

Changing Patterns of Population Density in the Jammu and Kashmir

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Abstract

The population growth and distribution has attracted increasing attention from geographers and planners in India from two or three decades to make the special approach in them to solve the human problems, which is a great task to handle. Here an attempt has been made on demographic dimensions of human resources to examine spatial and temporal variations in population growth and density during the last four decades (1981-2011). Density of population in the state is 124 persons per km² (Census 2011). The study indicates that Srinagar and Jammu districts recorded high density of population of 2860 and 674 persons per km² respectively, mainly on account of being the state's administrative capitals which have made them the hub of socio-economic activities. The lowest population density is found in the Ladakh division with only 3 persons per km² in Leh district. The population distribution and density pattern indicates an overwhelming influence of geo-physical disposition across the different regions of the Jammu and Kashmir state.

Keywords

population, growth, density, changes



I. Introduction

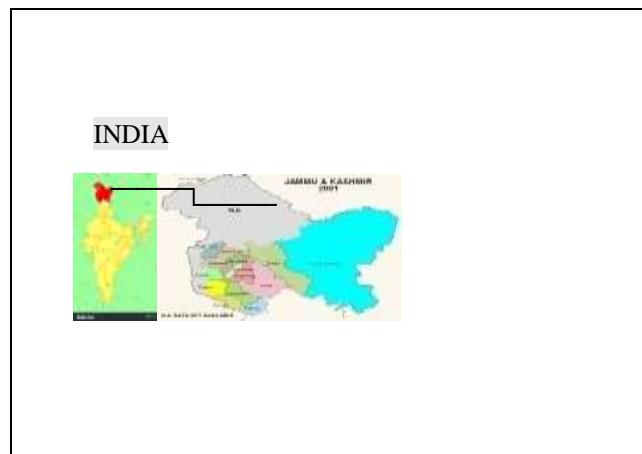
Density of population may be defined as the average number of inhabitants living within a specified unit of area. In other words, the density of population can be defined as a ratio between population and area. Thus, it indicates man-land ratio. Generally, it is expressed in terms of persons per square kilometer or persons per square mile. Study of density of population helps in understanding the nature, characteristics and extent of population over a particular area.

The size of population and its growth have a direct bearing on the economic development, social well being and political stability of a region. Population growth is, thus, pivotal in the regions demographic dynamism (Chandna, 1992). Man being a powerful geographical factor on the surface not only determines the economic pattern of resource utilization but also is a very dynamic and important resource for society (Mahajan, 2012). The distribution, growth, and density of population are the characteristics of the population. The term "density of population" was used by Henry in 1837, while preparing railway maps (Barkade, 2011). The concept of density of population is the most rarely used tool in the analysis of the diversity of man's distribution in space (Clarke, 1972). It is one of the important indices of the concentration of population; nature of balance between population of the region and its natural resources; and the magnitude of social, cultural, and economic development of a region. Population density is a simple concept of relating population size to the land area with a view to assessing crudely the

pressure of population upon the resources of the area (Chandana, 2000). However, the density of population is expressed in different ways to understand the relationship between population and resources (Narke, 2010). It is stated in terms of persons per unit area. The population of any area or region is the outcome of its physical and socio-economic environment (Mahesha D. et al. 2012). The density of population increased in all the States and Union territories from 1951 to 2011. As per census data of 2011, Delhi ranked first (11,320 persons/km) in Union territories, whereas, among the states, Bihar stood first (1106 persons /km), followed by West Bengal (1028 persons /km) and Kerala (860 persons /km) in the third place.

1.1 Study Area

The state of Jammu and Kashmir constitutes northern most extremity of India and is situated between 32° 17' to 36° 58' north latitude and 73° 26' to 80° 30' east longitude. It falls in the great northwestern complex of the Himalayan Ranges with marked relief variation, snowcapped summits, antecedent drainage, complex geological structure and rich temperate flora and fauna. The state is 640 km in length from north to south and 480 km from east to west. It consists of the territories of Jammu, Kashmir, Ladakh and Gilgit and is divided among three Asian sovereign states of India, Pakistan and China. The total area of the State is 222,236 km² comprising 6.93 per cent of the total area of the Indian territory including 78,114 km² under the occupation of Pakistan and 42,685 km² under China. Jammu is the winter capital while Srinagar is the summer capital of the state for a period of six months each. The state constitutes 6.76 percent share of India's total geographical area and 41.83 per cent share of Indian Himalayan Region (Nandy, et al. 2001). It ranks 6th in area and 17th in population among states and union territories of India while it is the most populated state of Indian Himalayan Region constituting 25.33 per cent of its total population. The state is bounded on north by China and Afghanistan, Tibet on east, Pakistan on west and on south by Himachal Pradesh and Punjab states of India. The State is well connected with rest of the country by air, rail and road. The National Highway 1-A connects the capital cities of Srinagar and Jammu with rest of the country.



