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Address

• Vikram Nagar, Boudhi Chouk, Latur.
• Tq. Latur, Dis. Latur 413512 (MS.)
• (+91) 9922455749, (+91) 9158387437

Email

• aiirjpramod@gmail.com
• aayushijournal@gmail.com

Website

• www.aiirjournal.com

CHIEF EDITOR – PRAMOD PRAKASHRAO TANDALE

Concentration of Rice Industrie in Kolhapur District**Shashikant S. Patil**Asst. Professor, Dept. of Geography
Mahavir College, Kolhapur.**Dr. Arun A. Patil**Head, Dept. of Geography,
Mahavir College, Kolhapur**Introduction**

A very high proportion of India's working population is engaged in agriculture which contributes a very large share in the national income. In India about 70% of the working population is engaged in agriculture and its contribution in national income is 40 per cent. Mainly the rural economy depends on the production of agricultural commodities. Per capita income of rural people is low so it suffers from unemployment and under employment, it deficient in capital, its low level of technology and poor economic organization. Therefore rural industrialization is the only key for the rural development. Agriculture and industrial linkages are the keys of the development of rural areas of the nation. Hence Agro-based industries play very important role in strengthening industrial and agricultural linkages

In the state of Maharashtra, Agriculturally Kolhapur district is one of the leading districts. There were number of crops has been grown in the district. Majority of the agro-based industries in the district were relied on raw material come from agriculture. Therefore a sound position was found in the district. The number of considerable agro-based industries was established in the district. From the year 2001-2002 to 2011-2012 there was a considerable change in the growth agro-based industries in the district was noted by 1.32 times. A considerable growth was recorded in the rice mills with 1.70 times within the period of ten years from 2001-02 to 2011-12 followed by sugar industries (1.31times), spinning mills(1.26 times) and oil mills (1.23) in the district. The table no 5.1 Shows that the spatial-temporal changes in the growth of the agro-based industries in the Kolhapur district from the period 2001-02 to 2011-12.

Objectives:

The present paper has following objectives:

1. To study the distribution of major agro-based industries in Kolhapur district
2. To analyze concentration and diversification of rice industries in Kolhapur district

Database And Research Methodology:

Present paper is based on secondary data. Secondary data is obtained by Maharashtra Agro Industries Development Centre, District Industrial Centre, various government reports, Socio-economic abstract of the Kolhapur district 2001-02 to 2011-12 annual reports of industry, and census of India 2011. The spatial and temporal analysis of collected date is presented by the various statistical and cartographic techniques.

In order to determine the regional concentration of selected agro-based industry Bhatia's method of crop concentration (1965) is used with modification for calculation quotients. The following formula is used for the concentrations of selected agro-based industry

$$\text{Index of Concentration} = \frac{\text{No. of industry 'a' in the comp. Areal unit}}{\text{No. of agro based industries in the comp. Areal unit}} \div \frac{\text{No. of Agro industry 'a' in the entire area}}{\text{No. of agro based industries in the entire area}}$$

• **Study Area:**

Kolhapur district is situated in the extreme southern part of Maharashtra state. It lies between 15°43' and 17°17' North latitude and 73°40' and 74°42' East longitude. The district is surrounded by the steep ridges of Sahyadri to the west, the Deccan plateau on the east, and boundaries of Goa on the south and Karnataka on east. Kolhapur district is surrounded by sangli district to the north, Belgum district of Karnataka state to the east and south and Ratanagiri and Sindhudurg district to the west. The Sahydri ranges to the west and Warna River to the north form the natural boundaries.

Kolhapur district comprising the Valleys of Warna, Panchaganga and their tributaries has a fertile & productive land. 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. During the south-west monsoon season 90 to 95 per cent annual rainfall is received. This percentage is decreases in the north-east to about 60 per cent. The winter season accounts only 10 per cent rainfall in the district. There are 4 major, 11 medium and 47 minor irrigation projects in the district. The 79566 hectare area irrigated (58.87 %) by different sources of irrigation against the gross area (135151 hectare) irrigated in the in the district. There is scope for the irrigation and there is the opportunity to growing crops. There is effect of good yield of crops and a result; it would be favorable for the set up and the development of agro-based industries in the study region.

