

## Original Article

### Cash crops Cropping Pattern in Jalgaon District: Special Reference Cotton and Sugarcane

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*The study region is produced variety of crops and also produced food grains and cash crops. Middle part of Tapi river basin is suitable for agriculture. but Satpura mountainous and Ajanta hilly region is not suitable for agriculture. Out of total geographical area of the Khandesh about 57% area is under agriculture. Because of deep sediment deposited at the surrounding Tapi river bank. So, this region is more suitable for agriculture purposes. Area of shallow medium black soil in Jalgaon district is 638. 1 thousands hectares and it is very suitable for cotton and banana crops. and the area of deep black soil is 213. 5 thousands hectares is suitable for sugarcane, banana and other cash crops. Due to this cash crop cultivation, this area is considered a rich region. The area under net crop is 844 4.2 thousand hectares and twice the crop area is 480360 hectare. so agriculture is a major occupation in Jalgaon district. Water streams of Satpura and tributaries of Tapi river (Girna, Purna, Bhogavati, Aner, Panjara, Waghur etc.) increases underground water level in this region. farmers of this area mainly taking cash crops like sugarcane, cotton and banana etc. Yawal and Raver Taluka are famous for banana production. Irrigation is essential for these crops. So, farmers irrigated their land by Canal, Wells and tube wells.*

**Key words:** Cash crops, Pattern.

#### Introduction:

Agricultural region is an uninterrupted area having same kind of homogeneity with specifically defined outer limit. Agricultural region, in fact, is a device for selecting and investigating regional groupings of the complex agricultural phenomena found on the earth surface. Depending on the terrain, topography, slope, temperature, amount and reliability of rainfall, soil and availability of water for irrigation, the cropping pattern very from region to region. (M. Husain 1996) In the black cotton soil as regur region in the North-West, cotton cultivation predominates. The cotton cultivation covers the Deccan trap region and Gujarat plain. The Narmada, Tapi, Purna, Sabarmati river valleys are basically heartland of cotton cultivation. As a cash-crop, cotton cultivation is always associated with one food grain cultivation, preferably Jowar, Bajra, or oil seeds. (Singh & Singh 2006)

The sugarcane plant is classified under the genus "Saccharum" (Parthasarthy, 1972). Sugarcane was known in Indian from the earliest times and its note are found in Atharva Veda as well as 3000 to 7000 years 126 ago. According to Barber (1919) the earliest relation to sugarcane is to be found in the ancient Indian literature during the period of 1400 to 1000 B.C. The recent bio-environmental and geographical proof unfold the fact that New Guinea is the early home of Sugarcane. Sugarcane is the main source of sugar in Indian state and it is a main cash crop. Sugarcane is grown in the irrigated area of the study region. It is also topmost position in the economy of the study region. Sugarcane is originated due to complex hybridization with varieties of grasses. Sugarcane is comprising three main species from which various strains was developed. Sugarcane crop is growing most successfully in the tropical climate. It means it is cultivated in the study regions whereas no temperature extremes.



