POPULATION GEOGRAPHY

CONTENTS

DISTRIBUTIONAL PATTERN OF THE MAJOR AGRICULTURAL COMMUNITIES (AHIRS, GUJARS, JATS AND RAJPUTS) IN THEIR TRADITIONAL ABODE OF THE NORTH-WESTERN INDIAN SUBCONTINENT

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The distribution of the four major agricultural communities : Ahirs, Gujars, Jats and Rajputs in their traditional abode of the North-Western Indian Sub-Continent, has been studied in the context of their evolution through time. The similarity of their ethnic stock and presence of strong bonds of kinship amongst them, inspite of the diversity in their religious complexion and the different countries of their domicile, raises a variety of research questions in respect of their co-existence and division within and between India and Pakistan. These questions primarily pertain to successive order of their arrival in the Indian Sub-Continent, their intra-caste religious complexion, and the socio-political implications of their distribution as today. This paper attempts to deal with these issues. It is based primarily on the 1931 census data as projected for 1988 and the available literature on the theme.

No less than 76.7 percent of India's population live in the villages and their economy is primarily based on agriculture. The agricultural communities are dispersed amongst nearly six lakh villages. The diverse agricultural communities display a marked pattern of regional concentration. Nairs in Kerala, Vellalas and Pallis in Tamil Nadu, Vakkalingas and Yeruvas in Karnataka, Reddys and Billavas in Andhra Pradesh, Maratha Ghatis and Maliars in Maharashtra, Chandalas and Koibarts in West Bengal, Bhumihars and Kurmis in Bihar, Ahirs, Gujars, Jats and Rajput in Uttar Pradesh, Madhaya Pradesh, Haryana, Punjab and Rajasthan can be listed as illustrations (Ghurye, 1969).

Ahirs, Gujars, Jats and Rajputs, who predominate in the North-Western India, form a bold peasantry. They are a reservior of one of the finest soldiers for the country's defence. The distribution of these four agricultural communities extends over both India and Pakistan. They belong to the same ethnic group and have similar physique and racial characteristics. Therefore, it is essential to ignore the international border between India and Pakistan while examining the distributional process of these four communities through history.

Qanungo (1925, pp. 1-3) opines that Jats belong to the same ethnic group as Rajput and Khatri . . . . He observes that in physical features, language, character, sentiments, ideas of government and social

institutions, the present day Jat is undeniably a better representative of the ancient Vedic Aryan than any member of the three higher castes of Hindus. This view contrasts with the ideas of European enthologists who stress the foreign origin of the Jats and Rajputs. Likewise some authorities believe that Jats are Aryans of the same stock as Rajputs and their nomenclature is simply the modern Hindi version of Yadu or Jadu, the title of famous Kshatriya clan to which the Lord Krishna belonged.

Others, who maintain that Jats and Rajputs are Indo-Scythians, identify them with the Jatti of the classical geographers and assert that they are the same race as the gypsies of Eastern Europe (Bingley, 1899, p. 1). It is quite possible that the original Rajputs and Jats belonged to the same ethnic stock but entered india at different period of Indian History.

Bingley (1899, p. 10) believes that the distinction between Jats, Gujars and Rajputs was mainly social rather than ethnic. He explains that those who gained in political eminence became Rajputs. The remaining were reduced to the grade of a Jat (cultivator) or Gujar (herdsman).

Baden Powell (Bahadur, 1978), also believes that the Rajputs and Jats have an Indo-Scythian origin. Those who took to military activities evolved into Rajputs, others who voluntarily became cultivators grew into Jats.

Tod (1829, Vol. I, pp. 17-21) puts orward a similar idea. He demonstrates that Ahir or Abhir are included in the list of thirty six royal races of Rajasthan (Tod, 1829, Vol. I, p. 69 ; II p. 358). The word Ahir has a Sanskrit origin which stands for a milkman (Language Depatment Punjab, 1970, Volume II, p. 4). They are also known as Yadavs with their decent from Lord Krishna's 'Yaduvansh'. The origin of the Rajputs is also traced from the Yadu or the lunar race.

It is therefore explicit that whether Ahirs, Gujars, Jats and Rajputs have a Vedic-Aryan origin or an Indo-Scythian, they definitely belong to the same ethnic stock. They entered India at different points of time (Bingley, 1899, p. 1). They have lived in the Indian Sub-Continent for centuries as close neighbours, although they never inter-marry. They do differ in their social customs and status. Rajputs do not observe the custom of widow remarriage, while the others three castes do permit this. 'Karewa' (marrying the widow of elder brother to the younger brother) is a time honoured practice amongst Ahirs, Gujars and Jats.

All these four agricultural communities : Rajputs, Jats, Gujars and Ahirs are found amongst all the three main religions of the Sub-Continent : the Hinduism, the Sikhism and the Islam. According to Qanungo (1925, P. 1), the Jat is a Jat after all, whether he is a Hindu, Sikh or Muslim. He tenaciously clings to his tribal name as proud heritage and with it the tradition of kinship (Qanungo, 1925, P. 1). This is true of other three castes as well.

Although the political geography of the Sub-Continent has undergone a sea change since 1947 and almost all Hindus and Sikhs vis-a-vis these communities now live in India and most of the Muslims in Pakistan, they do maintain their caste distinction. This is not to deny a bond of

strong kinship amongst them. Therefore an understanding of their present distribution in various parts of the Indian Sub-Continent, considering India and Pakistan together, holds the key to our appreciation of their socio-political status and future aspirations. Hence this study.

The purpose of this research exercise is : (i) identify the present distributional pattern of these four major agricultural communities in their traditional abode of the Indian Sub-Continent, (ii) to examine their religious composition, and (iii) to infer therefrom the successive order of their arrival into the Indian Sub-Continent.

Towards that end, the 1931 census data and the 1988 projected population figures were put in service.

METHODOLOGY

(a) The 1931 census data

The Imperial State and Provincial Tables of the 1931 Census list information for different castes in the pre-partition India. Not only we get figures for the numerical strength of each caste but also for the religious composition in each case. In the present case, the necessary, information was generated from the Census of India 1931 Volumes pertaining to undivided provinces and princely States existing at that time. Only for the Bombay Presidency the 1931 data could not be obtained and hence recourse had to be taken to 1921 data which were appropriately projected initially for 1931 to fall in line with the other data. This was done by applying a uniform increase of 13 percent to all the castes since the Presidency had recorded an overall growth rate to this effect during 1921-31. Table 1 portrays the religionwise population

figures of these four agricultural communities under study by different constituent States as they existed in 1931.

(b) Projections of population figures for 1988

The 1988 population figures for the four communities under study were obtained by applying their estimated growth rates during 1931-88. The multiple of the increase in population from 1931-88 for different States. Most of the Hindus belonging to these communities live in Rajasthan, Haryana and Uttar Pradesh. In Rajasthan, population increased by 3.52 times during this period. In Haryana this multiple is 3.42. For Uttar Pradesh this multiple is 2.57 but this has to be upgraded for the western part of this State where these four communities mainly concentrate. On the whole, the Hindu population seems to have grown by 3.5 times during 1931-88. Hence the multiple of 3.5 was taken in their case.

Most of the Sikh population is concentrated in Punjab. The multiple of the population increase in this State during 1931-88 works out as 2.38. However, this has to be corrected for sizeable out-migration of the Sikhs to other parts of India, particularly Haryana, Rajasthan and Uttar Pradesh. In point of fact, the growth behaviour of the Sikhs has no way been different from that of the Hindus in the same States. Hence a multiple of 3.5 was adopted in their case also.

Most of the Muslims belonging to the four communities under reference live in Pakistan. The population growth rate has been considerably higher in their case.

Keeping in view the population growth pattern of Pakistan since the partition in 1947, a multiple of 4 was deemed appropriate for them.

Using the 1931 population figures given in Table 1 and using the multiple of 3.5,3.5 and 4 for the Hindus, the Sikhs and the Muslims respectively, the 1988 projected figures were obtained, as presented in Table 1. Tables 2 and 3 were generated out of Table 1 to further detail and systematise the processed data. While preparing Table 3 it was presumed that : (i) one third of the Muslim population of these communities in Jammu and Kashmir and all the Muslim population of Punjab migrated to Pakistan; (ii) no Muslim population of these communities in Delhi and Uttar-Pradesh migrated to Pakistan, and (iii) all Hindu and Sikh population of these communities migrated to India after Independence. These assumptions are based on the patterns of population transfers as these broadly occured after partition of the Indian Sub-Continent in 1947. In India, all the four communities exist as parts of all the three religions. The 1988 population of India and Pakistan are taken as 800 million and 110 million respectively.

(c) Test of Veracity

The correctness of the population figures arrived in Tables 1,2 and 3 has been tested by calculations based on certain facts given in census records, literature on percentages of the population of certain castes and religious groups, and figures given by private census of voters of different communities arrived at by the political scientists. For example, as per the 1881 census, 66 percent of the total Sikhs were Jats (Banerjee, 1985) and according to 1981 census report Sikhs constituted 63.7 percent of the total population of Punjab (Government of Punjab, 1987). The present projected populations of Punjab and Haryana stand at 19.1 million and 15.6 million respectively (Expert Committee on Population, 1979). The Sikh population in Haryana makes 6.21 percent of the total population (Government of Haryana, 1988). Taking this information into account and assuming that even now 66 percent of all Sikhs are Sikh Jats, as was in 1881, the present Sikh Jat populaiion in Punjab, Haryana and India can be easily computed by simple arithmatical operation as follows :-

(i) PUNJAB

Total population of Punjab in 1988.	19,100,000
Sikh population in Punjab (60.7% of the total) in 1989.	11,593,700
Sikh-Jat population in Punjab 1988 (66% of the total Sikhs)	7,651,842

(ii) HARYANA

Total population of Haryana in 1988	15,600,000
Sikh population in Haryana in 1988 (6.2% of the total population)	968,760
Sikh-Jat population in Haryana in 1988 (66% of the total Sikh population)	639,382

(iii) Total Sikh Jat Population in India.

	Punjab	7,651,842
	Haryana	639,382
From Table 3	Delhi	5,310
	Jammu & Kashmir	19,666
	Rajasthan	92,880
	Uttar Pradesh	107,083
		8,516,163

Sr. No.	PROVINCE/AGENCY as of 1931		AHIRS			
			HINDU	SIKH	MUSLIM	TOTAL
1.	AJMER-MERWARA	1931[a] 1988	— —	— —	— —	— —
2.	BALUCHISTAN	1931[b] 1988	— —	— —	— —	— —
3.	BIHAR & ORRISA	1931[c] 1988	— —	— —	— —	— —
4.	BOMBAY PRESIDENCY	1931[d] 1988	336163 1176571	— —	— —	336163 1176571
5.	CENTRAL PROVINCES & BERAR	1931[e] 1988	233782 818237	— —	— —	233782 818237
6.	DELHI	1931[f] 1988	13501 47254	— —	— —	13501 47254
7.	JAMMU & KASHMIR	1931[g] 1988	— —	— —	— —	— —
8.	NORTH WEST FRONTIER PROVINCE	1931[h] 1988	— —	— —	— —	— —
9.	PUNJAB	1931[i] 1988	218578 765023	— —	2518 10072	221096 775095
10.	RAJPUTANA	1931[j] 1988	182165 637578	— —	— —	182165 637578
11.	UNITED PROVINCES	1931[k] 1988	3896109 13636381	7 25	686 2744	3896802 13639150
	TOTAL	1931 1988	4870298 17081044	7 25	3204 12816	4883509 17093885

Note : 1988 figures are projected from the respective figures of 1931 census by multiplying by 3.5, 3.5

    a Census of India, 1931 Volume XXVI, Ajmer-Merwara, Reports and Tables, pp. 80-81.

    b Census of India, 1931 Volume IV, Baluchistan, Part II, Imperial and Provincial Table, pp

    c Census of India, 1931 Volume VII, Bihar and Orissa, Part I, Report, p. 260.

    d Census of India, 1921 Volume VIII, Bombay Presidency, Tables (Imperial and Provincial

    e Census of India, 1931 Volume XX, Central India Agency, Part I Report, pp. 277-279.

    f Census of India, 1931 Volume XVI, Delhi, Reports and Tables, pp. 125-126.

    g Census of India, 1931 Volume XXIV, Jammu and Kashmir State, Imperial and State Tab

    h Census of India, 1931 Volume XV, North-West Frontier Province, Part II, Tables, Table

    i Census of India, 1931 Volume XVII, Punjab, Part II-Tables, pp. 282,283,289,290.

    j Census of India, 1931 Volume XXVII, Rajputana Agency, Report and Tables, pp. 124-12

    k Census of India, 1931 United Provinces and Aoudh Volume, Part II, pp. 501,509,517,520

Table 1

Numerical Strength of the Ahir, Gujars, Jats and Rajputs in the Indian Sub-Continent in 1931 and 1988

| | GUJARS | | | | JATS | | |
HINDU	SIKH	MUSLIM	TOTAL	HINDU	SIKH	MUSLIM
35063	—	—	35063	29992	—	—
22721	—	—	122721	104972	—	—
—	—	—	—	2612	8425	82689
—	—	—	—	9142	29487	330756
—	—	—	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	2619	—	51743
—	—	—	—	9167	—	206972
84813	—	—	84813	28135	—	—
296846	—	—	296846	98473	—	—
14291	—	331	14622	50509	1517	1245
50019	—	1324	51343	176782	5310	4980
—	—	402781	402781	23371	5619	120003
—	—	1611124	1611124	81799	19666	480012
132	11	121367	121510	1562	3654	71111
462	39	485468	485969	5467	12789	284444
170439	4646	521347	696432	992309	2134598	2941395
596537	16261	2085388	2698186	3473082	7471093	11765580
526791	—	—	526791	1016616	26537	—
843769	—	—	1843769	3558156	92880	—
294521	457	73699	368677	759830	30595	19689
030824	1599	294796	1327219	2659405	107083	78756
126050	5114	1119525	2250689	2907555	2210945	3287955
941178	17899	4478100	8437177	10176445	7738308	13151500

and 4.00 the respective figures for Hindus, Sikhs and Muslims respectively depending on the increase in pop

112-115.

, Table XIII, pp. 184-187—1931 Figures projected here as per the increase in total population of Bombay Pr

es, pp. 279-280.
VI, pp. cxi, cxxxvi.

5.
525,531,534,538,539,543,546,547.

| TOTAL | RAJPUTS | | | | TOTAL |
	HINDU	SIKH	MUSLIM	TOTAL	
29992	27273	—	—	27273	82328
104972	60456	—	—	60456	288149
93726	—	—	—	—	93726
369385	—	—	—	—	369385
—	2824648	—	—	2824648	2824648
—	9886268	—	—	9886268	9886268
54392	534064	—	—	534064	924587
216139	1869224	—	—	1869224	3261934
28135	388942	—	—	388942	735672
98473	1361297	—	—	1361297	2574853
53271	30664	186	5736	36586	117980
187072	107324	651	22944	130919	416588
149073	—	635	—	635	552489
581477	—	2223	—	2223	2194824
76327	—	—	—	—	197837
302700	—	—	—	—	788669
6068302	577374	50312	1721334	2349020	9334850
22709755	2020809	176092	6885336	9082237	35265271
1043153	633830	—	—	633830	2385939
3651036	2218405	—	—	2218405	8350788
810114	3588913	—	156658	3745571	8821164
2845244	12561195	—	626632	13187827	30999440
8406455	8595708	51133	1883728	10469128	26071232
81066253	30084978	178966	7534912	37798856	94396171

ɔulation of these people from 1931 to 1988.

resident during the period 1921-31.

As per these calculations, total population of Sikh Jats in India comes to 8,516,163 which is 107 percent of their population figure of 7,935,198 arrived at in Table 2. Therefore the error comes to 7 percent only which is marginal keeping in view the limitations of such studies. Similarly the statistics arrived at for Hindus have also been tested and have been found to be more than 95 petcent correct. For example, according to some political scientists, interested in elections and electors, the Jat, Ahir, Rajput and Gujar (all Hindus) voters in Haryana form about 23 percent, 5 percent, 3 percent and 2.75 percent of the total electorate in Haryana. These percentages broadly conform to those projected. The population figures for these communities, all Hindus, in Haryana can be arrived at as follows :-

Total Population of Haryana : 15,600,000

Community	Percentage in total population	Population computed from percentage of population
Jats	23	3,588,000
Ahirs	5	780,000
Rajputs	3	520,000
Gujars	2.75	429,000

In the context of above calculations, the population of Ahirs, all of whom are now in Haryana, and Hindu Jats almost all of whom are also in Haryana, make 765,023 and 3,473,082 respectively. These are within -2 per cent and -3 per cent of the figures arrived at above.

(d) Limitations

The present study is not free from some limitations. Although efforts have been made to cover all the figures available for these communities in the census reports of the Provinces/States/Agencies listed in Table 1 yet there may be some exclusions especially when these castes may have a peculiar nomanclature in some cases. For example, Ahirs are also known as Yadavs and even Jadhavs in Northern India and Maharashtra respectively and what to speak of Yadavs who are given altogether a different nomanclature in the Southern States.

Secondly, the study assumes that all Hindus and Sikhs amongst these communities migrated to India and most of the Muslim amongst them migrated to Pakistan at the time of partition in 1947. However, some exceptions of this assumption cannot be ruled out, altogether.

Finally, the total population figures of India and Pakistan and of different States for 1988 are projected figures. These cannot be deemed as exact. It may also be added that the Rajputs and Jats are also found in Nepal and Afghanistan respectively in considerable numbers. The North-Eastern State of Manipur does have a sizeable Rajput population. The present study is, however, restricted mainly to the North-Western part of the Indian Sub-Continent.

DISCUSSION

(A) Statistical scenario

Tables 2 and 3 show that the total population of Ahirs, Gujars, Jats and Rajputs in the North-Western part of the Indian Sub-Continent is 94,396,171 in 1988. Among these 17,093,885 (18%) are Ahirs,

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Table 2

Estimated Numerical of Ahirs, Gujars, and Rajputs in the Indian Sub-Continent in 1988

Community	Hindu	Sikh	Muslim	Total
Ahir	(28) 17,081,044 (99.9)	(—) 25 (0.0)	(—) 12816 (0.1)	170,93,885 (18) (100)
Gujar	(6) 3,941,178 (46.8)	(0.22) 17,899 (0.2)	(18) 4,478,100 (53)	8,437,177 (9) (100)
Jat	(17) 10,176,445 (33)	(97.5) 7,738,308 (25)	(52) 13,151,500 (42)	31,066,253 (33) (100)
Rajput	(49) 30,084,978 (79.6)	(2.28) 178,966 (0.5)	(30) 7,534,912 (19.9)	37,798,856 (40) (100)
Total	(100) 61,283,645 (66)	(100) 7,935,198 (7)	(100) 25,177,328 (27)	94,396.171 (100) (100)

NOTE :—(1) Figures within parentheses are percentages.

(2) The percentages above the communitywise figures are the communitywise percentages out of the total amongst them, religionwise.

(3) The percentages below the figures show the religious complexion communitywise.

(4) The percentages on the right hand side of the fiigures under the Column Total show the communitywise percentages amongst them and the percentages below the figures in the Total line show the total religious complexion amongst them.

8,437,177 (9%) Gujars, 31,066,253 (33%) Jats and 37,798,856(40%) Rajputs. Amongst the Jats, one-third are Hindus, one-fourth Sikhs, and about two-fifths Muslims. Amongst Rajputs about four-fifths are Hindu and one-fifth Muslims. The Sikhs are only 0.5% of the total Rajput population. Amongst Gujars, more than one-half (53%) are Muslims, 46.8% Hindus and 0.2% Sikhs. Almost all the Ahirs (99.9%) are Hindus. There are only 12816 Muslim Ahirs and only 25 Sikh Ahirs. The statewise population of these communities alongwith their religious complexion is given in Table 1. Out of the total population of these four communities, 66% are Hindus, 27% Muslim and 7% Sikhs (Table 2).

These communities comprise more than ane-tenth of the total popularion of India and Pakistan (800 million (India)+110 million (Pakistan) = 910 million). Three-fourths (75.7%) of them are domiciled in India and one-fourth (24.3%) in Pakistan. In Pakistan, all of them (22,916,047) are Muslims and in India out of a total of 71,480,124 souls. 61,283,643 (86%) are Hindus, 7,935,198(11%) Sikhs, and 2,291,281 (3%) Muslims.