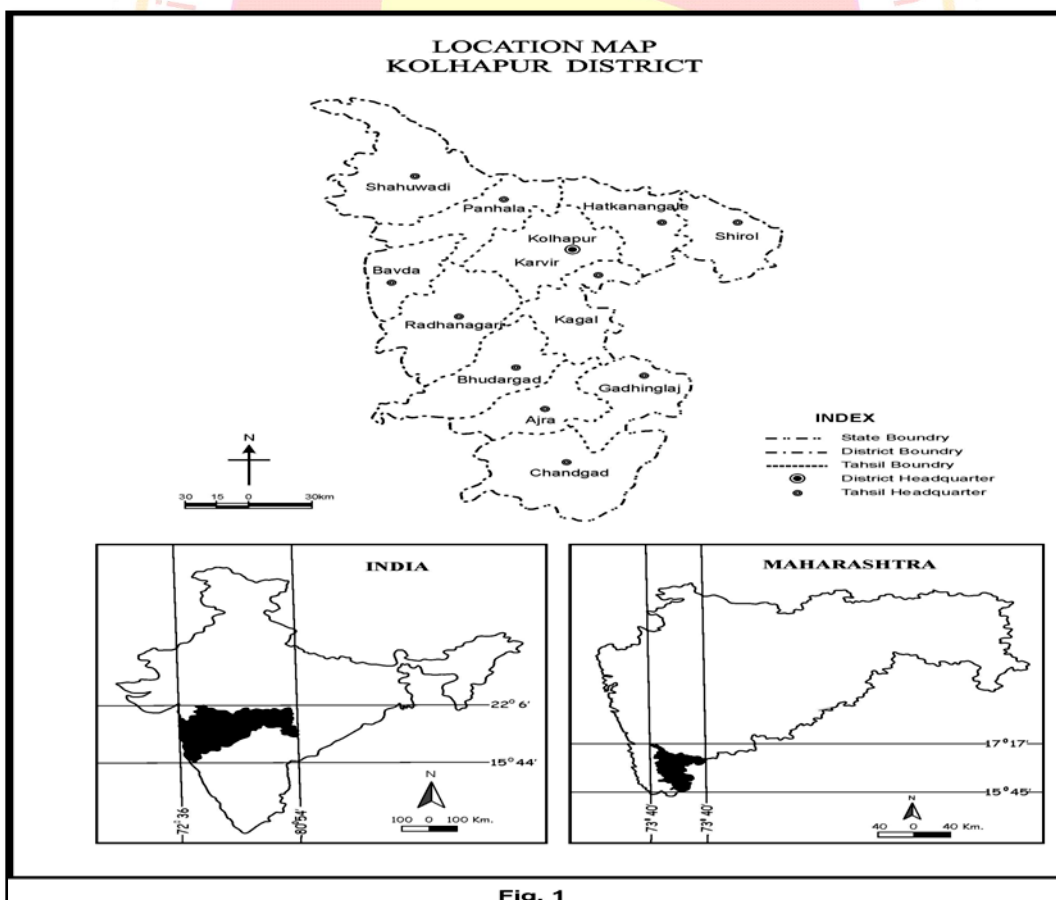


Fig. 1

Present research is limited to the study of concentration of rice industries in Kolhapur district

