

## Dependency Ratio in Maharashtra State

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### Abstract

In demography, the dependency ratio is the age population ratios of those typically are not working in the labour force. In the dependency ratio, the age of the dependent or non-working population is 0 to 14 and 60+ years, and age 15 to 59 is of working population. It is used to measure the pressure on productive population. The dependency ratio is essential in every country. It is one of the elements that helps the development in economy growth and helps one benefit during its elderly age.

India as per census 2011 the quantum of working age population is very high. As per the definition of census of India, population in age group 15 to 59 years is called economically active population; alternatively it is a working age population. The portion of this age group in total population is around 62%. Working age population in urban area is found higher than rural area. The numbers of persons having age between 0 to 14 years are called young dependents which account nearly 30 per cent of India's total population; whereas persons aged 60 and above are the old dependents which accounts 8% of the total population.

In Maharashtra 1991 to 2011, Konkan (2.33) division shows the increasing ratio and all other remaining divisions show the decreasing ratio. The highest decreasing dependency ratio is shown in Pune division (-6.3). This paper also indicates the decreasing dependency ratio is found due to industrialization, employment, government policy etc.

**KEYWORDS** – Dependency Ratio, Challenges, Working population.

### INTRODUCTION:

Dependency ratio gives the proportion of persons whom the persons in economically active age group need to support. Reduction in dependency ratio indicates a phase of population transition where a higher percentage of persons in the working age group may translate into higher per capita income for the economy. Dependency ratio has reduced in all the states and UTs of India.

India the world's second largest populous country has under gone through several changes in its demographic composition. The demographic transition of country shows a steep fall in mortality rate and improved longevity. The movement of mortality and longevity added more and more persons to its total population. So the number of persons added in India during last decade is more than all other countries in the world except China, USA, Indonesia, Brazil and Pakistan. This is caused by improved health care technologies and access to health care all over country and the world also helped to improved longevity. Similarly sanitation, increase in food supply and improve educational status of women and men. The estimated population by the

United Nations population Division shows that India will overtake China's population close to 2022 and there will be significant changes in future age composition in India.

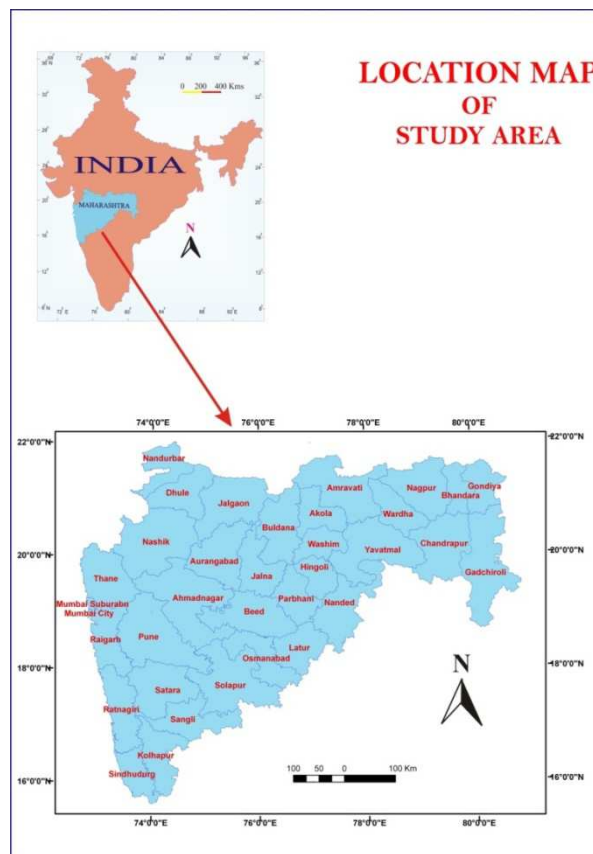
The changing composition of age will bring some opportunities as well as challenges for Indian economy. If country maximally utilizes its working age population it will become the opportunity in the form of demographic dividend. Similarly the increasing dependency ratio and several other problems of ageing are the challenges for India. So this paper will discuss the phase of India's demographic transition, its current demographic scenario and emerging age composition of country, to shed a light on the opportunities and challenges ahead.