Out of 18,153,513 Jats living in India 10,176,445 (56%) are Hindus, 7,738,308 (43%) Sikhs and only 238,760(1%) Muslims. Amongst the Gujars of India, about three-fourths (74%) are Hindus, one-fourth (25.7%) Muslims, and 17,889(0.3%) Sikhs. Out of a total of 30,913,520 of Rajput population in India, 30,084,978 (97.3%) are Hindus, 649,572 (2.1%) Muslims and only 178,966(0.6%) Sikhs. Out of 17,083,813 Ahirs, practically all (17,081,044) are Hindus, 2744 Muslims and only 25 Sikhs.

In India, the population of these communities is 9% (71,480,124 out of 800,000,000) of the total population. The corresponding figure for Pakistan is 21% (22,916,047 out of 110,000,000). Amongst themselves the Rajputs (30,913,520) account for the biggest chunk of 44%, followed by Jats 24%(18,153,513), Ahirs 24%(17,083,813) and Gujars 8%(5,329,278). Rajputs, Jats, Ahirs and Gujars respectively form 3.9%, 2.3%, 2.1% and 0.7% of the total population of India. In Pakistan, within these communities, 56%(12,912,740) are Jats, 30% (6,882.336) Rajputs, 14%(3,107,879) Gujars, and the remaining 10,072 Ahirs. Jats, Rajputs and Gujars form 12%,6%, and 3% of the total population of Pakistan respectively.

The composite and communitywise religious complexion of these people has been summarized in Table 4.

The aforesaid statistical scenario can be summarized by deducing the following generalizations :

(i) Although population ratio of India and Pakistan is 7:1 yet the population ratio of these four communities domiciled in India and Pakistan is 3:1. In relative terms, they are more in Pakistan than in India.

(ii) Amongst these four communities, the ones' living in Pakistan are all Muslims, while in India they belong to all the three religions : Hinduism, Islam and Sikhism. Practically all Hindus and Sikhs amongst them are domiciled in India.

(iii) In the North-Western part of the Indian Sub-Continents, a majority (53%) of the Gujars are Muslims. Amongst Jats, 42% are Muslims, amongst Rajputs about 20%, and amongst Ahirs only 0.1 per cent.

Table 3

Estimated population of Ahirs, Gujars, Jats and Rajputs in India and Pakistan in 1988.

COMMUNITY	INDIA				PAKISTAN				GRAND TOTAL
	HINDU	SIKH	MUSLIM	TOTAL	HINDU	SIKH	MUSLIM	TOTAL	
AHIR	(28) 17081044 (100)	(—) 25 (—)	(—) 2744 (—)	17083813(24) (100)	—	—	10072 (100)	10072 (100)	17093885 (100)
GUJAR	(6) 3941178 (74)	(—) 17899 (.3)	(61) 1370201 (25.7)	5329278(8) (100)	—	—	(14) 3107899 (100)	(14) 3107899 (100)	8437177 (100)
JAT	(17) 10176445 (56)	(98) 7738308 (43)	(10) 238760 (1)	18153513(24) (100)	—	—	(56) 12912740 (100)	(56) 12912740 (100)	31066253 (100)
RAJPUT	(49) 30084978 (97.3)	(2) 178966 (0.6)	(29) 649576 (2.1)	30913520(44) (100)	—	—	(30) 6885336 (100)	(30) 6885336 (100)	37798856 (100)
TOTAL	(100) 61283645 (86)	(100) 7935198 (11)	(100) 2261281 (3)	(100) 71480124(75) (100)	—	—	(100) 22916047 (100)	(100) 22916047(25) (100)	94396171(100) (100)

Note :— 1) Figures within parentheses are percentages.

2) The percentages above the communitywise figures are communitywise percentages out of the total amongst them, religionwise.

3) The percentages given below these communitywise figures show the religious complexion of each community.

4) The percentages on right hand side of the figures in the column TOTAL are percentages of these communities amongst them and figures below the line TOTAL in the bottom depict the total religious complexion.

Table 4

**Religious Complexion of the Ahirs, Gujars, Jats and Rajputs
in the Indian Sub-Continent in 1988.**

| Sr. No. | Community | Religious Complexion in Percentage | | | Total |
		Hindu	Sikh	Muslim	
1.	Ahirs	99.9	0.0	0.1	100
2.	Gujars	46.8	0.2	53.0	100
3.	Jats	33.0	25.0	42.0	100
4.	Rajputs	79.6	0.5	19.9	100
	Total	66.0	7.0	27.0	100

(iv) In the framework of only four castes under consideration, Jats make 97.5% of the Sikh population, Rajputs 2.25%, Gujars 0.25%, and Ahirs negligible.

(v) Likewise, the distribution of Hindus amongst these four castes is 49% Rajputs, 28% Ahirs, 17% Jats, and 6% Gujars.

(vi) In India, out of the total population of these four communities, Rajputs are the most numerous at 44%, followed by Jats, Ahirs and Gujars at 24%, 24% and 8% respectively. In Pakistan, where practically all of them are Muslims, Jats form the biggest chunk of 56%, followed by Rajputs at 30%, Gujars at 14% and Ahirs only 10,072 souls.

(vii) These four communities form 9% and 21% of the total population of India and Pakistan respectively.

(B) Distribution of Population

Table 1 and Map-I (Ahirs), Map-II Gujars), Map-III(Jats) and Map-IV(Rajputs) show that Uttar Pradesh is the heartland of Ahirs where most of them live. Although there is a sizeable population of Ahirs in Punjab (Haryana), Rajashan, Madhya Pradesh, Gujarat and Delhi yet 80% of Ahirs live in Uttar Pradesh.

Gujars, 53% of whom are Muslims, are concentrated in Pakistan Punjab and Indian Punjab/Haryana. They are quite numerous also in Rajasthan, Jammu and Kashmir and Uttar Pradesh. Their population in North-West Frontier Province (Pakistan) and Madhya Pradesh is also quite sizeable. 37% of them now live in Pakistan, all

INDIAN SUB-CONTINENT
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1931
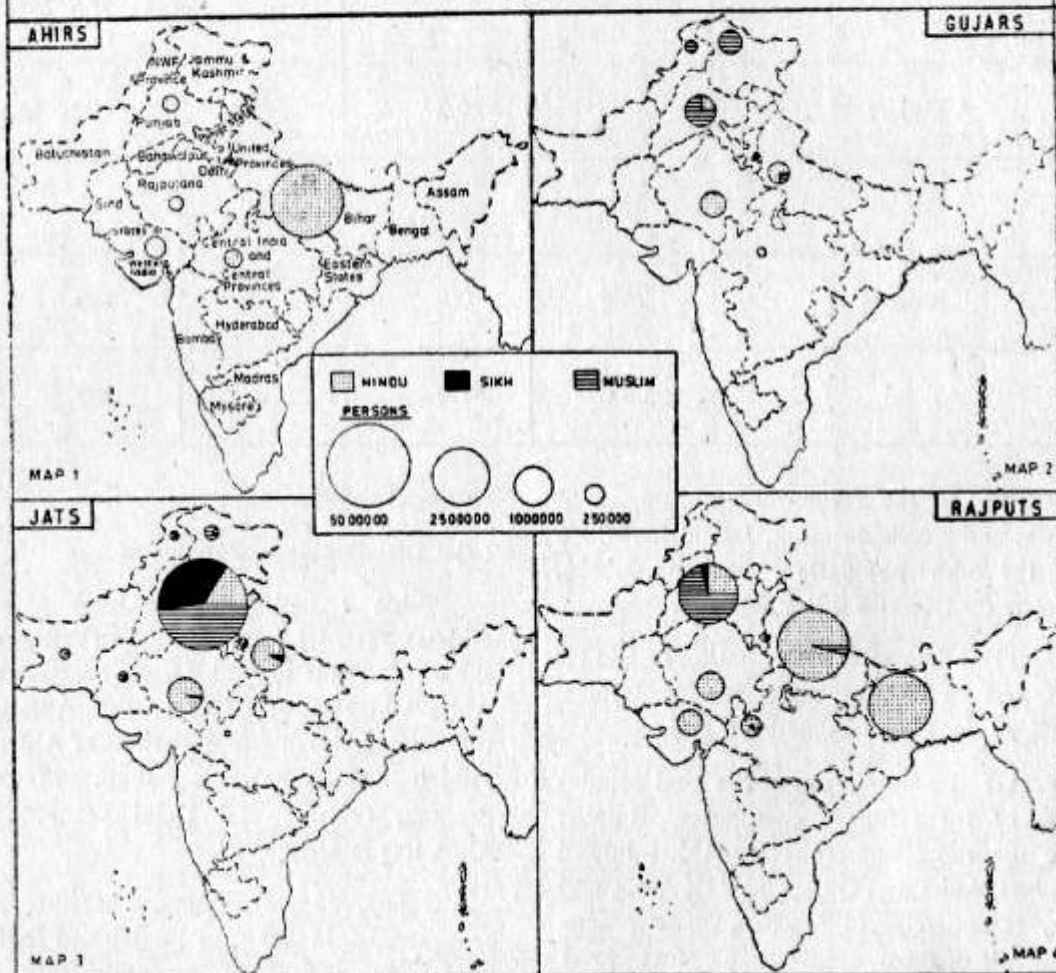
Muslims. In India, 35% of them live in Rajasthan, all Hindus, followed by Uttar Pradesh at 26%, among whom 26% are Muslims and 74% Hindus.

The traditional home of the Jats is Punjab. (Pakistan Punjab and Indian Punjab/Haryana.) They are also quite numerous in Rajasthan, Uttar Pradesh, Jammu & Kashmir, North-West Frontier Province, Baluchistan, Sind, Kutch, Delhi and Madhya Pradesh. 77% of the total Jat population of the sub-continent live in the Pakistan Punjab (42% all Muslims), and Indian Punjab/Haryana (35%, 24% Sikhs+11% Hindus). Out of a total Hindu Jat population of 11,076,445 in India, 32% (3,558,156) live in Rajasthan, followed by 32% (3,473,082) in Haryana and 24% (2,659,407) in Uttar-Pradesh. Some Hindu Jats live in Madhaya Pradesh, mostly in Malwa region.

Rajputs are not only the most numerous (37,786,856) amongst these four communities but are also almost evenly distributed throughout the Indo-Gangetic Plains. They are in very large numbers in Uttar Pradesh (13,187,827), followed by Bihar and Orissa (9,886,268), and pre-partition composite Punjab (9,082,237). They have a sizeable population in Rajasthan (2,278,861), Gujarat (1,869,224) and Madhya Pradesh (1,361,297). All Rajputs living in Bihar, Orissa, Rajasthan, Gujarat and Madhya Pradesh profess Hinduism while in Uttar Pradesh 5% Rajputs are Muslims and 95% Rajputs are Hindus. 18% of all Rajputs (Muslims) are now domiciled in Pakistan. The castewise and religionwise figures of these four communities pertaining to India and Pakistan combined and for India and Pakistan separately have been summed up in detail in Tables 2 and Table 3 respectively.

(C) Inferences

Based on the statistics discussed in (A) and (B) above following inferences can be drawn :

(1) Adoption of Islam and Sikhism

(a) ISLAM

Regarding the embracing of Islam, it was registered the maximum extent in case of Gujars (53%), followed by Jats (42%), Rajputs (19.9%) and Ahirs (0.1%). This pattern is rooted largely in the locational factor through history and partly in matters like political expediency and social status.

(i) Locational factor

The early Muslim invasions of India in the 8th century AD found Jats and Gujars firmly embeded in Sind and Central and Southern Punjab; and Jammu and Kashmir and Northern Punjab respectively. The Jats and Gujars are said to be belonging to two main tribes of the Scythian race : Jatti or Getae and Yuechi respectively (Bingley, 1899, p. 9). They entered India from 242 BC to 500 AD through the Bolan Pass and the Khyber Pass of Afghanistan respectively (Bingley, 1899, p. 9). The Sind Jats gave a tough fight to the first Muslim invasion under Mohamad Bin Kasim in 712 AD. They also harassed the Army of Mahmud Gaznavi in the Sind desert in 1024 AD (Bingley, 1899, p. 12). But many of them got converted to Islam with the firm establishment of Muslim rule in India.

Therefore the main reason explaining greater conversion to Islam of the Jats and

the Gujars was locational or their greater concentration on the North-Western borders of India during the early Muslim invasions of India. But unlike Jats and Gujars, the Rajputs of those days were concentrated mainly in Rajasthan, Delhi, Uttar Pradesh and Central India. The Ahirs had been pushed even beyond to the east and south, and conversion to Islam amongst them was of much lower order. As a response to repeated Muslim invasions on the North-West Frontier, some of the Jats migrated to Rajputana and thence to Punjab, Delhi and Uttar Pradesh. Some Gujars also migrated in the same manner. It is notable that despite a close proximity to Delhi, which remained the seat of the Muslim rule for centuries, the area around this imperial city evolved as a zone of persistent concentration of the Hindu Jat population. Not only this, the Hindu Jats carved out the principalities of Bharatpur and Dholpur in this region after the fall of the Mughal Empire.

(ii) Political expediency and social status

Some members of these communities embraced Islam largely because of political expediency. They wanted a place in the political mainstream. This was especially true of Rajputs who were the immediate predecessors of the Muslim rulers in India. They embraced Islam mainly due to political reasons. Likewise Gujars who did not enjoy a high status in the Hinducaste heirarcy got converted to Islam for social considerations.

(b) SIKHISM

Sikhism, which was started by Guru Nanak (1469-1538) as a reformist movement of the Hinduism and a bridge between the Hinduism and the Islam, became very popular with the peasantry of Punjab. It taught equality among all mankind. This suited the temprament of the rural peasants, especially Jats, who were deeply self respecting. The Jats of Punjab embraced Sikhism in large numbers because it was the religion of common man, free from all dogmas, rituals and superstitions.

Later the pacific Sikhs were transformed into a gallant militant brotherhood by Guru Gobind Singh (1666-1708) because that was the only way to withstand the religious persecution and oppression of some of the Mughal rulers. Still later Maharaja Ranjit Singh (1780-1839) founded a powerful Sikh Kingdom in the North-Western India. This further promoted the spread of Sikhism. After the annexation of Punjab in 1849, the Britishers encouraged the Sikhs to join the Indian Army in large numbers. The Sikhs had established their superiority as a martial group. Some of the peasants especially the Hindu Jats of Punjab became Sikhs to make themselves eligible to join the Sikh Regiments of the Indian Army. Punjab is the traditional home of the Sikh Jats. It is not surprising that amongst the Sikhs, the Jats predominate.

It is evident that as in the case of the Muslim the Sikhs also find their concentration explained by the factors of location and matters of political expediency and social status.

(2) Sequence of Arrival in India

The indicators which can determine the sequence of the arrival of these four communities on the Indian scene in the ancient times are : (i) the distribution of their population, (ii) the extent of their penetration into the east and south direction of the

Indian Sub-Continent, and (iii) the extent of religious conversion.

(i) Population distrubution

It is evident from the previous discussion that the centre of gravity of the Jat population lies to the North and West of the Indian Sub-Continent to the maximum extent followed by Gujars, Rajputs and Ahirs in that order. This means that most of the Jats are living in the North and most of the Ahirs in the east and south. Jats are present even in the remote North-West Provinces like Sind, Baluchistan, North-West Frontier Province and Jammu & Kashmir. Gujars are present in the North-West Frontier Province and Jammu and Kashmir but are absent in Baluchistan and Sind. The maximum Jat concentration is in the composite pre-partition Punjab which is much more as compared to that of Gujars. Ahirs and Rajputs are negligible in the outlying provinces of the Indian Sub-Continent, bordering Afghanistan and Iran. Ahirs are only found in south Eastern Punjab and their presence in North-Western Punjab is negligible. Rajputs population in Punjab is quite substantial as compared to Ahirs. Therefore this indicator points towards the sequence of arrival of these communities in India as : (i) Ahirs, (ii) Rajputs, (iii) Gujars and (iv) Jats, since the ones who came first populated the eastern and southern part of the Indian Sub-Continent and the ones who came last populated the North-Western part of the country more.

(ii) Extent of penetration

As has been discussed in (i) above, and as is evident from the Maps I to IV Ahirs have penetrated the deepest in the East and South of the Sub-Continent with a sizeable scattering in Madhya Pradesh and Gujarat and they have complete absence from North-Western border States of the Sub-Continent. Rajputs, who like Ahirs have no presence in the North-Western Provinces, also show a substantial presence in the whole of erstwhile pre-partition Punjab. Ahirs are found only in the South-Eastern part of Punjab. The next in the degree of penetration seem to be Gujars because of their substantial presence in Jammu & Kashmir, North-West Frontier Province, Gujarat and Punjab. But they are absent from Sind and Baluchistan while Jats are present in all these four outlaying provinces. The Jats depict the least degree of penetration, most of them are domiciled in Punjab and the four outlaying province of Jammu and Kashmir, North-West Frontier Province Baluchistan and Sind. In fact, 42% of the total Jat population in the Indian Sub-Continent are now domiciled in Pakistan and 37% of all Gujars live in Pakistan. The corresponding figures for Rajputs and Ahirs are 18% and 0.1% respectively. In India, while 60% of all Jats live in Punjab and Haryana, while only 11% of the its Gujar population is domiciled in these two States. Therefore the degree of penetration of the four communities into the East and South and degree of their presence in North and West of the Indian Sub-Continent also indicates that their sequence arrival in India has been Ahirs first, followed by Rajputs, Gujars and Jats in that order.

(iii) The extent of religious conversions

As has already been discussed in (A) above and as will be evident from the perusal of Tables 1, 2, 3 and 4, the Gujars

embraced Islam to the maximum extent at 53% followed by Jats, Rajputs and Ahirs at 42%, 19.9% and 0.1% respectively. The conversion to Sikhism was the maximum in Jats at 25%, followed by Rajputs, Gujars and Ahirs at meagre 0.5%, 0.2% and 0.0% (only 25 Ahirs are Sikhs) respectively.

This shows that order in which these communities embraced Islam and later Sikhism is as follows : Jat had maximum conversion at 67% (Muslims 42% + Sikhs 25%), followed by Gujars 53.2% (Muslims 53% + Sikhs 0.2%), Rajputs 20.4% (Muslims 19.9% + Sikhs 0.5%) and Ahirs 0.1% (Muslims 12816 + Sikhs 25=12841 souls). Conversly Ahirs have the most Hindus amongst them at 99.9%, followed by Rajputs at 79.6%, Gujars 46.8% and Jats only 33%.

Ancient India was mainly a Hindu country. Islam came later on and Sikhism took birth still later within. Therefore greater the conversions to Islam and Sikhism amongst a community, lesser the population of Hindus amongst them, and later did they arrive in India. On the basis of this indicator also order of arrival of these communities to India seems to be : (i) Ahirs, (ii) Rajputs, (iii) Gujars and (iv) Jats.

This sequence of arrival is also supported by the well known intra-ethnic relationship and historical and cultural traditions of these communities. For example the 'Chandervanshi' Rajputs (the lunar race) emerged from the Yadu tribe of Lord Krishana and therefore Ahirs who are from the Yadu tribe are of older origin. Gujar-Pratihara principalities (780 AD) of Rajasthan and Malwa in Central India preceded the Jat principalities of Bharatpur and Dholpur (18th Century AD), Rajputs had attained political power even earlier than the Gujars.

Conclusively on the basis of all the aforesaid three indicators and cultural and historical traditions of these people the sequence of arrival of these four communities proves to be (i) Ahirs, (ii) Rajputs, (iii) Gujars and (iv) Jats : Ahirs were the first to come and the Jats the last, in that order.

(3) Some Socio-Political Implications

Having studied the numerical strength, the distributional pattern, the religious complexion, the ethnic and professional unity, one can safely draw the following socio-political inferences :

(i) As a bold peasantry and brave soldiery, all these four agricultural communities enjoy a high socio-economic status in the present countries of their domicile. There are many progressive farmers and high ranking civil and military officers amongst them, serving their countries with distinction;

(ii) In view of their substantial numerical strength, they count significantly in the political sphere also. There are many top political leaders who hail from these communities;

(iii) The revelations of the above demographic analysis may lead to the realization of the striking similarities and bonds of kinship between these people which may lead to an amicable solution of the outstanding problems between the concerned State of India, particularly Punjab, Haryana and Jammu & Kashmir.

