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A Study of Nutritional Density and Pressure of Population on Agricultural Land in Satara District, Maharashtra

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ABSTRACT

The present paper, based on the secondary data, intends to measure the population growth, nutritional density, cultivated land per head and population pressure on land in Satara district. The growth of population in 1991-2001 was two times higher (14.59%) than what it was in 2001-11 (6.93%). Satara tahsil being headquarters (22.50%) and Mahabaleshwar as a very fascinating tourist place, have shown very high population growth (22.54%) in 1991-2001 but in 2001-2011 it has slashed to 11.10% in Satara tahsil, however, in Mahabaleshwar it has augmented to 33.52% but the overall growth of the district has declined in 2011. The nutritional density per hectare right from 1991 to 2011 in the district has remained more or less the same. It is also found that cultivated land per head has been noticed in the declining trend, which indicated that population pressure on land has been continuously augmenting. It is suggested here that agricultural productivity needs to be enhanced with the application of advanced technology, using organic manure so that the food grains produced will not cause any harm to people. The expansion of urban centres has also been eating out the fertile agricultural land for non-agricultural purposes in their surrounding areas, which needs to be checked systematically.

Keyword : Nutritional Density, Population Pressure, Cultivated Land, Population Growth

Introduction

Population is one of the most important problems before the scientists and demographers being an unstable factor. It has been increasing rapidly after world war II. With such rate of increasing the population of the world may find it difficult to increase production of food grains and other necessary raw material to have balanced situation between these two (Money, 1973, p. 203). The land resource is fixed and resources produced out of it on the earth have not been ever-increasing in consonant with population growth. They are stable one and continuously exploited by human beings to meet their needs. Thomas Robert Malthus (1798), the famous economist proposed a systematic theory of population in his renowned book, Essay on the Principles of Population, believed strongly that manpower is much stronger than the capacity of the land to sustain such population. When unchecked, population grows geometrically, while the means of sustenance increase in an arithmetical ratio only. This has become Iron Law of Population (see also Gautam and Rastogi, 2003). In the name of technology, we criticise Malthus theory, but still it has its own importance and implication. You can enhance the agricultural productivity by augmenting land

irrigation that may be drip or sprinkle one, using high yield seeds, organic or inorganic manures, tractorization, rainfall harvesting, even artificial rain sometimes somewhere depending upon the situation, all these technological advancements have some limits to growth and crop productivity to feed the ever increasing population. Hence, along with the development of agri-technology, we have to focus on the very basic fact of controlling the population growth especially in the developing countries like India so that from the given land resources we have to feed the population and maintain the minimum standard of living. In the advanced world, various demands for food, house, industries, roads, play grounds, schools, cinema halls, etc. have increased and all these are dependent on land, which has been divided into very small pieces. So a large population has to be dependent on small parts of land, it means every person has very small portion of land. This is resulting serious problem of rapidly increasing population on resources.

Therefore, the main intent of the discourse in the present study is to measure the population growth and its impact on land considering nutritional density and cultivated land per head in Satara district of Maharashtra state.

Study Area

Satara district is situated in the western part of Maharashtra state. This district consists of 11 tahsils, 1739 villages and 22 towns as per the census of 2011. The total geographical area of district is 10,480 sq. km extending from $17^0$5' to $18^0$11' north latitudes and $73^0$33' to $74^0$54' east longitudes. This district is bounded by border of Pune district in the north, Solapur in the east, Sangli in the south and Raigarh and Ratnagiri districts in the west. The physiography of Satara district is covered by hills and plateaus of main Sahyadri mountain having height over 1200 metres above sea level to the subdued basin of Nira river having average height of 600 metres above sea level. The western parts of the district is known as high rainfall region especially in Mahabaleshwar have over 6000 mm annual rainfall while eastern part of the district including Man, Khatav and Phaltan tahsils is drought-prone area having average annual rainfall about 500 mm.

The western part of the district is having good rainfall of above 500cm and in the eastern part it is very scanty. The rainfall varies from 100 cm in Satara town to 30 cm in some place in the eastern Satara (Satara District: Wikipedia.org). The problem is severe in its eastern side where the rainfall is less and causes less crop yield.

The whole of Satara district falls within the Deccan Traps area, the hills consist of traps intersected by Satara of basalt and topped with laterite, while of the different soils on the plains, the most common is the black loamy clay containing carbonate of lime. This sort of soil when irrigated is capable of yielding good crops. The total gross cultivated area in Satara district was 6,95,739 hectares (ha) and gross area under irrigation in 2011-12 was 2,16,830 hectares which constitutes 31.2 per cent only which is almost double than what it is for the state of Maharashtra (16.96%). Satara district's Mahabaleshbar tahsil is highly irrigated (48.8%) followed by Khandala tahsil with irrigation of 40% and in Patan tahsil only 20.3 per cent. Satara, Jaoli and Patan tahsils are comparatively less irrigated (below average of 31.2%) as per the Satara district Land Record office, Annual Report 2011-12).

