

THE STUDY OF CHANGING SUGARCANE CULTIVATION AREA IN SOLAPUR DISTRICT

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Article Info	ABSTRACT
Article History: Received: 18th Sep 2025 Accepted: 02nd Oct 2025 Published: 17th Oct 2025	The present research examines the spatio-temporal dynamics of sugarcane cultivation in Solapur district, Maharashtra, with a focus on the period 2023–24 to 2024–25. Agriculture continues to be the backbone of India's economy, and sugarcane holds a pivotal role as a commercial crop, supporting sugar, jaggery, and allied industries. The study uses secondary data sources such as socio-economic reviews, agricultural records, and district statistics to analyze changing patterns at the tahsil level. Results reveal that the total sugarcane area in Solapur increased significantly from 1,50,586 hectares in 2023–24 to 2,12,078 hectares in 2024–25, marking a net rise of 61,492 hectares. This expansion, however, is highly uneven across the district. Tahsils like Akkalkot, Madha, Mohol, and Pandharpur recorded substantial growth due to improved irrigation, groundwater exploitation, and the spread of sugar industries, whereas Karmala, Barshi, and South Solapur experienced declines. The findings emphasize the decisive role of irrigation facilities, soil types, rainfall distribution, and cropping patterns in influencing sugarcane expansion. Furthermore, the growing reliance on water-intensive crops in drought-prone Solapur highlights pressing concerns about water sustainability. The study underlines the urgent need for integrated water management, crop diversification, and adoption of modern irrigation techniques to balance agricultural productivity with ecological security.
Keywords: Cultivation, Irrigation, Sugarcane, Solapur district	

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Introduction: -

Etymologically agriculture geography deals with the arts and science of domestication of plants and animals (M. Husain, 2002). Agriculture is one of the most important sector of the Indian. Agriculture is the only means of living for almost two thirds of the workers in country. The agriculture sector of India has occupied 43% of India's geographical area, and is contributing 16.1% of India's GDP. Agriculture still contributes significantly to India's GDP despite decline of its share in India's GDP. There are number of crops grown by farmers. These include different food crops, commercial crops, oil seeds etc., sugarcane is one of the important commercial crops grown in India. Sugarcane is the main source of sugar in Asia and Europe. Sugarcane is grown primarily in the tropical and sub-tropical zones of the southern hemisphere. Sugarcane is the raw material for the production of white sugar, jaggery (gur) and khandsari. It is also used for chewing and extraction of juice for beverage purpose. (Dr. M. R. Nangare and Dr. Patil R.R. 2020)

Sugarcane is most important commercial crop of Solapur district as like India and tropical countries. The district accounts 18.25% of the cane crushed in the state during 2024-25-12. Sugarcane is certainly one of the most profitable crop because it requires less labor considering crop like onion and chili. Hence an attempt is made here to examine the "The study of changing sugarcane cultivation area in Solapur district."

Study Region:

For the present investigation Solapur district is selected as a study region. Geographically Solapur district is located between 17°10' North to 18°32' North latitude and 74°42' East to 76°15' East longitude. It covers an area of 14,895 sq. km. The district is situated on the south eastern fringes of the state of Maharashtra and the district is bounded on the north by the Ahmednagar district and Osmanabad district, on the east by Osmanabad and Gulbarga district of the state of Karnataka, on the south by Sangli and Bijapur district and on the west by Pune and Satara district.

The shape of district resembles flying eagle. The proportion of area of Solapur district as compare to Maharashtra is about five (5%) per cent. It is administratively sub-divided into 11 tahsils. The soils of the district can be classified into three main types. These are black soil, coarse grey soil and reddish soil. Agro-climatically, the entire district comes under the rain shadow area. Rainfall is uncertain and scanty. The average rainfall for the district is 545.4 mm.

