

An Analysis Of Crop Area Fluctuations and Rainfall in Sangli District (2015-2025) : A Geographical Study

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Article Info	ABSTRACT
Article History: Received: 15th Dec 2025 Accepted: 19th Dec 2025 Published: 20th Dec 2025 Keywords: <i>Rainfall, Major Crops, Area</i>	This paper aims to analyze the changes in the utilization of land for major crops and how they relate to Sangli district rainfall. Within the Due to population increase, the district's land use and cropping patterns have drastically changed during the 2015 to 2025. The majority of agricultural land was converted to commercial crops like sugarcane due to the shift in agricultural trends from food crops to cash crops. In this paper we talk about orchard farming which is grown day by day in sangli district due to a venerable markets and regular water availability. In sangli district especially Jat and Atpadi talukas increase a kharip as well as ruby jowar. In last 10 years. We found there is no major co relation between major crops area and rainfall due to various water irrigation system.

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1. Introduction:

One of the primary factors influencing agricultural output is the climate. Any alterations in the climate that are directly related to human activity, that adds to the natural climate variability seen over similar time periods by changing the composition of the global atmosphere. Any change in a climatic element is bound to have a major effect on cropping patterns and production since climate factors are direct inputs to agriculture. This study demonstrates how the area planted to different crops is significantly impacted by changes in the climate. The consequences of climate change and its variability on agricultural productivity are a major source of concern for people all over the world. Generally speaking, agriculture contributes significantly to the growth of economies outside of the industrialized countries.

2. Objective:

The intention of this study is to assess how the Sangli district's average annual rainfall affected the acreage planted to major crops between 2015 and 2025.

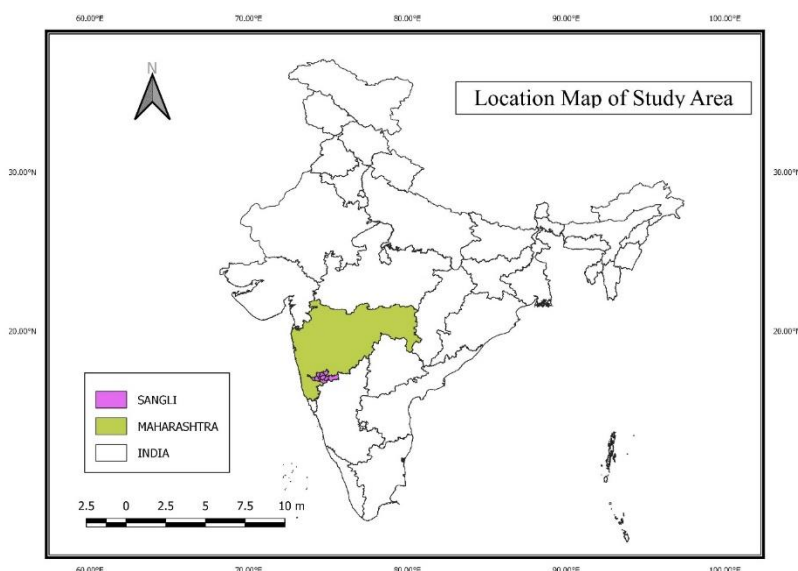
3. Methodology and database:

In order to analyse the rainfall and area under important crops, secondary data was gathered

from the Sangli district's socioeconomic abstracts for the years 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025 . The relationship between rainfall and area under crops is analyzed using an easily understood graphical method, where rainfall is represented by line graphs and area by bar graphs.

4. Study Area:-

Sangli district is located on the south and southeast of Maharashtra. Latitude and longitude coordinates are 16°51'11"N 74°34'59"E to 16.85'30"N 74.58'3"E. The district's area is around 8,572 square km. That means there are districts of Satara in the



north and north east, Solapur in the north and northeast, Bijapur (Karnataka) in the east, Belgaum in the south, Kolhapur in the south, and Ratnagiri in the west. Shirala taluka on the west comes in the main line of Sahyadri. The western part of the district is mountainous.