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The temperatures are ranging between 22 0 c to 34 0 c is favorable for sugarcane crop cultivation. Sugarcane crop is requiring a rainfall of 700 mm. to 1000 mm. due to successfully grown under irrigation. Other issues of high rainfall zone (1200 to 1800 mm. per annum) the sugarcane crop is grown was irrigated. Hot dry weather is affected on the crop adversely. Cotton crop is the most important fiber crop and it was growing as a cash crop of the study region. Cotton crop is an irrigated crop has been rain fed crop in the study region. Cotton crop are growing in the study region. The cotton crop growth period the weather has been clear at the time of harvesting also is requires temperature between 200 c to 250 c and at the time of growing bolls development then requires temperature between 250 c to 300 c. The rainfall is less than 700 mm. for the growth of cotton crop. The crop is growing in black soil, red, alluvial and medium black soil also. It is requiring free draining soil. In the related research paper sugarcane and cotton crop in Jalgaon district has been studied. . Middle part of Tapi river basin is suitable for agriculture. but Satpura mountainous and Ajanta hilly region is not suitable for agriculture. Out of total geographical area of the Khandesh about 57% area is under agriculture. Because of deep sediment deposited at the surrounding Tapi river bank. So, this region is more suitable for agriculture purposes. Area of shallow medium black soil in Jalgaon district is 638. 1 thousands hectares and it is very suitable for cotton and banana crops. and the area of deep black soil is 213. 5 thousands hectares is suitable for sugarcane, banana and other cash crops. Due to this cash crop cultivation, this area is considered a rich region. The area under net crop is 844 4.2 thousand hectares and twice the crop area is 480360 hectare. so agriculture is a major occupation in Jalgaon district. Water streams of Satpura and tributaries of Tapi river (Girna, Purna, Bhogavati, Aner, Panjara, Waghur etc.) increases underground water level in this region. farmers of this area mainly taking cash crops like sugarcane, cotton and banana etc. Yawal and Raver Taluka are famous for banana production. Irrigation is essential for these crops. So, farmers irrigated their land by Canal, Wells and tube wells.

## Objectives:

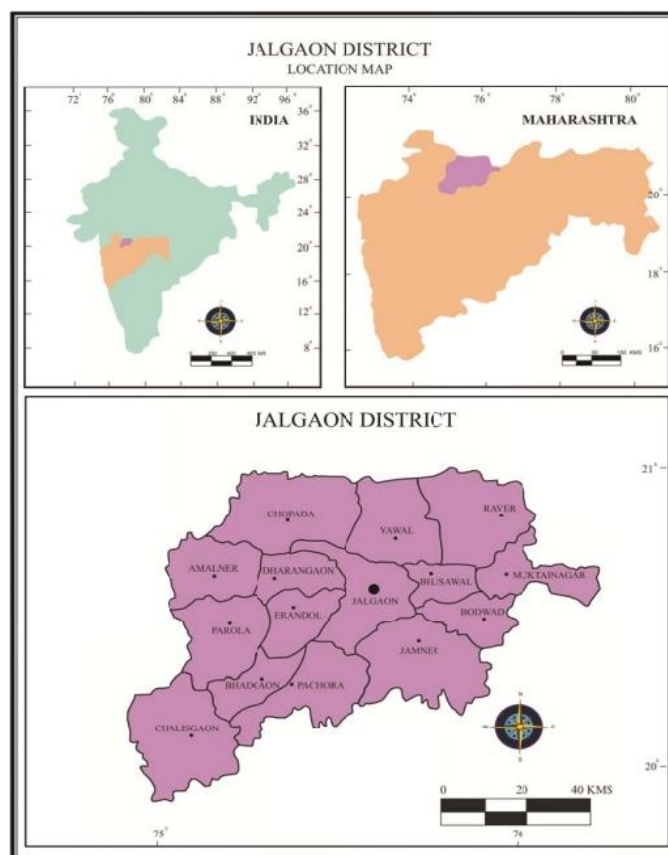
To study the geographical setting of study region.

To assess the Cash Crop Cropping pattern in Jalgaon district.

## Study Area:

The Jalgaon district is located near the heartland of India. it occupied a position of great strategic importance in the Tapi rift Valley. It is bordered by high land of Satpura plateau in the north and the Ajanta range in the south. It stretches from 20 degree to 21-degree north latitude and 74 degree 55 minutes to 76- degree 28-minute East longitudes. The total area of the region is given as 11765 sq. km. Jalgaon as district headquarters is located in a well-developed agricultural area in which cotton, sugarcane, banana and vegetable are grown.

## Map no: 1



## Methodology:

Data is collected from the secondary sources. All agricultural data collected from the agricultural statistical office, Jalgaon. After it analyses the table and diagrams are prepared to represent data. Topographical maps and survey of India sheets 1:50000 scales are used for physiographical inventory. For cartography Arc Gis 10.2 is used. the cropping pattern for the following formula:

$$Cp = \frac{Ca}{N} * 100$$

Cp = Cropping Pattern

Ca = Area Under Crop 'a' in the component areal unit

N = Total cropped area in the component areal unit.

