Dynamics of Cropping Patterns in Dindigul District,Tamil Nadu

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Abstract

The cropping pattern refers to the total cultivated area devoted to different crops during a specific time period, illustrating the spatial variations of crops over time. This study focuses on delineating the cropping pattern in Dindigul district. The primary objectives of this research include examining the total cultivated area allocated to various crops in the study region. Ten dominant crops in the study area are considered for this analysis: Paddy, Cholam, Maize, Other Cereals, Pulses, Spices, Fruits & Vegetables, Fiber Crops, Oilseeds, and Non-Food Crops. The study spans across two-decades from 2012 to 2022, organized block-wise basis. The investigation relies on secondary data primarily sourced from the Census of India and district census handbooks. Data analysis employs simple techniques such as percentages. All information is visually represented using suitable cartographic tools, with the aid of ArcGIS 10.2.2 software.

Key Words: Cropping Pattern, Cultivated Area, Paddy, Cholam, Maize, Other Cereals.

Introduction

Agriculture plays a pivotal role in the economic development of developing countries, such as India, serving as a backbone. Over 50% of India's population still relies on agriculture for their livelihoods. Quantitative measures of cropping distributions are essential for comprehending the human and physical interactions within an area. Crop distribution is influenced by various natural and cultural phenomena, with variations in the distribution and utilization of crops based on specific climatic conditions and terrain due to diverse agricultural practices and crop combinations in fields. The concept of agricultural patterns extends beyond merely dividing land into different compartments; it involves understanding the intricacies of agricultural practices. The cropping pattern represents the proportion of

various crops in a specific land area during a defined time period. It reveals the yearly sequence and spatial arrangements of crops and fallows in an area. The cropping system, a vital component of any farming system, is largely determined by the region's soils and climatic parameters, shaping the overall agro-ecological setting and suitability of crops for cultivation.

The patterns of crop land use in a region reflect the combined influence of the physical and human environment. Differences in attitudes towards rural land, influenced by prosperity and technology, have led to significant changes in both landscape and land use studies (Supravat Ghosh, 2017), with far-reaching effects (Coppock, 1968).

Cropping patterns also depend on terrain, topography, slope, soils, and the availability of water for irrigation, as well as the use of pesticides, fertilizers, and mechanization. The cropping systems are further influenced by several other forces related to physical, cultural, infrastructure facilities, socio-economic factors, and technological developments, all interacting at the micro-level.

Dindigul, primarily an agro-based region in Tamil Nadu, has around 70% of its total population earning their livelihood directly or indirectly through agriculture. The region's semi-tropical monsoon type climate is conducive to various crops, making it a leading district in the production of crops such as Maize, Guava, and Vegetables.

Study Area

Dindigul district, situated in the southern part of Tamil Nadu, was established on September 15, 1985, following its separation from the composite Madurai District. Geographically, it spans between 10°05' and 10°09' North latitude and 77°20' and 77°30' East longitude (refer to Fig. No.1). Dindigul District is bordered by Erode District to the North, Karur and Thiurchirapalli District to the East, Madurai and Theni District to the South, and Coimbatore District and the state of Kerala to the West. The study area encompasses a total area of 6,036 sq.km, with a population of 2,159,775 individuals according to the 2011 census. Administrative divisions in Dindigul district include 9 Taluks and 14 Blocks, further segmented into 39 Revenue Firkas and 357 Revenue Villages.

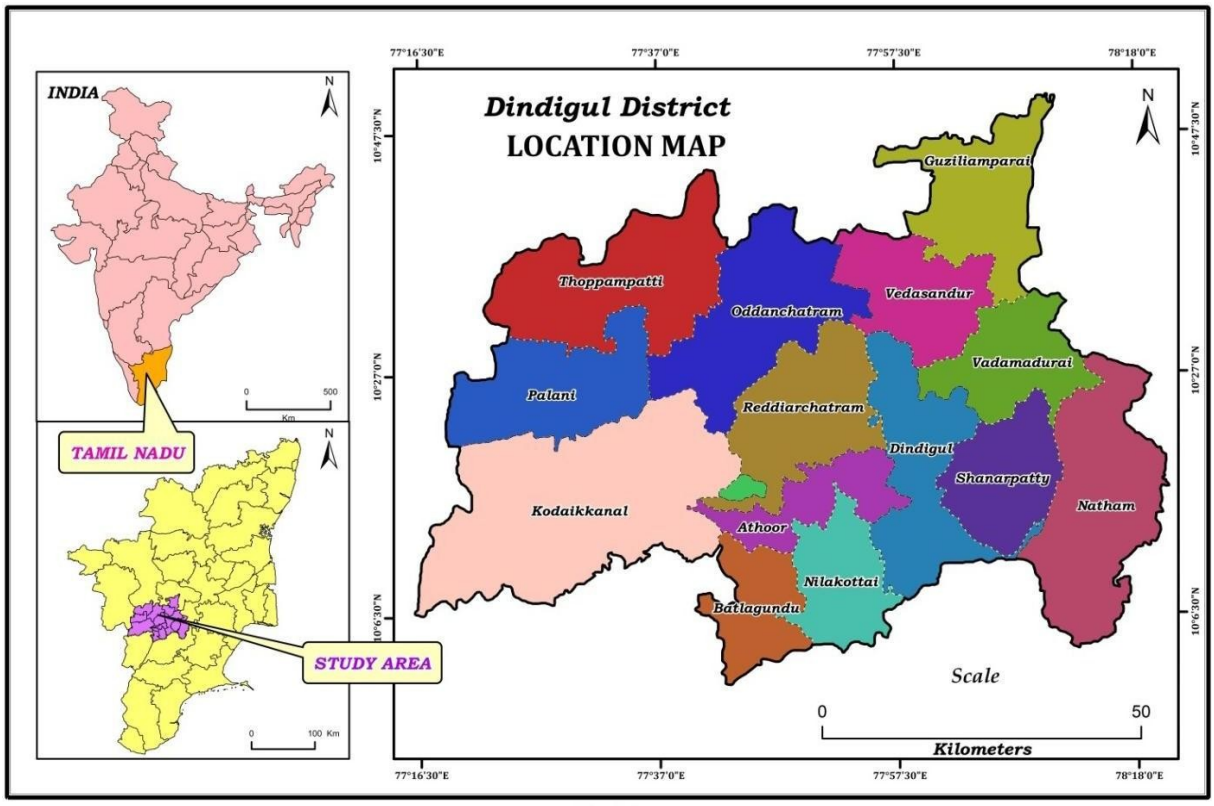

Fig No: 1

Aim and Objectives

The primary aim of this investigation is to comprehensively analyze the cropping pattern in Dindigul district. In pursuit of this overarching goal, the specific objectives of the present study are as follows:

1. To scrutinize and elucidate the spatial distribution of various cropping patterns across different blocks within the district, providing insights into the geographic variations in agricultural practices.

2. To identify and delineate the major cultivation areas for the selected crops, shedding light on the key regions contributing significantly to crop production within Dindigul district.

3. To assess the impact of climatic conditions and terrain on the cropping patterns, unraveling the intricate relationship between environmental factors and agricultural practices.

4. To investigate the influence of socio-economic factors on cropping choices, exploring the correlation between the economic well-being of the population and the diversity of crops cultivated in the region.

5. To analyze the temporal changes in cropping patterns over the selected two- decade period (2012-2022), providing insights into evolving agricultural trendsand practices.

6. To evaluate the efficiency and sustainability of cropping systems employed in Dindigul district, considering factors such as resource utilization, land management, and overall agricultural productivity.

7. To propose recommendations for optimizing cropping patterns based on the findings, aiming to enhance agricultural sustainability, productivity, and the economic well-being of the local population.