**OBJECTIVES:**

- 1) To find out the dependency ratio in Maharashtra state.
- 2) To analyze the decadal changes in dependency ratio.

**STUDY AREA:**

The State of Maharashtra extends from 15° 45' to 20° 6' North Latitude and 70° 36' to 80° 54' East Longitude with Geographical area 3, 07,713 Sq. Km. 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. Maharashtra occupies the western and central part of the country and has a long coastline stretching nearly 720 Km along the Arabian Sea. The state has 35 districts, Tahsils 355, census town are 279.



**Fig 1**

**DATA BASE AND METHODOLOGY:**

The present study is based on secondary data collected from census Reports of Government of India. The nature of this study is analytical one where analysis of current scenario will be made on the basis of census 2011 data with special focus on Maharashtra state of the country. Covering dependency ratio of Maharashtra state, census handbook (1991, 2001 and 2011), Socio-economic review of Maharashtra statistical abstract. The period from 1991 to 2011 is selected for the observation. The collected data has been processed and analysed by using different quantitative and statistical technique. The tabulated data has been presented by graphs and Maps. Dependency ratio can be major in foaling formula

#### **Dependency Ratio**

$$= \frac{\text{No. of persons in age group 0 – 14 years} + \text{No. of persons in age group 60 years or more}}{\text{No. of persons in age group 15 – 59 years}}$$

#### **Dependency Ratio:**

In demography, the dependency ratio is the age population ratios of those typically are not working in the labour force. In the dependency ratio, the age of the dependent or non-working population is 0 to 14 and 60+ years, and age 15 to 59 is of working population. It is used to measure the pressure on productive population. The dependency ratio is essential in every country. It is one of the elements that helps the development in economy growth and helps one benefit during its elderly age.

India as per census 2011 the quantum of working age population is very high. As per the definition of census of India, population in age group 15 to 59 years is called economically active population; alternatively it is a working age population. The portion of this age group in total population is around 62%. Working age population in urban area is found higher than rural area. The numbers of persons having age between 0 to 14 years are called young dependents which account nearly 30 per cent of India's total population; whereas persons aged 60 and above are the old dependents which accounts 8% of the total population.

Dependency ratio indicates the situation of social support needs. A high dependency ratio means there is a large burden of economically inactive population on the economically active population and on the overall economy. Currently the overall dependency ratio for India is 65%. If country provides work for each hand in the working age group, there will be large economic gains. To attain the gains country must investments in youths, particularly for health and education to foster skilled and healthy labour force.

#### **District Wise Urban Dependency Ratio:**

Table 1 shows the district-wise dependency ratio. The district-wise dependency ratio was classified into following ways.

##### **a) Very Low Dependency Ratio ( Below 60 Percent):**

In 1991, two districts in the state had below 60 percent urban dependency ratio, which are Mumbai and Mumbai Suburban districts. In 2001, there was no any district in below 60 percent ratio. In 2011, Mumbai district had 58.37 percent dependency ratio.

##### **b) Medium Dependency Ratio ( 60 – 65 Percent):**

In 1991, there was no any district in the state in 60 to 65 percent. While in the 2001, Gadchiroli, Mumbai, Mumbai Suburban, Sindhurg and Thane districts were included in this category. In 2011, Mumbai Suburban, Gadchiroli, Thane, Sindhurg, Pune, Raigad, Solapur, Ahmednagar, Kolhapur, Satara, Gondia and Nagpur districts had dependency ratio between 60 to 65 percent.

