

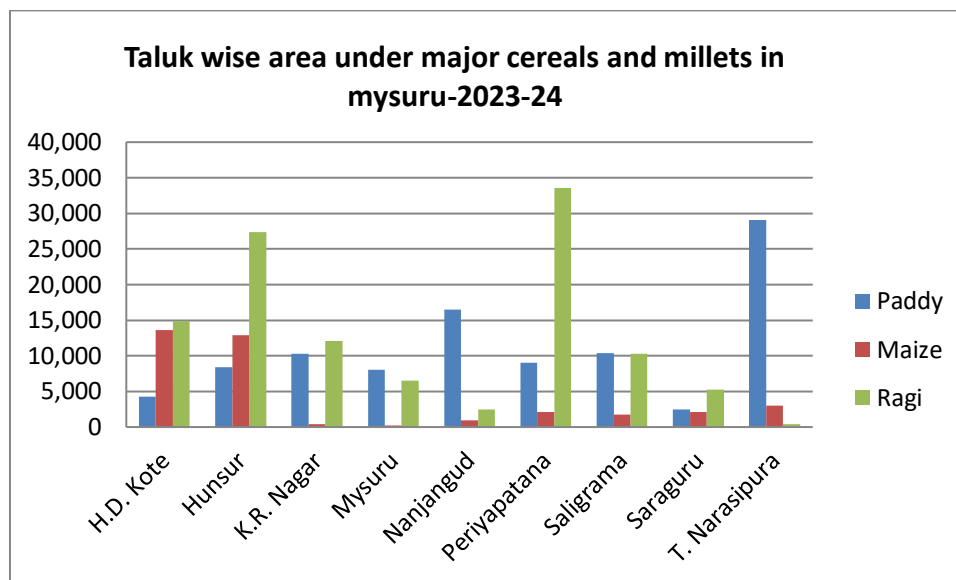


Figure 3

- **Paddy distribution:** There is a very distinct spatial pattern in paddy. The highest reported paddy area is in T. Narasipura (29,057 ha) followed by Nanjangud (16,484 ha) and K.R. Nagar (10,280 ha). The relatively large paddy areas of these taluks are in conformity with their stronger irrigation conditions . The contrast is most evident at T. Narasipura. The area under paddy is more than three times of H.D. Kote and Hunsur. This indicates the role of irrigated agriculture and command area conditions in determining the crop pattern.
- **Distribution of Ragi:** Ragi displays a different pattern geographically. Periyapatana has 33,560 ha followed by Hunsur with 27,358 ha and H.D. Kote with 14,845 ha. Ragi is grown only on 420 ha in T. Narasipura which has very large paddy area. This difference is a good example of the concept of specialization in agriculture. Paddy can be concentrated in areas with good irrigation potential and suitable moisture, while other agricultural landscapes will continue to emphasize dryland crops such as ragi.
- **Distribution of maize:** H.D. Kote and Hunsur are particularly important for maize. H.D. Kote has 13,600 ha and Hunsur 12,936 ha under maize. These figures indicate that maize is an important part of the agricultural economy of the two taluks.
- **Pulses distribution:** Pulses play an important role in dryland and mixed farming systems. The major pulses reported in the Mysuru district are horsegram, blackgram, greengram, avare and cowpea.

Table 3. Selected Pulse Area by Taluk, 2023–24

Taluk	Horsegram (ha)	Black gram (ha)	Green gram (ha)	Avare (ha)	Cowpea (ha)
H.D. Kote	4,200	181	234	1,603	2,634
Hunsur	1,862	35	15	4,795	3,665
K.R. Nagar	1,698	77	28	434	1,166
Mysuru	3,067	604	660	2,638	7,769
Nanjangud	9,168	3,761	2,880	946	3,944
Periyapatana	3,785	0	1	3,868	6,556
Saligrama	587	150	84	229	1,934
Saraguru	1,764	7	48	30	106
T. Narasipura	1,876	3,737	220	7	225

Source: ICAR–JSS Krishi Vigyan Kendra, Mysuru District Profile, 2023–24.