(iv) Similarly, the realization of this

striking similarities of common origin may change the perceptions of people living in India and Pakistan. Such a change in attitudes can help in establishment of cordial relations between the two countries, and

(v) The co-existence of the diversity in the religious complexion with the bonds of kinship and the likeness in language and cultural and historical traditions is symbolic of the 'unity in diversity' in the present countries of their domicile.

Summary and Conclusions

(i) The total numerical strength of Ahirs, Gujars, Jats and Rajputs in the Indian Sub-Continent is 94.4 million, in 1988. Separately they represent about one-fifth, one-third and two-fifths of their aggregate number respectively.

(ii) A third of Jats ars Hindus, one-fourth Sikhs and about half Muslims. Amongst Rajputs, fourth-fifths are Hindus and about one-fifth Muslims. Only one among every two hundred Rajputs is a Sikh. More than half of the Gujars are Muslims, nearly a half are Hindus and only one out of every 500 Gujars is a Sikh. Practically all Ahirs are Hindus.

(iii) Amongst these four communities, two-thirds are Hindus, slightly more than one-fourth Muslims and seven out of every one hundred Sikhs. Three-fourths of them are domiciled in India and one-fourth in Pakistan. They constitute about one-tenth and one-fifth of the total population of India and Pakistan, respectively. In Pakistan almost all of them are the adherents of Islam. In India 86 per cent of them are Hindus, followed by Sikhs at 11 per cent, and Muslims 3 per cent.

(iv) Almost all the Ahirs in India are Hindus. Three-fourths of Gujars in India are Hindus and one fourth Muslims; only three out of every one thousand Gujars are Sikhs. Amongst the Jats in India, 56 per cent are Hindus, 43 per cent Sikhs and one per cent Muslims. Out of every 100 Rajputs in India, 97 are Hindus, 2 Muslims and one Sikh.

(v) Four-fifths of all Ahirs in India live in Uttar Pradesh. One third of all Gujars live in the geographical area of prepartition Punjab, and one-fifth in Jammu & Kashmir, about one-fifth in Rajasthan, and one sixth in Uttar Pradesh. Pre-partition Punjab is the traditional home of the Jats where about three-fourths of them reside. The Jat population in Rajasthan and Uttar Pradesh is 12 and 9 per cent of their total population in the Indian Sub-Continent, respectively. Most of the Rajputs are domiciled in Uttar Pradesh (35 per cent), followed by Bihar and Orissa (26 per cent), and pre-partition Punjab (24 per cent). The corresponding figures for Rajasthan and Gujarat are six and five per cent, respectively.

(vi) Depending on the factor of location and motivated by considerations of political expediency and social status, conversions from Hindus to Islam and Sikhism took place. Almost all the Ahirs are Hindu, Four-fifths of the Rajputs are Hindus and about one-fifth Muslims. The Jats are 42 per cent Muslim, 33 per cent Hindu and 25 per cent Sikh. 53 per cent of the Gujars are Muslims and the remaining 47 per cent mainly Hindu. On the whole, 66 per cent of population belonging to these four communities is Hindu, 27 per cent Muslim and the remaining 7 per cent Sikh.

(vii) Historically the sequence of arrival of these communities can be infered as follows : (a) Ahirs, (b) Rajputs, (c) Gujars and (d) Jats. In other words, the Ahirs were the first to arrive and the Jats the last, in that order.

(viii) These four agricultural communities enjoy a high socio-political status in the countries of their domicile. There are many progressive farmers, high ranking civil and military officers and top political leaders amongst them who are serving their countries with distinction. A realisation of the striking similarities and bonds of kinship between these people may lead to amicable solution of the interstate problems within their countries of domicile and this may also lead to a favourable change of perceptions and attitudes of the people living accross the border. The diversity in their religious complexion, coupled with the bonds of kinship and similarity in language and cultural and historical traditions, can deemed as 'diversity in unity' in the current contest.

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RELIGION AND FERTILITY : A STUDY IN DIFFERENTIALS

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This paper examines fertility differentials in different religious groups in India and seeks four possible reasons for these differentials. These are ; (1) Demographic factors ; (2) Differences in structural/socioeconomic aspects ; (3) Cultural differences ; and (4) Minority status of the group. The study concludes that different rates of growth of different religious groups have been a function of various concurrent demographic and socio-cultural factors.

Religion constitutes one of the most important cultural contexts that govern the behaviour of its adherents. Affiliations to a particular religious group not only affect day to day behaviour and attitudes but it also affects reproductive behaviour. Religion is a major source of values particularly in a traditional society that governs the normative behaviour including fertility through religious sanctions. Chaudhury (1982) points out that religion prescribes a code life, refers to a system of beliefs, attitudes and practices which individuals share in groups and through this orientation towards life and death, it is supposed to affect one's fertility behaviour. According to Westoff (1959) religious affililiations of the couple connotes a system of values which can affect family via several routes : (a) directly by imposing sanctions on the practice of birth control by legitimizing the practice of less effective methods only, or; (b) indirectly, by indoctrinating its members with a moral and social philosophy of marriage and family which emphasises the virtues of reproduction. Thus religious affiliations have been found to have significant effect on fertility behaviour,

India is multi-religious society and significant differentials are found to exist in fertility behaviour of different religious groups. For example, in 1971 Christians and Sikhs had higher growth rate than Muslims who in turn had higher growth rate than Hindus. Whereas in 1981, (based on the religion of the head of the household) Muslims had the highest growth rate followed by Sikhs and Hindus and Christians had the lowest growth rate. The present paper therefore, is an attempt to examine the effect of religion on fertility and analyse the factors which might be responsible for these differentials. The relevant data has been obtained from secondary sources such as decennial cenuses, National Sample Survey reports, Sample Survey reports, Sample Registration System and fertility surveys.

The study of religious differentials in fertility is significant because India is a multi-religious society and any variations in the growth rate of different communities would upset the balance and therefore, from policy point of view it is necessary to understand the differentials in growth rate. Moreover, the study of differential fertility

is important from the point of view of the implementation of family planning programme as it helps us to identify the high fertility groups on which Programme efforts can be concentrated.

Religious Composition

Hindus form a majority in India and they constituie 82.7 percent of the total population. Only a few states and Union territories like Punjab, Jammu & Kashmir, Nagaland, Arunachal Pradesh, Meghalaya and Lakshdweep have Hindu population below 50 per cent.

After Hindus, Muslims are the second largest group constituting 11.2 per cent of the total population. Jammu & Kashmir and Lakshdweep are the two areas where the Muslims are in absolute majority.

Christians are the third major group consisting of 2.43 per cent of the total population. Unlike Hindus and Muslims, Christians are concentrated in a few states. The three Southern States of Kerala, Tamil Nadu and Andhra Pradesh together account for more than 60 per cent of the Christian population of the country.

Sikhs are 1.89 per cent of the total population and are mainly concentrated in Punjab and account for 79 percent of the total Sikh population of the country. Buddhists and Jains are less than one per cent and Buddhists are mostly confined to Maharashtra and Jains are spread over to Gujarat, Maharashtra and Rajsthan.

However, the pattern of distribution of these major religious communities is neither uniform among the states nor within a state in the rural-urban dimension as is given in Table. 1

Table 1

Rural-Urban Distribution of Various Religious Groups in 1971 and 1981

Religious Community	1971		1981	
	% of total rural pop.	% of total urban pop.	% of total rural pop.	% of total urban pop.
Hindus	84.34	76.25	84.54	76.52
Muslims	9.96	16.21	9.82	16.28
Christians	2.43	3.26	2.25	2.99
Sikhs	1.91	1.91	2.02	1.80
Budhists	0.65	0.88	0.63	0.96
Jains	0.24	1.43	0.23	1.30
Others	0.27	0.16	0.51	0.15
Total	100.00	100.00	100.00	100.00

It is clear from the table that majority of of Hindus and Sikhs are concentrated in rural areas whereas majority of Muslims, Christians, Buddhists and Jain are in rural areas.

Religion and Population Growth Rate

Table 2 shows the growth rate of different groups from 1881 to 1981. It is learnt that during the decade 1951-61 the growth rate was the highest among christians and it was followed by Muslims and Sikhs and it was much above the national level whereas the growth rate of Hindus was lower and even lower than national average. Again during 1961-71 Christians had the highest growth rate followed by Sikhs and Muslims and lower among Hindus and again Hindus had lower than the national average. During 1971-81 (based on the religion of the head of the household) Muslims had the highest growth rate followed by Sikhs and Hindus whereas the Christians had the lowest growth rate. As is clear from the table, this differential in rate, in fact is a continuation of the earlier trend as in the census reports of undivided India, Muslims and even Sikhs showed higher growth rate than did Hindus (Davis, 1951).

Apart from the census, most of the fertility surveys done since 1947 corroborate the earlier differentials. For example the Mysore Population study, conducted in 1950-51 (United Nations, 1961) indicated that in Bangalore city, the pregnancy rate for Muslim women was higher as compared to Hindu women and the average for Christians was less than the Hindus and this was true for towns as well as rural areas. Driver's study (1963) of differential fertility also revealed higher fertility for Muslims than Hindus though the difference was small. A sample survey of married women in Lucknow (Mukerjee and Singh, 1961) also indicated that the number of pregnancies per mother was higher for Muslims than Hindus. The National Sample Servey in its 16th round (1960-61) indicated that the number of children born among Muslim women was higher than the Hindu women in every age group. The completed fertility of Muslim women was higher than that of the Hindu women by one child or by 16.8 percent. Information from the 18th round (1963-64) also indicate that the Hindu women both rural and urban had fewer children than the Muslim women in every marriage duration. Delhi fertility survey (Goyal, 1975) shows that the average number of live-births for women of all ages standardized for effective marriage duration was 4.7 for Muslims and 3.7 for Hindus. Ram and Datta (1976) in their study of rural areas of Maharashtra have shown that the Buddhists have the highest fertility rate (307.7 GMFR) followed by Muslim (216.7) and the lowest fertility is found among the Jains (138.5) and Christians (142.9) whereas Hindus have lower fertility than the Muslims but higher than the Chistians.

Most of these studies have not fully isolated specific characteristics of different religious groups which determine their fertility behaviour. However, a few studies have taken some factors as probable factors of differential fertility. For example, in *Mysore Study (1961)* it was observed that Muslims have a higher median age at marriage than the Hindus and Christians married still later than the Muslims. In *some other* studies certain socio-economic

Table 2

Growth of Different Religious Communities Since 1881 to 1981

Year	Hindus		Muslims		Christians		Sikhs		Budhists		Jains		
	% to total popu.	% increase over decade	% to total popu.	% increase over decade	% to total popu.	% increase over decade	% to total popu.	% increase over decade	% to total popu.	% increase over decade	% to total popu.	% increase over decade	% increase to total popu.
1881	75.00	—	19.97	—	0.71	—	0.74	—	0.07	—	0.49	—	—
1891	74.20	10.06	20.41	14.20	0.71	21.71	0.68	2.21	0.09	—	0.51	15.96	12.00
1901	72.96	—0.48	21.88	8.76	0.98	28.28	0.77	14.91	0.10	—	0.47	5.86	1.41
1911	71.70	4.80	22.39	9.18	1.21	32.06	1.00	37.91	0.11	—	0.41	—6.44	6.69
1921	70.70	—0.46	23.23	4.72	1.47	22.67	1.06	7.51	0.12	—	0.39	—5.69	1.00
1931	70.70	10.60	23.49	11.27	1.77	32.67	1.28	33.73	0.13	—	0.37	6.29	10.45
1941	69.50	13.00	24.28	19.04	1.91	24.49	1.46	31.58	0.12	—	0.37	7.83	15.10
1951	84.98	—	9.91	—	2.35	—	1.74	—	0.05	—	0.45	—	—
1961	83.50	20.29	10.70	25.61	2.44	27.38	1.79	25.61	0.74	16.71	0.46	25.17	21.50
1971	82.72	23.69	11.20	30.84	2.59	32.58	1.89	32.28	0.71	17.33	0.48	28.49	24.80
1981*	82.63	24.14	11.36	30.66	2.43	16.23	1.96	26.15	0.71	22.52	0.48	23.17	24.69

* 1981 Figgures are based on the religion of the head of the household.

differentials were attributed to these fertility differentials. However, several deep rooted socio-cultural factors involved in the acceptance of family planning have not been investigated.

There are four possible explanations for these differentials. These are (i) Demographic variables in terms of mortality, age at marriage, widow remarriage and migration ; (ii) Structural/socio-economic variables ; (iii) Cultural factors which include attitudes, values, customs and status of women and (iv) lastly minority status of the group.

Demographic Factors

One of the important demographic reasons is the greater number of remarried widows among Muslims. According to Davis (1951) the proportion of widows in ages 20-34 among Muslim females was about 30-40 percent lower than the Hindu females. Since there is no evidence to prove that the male mortality was higher among Hindus than Muslims, these differences could be attributed to few restrictions on the remarriage of widows among Muslims. The Indian census do not give any direct evidence on the incidence of widow remarriage but a much higher proportion of Muslim women stay in effective reproductive union than among the Hindus (Visaria,1974). According to Davis (1951) ban on widow remarriage among Hindus was one of the most important factors for the Hindu-Muslim fertility differential during 1901-41, when the level of mortality was very high.

Although no direct evidence of male mortality being higher among some religious communities is available but Sample Regitration data show crude death rate being higher in rural than urban areas and since

large majority of the Hindus (81.7 per cent in 1971) as compared to other groups are confined to rural areas it is expected that their mortality level would be higher than the other groups or communities. Mortality among Christians may be expected to be less than the Hindus, Sikhs and even the Muslims in view of their better exposure to health and medical facilities provided by the Christian missionaries.

It is said that at a time when mortality was high, Hindu-Muslim differences in the incidence of widow remarriage could have contributed towards higher fertility among the later but due to significant decline in mortality during the past three decades the proportion of widows has declined in the population (Visaria, 1974). Moreover in recent times when public health measures are generally more uniformly spread among all sections of the population, the level of mortality may not differ significantly.

There is no significant difference in the mean age at marriage of females between Hindus and Muslims and others, although some surveys have reported that Muslim women tend to marry some what later and Christians marry still later. For example *Mysore Study* (1961) revealed that Muslims have a higher median age at marriage than the Hindus and the Christians married still later than the Muslims. Driver (1963) also reported that the median age at marriage of Hindus was lower than the Muslims. Census of India (1981) also show mean as well as median age at marriage in rural and urban areas slightly higher among Muslims than Hindus (the difference was not significant) but Christians had the highest mean age at marriage followed by Sikhs.

Ther is no statistical evidence of different rates of migration interms of different religious communities, therefore, migration has not been a significant factor.

Structural/Socio-Economic Factors

Education especially of women is highly correlated with knowledge of contraception, with favourable attitudes towards their use and with the actual adoption of contraception and fertility. It is a fact that in the country women in general are illiterate and less educated but Muslim women are more illiterate. Whereas Christians have comparatively higher literacy. Various studies (Mahadevan 1986 ; Verma 1977) have revealed that significant proportion of Indian Muslims especially women than caste Hindus are at a poorer and less educated levels of society. Even at the all India level, the states which have Muslims majority have comparatively low level of literacy for females. The study conducted by Ahmad (1984) has shown that even in Muslim schools of Uttar Pradesh, the drop out rates are higher among Muslim children than among Hindu children. However, the low level of literacy among Muslims, especially among Muslim women is not due to lack of educational opportunities available but mainly because of their traditionalism and conservatism. The Purdah system among them keeps women secluded from the outside world and their access to modern education is also negligible. Thus higher fertility among Muslim women could be associated with scant education and less economic activity. It is also generally accepted that the Muslim community in India, on the whole, occupies a relatively lower socio-economic structure as compared with the Hindu community, although we have no data at the national level to document this assertion (Bala Subramaniam, 1984).

Regarding Christians, it is maintained that during the 19th and early 20th century most of the conversions from Hinduism have been to Christianity and large majority of these converts were from low socio-economic status. Mandalbaum (1970) stated that converts were mainly from low Jatis, from those who had nothing to lose and perhaps could gain something in status and livelihood. The high growth rate of Christians even during the decade 1951-61 and 1961-71 could be due to their low socio-economic status and high rate of conversion and the accepted religious idealogy.

Conversions have also played an important role in these differentials. For example one possible explanation of the consistent decline in the proportion of Hindu population could be its conversion to other religions. During the 19th and 20th century most of the conversions from Hinduism have been to Christianity. Even during 1951-61 and 1961-71 the growth rate of christians was much higher than the Hindus and it could be partly due to the role of conversions for which ample evidence exists and partly because of the low socio-economic status of the converts. Among Sikhs also the high rate of growth seems to be a function of high fertility and some element of conversion. Buddhism before independence has never attracted converts from Hinduism or any other religion and its growth was slow. But during 1951-61 Buddhism evidenced a spectacular growth rate of 1670.71 per cent and it was mostly through

conversions under the neo-Buddhist movement.

Cultural Factors

Fertility behaviour of any community is greatly influenced by its cultural values and ethos and there are noticeable differences in the religious values regarding marriage, reproductive behaviour and fertility control between these religious groups. For example, among Hindus, marriage is a sacrament sanctioned by the sacred rites performed during the marriage ceremony. Marriage is a religious duty and the aim of marriage according to Hinduism is progeny. The pleasure aspect is least emphasised. Marriage in Islam is contractual. The object of marriage in Islam is not only to ensure continuity of the lineage but also to increase the followers of Islam. Polygamy is permitted among Muslims whereas it is an offence under the Hindu Marriage Act. In Islam it is comparatively easier for women to get divorce and widows and divorcees are permitted to remarry. Widow remarriage was not permitted among Hindus for a long time although the restrictions varied from casts to caste being more rigid among upper castes and least among lower castes. Now widow remarriages have started taking place, though they are less frequent.

Hindu religion places great value on abstinence and religious celibacy and the longer and frequent visits of young Hindu wives to their parent's home on numerous sacred occassions that require sexual abstinence, depress fertility. But Muslim women do not follow the practice of going to their parents house for confinement as frequently as do the Hindu women. Ritual and Post partum sexual abstinence is less common among Muslims than Hindus. (United Nations 1961 ; Nag, 1965).

Muslim influence is strictly conservative and Purdah is strictly observed by women. The status of women is low among both the groups and male children are more valued among both.

But the adherents of Islam maintain that children are among the richest blessings that Allah bestows. He will provide for the Souls. He permits to come into the world. Therefore, any attempt to control fertility is contrary to the wishes of God and this hypothesis according to Choudhry (1982) seemed to be substantiated by a large body of data collected from different places of the world. For example in a study in Bangladesh (Stoeckel and Choudhury, 1969) it was observed that when modern contraceptive devices were made available, Muslims seem less likely to use them than do Hindus.

In Buddhist teachings procreation and family life are matters of secondary interest. Like Hindus and Sikhs, Buddhism contains no doctrine hostile to family planning in the contemporary sense and there is ample opportunity to push forward any method of family planning without offending orthodox Buddhists (Mahadevan, 1979). But oxthodox Christians especially Roman Catholics are not in favour of contraception.

Minority Group Factor

According to Berelson (1978) if a minority group wants to preserve itself or increase its power or if its chances for social mobility are poor, contraceptive use would be lower than that of the majority. In contrast, if a minority group is upwardly

mobile, has no pronatalist idealogy, suffers no insecurity and marginality in its status, its contraceptive use will be higher than the majority. In India there is a general feeling that the acceptance of family planning is comparatively much less among Muslims, may be because they want to increase the membership of their community. There is no direct evidence for lesser acceptance of family planning by Muslims at the National level but the states of Jammu and Kashmir and Arunachal Pradesh where Muslims are in majority, the percentage of couples protected by all methods was much less (13.5 and 8.5 per cent) than the national level (29.2 per cent). The lesser acceptance of the family planning by Muslims than Hindus is also indicated by the data on the vasectomy camps in Ernakulam district of Kerala. The proportionate participation of Hindus in the regular programme in the district and the state as well as in the three camps was greater than that of the Muslims.

The results of National of Sample Survey of family planning practices in India by the Operation Research Group (1971) indicated that among Hindus about 19 per cent of married couples had ever used contraception as compared to about 13 percent among Muslims. It was also noted that at each of the three educational levels of wife, viz., illiterate, primary and secondary school or college, the level of contraceptive use was higher among Hindus than among Muslims. Verma (1977) in his study of Dynamics of Population Growth, says that although Muslims expressed negative opinion regarding any deliberate efforts to increase their size but on deeper probe he inferred that such a feeling though not overt, exists among Muslims.