**c) High Dependency Ratio ( 65 – 70 Percent):**

In 1991, Ahmednagar, Bhandara, Buldhana, Gadchiroli, Gondia, Kolhapur, Pune, Raigad, Sangli, Solapur and Thane districts were under the 65 to 70 percent dependency ratio. In 2001, Ahmednagar, Amravati, Bhandara, Buldhana, Chandrapur, Gondia, Kolhapur, Nagpur, Nashik, Pune, Raigad, Ratnagiri, Sangli, Satara, Solapur, Wardha and Yavatmal districts came under this category. In 2011, Sangli, Ratnagiri, Nashik, Bhandara, Amravati, Wardha, Yavatmal, Chandrapur, Buldhana, Akola, Jalgaon, Nandurbar, Washim, Jalna, Aurangabad, Dhule, Osmanabad, Hingoli, Nanded, Parbhani, Beed and Latur districts were under 65 to 70 percent category.

**d) Very High Dependency Ratio ( Above 70 Percent):**

In 1991, Akola, Amravati, Aurangabad, Beed, Chandrapur, Dhule, Hingoli, Jalgaon, Jalna, Latur, Nagpur, Nanded, Nandurbar, Nashik, Osmanabad, Parbhani, Ratnagiri, Satara, Sindhudurg, Wardha, Washim and Yavatmal districts had above 70 percent dependency ratio. In 2001, Akola, Aurangabad, Beed, Dhule, Hingoli, Jalgaon, Jalna, Latur, Nanded, Nandurbar, Osmanabad, Parbhani and Washim districts have above 70 percent dependency ratio. No any district remained in this category in 2011.

The dependency ratio of state is decreasing continuously. In 1991, Latur (74.27), Dhule (73.19), Nandurbar (73.19) districts and in 2011, Latur (69.68) and Dhule (68.78), Parbhani (68.65) districts had highest dependency ratio. Due to the lack of well education, industrialization, transportation and distance from city. In 1991, Mumbai (53.78), Mumbai Suburban (53.78) districts and in 2011, Mumbai (58.37), Mumbai Suburban (60.08), Thane (60.97) districts have lowest dependency ratio, due to well education, transportation, industrialization and employment.

**Table1**  
**District Wise Urban Dependency Ratio**

District	1991	2001	2011
Ahmednagar	68.02	66.20	63.97
Akola	71.24	70.19	66.82
Amravati	70.28	68.94	66.82
Aurangabad	71.62	71.10	67.26
Beed	72.61	72.77	67.11
Bhandara	69.36	68.55	65.27
Buldhana	69.70	69.86	67.01
Chandrapur	71.32	69.68	66.37
Dhule	73.19	71.26	68.78
Gadchiroli	65.58	63.83	62.61
Gondia	69.36	68.04	64.08
Hingoli	72.44	71.48	68.34
Jalgaon	71.53	70.20	67.54
Jalna	71.33	70.89	66.73
Kolhapur	68.51	66.76	64.49
Latur	74.27	73.15	69.68
Mumbai	53.78	60.70	58.37
Mumbai Suburban	53.78	63.51	60.08
Nagpur	71.19	68.97	64.75
Nanded	72.68	72.20	67.91
Nandurbar	73.19	70.52	67.15

Nashik	70.59	67.75	65.27
Osmanabad	71.51	71.38	67.79
Parbhani	72.44	72.42	68.65
Pune	68.69	65.75	61.39
Raigad	67.60	65.85	63.06
Ratnagiri	70.79	66.15	67.45
Sangli	68.44	66.00	65.09
Satara	70.80	67.70	64.89
Sindhudurg	70.17	64.67	64.29
Solapur	69.78	66.14	64.03
Thane	65.96	64.27	60.97
Wardha	71.86	69.10	65.16
Washim	71.10	70.86	67.26
Yavatmal	71.10	69.24	66.12

Source - Compiled by researcher based on census 1991, 2001 and 2011.