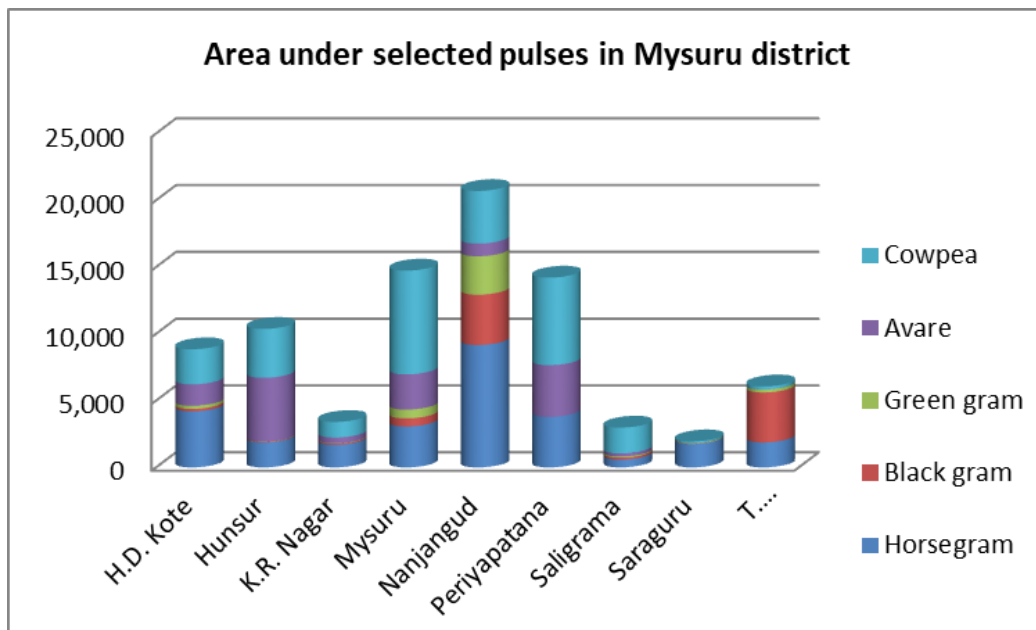


Figure 4

Nanjangud has a special place in the cultivation of pulses with 9,168 ha of horsegram, 3,761 ha of blackgram and 2,880 ha of greengram. Mysuru taluk has reported the highest cowpea area with 7,769 ha, followed by Periyapatana with 6,556 ha. The geographical importance of pulses can be attributed to their adaptation to relatively dry agricultural environments and importance in diversified farming systems. Pulses also contribute to sustainable cropping systems through biological nitrogen fixation and the maintenance of soil fertility.

Oilseed Distribution

Oilseeds form a smaller but spatially significant component of the agricultural economy.

Table 4. Taluk-wise Selected Oilseed Area, 2023–24

Taluk	Groundnut (ha)	Sunflower (ha)	Sesame (ha)	Niger + Mustard (ha)
H.D. Kote	4	5	604	0
Hunsur	141	8	0	45
K.R. Nagar	28	1	0	45
Mysuru	3	0	16	1,118
Nanjangud	240	2,369	147	4
Periyapatana	3	0	0	3
Saligrama	2	0	0	129
Saraguru	2	3	3	134
T. Narasipura	438	23	0	89

Source: ICAR–JSS Krishi Vigyan Kendra, Mysuru District Profile, 2023–24.