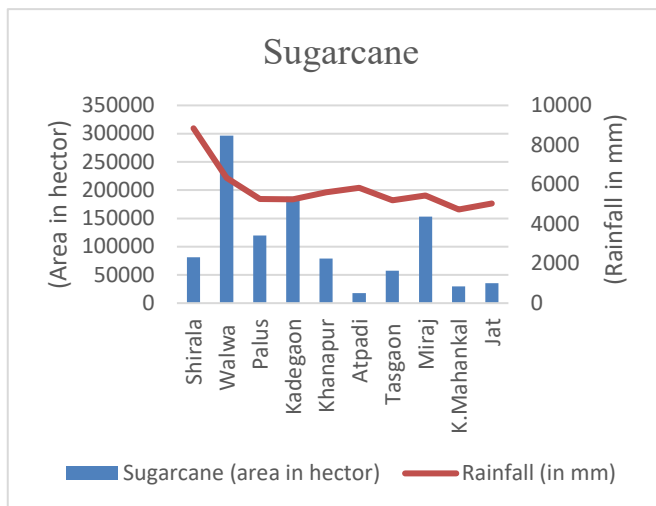
Talukas of Sangli district: - Shirala, Walwa, Tasgaon, Khanapur (Vita), Atpadi, Kavathe Mahankal, Miraj, Palus, Jat and Kadegaon

The district has different geographical, economic and social status. Jat, Atpadi, Kavathe Mahankal are the permanent drought-hit talukas. Many villages in Palus, walwa, Miraj talukas are always at risk of flood. Shirala, Khedgaon, Khanapur are hill stations. At

one end there is a forest in Shirala taluka. On the other hand, lots of desert land in Jat taluka. Sangli's half-maternal behavior works in the Kannada language on the Maharashtra-Karnataka border. The east-west length of the district is 205 km and the north-south length is 96 km.

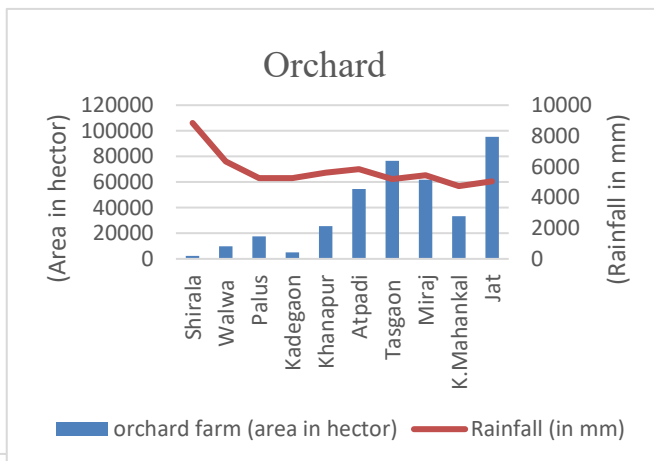
5. Interpretation of Major crops in sangli district

5.1 Effect of Rainfall on Sugarcane Crop:

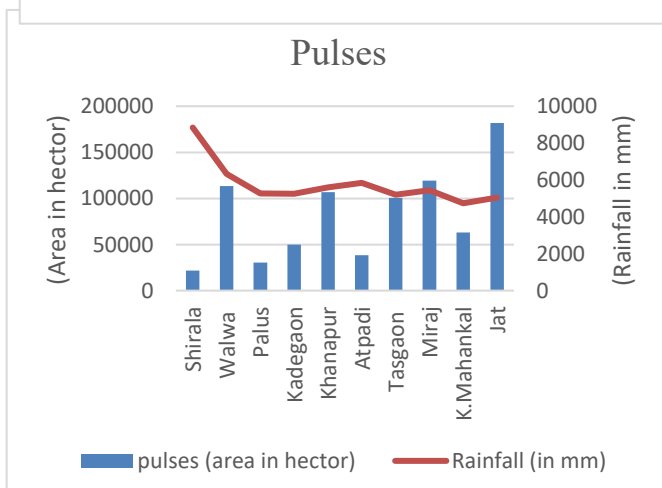


When it comes to sugar production, Sangli district is significant. Although it is one of the district's traditional crops, There is no correlation between rainfall and the area planted to sugarcane. The 2015–25 year saw the largest area. However, the yearly rainfall was mild on average. The expansion of the land planted to sugarcane may have been due to economic incentives as well as the various irrigation system fact that many farmers were drawn to the crop.

5.2 Effect of Rainfall on Orchard Crop:

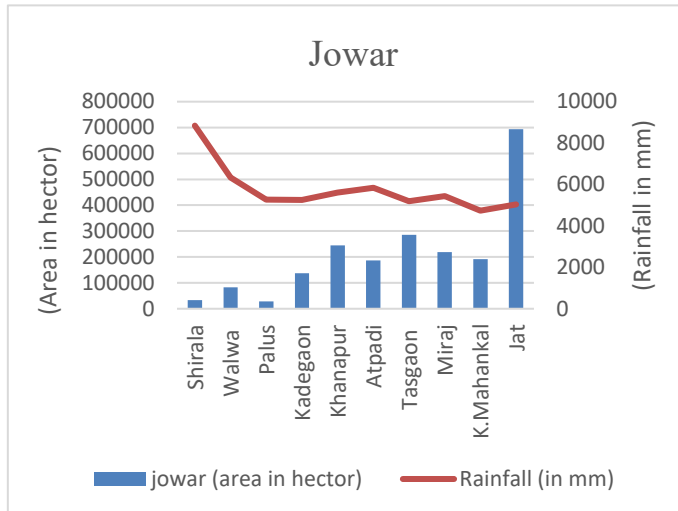


The district's average yearly rainfall varies from year to year, although fruit crop production is growing daily. 2015–25 saw the largest acreage planted to fruit crops. The Sangli district, which is well-known for growing grapes, has another trend of guava and dragon fruit as well as lemon because sangli have a big market for all kind of fruit that's why day by day the fruit farming was grown in sangli district

