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# Agricultural Density Pattern Study In Chh. Sambhajinagar Of Maharashtra

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## Abstract

This research paper relies on secondary data. Agriculture Density have been studied In India near about 68 % population is working on agriculture and related sectors and in rural its percentage is 80 %. Agriculture is the backbone of the Indian economy therefore it is important and necessary to the study of agriculture while the study of development. The development of agriculture in the entire country is uneven and found disparity. The present paper has an attempt the Agricultural density pattern in Chh. Sambhajinagar District of Maharashtra state. When studying the agricultural sector in the study area, it is observed that in the year 2011, the total number of farmers in Ch. Sambhajinagar was 513931. While the number of farmer laborers was 351679 respectively. This paper analyzes the different types of agricultural density in Chh. Sambhajinagar district of Maharashtra state. Agricultural density is ratio if the number of farmers to the total amount of land suitable for agriculture.1 The density was observed in Chh. Sambhajinagar district from the year 2016 to 2023. The Physiological density or man soil density is calculated by total population dividing by total net sown area it given rather a more concert picture.9 Tahsil Chh. Sambhajinagar When Studying the agricultural sector in the study area, it is observed that in the year 2011, the total number of farmers in Ch. Sambhajinagar was 513931. While the number of farmer laborers was 351679 respectively. And when the actual agricultural land is studied, the total cultivated area in the study area in the year 2016 was 831522 hectares. The same amount is observed in the year 2023 as 1007475 hectares. In 2016, the highest total area under cultivation was 127561 hectares in Vaijapur taluka, while the lowest total area under cultivation was 37258 hectares in Khultabad taluka, respectively. the year 2023, the highest total area under cultivation is 170500hectares in Vaijapur taluka, while the lowest is 55120hectares in Soygaon taluka.

To study agricultural density, in Chh. Sambhajinagar district. A variety of methods and models has been used Agriculture Density changes, its distribution and causes. The present study reveals the spatial changes in the density structure of the study area. Various methods and materials are used in determining the transformation of density of the study region. The population and Agriculture data of the study area is gathered from Census of India online platform for the year 2011 census year and Agriculture data gathered from statistical department of Chh. Sambhajinagar

Key Words: Agriculture, Density, pattern, Study.

## Introduction :

Agricultural density is the ratio of the total area under crops to the total living population in the same area. From this it is known that the study of the pressure on the agricultural sector in an area or region. In short, it is known by how much people depend on the agricultural sector. In short, it is known by how much people depend on the agricultural sector. The higher the value of agriculture density, the greater the population pressure on agriculture sectors. India is an agricultural country Agriculture is seen as the backbone of the Indian economy. The natural, socio-economic, economic and technical factors affect the development on agriculture. At the same time, the most important factor in the changing of agriculture is the human factor as human behaviour, human thought and the use of human technology change the agricultural pattern. Agricultural density means the population as number of persons per 100 hectares in the Net Sown Area in particular area21. In agriculture density, the relationship between population and status is established or studied. Agriculture density is used to understand how much pressure people have on agriculture.

Agriculture Density is affected by population, agricultural occupation, economic development, agricultural land and area under crops. Although various factors effect on agriculture, human resources are an important factor<sup>12,14</sup> , Because humans can use their education for agricultural development, technology can use a variety of fertilizer seeds.

The more market available an agricultural crop is, the more it can development of agricultural sectors<sup>15,2,23</sup>. The main reason for the decline in agriculture is the growing population. Transport contributes to the development of agriculture<sup>18</sup> . Woman as resources as well as participation of women is important in any factors for agricultural development. Because of higher the participation of others the higher the family progress.

