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Decadal Variation in Rice Cultivated Area in Kolhapur District (Maharashtra)

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Introduction

India is an agrarian economy. Large share of population is engaged in agriculture. Cropping pattern is affected by physiography, climate and soil characteristics of region. In recent years the cash crops grown rapidly and share of food grains falls rapidly. Increasing area under cash cops can improve the return of farmer but other side decreasing area under food grain creates problems like scarcity of food grains, high selling price in market and high pressure on soil by taking production of cash crops.

Rice is a dominant crop of Kolhapur district. Hilly region, heavy rainfall and availability of red soil is suitable for the growth and development of rice crop. In last decade, due to the growth of the cash crops the area under is being affected. In respect to study of the variation in the area under cultivation of rice crop present research has been carried out.

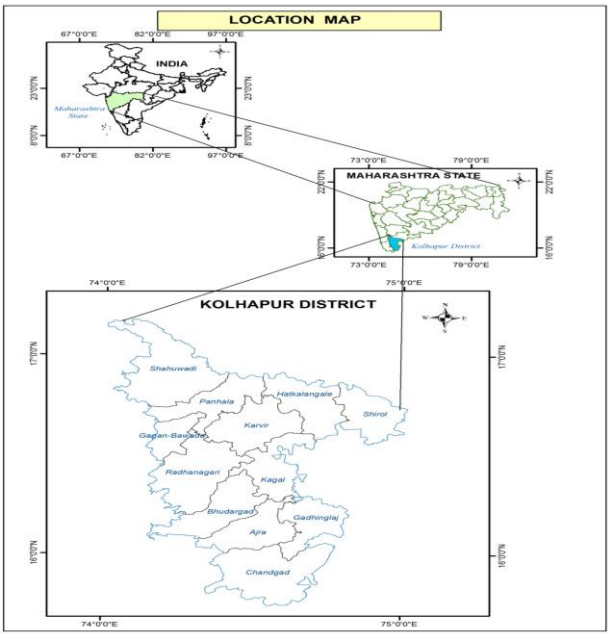
Study region

Kolhapur district is located in the south most part of Maharashtra Kolhapur district is situated in the southwestern part of Maharashtra. It lies between 15º 43' North to 17º 10' North latitude and 73º40'East to 74º 42' East longitude. Total area of Kolhapur district is 7692 Sq.km which occupies 2.62% area of total area of Maharashtra state. Kolhapur district comprising the Valleys of Warna, Panchaganga and their tributaries has a fertile & productive land.

Physiography and Climate

The transitional geographical location of the district between Konkan coastal low land to the west and Deccan plateau to the east presents a variety in the geographical environment. General slop of the district is towards east and south-east. The general altitude of district of 1000 mts. to the west and 600 mts. to the east. The district has two main physiographic divisions i.e. western hilly region and western hilly region consist of Panhala, Shahuwadi, Gaganbavada, Radhanagari, Bhudargad, Ajara and Chandagad tahsils. The eastern plain region includes Shirol, Hatkanangale, Karvir, Kagal tahsils. The study region has developed drainage pattern. The rivers like Panchaganga, Warna, Dudhganga, Vedaganga, Hiranyakeshi and their tributaries play an important role in the development of agricultural in the study region.

The Kolhapur district has temperate climate. It receives rainfall mainly from south-west monsoon and intensity of rainfall decrease from west to east. The mean temperature of the district lies between 40^0c to 16^0c in winter months. It exceeds more than 38^0c in summer especially in April.



Map No.1

Objectives of the study

1. To study the decadal variation in area under cultivation of rice.

2. To understand the regional variation of rice cultivated area.

Data source and Methodology

Present research work is based on secondary data. Data is collected from the following sources Socio economic review of Kolhapur District (2019-20), Agricultural Department of Kolhapur District.

Here an attempt has been made to study tahsil wise decadal variation of rice cultivated area measured by following formula

$$\text{Percent of variation} = \frac{\text{New value - Old value}}{\text{Old value}}$$

For the delineation of crop variation tahsil is selected as basic unit. Present crop variation is limited for the decade of 2010 to 2020. Results are presented with the help of map.

Decadal variation in area under the cultivation of rice

Decadal variation of tahsil wise area under the cultivation of rice is shown in the table no. 1. Kolhapur district shown (4.58%) of deduction in rice cultivated area in 2010 and 2020. Changes varies according to the tahsil.