The 2011 census recorded 30,03,741 population in Satara district including 5,70,228 (18.99%) urban and 24,33,363 (81.01%) rural population respectively. Its total population is roughly equal to the nation of Albania or US state of Mississippi. It ranks 122nd out of 640 districts in the country. Its population growth during the last decade (2001-11) was 6.93 per cent and sex ratio was 988 per 1000 males in 2011. It includes 3,23,236 (10.8%) Scheduled Caste and 29,635 Scheduled Tribe (1%) population. The majority population is of Hindus (89.62%) and followed by Muslims (4.89%), Buddhist (4.7%) and remaining religious Christian, Jain, Sikh communities constitute less than one per cent in all. The literacy rate of the district was 82.87 per cent and figures for male and female are 79.49 per cent and 68.64 per cent respectively in 2011. Of the total main workers in Satara district (1184407), cultivators (5,21,786) and agricultural labourers (2,43,687) constitute nearly 65% workers in agricultural sector only and the remaining 35 per cent in non-agricultural.

Fig. 1

Objectives

1. To look into the population growth at tahsil level in Satara district during 1991-2011.
2. To study the tahsil-wise nutritional density in Satara district.
3. To measure the pressure of population on agricultural land in Satara district.

Database and Methodology

The present study is based on the secondary data, obtained from district census handbook of Satara, Gazetteer of Satara and Socio-economic Review of Satara district. the growth and nutritional density is analysed and computed by simple statistical methods. To measure the population pressure on cultivated land, relative co-efficient of population is computed by taking into consideration 0.4 hectare land, which is minimum requirement of agricultural land to feed an individual suggested by Swaminathan (1974) in his book 'Limits of Growth' and the following formula is used for calculation of the population pressure index:

$$I = \frac{P1-P2}{A}$$

Where,

'I' is the index of pressure,

'P1' is the population size capable of being supported by the resources in a given region or in a country,

'P2' is the population size in that region and

'A' is a total agricultural area of the country (Hammound, 1985, p. 32).

Tahsil-wise Decadal Growth of Population in Satara District

In the last decade of 1991-2001, the population growth rate ranged from a maximum of 22.54 per cent in Mahabaleshwar to a lowest of 5.68 per cent in Jaoli tahsil of Satara district with average of 14.59 per cent. The high growth rate is noticed in Mahabaleshwar (22.54%), Satara (22.50), Khandala (18.51%) and Karad (18.15. Satara (22.50%) and Mahabaleshwar (22.54%) are identified with very high population growth rates. Mahabaleshwar in itself a small town with population hardly 12737 as per 2001, Satara being a district headquarters having number of educational institutes, industries including MIDC, market centres and facilities of transport and health. Due to these conducive infrastructural facilities people from adjoining tahsils have been migrating to Satara. Mahabaleshwar and Khandala are very fascinating tourist places as they are environmentally very refreshing wherein people can find some ways for earning the livelihood. Karad town (with population 85,550) lies at the confluence of Koyna and Krishna rivers, hardly 120 km from Kolhapur and 305 km from Mumbai. These two rivers, which originate from Mahabaleshwar at a distance of 100 km, meet exactly head on forming English letter "T" that is only head on confluence in the world and Known as Preeti Sangam (meaning confluence of love). It is also Known as the "sugar bowl" of Maharashtra wherein many sugar factories are located providing job opportunities to the people. It has also become an important educational hub. The institutes like Yashvantrao Chavan Science College, Venutai Arts and Commerce College, Govt. Engineering College, Pharmacy College, Mahila Mahavidyalaya, etc are located here. Karad is famous for the Samadhi (resting place)

of Yashvantrao Chavan first Chief Minister of Maharashtra. Hence, it is very resourceful for people in terms of education and employment and having natural and historical importance.

Table 1 further reveals that tahsils viz. Phaltan, Wai, Koregaon and Khatav form a contiguous region running from northern to central part of the district of medium population growth that varies from 10 to 15 per cent during the 1901-2001. Phaltan (14.69%) and Wai (13.01%) tahsils have recorded their population growth rate close to the district average (14.59%).