#### Division Wise Urban Dependency Ratio:

Maharashtra is divided into Amravati, Aurangabad, Konkan, Nagpur, Nashik and Pune division. As per the location of division, the dependency ratio also varies from division to division (table 3). The dependency ratio is classified as follows:

- Low Dependency Ratio (Below 60 percent)
- Medium Dependency Ratio (60 to 70 percent)
- High Dependency Ratio (Above 70 percent)

#### a) Low Dependency Ratio (Below 60 percent):

In 1991, Konkan division shows the 58.10 percent dependency ratio. In 2001 and 2011, there was not any division belonging the below 60 percent.

#### b) Medium Dependency Ratio (60 to 70 percent):

In 1991, 60 to 70 percent ratio was shown in Pune division. Konkan, Amravati, Nashik, Nagpur and Pune divisions are found in this category in 2001 and in 2011.

#### c) High Dependency Ratio (Above 70 percent):

In 1991, Amravati, Nashik, Nagpur and Aurangabad divisions came in above 70 percent dependency ratio. In 2001, Aurangabad division shows the 71.91 percent dependency ratio. In 2011, there was no any division in the above 70 percent dependency ratio.

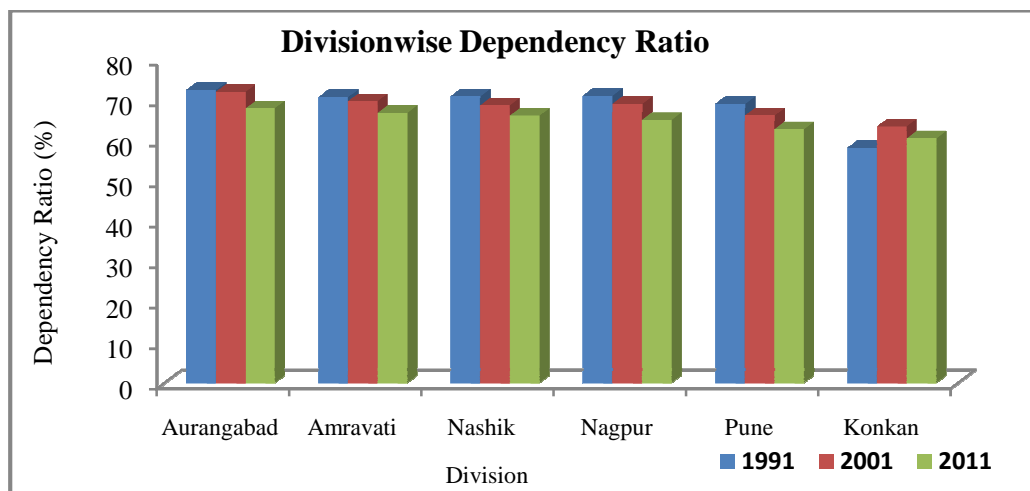


Fig 2

**Table 3**  
**Division Wise Dependency Ratio**

Division	1991	2001	2011
Amravati Division	70.61	69.58	66.75
Aurangabad Division	72.36	71.91	67.84
Konkan Division	58.10	63.35	60.42
Nagpur Division	70.99	68.96	64.98
Nashik Division	70.83	68.53	66.04
Pune Division	68.95	66.08	62.65
<b>Maharashtra</b>	<b>65.45</b>	<b>66.15</b>	<b>63.05</b>

Source - Compiled by researcher based on census 1991, 2001 and 2011.

In 1991, one division was in below 60 percent dependency ratio. In 1991, four divisions were in the above 70 percent dependency ratio. In 2011, all divisions came under the 60 to 70 percent dependency ratio. Due to the spreading of industrialization and privatization, availability of jobs and higher education etc. the dependency ratio is decreased.

