



Original Article

Geographical Study of Fruit Farming In Ch. Sambhajinagar (Aurangabad) District

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Abstract

Fruits and vegetables contain a variety of nutrients, including minerals and vitamins, with antioxidants, which require good human health. Specific fruits that are rich in fiber content are essential for the proper movement of the digestive system of human beings. There are Some fruits provide energy because they contain carbohydrates, which are the main source of energy. Carbohydrates in fruits are mainly sugar, which breaks down easily and is a quick source of energy. Fruits and vegetables also contain different types of minerals, vitamins and nutrients that are very useful for human health. They can be easily cooked and digested. Some popular and healthy fruits that can be consumed in daily meals are apples, papaya, watermelon, muskmelon, sweet lime, banana, grapes, mango, orange, strawberry, and guava. The proper dieting of human beings has made himself a healthy life. The total area under fruit cultivation was approximately 3936 Ha in 2000-01 and 9764 Ha in 2015-16. The irrigated area of the fruit was approximately 3004 Ha in 2000-01 and it became 8644 Ha in 2015-16. Approximately 0.54% cropped area was under fruit cultivation in 2000-01 and it became 0.96% in 2015-16.

Ch. Sambhajinagar (Aurangabad) is located in north-central Maharashtra state. The district is situated in the Godavari and Tapi River basins. It is surrounded by Jalgaon district to the northern part, Jalgaon district to the east, Nashik district to the west, Ahmednagar district to the southwest, and Beed district to the southeast. It covers an area of 10136.61 sq. km, accounting about 3.28% of Maharashtra state. The latitudinal extent is 19°18' N to 20°40' North latitude and the longitudinal extent is 74°34' E to 76°04' East longitude. Godavari, Tapi, Purana, Shivana, Kham, Dudhana, and Giraja are the rivers in the district. The temperature was high in the month of May and low in the month of January. The Climate was dry and hot from March to May, and it became cold in December. The average rainfall in the district was 749 mm.

Keywords: Landuse, cropping pattern, Fruits cultivation area (TFCA), Total cropped area, Net irrigated area (NIA)

Introduction

If there is a greater importance of fruit and vegetable consumption in daily diet, it is not properly consumed by individuals in the daily routine. In India, the proportion of fruit cultivation in the cultivation of crops is very small compared to other crops owing to barriers and climatic conditions. Hence, there is greater scope for fruit and vegetable cultivation in agriculture today. These are a large variety of fruits, and each fruit requires a specific and typical climate for cultivation. Irrigation facilities and adequate water supply are basic requirements for fruit farming. Because of physiographical, social, and political problems, farmers are going to traditional farming. For its growing period, and provides more income to farmers than traditional crops. Ch. Sambhajinagar district is one of the districts in Maharashtra state, which shows favorable climatic and soil conditions for fruit and vegetable cultivation. Ch. The Sambhajinagar district lies in the Marathwada region of Maharashtra, where rainfall is uncertain and erratic. The climate is dry and hot during the summer season, when the temperature is 44° C. The average rainfall is 749 mm, and cotton crops are the dominant crop in agricultural activities. There is greater scope for fruit cultivation in this district. The total area under fruit cultivation was approximately 3936 Ha in 2000-01 and 9764 Ha in 2015-16.

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The irrigated area of the fruit was approximately 3004 Ha in 2000-01 and it became 8644 Ha in 2015-16. Approximately 0.54% cropped area was under fruit cultivation in 2000-01 and it became 0.96% in 2015-16.

