

Reflection of Population Pressure on Land use Pattern of Ahmednagar District (Maharashtra)

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Abstract— The concept of Population pressure indicates the increasing population due to explosive growth of population and which causes excess pressure upon available resources in a region. In this paper an attempt has been made to analyze the temporal changes in population growth, density, levels of urbanization and its impact on resources which always reflects through land use. The most striking changes in the population characteristics of Ahmednagar is seen in the density of population. High density of population has caused human pressure on the land, which created huge difference man-land ratio. Though Ahmednagar district being largest district of Maharashtra state in respect to area but as per 2011 census, the man-land ratio was only 0.37 Sq.Km in the district. In 1951, the urban population was recorded 214832 number (15.19percent to the total population), which increased to 4,38,853 number (29.92 percent) in 2011.

Key words: Population Pressure, Annual Growth Rate, Resource, Burden, Decadal Variation, Density, Urbanization, Land Use

I. INTRODUCTION

Population dynamics in any region deals with quantitative and qualitative aspects of population and their consequences on the socio-economic environment. The physical attributes of an area become resources, only when its people are able to use them. Population plays a dominant role in the development of nation. The relationship between population and resources is greatly hampered by socio-economic development of a nation. Which is becomes one of the main issues in the national as well as international, mainly because of rapid population growth in the post-independent period .Land use is the surface utilization of all developed and vacant land on a specific point at a given time and space (Mandal,1982).Due to rapid growth of population Land use has been changed widely. It noticeable near cities and towns built up area is replacing by agriculture, in villages agriculture is replacing by fallow land and scrubs, forests. With increasing Population it reached to an explosive stage where population pressure is highest and it release through migration hence migration is an important outlet of overpopulation. In this study population growth and land use of district (1961 to2011) has been analyzed to assess land use changes over last five decades

II. THE STUDY AREA

Ahmednagar district is situated at near about central position in Maharashtra between upper Godavari and Bhima river basin. Ahmednagar lies between $18^{\circ} 2'$ to $19^{\circ} 9'$ North latitude .and $73^{\circ} 9'$ to $75^{\circ} 5'$ East longitude. Ahmednagar District is largest district of Maharashtra in respect of geographical area .District has occupy 17053sq. k.m. area which is 5.66 % of states land and It is home of 3372935 population .Undulating hill topography of West and plain in

East are the two major physiographic divisions of district. Some ranges of Sahyadri mountain spread over vast area of Akole, Sangamner, Parner tehsil. Kalasubai and Adula sub range in North, Baleswar sub range in middle, Harishchandragad in South and large plateau area between Godavari and Bhima work as interflaves. The highest peak in district is lies in Akole tehsil (Mt.Kalasubai, 1646mt.)Whereas lowest point recorded in Shevgaon Tehsil (Godavari valley,450mt.)in the north-west.

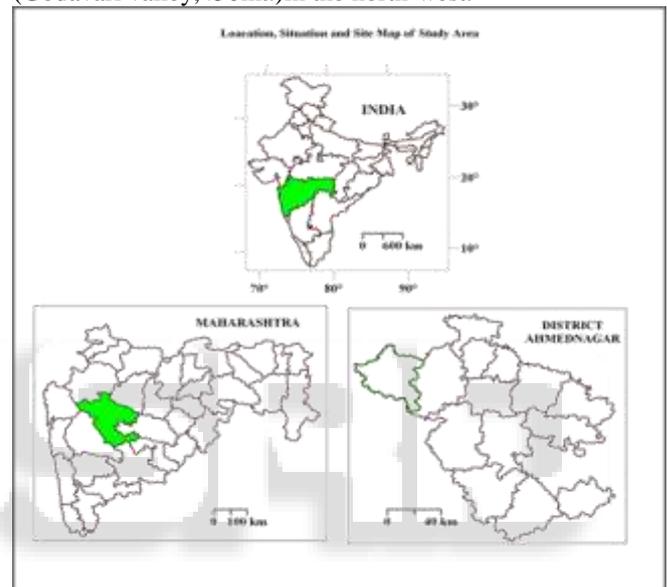


Fig. 1: Location map of Study Area

III. OBJECTIVE OF THE STUDY

The main objective of this study is as follows

- To examine population pressure on the land of Ahmednagar, the largest district of Maharashtra.
- To study the temporal Land use changes in Ahmednagar district.

IV. MATERIALS AND METHODS

The study is based on secondary data. The data related to population growth and density has been collected from census publications, Newspapers, covering the period from 1951-2011.The land use data obtained from Socio-Economic abstract the collected statistics of population has been processed and tabulated. Cartographic method is used to show the statistical data.

V. POPULATION GROWTH

The population plays important role in land use, because development of land recourses has been carried out by human recourses. The population of Ahmednagar district has been increased about 31, 29,637 persons during the last 60 years from 14, 13,446 (1951) to 45,43,083 (2011), at an average

annual rate of 2.60 percent. The growth rate of population is fluctuating since the first census after independence in Ahmednagar district .It was recorded at the its peak(27.76%) in the decade 1961-1971 whereas it reach to the bottom(12.43%) in the decade of 2001-2011.One another decade 1971-1981 shows very small number of growth(19.32%) in population .It is probably due to the series of hazardous droughts, severe malnutrition in the region.

