

# CENSUS 2001: POPULATION DYNAMICS OF INDIAN HIMALAYA

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## INTRODUCTION

The Indian Himalayan Region (IHR) comprises of 10 states and hill regions of 2 states of Indian Republic. Geographically it is spread between 21°57'-37°5'N latitudes and 72°40'-97°25'E longitude covering an area about 5.3 lakh km<sup>2</sup>. The region occupies the strategic position of entire northern boundary (North-West to North-East) of the nation and touches almost all the international borders (7 countries) with India. It contributes about 16.2% of India's total geographical area, and most of the area is covered by snow-clad peaks, glaciers of higher Himalaya, dense forest cover of mid-Himalaya. The region shows a thin and dispersed human population as compared to the national figures due to its physiographic condition and poor infrastructure development but the growth rate is much higher than the national average. The percentage contribution of its population has gone up to 3.86% in 2001 from 3.6% in 1991 due to the higher decadal growth rate (about 25.43%) as compared to national average of 21.35% during 1991-2001. According to 2001 census report (provisional) the Himalayan region states exhibit a widely diverse growth rate of population. As a result their contribution to the total IHR population varies very widely during the decade (Table 1). Two north-eastern states Tripura and Nagaland shows stabilizing and increasing trends of population numbers, largely exposed to international border with Bangladesh and Myanmar respectively. Apart from political disturbances and ethnic crisis in the north-east there are several socio-economic factors causing migration/immigration to these states. For the present study the time-series data of decadal growth rate, population distribution pattern, sex ratio, and literacy rate *etc.* has been compiled from previous primary census abstracts and provisional report of 2001 census.

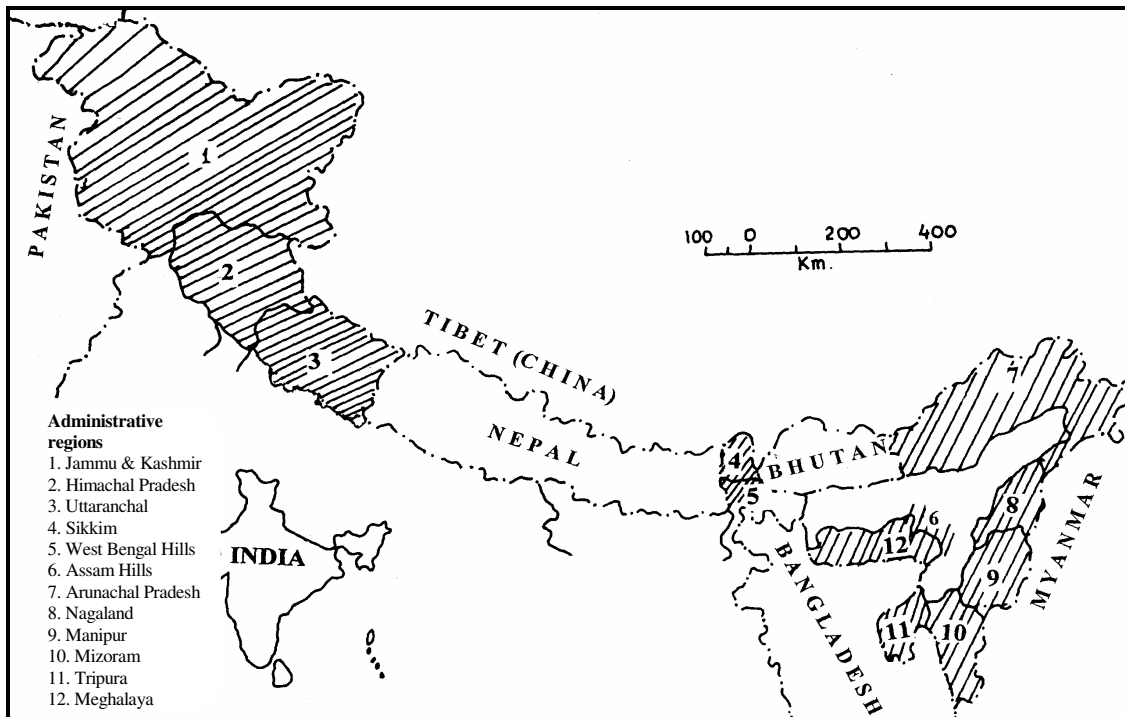


Figure 1. The spread of IHR in India's boundary [Source: Rao and Saxena, 1994]

Table 1. The population of Himalayan States as per 2001 provisional census figures and percentage change in contribution to the total IHR population in last decade.