The noticeable point is that the importance of psychological factors like the sense of security cannot be overlooked because sometimes sense of insecurity encourages over-reporting by minority groups. Seal and Talwar (1974) argued that although data for the extent of over-reporting of different communities is not available, yet experience from other countries indicate that minorities by and large develop group feelings before such enumerations and a silent wispering movement is spread around stressing the need for getting themselves enumerated with a view to deriving various benefits at a later stage and this might result in better coverage of the minority community and lead to over enumeration also in some cases.

It has also been observed that the Parsis of India who are a very small minority (less than a hundred thousand) have the lowest fertility rate. The main reason for their low fertility has been their higher socio-economic status and higher literacy rate. The Christians have shown the lowest growth rate during the decade 1971-81 and this might be due to higher female literacy rate and the highest acceptance rate of contraception by them as revealed by the family planning service statistics.

Conclusion

It may thus be concluded that different rates of growth of different religous communities have been a function of various demographic and socio-cultural factors which inhibit the adoption of contraception and encourage higher fertility. From policy point of view it suggests the need to concentrate efforts on the improvement of socio-economic conditions of various communities and reducing existing disparties in their status.

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CONTINUITY AND CHANGE IN POPULATION MOVEMENT : THE CASE OF NEPAL

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Population movement is a phenomenon as old as human history itself. However, its volume, direction, purpose and cause have been different at different times. This paper examines continuity and change in population movement in Nepal with special emphasis on internal movement. The first section provides a brief conceptual framework, while the remainder focuses on population movement in Nepal with an attempt to link historic movements with contemporary patterns after 1950. The data are derived from historical documents as well as the recent censuses of Nepal. The paper concludes that in one sense there has been an apparent change in the direction of population movement. However, closer inspection reveals that peoples' movement has always been from resource poor to resource rich areas. It has always reflected population resource relationships. Thus, from this perspective there has been continuity in population movement from historic times to the present. Nevertheless, in regional sense, it appears that the pattern of population movement is changing.

People have moved throughout history, but the volume, direction, purpose, and causes of the movement have not remained the same. People have responded to changing circumstances and their movement patterns reflect this. This paper examines continuity and change in population movement in Nepal. The focus will be upon interregional movement, although some reference will also be made to international movement. A brief conceptual framework is first presented while the rest of this paper focuses on population movement in Nepal in an attempt to link historic movement with the contemporary pattern after 1950.

During the last few decades, many studies have documented a great rise in population movement in Nepal (Gurung, 1984; Kansakar, 1974; Rana and Thapa, 1974; Shrestha, 1979, and Weiner, 1979). Widening economic disparity and the pressure of population in the hill and mountain part of the country have been noted as the main causes of such an increase (Conway and Shrestha, 1981 ; Dahal, Rai and Mauzardo, 1977 ; and Shrestha and Conway, 1985). This suggests that the movement of Nepali people as documented in recent literature might be of recent origin. Ethnographic studies, however, have shown that there was considerable movement in the past (Caplon, 1970; Fricke, 1986; Macfarlane, 1976; and Mc Dougal, 1968). Except for Kansakar (1974), who attempted to trace history of migration, most work on population movement has focussed upon contemporary patterns. There has been a dearth of work that links the historical with contemporary patterns of population movement

Coceptual Considerations

Basically, two theoretical views have been expressed about population movement. One group of researchers views population movement as a result of capitalist penetration with the analytical focus mainly on contemporary patterns of movement. Most of the examples they provide are associated with wage labor movement. Based on dependency theory, Amin (1974) argued that African migration was the result of the incorporation of indigenous economies into the world capitalist economy. To explain labor migration, he argued that colonization distorted traditional society to the point of it being unrecognizable, lacking autonomy, and functioning as a provider of primary products for the world market. Migration from the interior to the coastal areas of Africa was the result of colonial policies, especially taxation, and this continued after independence. Swindell (1985) examined these assertions in several areas of Black Africa and concluded that the flow of labor was more complex. He argued that both adaptation and change occured in West African economies as a result of European intervention with increasing participation of local people in wage-labor circulation.

Similar arguments have been presented for some Southeast Asian cases. Forbes (1981) argued that permanent migration was dominant in those societies where most people fit into the broad classes of bourgeoisie and proletariat, whereas circulation was characteristic of transitional societies where the capitalist mode is dominant. Standing (1985) pointed out that the movement of people reflected the dynamics of socio-economic change and should consequently be approached in terms of its relationship to the process of socio-economic transition. He observed more discontinuity than continuity in wage labor mobility. All these studies give an impression that population movement is a recent phenomenon, resulting dominantly from colonization, capitalist penetration, or socio-economic stratification.

Another group of researchers, generally those who have studied in the Pacific and Carribbean island communities argue that population movement has existed from the earliest recorded time of history. Bonnemaison (1985) showed that, in Vanuatu, traditional identity was defined through the metaphors of "the tree and the canoe". The tree is the symbol of rootedness and the canoe of journeying and unrestricted wandering. The departure and return of the people along ancient pathways was a statement of cultural and territorial identity so fundamental that Bonnemaison interprets contemporary movement for formal education, professional employment, and wage labor as expressive of this cultural theme. It has pointed out that the present urban movement of to 'ambaita people to Honiara, capital of the Solomon islands, continued the practice of "wakabaot" (wandering around), that was deeply rooted in their culture.

More generally, Chapman (1985) argued that population movement was a basic feature of Melanesian life in pre - and immediately post-contact times. He observed that movement of Melanesian people was part of life itself, with antecedents stretching back into mythology and with dimensions

an inherent part of cosmology. A similar conclusion was drawn by Colfer (1985) in her study of what movement means for Kalimantan women who remain in the villages while their husbands and brothers go away to earn money. These studies in general indicate that population movement is not a new phenomenon. It has persisted in these societies from earliest beginnings and continued to the extent that forms of present movement are expressions of existing cultural themes.

Studies of third world societies that provide an impression of discontinuity in population movement overtime are based dominantly on the experience of colonized countries, while those that argue for continuity rest their case on examples of island communities. This paper focuses on Nepal, a country that was neither colonized nor is an island environment. Rather it is a land-locked area which has remained independent since its formation as a state in the 1770s. This paper argues that the Nepali experience reflects far more continuity than discontinuity in population movement. Consequently, to understand contemporary patterns, we must first examine the historical context and then link it to contemporary movement.

Pattern of Population Movement :
Nepali Example

Viewed from the standpoint of geographical regions, the direction of population movement in Nepal has been changing from historical times. Those changes or shifts can be classified into two main phases - prior to and after the initiation of a planned economy in 1950.

Prior to the Initiation of a Planned Economy : The period prior to the initiation of a planned economy can be further divided into two phases : that either predate or occur during and after the territorial campaign of Gorkha rulers.

i) *Historic Movements* The first phase starts with the early settlement of ethnic groups like Kirats, Sherpas, in different parts of Nepali Hills. Historically, Nepal has been an area of convergence of people from Tibet and India (Maps 1 to 4). The present cultural and ethnic diversity (Gaige, 1975 ; Levine, 1987 ; Sharma, 1978) among the Mountains Hills and the Tarai suggests that different traditions came from areas north and south of the kingdom. As a result, the Hills served as the convergence ground for the people of diverse traditions. The ancestors of many ethnic groups like the Kirats, Sherpas, Tamangs, Gurungs, Magars, and certain strata of Newars are reported to have moved from the north to the present territory of Nepal in different periods of history. As we can see from Table 1, many of the present dominant groups in the country were the descendants of the immigrants. There is regional dimension in the diffusion of different ethnic and/or the other groups. The descendants of Tibetan groups, to put it loosely, settled in the Mountain part whereas the Hill area was settled by Magars, Gurungs, Tamangs, and Kirats. On the other hand Newars remained in the Hill areas (mainly in market centers) and Brahmins and Chhetris are dispersed throughout the Hills and the Plain areas. Table 1 shows the flow of different groups in different periods. *These flows were important for the early settlement of population in Nepal. However, natural*

NEPAL : HISTORICAL POPULATION MOVEMENTS

UPTO AROUND 1740

(Around 12th century)
Movement associated with territorial expansion by Khas groups of Jumla

(From 1000 BC to AD 850)
The movement of Pahadi people towards Nepal and towards East

(Around 11th and 12th century)
The movement of Hindus, mainly highcastes into the Hills of Nepal as a result of Muslim invasion in North India.

(Around 7th and 11th century)
The influx of Mongoloid and Tibetan people, the ancestors of Gurung, Magar, Thakali and Tamang.

(Around 1500-1000 BC)
The movement of ancestors of Tribal groups such as Kirats and central strata of Newars.

(Around late 18th century)
The movement of Tibetans from Kyrung to Langtang

(Around 1630's)
Sherpa migration into Solghu/Jumbu areas

(Around 7th century)
Migration of artists and professionals associated with the marriage of Nepali princess with the Tibet King.

Gradual move towards Eastern Hills (General tendency, no specific date of its initiation)

(Around late 2nd century A.D.)
The movement of Lichhavis from Vaisali.

1950s to 1970s

To Indian towns and settlements for employment (mainly seasonal)

Around 1970s

1960s and 1970s

Around 1950s
Kathmandu

Late 1960s and 1970s

Movement persistent from the early 19th century
To North Eastern Indian Hills
1950s and 1960s

Movement dominant in the 1st half of 20th century

Note: External migration associated with Gorkha recruitment is not included here.

Dominant flow
Persistent outflow
Persistent inflow
Considerable flow
Emerging flow

1740 – 1950

Tribuja Ganga river

Papa area

Gorkha
Kathmandu valley

Central Tarai

Eastern Tarai

Upto Bhutan

Movement to North Eastern Hills of India and to Bhutan. Around 1970s

Beginning or around 1850s

1 Movement dominant during A.D. 1742 to 1774 re-movement associated with Prithvi Narayan's territorial campaign.

2 Movement dominant during the last quarter of the 18th century to the first half of 19th century.

Dominant direction

Direction associated with small flow

General trend of the flow

Flow from India for land reclamation

Flow from Morang areas after Sinha Conquest (Eventually come back)

RECENT

Dharan
Pokhara

Nepalgaung
Tansen
Butwal
Siddhartha nagar

Kathmandu
Bhairapur

Hetauda
Birganj

Dhankuta
Dharan
Itahari

Biratnagar

Janakpur

Dominant direction
Flow continuing from the recent past
Flow towards urban centres
Immigratory flow
Emerging trends in the flow
Important urban centres

Note: This map does not include all urban centres of the country.

100

0
Km

growth i.e., excess of birth over death, was the main factor for the later growth of population in the country.

History indicates that the first rulers of ancient Nepal were the Kirats. They are said to have been followed by the Licchavis and others who immigrated there from the south. Immigration from the south was equally important in the history of Nepal (Table 1). Historians found that the Licchavis of Nepal had their lineage connections with the Licchavis of Vaisali, India. Regmi (1979) argued that Manadeva, one of the popular Licchavi kings, and his successors were born of immigrants from India. The Indian influence demonstrated by linguistic, iconographic, and other evidence cannot be explained otherwise (Regmi, 1979). Bajracharya (1973), from evidence of the inscriptions in Kathmandu valley, claimed direct kinship ties of the Licchavis with the Solar dynasty of Vaisali. The subsequent rulers (Mallas and Shahs) are related to other well-known royal dynasties in India (Narahrinath, 1964). The Malla rulers styled themselves as Suryavamsis. The ancestors of present Shah rulers are said to have migrated from Chittor, India. 'Ranas' (a group like Shahs in the Hindu hierarchy of caste), who, in de-facto terms, ruled Nepal from 1846 to 1951, claimed consanguinity with the Ranas of Mewar in India.

Immigration to Nepali Hills was not confined to the ruling class people. Evidence show that many common people were also entering Nepal at the same time. Atkinson's historical research in Kumaon noted that in the reign of the Kumaon ruler, Ratan Chand (A D. 1450-1488), five Rajput clans

from Kumaon known as the "Five Easterners" *(Panch Purbiya)* were introduced into areas of Doti across the Mahakali river (Winkler, 1984). Around the 11th and 12th century, many Hindus entered the Nepali Hills as a result of a Muslim invasion in north India. Upreti (1975) thought that migration of the Brahmins from Kumaon took place 300 years ago in the 'Limbuan', i.e., Eastern Hills. Upreti's argument supported the conclusion that Hindus came from north India.

Along with the inflow of people, some outflow was also evident in historical times. The spread of Budhism in Tibet from around the seventh century A.D. was associated with the migration of Nepalis and the marriage of a Nepali princess to the king of Tibet. It is recorded that in 1260 A.D. A-ni-ko, a Nepali architect, and 80 of his colleagues left Nepal for Tibet and China. Subsequent periodic flows of Nepalis, although in small numbers, are recorded in historical documents.

The internal movement of the people in this period was directed towards the east, because the east was wetter than the west. Since the economy was based on agriculture, obviously the easterly movement was more beneficial than the westward ones. The north was rocky and the south was a densely forested malarial area. As a result the internal movement was confined within the Hills.

Some evidence of movement towards the Tarai is documented in historical accounts. In the sixteenth century Mukund Sen, a victorious king from the western Hills, expanded his control and tried to settle people as far as the eastern Tarai

Table 1

**Historic Population Movement in Nepal with Reference to Selected
Communities and/or Ethnic Groups**

Communities and/ or, Ethnic Groups	Approximate Period of Movement	Place of Origin	Destination
First Settlers of Kathmandu Valley*	(Legend about Manjushri)	China	Kathmandu Valley
Kirats and Newars (?)*	1500 B.C.--- 1000 B.C.	Tibet (China)	Eastern Hills and Kathmandu
Mongoloid +, People*	7th and 11th Century	Mongolia	Central and Western Hills
Sherpas*	Around 1550	Mongolia	Eastern Mountains
Tibetans*	Around 1700s	Kyirong (Tibet)	Central Hills (Langtang)
Licchavis**	2nd Century	Vaisali (India)	Central Hills
'Pahadi' People (Hill people)**	1000 B.C.— A.D. 1850	Kumaon, Garhwal (India)	Western Hills
High Class Hindus**	11th and 12th Century	Northwestern Hills of India	Western Hills
Khas Group**	Around 12th Century	Jumla Area	Extension to the east
Malla Group**	12th Century	South India	Kathmandu Valley
Shah Group**	14th Century	Chittor (India)	Kathmandu Valley
Nepali Professionals***	7th Century	Kathmandu Valley	Lhasa (Tibet)
Nepali Artists***	13th Century	Kathmandu Valley	Tibet and China

Notes : +   The term 'Mongoloid' is used here to refer ethnic groups such as Gurung, Magar, Thakali and Tamang.

    *   Entries from the North.

    **   Entries from the South

    *** Outward movement from Nepal.

1. The volume of migration is not available except for one or two categories.

2. There are controversies about whether Kirats came from north or they are the aboriginal people of Nepal (See, Regmi, 1961 ; Regmi, 1979).

3. The purpose of this table is to show the historic movement of people. Therefore, the periods are provided in broad groups. Anyone interested in knowing the exact time periods should consult 'standard' historical texts on Nepal.

4. There are controversies about the origin of Newars as well.

5. This Table is based on several historical documents/texts. These are mentioned in the text of the paper.

(Gurung, 1984). Due to malaria, attempts to settle the Tarai was not successful during this time.

ii) *The Territorial Expansion and the Rana Isolationism Phase :* A second phase of population movement was associated with territorial exapansion from around 1740 to roughly 1820, followed by Rana isolationism until 1950. Unlike the earlier northward and southward movements, this phase was mainly characterized by movement towards the east and west (Map 4). Prior to 1770 the center of the expansion campaign was Gorkha. As a result of Prithvi Narayan Shah's (the Gorkha ruler) ambition to control the kingdoms of Kathmandu valley, the flow of population was directed toward the east. Kansakar (1974) reported that after Kathmandu valley was conquered and became the national capital, many people from the western Hills moved to the valley. Prithvi Narayan's campaign of territorial expansion extended east, as well as north, and west of Gorkha. But in terms of attracting people to move and settle down, the success towards north and west was limited. Dahal (1983) found that the settlement of many high caste people in Ilam was closely associated with this campaign. Caplon (1970) had similar findings in his study of Limbu-Brahmi interface in the Eastern Hills. In the reign of his successors, Prithvi Narayan's campaign extended Nepal's territory as far as Bhutan in the east, and to the Ganges river in the west. The territorial expansion campaign resulted in the settlement of many Nepalis in the conquered territories of Assam, Sikkim and Darjeeling areas in the east, and Kangara and Bekhloh areas in the west.

Records of external migration from Nepal are evident during this phase. Regmi (1979) found that many inhabitants had fled from Morang areas to Indian territory after the Shah kings conquered that region in the 1770s (Regmi, 1979). Later, most of them returned because their lands and homesteads were restored to them.

This territorial expansion campaign ended with the treaty of Sugauli (1816). The treaty empowered the British to recruit "Gurkhas" in their army. Many Nepali youths joined the British army. But, the recruitment was mainly confined to the youths of ethnic groups like the Gurung and the Magar, and later to the Limbu and the Rai. These "Gurkhas" served in all the countries of the British empire. The Gorkha recruitment added a new dimension to population movement in Nepal, giving rise to the out-flow of able-bodied males.

The treaty (1816) also resulted in the demarcation of Nepal's present border. (The present boundary of Nepal was almost demarcated by the treaty of Sugauli. Only four districts of Farwestern Tarai namely, Banke, Bardia, Kailali, and Kanchanpur were added later. These areas were given to Nepal from British Indian government as a gift in return to the help provided by "Gurkhas" in sepoy Mutiny in 1857). It did not however, restrict the movement and settlement of people to areas outside the present national border. People continued to move towards the Northeastern Hills of India and Bhutan. In the early stages the movement was dominated by high caste people, but later other groups like, the Rais and the

Limbus, moved to the Indian Hills in the east for agriculture and/or employment opportunities. This latter movement included relatives of those who were in the Gorkha army and who were encouraged to settle in Dehradun, Kangra Valley in the west and the Darjeeling and Sikkim in the east. Also, those who failed to become a 'Lahure' (a local term for Gorkha recruits) joined the general mass of other communities and/or ethnic groups who moved towards the east. Many of them settled in Sikkim, the Northeastern Indian Hills, Bhutan, Burma, Malaysia, and in Fiji (Gurung, 1984; Kansakar, 1974 ; Lall, 1968). This is evident from the fact that Nepali people dominate the present populations in Darjeeling, Sikkim, and to some extent in Bhutan (Rana and Thapa, 1974). A significant Nepali population is found also in Burma and Malaysia at present. These people of Nepali origin are not only the descendants of Nepali emigrants who went there for cultivation but also the descendants of the Gorkha army who settled there after their retirement.

The second half of the nineteenth century marked the beginning of reclamation of the Tarai forest land by immigrants from India (Kansakar, 1984). The Legal code (1853/54) issued by Junga Bahadur Rana provided land ownership rights to Indian immigrants. The reclamation of the Tarai forest land for agriculture resulted in the influx of Indian immigrants to the Tarai plain in the subsequent years. This shows that, on the one hand, Nepalis were moving towards the east along the Hills in search of better agricultural land and employment opportunities, while on the other hand, Indians were entering the Nepal Tarai in order to obtain fertile land.

Rapid growth of population in the Hills of Nepal leading to the increased pressure upon available resources as well as the search for better opportunities elsewhere (search for better resources) are the factors behind the movement. The situation was similar in the north Indian plain as noted above where people were coming to Nepal Tarai. Thus, it showed that the direction of the movement is closely related to the availability of resources within as well as outside the country.

Planned Economy and Population Movement : Roughly speaking, two phases of population movement are discernible in the period from 1950 to the present : i) The initial phase of planned development (from 1950 to 1970s), and ii) the recent phase.

i) *The Initial Phase :* From the 1950s on, the country was open to foreigners. The centuries of Rana rule ended in 1951, and Nepal started its planned economic development programs. The government realized that the Hills were densely populated and not many more people could be absorbed in the existing Hill economy. The Tarai, 'the malarial moat', was an area that could be resettled. Through the resettlement, land revenue could be increased, timber could be the source of exchange earning, and the increasing pressure of population in the Hills could be relieved. With this perception, the government attempted to launch resettlement projects in the favorable Tarai areas in the late 1950s. Although efforts to resettle the Tarai were attempted as early as the 1920s, they failed because of the prevalence of malaria (Ojha, 1983 ; Kansakar, 1985). The new program was accompanied by a malaria eradication program and was successful, resulting in a southward flow of people.