Methodology and Techniques

This study primarily relies on secondary data obtained at the Block level for Dindigul district, sourced from published materials such as the District Census Handbook and detailed crop records from the statistical office at the Collectorate in Dindigul, G-returns. Thematic maps were prepared using Survey of India Toposheet 1:50,000. Various secondary sources, including published journals, magazines, and books, contributed to the data collection process.

Collected data underwent processing and analysis using straightforward statistical and quantitative techniques. The study employed appropriate quantitative methods, with the results presented in tables showcasing the percentage distribution of respondents for eachtype of answer. Intra-spatial patterns were highlighted through the utilization of simple techniques such as percentage share and averages, visually represented through maps and diagrams.

To ensure clarity and precision, all collected information was mapped using suitable cartographic tools, with ArcGIS 10.2.2 software serving as the primary tool for this purpose. This comprehensive approach enhances the reliability and depth of the study's findings, providing a robust foundation for the analysis of cropping patterns in Dindigul district.

Results and Discussion

Cropping Pattern in Dindigul District

Within the study area, a diverse range of crops, including Paddy, Cholam, Maize, Other Cereals, Pulses, Spices, Fruits & Vegetables, and Fiber Crops, is cultivated. However, for the purposes of analysis, mapping, and discussion, the focus is narrowed down to ten

major crops. These crops, comprising Paddy, Cholam, Maize, Other Cereals, Pulses, Spices, Fruits & Vegetables, Fiber Crops, Oilseeds, and Non-Food Crops, have been selected for their significance in the agricultural landscape of Dindigul district.

Among these, Paddy stands out as it is cultivated with the assistance of irrigation facilities, while the remaining crops predominantly rely on rainfed conditions. The analysis of cropping patterns spans two time periods: 2012 and 2022, allowing for a comprehensive examination of changes over the years. Combined, the ten crops selected for analysis contribute to approximately 85 percent of the total cultivated area in the region.

This focused selection enables a detailed exploration of the dominant crops, their cultivation methods, and the evolving cropping patterns within Dindigul district, offering valuable insights into the agricultural dynamics of the region.

Table No. – 1

Dindigul District – Block Wise
Cropping Pattern – 2012

S. No	Name of the Block	Paddy (in %)	Cholam (in %)	Maize (in %)	Other Cereals (in %)	Pulses (in %)	Spices (in %)	Fruits & Vegetables (in %)	Fiber Crops (in %)	Oilseeds (in %)	Non Food Crops (in %)
1	**Athoor**	12.2	13.4	5.4	2.6	5.8	1.2	12.7	0.1	24.2	8
2	**Batlagundu**	10.9	15.6	1.8	2.8	9.4	0.6	18.1	1.1	12.7	3.4
3	**Dindigul**	11.1	18.3	12	0	9.7	1.1	19.8	0.9	3.5	2.9
4	**Guziliamparai**	3.3	35.2	1.3	5.6	5.7	3	3.1	0	30.1	0.8
5	**Kodaikanal**	0	0	0	0	0	4.4	34.8	0	0	12.4
6	**Natham**	7.8	6.5	0	0.1	12.6	8.1	28.2	0.1	7.7	4.2
7	**Nilakottai**	19.9	19.2	2.8	2.4	8.2	0.4	8.4	0.3	10.7	27.8
8	**Oddanchatram**	0.4	2.6	38.2	0	3.1	3.1	4.6	1.2	11.1	22.2
9	**Palani**	23.5	1.1	30	0	9.1	0.9	11	0.7	10.4	0.8
10	**Reddiarchatram**	3.6	9.6	26.7	0	7.5	3.5	9.2	4.7	7.9	26
11	**Shanarpatti**	9.8	12.7	1.2	0.4	5.3	6.5	28.5	0	6.6	3.5
12	**Thoppampatti**	2.4	7.7	39.4	0.2	16.9	0.5	2.7	1.5	16	6.7
13	**Vadamadurai**	6.3	1.9	0.6	0.9	2	0.7	0.5	0	1.4	0.4
14	**Vedasandur**	5.3	3.3	0.4	1.9	0.4	0.3	0.3	0	2.1	0.1

Source: Dindigul District Agricultural Statistical Handbook

Table – 2

Dindigul District – Block WiseCropping Pattern – 2022

S. No	Name of the Block	Paddy (in %)	Cholam (in %)	Maize (in %)	Other Cereals (in %)	Pulses (in %)	Spices (in %)	Fruits & Vegetables (in %)	Fiber Crops (in %)	Oilseeds (in %)	Non Food Crops (in %)
1	Athoor	7.3	24.9	6.3	0.2	2.7	2.3	17.7	0.5	26.4	11.8
2	Batlagundu	9.8	18.6	1.0	0.1	5.0	0.7	29.3	4.7	21.3	9.5
3	Dindigul	1.2	33.4	5.6	0.0	5.8	4.3	29.8	0.5	11.4	8.1
4	Guziliamparai	0.9	57.5	0.3	0.6	4.8	2.4	20.6	0.0	11.5	1.4
5	Kodaikanal	0.0	0.0	0.0	0.0	0.0	10.7	59.3	0.0	0.0	30.0
6	Natham	2.4	7.0	0.0	0.1	17.0	9.0	39.6	0.3	24.4	0.1
7	Nilakottai	16.1	35.9	0.3	2.4	3.5	0.5	12.2	0.6	13.5	15.0
8	Oddanchatram	0.2	18.5	24.7	0.0	2.2	3.0	22.9	5.3	13.3	9.9
9	Palani	24.9	4.0	19.0	0.2	9.5	0.7	17.3	1.5	22.3	1.0
10	Reddiarchatram	1.7	11.6	36.3	0.0	1.3	0.3	17.5	5.0	13.0	13.3
11	Shanarpatti	3.6	24.0	0.8	0.0	13.7	6.4	30.4	0.0	20.1	0.7
12	Thoppampatti	4.6	21.6	25.7	0.2	14.0	0.8	10.9	3.9	13.4	5.0
13	Vadamadurai	2.9	53.0	4.3	0.0	5.7	1.8	11.3	0.4	18.4	2.4
14	Vedasandur	2.8	57.6	2.5	0.0	2.5	1.8	14.7	0.1	17.0	1.2

Source:Dindigul District Agricultural Statistical Handbook

Distribution of Paddy

Paddy, the primary food crop in the study area, is depicted in Figure No. 2. In the year 2012, the spatial distribution pattern of paddy reveals its prominence, accounting for more than 15 percent of the total cultivated area, primarily concentrated in Palani and Nilakottai blocks within the study area. Paddy cultivation is notably extensive due to the presence of key water reservoirs, including the Palarporundalar Dam, Varathamanathi Dam, Kuthiraiaru Dam, and the Vaigai River in this region. Consequently, these irrigation facilities significantly contribute to the agricultural productivity of the area.

Among the 14 blocks studied, only three blocks, namely Athoor and Dindigul, exhibit a moderate intensity of paddy cultivation, accounting for approximately 10 to 15 percent of the total cultivated area. In contrast, eight blocks, including Thoppampatti, Reddiarchatram,

Vedasandhur, Shanarpatti, Oddanchatram, Guziliamparai, Vadamadurai, and Natham, display a lower intensity, with less than 10 percent of the cultivated area under paddy.

Remarkably, Kodaikanal records zero percent cultivation of paddy within the study area during the specified period. This detailed analysis provides valuable insights into the spatial distribution and intensity of paddy cultivation, shedding light on the key factors influencing its prevalence across different blocks in Dindigul district.