• **Scenario Of Some Selected Agro-Based Industries In Kolhapur District**

Sr. No	Tahsil	2001-02					2011-12				
		Sugar Ind.	Spin mills	oil mills	Rice mills	Total	Sugar Ind.	Spin mills	oil mills	Rice mills	Total
1	Shahuwadi	1	-	1	-	2	1		1	-	2
2	panhala	2	1	-	-	3	2	1		1	4
3	H.kanangale	3	14	3	2	22	3	16	4	5	28
4	Shirol	1	6	-	-	7	2	8		-	10
5	Karveer	3	-	14	4	21	3	1	16	5	25
6	G.Bavada	1	-	-	-	1	1	-	-	-	1
7	Radhanagari	-	-	-	1	1	-	-	-	2	2
8	Kagal	2	-	-	1	3	3	-	-	1	4
9	Bhudargad	-	1	-	1	2	1	1	-	1	3
10	Ajara	1	-	-	1	2	1	1	-	2	4
11	Gadhinglaj	1	1	3	-	5	1	1	4	-	6
12	Chandgad	1	-	-	-	1	3	-	1	-	4
13	District	16	23	21	10	70	21	29	26	17	93

Sugar industry is one of the most important agro based industry in the district. There were 16 sugar factories existed in the district in 2001-2002. This was possible due to the sugarcane cultivation. The Hatkangale and Shirol tahsils have three sugar factories. Kagal and Phanala tahsils have two sugar factories. The Shahuwadi, Shirol, Gagenbavada, Ajara, Gadhinglaj and Chandgad tahsils of the district has one sugar in 2001-2002. There were 21 sugar factories came into existence in the year 2011-2012 in the district. Hatkangale, Kagal and Chandgad are the leading tahsil of the district and each has three sugar factories.

In the year 2001-2002, there were 23 spinning mills are existed in the district. There were 60.87 percent spinning mills were concentrated in Hatkangale tahsil followed by Shirol 26.08 percent and 4.35 percent in each in the Panhala, Baudargad and Gadhinglaj tahsils of the district. There were 29 spinning mills were existed in the year 2011-2012. There were 55.17 percent spinning mills were located in the Hatkangale and 27.58 percent in the Shirol. The Panhala, Karveer, Budargad, Ajara, and Gadhinglaj tahsils has 3.45 percent share in the spinning mills respectively in the Kolhapur district.

In 2001-2002 there were 21 oil mills were existed in the district. There were (66.66 percent) 14 oil mills were concentrated in Karveer tahsil of the district in 2001-2002 (Map No.6.3 A). There are three (14.28 percent) oil mills were existed in each in the Hatkangale and Gadhinglaj tahsils during 2001-2002 (Table no.6.1). The Shahuwadi tahsil has one unit (4.76 percent) of oil mills in 2001-2002. The increase the number of oil mills compares to 2001-02 in Karveer by 16, Hatkangale 4, Gadhinglaj 4, Chandgad 1, and Shahuwadi by 1 in the year 2011-2012.

There were 10 rice mills existed in the year 2001-2002 in the district. (Map No.6.4 A) out of ten rice mills 4 rice mills were found in Karveer, 2 in Hatkangale and one each in Radhanagari, Kagal, Bhudargad and Ajara tahsils in the district in 2001-2002. Rice mills are increased by 1.7 times from 2001-2002 to 2011-2012. During 2011-2012 there 17 rice mills were existed in the district out of

them 5 each in Hatkangale and Karveer, 2 each in Ajara and Radhanagari, 1 each in Panhala, Kagal, Bhudargad tahsils of the district.

There is a considerable increase in the number of rice mills in the Hatkangale, Karveer, Radhanagari and Ajara tahsils of the district from 2001-2002 to 2011-2012.(Map No. 6. 4 B). Still there is a potential for the new begins of rice mills in the tahsils of the western part of the district.

• **Concentration Of Rice Industries In Kolhapur District**

Industrial concentration means the variation in the density of any industrial area at a given point of time. The concentration of rice industries depends on terrain, agricultural production, availability raw material, water, transportation system, market place and pedological conditions. It is a tendency to have high concentration in area of ideal infrastructure condition place, perfect knowledge of industrial concentration pattern in a region which has been considered to be most useful in the judicious industrial planning. The general concentration of an enterprise can be quantified with help of location quotient or by co-efficient of localization.

In order to determine the regional concentration of rice industries Bhatia’s method of crop concentration (1965) is used with modification for calculation quotients.

