

## Original Article

### Measurement of Land use Efficiency of Raigad District

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**Abstract:**

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*An attempt has been made to study the spatio-temporal changes in the land use efficiency, no more difference between total cropped area and net sown area, District average land use efficiency marked 114.99% (2006-07) effect of meager irrigation facilities, farmer surface, small size of land holding, nature of soil, vagaries of monsoon rain etc. controlled the aerially distribution of cropping intensity. Out of fifteen tahasils in the district, only six tahasils, namely Uran, Murud, Khalapur, Masala, Pen, Poladpur and Karjat are recorded negative change in cropping intensity. Almost, all rest of tahasils are indicates improved position.*

**Key Words:** Land use Efficiency, Cropping Intensity institutions.

#### Introduction:

The district is known as Kolabad, still in mid of 1981. In memory of capital of Chhatrapati Shivaji, Government of Maharashtra transferred name of Kolabad as Raigad on 1st May 1981. Primarily an agricultural district, economy of district, revolves ground agriculture; over 55% to 60% of its inhabitants engaged in agriculture, cultivated area is devoted subsistence food crops, domestic consumption and local market, except few horticultural products. Rice is a single dominant crop, high main-land ratio, small size of field and subsistence of agriculture, use of chemical fertilizer and improved seeds limited an average. Average Net area sown was marked as 29.77%, of which 8.3% of net area sown is irrigated; agricultural infrastructure is very poor in this district.

#### Hypothesis:

Land use efficiency is determined by physical and non-physical determinants of the district.

#### Objective:

1. To examine the correlation between land use efficiency and physical factors.
2. To assess the role of non-physical determinants in the land use efficiency.
3. To categorize and study the general land use and find out the scope for extension of cultivation area in future.
4. To highlight on the areal distribution of land use efficiency during the period under study.

#### Data base and Methodology:

The work is entirely based on secondary data, concerning total cropped area and net area sown for the period 2006-07 and 2021-22. The secondary data is obtained from Socio-economic Review and District Statistical Abstract of Raigad District. The collected data are processed and analyses in the form of figures.

Land use efficiency is derived by following formula.

$$\text{Intensity of Cropping} = \frac{N_j}{N_o} \times 100$$

Where  $N_j$  = Total Cropped Area

$N_o$  = Net sown area

#### Study Area:

The district Raigad is a part of West Coast of Arabian Sea. It has approximately 240 kms coast in West. The district is rich in natural resources.



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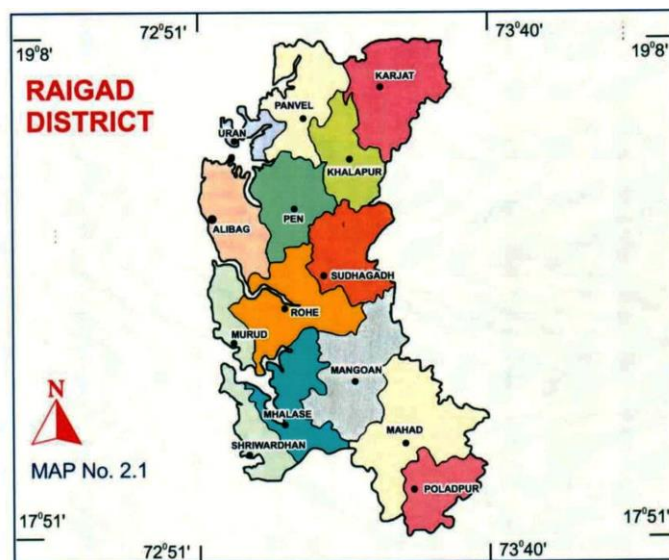
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The geographical location is 17°51' North to 19°18' North latitude and longitudinal extension is 72°51' East to 73°40' East, with the total geographical area 7148 Hectors. It is bounded by Thane District to North, Satara and Ratnagiri District to South. Pune District lies to its East. On the West the district is bounded by Arabian Sea. Headquarters of the district is located at Alibag as coastal town. Raigarh district comprises 15 tahasils, namely Alibag, Pen, Murud, Karjat, Roha, Panvel, Khalapur, Mangaon, Sudhagad, Khalapur, Tala, Mahad, Mhasala, Shrivardhan and Poladpur. Total number of villages where 1919.



## Result and Discussion:

The extent to which the cropping has been done on the net sown area is worked out in table 1.

There is no more difference between net areas on and total cropped area.

Physical and non-physical determinants are the main barrier in the development of total cropped area.

