

“Spatio-temporal Analysis of Population Growth of Thane District, Maharashtra, (India)”

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Abstract:

Among the various parameters, the anthropogenic factors are most dynamic to change the natural environment or may sometime destroy life plant kingdom within no time by his distractive mod of nature. Demography is statistical study of human population. It can be very general science that can be applied to any kind of dynamic human population that is one that changes over time or space. Demography is the scientific is the study of characteristic and dynamics pertaining to the human population. This Study area mainly Changing of Rural-Urban Sex Ratio during 1971-2001 in Population Growth, Density of population and Analysis of the Population size its structure, characteristics and distribution and changes taking place.

Key Words: Population Growth, Density of population.

Introduction

The study of Population concerns itself with Population size its structure, characteristics and distribution and changes taking place in them through time. The growth of population means any change in Population numbers besides the study also deals with underlying causes of b population phenomena. The study of Population therefore is multi disciplinary in nature involving knowledge of geography, biology, statistics, economics and sociology. Demography as a field of enquiry originated in 1962 with publication of John Grants observation but the term seems to have been first used by Achilles Guillard in 1885. A working definition of this word is given in Houser and Deccan “The study of Population as the study of

size distribution and components of such changes which may be defined as fertility, mortality and territorial movements form elements of demography. Now a day the study of population has become an area of interest among the geographers. Population geography is rather a newly developed branch of geography while geographers have generally been interested in relationship between Population compositions migrations. The factors influencing Population growth have only recently assumed importance in geographical study. The study area lies in western Maharashtra its geographic location is typical occupying region on the of Gujarat and Maharashtra this has given peculiar characteristic to the Population structure of the district therefore it is

necessary to bring out the salient features of the Population through geographic analysis

Objective

- 1) To study the distribution and growth of Population within the period of 1971-2001
- 2) Tahsil wise study of Population density with Rural-Urban areas.

Study area

The Thane district is located between 18°42' and 20°20' north latitudes and 72°45' and 73°48' east longitudes. The area of the district is 9,558 km². Fig. 1.

The district is bounded by Pune and Ahmadnagar on the east, Nashik on the east and northeast, Valsad District of Gujarat state and Union Territory of Dadra and Nagar Haveli on the north. The Arabian Sea forms the western boundary, while it is bounded by Mumbai City District and Mumbai on the southwest and Raigad District on the south.

The average annual rainfall in the district is 2293.4 mm. The rainfall in the district increases from the coastal areas to the interior. The rainfall varies from 1730.5 mm at Mahim on the coast to 2588.7 mm at Shahapur in the interior. The coastal area, the average daily maximum temperature in summer is 32.9°C (maximum recorded at Dahanu is 40.6°C on 19 April 1955) and in winter average mean daily minimum temperature is

16.8°C (minimum recorded at Dahanu is 8.3°C on 8 January 1945). But in the interior parts of the district, the average daily minimum temperature is slightly lower in the winter season and the average daily maximum temperature is higher in the summer. This is the third-most industrialized district in Maharashtra. The district is divided into the administrative talukas: Kalyan, Bhiwandi, Ulhasnagar, Dahanu, Shahapur, Wada, Palghar, Talsari, Vasai, Jawhar, Mokhada, Murbad and Thane

Database and Methodology:

The present work is based on the secondary source of data it is collected from district census handbook of 1971 and Socil-Econimic Abstract of Thane District 2003. The data collected in respect of total population, urban and rural population as well as male and female population in thane district. The period for present investigation is considered from 1971-2001 the collected data from different sources were proceeds in percentage and desired proportion finally the proceeds data have been put in the table forms certain statistical and cartographic techniques have been applied to represent data in the from diagram. Some mathematical equations are used to obtain the results. For Examples to calculates the Growth Rate of The Population following formula is used

$$R = \frac{P_n - P_o}{P_o} \times 100$$

Where,
 P_n = population of next year.
 P_o = population of base year.
 P_n = population of next year