**Table 4**  
**Division Wise Change Dependency Ratio**

Division	1991-2001	2001-2011	1991-2011
Amravati Division	-1.02	-2.84	-3.86
Aurangabad Division	-0.45	-4.07	-4.51
Konkan Division	5.25	-2.93	2.33
Nagpur Division	-2.03	-3.98	-6.01
Nashik Division	-2.30	-2.49	-4.79
Pune Division	-2.87	-3.43	-6.30
Maharashtra	0.70	-3.10	-2.40

Source - Compiled by researcher based on census 1991, 2001 and 2011.

#### **Change the Dependency Ratio:**

From 1991 to 2001, the dependency ratio was increased in Konkan division (5.25) and decreased in all other remaining divisions of the state (table 4). The highest decreasing dependency ratio was found in Pune division (-2.87). In 2001 to 2011, all divisions showed the decreasing dependency ratio. The highest decreasing dependency ratio is found in Aurangabad division (-4.07). In 1991 to 2011, Konkan (2.33) division shows the increasing ratio and all other remaining divisions show the decreasing ratio. The highest decreasing dependency ratio is shown in Pune division (-6.3). The decreasing dependency ratio is found due to industrialization, employment, government policy etc.

#### **Conclusion:**

Very low dependency ration i.e. below 60 per cent observed in 1991, two districts in the state had below 60 percent urban dependency ratios, which are Mumbai and Mumbai Suburban districts. In 2001, there was no any district in below 60 percent ratio. In 2011, Mumbai district had 58.37 percent dependency ratio. High dependency ratio i.e. 65 to 70 per cent observed in 1991, Ahmednagar, Bhandara, Buldhana, Gadchiroli, Gondia, Kolhapur, Pune, Raigad, Sangli, Solapur and Thane districts were under the 65 to 70 percent dependency ratio. In 2001, Ahmednagar, Amravati, Bhandara, Buldhana, Chandrapur, Gondia, Kolhapur, Nagpur, Nashik, Pune, Raigad, Ratnagiri, Sangli, Satara, Solapur, Wardha and Yavatmal districts came under this category. In 2011, Sangli, Ratnagiri, Nashik, Bhandara, Amravati, Wardha, Yavatmal, Chandrapur, Buldhana, Akola, Jalgaon, Nandurbar, Washim, Jalna,

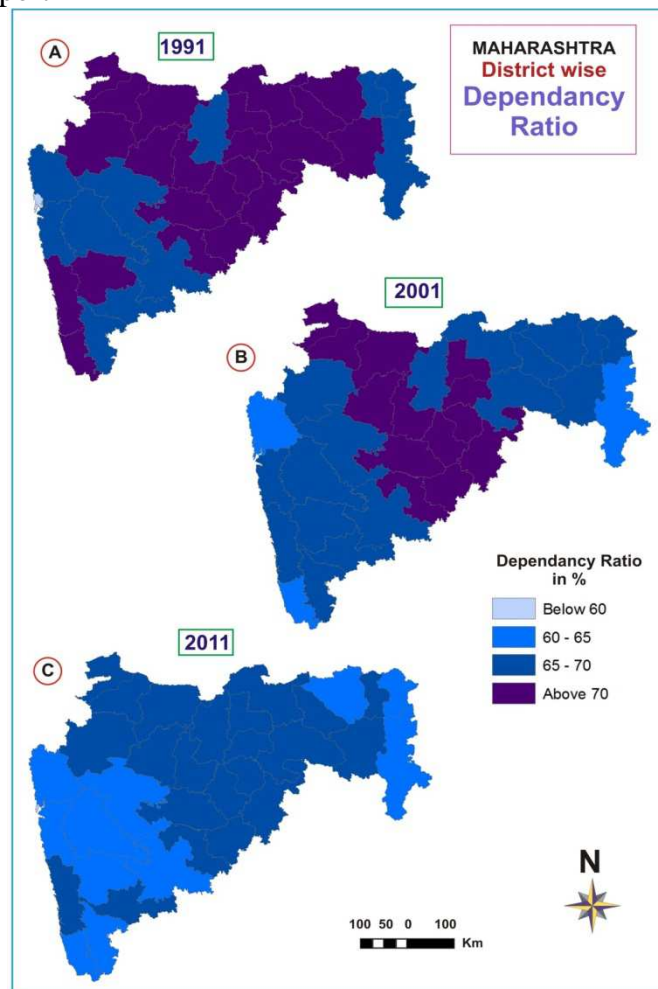
Aurangabad, Dhule, Osmanabad, Hingoli, Nanded, Parbhani, Beed and Latur districts were under 65 to 70 percent category.