Kolhapur District: location quotient of industrial concentration

Sr.No	Tahsil	Rice Indstry Location quotient 2001-02	Rice Indstry Location quotient 2001-02
1	Shahuwadi	0.00	0.00
2	panhala	0.00	1.38
3	H.kanangale	0.64	1.00
4	Shirol	0.00	0.00
5	Karveer	1.36	1.11
6	G.Bavada	0.00	0.00
7	Radhanagari	7.14	5.55
8	Kagal	2.36	1.38
9	Bhudargad	3.57	1.83
10	Ajara	3.57	2.77
11	Gadhinglaj	0.00	0.00
12	Chandgad	0.00	0.00

• **Concentration Of Rice Mills**

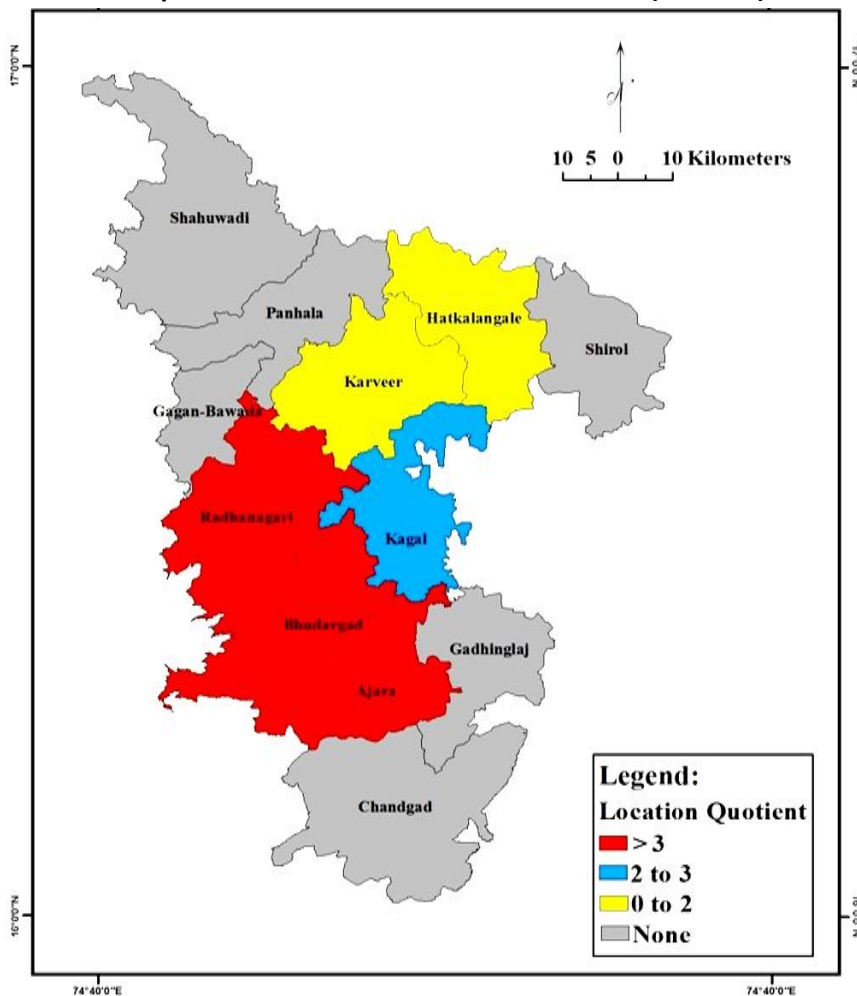
Concentration of any industry is determined by the physical and economic features present in the region. As per the tahsilwise variation in physical and economic factors the concentration of rice industries are become varied. Map.no.2 will clear the picture about concentration of rice industries in Kolhapur District.