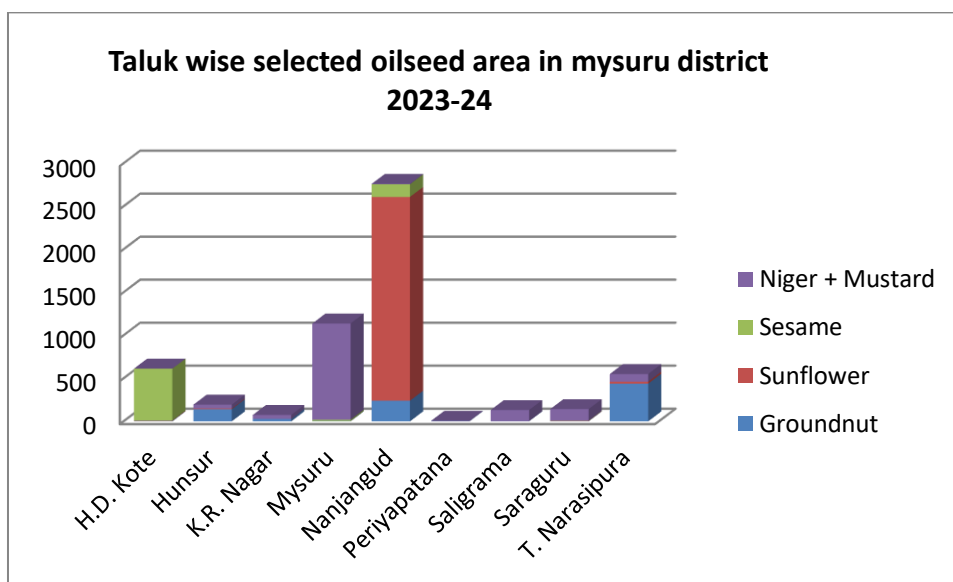


Figure 5

Sunflower cultivation is particularly prominent in Nanjangud with 2,369 ha while Mysuru has a comparatively substantial area under the reported Niger + mustard category. Among the taluks shown, the taluk of T. Narasipura has the largest area under groundnut (438 ha). The spatial distribution of oilseeds shows the use of crop diversification strategies by farmers in response to soil, moisture, market and seasonal conditions.

Commercial Crops and Production

Commercial crops are important for the agricultural economy in linking rural production with processing industries and markets. In the district of Mysuru sugarcane and tobacco are of special importance.

Table 5. Taluk-wise Production of Major Commercial Crops, 2023–24

Taluk	Cotton (bales)	Sugarcane (tonnes)	Tobacco (tonnes)
H.D. Kote	21,640	159,253	1,440
Hunsur	1,481	9,842	23,802
K.R. Nagar	52	67,353	996
Mysuru	749	200,073	0
Nanjangud	7,327	575,644	113
Periyapatana	0	3,202	21,779
Saligrama	6	100,793	6,573
Saraguru	17,742	31,187	59
T. Narasipura	10	498,120	0
Total	40,878	1,690,121	48,380

Source: ICAR–JSS Krishi Vigyan Kendra, Mysuru District Profile, 2023–24.

