

Urban Primacy in Uttarakhand State of Himalaya

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Abstract

The present study is based on the census data analysis to find out the largest town of the Uttarakhand state. The purpose of this study is to identify the primate city and classify the town according to their population. In order to achieve the goal the census data have been taken from the census of India's website. To analysis the data statistical tools were applied through MS-Excel. Moreover, to make the data presentable and easy to understand tables and diagram have been prepared. The results show that Dehradun is the largest and primate city of the state while Hardwar is the second largest city. Only in the year of 1981 Haldwani was the second largest city of the state in place of Hardwar.

Keywords: Primacy Index, Primate City, Urban, Class.

Introduction

Urbanization is the global phenomena. According to the 12th five year plan India is going to have 600 million people in urban areas by the year 2031. At present, urban centers are like to an engine for our country to accumulate the GDP and employment generation. Dehradun is the largest and capital city of the Uttarakhand, a state in the northern part of India. Located in Garhwal region it lies 147 miles north of India capital and 104 miles from Chandigarh. During the days of British rule the official name of the town was *Dehra*. Dehradun is located in the Doon valley on the foothills of Himalayas nestled between the river *Ganga* on the east and river *Yamuna* on the west. The history of the city of Uttarakhand, Dehradun is linked to the story of *Ramayana* and *Mahabharata*. Evidences such as ancient temples and idols have been found in the area surrounding Dehradun which have been linked to the mythology of *Ramayana* and *Mahabharata*. In the 7th century this area was known as *Sudhangara* and was described by the Chinese traveller *Huen Tsang*. In the post independent era, Dehradun had witnessed dramatic transformations, from a quiet sub Himalayan town to a bustling commercial center. The spiralling local movement for a separate hill state was spearheaded from this term, which is all set to become the new capital of Uttarakhand.

Area of Study

Uttarakhand state lies between 31° 28" N to 28° 42" N latitude and 81° 2" East to 77° 33" East longitude. The total area of this state is 53483/2 km. The total population of the state, according to census of India is 10086292 in the year of 2011. Out of the total population of Uttarakhand state approximately 30.23% is urban population that is almost similar to India's urban population 31.1%. Dehradun city has position of primacy in the state of Uttarakhand. According to the census data 2011, it is the largest city of the state and is about two and a half times as large as second largest town of the state.

Objectives of the Study

Present study has following objectives-

1. The main objective of this study is to find out the urban primacy in Uttarakhand state.
2. To classifies the urban centers of Uttarakhand state according to size of the town.

Data & Research Methodology

To full fill the objectives of this paper, the censusdata of India for urban centers in Uttarakhand for the period 1901-2011 has been analysed by using statistical methods. Total urban population of Uttarakhand state and different urban centers have been expressed as percentage of total urban population (Table no.1). The data of state's urban population different census years has been shown graphically. Growth of urbanization has been analysed both in terms of the numbers of towns as well as the population of different class towns (Table no. 2). Primacy index has been

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suggested by Ramchandran (1998) which is the ratio of the population of the largest town to that of second largest town of the state. To know the urban primacy in Uttarakhand state, data has been calculated for all census years from 1901-2011.

This index highlights the gap between the largest and second largest towns of the state. The rank relationship amongst the urban centers in different census years has been depicted through diagrams also.