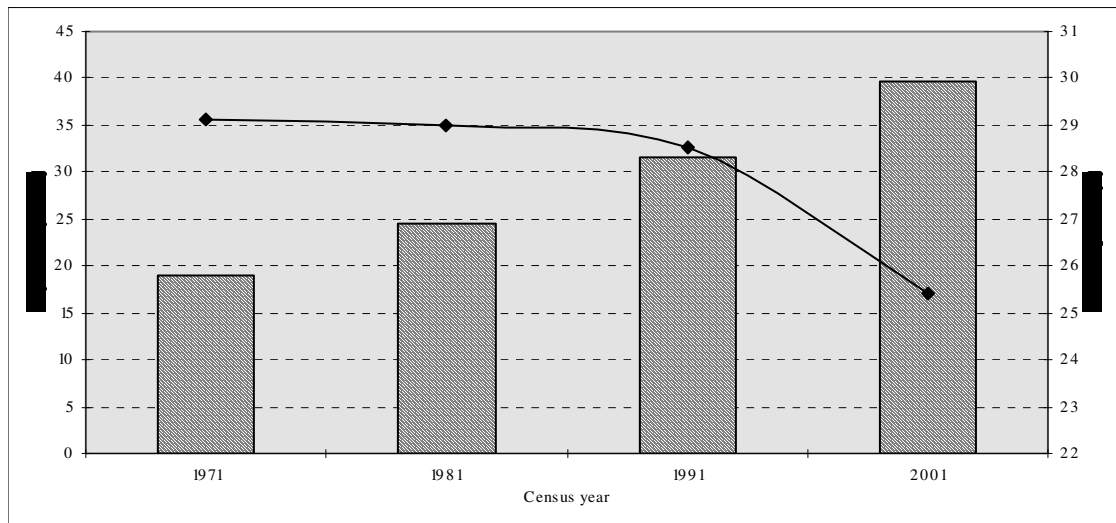
STATE	Population	% contribution to the total IHR population		% change (1991-2001)
		1991	2001	
Jammu & Kashmir	10069917	24.43	25.41 (0.98)	4.01
Himachal Pradesh	6077248	16.37	15.34 (0.59)	-6.30
Uttaranchal	8479562	22.32	21.40 (0.83)	-4.12
Sikkim	540493	1.29	1.36 (0.05)	6.01

West Bengal Hills	1605900	4.11	4.05 (0.16)	-1.51
Assam Hills	998509	2.58	2.52 (0.10)	-2.15
Arunachal Pradesh	1091117	2.74	2.75 (0.11)	0.62
Nagaland	1988636	3.83	5.02 (0.19)	31.07
Manipur	2388634	5.82	6.03 (0.23)	3.66
Mizoram	891058	2.18	2.25 (0.09)	2.99
Tripura	3191168	8.73	8.05 (0.31)	-7.73
Meghalaya	2306069	5.62	5.82 (0.22)	3.59

Value in parenthesis are % contribution of the respective state to the total country's population.

**Population growth pattern**

The population of IHR increased 2.7 times in the last 4 decades with an annual average rate of 4.19%. Though in the last decade (1991-2001) the population growth rate (25.43%) shows a significant decline, it is still higher than the national growth rate (21.35%). Except Nagaland and Jammu & Kashmir all the Himalayan states including hill region of Assam and West Bengal exhibit a declining growth rate in the last 4 decades. In spite of militancy and large scale migration of minority community the Jammu & Kashmir state shows a steady increase of population growth during the last 40 years. The situation of north-eastern state Nagaland is alarming, as it recorded 5.4 fold increase in the last 4 decades, though it recorded lower birth rates (19.2 per 1000 in the last decade), in the region.



**Figure 2.** Population and decadal growth of IHR in past 40 years.

The population variables are both determinants and consequences of the development process. It helps to understand whether country's economic development and foodgrain production has been able to keep pace with its burgeoning population. The annual exponential growth rate of foodgrain production during 1991-2000 was 1.9% which just about matched the population growth of the country. The situation of IHR is bad as the net sown area comprises only about 10% of its total reporting area and growth rate of human population is much higher than the national average.

**Table 2.** Decadal growth rate of Himalayan states for last 40 years (states are arranged in population growth pattern, fines to worst)

STATE	Decadal growth rate (%)					Annual average exponential growth rate (1961-2001)
	1951-61	1961-71	1971-81	1981-91	1991-2001	
Jammu & Kashmir	9.4	29.65	29.69	28.92	30.46	2.60
Himachal Pradesh	17.9	23.04	23.71	20.79	17.53	1.93
Uttaranchal	22.6	24.42	27.45	24.23	20.27	2.16
Sikkim	17.8	29.38	50.77	28.47	32.98	3.01
West Bengal Hills	35.90	25.16	31.02	26.91	23.54	2.38
Assam Hills	60.0	62.79	N.A.	78.66	22.74	2.56
Arunachal Pradesh	N.A.	38.91	35.15	36.83	26.21	2.94
Nagaland	73.4	39.88	50.05	56.08	64.41	4.21

Manipur	35.0	37.53	32.46	29.29	30.02	2.80
Mizoram	36.6	24.93	48.55	39.69	29.19	3.02
Tripura	78.7	36.28	31.92	34.30	15.74	2.57
Meghalaya	27.0	31.50	32.04	32.86	29.94	2.74
IHR*	24.0	29.14	28.98	28.54	25.43	2.47
<b>India</b>	<b>21.6</b>	<b>24.80</b>	<b>24.66</b>	<b>23.85</b>	<b>21.35</b>	<b>2.12</b>

\*Census operation was not conducted in Assam and Jammu & Kashmir in 1981 and 1991 respectively; interpolation method is used to incorporate the data of Jammu & Kashmir and Assam Hills into IHR.