Sr . N o.	Cens us Year s	Populatio n of Ahmedna gar District	Decadal variation in Percentage		
			Ahmed nagar	Maharas htra	India
1	1951	14,13,446	25.29		14.22
2	1961	17,79246	25.88	23.60	13.31
3	1971	22,73,223	27.76	26.45	21.64
4	1981	27,12,491	19.32	24.54	24.66
5	1991	33,72,935	24.35	25.70	23.87
6	2001	40,88,077	21.20	22.60	21.54
7	2011	45,43,083	12.43	16.00	17.64

Table 1: Population growth of Ahmednagar District

Source: Census from 1951 to2001,and Provisional census of India 2011 .

The average growth rate of district(26.03%)is all time higher than national growth rate(23.64%)in last 60 years. Surprisingly population growth rate of Ahmednagar district decreases less than half in last 2 decades.

VI. DENSITY OF POPULATION AND LAND MAN RATIO

Density shows the population residing in the region with specific terms. It is an indicator of carrying capacity of land. Number of persons inhabiting in one square k.m. or mile of area is known as population density. In short density is calculated by dividing population by area. Thus it is measure the degree of population concentration. Density of population helps us to understand nature of population distribution. Population density of Ahmednagar district was

Sr.No.	Land Use Categories	1960-61*	Percentage	1970-71	Percentage	2004-05	Percentage
1	Forest	487758	11.59	187954	11.04	131593	09.85
2	Land Put to Non Agricultural Use	100500	02.38	34201	02.00	196557	03.40
3	Barren and Non Cultivable Land	391538	09.30	167210	09.82	78661	09.68
4	Fallow Land	112207	02.66	94499	05.52	125133	07.94
5	Net Sown Area	3114175	74.03	1251340	73.52	1185846	69.31
	Total	4206178	100.00	1702039	100.00	1667788	100.00

Table 3: Change in Land use (*-Figures in Acers)

Source: Ahmednagar district Gazetteer and Socio-Economic Abstract2010.

Net sown area is continuously falling in 1961 it was 74.03 percent after 4and half decade it decline sharply to touch 69.31percent it shows that population depending upon agriculture is reducing slowly and they are shifting from agrarian to non agricultural occupations. And therefore migration stream takes place from villages to cities.

VIII. RURAL URBAN POPULATION

Urbanization offers great opportunities for economic growth and prosperity. Cities are the centers and locus of international finance and trade, and gateway of world. (ArjunMusmade2012) With increasing urbanization rural population convert into secondary and tertiary occupations,

only 81persons/Sq.km.in 1951 which increased to 266persons/Sq.km.in 2011.Land man ratio shows the availability of per capita land It is also one important criteria of carrying capacity. When population exceeds than carrying capacity of land the migration takes place.

Region Year	Ahmednagar District	
	Population Density	Land Man Ratio
1951	81	1.20
1961	104	0.95
1971	133	0.75
1981	159	0.62
1991	198	0.50
2001	240	0.41
2011	266	0.37

Table 2: Population Density of Ahmednagar District, Maharashtra and India

Source: Census from 1951 to 2001 and Provisional Census of India 2011.

Hence with increasing density and decreasing land man ratio population pressure goes higher steadily. The density of population increased by three times during last 60 years in Ahmednagar district. The drastic change was realized in census2011, Land man ratio of district was1.20 in 1951 it touch with near half figure(0.62Sq.K.m.) within three decade now it reach up to 0.37 sq.Km. Only .The steady decrease in land man ratio observed during the period understudy.

VII. LAND USE CHANGES

The effect of population pressure precisely observed on land use. Particularly growing population pressure exerted on agriculture land. Huge agricultural land extension is made possible from forests, pastures and follows land to fulfill basic need of staple food. From the table forest are decreasing steadily forest land has been reclaim for agricultural purpose and proportion of forestland continuously declining.

simultaneously agricultural fields convert into non agriculture (NA) land use.

YEAR	1961	1971	1981	1991	2001	2011
Urbanization in %	10.50	11.10	13.0	15.80	19.90	20.10

Table 4: Urbanization in Ahmednagar District.

Source: Ahmednagar district Socio-Economic Abstract2010.

The degree of Non agriculture land proportionately high near cities and towns. New settlement, road, drainage facilities near cities are responsible for shrinking agricultural land. In Ahmednagar district pace of urbanization is slow but still it has hold dominant place in determining population pressure.

IX. CONCLUSION

Even though Ahmednagar District is largest district of Maharashtra state population growth of district is constantly rising and therefore population pressure in this region persistently high. In respect of population growth among 35 district of state Ahmednagar district secured 13th rank.. When population exceed than carrying capacity of land Population pressure goes high it always exerted through migration, Therefore migration takes place in Tehsils like Pathardi, Parner, Karjat, Jamkhed, Akole, Shevgaon etc where carrying capacity is very low. The Land Man Ratio Index shows declining per capita land availability in district. As per 1961 census the man-land ratio 1.20sq.Km it fall up to 0.37 sq.Km in 2011 census.

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