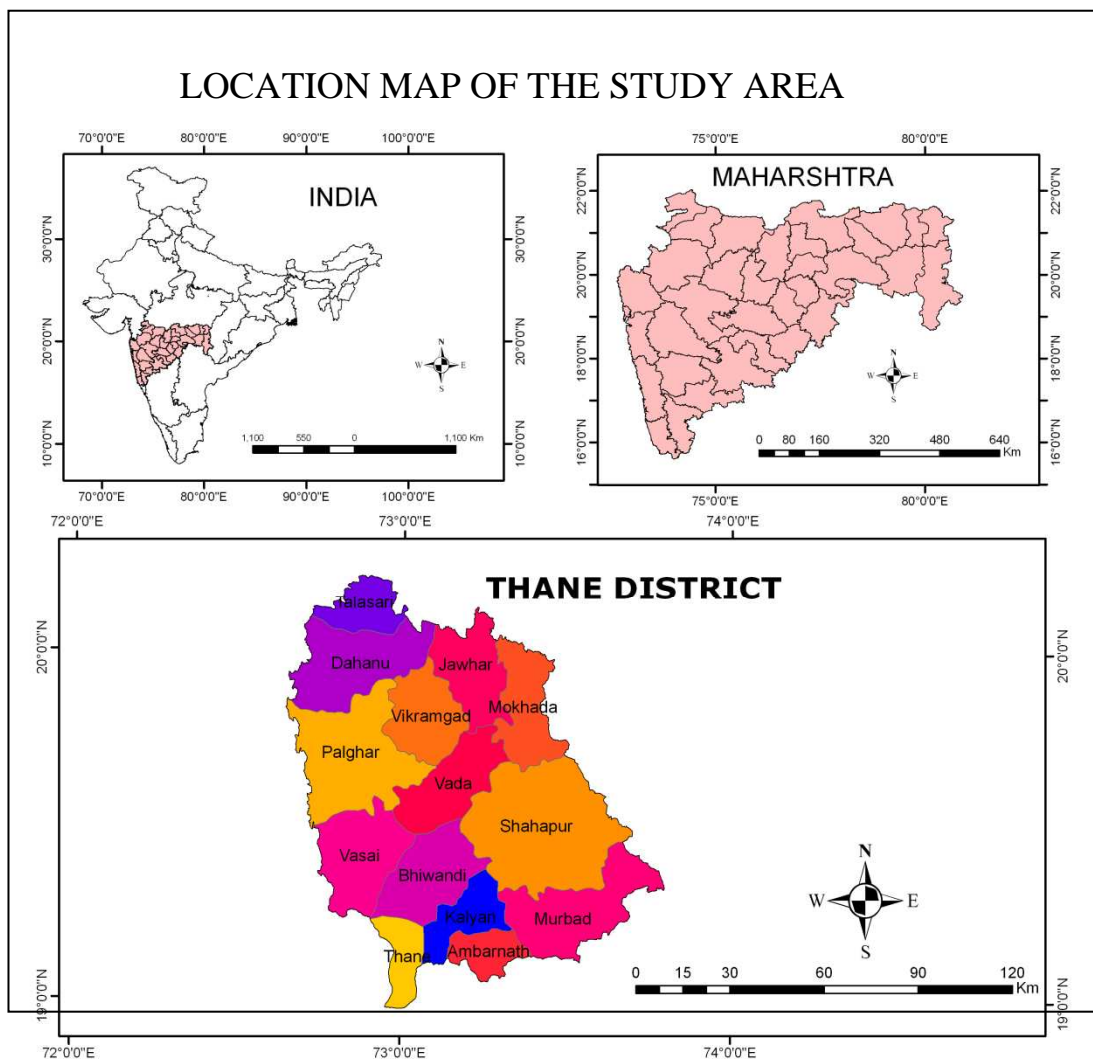


Fig. 1. Location Map

Growth of Population

The Growth of population in any area is an index of its economic development, social awaking & much other character the Growth of population means any change in Population number if this Changes in Negative Direction then Population decrease when it is in positive direction then Population increase .we are discussed the tahsil wise Population growth during 1971-2001 & determine the sub-region of Population growth rates such as high Population growth rate region,

Medium Population growth rate s region & low Population growth rate region.