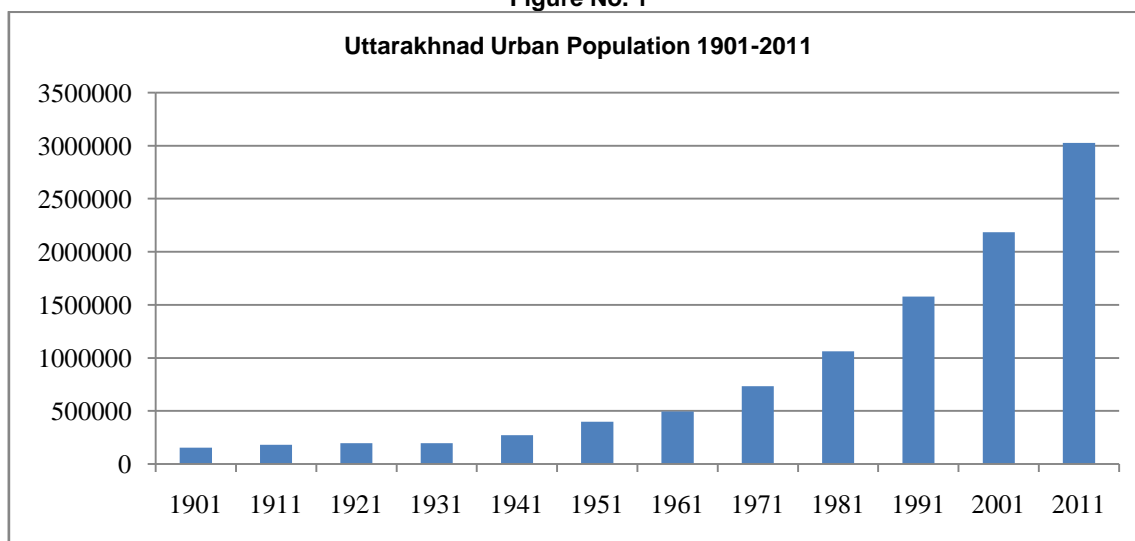
$$\text{Urban Primacy index} = \frac{\text{Largest town of the state}}{\text{Second largest town of the state}}$$

Result & Discussion

Table no.1 Growth of Urban Population in Uttarakhand 1901-2011

Census Year	Total Population	Urban Population (% of Total)	Class I	Class II	Class III	Class IV	Class V	Class VI
1901	1979866	154473 (7.80)			36.64 (2.86)	25.85 (2.02)	19.08 (1.49)	18.43
1911	2142258	181241 (8.46)			39.31 (3.33)	27.69 (2.34)	23.23 (1.97)	9.21 (0.78)
1921	2115984	195277 (9.23)		26.04 (2.40)	15.75 (1.45)	19.73 (1.82)	26.04 (2.40)	12.43 (1.15)
1931	2301019	195797 (8.51)			40.09 (3.41)	23.78 (2.02)	20.36 (1.73)	16.80 (1.43)
1941	2614540	270423 (10.34)		21.95 (2.28)	22.88 (2.37)	36.29 (3.75)	12.17 (1.26)	6.65 (0.69)
1951	2945929	398296 (13.52)	29.23 (3.95)	14.40 (1.95)	19.11 (2.58)	13.76 (1.86)	16.00 (2.16)	7.50 (1.01)
1961	3610938	494966 (13.71)	26.22 (3.59)	12.11 (1.66)	24.75 (3.39)	18.68 (2.56)	13.60 (1.86)	4.64 (0.64)
1971	4492724	734276 (16.34)	23.13 (3.78)	17.91 (2.93)	22.31 (3.65)	24.78 (4.05)	9.42 (1.54)	2.45 (0.40)
1981	5725972	1061821 (18.54)	20.77 (3.85)	17.98 (3.33)	28.43 (5.27)	17.78 (3.30)	9.10 (1.69)	5.94 (1.10)
1991	7050634	1579295 (22.40)	33.14 (7.42)	13.39 (3.00)	28.09 (6.29)	14.99 (3.36)	5.83 (1.31)	4.56 (1.02)
2001	8489349	2184849 (25.74)	34.83 (8.96)	18.26 (4.70)	23.26 (5.99)	11.68 (3.01)	9.91 (2.55)	2.07 (0.53)
2011	10086292	3026203 (30.00)	45.70 (13.71)	11.15 (3.35)	17.70 (5.31)	15.00 (4.50)	9.29 (2.79)	1.15 (0.34)

Figure No. 1



During the period of 20th and 21st century, Uttarakhand state has gone through a dramatic change and rapid pace of urbanisation. There was only 7.80% urban population out of the total population of Uttarakhand state in 1901 that became 30.00% in year of 2011. The state has experienced a phenomenal growth of urban population (figure no.-1).