The division wise study shows that low dependency ratio i.e. 60 per cent are observed in 1991, Konkan division i.e. 58.10 percent dependency ratio. In 2001 and 2011, there was not any division belonging the below 60 percent. High Dependency Ratio i.e. 70 per cent are observed in 1991, Amravati, Nashik, Nagpur and Aurangabad divisions came in above 70 percent dependency ratio. In 2001, Aurangabad division shows the 71.91 percent dependency ratio. In 2011, there was no any division in the above 70 percent dependency ratio.

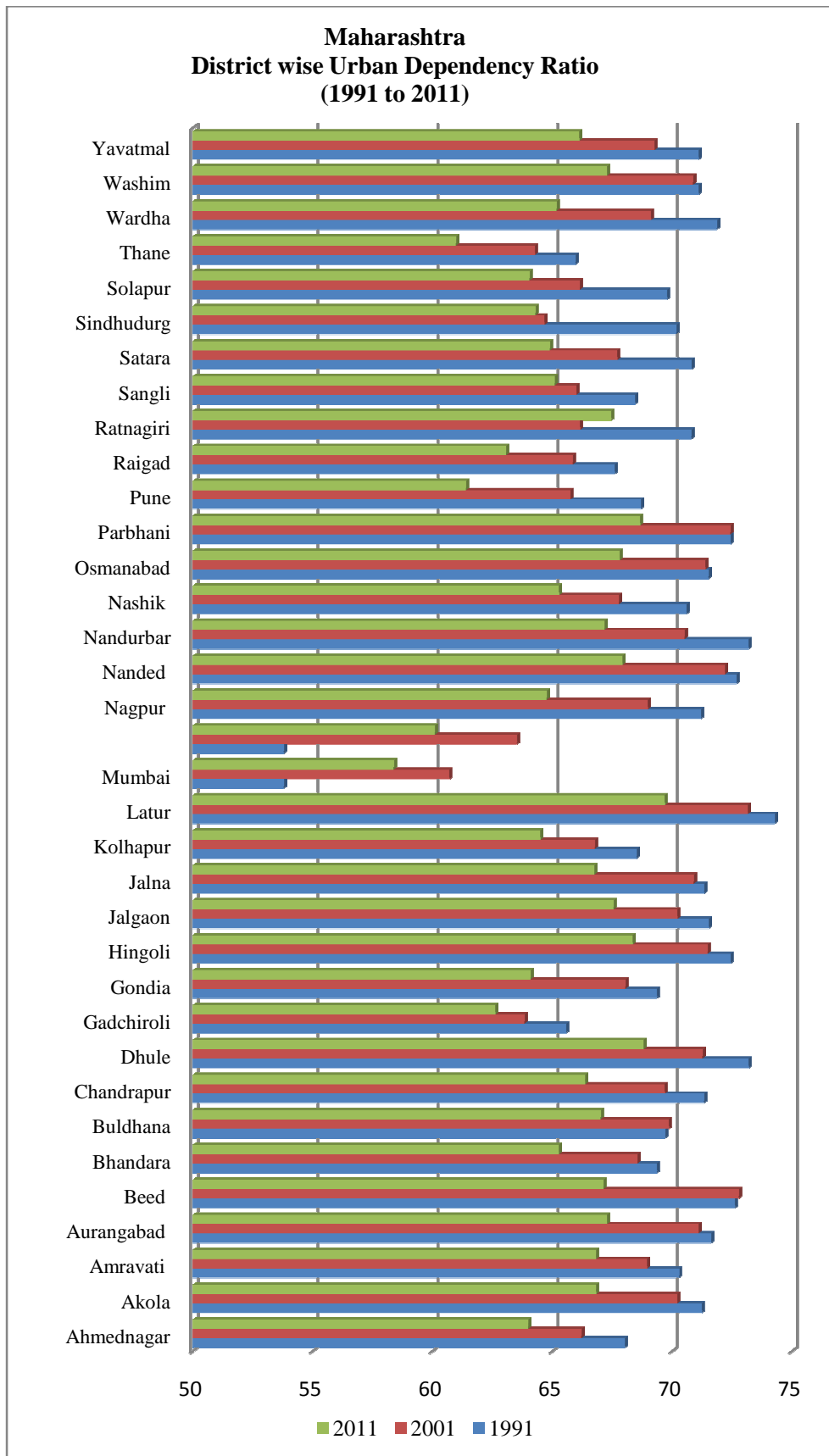
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**Fig 3**



