Manuscript ID:
IJEBAMPSR-2025-0201025

Volume: 2

Issue: 1

Month: February

Year: 2025

E-ISSN: 3065-9140

Submitted: 15-Dec-2024
Revised: 08-Jan-2025
Accepted: 25-Feb-2025
Published: 28-Feb-2025

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DOI: 10.5281/zenodo.15429895

DOI Link:
https://doi.org/10.5281/zenodo.15429895

Analysis of the Land Use and Cropping Pattern in Solapur District of Maharashtra, 2023-24

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Abstract

Land is a very important natural resource for living beings and humans because the food grains required for human existence are obtained from the land. Land use and cropping patterns are mainly determined by the geology of the region. Considering geographical factors, humans grow various types of crops on the land. Therefore, it is the duty of a geographer to explain all geographical phenomena. In this context, it is necessary to study the aspects of land use and cropping patterns. This needs the study of land use and cropping patterns in the study area as a factor affecting human social and economic conditions. This land use has been classified into different groups. These are classified as forest area, land not available for cultivation, other cultivated land, fallow land and net sown area. The agricultural area of the study area is used for the various crops. This may be divided into the food crops and non-food crops. In this paper investigate Land Use and Cropping Pattern 2023-24. Solapur District/study area is located between 17^0 10' North to 18^0 32' North latitude and 74^0 42' East to 76^0 15' East longitude. It is a part of Western Maharashtra. The data use for this study has been collected from the Socio-economic Review and District Stastical Abstract, Solapur District, 2024 and Census of India's (2011) District Census Handbooks Solapur District. Out of the total geographical area, 67.07 high percent areas are under agriculture but 15 per cent area is remaining fallow land. As far as agricultural land use is concerned, the study area has nearly 81.36 percent food crops and 18.64 per cent non-food crops.

Keyword: *General Land Use Pattern, forest area, land not available for cultivation, other cultivated land, fallow land, net sown area and Cropping Pattern etc.*

Introduction

The physical characteristics and Socio-Economic condition of the study area have different from place to place. Land Use and Cropping Pattern are mainly be determined by the physiography of the region. It is geographer's duty to interpret of all geographic phenomena. Now, this regional differentiation is the result of complex relationships with geographical and environmental factors. The variations are due to the geological complexity of the region and varied geomorphologic evolutions (Deshpande, 1971). Human factors cannot escape from this. Regional differentiation such as uneven growth, distribution, functions, services, facilities have various complex relationships with the natural and cultural environment. Therefore, the study of physical and cultural factors is useful for understanding various factors of land use and cropping patterns.

How to Cite this Article:
Shinde, S. D., & Ghodake, U. M. (2025). Analysis of the Land Use and Cropping Pattern in Solapur District of Maharashtra, 2023-24. International Journal of Economics, Business, Accounting, Agriculture and Management Towards Paradigm Shift in Research (IJEBAMPSR), 2(1), 130–135. https://doi.org/10.5281/zenodo.15429895

This will give an idea of how physical, social and economic factors play an important role in studying the developmental characteristics of land use and cropping patterns. In this context, a brief assessment of physical factors such as landforms, drainage, soil, climate etc. and cultural factors such as population, cropping patterns, transport etc. Is made for further study of land use and cropping patterns of the study area. A combination of physiocultural factors has led to the changing cropping pattern (Parihar S. 2017). Therefore, in the paper tries to analysis of the land use and cropping patterns in Solapur District.

Problem

The statement of research problem is as given below "Analysis of the Land use and Cropping Pattern in Solapur District of Maharashtra, 2023-24"

Objectives

1. To study the Land Use Pattern 2024.
2. To investigate to the Cropping Pattern 2024.

Scope

The scope of this Research article is included as Analytical study of the Cropping Pattern and Land use of farmers in Solapur District of Maharashtra State. Solapur District has been selected for the present study. Solapur District is situated in the Maharashtra, particularly in the western part of state. It lies between 17^0 10'north to 18^0 32'north latitudes and 74^0 42' east to 76^0 15' east longitudes. The district has 11 tahsil sub-divided by administrative office of the district. It is surrounded by six districts from Maharashtra and one district from Karnataka state. Like west side- Pune and Satara, north- Ahmednagar, north-east- Osmaanabad, east-south- Gulbarga district from Karnataka state and south-west- Sangli district accordingly. Solapur District is situated entirely in river basins in south-west Maharashtra, rivers like Bhima, Nira, Sina, and Man.