The table 1. Fig. 2 and 3. Indicate that increase of Population was 5085724 (615.14%) contributed by urban Population while 774461(53.23) increased by rural population therefore highly urban

population is female 2302383 as well as lowly rural Population. These figure show that the Population growth in this period due to gradual decline in births & sudden decline in the deaths .mortality are the causes for high increase in Population for last three decades that for 1971-2001 on the other hand even under favorable conditions birth rates have taken a comparatively long time to decline it is most likely the current Population trend of the study region will be continued to grow at accelerated rates even during coming decades It is obvious from the points discussed above that the accelerated growth of Population during the past independence period has not related the socio economic development which otherwise has been sustainable bit it seen sure to be the main stumbling block in study region

Characteristics of Population in Thane District

Year	1971		2001		Change /Growth of population	
	Rural	Urban	Rural	Urban	Rural	Urban
Total Population	1454915	826749	229376	5912473	774461 (53.23)	5085724 (615.14)
Male Population	478572 (51.45)	456283 (55.19)	1148123 (51.49)	3239624 (54.79)	399551 (53.37)	2783341 (610.00)
Female Population	706343 (48.54)	370466 (44.80)	1081253 (48.50)	2672849 (45.20)	374910 (53.07)	2302383 (621.48)

Table 1. Note: Figures in the bracket indicate percentage to the total population.

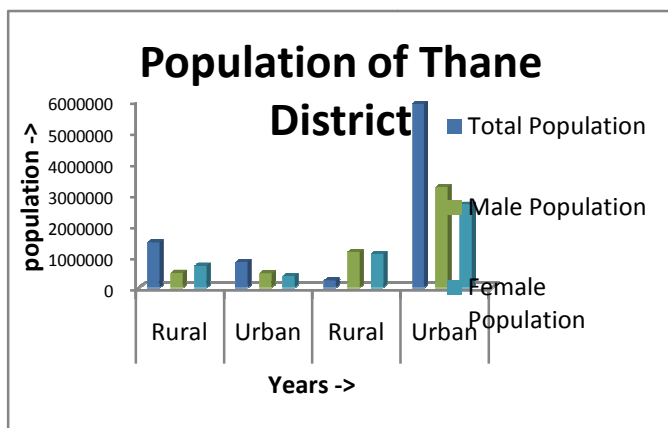


Fig. 2. Population of Thane District .

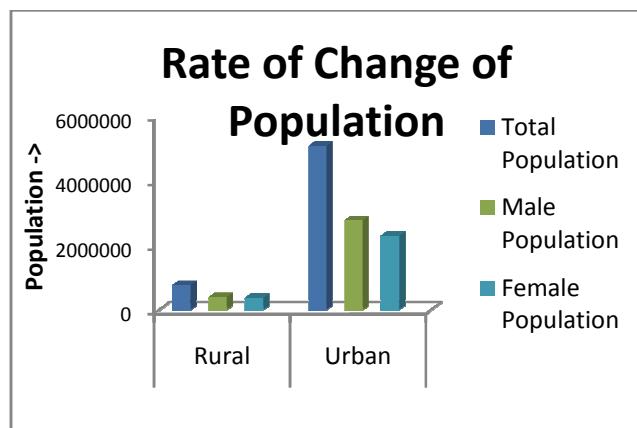


Fig. 3. Rate of Change of population

If the same demographic trend continuous, it will produce adverse effects on the environmental conditions of the land as well as the Psychology of the people in the long turn.

