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GROWTH OF POPULATION AND AGRICULTURAL LAND USE CHANGE IN JALGAON DISTRICT OF MAHARASHTRA [INDIA]



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Short Profile

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ABSTRACT:

This is an attempt to study the population growth and cropping intensity changes in Jalgaon district of Maharashtra State. Population growth and its increasing density put pressure on land use pattern. Growing population need more food, clothing and shelter. A close observation population and agrarian relations in the present land use system shows that the forest fallow which are associated with sparse population, shifting cultivation, primitive agricultural techniques and least agricultural intensity. Cropping intensity is depend upon how many times

same field has been cultivated in a year. It means, within a year more than twice the same area has been cultivated. Cropping intensity is nothing but it is the ratio between gross cropped area and net sown area. The population of Jalgaon District has evidenced not only mere increase in its numbers. It has registered significance contributed to an increase in per capita demand for the agricultural product. Land is the main factor to provide essential ingredients to crop. And provide food to fed growing population.

KEYWORDS

Arithmetic density, Cropping Intensity, Population, correlation, land use change.

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INTRODUCTION :

Population growth and its increasing density exert pressure on cropping pattern. There are only two ways to satisfy the increasing food and other agricultural demands of the District rising population: either expanding the net area under cultivation or intensifying cropping over the existing area. Cropping intensity plays an important role in the agricultural development of any region. Higher cropping intensity shows intensive use of land for agricultural purpose. Its significance is further increased in view of the rising pressure of population on land. There is need for more food, clothing and shelter. Land is the main source which provides these requirements but it is a limited resource. It may be seemed that areas of high population pressure have higher productive intensity and higher frequency of cropping. This lead to the conclusion that increases in population pressure may cause increase cropping intensity in the agricultural system. The largest fraction of land under human occupancy is used for agriculture purpose. The concept of population pressure may not be mere numerical increase of population. This must be viewed as qualitative expression of relationship between demand and productive intensity. In the less advanced communities the demand may be relatively lower than the more advanced societies and hence a more advanced population may exert greater pressure on resources than the develop people. The increase in population pressure would have to be viewed not merely to be considered in the context of the total qualitative changes in population and the resultant relationship between population and agricultural recourses in a territory. The population of Jalgaon district has evidenced not only mere increase in its numbers. It has registers significance contributed to an increase in the per capita demand for agricultural product

OBJECTIVES:

The following objectives has been taken for achieve result of this research paper.

- ▲ to know the changes in cropping intensity .
- ▲ to examine the growth of population

STUDY AREA:

Jalgaon district comes under Nasik division of the northern part of Maharashtra state. It lies between 20o 15' to 21o 30' North latitude and 74o 55' to 76o 28' East longitude. According to 2001 census the total population of the district is 3682690. The total area of the district is 11765 sq. km. which is about 3.82 percent of the total area of Maharashtra state. The total geographical area is 11, 63,898 hectares.

DATABASE AND METHODOLOGY

The present study is entirely based on secondary data and study period for the year 2001. The secondary data is collected from socio – economic review and District census hand book. For calculating cropping density formulae is used.

$$\text{Index of Cropping Intensity} = \frac{\text{Gross Cropped Area}}{\text{Net Sown Area}} \times 100$$

POPULATION ANALYSIS

Population is very dynamic phenomena that change according to time and surrounding Condition. Such changes bring in various elements of population these are Density of Population, Growth of Population, Sex Ratio, Urbanization, Literacy, Age-Sex composition and occupation. These elements play important in Social, Cultural and Economic development of region. If the density of population is very high, there would be abnormal pressure on land, if the land area is not sufficiently productive over population will result. A higher density will indicate a lower standard of living and less mobility of labour. A higher density of population will also imply greater economic activities and an obvious urge for an improved standard of living a greater struggle for existence and continuous competition. Man is both creatures and molders of this environment. Man is being powerful geographical factor on the surface not only determines the economic pattern of resource utilization but is he a very dynamic and important resource for society.

DECADAL CHANGES IN POPULATION AND DENSITY:-

If we consider decadal changes in population density of Jalgaon district from 1911 to 2011 then we strike that there is no notable growth of population density up to the 1951, but after 1951 population density increase rapidly. The total number of population was 1028126 in 1911 that increase up to the 4224442 in 2011. It means during this period (1911 to 2011) population increases four times. The population density in 1911 was only 87 persons per sq km but that is noted 359 persons per sq km in 2011. In population density also observed four times growth in 2011 compare to 1911. This increasing population density of Jalgaon District increases the pressure on the cropping intensity.

Table No.-1 Decadal Population Density of Jalgaon District

Year	1911	1921	193	1941	1951	1961	1971	1981	1991	2001	2011
Population	1028126	1069656	1198260	1320074	1471351	1765047	2123121	2618274	3187634	3682690	4224442
Density	87	91	102	112	125	150	180	223	271	313	359

Compiled by Researcher

TAHSIL-WISE POPULATION GROWTH AND DENSITY:

According to 2001 Census, the total population of Jalgaon District is 3682690 persons comprising 1905493 males and 1776927 females and constituting 4.04 percent of State population spread over 3.82 percent of its area. Among 15 tehsils of district, Jalgaon tehsil is the most populous with population of 553725 while Bodwad has least population of 79126. The highest population

density is 696 per sq km in Jalgaon tehsils and lowest population density is in Bodwad tehsils that is 208 per sq km in. Other tehsils in order of their size and density of population are,