1.2 Objectives

The present study has been undertaken with the following objectives.

1. To study the arithmetic density of population in the districts of the Jammu and Kashmir.
2. To find out the changing pattern of population density in study region.
3. To find out the decadal variation of density pattern.

II. Research Methods

Present paper is primarily based on the secondary sources data mainly collected from District Census Handbooks, statistical digest and Socio-Economic Abstract etc. Various statistical techniques are used in the present paper to know the demographic pattern of the study area. Population density is a measurement of the number of people in an area. It is an average number population density is calculated by dividing the number of people by area. Population density is usually shown as the number of people per square kilometer. The period from 1981 to 2011 is selected for the observation of pattern of population density changes. The data was tabulated analyzed and represented in the form of cartographic, statistical diagrams and maps. Population density is calculated using the following formula:

$$\text{Density} = \frac{\text{Total Population}}{\text{Area in square kilometer}}$$

III. Results and Discussion

The spatial distribution of population in Jammu and Kashmir is highly uneven. The physical factors like terrain, topography, slope, climate, soil, natural vegetation and accessibility have largely controlled the distribution and density of population in the state. In general, about 85 per cent of the total population of the state is occupying the Jammu plain and Kashmir valley (Jhelum floor), 14 per cent is living in the Kandi areas and the side valleys within 2000 m above MSL while the remaining 1 per cent is sprinkled in the high altitudinal zones of the Himalayas, Zanskar, Ladakh, and Karakorum Ranges (Qazi, 2005).

3.1 Population Growth

The population of the state has increased more than two fold in the state during the last 30 years. In the first two decades of the 20th century the population growth was below 10 per cent. After 1931, it was raising at a constant rate of 10 per cent per decade up to 1961, were from it has an unprecedented rise of 29 per cent per decade which is one of the highest growth rates in the country (17.64 percent for India).

Table 1. Decadal population growth, Jammu and Kashmir (1901-2011)

Year	population	Percent growth
1901	21.39	-
1911	22.92	7.16
1921	24.24	5.75
1931	26.70	10.14
1941	29.46	10.36
1951	32.53	10.42
1961	35.60	9.44
1971	46.16	29.65
1981	59.87	29.69
1991*	77.18	28.92
2001	100.69	30.46
2011	125.48	23.71

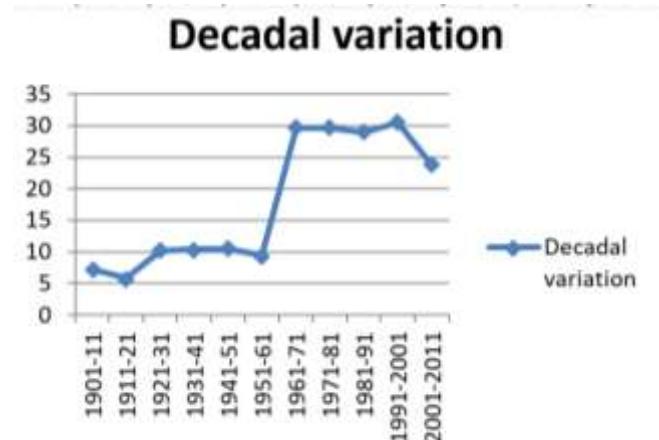


Figure 1. Decadal Variation

Source: Census of India 2011,* projected Figures

3.2 Population Densit

The density of population in the state has shown tremendous increase after independence. It has increased from 32 to 124 persons per km² in 1951 to 2011 generally by the rapid rate of population. The density of population has increased more than two fold in the last 50 years only.

Table 2. District Wise Population Density of Jammu And Kashmir State, 1981-2001.