The initial program of resettlement directed the movement of Hill people towards the Chitawan valley (Central Tarai) because

it was the first area to launch a combined resettlement and malaria eradication program. However, in the following years the direction, although still southwards, was more dominant in the eastern Tarai. The census figures show that the Tarai has been the major recipient of internal migrants. In the 1950s and 1960s the dominant flow was towards the eastern Tarai, while the Mountain and Hills have negative net-migration (Table 2). This occured because the eastern Hills were the most densely populated area and the eastern Tarai was the most fertile and suitable area for agriculture Furthermore, by the 1960s, malaria was almost under control in these areas. These factors together with limited land availability and employment opportunities in the Northeastern Hills of India resulted in directing the migrants to the Tarai.

Table 2

Pattern of Internal Movement 1961

Region	In-migrants	Out-migrants	Net-migration
Mountain and Hills	21,176 (11.9)	132,380 (74.2)	—111,204
Eastern	10,699 (6.0)	85,398 (47.9)	— 74,699
Central	5,694 (3.2)	38,326 (21.5)	— 32,632
Western	4,783 (2.7)	8,656 (4.8)	— 3,873
Kathmandu Valley	24,748 (13.9)	20.131 (11.5)	4,617
Tarai	132,513 (74.3)	25,926 (14.5)	106,587
Eastern	72,030 (40.4)	3,848 (2.2)	68,182
Central	35,867 (20.1)	4,779 (2.7)	31,088
Western	24,616 (13.8)	17,299 (9.7)	7,317
Total	178,437 (100.0)	178,437 (100.0)	0.0

Source : Population Census 1961 Volume 2.
Note : The figure in the parenthesis indicate percentage.

The immigration from North India to the Nepal Tarai has remained incessant. It was mainly directed to the Eastern and Central Tarai in the beginning, but in later years the Western Tarai also experienced the inflow of immigrants from North India. In the late 1960s and early 1970s, the Western Tarai also emerged as a destination for many Hill migrants. The outward movement of Far Western Hill people to the Indian towns and settlements for short-term and seasonal employment became prominant in the 1950s and the 1960s. The movement towards the Northeastern Hills, although persistent, was minor compared to the number of migrants destined for the Tarai plain. Until the 1960s Kathmandu valley had positive net-migration. As a result of the opening of the Tarai, the dominant flow was towards the Tarai, rather than to Kathmandu Valley.

ii) *The Recent Phase* : In recent years, i.e., in the late 1970s and 1980s, three basic features are evident in the direction of population movement (Table 3). a) The movement of Hill people to the Tarai continues but it is now dominant in the Western Tarai and Central Tarai areas (Although the figures still dominate the Eastern Tarai, however, in terms of total population living in the adjoining Hill areas the flow towards Western Tarai seems to be dominant). b) Many people are outmigrating from the eastern Tarai (Table 3). It is unlikely that they are moving towards the Hill areas. There are two possibilities : some may be moving to the urban centers, or they may be moving to other Tarai areas especially the west. It seems quite plausible that much of the out-migration is towards the western Tarai because the environment *there is familiar*, and *because they can continue to*

Table 3

Pattern of Internal Movement in Nepal
1981

Region	In-migrants		Out-migrants		Net-migration
	Number	Per cent	Number	Per cent	
Mountain	53,628	5.2	315,095	30.3	−261,467
Eastern	23,907	2.3	235,987	22.7	−212,080
Central	10,425	1.0	21,736	2.1	− 11,311
Western	1,080	0.1	38,219	3.7	− 37,139
Mid-west	7,330	0.7	5,912	0.6	1,418
Far-west	10,886	1.4	13,241	1.3	− 2,355
Hill	211,927	20.4	636,638	61.3	−424,711
Eastern	31,423	3.0	265,360	25.5	−233,937
Central	71,873	9.9	119,275	11.5	− 47,402
Western	62,572	6.0	150,104	14.4	− 87,532
Mid-west	31,500	3.0	54,528	5.2	− 23,028
Far-west	14,559	1.4	47,371	4.6	− 32,812
Tarai	773,307	77.4	87,129	8.4	686,178
Eastern	300,835	29.0	38,955	3.7	261,880
Central	214,473	20.6	29,053	2.8	185,420
Western	111,435	10.7	4,672	0.4	106,763
Mid-west	54,364	5.2	13,238	1.3	41,126
Far-west	92,200	8.9	1,211	0.1	90,989
Nepal	1,038,862	100.0	1,038,862	100.0	0,0

Note : 1. Inter-district movement within the same region are not included in this figure.
  2. Regions in this table are not exactly comparable with those of Table 2 because of the use of different regional framework in different censuses. However, they are indicative of the patterns of movement in broad categories.
  3. The author acknowledges Dr. Harka Gurung's suggestion in compiling this Table.

Source : Population Census 1981, Volume 2, Table 8.

Table 4

Migration in Urban Areas

Region	Total Urban Population		Non-Migrants		Internal Migrants	
	1971	1981	1971	1981	1971	1981
Mountain	—	—	—	—	—	—
Hills	50,538	83,376	42,208	72,283	7,165 (11.6)	10,041 (6.5)
Kathmandu Valley	249,563	363,507	225,802	323,052	18,749 (30.4)	37,134 (23.8)
Tarai	161,837	509,838	93,300	369,193	35,834 (58.0)	108,590 (69.7)
Nepal	461,938	956,721	361,310	764,528	61,748 (100.0)	155,765 (100.0)

Source : a) Population Census 1971, Volume 5, Table 40.
  b) Date for 1981 are taken from Sharma, Forthcoming.

Note : 1.   Inter-regional migration from all other areas to urban areas derived from 1971 census excludes intra-regional lifetime migrants. Urban migrants shown in the 1981 census includes all migrants to urban areas.

2.   In 1981 census 573 people enumerated in urban areas did not state their place of birth. Their distribution is 29 ; 55 ; and 489 in the Hills, Kathmandu Valley and the Tarai respectively.

3.   For the comparability of the regional framework between two censuses and detailed discussion, See, Pitamber Sharma, Urbanization in Nepal (Forthcoming).

4.   The figure in the parenthesis indicate percentage.

farm there. It is likely that this trend will continue because in the Western Tarai and in parts of the Central Tarai, there are areas still available for cultivation, while the density in the Eastern Tarai is already very high. c) The third feature is that an increasing number of Hill migrants are moving towards urban centers (Table 4). Among the total internal (interregional) migrants about 12 per cent were rural urban migrants in 1971 (61,748 out of 506,921 internal migrants). By 1981, it increased to be 15 per cent (155,765 rural urban migrants out of 1,038,862 total internal migrants). The absolute volume has more than doubled; it may be even higher because the figures from Table 5 do not include many small towns. The volume of internal migration towards the Tarai urban centers has increased by more than three times between 1971 and 1981. Although the percentile share of urban migrants in Kathmandu Valley has decreased in absolute terms, however, in numerical sense, it has doubled within a decade. The tendency for *urbanward migration* has increased not only among the internal movers but also among foreign immigrants.

The recent shift in the direction of movement towards urban centers is likely to continue. There are few virgin lands left so that urban destinations are becoming more common. This development can be attributed to several factors. An often cited factor is the high pressure of population in the Mountains and Hills. The inbuilt momentum of population, where the present age structure indicates heavy concentration in young and young adults means that there is little hope for alleviation of pressure in the near future. This has obvious implication for increasing pressure upon employment in the rural areas. Further, non-farm employment in the rural areas is almost non-existent. Finally, the existence of some industrial establishments and other employment generating activities including educational institutions in urban areas, particularly in the Tarai towns and in the cities of Kathmandu Valley, will attract the unemployed and under employed people from the rural areas.

Conclusion

This scenario of population movement shows that there is regional shift of population movement in Nepal. In the past, the

dominant direction within the country was from west towards east along the Hills, whereas currently it is directed from north to south, from the Hills to the Tarai and from east to west along the Trarai areas together with increasing flow towards urban centers. This indicates that, in one sense, there has been a change in the direction of population movement. If we look at the situation from a different standpoint, however, the picture is different. From the resource perspective, there has been no change in the direction of population movement. It has always remained the same i.e., from resource poor to resource rich areas (Major resource that attracted people in this case is arable land). This was the case for immigrants who came into Nepal from Tibet, and those who came from India, streams that continued until the beginning of a planned economy in Nepal. The same is true for those who have left the Hills. Those recent movers who migrated towards urban areas also are motivated by the resources available there. From this perspective, there has been continuity in population movement from historic times to the present. The continuity in population movement is the expression of the population-resource relationship which Ackerman (1959) suggested as the

social equation first understood by man. The apparent change in direction can be seen as the function of place utility (Wolpert, 1965) in terms of providing essential resources to fulfil people's basic needs.

The implications are clear. The population of the Tarai has increased tremendously in the last few decades. The government has attempted some resettlement projects there to regulate the flow of people from the Hills and Mountains. However, the programs have had very little success (Elder et. al. 1976; Kansarkar, 1985). Plans and programs of the government have always aimed at the destination area, Programs to improve local resources and their utilization in the Hill areas, and the development of small rural towns that can provide some employment opportunities for the urban destined movers are essential. The emphasis should be to develop the available resources in the Hill areas which are the main source areas for the migrants. The limited space available in the Farwestern Tarai can no longer accommodate the increasing number of internal movers. Neither can the existing urban centers accommodate the inflow of large number of migrants.

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LITERACY IN INDIA'S SCHEDULED CASTE POPULATION : A SPATIAL ANALYSIS

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The purpose of this paper is to make an interpretative study of spatial patterns of literacy in the Scheduled Caste population of India. The discussion is based on three choropleth maps drawn from districtwise data on literacy as in 1981. With only 21.3 per cent of their population able to read and write, the scheduled caste people are among the least literate in the country - their literacy rate being only about half of that of the rest of the society. This is despite major constitutional provisions and other concessions extended to them during the post-Independence period. Male-female and rural-urban differentials in literacy in their case are most striking. The scheduled caste females in the rural areas are the greatest sufferers in the attainment of literacy in most parts of the country.

There are wide regional disparities in their literacy rates. Areas with relatively high literacy rates are associated with (i) the work of Christian missionaries, (ii) high degree of urban-industrial development, (iii) recruitment to administrative, security and other services, (iv) tradition of emigration, etc. On the other end, low literacy rates among the scheduled castes are connected with areas of feudal landlordism, former princely states, poverty of resources and overall backwardness. With a view to bringing these caste people into the mainstream, disparities in literacy between them and the rest of the society must be reduced substantially, if not eliminated. Diffusion of education and advancement of knowledge are the major guardians of true liberty.

Introduction

Diffusion of literacy and education among all sections of the population of a country is a basic requirement for pulling out the people from ignorance and backwardness and for the country's socio-economic advancement. The scheduled caste people, who account for 15.7 per cent of India's total population and who have experienced several kinds of deprivations and denials over centuries, are the focus of study, in terms of achievements in literacy, in this paper. It is necessary to study the degree of success in the spread of literacy among the scheduled castes in the light of various concessions provided to them in the constitution of free India.

The scheduled castes have been among the least literate in India, as a consequence, among other factors, of their predominant association with lowly (menial) jobs having little relevance for education and skill and several types of repression to which they have been subjected in the past. As per 1981 census, only 21.3 per cent of India's scheduled caste persons are literate. By

comparison 39.0 per cent of the non-scheduled caste persons can read and write. Evidently, in terms of literacy, the scheduled castes are still far behind the rest of the society, multifaceted constitutional provisions and other concessions extended to them during the post-Independence period notwithstanding.

While the literacy rate among the non-scheduled caste persons increased from 26.7 per cent in 1961 to 39.0 per cent in 1981, that among the scheduled castes moved up from 10.3 per cent in 1961 to 21.3 per cent in 1981, revealing a speedier progress by the latter in relative terms (Table 1 and Gosal, 1967, pp. 3-4). Nonetheless, the disparity is so wide that even with a similar trend continuing in the coming years, it will take a long time for the scheduled caste people to catch up with the rest of the society in this regard.

Table 1

India : Literacy Rates of Scheduled Caste and Non-Scheduled Caste Population : 1961-81

Year	Scheduled caste literates as per cent of scheduled caste population				Non-scheduled caste literates as per cent of non-scheduled caste population		
	Persons	Males	Females		Persons	Males	Females
1961	10.3	16.9	3.3		26.7	38.1	14.7
1971	14.6	22.3	6.4		32.0	42.5	20.8
1981	21.3	31.1	10.9		39.0	49.8	27.4

Source : Computed from Census of India, 1961, 1971 and 1981 data.

Male-Female Differential in Literacy

Apart from deplorably low rates of literacy among the scheduled castes, their male-female differential in this aspect is very large indeed. As per 1981 census, while 31.1 per cent of their males were literate, the corresponding figure for the females was only 10.9 per cent, giving a ratio of about 3 :1. The male-female differential among the non-scheduled castes, on the other hand, is much lower : 49.8 per cent males and 27.4 per cent females being literate (as in 1981) - a ratio of less than 2 : 1 (Table 1). Thus, the scheduled caste have yet to come a long way to be at par with the rest of the people in India.

Table 2 brings to light wide departures in the male-female literacy rates of the scheduled castes in various states/union territories from the national average. With

Table 2

India : Literacy Rates of Scheduled Caste and Non-Scheduled Caste Population : 1981

States/Union Territories	Scheduled caste literates (per cent)			Non-scheduled caste literates (per cent)		
	Persons	Males	Females	Persons	Males	Females
INDIA*	21.3	31.1	10.9	39.0	49.8	27.4
States						
Kerala	55.9	62.3	49.7	72.0	76.7	67.5
Gujarat	39.7	53.1	25.6	44.0	54.5	32.8
Maharashtra	35.5	48.8	21.5	48.0	59.5	35.8
Tripura	33.8	43.9	23.2	43.5	53.0	33.5
Manipur	33.6	41.9	24.9	41.4	53.4	29.1
Himachal Pradesh	31.5	41.9	20.6	46.0	56.9	34.9
Tamil Nadu	29.6	40.6	18.4	50.6	62.2	38.7
Sikkim	28.0	35.7	19.6	34.4	44.4	22.3
Meghalaya	25.7	33.2	16.3	34.1	37.9	30.1
West Bengal	24.3	34.2	13.7	45.6	55.2	34.9
Punjab	23.8	30 9	15.6	47.1	53.1	40.2
Orissa	22.4	35.2	9.4	36.2	49.1	23.1
Jammu & Kashmir**	22.4	32.3	11.7	27.0	36.6	16.2
Karnataka	20.5	29.3	11.5	41.6	52.2	30.5
Haryana	20.1	31.4	7.0	29.9	52.1	25.8
Madhya Pradesh	18.9	30.2	6.8	29.3	41.0	16.9
Andhra Pradesh	17.6	24.8	10.2	31.0	41.8	22.1
Uttar Pradesh	14.9	24.8	3.9	30.4	42.2	16.7
Rajasthan	14.0	24.4	2.6	26.5	38.7	13.2
Bihar	10.4	18.0	2.5	28.8	41.4	15.5
Nagaland	—	—	—	42.5	50.0	33.8
Union Territories						
Mizoram	84.4	88.3	53.3	59.8	64.4	54.9
Dadra and Nagar Haveli	51.2	58.5	44.7	26.1	35.9	16.1
Delhi	39.3	50.2	25.8	66 4	72.3	59.0
Goa, Daman and Diu	38.3	48.7	27.8	57.0	65.9	48.0
Arunachal Pradesh	37.1	45.8	22.3	20.7	28.8	11.2
Chandigarh	37.0	46.0	25.3	69.3	72.7	64.8
Pondicherry	32.3	43.1	21.2	60.3	70.2	50.3
Andaman & Nicobar Islands	—	—	—	51.5	58.7	42.1
Lakshadweep	—	—	—	55.0	65.2	44.6

Source : Computed from 1981 Census data : (1) Census of India 1981, Series 1, INDIA Part II B (ii) Primary Census Abstract—Scheduled Castes. (2) Census of India 1981, Series 1 INDIA, Part II B(i) Primary Census Abstract—General Population.

Note : Nagaland, Andaman and Nicobar and Lakshadweep Islands have no scheduled caste population.

* Excludes Assam where census could not be held owing to disturbed conditions in 1981.

** Excludes population of areas under unlawful occupation of Pakistan and China where census could not be taken.

62.3 per cent of the males and 49.7 per cent of the females literate, Kerala has the lowest male-female differential in literacy among the scheduled castes (about 5 : 4 ratio). Next to the Kerala state are Gujarat, Maharashtra, Tripura, Manipur, Himachal Pradesh, etc. where the disparity in the ratio of about 2 : 1. Seemingly, areas which have experienced social reforms, religious movements, or economic advancement in recent times have registered low male-female differentials in literacy. In marked contrast to these states, the literacy disparities by sex are very wide in Rajasthan, Bihar, Uttar Pradesh, Madhya Pradesh and Haryana where the differential ranges between the ratios of 4.5 : 1 and 9 : 1. With strong feudalistic backgrounds and conditions of backwardness, most of these areas have been the scene of severe exploitation and repression of the scheduled caste people both in social and economic terms. The worst impact of this has been on female literacy. It is amazing that even after three decades of planned development and all the concessions provided to them in the constitution of free India, less than four per cent of the scheduled caste females should be literate by 1981 in Rajasthan, Bihar and Uttar Pradesh.

In general, the male-female differential in literacy is inversely correlated with the overall literacy rates in these castes, as in the general population. It is large where overall literacy is low and small where overall literacy is high.

The practical absence of literacy among scheduled caste females till recently is the consequence of long continued economic compulsions forcing the females to take up work to supplement the family resources for making an humble living. Also the traditional association with low occupation activity for which education had litt meaning perpetuated illiteracy among then more especially among their femal (Chandna, 1989, pp. 74-75). Some progre which they have registered in recent years the outcome of the concessions an privileges extended to them by the constit tion and an increasing awareness of th need to receive education as an instrume of socio-economic progress.

Rural-Urban Differential in Literacy

There is a sharp contrast in the rur and urban literacy rates of scheduled cast population (Table 3). While 36.6 per cer of the scheduled caste persons living i urban areas are literate the correspondin proportion for the villages is only 18.4 p cent - a ratio of 2 : 1. Not only do th urban areas have much higher rates of literacy than those of the rural areas, bu also they have a much lower male-femal differential (2 : 1) than their rural counte parts have (3 : 1). This is attributable t greater facilities for education in towns an cities than in villages, and also mo possibilities of employment in urban are in diverse nonagricultural and non-trad tional spheres of activity which deman some minimal levels of educational attain ment as a pre-requisite.