## Cotton:

### Introduction:

Cotton crop is the most important fibre crop and it was growing as a cash crop of the study region. Cotton crop is an irrigated crop has been rain 131 fed crop in the study region. Cotton crop are growing in the study region.

### Ecological Conditions of Cotton Crop Cultivation:

The cotton crop also situated as a sub-tropical crop. It was a very sensitive plant to environment, which are fact of account in part for the various types of cotton crop is under cultivation. There are need for the high and uniform temperature in during the early stages of crop growth, as per the encourages to vegetative growth. In the next stages of cotton crop growth, the temperature would be lowered preferably with the cool nights of the season. These are condition to useful and encourage fruiting for cotton crop.

Also, heavy irrigation facilities or heavy showers of rain was occurred in during the growth period as well as the shedding of the flowers and young bolls may be resulting. The cotton crop growth period the weather has been clear at the time of harvesting also is requires temperature between 200 c to 250 c and at the time of growing bolls development then requires temperature between 250 c to 300 c. The rainfall is less than 700 mm. for the growth of cotton crop. The crop is growing in black soil, red, alluvial and medium black soil also. It is requiring free draining soil.

## Sugarcane:

### Introduction:

The sugarcane plant is classified under the genus "Saccharum" (Parthasarthy, 1972). Sugarcane was known in Indian from the earliest times and its note are found in Atharva Veda as well as 3000 to 7000 years 126 ago. According to Barber (1919) the earliest relation to sugarcane is to be found in the ancient Indian literature during the period of 1400 to 1000 B.C. The recent bio-environmental and geographical proof unfold the fact that New Guinea is the early home of Sugarcane. Sugarcane is the main source of sugar in Indian state and it is a main cash crop. Sugarcane is grown in the irrigated area of the study region. It is also topmost position in the economy of the study region

### Ecological Conditions of Sugarcane Crop Cultivation:

Sugarcane is originated due to complex hybridization with varieties of grasses. Sugarcane is comprising three main species from which various strains was developed. Sugarcane crop is growing most successfully in the tropical climate. It means it is cultivated in the study regions whereas no temperature extremes. The temperatures are ranging between 22 0 c to 34 0 c is favorable for sugarcane crop cultivation. Sugarcane crop is requiring a rainfall Of 700 mm. to 1000 mm. due to successfully grown under irrigation. Other issues of high rainfall zone (1200 to 1800 mm. per annum) the sugarcane crop is grown was unirrigated. Hot dry weather is affected on the crop adversely

The growth of the sugarcane crop is depending on the soil types. It should be grown in a course shallow soil type, but it was growing best on medium to deep black soil types.

