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Geographical Anyalysis of population pressure on Agricultural Land in Latur and Nilanga Tahsil

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Abstract: *This study have been assessed the impact of population growth on per capital land in Latur and Nilaga thasil. Optimum size of land should be available for large scale agriculture development as well as adopt technology but small size of farm for agricultural is major challenge in Maharashtra. Per capita low land is available in Latur, Hismabad, Aurad Shajani, Kasarkheda, Murud, Gategaon and Tanduja circles in 2011. Rapid population pressure was increasing in Latur, Hismabad, Nilanga, Tanduja and Gategaon circles during period of 1991 to 2011. As per Swaminathan standreds optimum land is available in six circles these area Kasarshirsi, Nilanga, Madansuri, Kasarbalkeda, Ambulga, Shiirur Anantpal in 2011. These six circles have optimum land out of total thirteen circles. Other side improving the land use efficiency is chief goal of every government to increase production and productivity of region hence Government of Maharashtra has mooted the group farming model as part of the larger agriculture reforms, believes it would be a significant step to make agriculture economically affordable and sustainable specially among the small and marginal farmers. The biggest advantage of group farming would be to help individual farmers to collectively shoulder the investment expenditure. Since farming would be on 100 acres, it would enable them to make maximum use of machines and technology at a reasonable cost. Individual farmers with small land holding not exceeding 5 acres find it extremely difficult to adopt technology or machines as it multiplies overall investment expenses. Overcome this problem people of study area should apply group farming.*

Keywords: *Population Pressure on Agricultural Land and Group Farming*

I. INTRODUCTION

Indian agriculture is undergoing a heavy stress as average land holdings is decreasing day by day. Optimum land should be available to use modern technology for agriculture development. One side use of technology in agriculture is increasing. Other side to apply this technology in agriculture is creating problem due to small size farm. Hence it is the biggest challenge for Indian agriculture. In countries where agriculture depends largely on technology and monetary exchange, economic factors highly influence the selection of crops for example, in the western countries, the farmers major effort is to cultivate crops that would bring maximum profit. On the other hand, in the monsoon regions, the major objective of the farmers in many countries would be to provide food for himself and his family. Here, the farmers are small in size and the implements are generally old and stereotyped. Its mean economic factors help a great deal in the proper understanding of the use of land for agricultural purposes. (Shafi Mohmmad, 2006). In this study try to find out the average per capital land as well as it change from 1991 to 2011. If the population density is increased it affects on the overall aspects of agriculture development. Due to increasing population pressure in any agricultural area the per capita land will be decreased and farmers could not do agricultural practices properly. Population growth always affects positively and negatively on the development of agriculture

II. STUDY REGION

Study region is part of Latur district. Latur district is included ten tahsils. This study area consist current Latur tahsil and area of Nilanga tahsil before 23 June 1999. These are important tahsils of Latur district. Latur tahsil is divided into following five revenue circles. These are Kasarkheda, Latur, Gategaon, Tandulja and Murud. Nilanga tahsil is divided into following eight revenue circles. These are Nilanga, Shirur Anantpal, Hisamabad, Ambulga, Kssarshirshi, Kasar Balkunda, Madansuri and Aurad Shahajani. Latur tahsil is located in the north western part of Latur district. Nilanga tahsil is located in the southern part of latur district. Study area North side is bounded by Renapur and Chakur tahsil. East side is bounded by Udgir and Deoni tahsil. South and West side is bounded by Ausa tahsil and Osmanabad district. Study area lies between 17^o 52' north to 18^o 32' north latitudes and 76^o 12' east to 76^o 41' east longitudes. The total area of study is 2577.35 sq. km.

The height of study region is in-between 510 to 700 meters from sea level. The main river is the Manjra flowing in the northern and eastern part of study area. Other important rivers are the Terna and Tawarja. Both rivers flow west to east direction through the

study region. Study region is covered by deep black soil and medium black soil. The average normal rainfall of study region is 714 millimetres. There is lot of variation in temporal and spatial distribution of rainfall in study area.

III. OBJECTIVES

- A. To find out circle wise per capital land
- B. To evaluate spatial and temporal change in per capital land from 1991 to 2011.