A close look at Table 3 reveals that th rural-urban differential in scheduled cast literacy varies widely from state to stat With 64.7 per cent of the scheduled cast persons literate in urban areas and 54.7 pe cent in rural areas, Kerala has not only b far the highest literacy rates among thes castes in India but also the lowest rura urban differential in their literacy. B

Table 3

India : Literacy Rates of Scheduled Caste Population, 1981

States / Union Territories	General (Percentage)			Rural (Percentage)			Urban (Percentage)		
	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
INDIA*	21.3	31.1	10.9	18.4	27.9	8.4	36.6	47.5	24.3
States									
Kerala	55.9	62.3	49.7	54.7	61.1	48.4	65.7	70.6	59.0
Gujarat	39.7	53.1	25.6	34.9	48.7	20.5	49.7	62.0	36.3
Maharashtra	35.5	48.8	21.5	30.2	44.0	16.0	47.1	59.0	33.9
Tripura	33.8	43.9	23.2	32.9	42.9	22.3	48.0	58.2	37.2
Manipur	33.6	41.9	24.9	31.8	40.2	23.0	42.6	50.1	34.5
Himachal Pradesh	31.5	41.9	20.6	30.4	40.8	19.6	50 6	60.2	39.1
Tamil Nadu	29.6	40.0	18.4	25.9	36.9	14.7	44.5	55.3	33.3
Sikkim	28.0	35.7	19.6	22.6	30.2	14.2	47.9	55.9	39.2
Meghalaya	25.7	33.2	16.3	22.5	31.0	12.5	29.5	35.6	21.0
West Bengal	24.3	34.2	13.7	22.6	32.5	12.0	36.7	45.6	26.2
Punjab	23.8	30.9	15.6	22.7	29.8	14.5	28.7	35.8	20.4
Orissa	22.4	35.2	9.4	21.7	34.5	8.8	29.0	42.3	14.9
Jammu & Kashmir**	22.4	32.3	11.7	21.3	31.3	10.5	30.6	39.6	20.8
Karnataka	20.5	29.3	11.5	15.3	23.6	6.8	39.2	49.3	28.4
Haryana	20.1	31.4	7.0	18.7	29.9	5.8	28.1	39.8	14.2
Madhya Pradesh	18.9	30.2	6.8	15.3	25.9	4.0	35.4	49.4	20.0
Andhra Pradesh	17.6	24.8	10.2	14.0	20.6	7 2	37.7	47.7	27.0
Uttar Pradesh	14.9	24.8	3.9	13.5	23.1	2.7	27.3	38.4	14.2
Rajasthan	14.0	24.4	2.6	11.2	20.5	1.8	26.7	41.9	9.7
Bihar	10.4	18.0	2.5	9.1	16.2	1.7	24.2	35.8	10.8
Nagaland	—	—	—	—	—	—	—	—	—
Union Territories									
Mizoram	84.4	88.3	53.3	83.5	87.7	28.5	86.8	90.0	75.0
Dadra and Nagar Haveli	51.2	58.5	44.7	52.4	61.3	44.8	40.8	37.7	44.0
Delhi	39.3	50.2	25.8	33.3	46.6	17.2	39.9	50.5	26.7
Goa, Daman, and Diu	38.3	48.7	27.8	36.4	47.5	25.4	41.3	50.6	31.5
Arunachal Pradesh	37.1	45.8	22.3	36.2	46.1	20.2	38.9	45.3	27.0
Chandigarh	37.0	46.0	25.3	31.1	38.7	21.3	37.7	46.9	25.8
Pondicherry	32.3	43.1	21.2	26.5	37.3	15.2	43.0	53.9	31.9
Andaman and Nicobar Islands	—	—	—	—	—	—	—	—	—
Lakshadweep	—	—	—	—	—	—	—	—	—

Source : Census of India 1981, Series 1—INDIA, Part II B—(ii) Primary Census Abstract—Scheduled Castes.

Note : Nagaland, Andaman and Nicobar and Lakshadweep Islands have no scheduled caste population.

*Excludes Assam where census could not be held owing to disturbed conditions in 1981.

**Excludes population of area under unlawful occupation of Pakistan and China where census could not be taken.

contrast, Bihar, with 24.2 per cent scheduled caste literacy rate in urban areas and 9.1 per cent in rural areas, is at the other end of the scale.

These regional contrasts in rural-urban scheduled caste literacy rates demonstratively reveal that even the constitutional provisions for the scheduled castes during the post-Independence period have not been able to bridge the gaps in their literacy rates sufficiently. The rural female literacy rates among the scheduled castes are still strikingly low in many of the states, with Bihar, Rajasthan and Uttar Pradesh being at the lowest rung of the ladder. The rates of rural literacy, in particular among the females, dive to extremely low figures in areas of traditionally feudal system of land-tenure where these underprivileged people have continued to be subjected to exploitation and deprivation even during the post-Independence period. The utter poverty and the severity of struggle for survival disallow them to send their children to school. In general, the rural-urban differential in literacy is inversely correlated with the overall literacy rates among the scheduled castes.

Spatial Patterns of Literacy

Although conscious efforts have been made to extend education to the traditionally underprivileged sections of the society throughout the country during the post-Independence period, the progress has been very slow and also highly uneven in spatial terms. Based on a spatially varying pattern of literacy existing in the beginning of the post-Independence period and an uneven progress thereafter, one finds a scene marked by spatial disparities in literacy among the scheduled castes in 1981. Kerala, with 55.9 per cent of its scheduled caste persons literate is on the top among all the states. Bihar, where only 10.4 per cent of these people can read and write, is at the tail end.

It is noteworthy that the distributional pattern of scheduled caste literacy strongly corresponds to that of general literacy. Wherever educational facilities are available adequately for the general population, the scheduled caste persons seem to have availed themselves of these accordingly, though not uniformly, nor to the same extent as the non-scheduled caste have in many cases. The cause and effect relationships in the emerging spatial patterns of scheduled caste literacy reflect a complex interweaving of socio-economic, cultural, historical and political factors the impact of which defies quantification and exactitude.

The following three types of areas are identifiable on Map 1 :

A. Areas of relatively high rates of literacy among the scheduled castes : 30 per cent and above

B. Areas of relatively low rates of literacy among the scheduled castes : less than 20 per cent

C. Areas of moderate rates of literacy among the scheduled castes : between 20 and 30 per cent.

A. Areas of Relatively High Literacy

Areas having literacy rates of 30 per cent or above among the scheduled castes cover a total of 118 districts out of a total of 412. The areas coming under this

category include : (i) the western coastal tract (from Kerala to the Gujarat Plain) ; (ii) parts of eastern and south-eastern Tamil Nadu ; (iii) north-eastern hill tracts ; (iv) east-central Punjab; (v) Union Territory of Delhi; (vi) parts of the north-western Himalayan region and (vii) individual districts scattered over the country.
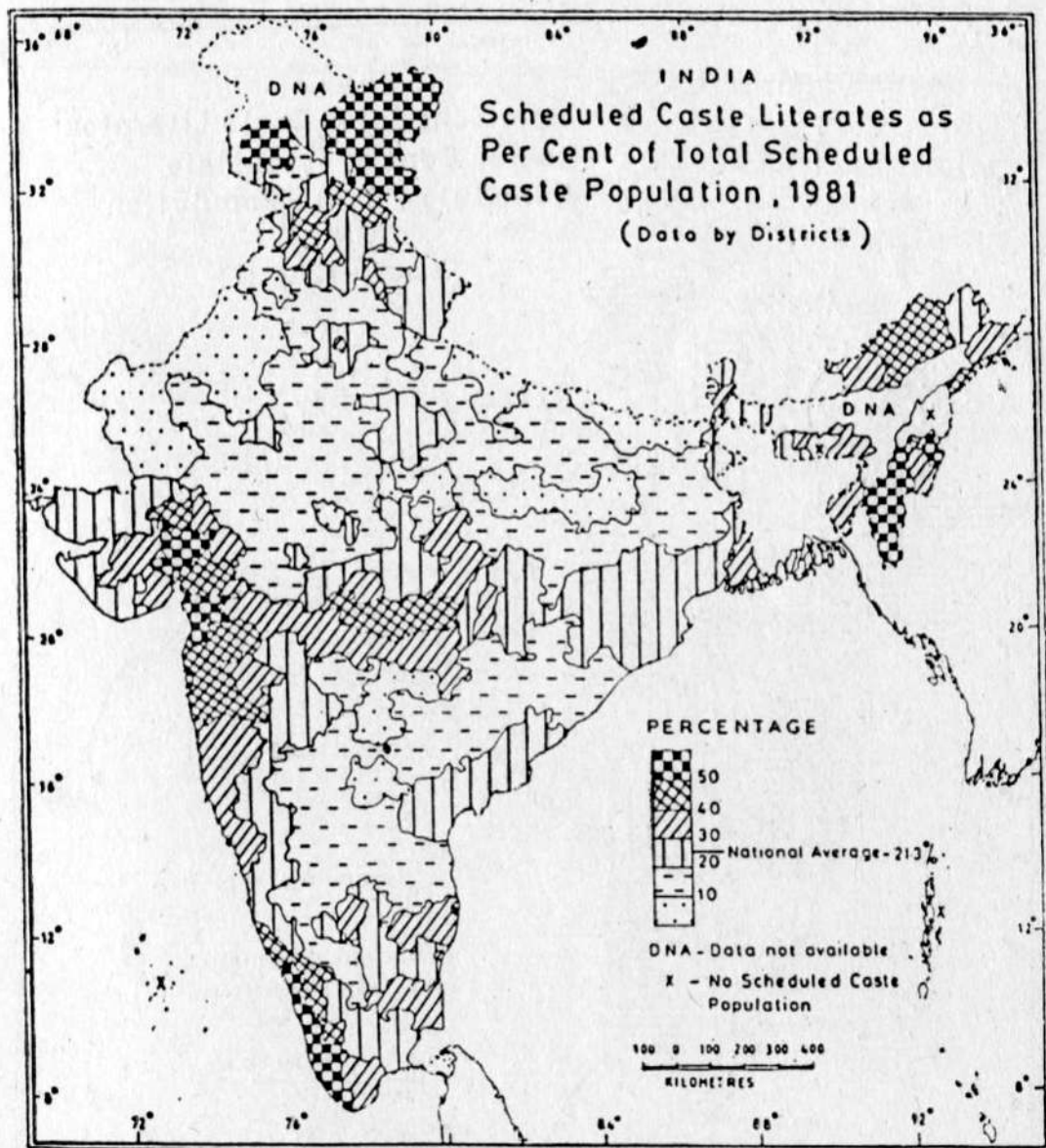
(i) Among the western coastal and near-coastal tracts having relatively high rates of scheduled caste literacy, Kerala outshines all others with outstanding achievements to its credit. Here 55.9 per cent of the scheduled caste persons (63.3 per cent males and 49.7 per cent females) are literate. Not only is the general literacy rate among these castes high here, but also the male-female and rural-urban differentials therein are very small indeed. The index of equality* in terms of literacy rates among the scheduled caste persons and the non-scheduled caste population in this state works out to 77.6. Within Kerala the literacy rates are distinctly higher in the coastal districts than in the interior hilly districts (Map 1). Kottayam district has the highest scheduled caste literacy rate (71.7 per cent). This allround progress in literacy among the scheduled castes in Kerala is attributable to : (a) consistent efforts made by the Christian missionaries towards the spread of education among all sections of the society during the British rule as well as the post-Independence era, and (b) a long tradition of liberal education pursued by the erstwhile rulers of Cochin, and Travancore and several religious and cultural organisations. In building up a general tradition of awareness for education, long contacts of

the western coast with the outside world, particularly Europe and the Middle East, extending over hundreds of years, played no small role (Davis, Kingsley, 1951, p. 153).
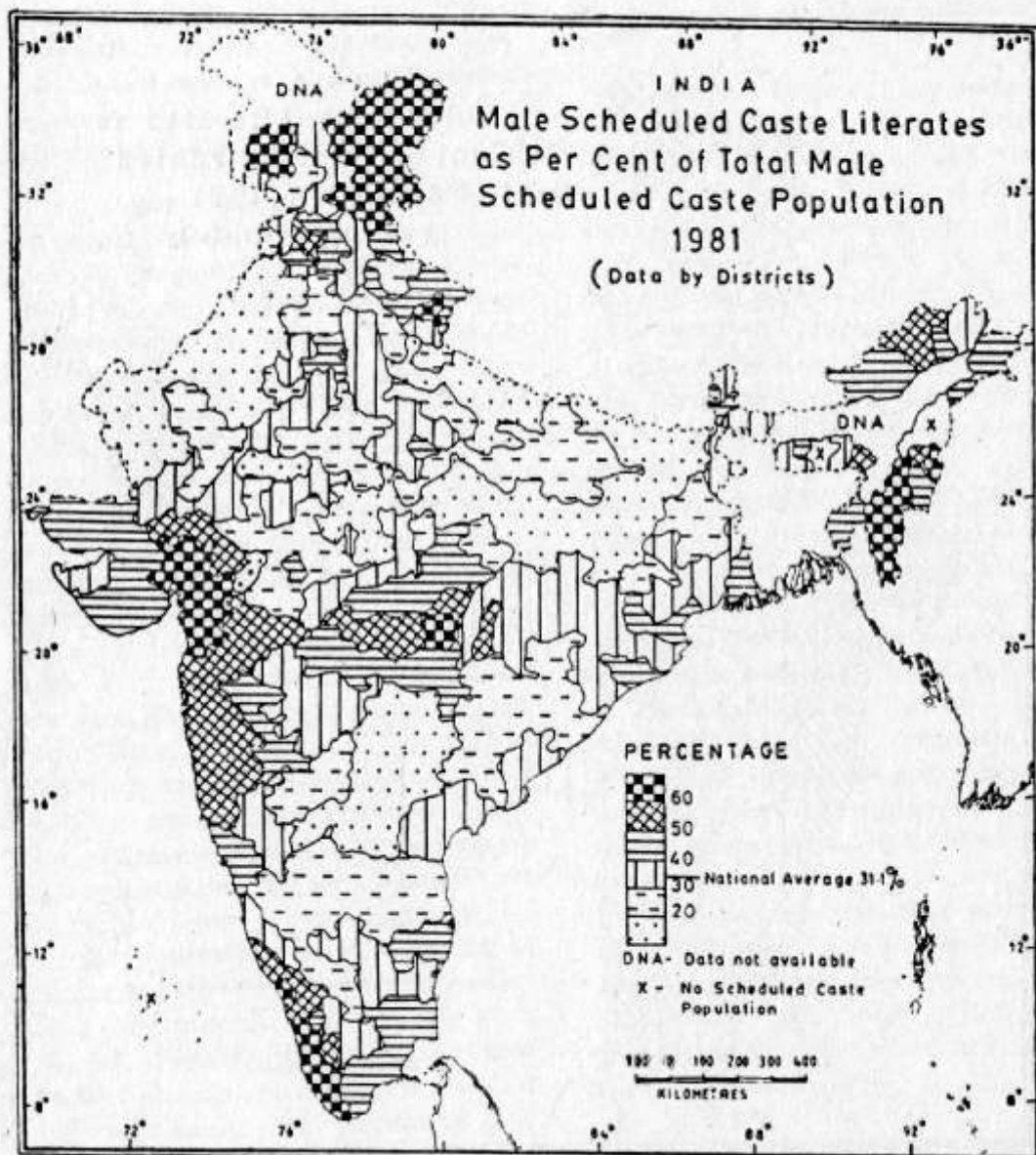
The coastal districts of Gujarat come next in achieving high rates of literacy among the scheduled castes. In Gandhinagar, Ahmeda-bad, Kheda, Surat, Valsad and the Dangs districts, 50 to 64 per cent of the scheduled caste people are literate (Map 1). In Vadodara and Bharuch districts, it is a little over 49 per cent. Interestingly, in the state of Gujarat the index of equality in literacy rates among the scheduled caste persons, on the one hand, and the non-scheduled caste persons, on the other, is the highest in India - 90.2, even though here the absolute literacy rates, both for scheduled castes and non-scheduled castes, are considerably lower than those in Kerala. It is because of Mahatama Gandhi who worked with a deep sense of commitment for the amelioration of the scheduled caste people whom he called *Harijans*. The successive state governments during the post-Independence period have been maintaining this tradition. A large number of scheduled caste people had migrated to cities and towns to find employment in the expanding textile and cottage industries. The progressive environment in the urban areas not only pulled them out of their primitive thinking but also provided a stimulus to their children to receive education.

On the other hand, slow progress of literacy among the scheduled tribes, who constitute 14.2 per cent of the total popula-
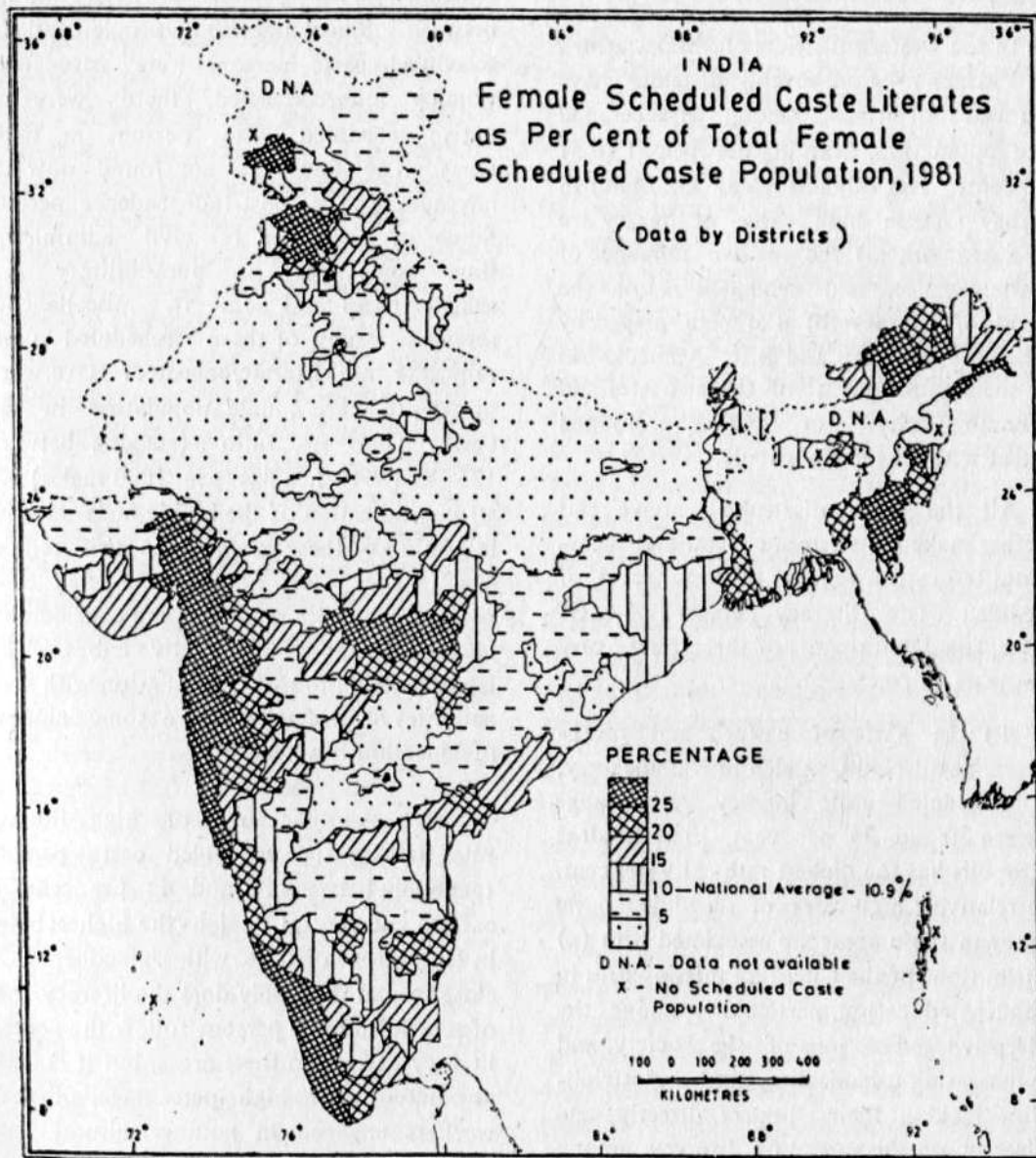
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*Index of equality $= \dfrac{\text{Percentage of scheduled caste literates}}{\text{Percentage of non-scheduled caste literates}} \times 100$

INDIA

Scheduled Caste Literates as Per Cent of Total Scheduled Caste Population, 1981

(Data by Districts)

PERCENTAGE

50
40
30
20 National Average—21.3%
10

DNA – Data not available

X – No Scheduled Caste Population

100 0 100 200 300 400
KILOMETRES

Map 1

INDIA

Male Scheduled Caste Literates
as Per Cent of Total Male
Scheduled Caste Population
1981

(Data by Districts)

DNA

DNA

X

PERCENTAGE

60
50
40
30 National Average 31.1%
20

DNA- Data not available

X - No Scheduled Caste
      Population

100   0   100 200 300 400
KILOMETRES

Map 2

INDIA
Female Scheduled Caste Literates
as Per Cent of Total Female
Scheduled Caste Population, 1981

(Data by Districts)

PERCENTAGE

25
20
15
10—National Average - 10.9%
5

D N.A _ Data not available
X - No Scheduled Caste
Population

100 0 100 200 300 400
KILOMETRES

Map 3

tion of Gujarat, was instrumental in keeping the literacy rate of the non-scheduled caste population lower than what might have been expected otherwise.

In the western districts of Maharashtra and Vidarbha region, several districts have high rates of literacy among the scheduled caste population, varying between 31 to 51 per cent. The highest rates are found in Bombay. These high rates of literacy are associated with (a) the positive influence of industrialisation and urbanisation on the spread of literacy (b) the role played by Mahatama Gandhi and B.R. Ambedkar in the social upliftment of these castes and (c) Bombay city also had a prolonged contact with European people.

All the areas discussed above put together make the western coastal and near-coastal tracts as a region of high rates of scheduled caste literacy (Maps 1-3). Of course, the determinants of these rates vary from tract to tract.

