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## GROWTH OF POPULATION CHANGE IN MAHARASHTRA (INDIA)

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**Abstract-** In this paper the present study reveals the districtwise growth of population in Maharashtra State during 1991-2011. Maharashtra is the third largest State regarding the geographical area and second largest State in respect of population in India. It has studied on the basis census of India reports of 1991 and 2011. The secondary data have been collected and computed by recent research techniques and the results have been brought through tables and maps. About 42.04 per cent (4.10 Crores) of the State population resides in the urban areas as against 27.08 per cent (28.53 Crores) for all India. The total population of the Maharashtra stands second with its 35 district in the terms of Population in India. Growth rate of population in Maharashtra is 16.01 per cent where country's population growth rate is 17.64 per cent during the 2011. Thane district is the biggest population of 1, 10, 54,131 and constitutes about 9.84 per cent of total population of the State. The highest growth rate of Thane district is 54.86 per cent in 1991-2001 and 35.97 per cent in 2001-2011 and followed by Pune, Aurangabad and Nandurbar 30.49 % 26.54% and 25.74 % respectively. The lowest growth rate comes from the Mumbai city, Ratanagiri and Shidhudurg district as it is negative i.e. -5.75%, -4.94% and -1.49% respectively. The results have been discussed with the help of population growth rate refers to the change in population growth rate over a unit time period, often expressed as a percentage of the number of individuals in the population, at the beginning of that period.

**Keywords-** Growth, Population, Change, Decline, Period.

### Introduction

India is the most populous countries in the world. Our country covers only 2.4 per cent of the land area of the world, whereas it is the home of more than 16.87 per cent of the world's population. This is the second largest followed by China i.e. 21.03 per cent. India's total population is about 3.6 times that of Brazil, 7 times that of Russian Federation, 33 times that of Canada and 55 times that of Australia. About three-fourths of our total population is living in rural areas, indicating we are basically depending on agriculture and other activities. India's population will be doubles in a period of just 40 years. Cities and towns have registered a much higher growth-rate than that of the village. This is due to large scale migration of people from villages to towns and cities in search of opportunities of employment and better amenities of life.

The population of Maharashtra is constantly changing. To determine changes in population, the Government of Maharashtra State of the Census gathers data on counts of people, that distribution and their characteristics. Population size and its distribution of geographical units are among the most important elements in the study of population. These elements are closely associated with the potential for population growth and decline, the economic situation, the age profile and other population characteristics. Information on population size and distribution is vital if programs relating to agriculture, health, education, transportation, housing, urban

renewal, law enforcement and waste disposal are to be administered equitably.

Changes of growth rate in the size of area's population are primarily the result of three processes (1) people are born, causing an increase in population (2) people die causing a loss in numbers and (3) people migrate, resulting in a decrease or increase in population, depending on the direction of their movement. When more births than deaths occur in a given area, the phenomenon is referred to as natural increase, while natural decrease occurs when there are more deaths than births. Further, a gain from migration occurs when more people move into an area than move out during a given period. Thus, changes in the size of an area's population involve two components, natural increase or decrease and net migration. The population of the Maharashtra State continues to increase of Konkan, Mumbai, Ratanagiri district decline of the growth rate during the last decade. The population of Maharashtra as per 2001 census, stood at 9.67 crores. It is second ranked among all States and Union Territories in the country. The decadal growth of population in this State has come down from 25.7 during 1981-1991 to 23.37 in 1991-2001 and 16.01 in 2001-2011.

### Study Area

The State of Maharashtra extends from 15° 45' North to 20° 6' North latitude and 70° 36' East to 80° 54' East longitude with geographical area of 3,07,713 sq. km. is

undertaken for the present study of growth of population change in Maharashtra. It is bounded by Arabian Sea in the west, the State of Gujarat in the northwest. Madhya Pradesh in the north, Chhattisgarh in the east, Andhra Pradesh in the southwest, Karnataka in the south and Goa in the southwest. The present study the attempt is made changes in growth of population during the 1991-2011 of Maharashtra (Fig.1).

**Objectives**

The objectives of this paper are to analyze the district wise changes in growth rate of population in Maharashtra during 1991-2011.