**Fig 4**



## References:

1. Arousseau, M. (1921): "The Distribution of Population: A Constructive Problem", Geographical Review, Vol.II. p 574.
2. Berry, B. J. L. (1961): "Basic Pattern of Economic Development in N. Ginsberg", Edited Atlas of Economic Development", The University of Chicago Press.
3. Chandna, R. C. (2014): "Geography of Population- Concepts Determinants and Patterns", Kalyani Publishers, Noida.
4. Chandna, R. C. (2014): "Geography of Population- Concepts Determinants and Patterns", Kalyani Publishers, Noida.
5. Harris, C. D. (1943): "A Functional Classification of Cities in U.S.A., Geographical Review, Vol. 33, pp. 86-99
6. Harris, C. D. (1943): "A Functional Classification of Cities in U.S.A., Geographical Review, Vol. 33, pp. 86-99
7. Husain Majid (2015): "Human Geography", Rawat Publications, Jaipur.
8. Khullar, D. R. (2014): "India A Comprehensive Geography", Kalyani Publishers, New Delhi. pp 452 to 492.
9. M. U. Deshmukh and P.A. Khadke, "Study of Occupational structure in Nanded City", An International Peer Reviewed and Referred Journal, Scholarly Research Journal for Humanity Science and English Language, (SJIF 2014- 3.189 ISSN: 2348-3083) **Impact Factor 4.889 June- July, 2015**, Vol.2/10, Page 2620-2626.
10. Mandal, R. B. (1998): "Urban Geography", A Text Book, Concept, Publishing Company, New Delhi-59.
11. Mukharjee, S. P. (1968): "Commercial Activity and Market Hierarchy part of eastern Hierarchy Darjeeling", The National Geographic Journal of India 14, II and III June-Sept., pp. 186-99.
12. Ramesh, A. (1965): "Functions and Functional Classification of towns of Tamil Nadu: A study in urban settlements", unpublished Ph.D. thesis, Banaras Hindu University.
13. Ramesh, A. (1965): "Functions and Functional Classification of towns of Tamil Nadu: A study in urban settlements", unpublished Ph.D. thesis, Banaras Hindu University.
14. Saxena H.M. (1984): Geography of Marketing, Rawat Publishers, New Delhi, pp.88-100
15. Singh, K. N. (1959): "Funcations and Functaional Classification of Towns in Uttar Pradesh", the National Geographical Journal of India, Vol. V, Part-III, pp. 121-148.
16. Singh, K. N. (1959): "Funcations and Functaional Classification of Towns in Uttar Pradesh", the National Geographical Journal of India, Vol. V, Part-III, pp. 121-148.
17. Thomas, T. M. (2001): "Urbanization and employment structures in India -1951 to 1981" unpublished Ph.D. thesis Punjab University, Chandigarh