According to the scholars of urban geography there are only few reasons of urban population growth as Chand & Puri (2000) stated that rapid growth of urban population results either from natural increases of population or due to the migration from the rural area to urban centers and from smaller urban areas to larger urban areas. In the state of Uttarakhand, the

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later factor has been predominant in case of the growth of urban population. Another characteristics of the urbanisation of Uttarakhand is the fact that throughout these 110 years only two town that Dehradun & Haridwar dominating the state. Although, Dehradun became class I town only in 1951 (Table no.2), it has been always the largest town of the state. Gap between the largest and the second largest town of the state was always fluctuating in nature. The ratio between the population of the largest town and the second largest town of the state called the index of primacy (Ramchandran, 1998). In case of

Uttarakhand state, the index of primacy was 1.21 in 1901, it was increased (2.16) till 1961 but inversely it decreased in 1971 till 2.14. Haridwar was the second largest city of the Uttarakhand till 1971 but all of a sudden, Haldwani became the second largest city in 1981. In the 1981 the primacy index of Haldwani town was 2.85 that is the highest value of primacy index of Uttarakhand state. In the year of 1991, Haridwar became again second largest town with the value of 1.81 of urban primacy. In 2011, the primacy index was 2.46 for Haridwar town.

Table No. 2 Progress of Urbanisation in Uttarakhand 1901-2011

Census Year	Number of Towns and Their Total Population						
	Class I	Class II	Class III	Class IV	Class V	Class VI	All Classes
1901			2(56592)	3(39934)	4(29477)	11(28470)	20(154473)
1911			2(71250)	4(50187)	6(42111)	8(16693)	20(181241)
1921		1(50858)	1(30764)	3(38522)	7(50853)	11(24280)	23(195277)
1931			2(78493)	4(46552)	5(39863)	14(32889)	25(195797)
1941		1(59535)	2(61868)	7(98135)	5(32915)	10(17970)	25(270423)
1951	1(116404)	1(57338)	3(76116)	4(54814)	8(63737)	17(29887)	34(398296)
1961	1(129764)	1(59960)	4(122524)	7(92436)	8(67336)	11(22946)	32(494966)
1971	1(169827)	2(131482)	5(163814)	12(181962)	11(69203)	9(17988)	40(734276)
1981	1(220530)	3(190924)	10(301887)	13(188835)	12(96617)	26(63028)	65(1061821)
1991	3(523365)	3(211412)	15(443644)	16(236802)	14(92067)	25(72005)	76(1579295)
2001	3(760910)	5(399023)	16(508110)	16(255202)	29(216412)	18(45192)	87(2184849)
2011	6(1383057)	6(337540)	19(535713)	33(453903)	37(281203)	15(34787)	116(3026203)