Table 1

TAHSILWISE GROWTH OF POPULATION IN SATARA DISTRICT 1991-2011

Sr. No.	Tahsil	1991	2001	1991-2001	2011	2001-2011
		Population	Population	Growth Rate	Population	Growth Rate
1	Satara	368871	451870	+22.50	502049	+11.10
2	Wai	167532	189336	+13.01	200269	+5.77
3	Khandala	101105	119819	+18.51	137418	+14.69
4	Koregaon	225002	253128	+12.50	257500	+1.73
5	Phaltan	273451	313627	+14.69	342667	+9.26
6	Man	184489	199598	+8.19	225634	+13.04
7	Khatav	234182	260951	+11.43	275274	+5.49
8	Karad	459955	543424	+18.15	584085	+7.48
9	Patan	274284	298095	+8.68	299509	+0.47
10	Jaoli	117988	124600	+5.60	106506	-14.52
11	Mahabaleshwar	44513	54546	+22.54	72830	+33.52
	Satara District	2451372	2808994	+14.59	3003741	+6.93

Source: District Census Handbook (1991, 2001, 2011), Gazetteer of Satara.

Tahsils with low growth rate of less than 10 per cent are Jaoli (5.60 %), Man (8.19%) and Patan (8.68%) in 2001. Jaoli and Man are in the western part and Patan in the eastern part of the Satara distinct.

There are 5 tahsils like Koregaon (12.50%), Man (8.19%), Khatav (11.43%), Patan (8.68%) and Jaoli (5.60%), which have shown their population growth rate below the district average (14.59%) and the remaining Satara (22.50%), Khandala (18.51%), Karad (18.15%) and Mahabaleshwar (22.50%) are identified with very high growth rate being the tourist and urban centres wherein people from the surrounding areas migrate for better educational and job opportunities. It is quite natural that people prefer those areas where the grass is greener.

In 2001-11, it is very astonishing to note that Jaoli tahsil was identified with negative (-14.52%) and Mahabalwshwar (33.52%) has recorded highest positive population growth rate. Both of these two tahsils are far away from the district average (6.93%). The main reason for this sort of significant drop and explosion in population growth is because of the fact that 56 villages have been shifted from Jaoli to Mahabaleshwar tahsil during the same decade. Jaoli tahsil was having 218 villages in 2001 and left with 162 in 2011 and in Mahabaleshwar increased from 55 to 111

during the same period. This is a one of the best tourist centres in the district as well as in the state. So tourism industry is quite developed and it has a conducive atmosphere so people migrate towards this tahsil. In all there are as many as 4 tahsils Viz. Satara (11.10%), Man (8.19%), Khandala (14.69%) and Mahabaleshwar (33.52%) which are identified with high population growth rate in 2011.

The moderate growth rate ranging from 5 to 10 per cent was noted in Khatav (5.49%), Wai (5.77%), Karad (7.48%) and Phaltan (9.26%) and the drop was between 5 and 11 per cent from 2001 to 2011 in these areas.

The growth rate in Koregaon was 1.73 per cent in 2011 declined from 12.50 per cent in 2001 and Patan with 0.47 per cent in 2011 dropped from 8.68 per cent in 2001. In the former it has gone down by 11.80 and 8.21 per cent in latter one. Barring Man and Mahabaleshwar tahsils, the growth rate has declined in all the remaining 9 tahsils of the district between the 1991-01 and 2001-11 decades because of the shift of the villages, creation of some new villages and towns and also migration from here to the major cities of the state of Maharashtra especially Pune and Mumbai wherein they get better job opportunities and educational facilities, which has been explored during our fieldwork in 2016.

Other than Jaoli, 5 other tahsils like Patan, Khatav, Koregaon and Wai have recorded their population growth below the district average and the rest of 5 tahsils viz. Mahabaleshwar Satara, Khandala, Phaltan, Man and Karad have shown their growth rate more than the district average (6.93%) in 2011.

In Satara, Mahabaleshwar, Koregaon and Karad tahsils growth rate has slashed by more than 10 points but the growth has taken place positively between the decades of 1991-01 and 2001-11.