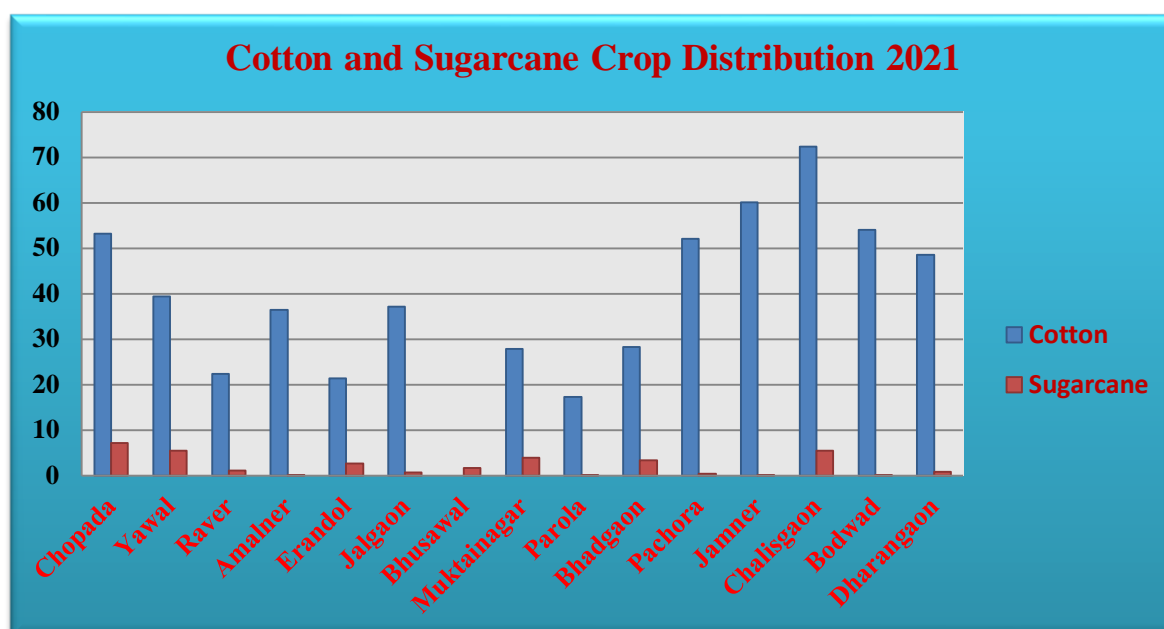
The alluvial soil type and black or regur soils was most suitable for sugarcane crop. Water logging or alkalinity to make soils unfit for sugarcane crop. The total period of maturity of the sugarcane crop varies is according to the varieties that are grown. In most of the places it is growing period was noticed ten to twelve months. But the planning was adjusted that the sugarcane crop for ready and harvest in October-November. In general, it can be requiring a long growing season

**Table no: 1 Tahsilwise Percentage of Area Under Cotton and sugarcane ( 2021)**

cotton and sugarcane Cash Crops tehsil wise distribution						
sr.no	Tehsils	cotton	percent	sugarcane	percent	difference
1	Chopada	30998	53.2	4433	7.16	46.04
2	Yawal	18005	39.44	2484	5.44	34
3	Raver	12896	22.41	654	1.14	21.27
4	Amalner	26715	36.5	101	0.14	36.36
5	Erandol	7481	21.48	920	2.64	18.84
6	Jalgaon	23010	37.16	482	0.78	36.38
7	Bhusawal	0	0	270	1.65	1.65
8	Muktainagar	9580	27.88	1515	3.93	23.65
9	Parola	8389	17.38	57	0.12	17.26
10	Bhadgaon	8684	28.27	1038	3.38	24.89
11	Pachora	33058	52.15	314	0.5	51.65
12	Jamner	60946	60.11	86	0.08	60.03
13	Chalisgaon	28115	72.4	2160	5.56	66.84
14	Bodwad	14077	54.15	2	0.01	54.14
15	Dharangaon	22077	48.54	371	0.82	47.72
	District	304031	41.07	14887	2.01	39.06

Source: socio economic survey Jalgaon District. 2021

**Graph no: 1 Tahsilwise Percentage of Area Under Cotton and sugarcane ( 2021)**



Jalgaon district in Khandesh is famous for the fertile valleys of Tapi, Girna, Narmada rivers. Cash crops like cotton, banana, sugarcane etc. are mainly grown in Jalgaon district. When the area under cotton cash crop in the study area was studied in the year 2021, the total area under cotton crop in the district was 304031 hectares, which is 41.07 percent. When the area of cotton crop is studied by tehsil, it is found that in 2021, the highest cotton crop area is in Jamner taluka with 60946 hectares, while the lowest cotton crop area is in Erandol taluka with 7481 hectares, which is 21.48 percent.