Limitations

Limitation of this research as mention given below

1. This Research it limited to Solapur District.
2. Research period is limited -2023-24.

Data and Research Methodology

The secondary sources of the data are mainly includes Socio-economic Review and District Stastical Abstract, Solapur District, 2024, and Census of India's District Census Handbooks Solapur District, 2011 etc. also used the sources of data in the present investigation.

Statistics Used

The collected data have been used various quantitative techniques and presented in tabular form. The processed data have been elaborated in the form of tables, graphs, diagrams and maps.

Result and Discussions

A. General Land Use Pattern

Land is one of the most significant gifts of nature to humankind, which should be utilized carefully (Gatade D. G & Pol N. S 2011). The largest portion of the natural resources of India consists of land and by far the largest number of its inhabitant is engaged in agriculture (C. S. Prasad. 2006). It is necessary to study land use patterns in the study area as a factor affecting human social and economic conditions. This land use has been classified into different groups. These are classified as forest area, land not available for cultivation, other cultivated land, fallow land and net sown area.

1. Total Geographical Area

The entire five categories cover 1489540.99 hectares geographical area of the study area. The net sown area has high land cover i.e. 67.07 per cent and lowest per cent is under forest (2.40%). Karmala is biggest tahsil and North Solapur is smallest tahsil in terms of total geographical area (Table 1 & fig. 1).

2. Forested Area

Forest is important natural resources providing the basic requirement of human beings (S. D. Pagar. 2014). It is completed his need of foods and shelter. They are the natural habitat for biodiversity and repository of genetic wealth (Datt & Sundharam, 2013). Forest area is most important to living things. A forest is a area of land inhabited by dance growth of trees and other woody plants (V. Kumaresan, 1995). In the study area are very low land found under the forest i.e. 2.40 per cent. The rainfall is low in the study area and hence forested area has low proportion.

Table 1

Solapur District: Land Use Pattern, 2024

Sr. No.	Tahsil	Total Geographical Area	Forested Area	Area Not Available for Cultivation	Unculti-vated Land	Fallow Land	Net Sown Area
		Area in Hectares	% to Total Geographical Area				
1	Karmala	160970	6.94	11.45	6.83	4.14	70.64
2	Madha	154490.49	1.67	3.33	0.89	19.14	74.97
3	Barshi	148310.5	1.26	11.07	0.83	11.36	75.48
4	North Solapur	74630	4.77	11.17	1.31	15.18	67.56
5	Mohol	140840	0.16	24.70	0.32	24.70	50.12
6	Pandharpur	130360	0.77	8.01	3.68	5.75	81.80
7	Malshiras	152220	4.34	18.05	0.08	16.59	60.94
8	Sangola	155070	4.57	1.30	7.30	23.36	63.47
9	Mangalvedha	114090	0.60	3.40	2.08	28.13	65.80
10	South Solapur	119530	0.54	17.69	20.71	7.09	53.97
11	Akkalkot	139030	0.27	8.57	9.62	10.27	71.27
Solapur District		1489540.99	2.40	10.74	4.82	14.97	67.07

Source: Socio-economic Review and District Stastical Abstract, Solapur District, 2024.

3. Land Not Available For Cultivation

Land not available for cultivation includes barren land uncultivable land and non-agricultural land such as roads, railways, canals and settlement etc. The land not available for cultivation covers 10.74 per cent and the six tahsils have above average percentage that is Karmala (11.45), North Solapur (11.17), Mohol (24.70), Barshi (11.07) and Malshiras (18.05), South Solapur (17.69) and remaining tahsils have below average percentage.