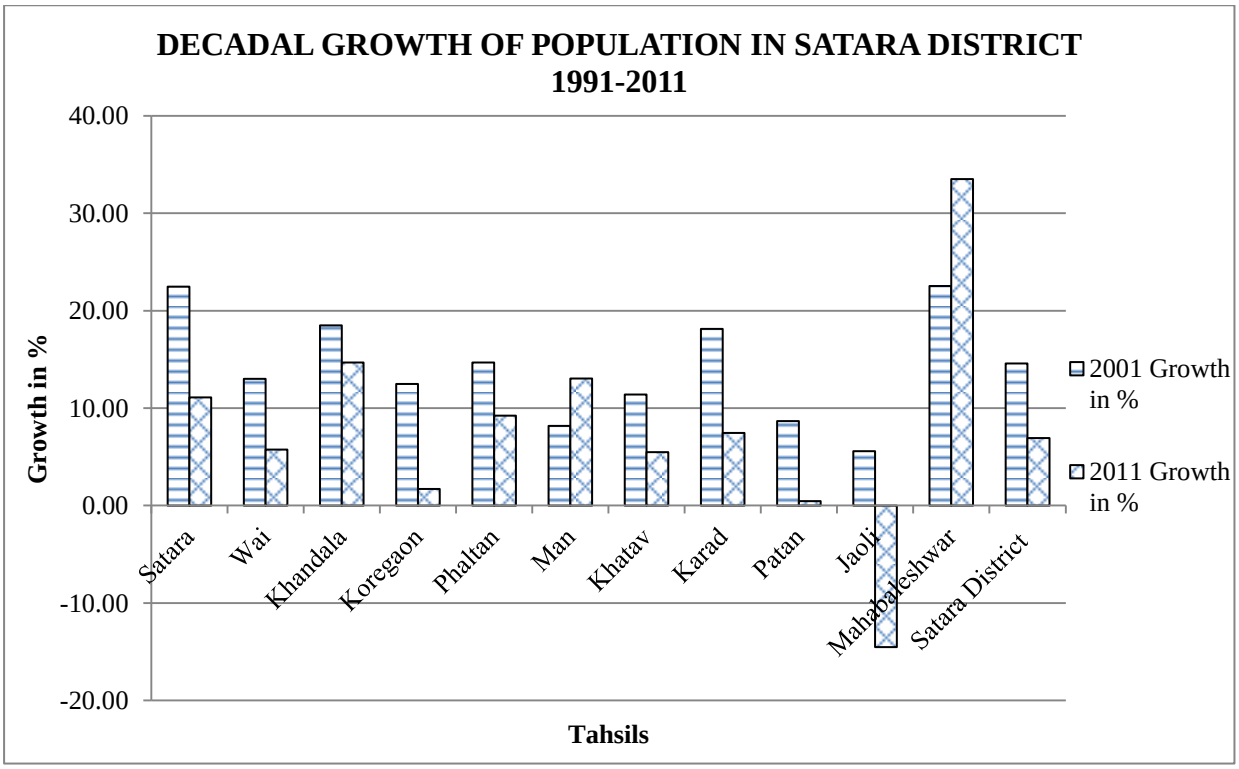

Fig. 2

It may be inferred here that population growth has declined in Satara district by 7.66 percentage points from 14.59 per cent in 2001 to 6.93 per cent 2011. At tahsil level also it slashed in all tahsils barring Man and Mahabaleshwar. This sharp decline in population within the distinct is due to shift of villages from one to another tahsil, out migration of youngsters to the major urban centres like Pune, Mumbai, etc. in search of jobs with better and regular wages and more over the increase in its literacy rate (82.87%) has also influenced the population growth rate adversely to some extent. The process of urbanization in Satara district is far slow as its urban population has augmented from 14.47 per cent in 2001 to 18.99 per cent only. In comparison to state's urbanization level (45.22%), Satara district has been left far behind. Hence, Satara district's more than 80 per cent population is in the countryside and agriculture sector is unable to absorb the rural population and under compulsion they leave their native place for better opportunities in the major urban centres. This labour force, which is entirely dependent on land needs to be shifted to industry and service sector to get slashed of the cultivable land problem and food insecurity. **Nutritional Density**Nutritional density is another indicator for comprehension of population pressure on land with which the areas with high alarming problem can well be identifies and solution to some extent can be endeavoured to sort out. Nutritional density is also known as physiological density. The measure of arithmetic density may be refined by relating the total population, not to the entire territory of a country, but to only the cultivable land that is available, is known as nutritional or physiological density (Bhende and Kanitkar, 2011). The cultivable land is the means of production and it is limited until unless some barren, forest or saline land is made ready for some cultivation and food production can be enhanced through application of advanced and healthy agricultural technology. So nutritional density is the ratio between the regional population and cultivated or arable land, that vindicates the pressure of population, is more significant indicator to evaluate the real economic conditions of a region (S. N. Singh and Uma Devi, 1975). Simply one can define that the number of people per unit arable land, which is suitable for growing crops is called Physiological density. It is different from agricultural density which is measured as the number of farmers per unit area of arable land. It is one of the important and trusted indices of the population concentration and provides a more realistic view of the population pressure on agricultural land and products. In this measure all non-arable land from the denominator (such as forests, wild pastures, mining land and scenic areas) has been excluded. It also does not take into account the variation in the output of various arable land because of differences in climatic, soil and others. It is a better indicator than does the arithmetic density of a degree of crowding in a region compared with its physical potential for producing food and agricultural raw materials (Bhende and Kanitkar, 2011). In short, nutritional density is expressed as man-land ratio between total population and total cultivated area and is expressed in terms of persons per hectares (Ghosh, 2014) or persons per sq. km. This density has been calculated for those countries of which economies are largely depend on agriculture. This density is calculated using the following formula:

$$Nutritional\ Density = \frac{Total\ Population}{Land\ Under\ Agriculture}$$

Table 2 and Fig. 3 reveal the significant facts regarding the nutritional density in the Satara district. In the present study of nutritional density, district has been divided into three categories such as high, moderate and low nutritional density zones for all three time periods. Nutritional density of Satara district as a whole has remained 4 persons per ha for 1991, 2001 and 2011 respectively, however some changes at tahsil level has taken place. In comparison to the state of Maharashtra (5 persons per ha) and India (8 person per ha) as well, district Satara's position is better in 2011. India's ranking among the 233 countries considered for measuring the real population density based on food growing capability in 2005 was 109th wherein its real population density (i.e. population per sq km of arable land) was 753 which is much better than china's 943. China's land area is above 3 times of India and in accordance to that the arithmetic density was 140 that is much less than India's 433 wherein India is more crowded. But China's arable land is 14.86 per cent only of its total area and India's 48.83 per cent, hence in this concern India is not that crowded as China is (de Blij, H.J. et al. 2006 & Wikipedia).

Table 2

Tahsil-wise Nutritional Density in Satara District (1991 to 2011)

Sr. No.	Tahsils	Nutritional Density per hector		
		1991	2001	2011
1	Satara	6	6	5
2	Wai	5	5	4
3	Khandala	3	3	3
4	Koregaon	2	3	4
5	Phaltan	3	4	5
6	Man	2	3	4
7	Khatav	3	2	3
8	Karad	6	7	6
9	Patan	5	4	3
10	Jaoli	3	2	2
11	Mahabaleshwar	9	15	11
	District Total	4	4	4

Source : District Census Handbook 1991, 2001, 2011.

1. Low Density Zone (up to 3 person per sq. ha)

The nutritional density is measured here as the number of persons per unit of arable land or area under cultivation. The case in hand is the Satara district for which it has been computed at tahsil level wherein it is found that the low density up to 3 persons per hectare (ha) was in 6 tahsils viz. Khandala, Phaltan, Khatav, Jaoli, Koregaon and Man in 1991. In 2001 the number has come down to 5 and all are same except Phaltan where the nutritional density has slightly augmented from 3 to 4 and similarly in 2011 the tahsils' number with low density reached 4 (i.e. Khandala, Khatav, Jaoli, and Patan). The density in Man and Koregaon tahsils has increased from 3 to 4 from 2001 to 2011 and shifted to moderate density category but in Patan

tahsil density has surprisingly decreased to 3 from 4 during 2001-11. Considering the 0.4 ha land sufficient for feeding a person, this value of 2 - 3 persons/ha is quite healthy and balanced one in the eastern part of the district as it seems to be on space wherein the rainfall is scanty and irrigation source is mainly underground water and canal irrigation. This low nutritional density area getting reduced and has been shifting to western part of the district.

2. Moderate Density Zone (3 to 6 persons per ha)

The tahsils with moderate nutritional density of 3-6 persons per hectare in 1991 were Satara (6), Wai (5), Karad (6) and Patan (5), mostly covering the western part of the district and constituting a contiguous region wherein the rainfall is generally high and capable of supporting comparatively large population than its eastern part with scanty rainfall. In 2001 also the number of tahsils with moderate density remained 4 viz. Satara (6), Wai (5), Phaltan (4) and Patan (4) but herein Karad has shifted to higher density category and in that place Phaltan tahsil has made entry. One may find a major change in the spread of tahsils with this medium nutritional density from 4 in 2001 to 6 in 2011 in number, these are Satara, Wai, Koregaon, Phaltan, Man and Karad, this shift of high density is to central and eastern part of the district. This is because of the fact of internal changes and migration.