The table indicates the Population in each tahsil of the district & its density persq.km in the year 1971 & 2001 we have discussed on density of Population and Population growth rate given as below following

A) Population Density of Thane District

- 1) **High density of Population (5000-3000)**-The highest density recorded for Ulhasnagar tahsil was 36441, then Kalyan (11771),Bhivandi(14205) &

lastly thane 7304and Jawhar (3367) in 2001 (Fig.4.and 5.)

- 2) **Medium density of Population (3000-1000)**- Dahanu2461 wada-148 shahapur 1752, Palghar1481, Murbad 2077 in 2001 & lastly 1971 which Population of highest density which tahsil is thane (1087)
3. **Medium density of Population (3000-1000)**- Vasai 405 Palghar 195 Dahanu 194 talsari 215 Jawhar199 Mokhada 87 Wada 114 Murbad 11 Kalyan 843 Ullhasnaga 831 in 1971 & then leave thane tahsil all tahsil less than very low density founded in 2001 but Talsari 417, Mokhada 137 it is only two tahsils increase developed Population

Tahsil wise Density and Growth of Population (1971-2001)

Sr. No.	Tahsil	1971		2001		Growth Rate 1971-2011
		Population	Density	Population	Density	
1	Thane	3320	1087	2486	7304	-25.12
2	Vasai	2130	405	7928	7520	272.20
3	Palghar	2134	195	4546	1481	113.02
4	Dahanu	1871	194	3318	2461	77.33
5	Talsari	5338	215	1212	417	-77.29
6	Jawhar	9589	119	1120	3367	-88.31
7	Mokhada	5443	87	6731	137	23.66
8	Wada	8391	114	1427	1487	-82.99
9	Bhivandi	2460	360	9455	14205	284.34
10	Shahapur	1433	87	2733	1752	90.71
11	Murbad	9958	111	1702	2077	-82.90
12	Kaylan	2743	843	1193	11771	-56.50
13	Ullasnagar	2850	831	4737	36441	66.21
	Total	22816	239	81318	90420	514.36

Table 2. Tahsilwise Density and Growth of Population

B) Population Growth rate of Thane District

1) **High Population growth rate (more than 200%)**- the Vasai & Bhivandi tahsil come under high growth rate Population category Bhivandi is highly growth rate is 284.34% because

Industrialization, Urbanization highly developed education etc more factors developed from 1971 to 2001 then Vasai also secondly rank of high Population growth rate category wise is 272.20 % it is also highly developed which Mumbai western part of coastline belt of area in thane district.