District	Population Density		
	1981	1991	2001
Anantnag	166	222	294
Pulwama	289	369	467
Srinagar	318	417	540
Budgam	268	353	459
Baramullah	146	194	255
Kupwara	138	196	273
Leh	1.51	2	3
Kargil	4.70	6	8.50
Jammu	305	397	513
Udhampur	100	129	164
Doda	36.	47	59
Kathua	139	171	207
Rajouri	115.	146	184
Poonch	133	174	223
State	59	77	100

Source: Census of India 2001

The service activities played an important role in population concentration in Srinagar, Budgam, Pulwama, Anantnag and Baramulla district. Also in Jammu division high concentration and high density of population is found in Jammu plains consisting of Jammu and Kathua districts. In contrast, Leh, Kargil and Doda districts recorded least density of population due to harsh environment control and the absence of social and economic development activities.

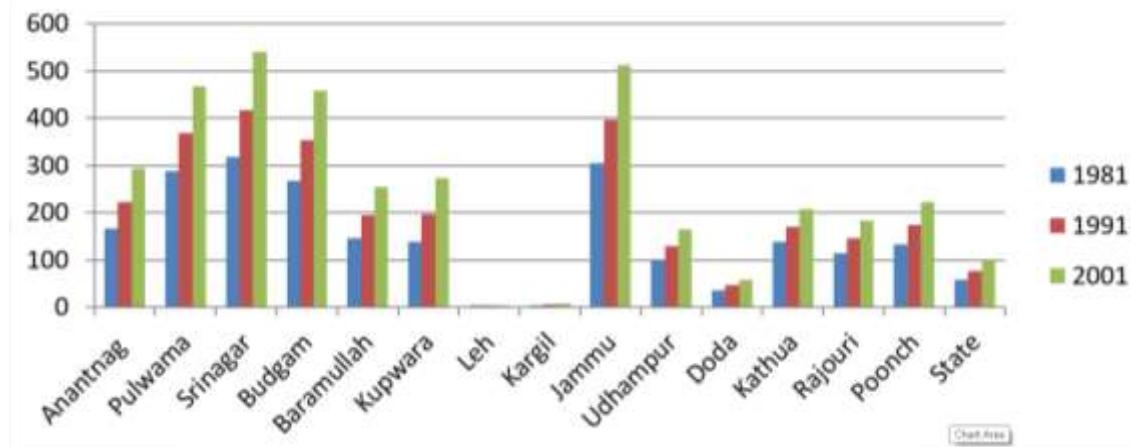


Figure 2. Changes in population density (1981-2001)

Since 1981, Srinagar was the most thickly populated district followed by Jammu district. As per 2001 Census, Srinagar district has 540 Persons per sq. km, while as Jammu has 513 persons per sq. km. On the other hand, Leh has recorded the lowest density of 3 persons per sq.km. Districts like Srinagar, Jammu, Pulwama and Budgam constitute the region of highest density in the State. This is due to variety of factors such as topography of land, fertile soil, suitable climate and availability of adequate irrigational facilities moreover higher level of economic development.

Table 3. District wise population density of Jammu and Kashmir 2011

S. No.	District	Area (km ²)	Population (persons)		Growth rate percent)	Density Persons/km ²
			2002*	2011		
01	Kupwara	2587	667674	875564	31.14	338
02	Budgam	1243	621750	735753	18.34	592
03	Leh	43215	120347	147104	22.23	3
04	Kargil	14843	122477	143388	17.07	10
05	Punch	2187	382513	476820	24.65	218
06	Rajouri	2715	496125	619266	24.82	228
07	Kathua	2983	525044	615711	17.27	206
08	Baramulla	2320	832650	1015503	21.96	438
09	Bandipora	2622	361592	385099	6.50	147
10	Srinagar	444	1046880	1269751	21.29	2860
11	Ganderbal	1402	218415	297003	35.98	212
12	Pulwama	827	453000	570060	25.84	689
13	Shopian	462	216947	265960	22.59	576
14	Anantnag	2559	759995	1070144	40.81	418
15	Kulgam	1181	300198	422786	40.83	358
16	Doda	2124	328765	409576	24.58	193
17	Ramban	935	220655	283313	28.40	303
18	Kishtiwar	8686	195914	231037	17.93	27
19	Udhampur	2654	471695	555357	17.74	209
20	Reasi	2344	254275	314714	23.77	134
21	Jammu	2266	1393135	1526406	9.57	674
22	samba	788	279780	318611	113.88	404
	Jammu and Kashmir	101387	10269852	1254892	13.88	124