IV. METHODOLOGY

Per capital Land analysis has done using following formula

Total Area in Sq. km

A. Per capital Land = -----

Total Rural Population

There should be optimum land per capital to sustain development of agriculture. Per person 0.4047 hectare land should be available for optimum population pressure on land. This standard is suggested by Author of "Limits of growth" and quoted by Swaminathan (Swaminathan, 1974). Here the relative co-efficient of over population has been computed for calculation of actual pressure of population on agricultural land. For calculating relative co-efficient of overpopulation following formula is used.

Per capital Land in hectare

B. Relative Co-efficient = -----

0.4047

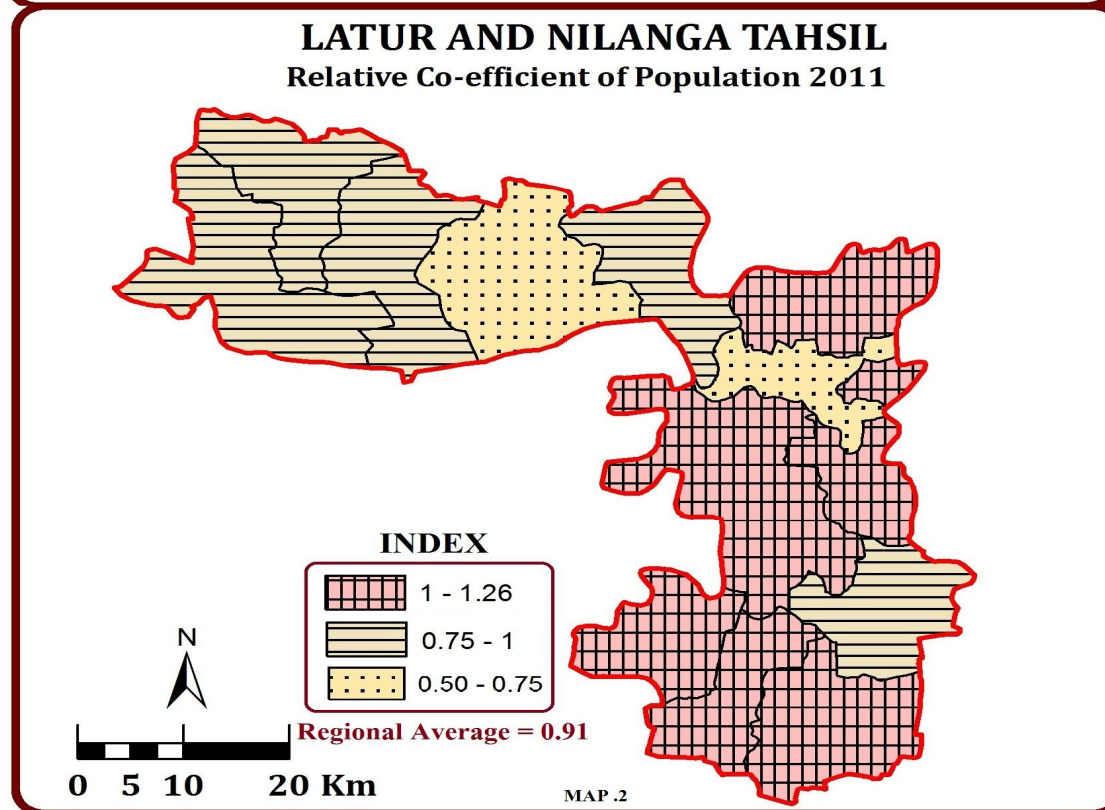
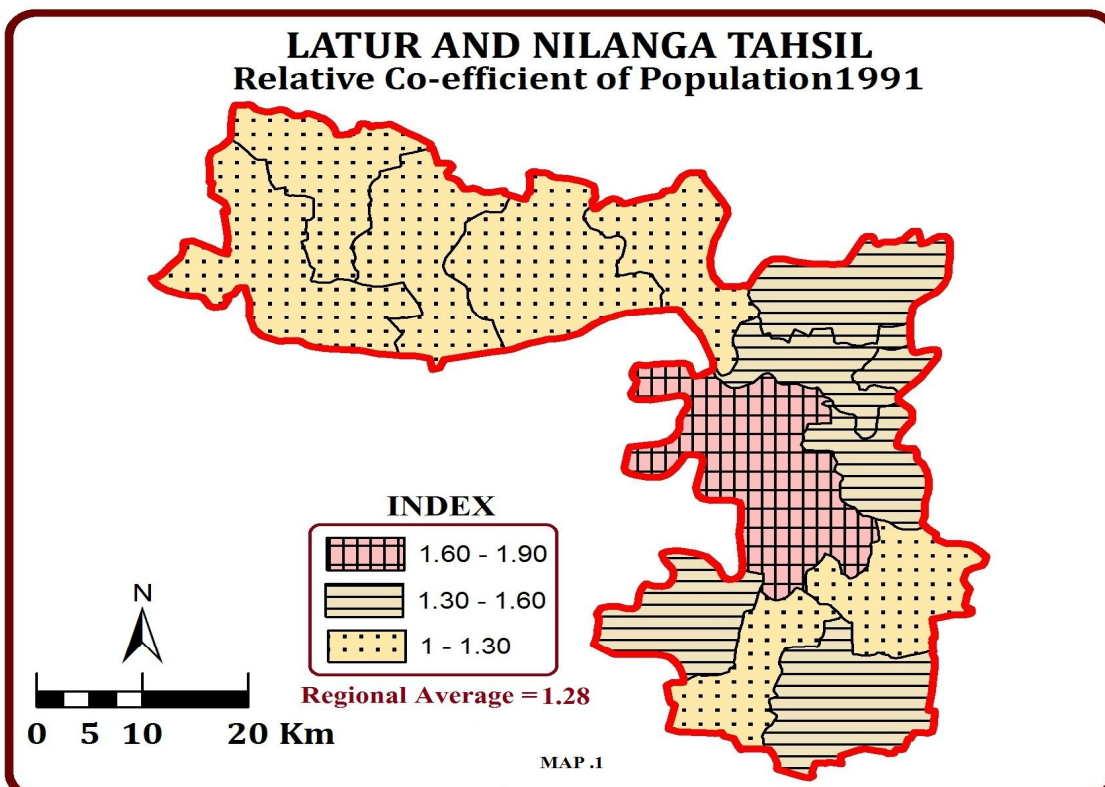
V. RESULTS AND CONCLUSION