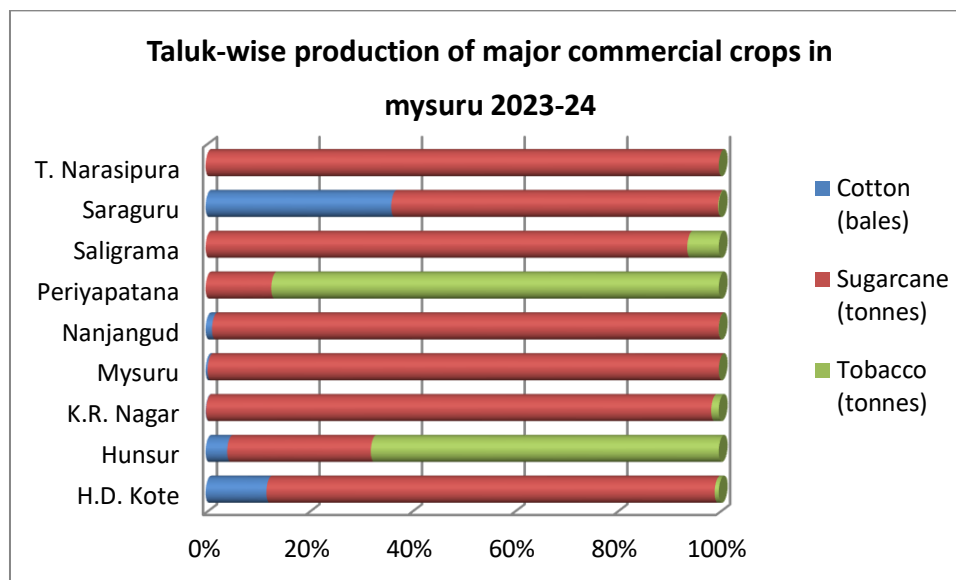


Figure 6

- **Sugarcane production:** Sugarcane is one of the most spatially concentrated crops in the district. Nanjangud is at 575,644 tons followed by T. Narasipura (498,120 tons) and Mysuru (200,073 tonnes). The concentration of sugarcane in these taluks is geographically significant as sugarcane is a water intensive crop. Thus its production is strongly associated with the availability of irrigation and suitable agricultural environments.
- **Production of Tobacco:** Tobacco is grown in a different part of the world than sugar cane. Hunsur has recorded 23,802 tons and Periyapatana 21,779 tons. These two taluks together have a major share of the reported tobacco production. This emphasizes the fact that the agricultural specialization of Hunsur and Periyapatana is quite distinct from the irrigated paddy–sugarcane regions.
- **Cotton cultivation:** H.D. Kote and Saraguru are particularly famous for cotton production with 21,640 and 17,742 bales produced respectively.
- **Plantations:** The agricultural geography of the district of Mysuru is made more complex by the plantation crops.

Table 6. Production of Selected Plantation Crops, 2023–24
Production in tonnes

Taluk	Coconut	Arecanut	Pepper
H.D. Kote	28,247	741	68
Hunsur	49,195	1,107	6
K.R. Nagar	14,506	775	3
Mysuru	48,029	580	18
Nanjangud	34,838	429	9
Periyapatana	9,297	2,015	279
Saligrama	31,646	1,406	3
Saraguru	1,984	157	3
T. Narasipura	6,079	329	2
Total	223,633	7,540	388

Source: ICAR–JSS Krishi Vigyan Kendra, Mysuru District Profile, 2023–24.