**Data base and Methodology**

The present study is based on the district wise census data of 1991 to 2011 census of India reports. The data have been analyzed for total growth of population change in percentage. Calculate the most common way to express population growth is as a ratio. The change in population over a unit time period is expressed as a percentage of the population at the beginning of the time period.

Growth ratio = Growth rate X 100%

The positive growth rate indicates that the population is increasing, while a negative growth ratio indicates the population decreasing. A growth rate of zero indicates that there were the same number of people at the two times-net differences between births, deaths and migration is zero. The secondary data have been collected and computed by recent research techniques and the results have been brought through tables and maps. Population growth rate (PGR) has been calculated during a period of time. PGR ordinarily refers to the change in population over a unit time period, often expressed as a percentage of the number of individuals in the population at the beginning of that period. The change in population growth rate is measured with the following formula.

$$\text{Formula} = \frac{P_2 - P_1}{P_1} \times 100$$

Where,

PGR is the population growth rate.

P<sub>2</sub> is the population of 'X' district in the later decade.

P<sub>1</sub> is the population of the same tahsil of 'X' initial decade.

**Spatio -Temporal Variation in Population Growth in Maharashtra**

Table 1 and Fig.2 shows the growth of population, temporal as well spatial, is far from being even. This phenomenon was more prominent in the decade 1911-21 recorded negative population growth rate of -2.91 per cent as a result of which the year 1921 is called the "Demographic Divide" in Maharashtra. The high mortality during this period was the product of large scale abnormal deaths due to epidemics of influenza, plague,

small pox, cholera, etc. Food shortage caused by severe droughts in 1911, 1913, 1915, 1918, and 1920 claimed own toll. In addition, hundreds of Maharashtra soldiers lost their lives during the World War I (1914 - 18). During 1921 growth rate registered in Maharashtra 14.91 per cent. The developments helped in controlling epidemics. After 1951 registered growth rate 23.60 per cent this period very high rate of population growth this period of population explosion. Deaths rates declined much faster than the birth rates. The improvement of health facilities, living conditions of the people enormously. This situation resulted in high natural increase. The highest growth rate recorded of 27.45 per cent in 1971 which continued in 1981 growth rate registered 24.54 per cent followed by decline growth rate during the 25.73 per cent in 1991. During 1991 to 2011 this period birth rate declined rapidly. Decline trend of death rate continued but at a slower rate in 2011 growth rate recorded 16.01 per cent.

**Population Growth Rate and Distribution of Population in Maharashtra**

The below Table 2 and Fig 3 shows that the population of Maharashtra, as per 2001 census stood at 9.68 crores. Having a share of 9.42 per cent in India's population. Maharashtra is second ranked among all states and Union Territories in the country. In 2011 census total population in Maharashtra 11.23 crores. The decadal growth rate of population in this State has come down from 23.37 during 1991-2001 and 16.01 in 2001-2011 (Table No.2 and Fig.3). The percentage of decadal growth rate has declined during the census 2001-2011 as compared to 1991-2001 in all districts. Ahmadnagar, Akola, Amaravati, Aurangabad, Bhandara, Buldhana, Chandrapur, Gadchiroli, Jalgaon, Latur, Mumbai Suburban, Nagpur, Nanded, Nashik, Osmanabad, Sangli, Solapur, Thane, Wardha and Yavatmal district during this period declined of over 18.89 to 1.66 percentage points in decadal growth rate from the previous census was recorded in the State. In fact, three districts viz. Mumbai City (-5.75%), Ratanagiri (- 4.94%) and Shindhudurg (-1.49%) growth rate is recorded negative. The table reveals that the percentage of decadal growth rate of population higher in Parbhani (7.81%), Dhule (3.87%), Jalgaon (3.31%) and Nandurbar (2.53%) district during the period 2001 to 2011. Average growth rate a decline of over 7.36% during the census decade 2001-2011 in Maharashtra State.

Population distribution is the geographical arrangement of the population within the physical space of the State boundaries. The major factors that determine the pattern of population distribution are: (1) geographical factors, such as climate, terrain, soils and natural resources; (2) economic, social, and political factors, such as the type of economic activity and the form of social organization; and (3) demographic factors, such as the different growth rates that exist between areas as a result of differences in births, deaths and migration rates.