A) Concentration Of Rice Mills In 2001-02

Low concentration of rice mills (0 to 1) was noticed in Karveer and Hatkanagale tahsils of the district in 2001-2002. The moderate concentration of rice mills was (2 to3) recorded in Kagal tahsils of the district in 2001-2002 and high concentration of rice mills (> 3) was observed in Ajara, Bhudargad and Radhanagari tahsils of the district in 2001-2002. No concentration in rice mills was

recorded in the Chandgad, Gaganbavada, Panhala and Shahuwadi tahsils in the Kolhapur district in 2001-2002

Kolhapur District: Concentration Of Rice Mills (2001-02)

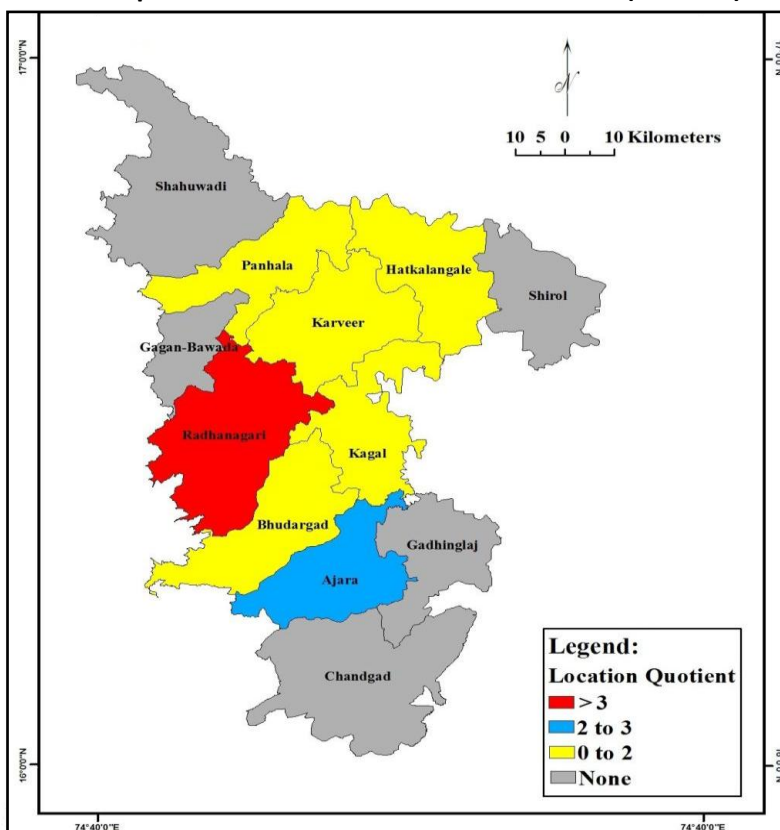


Map.No.2

B) Concentration Of Rice Mills In 2011-12

The low concentration in rice mills ($2 <$) was recorded in the Bhudargad, Kagal, Karveer, Panhala and Hatkanagale tahsils of the district in 2011-2012. The moderate concentration in rice mills (2 to 3) was observed in the tahsils of Ajara and high concentration was noted in the tahsils (> 3) of Radhanagari in the district. None of the concentration of rice mills was noted in the tahsils of Chandgad, Gudhinglaj, Gaganbavada, Shahuwadi and Shirol tahsils of the district in 2011-2012. The change in rice mills was recorded in the tahsils of Bhudargad, Ajara, Kagal, Panhala tahsils in the district during 2001-2002 to 2011-2012 .

Kolhapur District: Concentration Of Rice Mills (2001-02)



Map No.3

• Summery

The rice milling was one of the important agro-based industries in the district. The growth index of the rice mill was 1.7. Majority of the rice mills were located at Kolahapur, Ichalkaranji. Particularly, the rice mills closely located to the industrial estates of the district. A considerable increase in the number of rice mills was noted in the Hatkanangale, Karveer, Radhanagari and Ajara tahsils of the district.

There were 17 rice mills was recorded in the district during 2011-12. The low concentration of the rice mills was recorded in the Bhudarga, Kagal, Karveer, Pqanhala and Hatkanangale. Moderate concentration of rice mills was observed in Ajara whereas high concentration of rice mills was observed in the Radhanagari tahsils of the district in 2011-12.

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