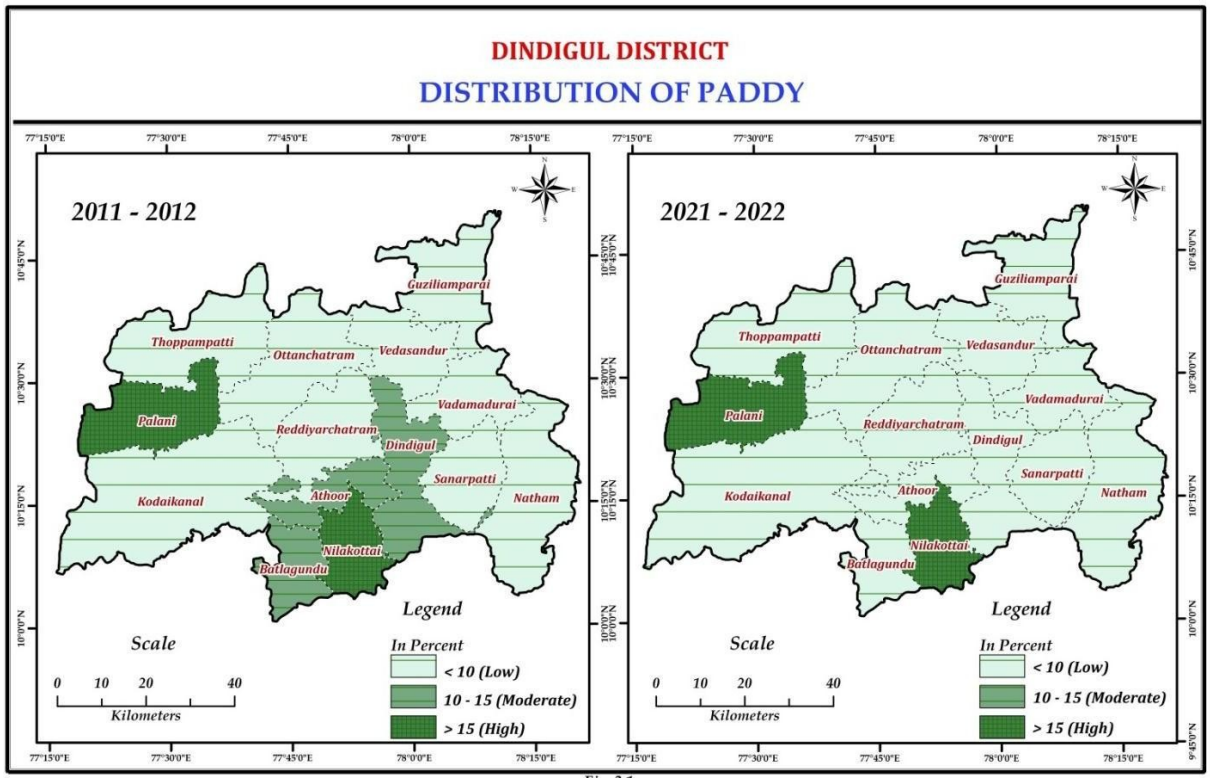

Fig No: 2

During the year 2022 the area under paddy distribution showed a decreasing over the study period. In this year, also more than 15 percent of the total cultivated area only seen in Palani and Nilakottai block. In the study area remaining blocks like Shanarpatti, Vadamadurai, Natham, Guziliamparai, Vedasandur, Reddiarchatram, and Thoppampatti blocks have less than 10 percent of the cultivated area under paddy. It is worth observing that paddy distribution tends to be decrease in the study area because of less canal and tank irrigation facilities and failure of monsoon.

Distribution of Cholam

Cholam, a significant food crop in the study area, is illustrated in Figure No. 3, depicting the intensity of its distribution. In the year 2012, Cholam cultivation is prominently

concentrated, with more than 20 percent of the total cultivated area observed in only three blocks: Vedasandur, Vadamadurai, and Guziliamparai. Blocks including Shanarpatti, Athoor, Batlagundu, Dindigul, and Nilakottai exhibit a moderate distribution, accounting for approximately 10 to 20 percent of the total cultivated area.

Conversely, the remaining five blocks are Palani, Oddanchathram, Natham, Thoppampatti, and Reddiarchathram have shown a lower intensity, with less than 10 percent of the cultivated area dedicated to Cholam in the year 2012. Notably, Kodaikanal stands out with zero percent Cholam cultivation within the study area during the specified period. This detailed examination provides insights into the varying degrees of Cholam distribution across different blocks in Dindigul district, highlighting regions of high concentration and those with more moderate or lower cultivation intensities.

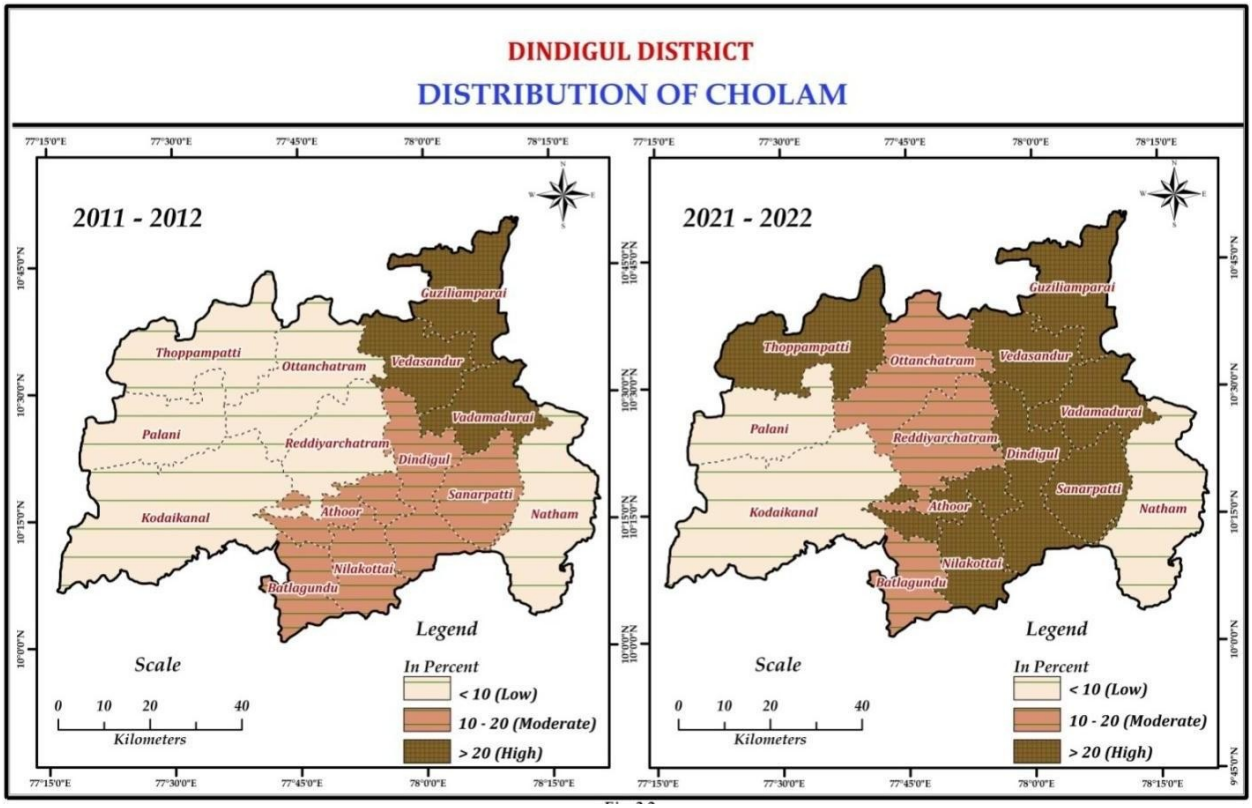

Fig No: 3

In the year 2022, the intensity of cholam cultivation has increased significantly in 8 blocks within the study area, namely Thoppampatti, Shanarpatti, Athoor, Dindigul, Nilakottai, Vadamadurai, Guziliamparai, and Vedasandur blocks.