Table No. 1

Decadal variation in area under the cultivation of rice (2010-2020)

Tahsil	Area in Hector (2010)	Area in Hector (2020)	Difference	Percent of Variance
Shahuwadi	13377	13409	32	0.24%
Panhala	10776	10645	-131	-1.22%
Hatkanangale	1007	624	-383	-38.03%
Shirol	570	65	-505	-88.60%
Karvir	11865	9476	-2389	-20.13%
Gaganbawada	4126	2735	-1391	-33.71%
Radhanagari	11797	13210	1413	11.98%
Kagal	9963	7062	-2901	-29.12%
Bhudargad	12586	13542	956	7.60%
Ajara	9067	9401	334	3.68%
Gadhinglaj	7592	7401	-191	-2.52%
Chandagad	13599	13888	289	2.13%
Total District	106325	101458	-4867	-4.58%

Source: Socio-economic abstract of Kolhapur district (2010 & 2020)

Table No. 2

Tehsils wise decadal variation in rice cultivated area

Percent of variance	Tahsils
Less than (-30)	Hatkanangale, Shirol, Ganganbawada
-30 to 0	Panhala, Karvir, Kagal,Gadhinglaj
0.1 to 30	Shahuwadi, Radhanagari,Bhudargad,Ajara,Chandgad

Source: compiled by researcher

All tahsils of Kolhapur district recorded area under the cultivation of rice. In last decade the area inder the cultivation of rice is affected by climate and competition with other cash crops.Tahislwise changes are classified in following three groups .

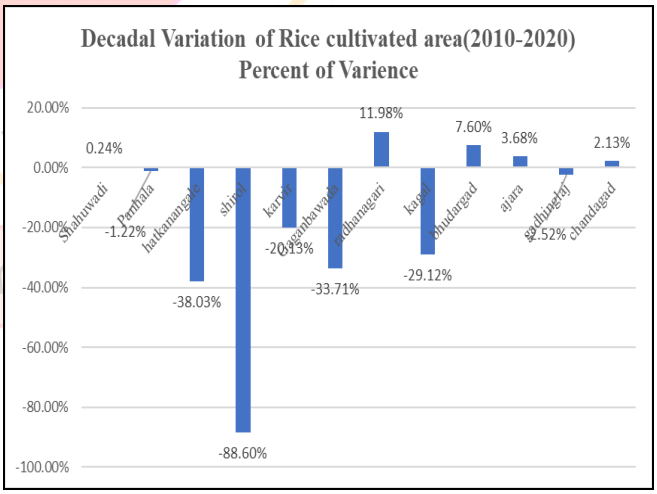


Fig.No.1

a) Changes less than (-30%)

Fig. no.1 shows that in last decade Hatkanangale, Shirol, Gaganbavda tahsils have recorded negative change in the area under the cultivation of rice. Shirol tahsil recorded (-88.60%) Tahsil recorded (-38.03%) and Gaganbavada tahsil

recorded (-33.71%). During last decade due to consecutive years of floods, farmers tend to cultivate sugarcane than the rice. Because it could give more profit than rice. Gaganbavada tehsil due to existence of sugar factory farmers shifted their crop from rice to sugar for more profit.

b) Changes between (30% to 0%)

In that category four tahsils are included. In Kagal (-29.12%), Karver (-20.30%) Gadhinglaj recorded (-2.52%) and Panhala tahsil (-1.22 %) shows decrease in area under cultivation of rice as compared to 2010. Kagal and Karvir tahsil have recorded high decrease in rice cultivation area. Other side Gadhinglaj and Panhala have recorded less decrease in area under rice cultivation. New rice varieties introduced in the last decade effects on the area under cultivation of rice.

c) Changes more than (0%)

In that category the tahsils of Shahuwadi, Radhanagari, Bhudargarh and Ajara have included. Radhanagari tahsil recorded high positive changes in area under the cultivation of rice. Radhanagari tahsil recorded 11.98% change from 2010. Fallowing to that Bhudargad tahsil recorded (7.60%) Ajara (3.68 %) and Shahuwadi (0.24%) recorded positive change. Arrival of new varieties of rice, local demand for rice and suitable physical environment promotes the cultivation of rice crop

Conclusion

The study of decadal variation of rice cultivated area indicates that the Eastern tahsils like Shirol (-88.60%) Hatkanangale (-38.08%) recorded negative change in the rice cultivation as compare to the area under the cultivation of rice in 2010. On other side Western tahsil like Radhanagari, Ajara and Bhudargad tahsils have recorded positive change in the area under the cultivation of rice. Increasing number of sugar factories and high returns and flooding situation for two to three months in eastern tahsils are the causes for the deduction of (-4.58%) in the rice cultivated area of the district in a year 2020 as compare to the rice cultivated area in 2010.

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