(ii) In parts of eastern and south-eastern Tamil Nadu, as also in Pondicherry, the scheduled caste literacy rates range between 30 and 35 per cent. The Madras metropolis has the highest rate - 51.9 per cent. The relatively high rates of scheduled caste literacy in these areas are associated with (a) contributions of the Christian missionaries in extending education, particularly among the underprivileged sections of the society, and (b) increasing urbanisation and industriali-sation making their impact, directly and indirectly, on the spread of literacy among the workers and their children.

(iii) The North-Eastern Hill tracts have relatively high rates of literacy among their scheduled caste people. It is the

highest in Mizoram, followed by Manipur and Arunachal Pradesh (Table 3). Strikingly, in all these tribal hill-tracts the scheduled caste persons are few and far between. Since the tribal people and the scheduled caste persons were never func-tionally interconnected, there were no native scheduled caste persons in these areas. The few who are found now are migrants of the post-Independence period. Some of them are in civil administra-tion, some are in para-military and armed forces and some in miscellaneous services. Many of these scheduled caste migrants are literate/educated. Overwhel-mingly, they are a male population in this tract. Their sex ratio (ranging between 125 and 790 females per 1000 males) is a strong indication of the highly male-selective migration of these people into this region. The literacy rates of the scheduled caste persons who are migrants are considerably higher than those of the native tribes. This is attributable to their association with such activities or profession where some amount of education is a necessity.

(iv) Another area of high literacy rates among the scheduled caste persons (generally between 30 and 42 per cent) is eastern and central Punjab - the highest being in Hoshiarpur district with Jalandhar as a close second. Not only does the literacy rate of scheduled caste persons follow the general literacy pattern in these areas, but it is also associated with high percentage of their workers engaged in non-agricultural acti-vities. Also these districts of Hoshiarpur, Jalandhar, Ludhiana and Ropar have a long tradition of emigration from among these people to United Kingdom, Canada and the Middle East. The remittances sent by the

migrants to their families back at home help their children to go to school. Even otherwise, outmigration/emigration is a factor of great importance in creating awareness of the need to receive education in the native areas- the demonstration effect as the social scientists call it.

(v) Understandably, the Union Territory of Delhi also has a fairly high rate of literacy among the scheduled caste population (39.3 per cent), associated mostly with the implication of high degree of urbanisation/industrialisation and development of services in a metropolitan area.

(vi) In some of the north-western mountainous tracts and the Kashmir valley, the scheduled caste literacy rates are very high. As in the north-eastern hill tracts, the scheduled caste persons, who are predominantly males, are very few in numbers in these areas. Most of them are in armed and paramilitary forces, administrative jobs, road building activities, etc.

(vii) Lastly, there are a few scattered districts/union territories where the scheduled caste literacy rates are quite high- Chandigarh (37.0 per cent), Dehra Dun (32.2 per cent), Jabalpur (35.2 per cent), Mandla (31.9 per cent), Balaghat (39.9 per cent), Durg (32.0 per cent), Hyderabad (42.2 per cent), Calcutta (42.5 per cent), 24-Paraganas district (33.2 per cent) etc. While in cities like Calcutta, Hyderabad, Chandigarh, etc. the high rates of literacy among the scheduled caste persons are associated with employment potential in industrial and service sectors, in Madhya Pradesh areas, the contributions of the Christian missionaries in extending education to underprivileged persons are significant.

It emerges from the above discussion that relatively high rates of literacy among the scheduled castes are associated with : (a) areas where Christian missionaries have made notable contributions in the spread of education, particularly among the lower strata of the society, (b) highly urbanised areas which have attracted literate/educated scheduled caste persons for employment in industries and miscellaneous services from far and near and where facilities for education for all sections of the society are adequate, (c) mountainous tracts and tribal areas where the scheduled caste people (very few numerically though) are migrants, engaged either in administrative and security services or other services, and (d) tracts having a long tradition of emigration and outmigration. It is also noteworthy that in such areas of relatively high rates of scheduled caste literacy, not only male-female and rural-urban differentials in literacy are lower in comparative terms but also the index of equality between the scheduled caste and non-scheduled caste persons in this regard is relatively high.

B. Areas of Relatively Low Literacy

Areas having less than 20 per cent of the scheduled castes as literate are quite widespread, covering 177 districts. In view of the wide range in literacy rates in areas belonging to this category, it would be desirable to consider it under two sub-categories : (i) areas where literacy rates are below 10 per cent and (ii) areas where the rates range between 10 and 20 per cent. The two sub-categories, apart from some common cause and effect relationships, have their own distinctive associations.

Areas having less than 10 per cent literates among the scheduled caste people

cover a total of 39 districts. These include the northern districts of Bihar as well as Uttar Pradesh, a large part of western Rajasthan, most areas of erstwhile Vindhya Pradesh and north-central tract of Andhra Pradesh.

In northern Bihar, which has been the scene of a strong feudal landlord system of tenure, the scheduled caste people, who have been the traditional source of agricultural labour for hundreds of years, have been subjected to severe exploitation and repression Even elementary education was beyond the reach of these underprivileged people. It had no relevance to the activities they were engaged in for a livelihood. As a result, very few got a chance to go to school and have the ability to read and write. This denial has persisted over a long period of time, giving rise to serious types of social and psychological problems. In most of northern Bihar the scheduled caste literacy rate is below 8 per cent. In a large part of this tract less than 2 per cent of the scheduled caste females in rural areas can read and write. Much of the literacy that does exist among these castes is very largely confined to males. The index of equality in literacy rates between scheduled caste and non-scheduled caste persons here is the lowest in the country. It is, no doubt, a measure of the acute social disparities characteristic of this region. It brings to light how little has actually been achieved in terms of bringing these people into the mainstream in such areas during the post-Independence period, constitutional provisions notwithstanding.

In many of the Terai districts of Uttar Pradesh also their literacy is well below 10 per cent. This is a tract which came under the developmental process only in recent decades. The extension of education has been slow, particularly in the lower strata of the society most of whose workers are engaged as agricultural labourers. Although the *Terai* tract has developed agriculturally, it still lacks a network of infrastructural facilities. That is why, their literacy rate has remained very low, particularly among the females. In most of the rural *Terai* areas the scheduled caste female literacy rate is less than 2 per cent, as in northern Bihar but in a different context.

Another large area with less than 10 per cent scheduled caste literacy rate is western Rajasthan which is arid and subjected to drought conditions frequently. Only in canal irrigated areas, as those of Ganganagar and Bikaner district, agriculture is stabilised and increasingly commercial. Even in these areas the scheduled caste people are overwhelmingly associated with agricultural activities, both as cultivators and labourers. In unirrigated areas the struggle for eking out a living from farming under arid conditions is hard indeed. Accordingly, the extension of literacy and education among the scheduled castes under such harsh circumstances has been an extremely slow process. There is practical absence of literacy among the rural females belonging to these castes. In some districts like Bikaner, Churu, Jaisalmer, Jodhpur, Nagpur, rural female literacy is even less than one per cent. The prevalence of child marriage also adversely affects the female literacy rate. In this tract the male-female differential, especially in rural literacy, is very large indeed, going upto the ratio of 30 : 1 in

some districts. The wide spacing of the settlements and still wider spacing of schools in this arid tract make it difficult for the children, particularly from the lower castes, to go in for education. Poor economic conditions in these drought prone areas make things difficult for the scheduled caste children to afford education. The feudal background in Rajasthan is also at the root of the educational backwardness of the scheduled castes which have been exploited for long. The index of equality in literacy rate between the scheduled caste and non-scheduled caste people is very low, ranging between 28 and 56.

A large part of the erstwhile Vindhya Pradesh area and some adjoining tracts constitute still another zone of unusually low scheduled caste literacy rates, ranging between only 4.5 and 9 per cent. These areas are the former native states which had poor resources and remained backward in socio-economic terms. In all of them, male-female and rural-urban differentials in scheduled caste literacy are large. What is particularly striking is the exceedingly low rates of literacy among the rural scheduled caste females - in several districts even less than 1.5 per cent. And this is despite constitutional provisions for free education and reservations in services for these traditionally underprivileged people. The poor resource base and the general lack of openings in non-agricultural employment are other factors which stand in the way of their socio-economic progress. It may further be mentioned that despite low rates of literacy even in the non-scheduled caste population in this tract (far lower than the national average), the index of equality in literacy rates between scheduled caste and

non-scheduled caste sections of the population is very low ranging between 26 and 36, indicating, in relative terms, an extremely lowly position of the scheduled castes in the society of this tract. It demonstrates the continuing acute backwardness of the people of this area in general and the scheduled castes in particular.

Lastly, there is a north-to-south extending tract in north central Andhra Pradesh where the scheduled caste literacy rate is below 10 per cent. It includes the districts of Mahbubnagar, Medak, Nizamabad, and Adilabad. These are the areas which have had a long history of feudal landlordism in which the scheduled caste people were subjected to a lot of exploitation and discrimination. In the face of stark poverty, education had little relevance for them. Even now most children, men and women among them join the work force to eke out a living. As in other areas of extremely low scheduled caste literacy rates, so in this tract the male-female and rural-urban differentials in literacy are high. The rural female literacy is very low : between 1.5 and 3 per cent.

Thus, the extremely low rates of scheduled caste literacy are characteristic of areas where (i) feudal system of land tenure has remained entrenched despite the post-Independence land-reforms, (ii) scheduled castes are overwhelmingly associated with farming activities as cultivators and labourers, (iii) general resource base is poor and development lacking even among the general population, and (iv) the scheduled caste people under the pre-Independence princely rule were subjected to extreme exploitation and deprivation.

The second sub-category of relatively low scheduled caste literacy rates (10 to 20

per cent) includes as many as 138 districts. In all cases, the areas under this sub-category adjoin those of the first sub-category (below 10 per cent) discussed above. They include a large part of West Bengal, southern parts of the North Indian Plain, eastern Rajasthan, most of Andhra Pradesh excluding the coastal districts and interior Karnataka. Invariably these are the areas which are overwhelmingly rural and where agriculture is the main basis of economy. The association of scheduled caste workers as agricultural labourers, apart from their traditional service, worked against educational progress. These are also the areas which may be characterised by general socio-economic backwardness. The literacy rates of the non-scheduled caste population in these areas are not high either. They are almost invariably below the national average. The index of disparity in literacy rates between the scheduled caste and non-scheduled caste population is generally low, in any case well below the national average. Only in predominantly backward tribal districts having low rates of general literacy is this index high. It is apparent that in this entire category of areas the scheduled caste people have yet a long way to go before they are anywhere near the rest of the population in literacy, or processes of socio-economic development.

C. Areas of Moderate Literacy

Areas belonging to this category have scheduled caste literacy rates which are generally above the national average (21.3 per cent), but below 30 per cent. In all, 95 districts are included in this category. In distributional pattern, in many cases,

they represent a transition between the two main categories discussed above. In terms of associational factors, they partake the characteristics of either category, depending on the relative location of concerned areas. They include : (i) interior parts of Tamil Nadu, Karnataka and southeastern Maharashtra, (ii) coastal areas of Andhra Pradesh, most of Orissa, south-eastern Madhya Pradesh, Ranchi and Singhbhum districts of Bihar, south-central parts of Madhya Pradesh, (iii) northern and southwestern areas of West Bengal, (iv) most of the U.P. Himalayan region and Himachal Pradesh, (v) areas around Delhi Union Territory and (vi) Kachchh and western Saurashtra.

(i) In the interior areas of Tamil Nadu and western districts of Karnataka the contributions made by the Christian missionaries in extending educational facilities, particularly among the lower strata of the society, among other factors, have been an important factor in giving a moderate rate of literacy to the scheduled caste people. They are predominantly rural and are associated over-whelmingly with agriculture, both as cultivators and agricultural labourers, apart from their traditional services. The impact of the Christian missionaries on literacy rates is evident, their preoccupation with agriculture notwithstanding.

(ii) In coastal areas of Andhra Pradesh, most of Orissa and the adjoining areas of southern Bihar and southeastern and south-central tracts of Madhya Pradesh, 20 to 30 per cent literacy rates among the scheduled castes are directly connected with the attempts of the Christian missionaries in spreading education among the under-

privileged sections of the society, despite prevailing poverty and backwardness among the masses in many parts. Several of these areas also have a lot of tribal population. The index of equality in literacy rates between the scheduled caste and non-scheduled caste people is accordingly moderately high. In predominantly backward tribal areas, it is generally between 75 and 100, as is the experience of similar other areas in the country. In the south-central areas of Madhya Pradesh such as Betul and Chhindwara, this index exceeds even 100, implying that the scheduled caste people are more literate in comparative terms than the local predominantly tribal population.

(iii) In the northern and south-western areas of West Bengal the above average literacy rates of the scheduled castes are associated with their relatively better economic conditions due to the fact that a comparatively high percentage of them are owner cultivators. Occupationally, quite a sizeable section of their work-force is also engaged in miscellaneous services which require some educational attainments. Socially, several of the scheduled castes in these areas have been better received by other sections of the society for their skill and co-operation traditionally, leading to lessening of the discriminatory processes.

(iv) In the Uttar Pradesh Himalayan tract, 20 to 30 per cent of the scheduled caste persons are literate. The index of equality in these areas is generally above 60. Despite their general economic backwardness, moderately high rates of literacy in these areas are associated with their tradition of recruitment to armed forces (Gosal, 1979, p. 65) and out migration.

Similarly, most parts of Himachal Pradesh, which has the distinction of having the second highest percentage of scheduled caste population to total population among the states of India, have moderate scheduled caste literacy rates, attributable to their recruitment to armed forces, inclusion of higher castes in the scheduled caste category and multi-functional nature of their work force. In addition, a large majority of the working people of these castes here are owner-cultivators. Only about 5 per cent of the total workers are agricultural labourers. It is a very uncommon phenomenon in the Indian context. With the predominant status of owner-cultivators, the scheduled caste workers in Himachal Pradesh are better placed socially and economically than their counterparts elsewhere. Almost everywhere in Himachal Pradesh the index of equality in literacy rates between the scheduled caste and non-scheduled caste people is above the national average—ranging between 54 and 83 per cent.

(v) The area around the union territory of Delhi is another zone of 20 to 30 per cent scheduled caste literacy rates. The scheduled caste migrants from all parts of the country engaged in non-agricultural activities in the national capital region account for these above-average rates of literacy. Among the migrants the proportion of literate/educated person is generally high as they are the ones who are more aware of the potentialities of other areas.

(vi) Lastly in Kachchh and western Saurashtra also the scheduled caste literacy rates are moderately high - an extension of the high rates of literacy among these

castes in the Gujarat Plains, as discussed earlier.

Thus, the moderate literacy rates among the scheduled castes are characteristic of areas where : (a) the Christian missionaries have contributed significantly to the extension of education, particularly among the under-privileged classes of society, (b) a sizeable percentage of the scheduled caste workers is employed in non-agricultural activities, (c) the scheduled castes have a tradition of joining the armed forces or similar other employment outside their native states, and (d) a considerable proportion of the scheduled caste people are owner-cultivators.

Conclusions

With only 21.3 per cent of their population as literate, the scheduled castes are still a way behind the rest of the society in terms of literacy. This is, despite the concessions and privileges provided to them in the constitution of free India. They have, no doubt, come a long way in attaining the present level of literacy but there still remains so much to be done before they are at par with the rest of the population in this respect. The legacy of hereditary occupations has tended to perpetuate illiteracy among these people. In the context of their traditional vocations, a certain minimum level of education or literacy never became a necessity with them. The appalling poverty among their masses has been another factor responsible for the continuance of illiteracy among them. The least benefitted section of the scheduled caste population in educational attainments is the females, particularly in rural areas, among whom literacy is highly sporadic, in some areas practically non-existent.

In India as a whole, the spatial pattern of scheduled caste literacy follows the pattern of general literacy. Peninsular India stands out in marked contrast to northern India in general as well as in scheduled caste literacy.

The highest rates of scheduled caste literacy are marked by their coastal or n ar coastal location where contacts with the outside world have been long and the tradition of education well established, and where the Christian missionaries have played a significant role in extending educational facilities, particularly among the lower strata of the society. Interestingly, in all such areas of influence of Christian missionaries, not only the overall scheduled caste literacy rates are high but also the male-female and rural-urban differentials in their literacy are far lower than elsewhere in the country.

High rates of scheduled caste literacy are also associated with highly urbanised-industrialised tracts which are distictly better placed in educational facilities than their rural counterparts. The growing avenues of employment in a variety of industrial and service activities in such urban areas have acted as a pull factor and have been instrumental in inducting rural-urban migration from among the scheduled caste people, especially the literate ones. Migration to the urban areas by itself becomes a factor in generating awareness for education. In this respect the scheduled castes are no exception. Moreover, the diverse economic activities in towns and cities do require a minimal level of literacy, acting as an incentive for the parents to send their children to school.

Lowest rates of scheduled caste literacy, on the other hand, are associated with areas

where feudal landlords have been entrenched and are still exploiting the scheduled caste people for farm labour. In such areas the scheduled caste people are still suffering from several kinds of denials and deprivations. Literacy is practically non-existent among their females in the countryside. Areas of general socio-economic backwardness, barring those influenced by the Christian missionaries, have characteristically low rates of scheduled caste literacy. Coincidentally, several of these areas are former princely states. Furthermore, low rates of scheduled caste literacy are also typical of the areas where scheduled caste workers are predominantly associated with agriculture, particularly as farm labourers.

Moderate rates of scheduled caste literacy are associated with some of the mountainous tracts, their general backwardness notwithstanding. There the scheduled caste people have a tradition of serving the armed and paramilitary forces or outmigrating for employment in non-agricultural sphere of activity. In addition, moderate rates of literacy are found in areas where Christian missionaries have worked, but which otherwise are not much developed.

Similar rates are also characteristic of tracts where scheduled caste workers are largely owner cultivators.

In general, there is a strong inverse correlation between the general rates of literacy among the scheduled caste people and the male-female differential therein. The inter-regional disparities in scheduled caste literacy are far more pronounced in rural areas than in urban tracts. In rural areas, the male-female differentials are far greater than what is seen in towns and cities. No doubt, the inter-regional, rural-urban and male-female differentials in scheduled caste literacy have narrowed down during the post-Independence period, but much remains to be desired as yet in this direction. If these people are to be brought into the mainstream within a reasonable period of time, not only these disparities must be substantially reduced but also the processes of educational progress among them must be accelerated to register higher levels of educational attainments. Education is the chief instrument for bringing about horizontal as well as vertical mobility among these people who have remained underprivileged for centuries. The task is great and the odds are heavy, but there is no time to lose.

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REGIONAL DIVERSITY IN SOME ASPECTS OF INDIAN DEMOGRAPHY

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The purpose of this paper is two fold. The first is to elaborate on the regional variations in the Indian demographic situation and analyse the differences there-in. The second is to identify the socia-economic correlates of these demographic differentials between the different geographical regions of the country.

The study depicts significant dynamism in the Indian demographic sense (in almost all the states), during the period 1971-81. However, the magnitude of the change was not associated with the level of study parameters in the base year i.e., 1971, and was not consistent in all the states.

The analysis also shows a broad geographical pattern in the demographic behaviour of the Indian states. It reflects a clear north-central-south devide between the states, with South Indian states showing a better demographic profile followed by the Central and North Indian states in that order. Interestingly, these regional demographic imbalances neatly chimes-in with the socio-economic differences observed between these states.

The paper makes a strong case to remove the socio-economic disparities between the states to bridge the demographic gaps.

India is a vast country, characterised by the widely different culture, life-styles, socio-economic settings, varying from one geographical region to another. It is imperative that these regional differences would effect the demographic dimensions of the country, and in turn be influenced by the demographic variations. In any effort to study the country's population dynamics and to plan for its socio-economic development, it is necessary that these regional variations be taken into consideration. Present paper is an attempt in this direction. Its purpose is two-fold. The first is to study the regional variations in the Indian demographic profile, and the second is to identify the socio-economic and cultural correlates of the demographic differences between the different geographical regions of the country.

Data

India's regional demography is relatively a new subject and is still much constrained by the data sources. The unit of analysis used here is an individual state. Although, for some purposes it is too large a level of aggregation, the lack of adequate data at the smaller level, say the district, leaves very little choice. Fourteen major states, comprising more than 93 per cent of India's total population, form the study universe.

The data have been culled-out from several sources. The primary source, of-course is the Indian census, but other avenues such as Sample Registration System (SRS), nation-wide population surveys conducted by the Registrar General of India in 1972 and 1978 to estimate the fertility and mortality rates have also been used.