Only 3 blocks show a moderate intensity, accounting for approximately 10 to 20 percent of the total cultivated area. These blocks include Reddiarchathram, Oddanchathram, and Batlagundu. The remaining 2 blocks, Palani and Natham, have less than 10 percent of the total cultivated area dedicated to cholam in the year 2022. Notably, Kodaikanal remains an exception with zero percent cholam cultivation within the study area.

From the discussion above, it can be inferred that the area under cholam cultivation has increased between 2012 and 2022, possibly due to the crop's lower water requirement for irrigation. However, it's crucial to note that cholam cultivation remains significant, especially in dry regions where water availability may be limited. This observation underscores the adaptability and importance of cholam cultivation in areas facing water scarcity.

Distribution of Maize

In the year 2012, the intensity of maize cultivation is illustrated in Figure No. 4. High cultivation, exceeding 10 percent of the total cultivated area, is observed in five blocks: Vadamadurai, Dindigul, Reddiarchathram, Palani, Oddanchathram, and Thoppampatti. Athoor and Vedasandur exhibit a moderate intensity, accounting for about 5 to 10 percent of the total cultivated area.

Conversely, four blocks, namely Shanarpatti, Guziliamparai, Batlagundu, and Nilakottai, have less than 5 percent of the total cultivated area dedicated to maize cultivation in the study area. This distribution pattern provides valuable insights into the varying degrees of maize cultivation across different blocks in the specified year, highlighting regions with high, moderate, and low cultivation intensities.

The remaining 2 blocks have 0 distribution of the study area such as Kodaikanal and Natham blocks.Maize had increasing during 2012 to 2022. This type of crops was high in Palani, Oddanchathram, Thoppampatti andReddiarchathram blocks in the study area. Nilakottai, Guziliamparai, Shanarpatti ,Batlagundu, Vedasandur and Vadamadurai blockshave low intensity accounting for less than 5 percent of the total cultivated in the study area.

There are only 2 block such as Dindigul and Athoor has a moderate intensity ranging between 5 to 10 percent of the total cultivated area.

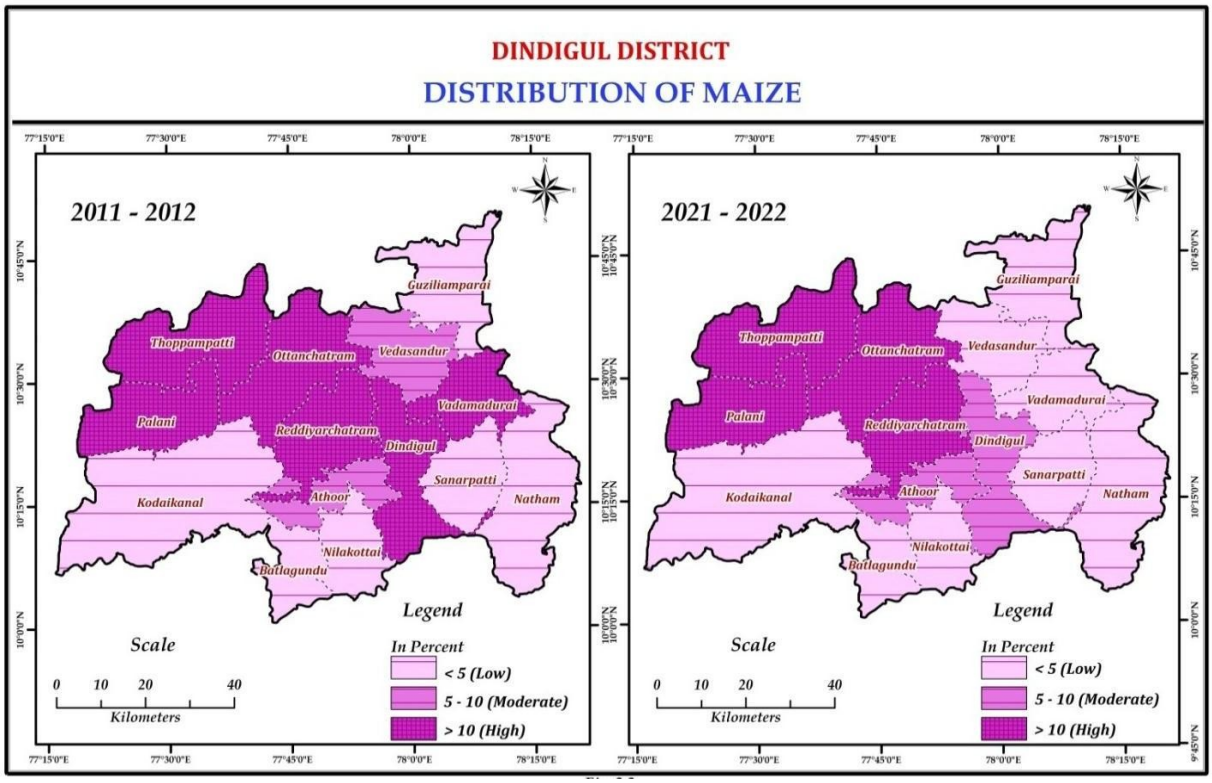

Fig No: 4

The remaining 2 blocks such as Kodaikanal and Natham have 0 percent in the study area. Based on the above analysis it may be inferred that the cultivation of maize had increased in the year 2012 to 2022 in the study area. Further the cultivation of maize is significant in the dry tracts and is mostly grown as a rainfed crop.

Distribution of Other Cereals

The intensity of other cereals is depicted in Figure No. 5, highlighting the significance of this crop in the study area. High cultivation of other cereals is observed in Nilakottai, Athoor, Batlagundu, and Guziliamparai blocks, accounting for more than 2 percent of the total cultivated area in the year 2012. Vedasandur blocks exhibit a moderate intensity, contributing 1–2 percent to the total cultivated area dedicated to other cereals.

In contrast, only four blocks such as Natham, Thoppampatti, Shanarpatti, and Vadamadurai have account for less than 1 percent of the total cultivated area devoted to other cereals. The remaining five blocks are Kodaikanal, Dindigul, Palani, Oddanchatram, and

Reddiarchatram have register 0 percent cultivation in the study area during this period.

Notably, during the year 2022, a decrease is observed in other cereals cultivation compared to 2012. Only Nilakottai retains a high intensity, accounting for more than 2 percent of the total cultivated area. Six blocks are Natham, Batlagundu, Palani, Thoppampatti, Athoor, and Guziliamparai have display a low intensity, contributing less than 1 percent to the total cultivated area dedicated to other cereals. The remaining blocks, including Kodaikanal, Dindigul, Oddanchathram, Reddiarchathram, Shanarpatti, Vedasandur, and Vadamadurai, exhibit 0 distribution in the study area. This shift in distribution underscores the changing landscape of other cereals cultivation over the specified period.