Fig 3 shows that the per cent of population changes in 1991-2001 and 2001-2011 in Maharashtra. There are five categories shows in the maps i.e. very high, high,

medium, low and very low. In 1991-2001 map show the very high growth rate in the Thane district i.e. 54.86% followed by Pune (30.58%) and Aurangabad (31.93%) district registered high growth rate. The medium growth rate was 20% to 30% recorded in Ahmadnagar (21.20%), Nashik (29.51%), Nandurbar (23.21%), Raigarh (20.80%), Latur (23.95%), Gadchiroli (23.25%), Nagpur (23.25%) and Akola (20.25%) district. Gondia (10.49%), Bhandara (11.20%), Chandrapur (17.26%), Yavatmal (14.46%), Vardha (15.30%), Amravati (18%), Washim (18.25%), Dhule (16.01%), Jalgaon (15.44%), Buldhana (18.03%), Kolhapur (17.59%), Satara (14.10%), Sangli (16.85%), Solapur (19.32%), Osmanabad (15.43%), Beed (18.54%), Jalna (18.17%) and Hingoli (19.76%) also have registered low growth rate. The very low rate recorded in Shidhudurg (3.55%), Ratanagiri (9.87%) and Mumbai city (5.66%).

The regional variations in population growth rate are shown in Fig.3 during the period of 2001-2011. The very high growth rate has been recorded in Thane district i.e. 35.97 per cent. The high growth rate is registered in Pune and Aurangabad district 30.49 per cent and 26.54 per cent respectively. The other districts with medium growth rate in Nashik (22.47%), Dhule (19.88%), Raigarh (19.47%), Latur (18.16%), Beed (19.73%), Nanded (17.03%), Parbhani (23.12%), Hingoli (19.48%), Buldhana (16.25%), Jalna (21.48%) and Washim (17.35%). The lowest growth rate has been recorded in Kolhapur (10.2%), Sangli (9.24%), Satara (7.4%), Solapur (11.94%), Osmanabad (12.7%), Ahmadnagar (11.23%), Gadchiroli (10.5%), Gondia (10.18%), Nagpur (14.85%), Bhandara (5.54%), Wardha (5.32%), Amravati (10.81%), Chandrapur (5.6%), Yavatmal (12.8%) Akola (11.62%) and Jalgaon district (14.8%). The negative growth rate of comes Shidhudurg (-1.49%), Ratanagiri (-4.49%) and Mumbai city (-5.75%).

The national population policy issued in 2000 control the population growth rate and to improve the quality of life. The attainment of compulsory and free school education up to age 14 years, and the reduction of drop-out rates to under 20 per cent at primary and secondary school levels for boys and girls. The achievement of universal child immunization against all vaccine preventable diseases. The promotion of delayed marriage for women to 18 years (legal age at marriage for women) and preferably to over 20. Moving in the direction of this target is clearly desirable. Their attainment increased financial resources and improvements of several social sector programs. Considering the significance of population control. World Population Day is celebrated on 11<sup>th</sup> July each year. Hence, the Maharashtra State is successes the decline growth rate of during 1991-2001 as compared to the decadal growth rate registered during the last decade.

### Conclusion

The population of Maharashtra is constantly changing. These population changes represent peoples' adjustment to economic development, opportunities of employment, development of educational facilities,

immigration and outmigration occurs, agricultural development, industrial development, advanced technology, social environment and the exercise of residential preferences when more people move into an area than move out during study period. Thus changes of in the size of an area's population involve natural increase or decrease and net migration. It is clear that changes in population growth rate will increasingly affect our society. The population of Maharashtra, like the population of the India, will continue to change as long as people vary their fertility, mortality and migration behaviors.

The population of Maharashtra is to reach 11,23,72,912. We face to challenge of anticipating these demographic changes and encouraging social institutions of education, family, economic, political, health and recreation at all organizational levels to plan in ways that will maximize the well - being and satisfaction of the population.