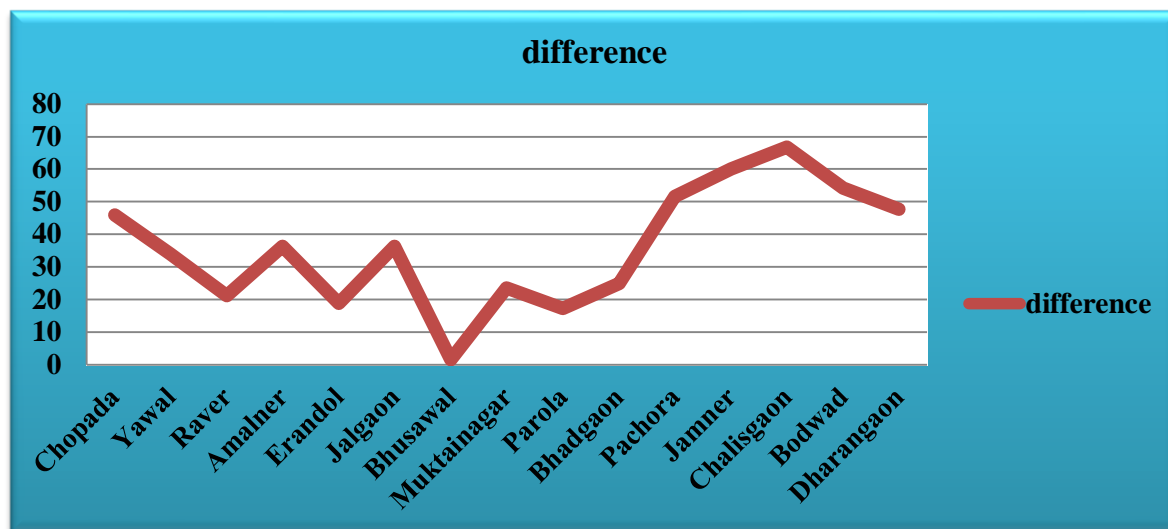
Similarly, when studying the sugarcane cash crop in the study area, the total area under sugarcane cultivation in the year 2021 is 14887 hectares, which is 2.01 percent. While studying the sugarcane crop by tehsil, the maximum sugarcane crop area is 4433 hectares, which is 7.16 percent, in Chopra taluka. While the lowest amount is found in Bodwad taluka, which is 2 hectares. Since Chopda, Yawal, and Raver talukas in the study area are located along the banks of the Tapi River, fertile soil and irrigation facilities have an impact on sugarcane crop.

**Graph no: 1 Tahsilwise difference Cotton and sugarcane crops ( 2021)**

Difference	
Chopada	46.04
Yawal	34
Raver	21.27
Amalner	36.36
Erandol	18.84
Jalgaon	36.38
Bhusawal	1.65
Muktainagar	23.65
Parola	17.26
Bhadgaon	24.89
Pachora	51.65
Jamner	60.03
Chalisgaon	66.84
Bodwad	54.14
Dharangaon	47.72
District	39.06

Sorce: complited by researcher

**Graph no: 2 Difference in cotton and sugarcane crops**



In the study area, cotton and banana as well as sugarcane are mainly important crops. But when a comparative study of cotton and sugarcane crops is done according to the information, it is found that in the year 2021, cotton crop is 39.06 percent more than sugarcane crop. That is, cotton is the most cultivated cash crop in the study area. Tehsil-wise, the highest cotton crop area exceeding sugarcane area is found in Chalisgaon taluka at 66.84 percent, while the lowest area is found in Bhusawal taluka at 1.65 percent.

### Conclusion:

In the year 2021, the total area under cotton crop in the district was 304031 hectares, which is 41.07 percent. When the area of cotton crop is studied by tehsil, it is found that in 2021, the highest cotton crop area is in Jamner taluka with 60946 hectares, while the lowest cotton crop area is in Erandol taluka with 7481 hectares, which is 21.48 percent. In the year 2021 is 14887 hectares, which is 2.01 percent. While studying the sugarcane crop by tehsil, the maximum sugarcane crop area is 4433 hectares, which is 7.16 percent, in Chopra taluka. While the lowest amount is found in Bodwad taluka, which is 2 hectares. Since Chopda, Yawal, and Raver talukas in the study area are located along the banks of the Tapi River, fertile soil and irrigation facilities have an impact on sugarcane crop.

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