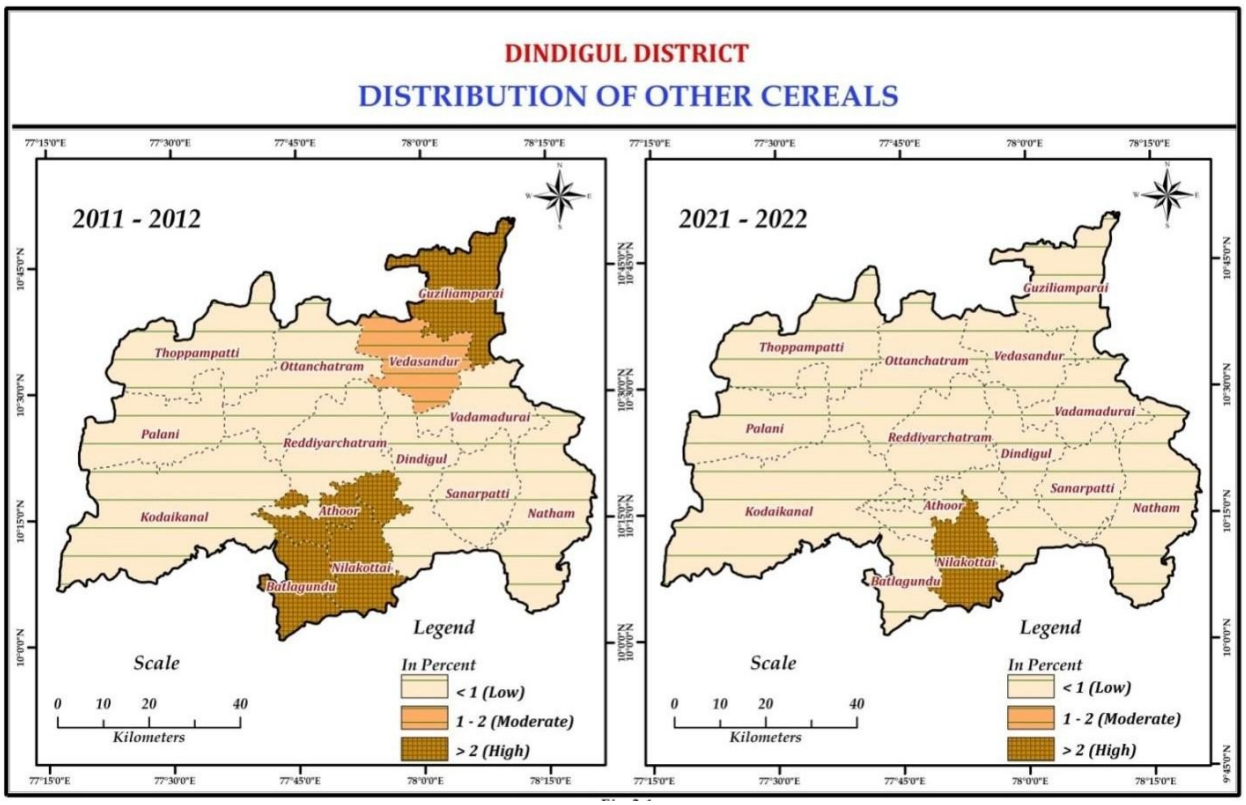

Fig No: 5

Distribution of Pulses

The spatial distribution of pulses is presented in Figure No. 6 for the two periods under consideration. In the study area, pulse cultivation above 10 percent is observed in only three blocks: Natham, Thoppampatti, and Vadamadurai. Pulse cultivation exhibits a moderate intensity in Shanarpatti, Guziliamparai, Athoor, Reddiarchathram, Nilakottai, Palani,

Batlagundu, and Dindigul blocks, ranging between 5 to 10 percent of the total cultivated area. Two blocks, Oddanchathram and Vedasandur, have less than 5 percent of the total cultivated area dedicated to pulses. Kodaikanal remains an exception with 0 percent pulse cultivation in the study area during this period.

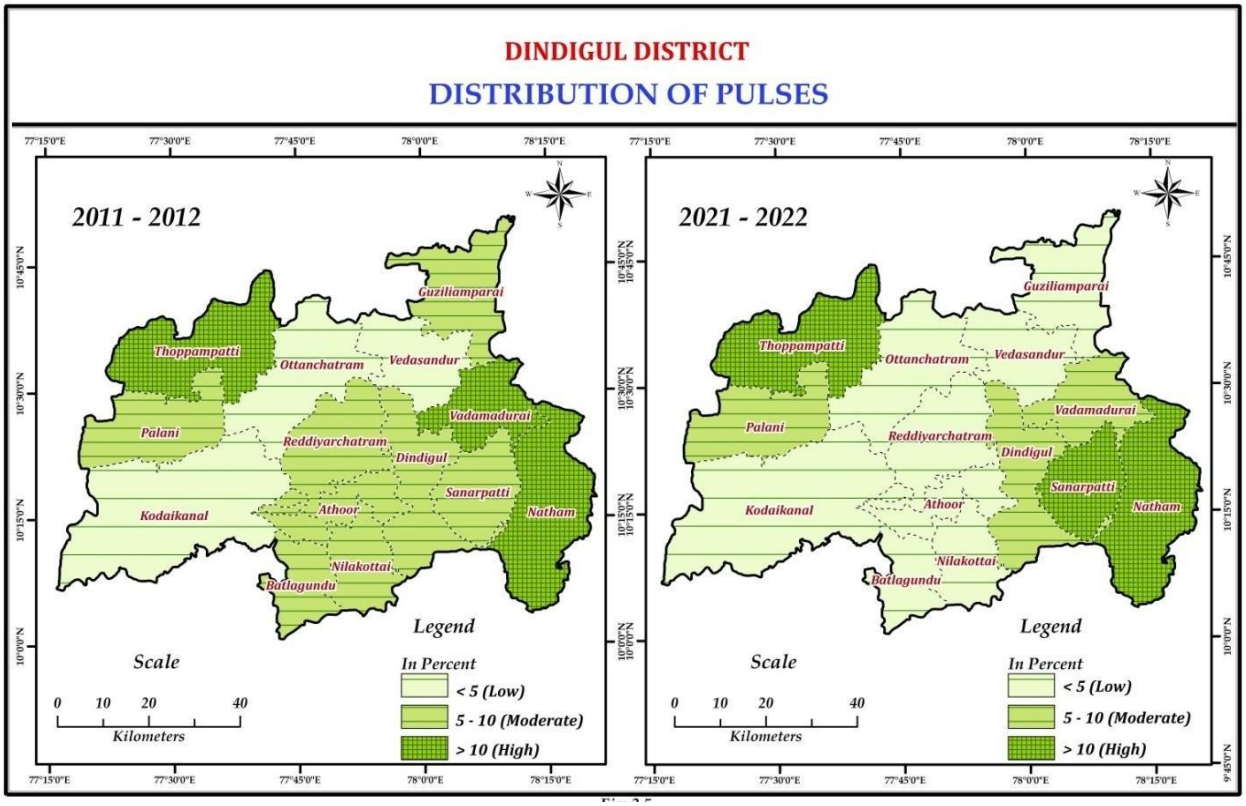

Fig No: 6

In the year 2022, the spatial pattern of pulse cultivation indicates a high intensity, accounting for more than 10 percent of the total cultivated area, primarily in Shanarpatti, Thoppampatti, and Natham blocks within the study area. Three blocks, namely Vadamadurai, Dindigul, and Palani, exhibit a moderate intensity, accounting for about 5 to 10 percent of the total cultivated area. The remaining seven blocks such as Reddiarchathram, Oddanchathram, Vedasandur, Athoor, Nilakottai, Guziliamparai, and Batlagundu have display less than 5 percent of the total cultivated area dedicated to pulses in the year 2022. This detailed analysis provides insights into the changing landscape of pulse cultivation across different blocks in the specified periods.

Distribution of Spices

In the year 2012, the intensity of spices cultivation is depicted in Figure No. 7. High cultivation, exceeding 4 percent of the total cultivated area, is observed in three blocks: Shanarpatti, Natham, and Kodaikanal. Dindigul block displays a moderate intensity, accounting for about 2 to 4 percent of the total cultivated area, namely in Vadamadurai, Guziliamparai, Oddanchathram, and Reddiarchathram. The remaining blocks have less than 2 percent of the total cultivated area dedicated to spices in the study area.