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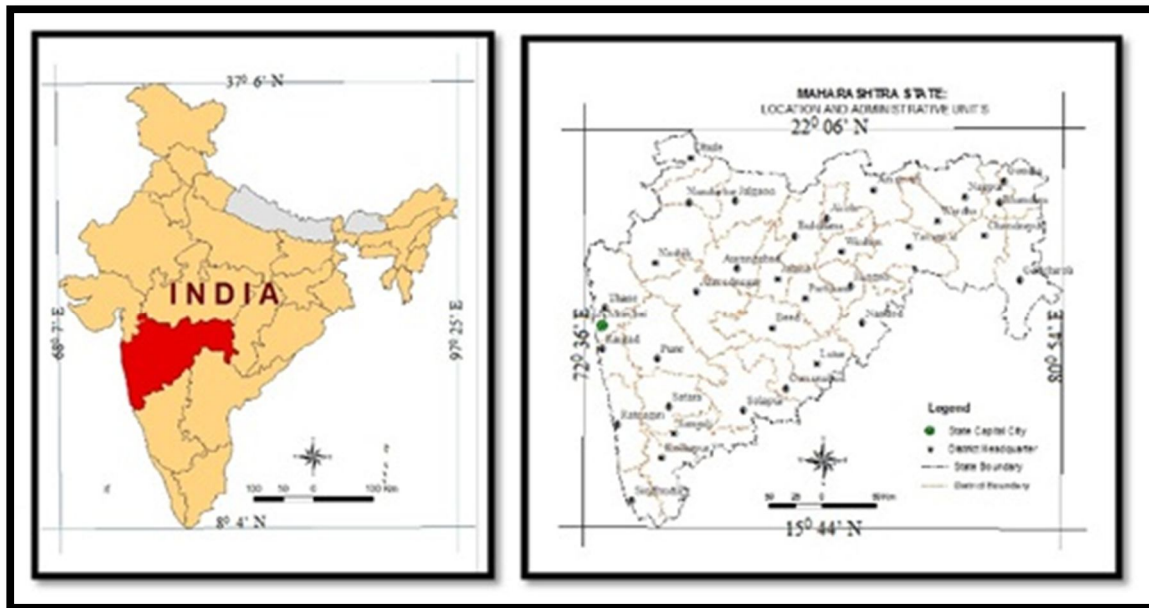
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Table.1 Percentage decadal variation in population growth rate in Maharashtra (1901-2011)

Sr.No	Year	Decadal Growth Rate Change
1	1901-11	10.74
2	1911-21	-2.91
3	1921-31	14.91
4	1931-41	11.99
5	1941-51	19.27
6	1951-61	23.60
7	1961-71	27.45
8	1971-81	24.54
9	1981-91	25.73
10	1991-2001	23.37
11	2001-2011	16.01

Source: Compiled By Researcher



Fig

Table. 2 Population Growth Rate of Maharashtra (1991-2011)