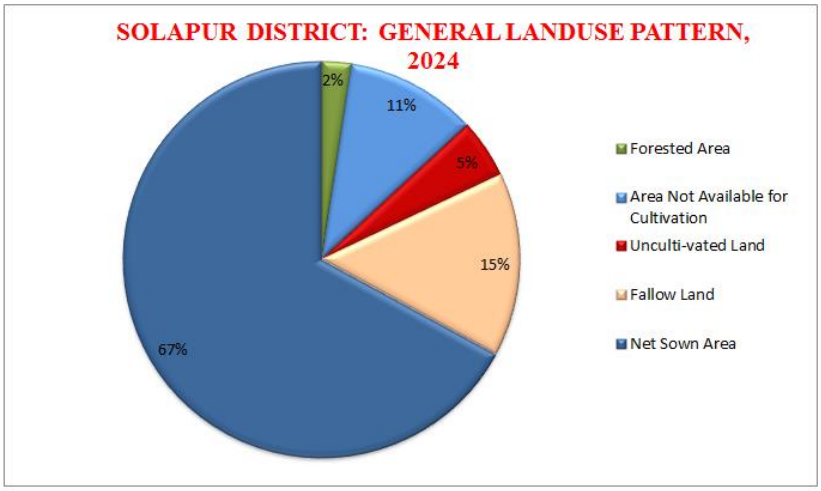

Fig. 1

4. Other Uncultivated Area

The percentage of other uncultivated land was 4.82 to the total geographical area in the study area. Karmala, Sangola, South Solapur and Akkalkot tahsils have high proportion than the average proportion of the study area (Table 1 & fig. 1).

5. Fallow Land

The share of fallow land was 14.97 per cent of the total geographical area in the study area. The tahsils namely Madha, North Solapur, Mohol, Malshiras, Sangola and Mangalvedha have above regional average proportion and remaining tahsils are below average.

6. Net Sown Area

The net sown area of the study area found 67.07 per cent. Five tahsils have below average of the study area viz. Mohol, (50.12), Malshiras (60.94), Sangola (63.47) and Mangalvedha (65.80), South Solapur (53.97) and remaining tahsils have

high percentage than the study areas average (Table 1 & fig. 1).

B. Cropping Pattern

A trend of cropping pattern in the study area showed the development of the region and it is one of the indicators of the development. In the study area agriculture is the main occupation, where 62.90 per cent population engaged. This is the developed part in agriculture. The cropping pattern spared in net sown area cover 69.07 per cent area in the study area (Table 2 & fig. 2).

Table 2
Solapur District: Cropping Pattern, 2023-24

Sr. No.	Crops	Area (Hectare)	Area (%)
A. Food Crops			
i	Jawar	267704	23.41
ii	Wheat	38020	3.32
iii	Bajara	24229	2.12
iv	Maize	104733	9.16
v	Other Crop	263	0.02
	Total Cereals	**434949**	**38.03**
i	Gram	49094	4.29
ii	Tur	65140	5.70
iii	Udad	50747	4.44
iv	Mug	8746	0.76
v	Other Pulses	74	0.01
	Total Pulses	173801	15.20
	Total Food Grain	**608750**	**53.23**
i	Sugarcane	150586	13.17
ii	Condiments & Spices	3109	0.27
iii	Fruits & Vegetables	167975	14.69
	Total Food Crops	**930420**	**81.36**
B. Non Food Crops			
i	Cotton	297	0.03
ii	Total Fibers	297	0.03
iii	Ground Nut	4546	0.40
iv	Sunflower	1975	0.17
v	Soyabeen	133210	11.65
vi	Other Oil Seeds	1870	0.16
	Total Oil Seeds	**141601**	**12.38**
i	Other Non-Food Crops	71297	6.23
Total Non-Food Crops		**213195**	**18.64**
Total Cropped Area		**1143615**	**100.00**

Source: Socio-economic Review and District Stastical Abstract, Solapur District, 2024.

Land is to be considered the most important aspect of production, especially agricultural Production (Prithwish Roy. 2012). The agricultural area of the study area is used for the various crops. This may be divided into the food crops and non-food crops. Cereals and pulses are the food gains and sugarcane, condiments, spices, fruits and vegetables are non-food gains above two categories include in food crops. Above 80 per cent area is under the food crops out of total cropped area. In the cereals is domain once of than pulses and non-food gain crops Sugarcane cropping pattern is since in the Bhima basin in the study area. Non-food crops covers the 18 per cent in which an oilseed dominate than the other non-food crops (Table 2 & fig. 2).