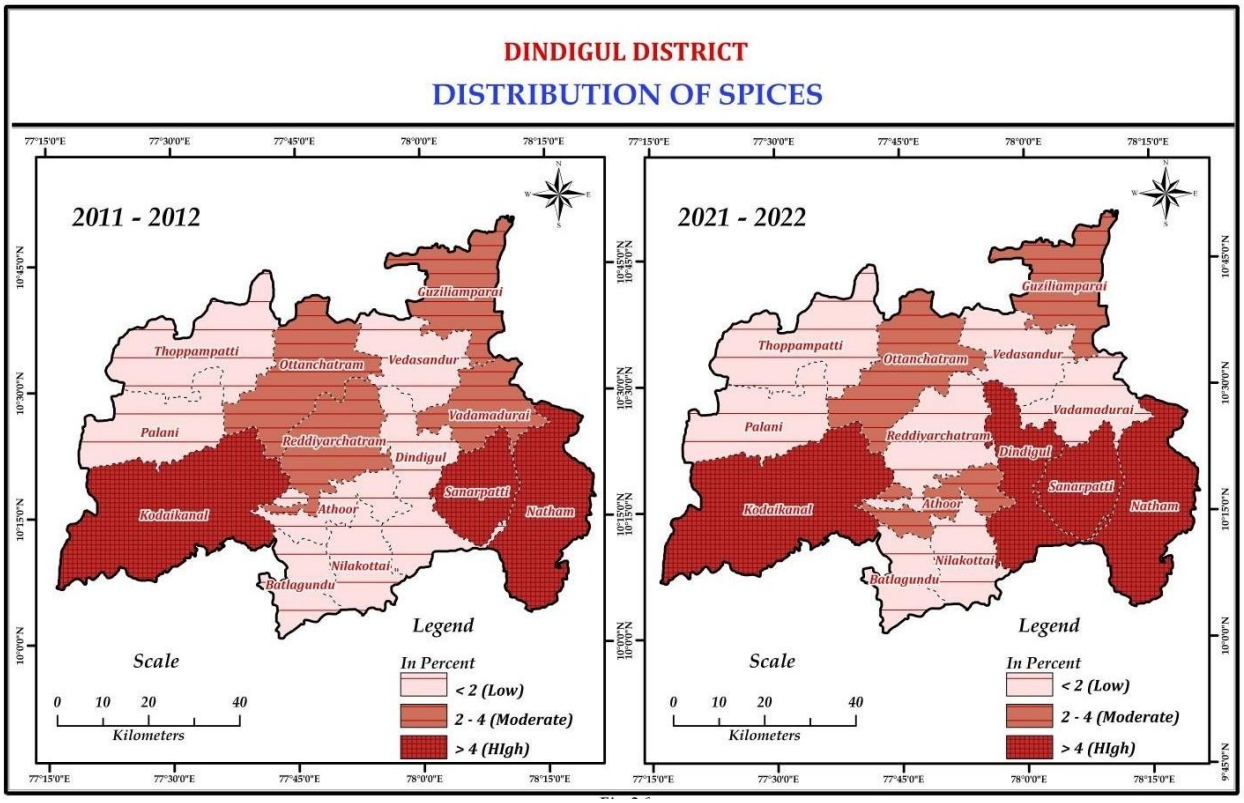

Fig No: 7

Spices cultivation experienced a slight increase between 2012 and 2022. In the latter year, this type of crop was high in four blocks: Dindigul, Shanarpatti, Natham, and Kodaikanal. Reddiarchathram, Nilakottai, Palani, Batlagundu, Thoppampatti, Vadamadurai, and Vedasandur blocks exhibit a low intensity of spices cultivation, accounting for less than 2 percent of the total cultivated area in the study area. One block demonstrates a moderate intensity, ranging between 2 to 4 percent of the total cultivated area. Based on this analysis, it may be inferred that Spices cultivation slightly increased from 2012 to 2022 in the study area, with particular significance observed in hilly regions.

Distribution of Fruits & Vegetables

In the year 2012, the intensity of fruits and vegetables cultivation exceeded 30 percent of the total cultivated area, prominently observed in Kodaikanal block within the study area. As depicted in Figure No. 8, the percentage of fruits and vegetables is moderately distributed in Natham and Shanarpatti blocks. The remaining 11 blocks namely Thoppampatti, Guziliamparai, Vedasandur, Oddanchathram, Vadamadurai, Nilakottai, Reddiarchathram, Palani, Athoor, Batlagundu, and Dindigul have display a low distribution of fruits and vegetables in the study area.

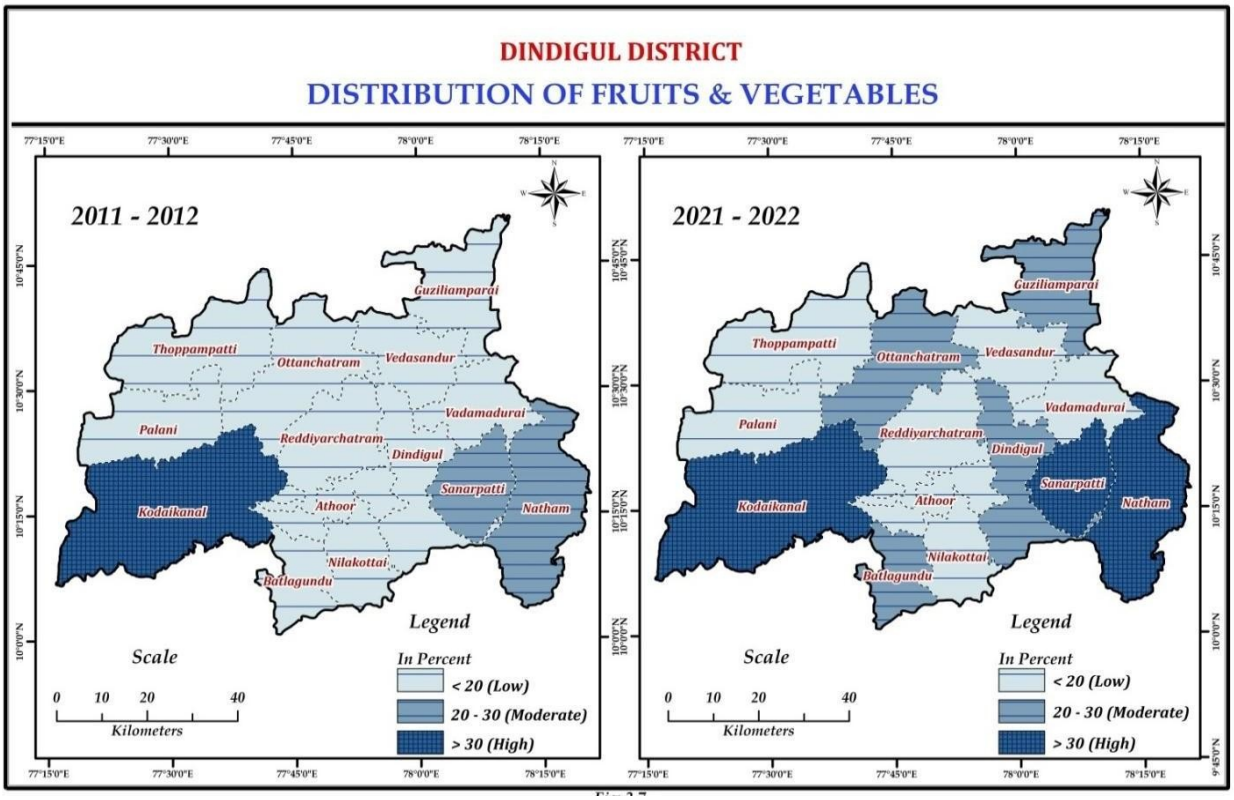

Fig No: 8

During the year 2022, there is a decrease in the intensity of fruits and vegetables cultivation compared to the study period. Natham, Shanarpatti, and Kodaikanal blocks maintain a high intensity of fruits and vegetables, accounting for above 30 percent of the total cultivated area. Guziliamparai, Oddanchathram, Batlagundu, and Dindigul blocks exhibit a moderate intensity, ranging between 20 to 30 percent of the total cultivated area. The remaining 7 blocks such as Thoppampatti, Vadamadurai, Nilakottai, Vedasandur, Palani, Reddiarchathram, and Athoor have a low intensity, accounting for less than 20 percent of the

total area under cultivation in the study area.