Table .3 shows that the rural population pressure on agricultural land of study region during the period 1991 and 2011. It is considered that figure below one then that area considered as over populated. (Das, 1973). As per this standard all-overs study area population pressure on land is under control in 1991. But 2011 figures show that study area mostly circles are over population condition.

TABLE 1
Rural Population Pressure on Agricultural Land

Sr. No.	Name of Circles	1991		2011	
		Per capita Land In Hectares	Relative Co-Efficient Over Population	Per capita Land In Hectares	Relative Co-Efficient Over Population
1	Latur	0.49	1.21	0.23	0.57
2	Kasarkheda	0.42	1.04	0.32	0.79
3	Murud	0.45	1.11	0.33	0.82
4	Gategoan	0.49	1.21	0.36	0.89
5	Tandulja	0.52	1.28	0.37	0.91
6	Nilanga	0.66	1.63	0.44	1.09
7	Shirur Anantpal	0.58	1.43	0.51	1.26
8	Hisamabad	0.54	1.33	0.30	0.74
9	Ambulga	0.63	1.56	0.50	1.24
10	Kasarshirsi	0.52	1.28	0.41	1.01
11	Kasar Balkunda	0.60	1.48	0.48	1.19
12	Madansuri	0.60	1.48	0.47	1.16
13	Aurad shajani	0.41	1.01	0.32	0.79
14	Total Latur & Nilanga	0.52	1.28	0.37	0.91