Objectives:

Considering the perspective of agricultural development view in mind, this study investigates the following objects:

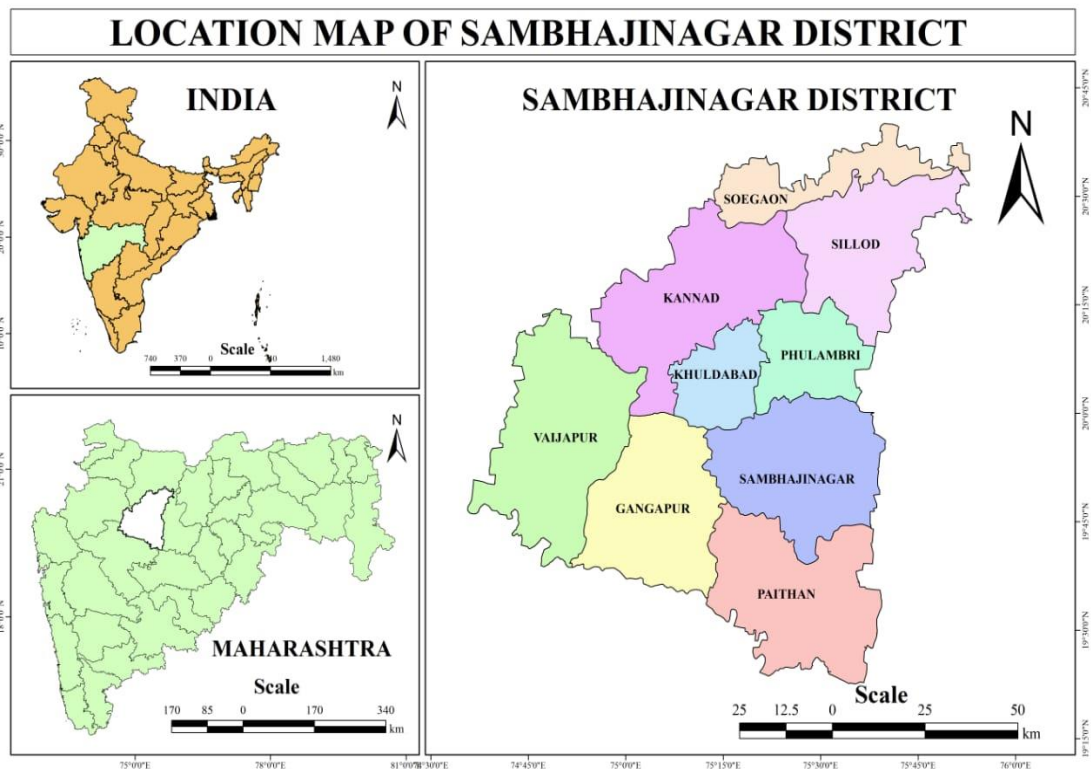
1. To determine the relationship between fruit cultivation area and fruit irrigation area in the Ch.Sambhajinagar district.

Study Region

2. To study the changing patterns of fruit farming within this Ch. Sambhajinagar district
3. To study the changing fruit farming pattern in district.

Data base & Research Methodology:

The required data collected and used for the period 2000-01 and 2015-16 comes from secondary sources. These secondary data were obtained from the Socio Economic Review, District Statistical Department, District Statistical Abstract, District Census Handbook, The District Socio Economic Review Bulletins, and season and crop reports published by the Agricultural Department.



Ch. Sambhajinagar (Aurangabad) is located in the north-central Maharashtra state. The district is situated in the Godavari and Tapi River basins. It is surrounded by Jalgaon district to the northern part, Jalgaon district to the East, Nashik district to the west, Ahmednagar district to the southwest, and Beed district to the southeast. It covers an area of 10136.61 sq. km, accounting about 3.28% of Maharashtra state. The latitudinal extent of Ch. The Sambhajinagar district is 19°18' N to 20°40' North latitude, and the longitudinal extent is 74°34' E to 76°04' East

longitudes. Godavari, Tapi, Purana, Shivana, Kham, Dudhana, and Giraja are the rivers in the district. The temperature was high in the month of May and low in the month of January. The Climate was dry and hot from March to May, and it became cold in December. The average rainfall in the district was 749 mm.