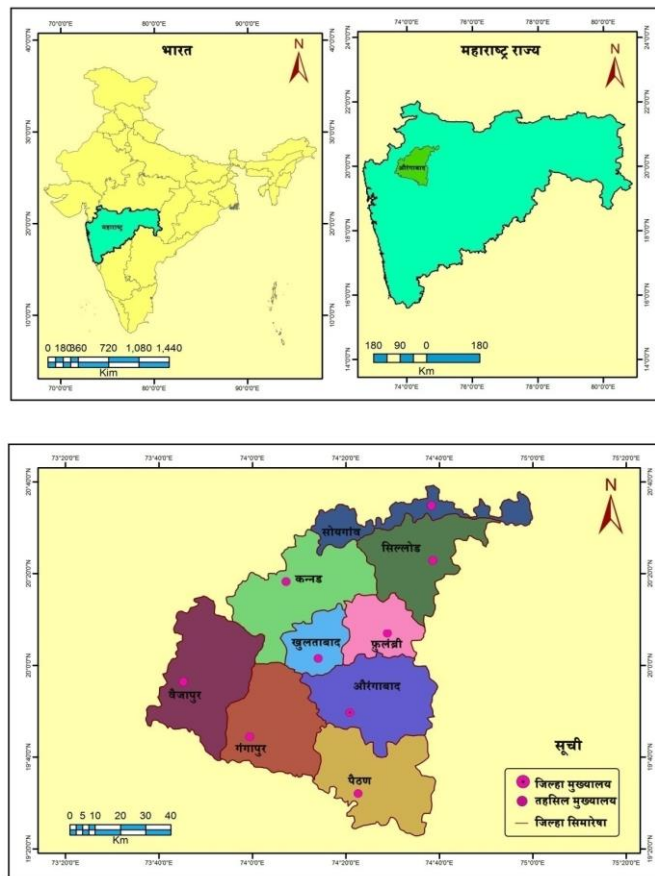
**Objectives:**

1. To measure and determine the Agricultural Density pattern of Chh. Sambhajinagar district
2. To identify the regional disparities according to Agricultural Density.

**Study Area:**

The study region Aurangabad district is located in the state of Maharashtra. The district is a part of Aurangabad division and main district in the division; it is situated in between 19° 23'43" N to 20° 03'36" N latitude and 74° 03'46" E to 75° 05'03" E longitudes. The district consist total 9 tehsils and having total population 3701282, out of them 1924469 are male and 1776813 are female according to the year 2011 census. Jalgaon district on north, Jalana district on east, Bid district on southeast, Ahmadnagar district on south and Nashik district towards west of the study region.

**Map no: 1**



**Methodology:**

To study agricultural density, in Chh. Sambhajinagar district. A variety of methods and models has been used Agriculture Density changes, its distribution and causes. The present study reveals the spatial changes in the density structure of the study area. Various methods and materials are used in determining the transformation of density of the study region. The population and Agriculture data of the study area is gathered from Census of India online platform for the year 2011 census year and Agriculture data gathered from statistical department of Chh. Sambhajinagar district 2016,2023 year. Agriculture density calculate for the following formula.

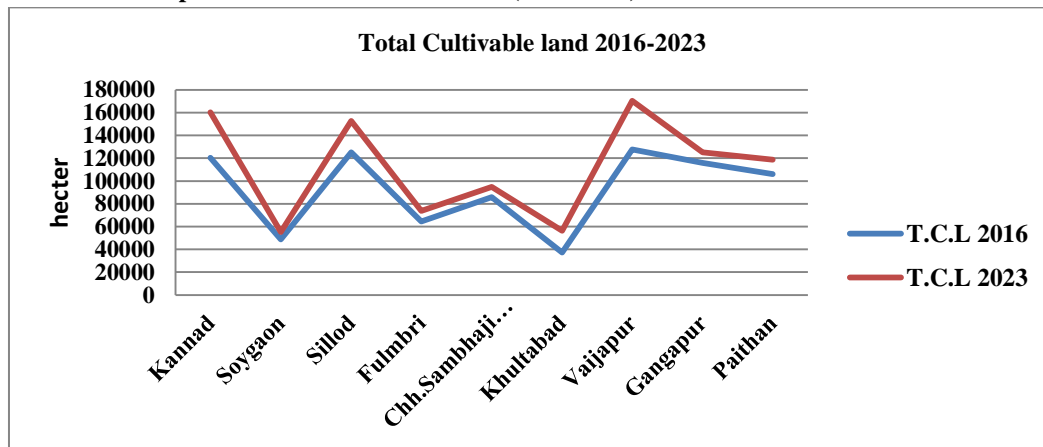
$$\text{Agriculture density} = \frac{\text{farmer} + \text{labour}}{\text{cultivable land}}$$

**Table no: 1 Farmer, Labour and Total Cultivable Land (2016-2023)**

Tehsils	Farmer	Labour	Total	T.C.L 2016	T.C.L 2023
Kannad	75132	52995	128127	120356	160371
Soygaon	19407	31879	51286	48658	55120
Sillod	64632	54688	119320	125234	152797
Fulmbri	48324	18595	66919	64613	73667
Chh.Sambhaji nagar	59404	36139	95543	85788	94907
Khultabad	24314	15351	39665	37258	56401
Vaijapur	83833	39246	123079	127561	170500
Gangapur	69675	37123	106798	115884	125167
Paithan	69210	74018	143228	106170	118545
District	513931	351679	865610	831522	1007475

Source: socio economic survey chh. sambhajinagar District.2016,2023

**Graph no: 1 Total Cultivable land (2016-2023)**



When Studying the agricultural sector in the study area, it is observed that in the year 2011, the total number of farmers in Ch. Sambhajinagar was 513931. While the number of farmer laborers was 351679 respectively. And when the actual agricultural land is studied, the total cultivated area in the study area in the year 2016 was 831522 hectares. The same amount is observed in the year 2023 as 1007475 hectares. In 2016, the highest total area under cultivation was 127561 hectares in Vaijapur taluka, while the lowest total area under cultivation was 37258 hectares in Khultabad taluka, respectively. the year 2023, the highest total area under cultivation is 170500 hectares in Vaijapur taluka, while the lowest is 55120 hectares in Soygaon taluka.