### Population Distribution

The distribution of human population varied widely from 2 to above 800 persons per km<sup>2</sup> in IHR districts. This is mainly due to the physiographic condition of the region. For example the high altitude districts of Lahul & Spiti (Himachal Pradesh), Leh (Jammu & Kashmir), and Dibang Valley (Arunachal Pradesh) has recorded a population density of less than 5 per km<sup>2</sup>. In contrast Imphal West & East and Thoubal (Manipur), West Tripura (Tripura), Haridwar (Uttaranchal), Darjeeling (West Bengal) and Srinagar and Jammu (Jammu & Kashmir) recorded above 500 persons per km<sup>2</sup>. The Imphal West (Manipur) is the most densely (about 847 persons/km<sup>2</sup>) populated district in IHR. At state level Tripura has highest density while Arunachal Pradesh has lowest density of population in the region.

Though the average population density measures the human pressure on the total land of the state, it fails to enumerate how the population are scattered over the different tracts (regions) of the state. The dispersion of block level data from the average density of the state measures the actual dispersion of population distribution but that is beyond the scope of early estimation of provisional census data available at this stage. However, the dispersion of district level data from the average density of the respective state may indicate the sketchy distribution of population within a state to some extent. The standard deviation (SD) has been derived to measure the dispersion level of district level data from the average density of the respective states. In the view of wide SD the dispersion level 1, 2, 3, 4, and 5 (in table 3) represent the SD below 50, 50-100, 100-150, 150-200, and above 200 respectively.

**Table 3.** Change in population density

STATE	Geographical area (km <sup>2</sup> )	% share of area to the total area of IHR	Density <sup>#</sup> (person/km <sup>2</sup> )		Dispersion level
			1991	2001	
Jammu & Kashmir	222236	41.65	76	99	5
Himachal Pradesh	55673	10.43	93	109	3
Uttaranchal	53485	10.02	132	159	4
Sikkim	7096	1.33	57	76	3
West Bengal Hills	3149	0.59	413	510	1
Assam Hills	15322	2.87	53	65	1
Arunachal Pradesh	83743	15.69	10	13	1
Nagaland	16579	3.11	73	120	2
Manipur	22327	4.18	82	107	5
Mizoram	21081	3.95	33	42	1
Tripura	10491	1.97	263	304	3
Meghalaya	22429	4.20	79	103	2
IHR	533611	100.00	59	74	4

<sup>#</sup>Rounded off to its nearest integer

The low density states of north-eastern India shows a lower dispersion level of human population with Arunachal Pradesh recording minimum followed by Assam Hills, Mizoram, and Meghalaya. The higher density state Tripura might be influenced by population dynamics of Bangladesh, one of the most densely populated nation in the world. The dispersion level of districts in Manipur is highest as the population density of Imphal West and Thoubal is more than 20 times than that of Tamenglong, Ukhrul, and Chandel districts. Jammu & Kashmir also exhibit a similar picture, where Srinagar, Jammu districts recorded a very high population density as compared to negligible population of Leh and Kargil districts, resulting a higher SD of dispersion level.

### Sex Ratio

**Table 4.** Changing sex ratio of Himalayan states (1951-2001)

STATE	Sex ratio (females/1000 males)						Exponential trend
	1951	1961	1971	1981	1991	2001	
Jammu & Kashmir	873	878	878	892	923	900	1.001
Himachal Pradesh	912	938	958	973	976	970	1.001
Uttaranchal	940	947	940	936	937	964	1.000
Sikkim	907	904	863	835	878	875	0.999
West Bengal Hills	863	864	882	888	914	943	1.002
Assam Hills	914	863	869	N.A.	902	915	1.000
Arunachal Pradesh	N.A.	894	861	862	859	901	1.000
Nagaland	999	933	871	863	886	909	0.998
Manipur	1036	1015	980	971	958	978	0.999
Mizoram	1041	1009	946	919	921	938	0.998
Tripura	904	932	943	946	945	950	1.001
Meghalaya	949	937	942	954	955	975	1.001

Changes in sex composition largely reflects the underlying socio-economic and cultural pattern of a society in different ways. The sex ratio is mainly the outcome of the interplay of sex differentials in mortality, selective migration and at times the sex differential in population enumeration. Among major nations of the world, India is the only exception, which shows a declining rate of sex ratio in the last century. It is only in 2001 census which exhibit a significant improvement of sex ratio (933 females per 1000 males) over 1991 census (recorded 927). The situation of IHR is quite impressive as compared to the national average. Almost all the states exhibit an increase in sex ratio during the last 5 decades (Table 4) as the exponential trend is more than unity, with a marginal decrease in Jammu & Kashmir, Himachal Pradesh, and Sikkim during the last decade.

