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ORIGINAL ARTICLE

Spatio-temporal Changes In Cropping Intensity Of Konkan Region.

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Abstract:

An attempt has been made to study the spatio-temparal changes in the cropping pattern of Konkan region. Taking example of Raigad district of Konkan region, where the physical factors are in flounced more on land use than any other factors on the earth. Before three decades, there was no more difference between total cropped area and net sown area, where the district average cropping pattern was marked 100.9% in 1989-90. Effect of meager irrigation facilities, small size of land holding, nature of soil, vagaries of monsoon rain etc. controlled the aerially distribution of cropping intensity. After the establishment of vaidhanik mandal for Konkan region, witnessed several changes in the use of agricultural land. These are technical advances in agriculture, the profitability of different agricultural enterprises, and expansion of irrigation facilities. Though all tahsils are recorded improved position in cropping pattern, except Karjat and Mahad tahsils. The overall result of these changes could be seen in the improved use of the agricultural land and increased yield per hectare, recording agricultural progress, usually referred to as "agricultural efficiency" by agricultural Geographers.

KEYWORD:

Cropping Pattern, Double Cropping Area, Cropping Intensity, Raigad District.

INTRODUCTION:

Land use efficiency has been defined as the "extent to which the net area sown has been cropped or reason. The total cropped areas as percentage of net area sown gives a measure of land use efficiency which, in other words, is the intensity of cropping and refers to the number of crops grown on the same area in any one agricultural year.

Human traditions, initiatives, irrigation possibilities and agricultural practices together tend to influence the extent to which the net sown area is cropped. How the limitations imposed by the nature of soils, topography and the scarcity of water supply is specially in the summer season, outweigh other factors size of land holding etc are affected on land use of study region. The net result of all these factors is that the area under double-cropping is still very small as compared to other regions of Maharashtra state.

HYPOTHESIS: -

Cropping intensity is determined by environmental and non -environmental factors.

OBJECTIVES: -

The specific objectives of the present research paper are.

i)To examine the correlation between cropping pattern and physical factors.

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ii)To assess the role of non-physical determinant in the cropping Pattern.
iii)To categorize and study the general land use and find out the Scope for extension of double cropped area in future.
iv)To highlight on the spatio-temporal changes in cropping pattern During the period under study.

DATABASE AND METHODOLOGY : -

The entire work is based on secondary data, concerning total cropped area and net sown area, for the period 1989-90 and 2009-10. The secondary data is obtained from socio-economic review and district statistical abstract of Raigad district (1989-90 and 2009-10). The collected data are processed and analyses in the form of table.

Cropping pattern is derived by following formula.

Intensity of cropping = $\frac{Ni}{N0} \times 100$

Where, Ni- Total cropped area
No – Net area sown.

STUDY AREA: -

Raigad is one of the important district in the Maharashtra state. This district spread between 17051' N. to 1908' N. latitudes and 72051' E. to 73040' E. longitudes. Total Geographical area is 7148 sq. km. and population was 22, 05,472 as per 2001 census. The district comprises 14 tahsils namely Alibag, Uran, Panvel, Karjat, Khalapur, Pen, Sudhagad, Roha, Mangaon, Mahad, Poladpur, Masala, Sri Shrivardhan and Murud.

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 area sown and total cropped area in 1989-90. But slight difference between net area sown and total cropped area is occurred during 2009-10. It may be the expansion of irrigation facilities, use of H.Y.V of seeds and chemical fertilizer, soil conservation program etc factors. The barrier of physical and non-physical determinants are removed some proportion by these technological factors

Table – 1 Cropping intensity of Raigad District (1989-90 and 2001-10)

Sr.No.	Name of Tahsil	1989 -90			2009 -10			Valume of change in cropping pattern
		Net are sown	Total cropped area	Cropping intensity (%)	Net area sown	Total cropped	Cropping intensity (%)	
1	Aligad	16000	16026	100.16	18979	22869	120.50	20.34
2	Uran	2800	2829	10103	4776	5657	118.45	17.42
3	Panvel	16600	16621	100.12	15901	17413	109.51	9.39
4	Karjat	20400	20417	100.18	24549	25144	102.42	2.24
5	Khalapur	10600	10681	100.29	7581	12015	158.49	58.20
6	Pen	22900	22915	100.86	15749	19182	121.80	21.74
7	Sudhagad	4100	4131	100.75	4112	4407	107.17	6.42
8	Roha	33100	33146	100.13	33198	35588	107.20	7.07
9	Mangon	25200	25230	100.11	25269	27088	107.20	7.09
10	Mahad	13300	13331	100.23	16366	16763	102.43	2.20
11	Poladpur	10600	10632	100.30	11989	14669	122.35	22.05
12	Masala	4800	4819	100.39	6035	9336	154.69	54.30
13	Shrivardan	2100	2116	100.28	7770	10022	128.98	20.70
14	Murud	1100	1119	100.72	9047	11281	124.69	23.97
Total		183600	183953	100.19	201322	231434	114.86	14.77

Source socio-economic review of Raigad district, 1989-90 and 2009-10. Therefore, the district is recorded 14.77% increase in the cropping intensity during the 1989-90 to 2009-10. The higher cropping intensity is marked in Khalapur tahsil (158.49%) and lowest in in Karjat tahsil (102.42 %) in 2009-10. Five categories have been identified, which have been grouped into their empirical regions for the purpose of discussion.

i)Areas of low intensity :- It comprising panvel, Karjat, sudhagad, Roha, Mangaon and Mahad tahsils. Low intensity figures in these tahsils are attributable to the rugged topography and poor soils. In case of Karjat, Sudhagad, Mahad, tahisls large tracts are stony wastes covered by literates, where agricultural cannot be practiced, despite heavy rain fall. Regarding the areas in Mahad, Sudhagod, Karjat tahsils, heavy deforestation leading to soil leaching and erosion and occurrence of khar lands along the estuaries act as the major impediments for cultivation.
ii)Areas of medium intensity: - This zone is located close to the low intensity area described above are the areas with medium intensity of cropping. It comprises Alibag, Uran, Pen, Poladpur, Shrivardhan and Murud tahsils, where the intensity of cropping in these tahsils are varies from 118% to 128% (2009-10), whereas volume of change in cropping intensity are marked from 17.42% to 28.70% in the same period.
iii) Areas of High intensity:- Generally high and very high intensity of cropping is limited in extent and confined to tiny patches scattered in Khalapur and Masla tahasils, where the intensity of cropping is relatively high relatively favohrable soils and topographic conditions and water supply in the form of irrigation, well and tanks largely explain the medium and high intensity of cropping.

There has been remarkable change in the extent of double. Cropping in Raigad district. The difference in the extent of area under double cropping between 1989-90 and 2009-10 have been termed as volume of change in intensity of cropping and significant tahsil wise disparities in the changes in intensity of cropping are brought out despite the small Geographical area of the Raigad district. On the whole, area involved in positive change, that is increase in intensity of cropping is more and varies from under 2% to over 58% increase.

CONCLUSION: -

In an overall analysis of Raigad district's cropping intensity the role of environmental factors appears to be decisive in influencing the intensity of cropping. Despite heavy rainfall actual area under double-cropping is small, which clearly brings out that areas of high values of intensity are associated with the interaction between the relatively favorable physical-socio cultural technical organizational factors. To increase the intensity cropping, effort shall have to make to intensity additional water supply. Being heavy rainfall area, more than doubling the area under irrigation is possible by wells alone. A large part of area is under seasonal irrigation from tanks and temporary bandharas. The topography, though a natural impediment, can be managed to permit connected irrigation works; ultimately increase the cropping intensity of the study area.

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