**Table no: 2 Agricultural Density in Chh.Sambhaji nagar (2016-2023)**

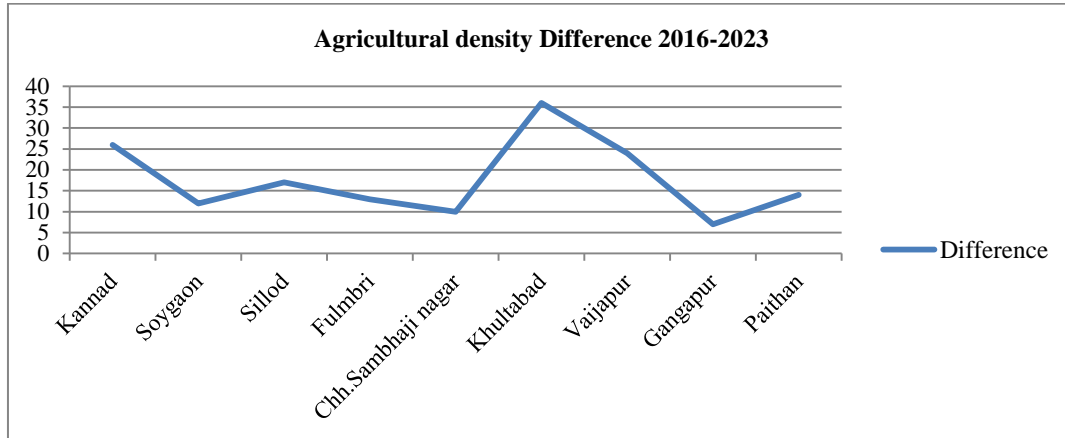
Tehsils	A.cultural Density 2016	A.cultural Density 2023	Difference
Kannad	80	106	26
Soygaon	93	105	12
Sillod	78	95	17
Fulmbri	91	104	13
Chh.Sambhaji nagar	101	111	10
Khultabad	70	106	36
Vaijapur	72	96	24
Gangapur	85	92	7
Paithan	121	135	14
District	86	104	18

Source: Calculated by researcher.

Density is considered an important method when studying agricultural geography because the regionalization of agriculture can be studied through the study of various types of density. Agricultural density shows the ratio of population engaged in agriculture to agriculture and allows planning of the agricultural sector. In the year 2016, when the agricultural density was studied in the study area, the total agricultural density of Ch. Sambhaji Nagar was 86 per sq. km. While the highest agricultural density is in Paithan taluka 121 per sq. km. Evid. The result of irrigation facilities in Paithan taluka is found while the lowest agricultural density is in Khultabad taluka 70 per sq. km. Khultabad taluka is a leader in tourism activities and the proportion of agriculture is low.

Also, when the agricultural density of the study area is studied in the year 2023, the total agricultural density of the district is 104 per sq. km. Avd. While the highest agricultural density is found in Paithan taluka at 135 per sq. km and the lowest agricultural density is found in Gangapur taluka at 92 per sq. km.

**Graph no: 2 differences in agricultural density in chh. Sambhajinagar (2016-2023)**



When studying the agricultural density of Ch. Sambhajinagar district during the research period from 2016 to 2023, and considering the difference, the total difference in agricultural density in the district is 18 per sq. km and the highest positive difference in agricultural density is 36 per sq. km in Khultabad taluka. While the lowest difference is 7 per sq. km in Gangapur taluka

#### **Conclusion:**

When studying the agricultural sector in the study area, it is observed that in the year 2011, the total number of farmers in Ch. Sambhajinagar was 513931. While the number of farmer laborers was 351679 respectively. And when the actual agricultural land is studied, the total cultivated area in the study area in the year 2016 was 831522 hectares. In the year 2023 as 1007475 hectares. In 2016, the highest total area under cultivation was 127561 hectares in Vaijapur taluka, while the lowest total area under cultivation was 37258 hectares in Khultabad taluka, respectively. In the year 2023, the highest total area under cultivation is 170500 hectares in Vaijapur taluka, while the lowest is 55120 hectares in Soygaon taluka.

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#### **Conflicts of interest**

There are no conflicts of interest.

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