Source:, Latur and Nilanga Tahsil Office , Some fields coputed by Author



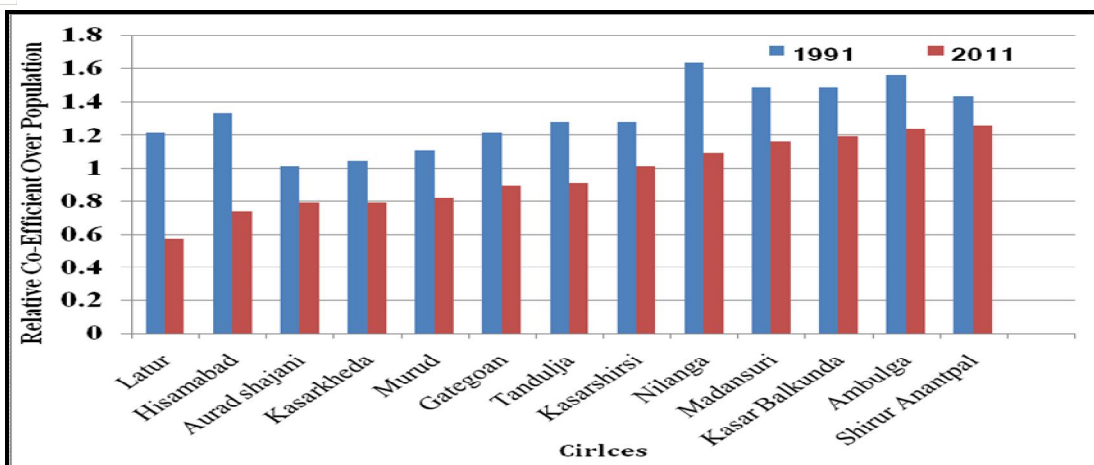


Fig.1 Population Pressure on Agricultural Land (1991-2011)

In 1991 the highest 0.66 hectare per capita land was recorded in Nilanga circle and the lowest per capita (0.41 hectares) land was observed in Aurad shajani circle. The average per capita land 0.52 hectares was noticed in study region in 1991. The relative co-efficient of over population of study region was 1.28 in 1991. The highest relative co-efficient of over population was recorded in Nilanga (1.63) circle and the lowest relative co-efficient of over population was found in Aurad shajani (1.01) circle in 1991. Different circles the relative co-efficient of over population is given below. Latur 1.21, Kasarkheda 1.04, Murud 1.11, Gategaon 1.21, Tandulja 1.28, Shirur Anatpal 1.43, Hisamabad 1.33, Ambulga 1.56, Kasarshirsi 1.28, Madansuri 1.48 and Kasar Balkunda 1.48 in 1991. The per capita land was 0.37 hectares in 2011. The highest per capita land was recorded in Shirur Anatpal (0.51 hectares) and the lowest (0.23 hectare) per capita land was observed in Latur circle. The average per capita land 0.37 hectares was noticed in study region in 2011. The relative co-efficient of over population of study region was 0.91 in 2011, It is low. The highest relative co-efficient of over population was recorded in Shirur Anatpal (1.26) circle and the lowest relative co-efficient of over population was found in Latur (0.57) circle in 2011. Different circles the relative co-efficient of over population is given below. Kasarkheda 0.79, Murud 0.82, Gategaon 0.89, Tandulja 0.91, Nilanga 1.09, Hisamabad 0.74, Ambulga 1.24, Kasarshirsi 1.01, Madansuri 1.16, Kasar Balkunda 1.19 and Aurad Shajani 0.79 in 2011. Per capita low land is available in Latur, Hismabad, Aurad Shajani, Kasarkheda, Murud, Gategaon and Tandulja circles in 2011. Rapid population pressure was increasing in Latur, Hismabad, Nilanga, Tandulja and Gategaon circles during period of 1991 to 2011.

As per Swaminathan standreds optimum land is available in six circles these area Kasarshirsi, Nilanga, Madansuri, Kasarbalkeda, Ambulga, Shiirur Anantpal in 2011. These six circles have optimum land out of total thirteen circles.

This study result shows that per capital land is decreasing and in future it will be rapid decrease. Today people mostly apply machines and technology in agriculture fields. It extremely difficult to adopt technology or machines as it multiplies overall investment expenses. Small size farms are creating a problem. Overcome this problem people of study area should apply group farming. The biggest advantage of group farming would be to help individual farmers to collectively shoulder the investment expenditure. Since farming would be on 100 acres, it would enable them to make maximum use of machines and technology at a reasonable cost.

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