Sr. No.	District	1991	2001	Decennial Growth Rate (%) 1991-2001	2001	2011	Decennial Growth Rate (%) 2001-2011
1	Ahmednagar	3372935	4088077	21.20	4088077	4543083	11.23
2	Akola	1351959	1629305	20.25	1629305	1818617	11.62
3	Amaravati	2200057	2606063	18.00	2606063	2887826	10.81
4	Aurangabad	2213779	2920584	31.93	2920584	3695928	26.54
5	Beed	1822072	2159841	18.54	2159841	2585962	19.73
6	Bhandara	1021408	1135835	11.20	1135835	1198810	5.54
7	Buldhana	1886299	2226328	18.03	2226328	2588039	16.25
8	Chandrapur	1771994	2077909	17.26	2077909	2194262	5.6
9	Dhule	1473170	1708993	16.01	1708993	2048781	19.88
10	Gadchiroli	787010	969960	23.25	969960	1071795	10.5
11	Gondia	1086221	1200151	10.49	1200151	1322331	10.18
12	Hingoli	823930	986717	19.76	986717	1178973	19.48
13	Jalgaon	3187634	3679936	15.44	3679936	4224442	14.8
14	Jalna	1364425	1612357	18.17	1612357	1958483	21.48
15	Kolhapur	2989507	3515413	17.59	3515413	3874015	10.2
16	Latur	1676641	2078237	23.95	2078237	2455543	18.16
17	Mumbai City	319889	338000	5.66	3338000	3145966	-5.75
18	Mumbai Suburban	6751002	8687561	28.69	8687561	9332481	7.42
19	Nagpur	3287139	4051444	23.25	4051444	4653171	14.85
20	Nanded	2330374	2868158	23.08	2868158	3356566	17.03
21	Nandurbar	1062545	1309135	23.21	1309135	1646117	25.74
22	Nashik	3851352	4987923	29.51	4987923	6109052	22.47
23	Osmanabad	1276327	1473256	15.43	1473256	1660311	12.7
24	Parbhani	1293104	1491109	15.31	1491109	1835982	23.12
25	Pune	5532532	7224234	30.58	7224234	9426959	30.49
26	Raigad	1824816	2205972	20.89	2205972	2635394	19.47
27	Ratnagiri	1544057	1696482	9.87	1696482	1612672	-4.94
28	Sangli	2209488	2581835	16.85	2581835	2820575	9.24
29	Satara	2451372	2796906	14.10	2796906	3003922	7.4
30	Sindhudurga	832152	861672	3.55	861672	848868	-1.49
31	Solapur	3231057	3855383	19.32	3855383	4315527	11.94
32	Thane	5249126	8128833	54.86	8128833	11054131	35.97
33	Wardha	1067357	1230640	15.30	1230640	1296157	5.32
34	Washim	862312	1019725	18.25	1019725	1196714	17.35
35	Yavatmal	2077144	2460482	14.46	2460482	2775457	12.8
	Total	76082186	93864456	23.37	96864456	112372912	16.01

Source: Directorate of Economics and Statistics, Government of Maharashtra.