Table No. 2 Tehsilwise Population Density of Jalgaon District (2001)

Sr. No.	Tahsil	Area (Sq.Kms)	Population	Density	Population Growth Rate
1	Chopda	788.13	271863	345	16.78
2	Yawal	661.65	248596	376	10.12
3	Raver	669.06	285236	426	13.85
4	Mukatainagar	629.78	137753	219	19.45
5	Bodwad	379.74	79126	208	13.91
6	Bhusawal	446.05	404653	730	37.43
7	Jalgaon	795.88	553725	696	14.74
8	Erondol	480.34	308736	308	17.98
9	Dharangaon	574.91	160622	279	4.01
10	Jamner	1328.6	288804	217	10.05
11	Amalner	777.95	262522	337	11.31
12	Parola	788.92	169919	215	8.36
13	Bhadgaon	484.21	142168	294	10.76
14	Chalisingaon	1256.56	356808	284	15.53
15	Pachora	796.34	251907	316	16.78
Total	Jalgaon	11765	3682690	313	10.12

Compiled by District Researcher

ANALYSIS OF CROPPING INTENSITY:-

There are only two ways to satisfy the increasing food and other agricultural demands of the country's rising population: either expanding the net area under cultivation or intensifying cropping over the existing area.

Table 3 Tehsilwise Agricultural Cropping Intensity of Jalgaon District in 2001

Sr. No.	Tahsil	Gross Cropped Area	Net Sown Area	Index of Cropping Intensity
1	Chopda	66953	62177	107.68
2	Yawal	54518	52144	104.55
3	Raver	60959	52499	116.11
4	Muktainagar	44872	39092	114.78
5	Bodwad	25509	24477	104.21
6	Bhusawal	29583	26982	109.64
7	Jalgaon	56508	50479	111.94
8	Erandol	44290	37190	119.09
9	Dharangoan	45098	42757	105.47
10	Jamner	101501	100328	101.17
11	Amalner	69406	66143	104.93
12	Parola	53681	53004	101.28
13	Bhadgaon	35613	29668	120.04
14	Chalisingaon	88191	86131	102.39
15	Pachora	64409	62276	103.42
Total	District	841091	785347	107.10

The net sown area of the country has risen by about 20 per cent since independence and has reached a point where it is not possible to make any appreciable increase. Thus; raising the cropping intensity is the only viable option left. Cropping intensity refers to rising of a number of crops from the same field during one agriculture year. Thus, higher cropping intensity means that a higher portion of the net area is being cropped more than once during one agricultural year. This also implies higher productivity per unit of arable land during one agricultural year. For instance, suppose a farmer owns five hectares of land, and gets the crop from these five acres during the kharif season and, again, during the rabi season he raises a crop from three hectares. He, thus, gets the effective produce from eight hectares, although he owns only five hectares physically. Had he raised crop from five hectares totally, his cropping intensity would have been 100 per cent, while now it is 160 percent. Cropping intensity of Jalgaon district has been increased from 101.11 to 107.10 during last three decades (1971-2001). It means cropping intensity is gradually increased with increasing density of population in Jalgaon district. Cropping intensity is depend upon how many times same field has been cultivated in a year. It means, within a year more than twice the same area has been cultivated. Cropping intensity is nothing but it is the ratio between gross cropped area and net sown area. It shows the level of agricultural development. According to the table 4 the highest cropping intensity was found in Bhadgaon tehsil that is 120.04 and lowest cropping intensity was observed in in Jamner tehsil that's 101.17 in 2001. Below 105 cropping intensity was noticed in Jamner (101.17), Parola (101.28), Chalisingaon (102.39), Pachora (103.42), Bodvad (104.21), Yawal (104.55), and Amalner (104.93). More than 110 cropping intensity were found in Bhadgaon (120.04), Erandol (119.09), Raver (116.11), Muktainagar (114.78) and Jalgaon

(111.94). The cropping intensity increase mainly because of increase in gross cropped area, means the farmers changing attitude towards the agriculture is also responsible for the increasing cropping intensity in the region. Total gross cropped area is nothing but it is the summation of double cropped area and net sown area together. Gross cropped area is always more than net sown area hence it has been includes the area sown more than once. According to table No. 3 the total gross cropped area of Jalgaon District is 841091 that is 72.26 percent to the total area of the Jalgaon District in 2001. The highest gross cropped area is noted in Jamner tehsil that is 101501 hectare which is 12.07 percent to total gross cropped area of Jalgaon district, and lowest gross cropped area is observed in Bodwad tehsil that is 25509 hectares which is 3.03percent to total gross cropped area of Jalgaon district. Cropping intensity is increase with the increasing the population of study region.

CONCLUSION

The study reveals that growing population and its pressure increase the cultivated area, net sown area, double cropped area, multi cropped area and deduct fallow land, waste land, forest area, grazing and pasture land etc. because of the increasing demand of the increasing population, Hence increase the cropping intensity. Urban population exert more pressure on the land due to their high and complex demands than the rural one so that land use is more intensive and non-agricultural like industrial plants, hotels, shopping malls and under the other infrastructural facilities so that cropping intensity is relatively low in urban centers like Jalgaon, Jamner, Yawal, Raver etc. Other hand in Bhadgaon, Muktainagar and Bodwad increase the net sown area, double cropped area, Gross Cropped area due to increasing population pressure hence increase the cropping intensity.

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