In light of the above observations, it can be highlighted that fruits and vegetables cultivation is significant in areas where there is an assured supply of water through well irrigation in the study area.

Distribution of Fiber Crops

Fiber crops play a significant role in the study area, as highlighted in Figure No. 9 depicting the intensity of fiber crops. Notably, Reddiarchatram stands out with high cultivation, accounting for more than 2 percent of the total cultivated area. Three blocks namely Oddanchatram, Thoppampatti, and Batlagundu have exhibit a moderate intensity, contributing about 1 to 2 percent of the total cultivated area. Six blocks such as Athoor, Natham, Vadamadurai, Nilakottai, Palani, and Dindigul have less than 1 percent of the cultivated area dedicated to fiber crops. The remaining four blocks namely Guziliamparai, Vedasandur, Shanarpatti, and Kodaikanal have register 0 percent cultivation in the study area.

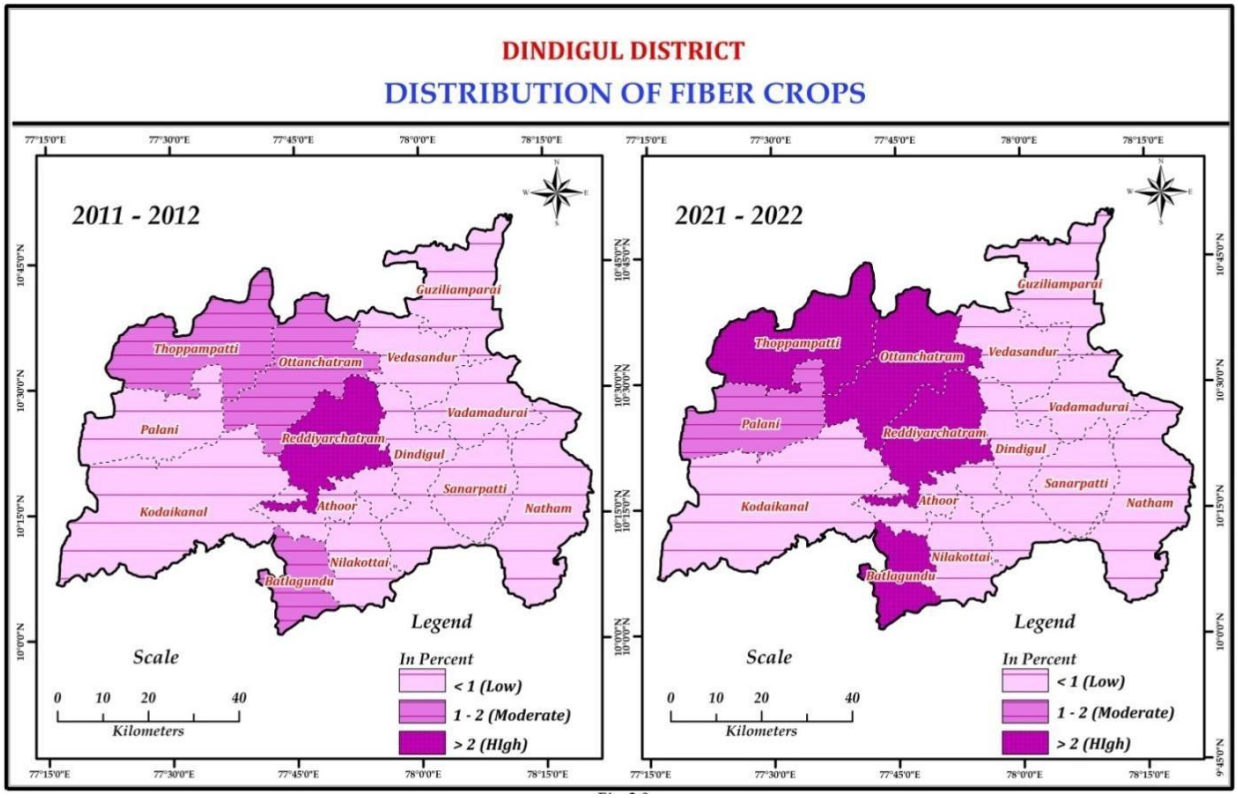

Fig No: 9

During the year 2022, there is a decrease in the area under fiber crops cultivation compared to the study period. Thoppampatti, Batlagundu, Reddiarchatram, and Oddanchatram blocks maintain high cultivation, accounting for more than 2 percent of the total cultivated area. Interestingly, only three blocks are Kodaikanal, Guziliamparai, and Shanarpatti have exhibit 0 percent intensity in the study area during this year. Vedasandur, Natham, Vadamadurai, Dindigul, Athoor, Nilakottai, and Palani blocks have less than 1 percent of the cultivated area dedicated to fiber crops. It is worth noting that the percentage of fiber crops tends to decrease in the study area, potentially influenced by limited canal and tank irrigation facilities and the variability of monsoon patterns.

Distribution of Oilseeds

Oilseeds are prominent commercial crops in the study area, as illustrated in Figure No. 10 for the two periods under consideration. In the year 2012, oilseeds cultivation exceeded 20 percent in three blocks: Athoor, Vedasandur, and Guziliamparai. Palani, Nilakottai, Oddanchathram, Batlagundu, Thoppampatti, and Vadamadurai blocks exhibited an intensity ranging between 10 to 20 percent of the total cultivated area. The remaining four blocks are Dindigul, Shanarpatti, Natham, and Reddiarchathram have recorded less than 10 percent of the total cultivated area dedicated to oilseeds.