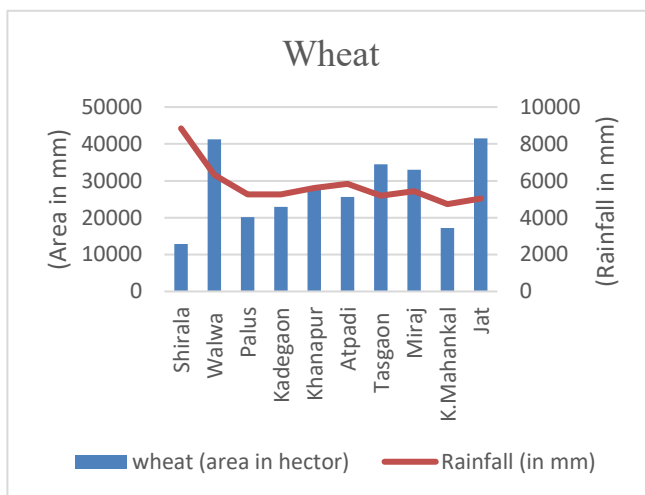


When we see the Pulses production of sangli district we found Jat Taluka was one of the highest cultivated pulses. Although it is one of the district's traditional crops, There is no correlation between rainfall and the area planted to pulses. The 2015–25 year saw the largest area. However, the yearly rainfall was modrate on average. The expansion of the land planted to pulses

5.4 Effect of Rainfall on Jowar Crop:



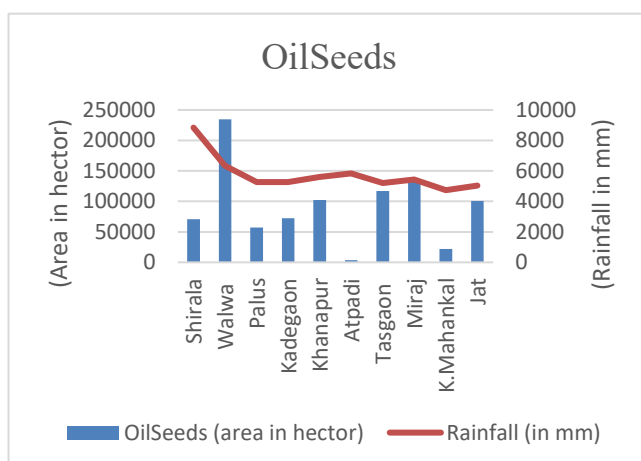
In sangli district especially Jat talukas increase a kharip as well as ruby jowar. In last 10 years. We found there is no major co relation between major crops area and rainfall due to various water irrigation system.



In the sangli district we found last 10 years there is no major changes in area under wheat crop excluding jat and walwa taluka.

There is no correlation between rainfall and wheat crops area in sangli district. The maximum area under wheat crops found in walwa and Jat taluka.

5.6 Effect of Rainfall on Oilseeds Crop:



There was no correlation discovered between the area planted with oilseed crops and the amount of rainfall. People were largest area planted with oilseeds in the walwa taluka

In other It may have been low because of the erratic rainfall during the oilseed growing season.

6. CONCLUSION:

One of the districts in west Maharashtra that falls within the drought-prone area is Sangli district. This district's farmers cultivate traditional crops. Due to the district's inconsistent and erratic rainfall, agriculture in this area primarily relies on irrigation systems. The average rainfall and the area under cultivation showed virtually little correlation. However, because farmers in this area rely more on irrigation than rainfall, crops are still grown in enormous quantities in this district. We can determine that the cultivation of fruits, vegetables, and sugarcane is on the rise by looking at the cropping pattern.

The agricultural area has been driven by many irrigation initiatives in this area during the past few years for rainfall. The government also provides funding to encourage farmers to use different irrigation techniques and programs, such as farm pond schemes and drip irrigation. HYV seeds and fruit plants that can withstand lower water requirements must be produced. There is a growing need to conserve the increasing amount of water that is gathered during rainy seasons and utilized for crops in a variety of ways.

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