Figure No. 2

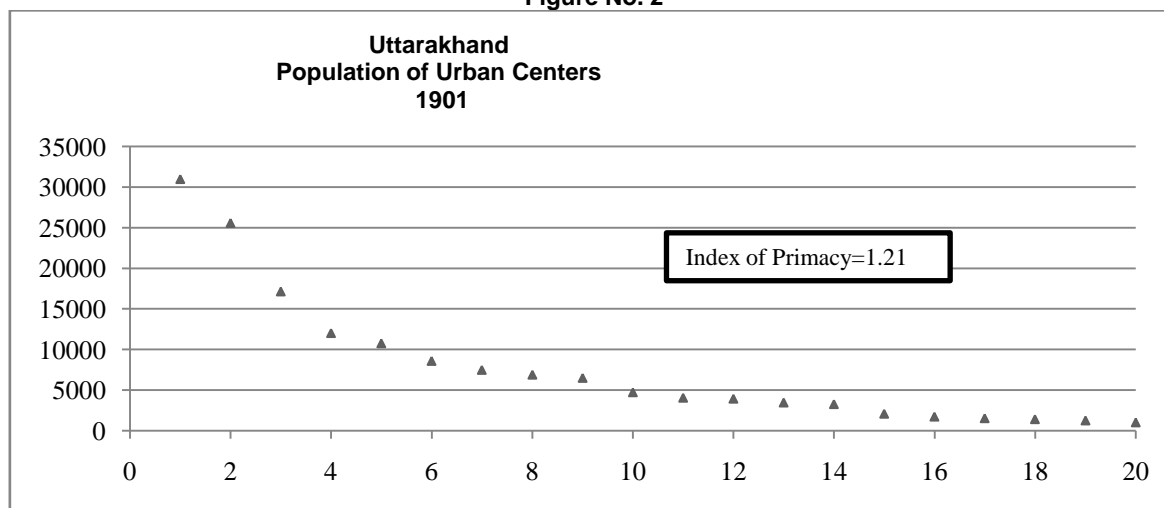


Figure No. 3

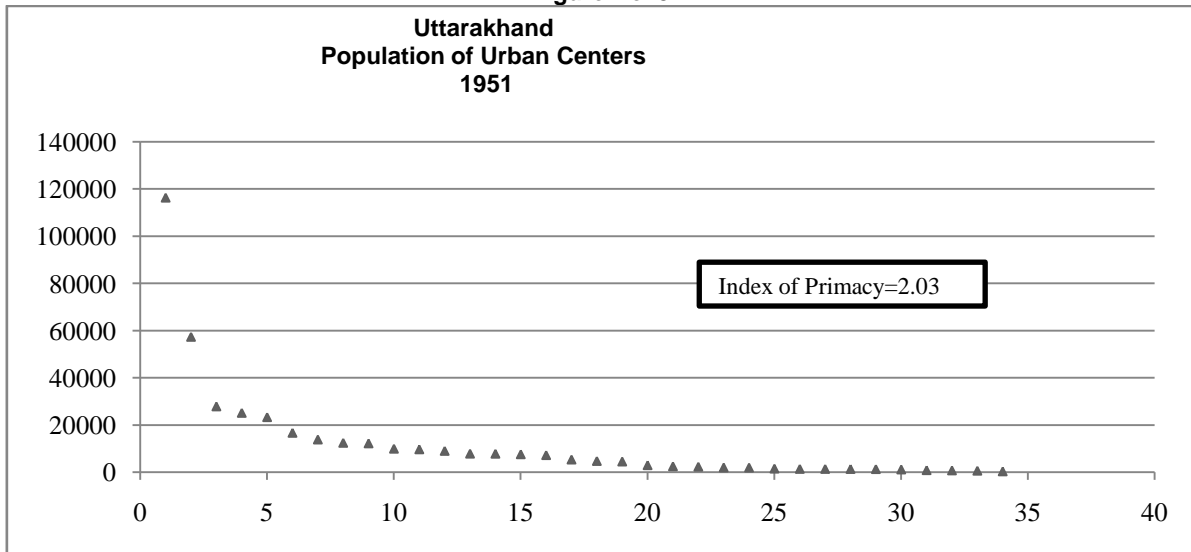


Figure No. 4

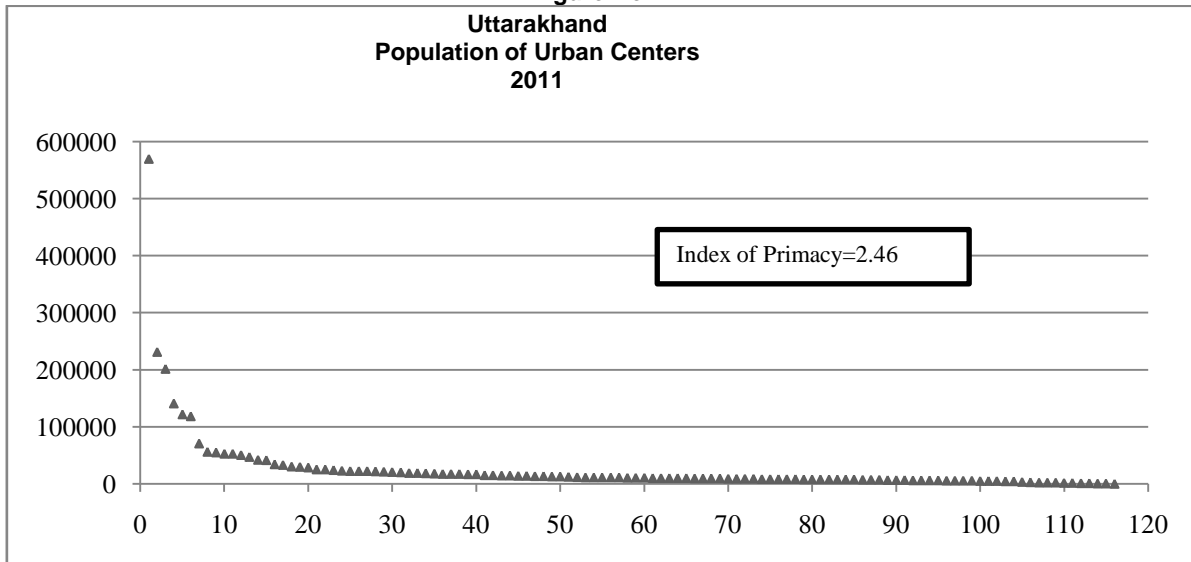


Table No. 3 Progress of the Primacy of the Dehradun Town 1901-2011

Census Year	Largest City (Population)	Second Largest City (Population)	Index of Primacy (Pop. of Largest/ Pop. of 2 nd Largest)
1901	Dehradun(30995)	Hardwar(25597)	1.21
1911	Dehradun(42568)	Hardwar(28682)	1.48
1921	Dehradun(50858)	Hardwar(30764)	1.65
1931	Dehradun(43206)	Hardwar(33287)	1.30
1941	Dehradun(59535)	Hardwar(40823)	1.46
1951	Dehradun(116404)	Hardwar(57338)	2.03
1961	Dehradun(129764)	Hardwar(59960)	2.16
1971	Dehradun(169827)	Hardwar(79277)	2.14
1981	Dehradun(220530)	Haldwani(77300)	2.85
1991	Dehradun(270159)	Hardwar(149011)	1.81
2001	Dehradun(426674)	Hardwar(175340)	2.43
2011	Dehradun(569578)	Hardwar(231338)	2.46

The above table is depicting the index of urban primacy from 1901-2011. Dehradun is the largest city of the Uttarakhand on the basis of population. As the results show Dehradun is 1.21 times large from second largest town in 1901. The gap between these two cities has been increased till 1921 but the gap decreased in 1931 as the index is 1.30. Further, the gap between these cities has been

started to increase. Again in the year 1991 a huge decrease has been seen in the population of Dehradun and Hardwar as the index value is 1.81. In account of the second largest city Hardwar has been the second largest city from 1901 to 1981. In the year of 1981, Haldwani became the second largest town of the state but again in 1991, Hardwar came on its old position and became second largest city.

Table No. 4 Growth of Population of Dehradun City and Dehradun U.A. 1901-2011

Census Year	Population of Dehradun Town	Population of Dehradun U.A.	Change Dehradun Town	Change Dehradun U.A.