Solapur District: Cropping Pattern, 2023-24

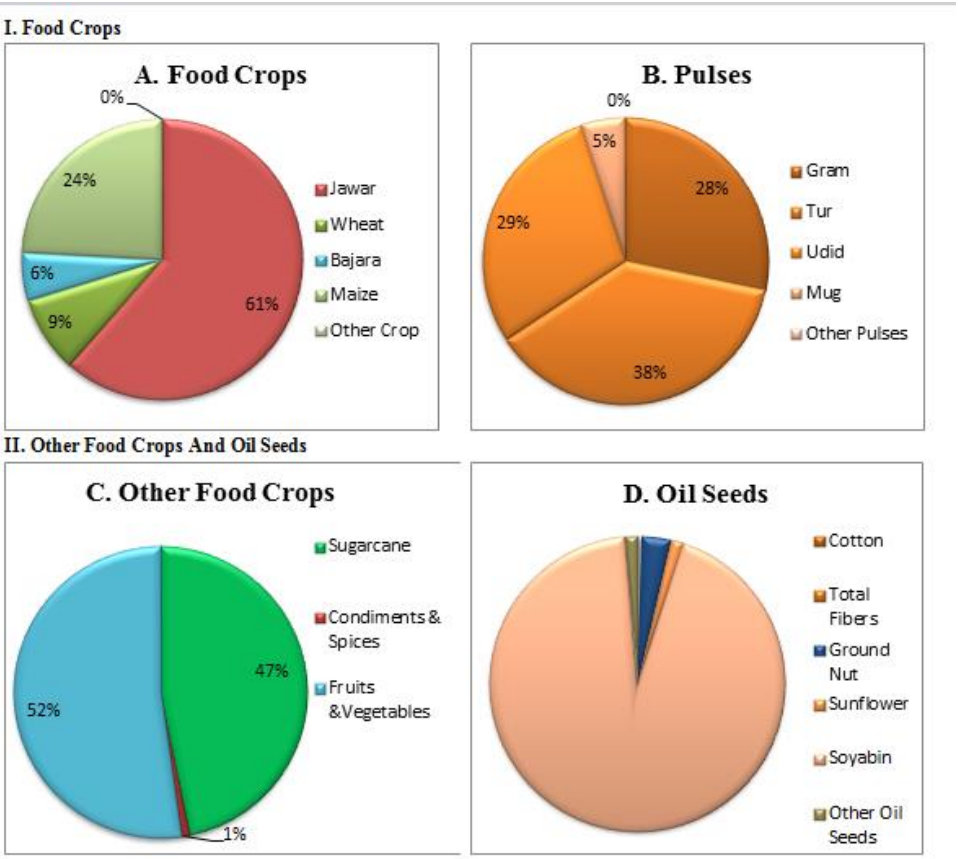

Fig. 2

Finding

The net sown area has high land cover i.e. 67.07 per cent and lowest per cent is under forest (2.40%). Karmala is biggest tahsil and North Solapur is smallest tahsil in terms of total geographical area. In the study area agriculture is the main occupation, where 62.90 per cent population engaged. This is the developed part in agriculture. The cropping pattern spared in net sown area cover 69.07 per cent area in the study area and only 2.40 per cent area is under forest.

Conclusion

In the study area, out of the total geographical area nearly 70 per cent area is under agriculture but 15 per cent area is remaining fallow land. Only 2.40 per cent area is under forest and near Eleven per cent area shared by area not available for agricultural. So far as agricultural land use is concern, study area has nearly 80 per cent food crops and 18 per cent non-food crops, where cereals like Jawar, Wheat, Bajara, etc. and pulses like Gram are major crops. Sugarcane, fruits and vegetables have also considerable proportion especially in Bhima river basin. Good pedological conditions and little rainfall play vital role in the cropping pattern of the study area.

Recommendations

1. All farmers should use their uncultivated agricultural land for various cropping.
2. The farmers should take more production of non-food crops e.g. Oil seeds.

Acknowledgment

We are both Dr. Samadhan Dharma Shinde (Dept. of Geography) and Dr. Uddhav Manohar Ghodake (Dept. of Economics) thankful to Principal of Rayat Shikshan Sanstha's, Shripatrao Kadam Mahavidyalya, Shirwal for granting permission to carry out the work.

Financial support and sponsorship

Nil

Conflicts of interest

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

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