**Table 5.** Changing sex ratio among children

STATE	Sex ratio of 0-6 year age group		% change (1991-2001)
	1991	2001	
Jammu & Kashmir	N.A.	937	--
Himachal Pradesh	951	897	-5.72
Uttaranchal	948	906	-4.43
Sikkim	965	986	2.21
West Bengal Hills	976	971	-0.51
Assam Hills	N.A.	969	--
Arunachal Pradesh	982	961	-2.11
Nagaland	993	975	-1.82
Manipur	974	961	-1.36
Mizoram	969	971	0.19
Tripura	967	975	0.82
Meghalaya	986	975	-1.11

This impressive status of sex composition in Himalayan region seems to be underthreat due to changing social norms. If we compare the sex ratio of children (0 to 6 years age group) for the last two decades (table 5), almost all populous states exhibit a decrease in sex ratio in 2001 census as compared to 1991 census. This implies more number of males than that of females in the current census year, and if this trend persists, after a few decades the sex composition in IHR will change completely. Himachal and Uttaranchal are badly affected, as number of female children declined sharply in 2001 over 1991 census, a similar trend existing in the western region of India. Though Sikkim has recorded a significant increase in sex ratio among children, it will take about half a century to attain a sex ratio similar to national average. The figures for Tripura and Mizoram are moving towards unity ratio in sex composition as the total sex ratio of these two states is more than national average, and more female children are contributing to the total population of these states.

### Literacy

The literacy rate (7 year and above) of IHR (about 67%) is marginally higher than the national

average (65.38) recorded in 2001 census. The total literacy, literacy rate of males, females and percentage contribution of females to the total literacy is given in the Table 6. The higher difference in male and female literacy indicate varying socio-economic factors of the respective states.

**Table 6.** Literacy rate\* of Himalayan states and percentage change in literacy (states are arranged according to the female literacy level)

STATE	Literacy rate (%)	% change in literacy level (1991-2001)	Male literacy (%)	Female literacy (%)	% share of female in total literacy
Jammu & Kashmir	54.46	N.A.	65.75	41.82	36.24
Himachal Pradesh	75.91	18.87	84.57	67.08	43.76
Uttaranchal	72.28	25.16	84.01	60.26	41.17
Sikkim	69.68	22.37	76.73	61.46	40.73
West Bengal Hills	72.87	25.75	81.28	63.92	42.50
Assam Hills	60.68	54.80	69.75	50.65	39.62
Arunachal Pradesh	54.74	50.34	64.07	44.24	38.01
Nagaland	67.11	8.86	71.77	61.92	43.67
Manipur	68.87	14.99	77.87	59.70	42.93
Mizoram	88.49	7.56	90.69	86.13	46.95
Tripura	73.66	21.87	81.47	65.41	43.19
Meghalaya	63.31	28.94	66.14	60.41	47.09

\* Literacy rate 7yr. and above.

The literacy rate is inversely proportional to the population growth of a nation constraint to migration/immigration factor. In the context to India this is very true that growth rate of human population has decreased significantly in states with higher literacy. In IHR too, states with higher literacy has exhibited lower population growth rate, with exceptions such as those exposed to extensive international boundary. For example Nagaland, the north-eastern state which reports disturbances, marginally higher literacy and lowest birth rate has alarming population growth rates.

## CONCLUSION

The Indian census conducted every ten years is a gigantic national administrative exercise. It is not confined to headcount, but is a vital tool for policymaking and planning. In the Indian Himalayan Region (IHR) only Jammu and Kashmir state contributes about 1% of population to the country's total. Rest of the states individually contribute less than 1%. But collectively the region contribute 3.86% to the country's total population. While the sex ratio of the population in the states of IHR increased, the alarming decline in the sex ratio of population below 6 years in Himachal Pradesh and Uttarakhand indicate the state contributed significantly to the existing unequal treatment to female child and sex discrimination before birth. This is more alarming as the literacy rates are increasing but not able to curtail such unacceptable social behaviour. The drastic decline in decadal growth rate for the last decade is bound to influence the population age pyramids of the states. However, the limited scope of expansion for agriculture and inability of technology and infrastructure to support intensive agriculture in the region, such declines if continued may reduce environmental problems in the region.

## SELECTED READINGS

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