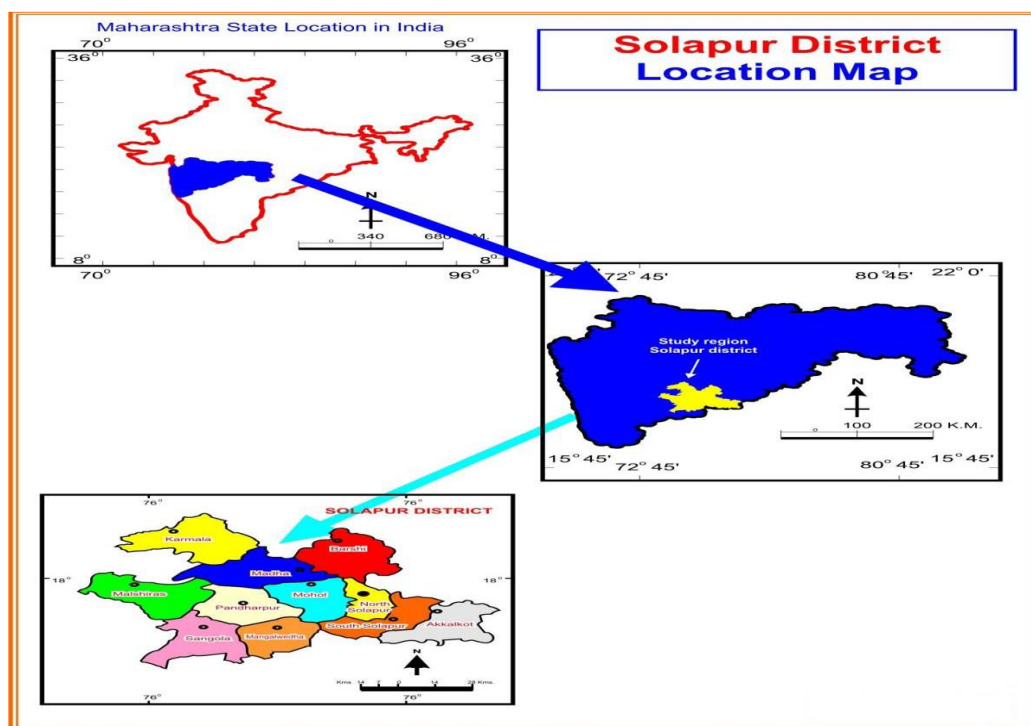


Fig. no. 01

Objective:

The main objectives of this paper are as following,

- 1) To study of changing sugarcane cultivation area in Solapur district.
- 2) To study the factor responsible for changing sugarcane cultivation in Solapur district.

Database and Methodology:

The study was conducted in the Solapur district in Maharashtra state. For the purpose of the study, only secondary information was collected from different sources. The secondary data like information related to sugarcane cultivation and geographical information collected through Agriculture Department and Socio-Economic review, district Statistical abstract of Solapur District and Daily Lokmat News Paper Dated 14 September 2025 from the year 2023-24 and 2024-25 used.

Result and Discussion:

Sugarcane is one of the leading cash-crops in Solapur district. Sugarcane occupies important place in the economy of the district. It is a long duration crop and requires 10 to 15 months to mature. It requires hot and humid climate with average temperature between 210 c. to 270 c. and 75 to 150 cm. rainfalls. It is grown well in black cotton soil. Irrigation facilities are essential for sugarcane cultivation (Dr. M.R. Nangare, 2021).

Table No.1

Tahsil wise Area under Sugarcane Cultivation in Solapur District-(2023-24-2024-25)

Sr. No	Tahsils	Sugarcane Cultivation Area in Hectare		
		2023-24	2024-25	Volume of changes
1	Karmala	29273	23481	-5792
2	Madha	17151	31094	13943
3	Barshi	7617	4317	-3300
4	North Solapur	3013	6290	3277
5	Mohol	13130	23696	10566
6	Pandharpur	28557	48136	19579
7	Malshiras	19081	19958	877
8	Sangola	3615	4948	1333
9	Mangalwedha	8108	11999	3891
10	South Solapur	18180	14926	-3254
11	Akkalkot	2861	23242	20381
12	District	150586	212078	61492

(Source: Compiled by researcher on the basis of and Daily Lokmat News Paper Dated 14 September 2025 and Socio-economic Abstract of Solapur District, 2023-24)