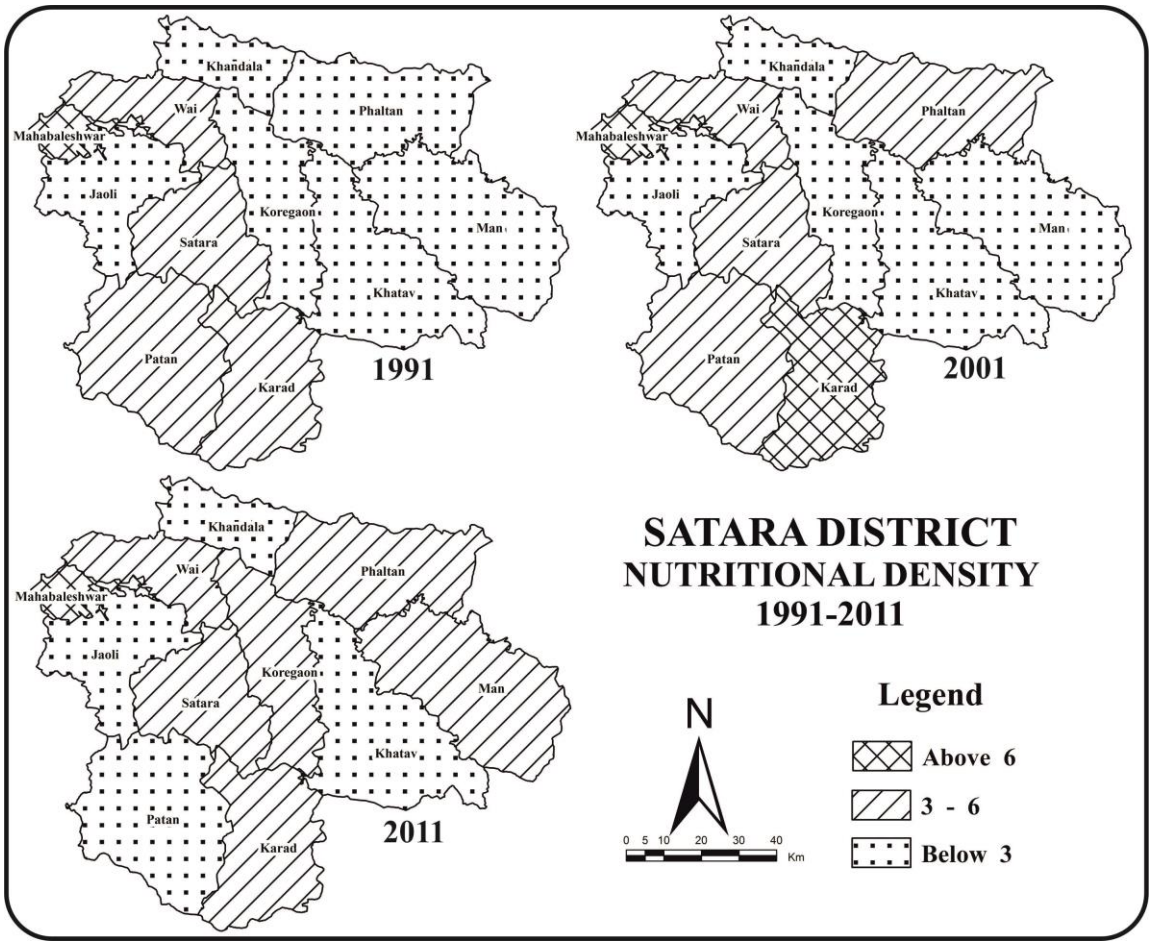

Fig. 3

3. High Density Zone (above 6 per ha)

The only tehsil namely Mahabaleshwar has been identified with highest nutritional density of 9, 15 and 11 persons per hectare in 1991, 2001 and 2011 respectively. Its density has increased in 2001 because of decrease in agricultural land and low growth in population. The nutritional density has slashed despite the shift of 56 villages from Jaoli to Mahableshwar and population increased from 54,546 in 2001 to 72,830 in 2011 (33.52%). Mahbaleshwar tahsil is a hilly and mountainous and area under cultivation is limited one but it has increased in 2011 consequently the density has also come down from 15 in 2001 to 11 in 2011. Satara district's over all position has not changed but the internal spatial pattern of nutritional density has changed depending upon the increase or decrease in population and agricultural land during this period.

Population Pressure on Agricultural Land

Table 3 exhibits availability of cultivated land per head in each tahsil in Satara district. In the district as a whole population has increased from 24.51 lakh in 1991 to 28.09 lakh in 2001 and to 30.04 lakh in 2011. The growth rate recorded between 1991 and 2001 was 14.59% and in 2001-2011 was 6.93%. But in relation to population, availability of cultivated area per head has declined from 0.26 ha in 1991 to 0.21 ha in 2001 and 0.19 hectare in 2011. It is quite less than Maharashtra (0.20 ha) but certainly more than India as a whole (0.12 ha).