1901	30995	30,995		---
1911	42568	42,568	37.33	37.34
1921	50858	50,858	19.47	19.47
1931	43206	52,927	-15.1	4.07
1941	59535	80,580	37.8	52.25
1951	116404	1,51,936	95.52	88.55
1961	129764	1,72,478	11.48	13.52
1971	169827	2,20,571	30.87	27.88
1981	220530	2,93,010	29.86	32.84
1991	270159	3,68,053	22.5	25.61
2001	426674	5,30,263	57.93	44.07
2011	569578	7,06,124	33.49	33.16

Above table has been showing the growth of the largest city of the Uttarakhand state and its agglomeration. In account of the Dehradun the growth of the population was 37.33 in the year of 1911 but in next decade, although, the growth (19.47) was positive but it decrease in comparison of last decade. Further, in 1931 the growth was negative as the value is -15.1. Although the growth is positive afterwards but a heavy fluctuation can be seen in the values of growth. In account of urban agglomeration, population growth has been positive in all the decades but 1931 is the decade of minimum growth (4.07). According to 2011 census data, the growth of Dehradun and Dehradun agglomeration was approximately same as the values are 33.49 & 33.16 respectively.

Conclusion

The pace of urbanisation however, has been accelerated during the post independent period. Development and aggravation of primacy has been the major feature of the century in question. Uttarakhand state has been experiencing constant incense in urban population but not in urban primacy throughout this period. Uttarakhand's capital Dehradun is a commercial center of state. Dehradun has maintained its primacy in all decadal censuses so far. The Dehradun city attained the status of class I

town in 1951 but even before that it has been a primate city within the state.

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