Results and Discussion

1. **Area under fruits cultivation, Area under irrigated fruits cultivation in Ch. Sambhajinagar (Aurangabad) district.**

Table No. 1: Proportion of Irrigated Area under Fruits Cultivation to Net Irrigated Area of tahsil in Ch. Sambhajinagar (Aurangabad) District

| Proportion of Irrigated Area under Fruits Cultivation to Net Irrigated Area of tahsil in Ch. Sambhajinagar (Aurangabad) District. | | | | | | | |
|---|-------------------------------------|---------|---|---------|--|---------|--------------------------------------|
| Tahsil | Area under Fruits Cultivation in Ha | | Area under Irrigated Fruits Cultivation in Ha | | Proportion of Irrigated Area under Fruits Cultivation to Net Irrigated Area of tahsil (in %) | | Difference 2015-16 to 2000-01 (In %) |
| | 2000-01 | 2015-16 | 2000-01 | 2015-16 | 2000-01 | 2015-16 | |
| Aurangabad | 1073 | 2877 | 923 | 2043 | 8.61 | 41.65 | 33.04 |
| Gangapur | 453 | 1213 | 260 | 117 | 3.20 | 1.38 | -1.82 |
| Kannad | 412 | 409 | 337 | 387 | 9.85 | 2.24 | -7.61 |
| Khuldabad | 21 | 209 | 01 | 144 | 0.09 | 11.20 | 11.11 |
| Paithan | 1325 | 3539 | 1051 | 3484 | 11.76 | 25.28 | 13.51 |
| Phulmbri | 36 | 60 | 18 | 34 | 0.12 | 0.20 | 0.08 |
| Sillod | 88 | 756 | 55 | 707 | 42.97 | 9.29 | -33.68 |
| Soyagon | 216 | 589 | 135 | 567 | 57.94 | 29.49 | -28.45 |
| Vaijapur | 312 | 113 | 225 | 107 | 4.67 | 2.31 | -2.36 |
| District | 3936 | 9764 | 3004 | 8644 | 5.56 | 11.20 | 5.64 |

Source: Compiled by Author

Total fruit cultivation area was approximately 3936 ha in the district where approximately 3004 Ha area was under irrigation, which accounts about 5.56% of net irrigated area in 2000-01. very high proportion of irrigated fruit cultivation area to net irrigated area was found in Sillod, Soyagon tahsil i.e. > 34.88%), and low proportion in Aurangabad, Gangapur, Kannad, Khuladabad, Paithan, Phulmbri, Vaijapur tahsil i.e. < 15.47% to tahsil NIA.

Total fruit cultivation area was about 9764 ha in the district where about 8644 Ha area was under irrigation, which accounts about 11.20% of net irrigated area in 2015-

16. very high proportion of irrigated fruit cultivation area to net irrigated area is in Aurangabad, Soyagon tahsil i.e. > 27.75%), moderate in Paithan tahsil i.e.13.67 to 27.75 %), low proportion in Gangapur, Kannad, Khuldabad, Phulmbri, Sillod, Vaijapur tahsil i.e. < 13.67% to tahsil NIA.

Approximately 4050 ha area under fruit cultivation increased in the district from 2000-01 to to 2015-16. Approximately 0.17% proportion of irrigated fruit cultivation areas to net irrigated areas has been increased in the district.

2. Area under Fruit Cultivation in Ch. Sambhajinagar (Aurangabad) District.

Table No. 2 : Area under Fruit Cultivation in Ch. Sambhajinagar (Aurangabad) District.

| Area under Fruit Cultivation in Ch. Sambhajinagar (Aurangabad) District | | | | | | | |
|---|---------|-----------|-------------------------------|-----------|---------|-----------|---------|
| Fruits | 2000-01 | | Changes in 2000-01 to 2015-16 | | 2015-16 | | Fruits |
| | HA | % to TFCA | HA | % to TFCA | HA | % to TFCA | |
| Mangoes | 657 | 16.69 | 199 | -7.92 | 856 | 8.77 | Mangoes |
| Banana | 530 | 13.46 | -198 | -10.06 | 332 | 3.40 | Banana |