As compare to the district average, only Khatav tahsil (0.56 ha) is identified with more than minimum requirement of cultivated land of 0.4 hectare in 1991. Other than Khatav, Man tahsil (0.4 ha) in 1991 and 2001, and Wai tahsil (0.4 ha) in 2011 are registered with equal to minimum requirement of 0.4 ha/head cultivated land. Remaining all tahsils in the district having per head cultivated land below the minimum requirement. It is found that tahsils like Satara, Jaoli, Phaltan, Khandala and Mahabalwshwar have registered below the district average per head cultivated land for all three time periods. Other than these tahsils, Koregaon is having below the district average per head cultivated land in 2001. Remaining Patan, Karad, Khatav, Man, Wai and Koregaon (except in 2001) have recorded more per head cultivated land than the district average (Table 3).

Table 3
Area Under Cultivation Per Head in Hectare in Satara District
1991-2011

Sr. No.	Tahsil	1991	2001	2011
1	Satara	0.16	0.12	0.11
2	Wai	0.31	0.34	0.40
3	Khandala	0.22	0.17	0.20
4	Koregaon	0.30	0.19	0.20
5	Phaltan	0.18	0.14	0.11
6	Man	0.40	0.40	0.30
7	Khatav	0.56	0.30	0.25
8	Karad	0.28	0.24	0.25

9	Patan	0.34	0.27	0.25
10	Jaoli	0.21	0.18	0.17
11	Mahabaleshwar	0.08	0.04	0.06
	District Total	0.26	0.21	0.19

Source : District Census Handbook of Satara 1991, 2001 and 2011.
Socio- economic Abstract of Satara District 1991, 2001 and 2011

The population pressure index in relation to the area under cultivation has also been calculated at tahsil level in Satara district for the better understanding of population pressure (see Table 4 and Fig. 4). District Satara's population pressure index has gradually increased from -1.28, -2.35 and -2.79 in 1991, 2001 and 2011 respectively. Not only in the district, its each and every tahsil has shown the increasing trend of population pressure from 1991 to 2001 barring Wai and Man wherein it has come down significantly, but between 2001 and 2011, in Wai, Khandala Koregaon, Karad, and Mahabaleshwar tahsils it has declined. Wai tahsil shows decreasing trend of pressure index -0.73, -0.4 and -0.03 for all three time periods due to decline in population growth rate. As a whole, it explicates that the situation has been deteriorated due to high rate of population growth in relation to land under cultivation in the district. The spatial pattern shows the increasing trend of population pressure on land under cultivation and it has been shifting and getting concentrated in the north-western part of the district. Considering the population pressure index in 2011, the position of Satara district (-2.79) was not better than the state of Maharashtra (-2.47) and but certainly much better than India (-6.09) as a whole.

Table 4
Population Pressure Index in Relation to Land Under Cultivation in Satara District.
1991-2011

Sr. No.	Tahsil	1991	2001	2011
1	Satara	-3.92	-5.60	-6.84
2	Wai	-0.73	-0.40	-0.03
3	Khandala	-2.10	-3.35	-2.46
4	Koregaon	-0.84	-2.81	-2.56
5	Phaltan	-3.04	-4.55	-6.21
6	Man	-0.02	-0.01	-0.80
7	Khatav	0.70	-0.86	-1.50
8	Karad	-1.13	-1.58	-1.55
9	Patan	-0.42	-1.26	-1.55
10	Jaoli	-2.28	-3.11	-3.29
11	Mahabaleshwar	-9.53	-21.87	-13.83
	District Total	-1.28	-2.35	-2.79

Source : Socio-economic abstract of Satara District 1991, 2001 and 2011.