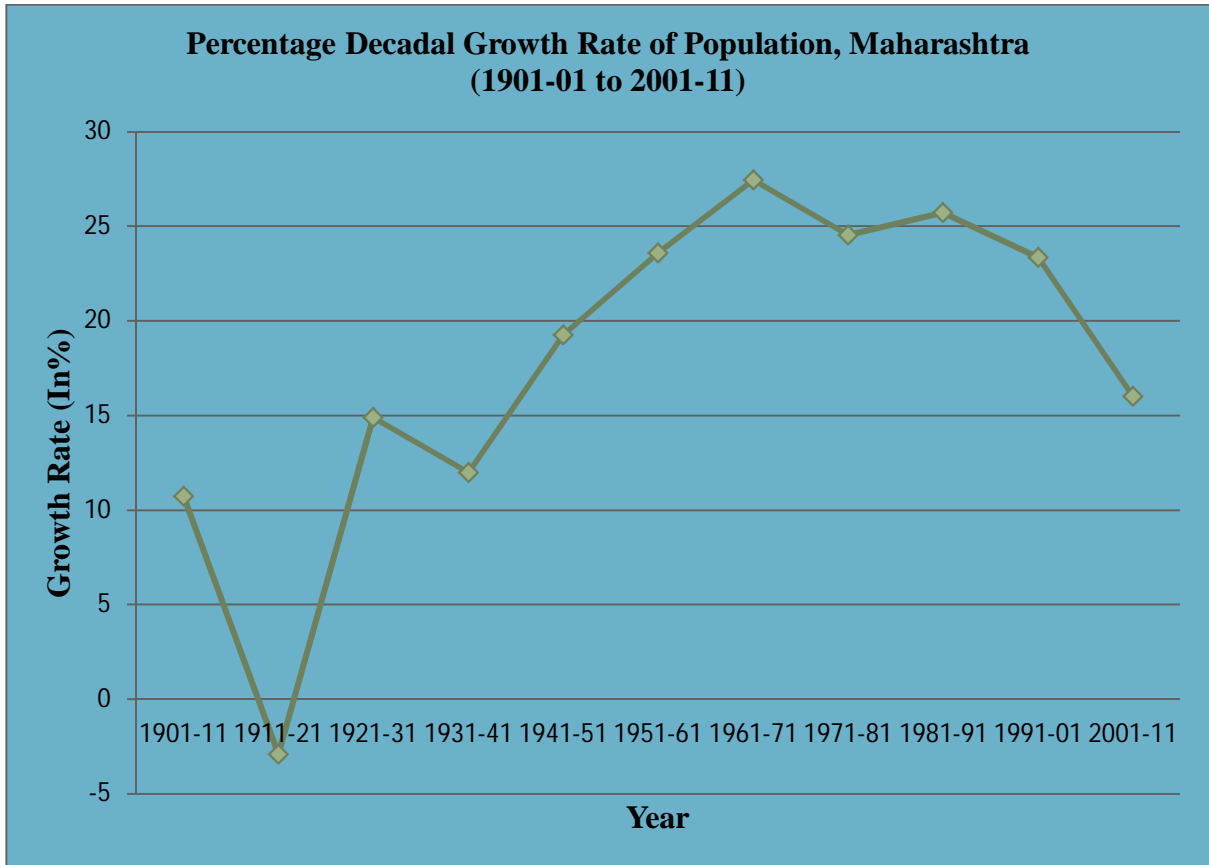


Fig.2

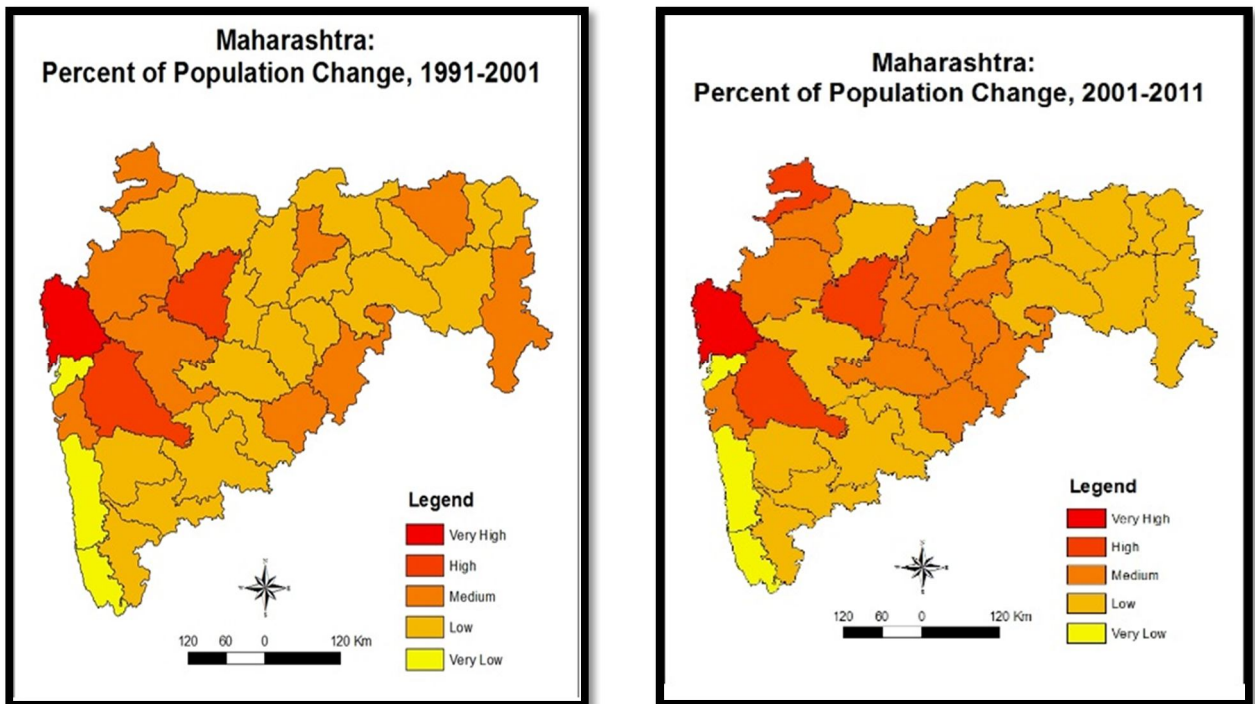


Fig.3