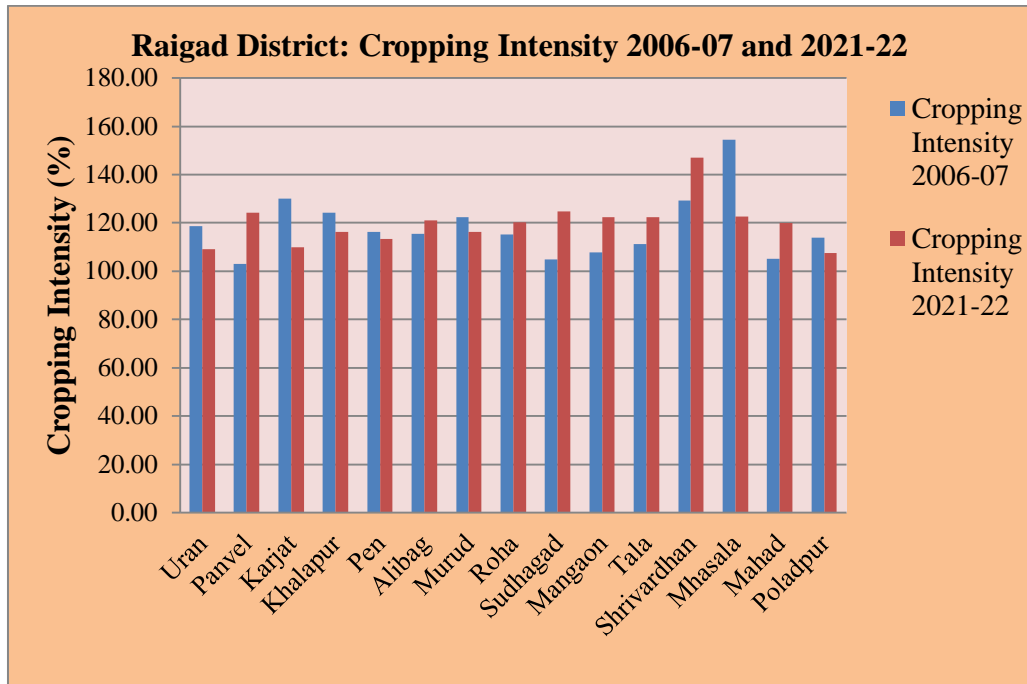
It is found that study region has recorded average 114.99% and 119.90% cropping intensity respectively in 2006-07 and 2021-22. The highest cropping intensity is marked in Shrivardhan Tahasil and lowest in Mhasala tahasil in 2021-22.

Out of 15 tehasils, 7 tahasils namely Uran, Karjat, Khalapur, Pen, Murud, Mhasala and Poladpur tehasils are indicated decrease in cropping intensity, while Uran indicated decrease in cropping intensity. While Alibag and Roha shows slight improved position in cropping intensity. The district has recorded 4.91 % increase in cropping intensity in the period under study.

**Table 1: Cropping Intensity 2006-07 and 2021-22 in Raigad District**

Sr. No	Name of Tahasil	2006-07			2021-22			Volume of Change in Cropping Intensity
		Net Sown Area	Total Cropped Area	Cropping Intensity	Net Sown Area	Total Cropped Area	Cropping Intensity	
1	Uran	4780	5675	118.72	2610	2845	109.00	- 9.72
2	Panvel	16904	17396	102.91	8354	10376	124.20	21.29
3	Karjat	14677	19077	129.98	9434	10366	109.88	- 20.10
4	Khalapur	7661	9517	124.23	3303	3844	116.38	- 7.85
5	Pen	15910	18516	116.38	12551	14238	113.44	- 2.94
6	Alibag	25244	29152	115.48	15085	18244	120.94	5.46
7	Murud	10148	12411	122.30	4775	5551	116.25	- 6.05
8	Roha	17690	20392	115.27	4392	5287	120.38	5.10
9	Sudhagad	10842	11383	104.99	11852	14774	124.65	19.66
10	Mangaon	18920	20379	107.71	11123	13609	122.35	14.64
11	Tala	4158	4623	111.18	2259	2765	122.40	11.22
12	Shrivardhan	7785	10064	129.27	4367	6424	147.10	17.83
13	Mhasala	6131	9472	154.49	4076	4996	122.57	- 31.92
14	Mahad	30012	31540	105.09	11839	14220	120.11	15.02
15	Poladpur	11989	13646	113.82	3471	3737	107.66	- 6.16
	<b>Total District</b>	<b>202843</b>	<b>233243</b>	<b>114.99</b>	<b>109491</b>	<b>131276</b>	<b>119.90</b>	<b>4.91</b>

Source: District Statistical Abstract of Raigad District 2006-07 and 2021-22



The highest total cropped area is recorded in Mahad tahasil in 2006-07 and Alibag tahasils in 2021-22.

The lowest total cropped area is marked in Tala tahasil in 2006-07 as well as 2021-22.

**Conclusion:**

There is no more difference between net sown area and total cropped area due to small size land holdings, meager rainfall, poor soil conditions and undulating topography of the district. The cropping intensity is recorded very low in the district because due to poor water supply of irrigation condition, whereas farmers are not enables to get multiple cropping and use higher quality of fertilizers and HYV seeds.

Besides the irrigation facilities, fertilizers, early maturing high yield variety of seeds, selective mechanization, such as the use of tractors, pumping sets and seed drills etc.

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