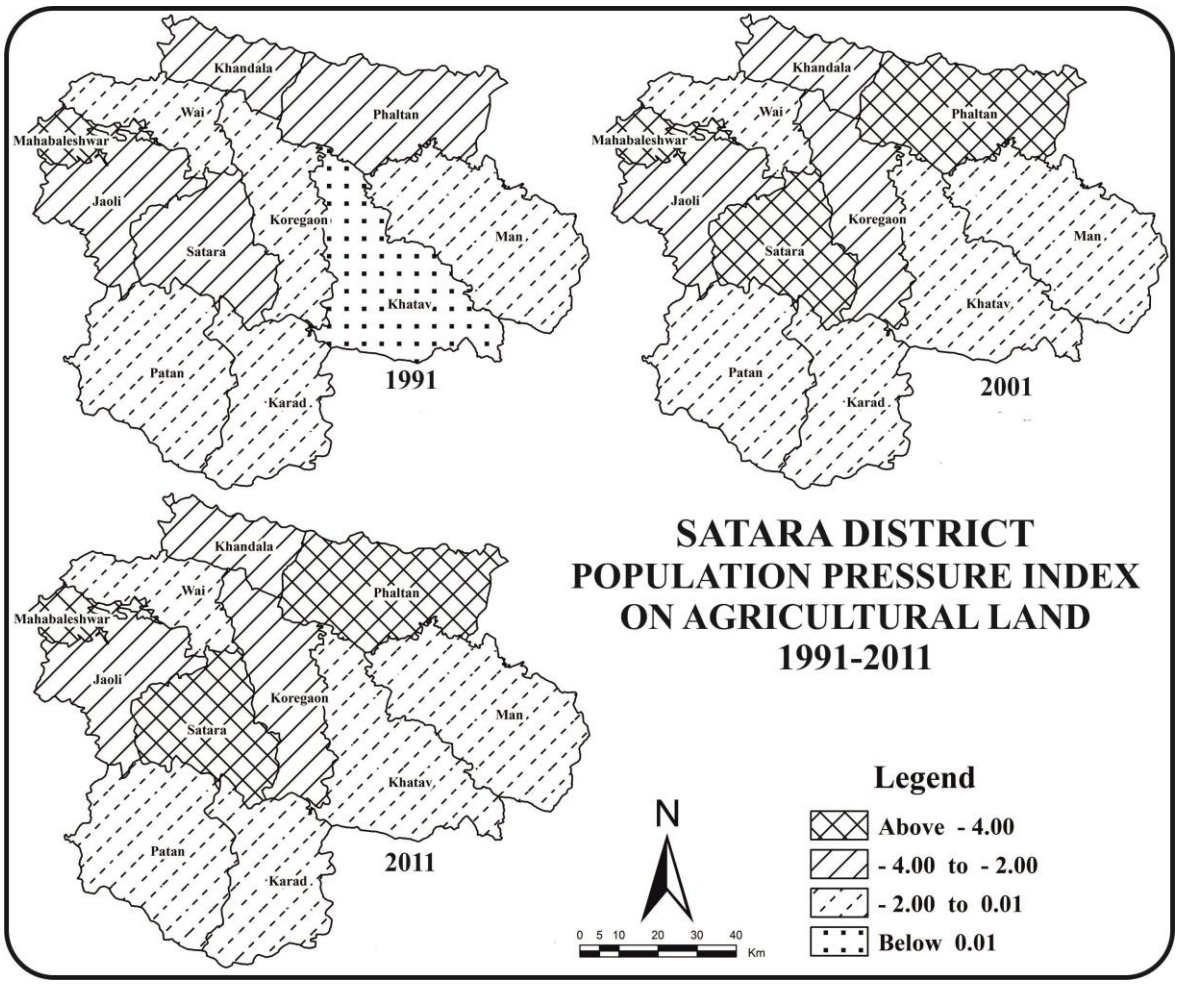

Fig. 4

Conclusion

It is inferred that in Satara district population growth has declined in 2001-2011 from 1991-2001. With the increasing population the availability of cultivated land per head has declined in the district as a whole as well as in each tahsil. Due to reduction in land under cultivation population pressure has increased. The highest growth rate was registered in Mahabaleshwar tahsil. The agricultural land in Mahabaleshwar is comparatively far less being a hilly tourist area. Whatever little land is available for cultivation, is mainly used for growing of fruit orchards and vegetables. The area of this tahsil is quite less in the district. So per capita availability of agricultural land is low and it is lowest in the entire district. Due to low availability of land, population pressure index is recorded highest in this tahsil in the district. Lowest population pressure index is recorded in Man and Khatav tahsils, because of reliable proportion of man and land ratio. These tahsils generally continuously suffer from severe drought. That's why people from these tahsils prefer to migrate towards Pune, Mumbai within the state and also to large urban centres outside the state in search of job opportunities.

To reduce the population pressure, there is need to have a control over the growth of population by improving their overall socio–economic condition. When the people are well educated and economically better, having accessibility to the basic needs and maintenance of good health, it will certainly bring down the pressure on

land as well as on life supporting infrastructural facilities. Advance technology has to be brought into practice to increase the agricultural productivity. It may be irrigation, better seeds and healthy cultivation of crops and vegetables for having the healthy society.

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