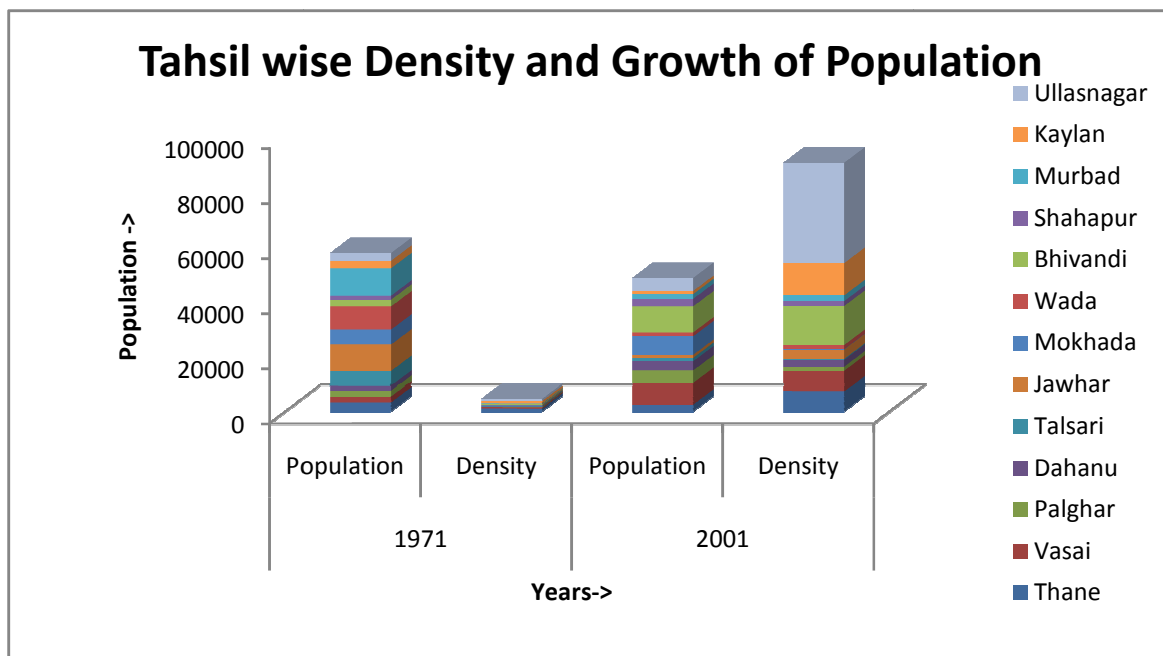


Fig. 4. Growth of Population

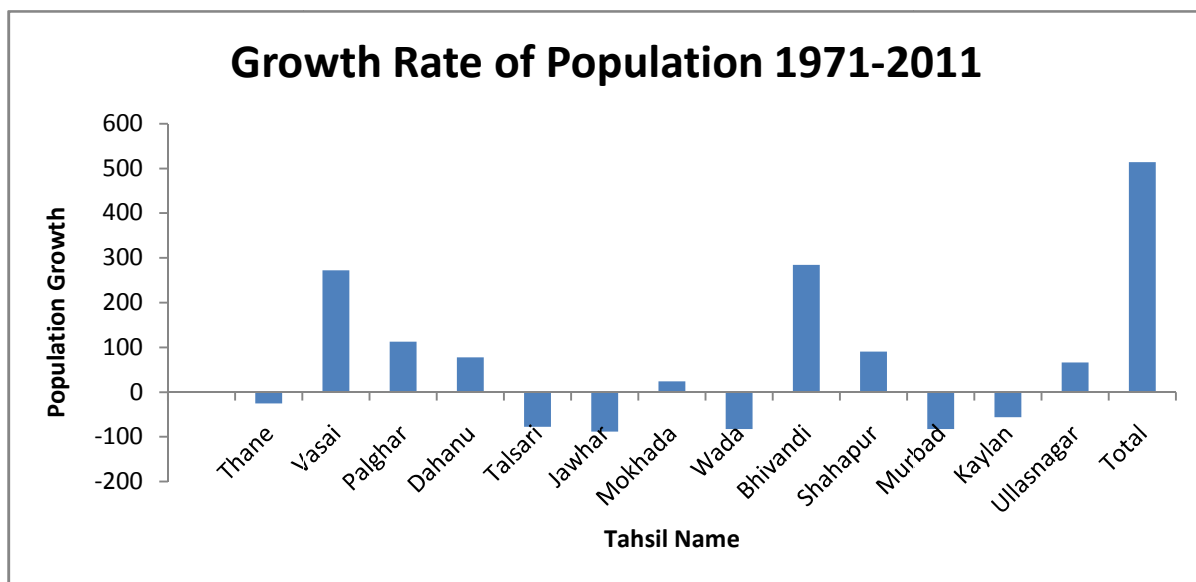


Fig. 5. Growth rate of population

2) **Medium Population growth rate (less than 100%)**-the Palghar which only

one medium growth rate category wise is 113.02% it is tahsil along the

western coastline along the Vasai tahsil attachment.