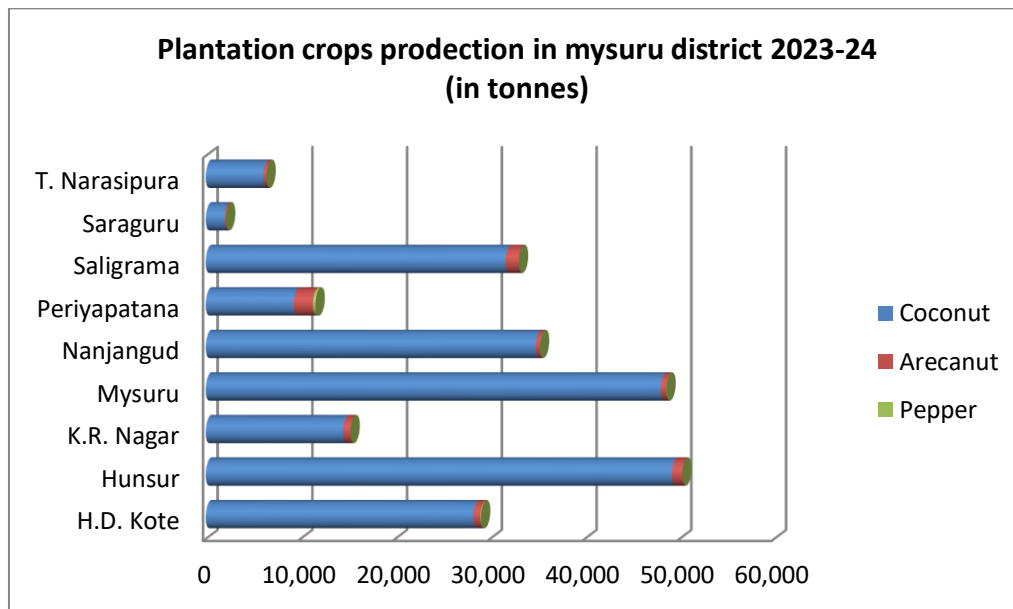


Figure 7

The top producer of coconut is Hunsur with 49,195 tons followed by Mysuru with 48,029 tons and Nanjangud with 34,838 tons. Arecanut and pepper are famous for Periyapatana with 2,015 tons of arecanut and 279 tons of pepper. This pattern depicts the impact of agro-climatic conditions on plantation agriculture. The relatively stronger association of Periyapatana with the Southern Transition Zone gives geographical context to the cultivation of plantation crops.

Crop Production (Horticultural)

Horticulture is becoming more significant as it offers avenues for crop diversification, higher-value production and linkages with urban markets.

Table 7. Production of Selected Horticultural Crops, 2023–24
Production in metric tonnes

Taluk	Banana	Mango	Tomato	Green chilli
H.D. Kote	271,855	12,057	26,412	3,400
Hunsur	57,370	12,430	52,940	4,841
K.R. Nagar	5,136	859	20,447	9,800
Mysuru	58,346	17,801	136,179	4,200
Nanjangud	194,018	7,980	83,790	5,966
Periyapatana	67,483	340	6,018	16,536
Saligrama	5,521	550	1,754	900
Saraguru	38,046	75	8,254	900
T. Narasipura	16,434	1,217	9,749	240
Total	793,909	53,308	342,574	46,443

Source: ICAR–JSS Krishi Vigyan Kendra, Mysuru District Profile, 2023–24.