| | | | | | | | |
|--|---------|-------|---------|-------|---------|-------|--|
| Table Grapes | 06 | 0.15 | 5 | -0.04 | 11 | 0.11 | Table Grapes |
| Papaya | 7 | 0.17 | -7 | -0.17 | 0 | 0.00 | Papaya |
| Guava | 63 | 1.6 | -54 | -1.51 | 9 | 0.09 | Guava |
| Chikku | 146 | 3.70 | 12 | -2.08 | 158 | 1.62 | Chikku |
| Jack fruit | 9 | 0.22 | -9 | -0.22 | 0 | 0.0 | Jack fruit |
| Cashewnut | 101 | 2.56 | -101 | -2.56 | 0 | 0.0 | Cashewnut |
| Pineapple | 26 | 0.66 | -26 | -0.66 | 0 | 0.0 | Pineapple |
| Orange & Kinu | 37 | 0.94 | -29 | -0.86 | 8 | 0.08 | Orange & Kinu |
| Aonla Amla | 5 | 0.12 | -5 | -0.12 | 0 | 0.0 | Aonla Amla |
| Mosambi | 2248 | 57.11 | 5134 | 18.49 | 7382 | 75.60 | Mosambi |
| Lemon & Acid Lime | 15 | 0.38 | -15 | -0.38 | 0 | 0.00 | Lemon & Acid Lime |
| Other Citrus fruit | 03 | 0.07 | -3 | -0.07 | 0 | 0.00 | Other Citrus fruit |
| Watermelon | 3 | 0.07 | 6 | 0.02 | 09 | 0.09 | Watermelon |
| Muskmelon | 0 | | 23 | 0.24 | 23 | 0.24 | Muskmelon |
| Ber | 8 | 0.20 | -8 | -0.2 | 0 | 0.00 | Ber |
| Pomegranate | 10 | 0.25 | 850 | 8.56 | 860 | 8.81 | Pomegranate |
| Other fruits | 62 | 1.57 | 54 | -0.38 | 116 | 1.19 | Other fruits |
| Total Fruits | 3936 Ha | | 5801 Ha | | 9764 Ha | | Total Fruits |
| Proportion of All Fruits to TCA | 0.54 % | | | | 0.96 % | | Proportion of All Fruits to TCA |

Source: Compiled by Author

The area under total fruit cultivation was approximately 3936 Ha in 2000-01 which accounts about 0.54 % cropped area to the total cropped area. It seems that, out of area under the total fruit cultivation area (TFCA), mosambi citrus fruits account about 57.11 % share; mangoes constitute 16.69 % area; banana constitutes about 13.46 % area; chikku fruits constitute approximately 3.70 %, cashewnut constitutes about 2.56%, and papaya constitutes 0.17 % area in the district.

The area under the total fruit cultivation was about 9764 Ha in 2015-16 which accounts about 0.96 % cropped area to the total cropped area. It seems that, out of total fruit cultivation area (TFCA), Mosambi citrus fruits account about 75.60% share, pomegranate constitutes about 8.81 %, mangoes constitute 8.77 % area, banana constitutes about 3.40 % area, chikku fruits constitute about 1.62 %, area in the district.

During the investigation period of study, it seems that the fruit cultivated area has been increased by 5801 Ha in the district and accounted about 0.96 % area to gross cropped area in 2015-16. There is a Positive and negative changes occurred in fruit-cultivated areas in the district. There was a positive change takes place by approximately

18.49% under *mosambi* and about 8.56% under pomegranate fruits in district. There is a negative change takes place by about 7.92% under *mangoes fruits*; about 10.06 % under *banana* in district.

Conclusion:

1. In Ch. Sambhajinagar (Aurangabad) district, there is little scope for fruit cultivation, and in the investigation period, the area under fruit cultivation has been increased by 5801 ha only due to slow irrigation development and less water assurance for fruit cultivation.
2. In Ch. In the Sambhajinagar (Aurangabad) district, the area under fruit cultivation shows a changing fruit cropping pattern in which mango cultivation and banana cultivation show negative cultivation, while Mosambi cultivation shows a positive trend.
3. In 2015-16, Mosambi fruit cultivation was dominant in all types of fruit within the district.
4. These district shows less than 1% fruits cultivation within this district.
5. In these districts, the areas under papaya, chikku, and guava fruits has been declined.



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Conflicts of interest

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

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