- 3) **Low (less than 100/negative direction)**- thane -25.12, Talsari - 77.29, Jawhar -88.31, Wada-

82.99, Murbad -82.90, Kalyan -56.50 it is all tahsil some Population highly whenever urban to rural migrants from this decades high populates no more facilities from cooperation of thane a is region in decreased of Population. The

above table shows that the rural & urban Population in the thane District according to 1971 census rural & urban Population of the study was 63.78 per cent & 36.23 per cent respectively it is highest. More than 90 % is Wada Shapur Dahanu Jawar but lowest rural Population Ulhasnagar (17.13%). The Tahsil namely Murbad, Mokahda, Talsari having 100percent rural Population .

Tahsil wise Rural and Urban Population (1971-2001)

Sr. no	Tahsil	1971		2001	
		Rural	Urban	Rural	Urban
1	Thane	114147 (34.37)	217950 (65.62)	-	2486941 (100)
2	Vasai	155404 (72.95)	57622 (27.04)	277262 (34.83)	515601 (64.78)
3	Palghar	188970 (88.54)	24435 (11.45)	343934 (75.65)	110701 (24.34)
4	Dahanu	169996 (9.83)	17156 (09.16)	273991 (82.56)	57838 (17.43)
5	Talsari	53385 (100)	-	121217 (100)	-
6	Jawhar	89786 (93.62)	6110 (06.37)	99741 (89.02)	12298 (10.97)
7	Mokhada	54430 (100)	-	67319 (100)	-
8	Wada	75746 (90.26)	8168 (09.73)	128467 (89.99)	124286 (10.00)
9	Bhivandi	166448 (67.65)	79576 (32.34)	269153 (28.46)	676429 (71.53)
10	Shahapur	135438 (94.49)	7887 (5.50)	231741 (84.79)	41563 (15.20)
11	Murbad	99585 (100)	-	154446 (90.70)	15821 (09.29)
12	Kaylan	102736 (34.44)	171646 (62.55)		1193512 (100)
13	Ullasnagar	48844 (17.13)	236199 (82.86)		473731 (100)
	Total	1454915 (63.76)%	826749 (36.23)%	2229376 (27.88)%	5912473 (72.61)%

Table .3. Rural Urban Population

Palhar Bhivandi, Kalyan, Vasai,thane it is less than 90 per cent rural Population in 1971 in urban Population highest percent which tahsil Ulhasnagar & lowest percent Population of urban observed Shapur is 5.50% that during time perood decades According to 2001 census 27.37% & 72.61% Population lived respectively in rural & urban area first Highest urban Population percent for which out of 100 % like as Mumbai & Pune then Talsari and Mokhada have no urban population because more physical area located in suored area Bhivandi have recorded more than 60%while reaming tahsils record less than 60% cent of urban Population.

Conclusion

From the study are above discussion is summarized that the temporal growth of Population of thane district since 1971 shown the total population is increased and in rural Population is 63.76% and 2001 the total Population is urban Population is 72.61% while as resulting like as from 1971-2001 conducting the decreased into increase from developing facilities, manufacturing highly land rated system, water back bodies resources. rural to urban

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Population directly in percent Population different between -8.85% respectively 1971-2001 tahsil wise Population growth rate that are there different growth region like as High, Medium & Low Population Growth rate Vasai and Bhivandi tahsil one under highly growth rate Population category medium Population growth rate of confined to tahsil plhar is tahsil in newly developed while Talsari, Jawhar, Wada, Murbad, Kalyan in the low Population counting negative direction / decreased because people mostly whenever urban to rural migrants from this decades Mokhada, Talsari, Murbad, Shapur, Wada, Dahanu, Jawar it is tahsil high physical factors area for that advanced in the agri. Practices for the commercial crops like as rice, cashunauts, etc. helps to attract the agriculture labor in this region In the case of kalyan Ulhasnagar it achieved the highest industrlization, sectorlization model area developed no of the govt. offices are located in the city nearby Mumbai. thus the population these reason gradual of Population from 1971-200 is high the above tashsils

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