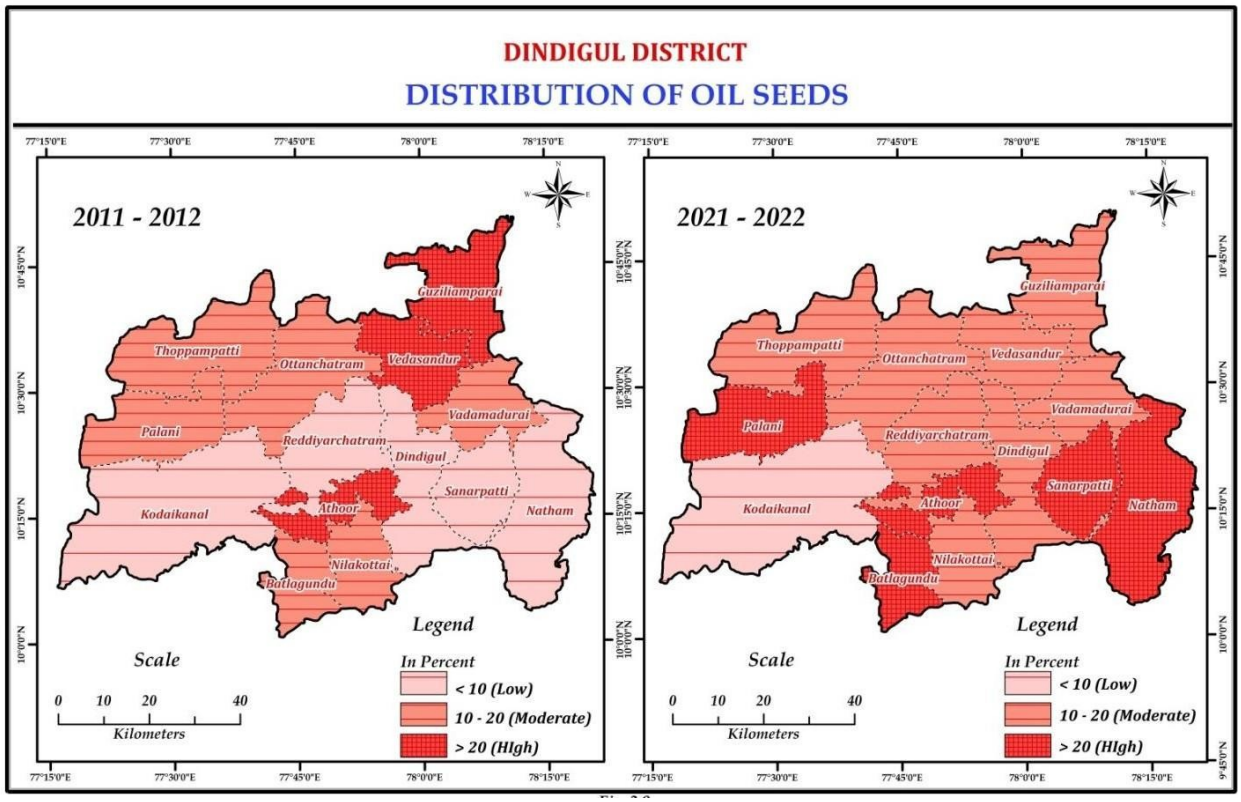

Fig No: 10

In the year 2022, the spatial pattern of oilseeds percentage indicates a high intensity, accounting for more than 20 percent of the total cultivated area, primarily in Shanarpatti, Batlagundu, Palani, Natham, and Athoor blocks within the study area. Dindigul, Guziliamparai, Reddiarchathram, Oddanchathram, Thoppampatti, Nilakottai, Vedasandur, and Vadamadurai blocks exhibit a moderate intensity, ranging between 10 to 20 percent of the total cultivated area.

This detailed analysis provides insights into the changing landscape of oilseeds cultivation across different blocks in the specified periods, highlighting regions with high, moderate, and low cultivation intensities.

Distribution of Non-Food Crops

In the year 2012, the intensity of non-food crops cultivation accounted for about 10 percent of the total cultivated area, prominently observed in only four blocks: Reddiarchatram, Kodaikanal, Oddanchatram, and Nilakottai. As shown in Figure No. 11, the percentage of non-food crops is moderately distributed in Athoor and Thoppampatti blocks. The remaining eight blocks such as Vedasandur, Guziliamparai, Palani, Vadamadurai,

Dindigul, Shanarpatti, and Batlagundu have display a low distribution of non-food crops in the study area.

During the year 2022, there is a slight increase in the intensity of non-food crops cultivation compared to the study period. Athoor, Reddiarchatram, Nilakottai, and Kodaikanal maintain a high intensity of non-food crops, accounting for above 10 percent of the total area under cultivation. Dindigul, Batlagundu, and Oddanchatram blocks exhibit a moderate intensity, ranging between 5 to 10 percent of the total cultivated area. The remaining seven blocks—Natham, Shanarpatti, Palani, Vedasandur, Guziliamparai, Vadamadurai, and Thoppampatti have a low intensity, accounting for less than 5 percent of the total area under cultivation in the study area.

This detailed analysis provides insights into the changing landscape of non-food crops cultivation across different blocks in the specified periods, highlighting regions with high, moderate, and low cultivation intensities.

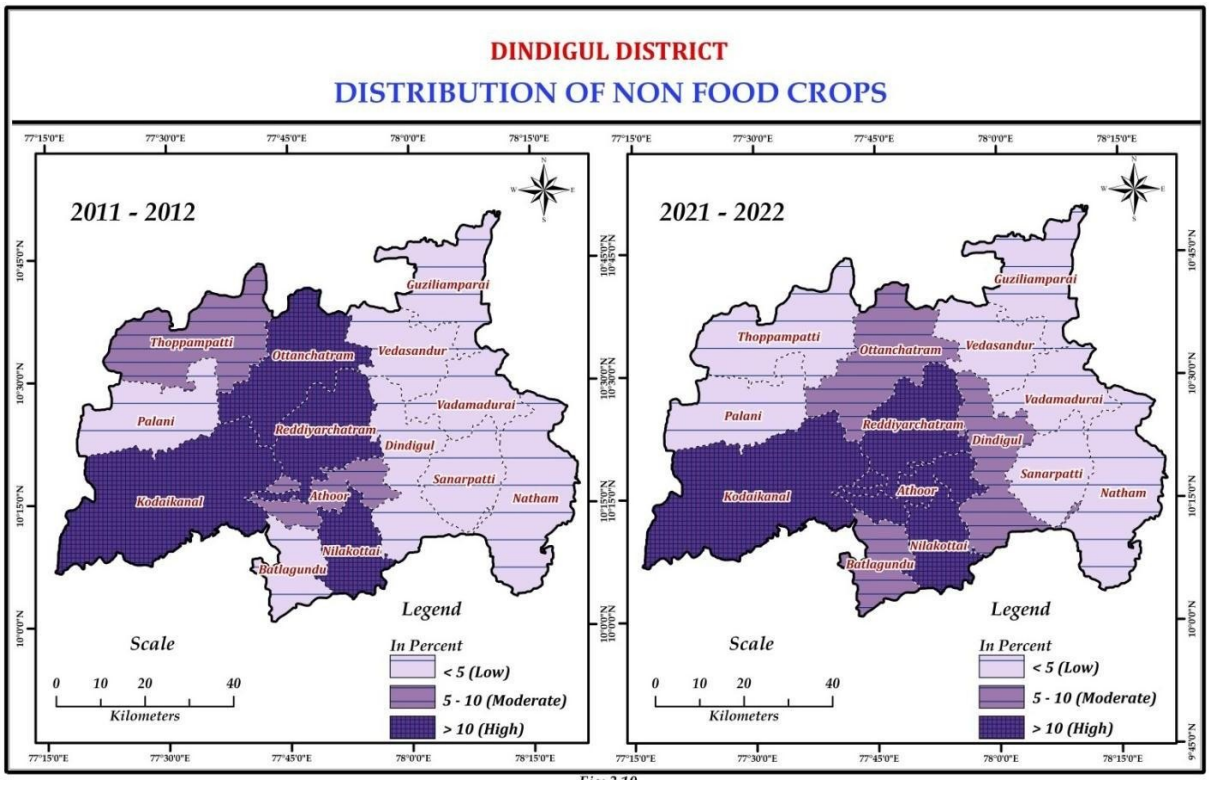

Fig No: 11

Conclusion

Significant variations in the cultivation areas of different crops have been observed over the period from 2012 to 2022. All crops exhibit fluctuations in their cultivated areas during this timeframe. In the study area, Cholam, Maize, Oilseeds, and Spices have shown a positive increase compared to the base year. Conversely, Paddy, Other cereals, Fruits and vegetables, and Fiber crops have recorded a notable decrease in cultivated areas. The cultivation of Spices has seen a slight increase in the study area, suggesting its significance in hilly regions. On the other hand, Other cereals cultivation has experienced a decrease over the study period. Notably, several blocks such as Dindigul, Oddanchatram, Reddiarchatram, Shanarpatti, Vedasandur, Vadamadurai, Natham, Batlagundu, Palani, and Thoppampatti have less than 1 percent of the total cultivated area under Other cereals. The study area demonstrates the highest positive changes in the cultivation of Cholam, Maize, and Oilseeds, while the crops with the highest negative changes include Paddy, Fiber crops, and Fruits and vegetables. These changes may be indicative of challenges such as limited canal and tank irrigation facilities and monsoon failures affecting crop patterns in the region. Further research and intervention may be required to address these challenges and promote sustainable agricultural practices in the study area.

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