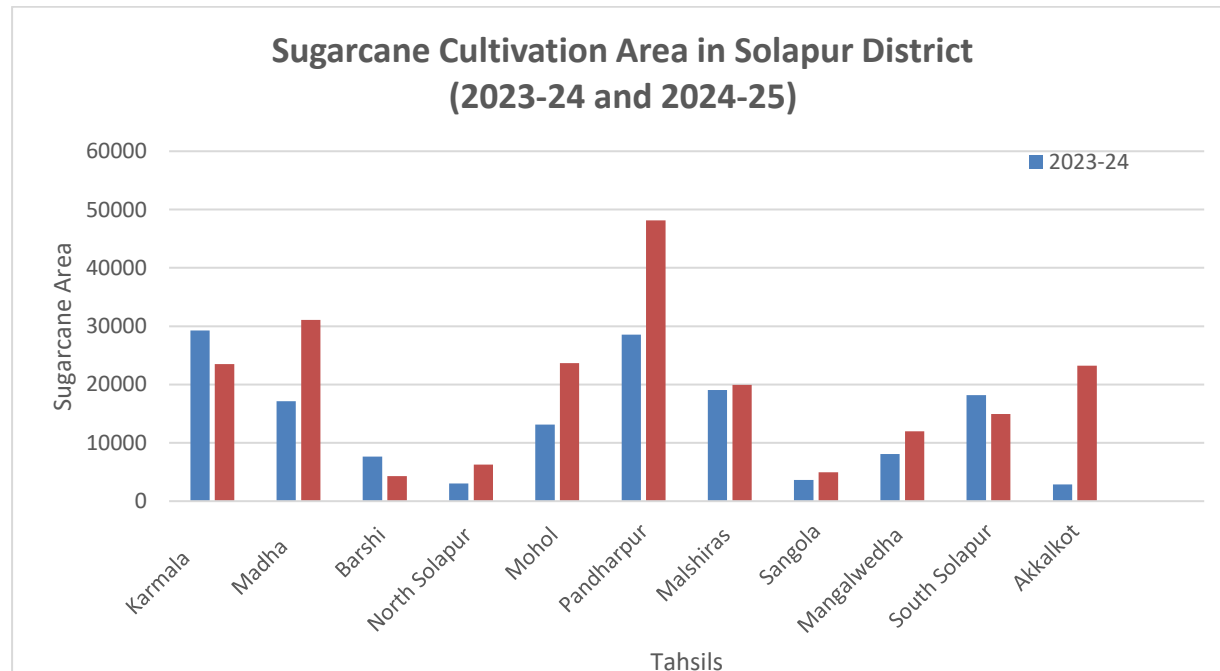


Fig. No. 02

The table no. 01 shows that, the area under sugarcane cultivation was 150586 hectares in 2023-24 in Solapur district. The tahsil Karmala and Pandharpur occupies the largest area (>20000 hectare) under sugarcane in the study region in 2023-24, The area under irrigation is

more in Karmala and Pandharpur talukas, which are provided with irrigation water from Ujjain and Veer Bhadgar dams. The concentration of sugarcane industry in these two tahsil and adjoining area, due to that, the area under sugarcane cultivation is more in these tahsil, whereas only South Solapur, Mohol, Madha and Malshiras tahsil observed moderate level area (10000 to 20000 hectare) under sugarcane. Low level area (<10000 hectare) under sugarcane crop recorded in the tahsil Sangola, Akkalkot, Mangalwedha, North Solapur and Barshi. It is due the irrigated facility was less in these talukas, Due to the lack of irrigation facilities in these talukas, farmers here grow other cereals in large quantities instead of sugarcane.

During the year 2024-25, the area under sugarcane cultivation has been 212078 hectares. Tahsil level analysis shows more variations. The tahsil Karmala, Madha, Mohol, Akkalkot and Pandharpur occupies the largest area (>20000 hectare) under sugarcane in the study region in 2024-25. Sugarcane area has increased in Akkalkot taluka due to increased groundwater irrigation facilities, whereas Mangalwedha, South Solapur and Malshiras tahsils were recorded moderate level (10000 to 20000 hectare) area under sugarcane crop. Low level area (<10000 hectare) under sugarcane crop was observed in Sangola, Barshi and North Solapur tahsil. These talukas are known as major drought-prone talukas and due to the low irrigation area in this area, the area under sugarcane crop is low in 2024-25.

The area of Sugarcane crop tremendously increased during the period of investigation. Tahsil level analysis shows both positive and negative changes. Positive changes recorded in Madha, North Solapur, Malshiras, Pandharpur, Akkalkot, Mohol, Sangola and Mangalwedha tahsils and negative changes recorded in Karmala, Barshi and South Solapur tahsil. Now sugarcane is major and principal crop in the Solapur district. This is because of increase in sugar factories in the district and also due to the increase in the irrigation facilities.

Conclusion:

The geographical analysis of sugarcane cultivation in Solapur district demonstrates a clear pattern of growth accompanied by spatial disparities. While overall cultivation area expanded remarkably within just one year, the gains were concentrated in regions with reliable irrigation and growing industrial demand for sugarcane. The role of sugar factories, drip irrigation, and groundwater utilization has been central in transforming sugarcane into the leading crop of the district. However, this expansion raises sustainability concerns, as semi-arid regions with limited and uncertain rainfall cannot indefinitely support a water-intensive crop like sugarcane. The decline observed in drought-prone tahsils such as Barshi and South Solapur further reinforces this vulnerability.

Future strategies for agricultural development in Solapur should prioritize sustainable water-use practices, efficient irrigation methods, and policies promoting crop diversification to reduce overdependence on sugarcane. Balancing economic profitability with ecological constraints will be vital for ensuring the long-term stability of agriculture in this drought-prone

district. The study thus highlights the dual challenge of promoting sugarcane as an economic driver while safeguarding natural resources for the resilience of rural livelihoods.

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