Source: census of India 2011, *Digest of statistics 2008-2009

Density of population in the state is 124 persons per km². Srinagar and Jammu districts recorded high density of population of 2860 and 674 persons per km² respectively, mainly on account of being the state's administrative capitals which have made them the hub of socio-economic activities. The lowest population density is found in the Ladakh division with only 3 persons per km² in Leh district. The population distribution and density pattern indicates an overwhelming influence of geo-physical disposition across the different regions of the state. In addition to this centralized distribution of small manufacturing and service sectors in few urban centers have also influenced the population density and distribution pattern as well. Since social, economic and technological development are in the early stages, agricultural land capability (growing season, irrigation) and carrying capacity of land (soil fertility) and concentration of nonagricultural economic activities especially service activities has played significant role in population concentration and high density of population in Jhelum Valley Floor consisting of Srinagar, Badgam, Pulwama, Anantnag and Baramulla district.

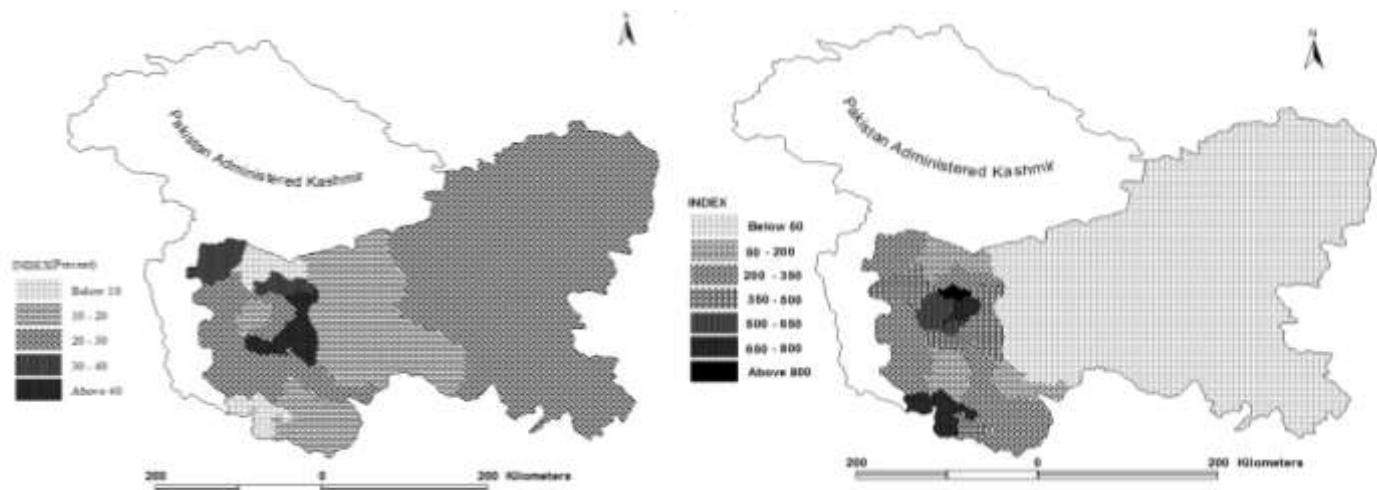


Figure 3. Jammu and Kashmir Population Growth 2011 and Jammu and Kashmir Population Density 2011

IV. Conclusion

The spatial distribution of population in Jammu and Kashmir is highly uneven. The Jammu and Kashmir state has a population of 12548926 (census of India, 2011) with a density of 124 persons per km². The most outstanding feature of population is its uneven distribution, which is directly related with relief, climate and soil. The state of Jammu and Kashmir is one of the least populated state's of India because only 10 per cent of its area is suitable for cultivation. The density of study area has increased from 59 persons/km in 1981 to 124 persons/km in 2011. These variations at the district level were analyzed for the period 1981–2011. Srinagar and Jammu districts recorded high density of population of 644 and 597 persons per km² respectively, mainly on account of being the state's administrative capitals which have made them the hub of socio-economic activities. The lowest population density is found in the Ladakh division with only 3 persons per km² in Leh district. The population distribution and density pattern indicates an overwhelming influence of geo-physical disposition across the different regions of the state. In addition to this centralized distribution of small manufacturing and service sectors in few urban centers have also influenced the population density and distribution pattern as well. Since social, economic and technological development are in the early stages, agricultural land capability (growing season, irrigation) and carrying capacity of land (soil fertility) and concentration of nonagricultural economic activities especially service activities has played significant role in population concentration and high density of population in Jhelum Valley Floor consisting of Srinagar, Budgam, Pulwama, Anantnag and Baramulla districts.

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