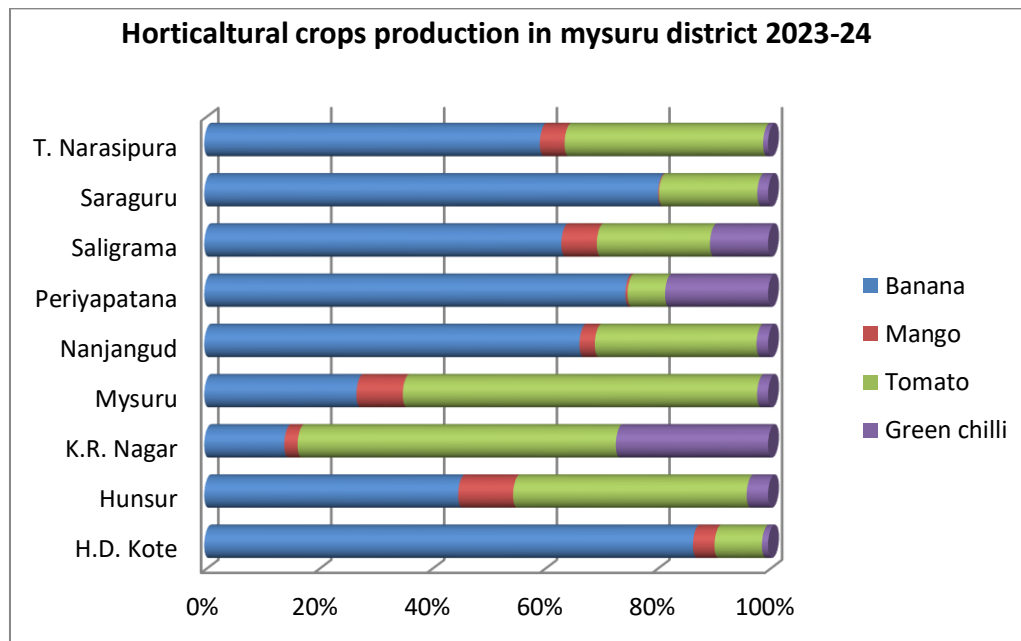


Figure 8

- **Banana:** The spatial concentration of banana is particularly striking. H.D. Kote recorded 271,855 tons and Nanjangud 194,018 tons. In the reported data, these two taluks together constitute the major banana producing belt.
- **Tomato:** Mysuru taluk is a major producer of tomato, reporting a production of 136,179 tons, followed by Nanjangud at 83,790 tons and Hunsur at 52,940 tons.
- **Vegetables:** The concentration around Mysuru is geographically significant since urban markets, transportation, consumer demand, and access to agricultural inputs are able to foster the production of high-value vegetables.

Taluk-wise Crop Specialization

Based on the agricultural data, Mysuru district has several broad agricultural regions.

Table 8. Broad Agricultural Specialization by Taluk

Taluk	Major agricultural characteristics
H.D. Kote	Maize, ragi, cotton, banana
Hunsur	Ragi, maize, tobacco, coconut
K.R. Nagar	Paddy, ragi, coconut
Mysuru	Paddy, vegetables, tomato, sugarcane
Nanjangud	Paddy, sugarcane, pulses, banana, vegetables
Periyapatana	Ragi, pulses, tobacco, arecanut
Saligrama	Paddy, ragi, sugarcane, coconut
Saraguru	Ragi, cotton, pulses
T. Narasipura	Paddy, sugarcane, groundnut

Source: Author's geographical interpretation based on 2023–24 agricultural statistics.

The table indicates that no single crop dominates the entire district. Instead, different combinations of crops form distinctive agricultural regions.

Study of Agricultural Pattern Geographically

- **Irrigated Paddy-Sugarcane Region:** T. Narasipura and Nanjanagud emerge as important units of an irrigated agricultural region. The net irrigated area of T. Narasipura is 31,656 ha which is 82.11 per cent of the reported net area. 29,057 ha is under paddy. It also mentions a sugarcane production of 498,120 tons. Nanjangud also

has a large irrigation, paddy and sugarcane production. The agricultural landscape in these areas thus shows a close association of irrigation infrastructure with intensive cultivation.

- **Ragi–Maize Agricultural Region:** Hunsur, H.D. Kote and Periyapatana hold more importance of ragi and maize. Hunsur has an area of 27,358 ha of ragi and 12,936 ha of maize while H.D. Kote has 14,845 ha of ragi and 13,600 ha of maize. Highest ragi area reported was 33560 ha in Periyapatana. The pattern demonstrates the importance of dryland and transitional agricultural systems.
- **Tobacco Agricultural Region:** Hunsur and Periyapatana are the important tobacco growing zones. They report tobacco production of 23,802 and 21,779 tons respectively. The concentration indicates the influence of established cropping traditions, market linkages, agro-climatic conditions and farmer specialization.
- **Horticultural Region:** H.D. Kote and Nanjangud are important for banana production and Mysuru and Nanjangud have good tomato production. Horticulture has expanded because of changing market conditions and an increasing demand for fruits and vegetables. Its closeness to the city of Mysuru also offers a significant market advantage for perishable agricultural produce.

Relationship between Irrigation and Crop Distribution

One of the key findings of the study is the relationship between irrigation and specialization of crops.

The agricultural profile shows that T. Narasipura has the highest net irrigated area share at 82.11% and Saraguru has 21.32%. Similarly T. Narasipura has 29,057 ha under paddy against only 2,429 ha under Saraguru. T. Narasipura also cultivates 498,120 tons of sugar cane.

This spatial association does not imply that the decision to irrigate is the sole factor determining crop choice. Other factors affecting agricultural decisions include market conditions, soil characteristics, farm size, technology and farmer preferences. However, data show that irrigation is a major geographic factor associated with the concentration of water-demanding crops.

Major Findings: The major findings of the study can be summarized as follows:

- The Agro economy of Mysuru district is very diversified. The agricultural landscape includes cereals, millets, pulses, oilseeds, commercial crops, plantation crops and horticultural crops.
- Paddy is geographically concentrated. The maximum paddy area is reported in T. Narasipura (29,057 ha) followed by Nanjangud (16,484 ha).
- Ragi has a very good presence in Periyapatana, Hunsur and H.D. Kote. Maximum area under ragi was reported from Periyapatana (33,560 ha).
- In H.D. Kote and Hunsur maize is important with 13,600 ha and 12,936 ha respectively.
- Sugarcane production is highly concentrated in Nanjangud and T. Narasipura with 575,644 tons and 498,120 tons respectively.
- Hunsur and Periyapatana are important tobacco Growing areas.
- Horticulture is very spatially specialized. H.D. Kote and Nanjangud are significant for banana production while Mysuru is important for tomato production.
- Crop specialization is strongly geographically tied to irrigation. T. Narasipura has the highest percentage of irrigated area reported. Also it has very high paddy and sugarcane production.

Problems and Challenges

Agriculture sector of Mysuru district is facing many geographical and socio-economic challenges.

- **Rainfall variability:** Agriculture is still vulnerable to the variability of monsoon rainfall. Real years of rainfall can be different and this can have an effect on sowing, choice of crop and yield.
- **Groundwater pressure:** Tube wells are significant for irrigation. Groundwater is an important part of agricultural production, as the district profile reports net irrigated area through tube wells to be 88,843 ha.
- **Water-intensive cropping:** Irrigated areas are dominated by sugarcane and paddy, necessitating careful water management in the face of unpredictable rainfall.
- **Crop-price fluctuations:** Market prices, input costs and demand vary for commercial crops and vegetables.
- **Climate variability:** Variations in rainfall patterns, temperature and extreme weather events may impact crop productivity and agricultural calendars.

- **Small and fragmented holdings:** Agricultural holdings are fragmented, which can limit mechanization and increase production costs, especially for small farmers.

Suggestions for Sustainable Agricultural Development

A geographical approach to agricultural planning demands taluk-wise development strategies.

- Irrigation planning should be aimed at improving water use efficiency through micro irrigation, rain water harvesting and watershed development.
- Dryland taluks should be encouraged to retain diversified cropping systems with ragi, pulses, oilseeds and other drought tolerant crops.
- Long-term water availability should determine the cultivation of water-intensive crops, not short-term economic incentives
- Cold storage, processing, transportation and market infrastructure should be supported for horticultural development.
- Use of GIS and remote sensing should be increased for mapping of annual crop distribution, irrigation intensity, soil conditions and drought vulnerability.
- Geographical targeting of agricultural extension services. Each taluk will need a different mix of technology, crop varieties, water-management strategies and market support.

CONCLUSION

The present geographical study reveals that the agricultural structure of Mysuru district is complex and spatially differentiated. Irrigation, rainfall, agro-climatic conditions, soils, market accessibility and agricultural traditions have close association with crop distribution. T. Narasipura is an important irrigated paddy-sugarcane landscape and Nanjangud is a combination of paddy, sugarcane, pulses and horticulture. Hunsur, H. D. Kote and Periyapatana are important for ragi and maize, while Hunsur and Periyapatana are also important for tobacco production. H.D. Kote and Nanjangud are heavily into banana cultivation while Mysuru has a big vegetable production base, especially tomato. The research, thus, concludes that the agricultural geography in Mysuru district is not uniform and is marked by spatial specialization. The combination of physical resources and human factors has resulted in the formation of unique agricultural regions in the district. Future agriculture development planning should be changed to taluk specific agro-climatic and water resource based planning. Such an approach can assist in crop diversification, efficient irrigation, sustainable management of groundwater, climate resilience and improved agricultural income.

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