Regional Variations in India's Demographic Behaviour

Primarily the indices of population size and growth rate, fertility and mortality, sex and age composition, and nuptality pattern, suffice to explain the demographic dimension of any population. Therefore, we have also taken these six parameters to analyse the demographic behaviour of different Indian states.

The situational analysis approach has been used to analyse and compare the demographic conditions of the different states, using the data from 1981 census, and other sources for the same period. An attempt has also been made to study the magnitude of change in the demographic conditions during the period 1971-81.

For simplicity in the analysis the states are ranked in the increasing or decreasing order of the value of parameter under study, and on the basis of this ranking, the states are grouped in the geographical clusters. Although, some sensitive statistical techniques such as, multiple discriminant analysis could also be used for this purpose, in the present instance even the clustering of the states on the basis of their ranks gives a clear pattern.

(i) Population Size and Growth Rate

Table 1, gives the population size and growth rate for the major states of India for the period 1971—81. The table clearly reflects relatively large variations in the population growth rate of different states during the period 1971-81. It is also evident from the table that the population size and growth rate of the states are not related with each other. Some states with larger populations have shown slower population growth rate. The convense is true of some smaller states. The ranking of the states on the basis of population growth rates (1971-81) indicates a very broad geographical pattern of north-south divide, with northern states such as Rajasthan, Haryana etc., showing higher population growth rates than the southern states such as Tamil Nadu, Kerala etc. Although, all the states do not fit in this geographical patterns they do reflect a trend.

(ii) Fertility Behaviour

The variables used to analyse the fertility behaviour are crude Birth Rate (CBR) and child-women Ratio (CWR).

The CBR estimates for the years 1970-72 and 1981-82 (SRS 3 years moving averages) for the 14 major states of India are presented in table 2. Ranking of these states on the basis of 1980-82 estimates indicates a large variation in the fertility levels of different states and a comparatively clear north-central-south geographical divide in the fertility level of India. Although, the demarcation of the states in the different geographical regions is not very strict, the the analysis shows that the northern states of Uttar Pradesh, Bihar, Rajasthan, Madhya Pradesh and Haryana had a higher fertility level than the central states namely, Gujarat, Orissa, West-Bengal and Andhra Pradesh.

Table 1

Population Size and Population Growth Rate

States	Population (1981) (000')	Population growth rate (1971-81)	Rank (1971-81 population growth rate)
India	685,185	25.00	—
1. Andhra Pradesh	53,550	23.10	11
2. Bihar	69,915	24.06	8
3. Gujarat	34,086	27.67	3
4. Haryana	12,923	28.75	2
5. Karnataka	37,136	26.75	4
6. Kerala	25,454	19.24	13
7. Madhya Pradesh	52,179	25.27	6
8. Maharashtra	62,784	24.54	7
9. Orissa	26,370	20.17	12
10. Punjab	16,789	23.89	9
11. Rajasthan	34,262	32.97	1
12. Tamil Nadu	48,408	17.50	14
13. Uttar Pradesh	110,862	25.49	5
14. West Bengal	52,581	23.17	10

Four South Indian states : Kerala, Tamil Nadu, Karnataka and Maharashtra along with the North Indian state of Punjab (only exception) had lowest fertility levels. The table also reflects a moderate decline in the fertility level of all the states (except Bihar and West Bengal) during the decade 1971-81. However, this decline in the CBR was not associated with the original fertility level (in the year 1970-72) of the states under study.

The second indicator of the fertility level, the child-woman ratio, however, presents a somewhat different pattern of fertility in the 14 major states of India (table 2). Firstly, the ranking of states on the basis of 1981 CWR estimates, shows some modifications (in the pattern observed with respect to the CBR) in the relative position of some of the states. However, the same geographical pattern was observed. Secondly, it shows a significant decline in the fertility level of all the states during the period 1971-81. The decline ranges from 7.15 per cent for Bihar to 29.57 per cent for West Bengal. (SRS data show an increase in the fertility levels of Bihar and West Bengal during the same period).

Table 2

Fertility Indicators

States	Crude Birth Rate			Child Women Ratio (CWR)			
	SRS 1970-72	SRS 1980-82	Rank (1980-82 estimates)	1971	1981	Rank (1981 Estimates)	Percent Change (1971-81)
India	36.8	33.8	—	655	546	—	16.64
1. Andhra Pradesh	35.4	31.3	9	599	514	7	14.19
2. Bihar	32.3	38.1	2	643	597	10	7.15
3. Gujarat	40.4	34.8	6	651	518	8	20.43
4. Haryana	39.6	36.8	5	781	620	12	20.61
5. Karnataka	32.0*	27.9	12	652	538	9	17.48
6. Kerala	31.3	26.2	14	747	611	11	18.21
7. Madhya Pradesh	39.2	37.7	4	550	409	1	25.64
8. Maharashtra	32.0	29.1	11	643	513	6	20.20
9. Orissa	35.8	32.7	7	636	507	4	20.28
10. Punjab	34.2	30.2	10	728	656	14	9.90
11. Rajasthan	41.1	37.9	3	611	512	5	16.20
12. Tamil Nadu	31.3	27.8	13	531	435	2	18.08
13. Uttar Pradesh	44.5	39.2	1	685	629	13	8.18
14. West Bengal	30.0*	32.4	8	700	493	3	29.57

*Figures for 1971 were taken. SRS stands for Sample Registration System

$$CWR = \frac{P(0-4)}{F(15-49)} \times 1000; \quad \text{Percent Change} \atop (71-81) = \frac{CWR(71) - CWR(81)}{CWR(71)} \times 100$$

Although two parameters of fertility behaviour used in this analysis give a somewhat different levels of fertility in the major states of India the geographical patterns indicated by them are more or less similar.

(iii) Mortality Level

Infant Mortality Rate (IMR) which is normally considered as an sensitive indicator of not only the prevailing situation but also of socio-economic conditions of the society has been used to analyse the mortality conditions.

In the absence of comparable SRS data for the IMR for the reference period of the study, estimates obtained in the Registrar General Surveys of 1972 and 1978 have been used (Table 3).

Table 3

Mortality Indicator and Sex Ratio

States	Infant Mortality Rate (per 1000 live birth)			Sex Ratio (Female per 1000 males)			
	1972 Survey	1978 Survey	Rank (1978 Survey)	1971	1981	Rank (1981 Census)	Absolute Change (1971-81)
India	—	126	—	930	933	—	+3
1. Andhra Pradesh	121	112	7	977	975	4	+2
2. Bihar	100	—	—	954	946	6	−8
3. Gujarat	128	118	8	934	942	7	+8
4. Haryana	78	109	6	867	870	14	+3
5. Karnataka	92	75	2	957	963	5	+6
6. Kerala	64	39	1	1016	1032	1	+16
7. Madhya Pradesh	138	135	11	941	941	8	0
8. Maharashtra	97	75	3	930	937	9	+7
9. Orissa	138	133	10	988	981	2	−7
10. Punjab	98	103	5	865	879	13	+14
11. Rajasthan	127	129	9	911	919	10	+8
12. Tamil Nadu	105	103	4	978	977	3	−1
13. Uttar Pradesh	186	167	12	879	885	12	+6
14. West Bengal	85	—	—	891	911	11	+20

The table depicts large variations between the IMR levels of different states, ranging from 39 (per 1000 live births) for Kerala to 167 for Uttar Pradesh. Although, the data for two states (Bihar and West Bengal) were not available, the geographic clustering of the states (on the basis of 1978 IMR estimates) is very much reflected in the ranking of states on the basis of IMR levels. The South Indian states, i.e., Kerala, Karnataka etc;, show lower level of IMR than the North-Indian states of Uttar Pradesh, Madhya Pradesh,

Rajasthan etc;, with other states falling at intermediate level.

A comparison between 1972 and 1978 data indicates a mixed pattern of change in the level of IMR over time. Firstly, there was a general but modest decline in the IMR level, but some North-Indian states like Haryana, Punjab and Rajasthan have shown a rise in their IMR level. Secondly, the decline in the IMR level was comparatively larger in the South-Indian states such as Kerala, Karnataka etc., as compared to states in the northern region.

(iv) Sex Composition

The census returns of the past several decades indicate that the sex-ratio (measured as number of females per 1000 males) has continuously been favourable for males. This trend has continued during the decades of 1971 and 1981 as well. However, declining trend in sex-ratio (right from 1901 census onwards) has been checked in the last census figures and a very small improvement in overall sex-ratio was observed.

Table 3, which also contains state level population sex-ratio for the 1971 and 1981 censuses of India indicates that all the states except Bihar and Tamil Nadu have recorded improvement in their sex-ratio during the period 1971-81. Increase was more pronounced in the states having more equal distribution of sexes than the others. The table also demonstrates a regional pattern in the variations of sex-ratio between the different states. The ranking of states on the basis of 1981 sex ratio shows that it was comparatively low and favourable for males in the North-Indian states of Punjab, Haryana and Uttar Pradesh, and as one moves south-wards, the sex ratio shows an improving trend, with central states occupying the intermediate position, and the southern states showing a more equal distribution of sexes. The geographical pattern observed is quite similar to the pattern observed for other demographic parameters.

(v) Female Age at Marriage

To study the nuptiality pattern female age at marriage was considered. The 1981 census data shows that the age at marriage of females continued to be low in India (Table 4). However, there was a marginal improvement in the age pattern of marriage during the period 1971-81. The states which have had lower age at marriage in 1971 have recorded comparatively larger improvement in their female age at marriage than the other states.

Ranking of states on the basis of 1981 census data of female age at marriage, shows that the states fall in a similar geographical pattern of north-central-south divide as observed for other variables.

From the above analysis of the demographic behaviour of the major Indian states on the basis of five population parameters it clearly emerges that these states can be broadly grouped into three categories, which interestingly follow a geographical pattern.

The states of Uttar Pradesh, Madhya Pradesh, Rajasthan, Bihar and Haryana located in the north-central and north-eastern parts of the country, were demographically less developed than the other states of India. We can term them as following the northern demographic pattern.

The states located in central-east and central-west parts of India i.e., Orissa, West Bengal, Gujarat and Andhra Pradesh had a comparatively better demographic regime than the northern states. This can be termed as central demographic pattern. The states located in the south-west, south-central and south India, i.e., Kerala, Tamil Nadu, Karnataka and Maharashtra along with the north-Indian state of Punjab (only exception) were demographically most advanced in the Indian Union. We may term it as the southern demographic pattern.

Of course our division of states into three geographical demographic regimes by

Table 4

Median Age of Total Population and Female Age at Marriage*

	States	Median Age (years)		Rank	Mean Female Age at Marriage (in Years)*			
		1971	1981	(1981 census)	1971	1981	Rank (1981)	Percent Change (71-81)
	India	19.60	20.48	—	17.2	18.3	—	6 39
1.	Andhra Pradesh	20.68	21.43	3	16.2	17.3	11	6.79
2.	Bihar	19.66	19.97	10	15.3	16.5	12	7.84
3.	Gujarat	18.66	20.37	7	18.4	19.5	4	5.98
4.	Haryana	16.93	18.78	14	16.6	17.9	9	7.83
5.	Karnataka	19.13	20.32	9	17.8	19.2	6	7.86
6.	Kerala	19.44	21.54	2	21.0	21.9	1	4.28
7.	Madhya Pradesh	19.07	19.69	11	15.0	16.5	13	10.00
8.	Maharashtra	20.11	21.35	4	17.3	19.0	7	9.83
9.	Orissa	19.71	20.34	8	17.5	18.8	8	7.43
10.	Punjab	19.10	21.04	5	20.2	21.0	2	3.96
11.	Rajasthan	18.43	18.92	13	15.1	16.1	14	6.62
12.	Tamil Nadu	22.04	22.29	1	19.6	20.2	3	3.06
13.	Uttar Pradesh	20.01	19.62	12	15.5	17.8	10	14.84
14.	West Bengal	18.85	20.52	6	17.9	19.3	5	7.82

*Mean years by Hajnal's method.

no means captures all significant features of the country's aggregate demographic variation. For example, in the north, Punjab deviates in important respect from the northern demographic regime. For instance, its fertility level was comparatively high, and it has a some what late marrigge pattern. However, in respect of sex-ratio, it coroborates with the northern demographic pattern. Similarly, position of Karnataka and Maharashtra fluctuates between the southern demographic pattern and central regime.

Also, the location and clearity of frontiers between the three demographic regimes, remains a problem. The relatively high level of data aggregation could be partially responsible for this situation. But, above tolerance categorization of states in the three geographical region helps a great deal in depicting the pattern.

Socio-Economic Correlates of Demographic Variations

In the search for a pattern of regional socio-cultural variation that might shed light

on these demographic patterns, we begin with comparing the socio-economic conditions between the major states under study.

Further, in the Indian demographic conditions of declining mortality and closed international migration, fertility level has been termed as the crucial factor in determining the future size and composition of the population. It was therefore, considered as main demographic determinant of the population size and a correlation analysis was carried out to study the linkages between the fertility level and general socio-economic conditions of the study states.

(i) Female Literacy

The female literacy is termed as an important indicator of only the status of women in the society but also of the level of social development of the society. As such, it is assumed that it would have a strong bearing on the demographic situation of the society, particularly the fertility behaviour.

Our data (table 5) from 1971 and 1981 census of India, show that, although the general female literacy level was low in India, it has shown significant improvement during the period 1971-81. All the states have recorded an improvement in their female literacy level, (during this period) ranging from 17 per cent for Kerala to over 50 per cent for Bihar. States having lower female literacy rate in 1971, have shown larger improvement.

Situational analysis of the female literacy level on the basis of 1981 census data, shows significant variations between the different states. The ranking of the states indicates towards a regional pattern,

quite similar to the geographical-demographic regimes observed earlier. The female literacy rate was higher in the South-Indian states and as one moves north wards it shows a declining trend. The central states show an intermidiate level and North-Indian states a low female literacy leval (except Punjab).

A very strong negative (rank) correlation has been observed (—0.86) between the female literacy rates and Crude Birth Rates of the 14 states considered in the study. The conclusion is obvious. Even at macro level the fertility level is greatly influenced by the female literacy level and in-turn by the status of women in the society. The southern-states having a higher female literacy level show a better demographic regime than the central or northern states. *Dyson and Moore (1983)* have extensively dealt with the differences in the status of women between the North and South-Indian states and their possible effect on the fertility regime. They have observed significant differences between the two regions and attributed it to the differences in the kinship system, cultural traits and female autonomy between northern and southern states. They have found that in general, females in South India had greater social freedom, autonomy, and as such were better placed than their counterparts in the North India, and concluded that these factors have strongly influenced the fertility behaviour in the South Indian States.

Our analysis also indicates towards the same phenomenon. The high female literacy has not only helped the South Indian states in keeping their fertility at a lower level, but has been instrumental in creating better demographic conditions in these states.

Table 5

Female Literacy (Age 5 years+) and Level of Urbanization

	States	Female Literacy Rate (Per cent)				Per cent Urban		
		1971	1981	Rank (1981)	Percent Change (1971-81)	1971	1981	Rank (1981)
	India	21.96	28.47	—	—	20.22	23.73	—
1.	Andhra Pradesh	18.32	23.25	10	26.91	19.31	23.25	7
2.	Bihar	10.23	15.79	13	54.35	10.00	12.46	13
3.	Gujarat	29.00	36.25	5	27.41	28.08	31.08	3
4.	Haryana	17.78	26.80	8	50.73	17.66	21.96	8
5.	Karnataka	24.56	35.32	6	43.81	24.31	28.91	4
6.	Kerala	62.53	73.39	1	17.37	16.24	18.78	11
7.	Madhya Pradesh	13.08	18.03	11	37.84	16.29	20.31	10
8.	Maharashtra	31.00	39.57	2	27.64	31.17	35.03	1
9.	Orissa	16.29	24.02	9	47.45	8.41	11.82	14
10.	Punjab	29.91	38.28	4	27.98	23.73	27.72	5
11.	Rajasthan	10.06	13.36	14	32.80	17.63	20.93	9
12.	Tamil Nadu	30.92	39.38	3	27.36	30.26	32.98	2
13.	Uttar Pradesh	12.46	16.32	12	30.98	14.02	18.01	12
14.	West Bengal	26.56	34.39	7	29.48	24.75	26.49	6

(ii) Level of Urbanization

Urbanization is a determinant as well as a consequence of the socio-economic development. It is natural consequence of economic changes that take place as the country develops. As such it has been termed as one of the good measure of the socio-economic development.

Table 5 also presents the level of urbanization of the 14 major states in India for the years 1981. It shows that Indian union is relatively less urbanised and that the pace of change is rather slow. The table also shows large variations in the level of urbanisation of different states, ranging from over 35 percent for Maharashtra to nearly 12 per cent for Orissa. The proportionate increase in the level of urbanization (during 1971-81) was between 2 to 4 per cent.

The ranking of states according to their level of urbanization, does not show any specific or broad geographical clustering of states. What-ever, geographical groups could be formed, they were widely different from those observed for the demographic parameters. The rank correlation co-efficient between the level of urbanization and the fertility levels (crude birth rate)

comes out to be—0.40, which is comparatively low, though statistically significant. It suggests that although urbanization helps in lowering the fertility level and improving the demographic conditions, it does not follow the general geographical pattern observed for the demographic regime in the country.

(iii) Economic Diversification

In the process of economic development, it is essential that all the sectors of economy have equal opportunity to grow. The degree of diversification achieved in different sectors of economy, therefore, serve as a good measure of economic development.

In the present study, proportion of male labour force working in different sectors of economy (primary, secondary and tertiary) has been taken as an index of economic diversification. Table 6, which presents the proportion of male labour force in the three sectors of economy for the years 1981, shows that although, the Indian Union as a whole and majority of states are still in predominantly agricultural economy stage, some states have significantly diversified in other economic sectors also. To eleborate our points, we shall discuss this issue in greater detail.

Owing it to the nature of our economy, the bulk of our labour force has traditionally

Table 6

Proportion of Male Workers in Primary, Secondary and Tertiary Sectors of Economy to Total Workers

States		Primary Sector			Secondary Sector			Tertiary Sector		
		1971	1981	Rank (1981)	1971	1981	Rank (1981)	1971	1981	Rank (1981)
	India	69.36	66.23	—	11.71	13.91	—	18.93	19.86	—
1.	Andhra Pradesh	69.92	67.01	6	11.97	13.33	9	17.90	19.65	8
2.	Bihar	83.45	79.94	1	5.98	7.53	14	10.91	12.53	14
3.	Gujarat	65.12	59.10	10	14.84	18.68	3	20.03	22.21	7
4.	Haryana	66.92	60.85	8	11.78	15.49	7	21.30	23.65	3
5.	Karnataka	69.83	66.30	7	12.16	14.19	8	18.01	19.50	9
6.	Kerala	54.97	50.32	14	16.46	18.42	4	28.57	31.26	1
7.	Madhya Pradesh	78.79	74.91	3	8.32	10.50	11	12.89	14.59	13
8.	Maharashtra	59.89	55.20	13	17.44	19.36	1	22.67	25.43	2
9.	Orissa	80.83	77.15	2	6.01	7.72	13	13.15	15.41	12
10.	Punjab	64.53	60.27	9	13.20	16.44	6	22.27	23.31	5
11.	Rajasthan	75.60	70.42	5	8.32	11.62	10	16.08	17.95	10
12.	Tamil Nadu	61.58	57.90	12	15.92	18.69	4	22.50	23.46	4
13.	Uttar Pradesh	76.95	74.28	4	8.22	10.37	17	14.83	15.35	11
14.	West Bengal	61.76	58.71	11	15.49	18.17	5	22.74	23.12	6

been in the agricultural (primary) sector. In our development efforts, emphasis is on reducing the dependence on agriculture and the development of secondary and tertiary sectors of economy. Therefore, the proportion of labour force in the primary sectors of economy would be inversely related to the level of economic diversification achieved in the Indian economy. The table 6 shows that during the period 1971—81, in all the statest here was a decline in the proportion of male workers in the primary sector of economy, and a gain in the secondary and tertiary sectors. However, this decline and gain in different sectors of economy, was not associated with the level of economic diversification of the states in 1971.

The situation analysis of the states on the basis of 1981 census data shows that the proportion of male workers in the primary sector, significantly differ from one state to another, ranging from 50.32 per cent for Kerala to 79.94 per cent for Bihar. The ranking of states on the basis of these data, clearly group the states · in a geographic pattern, which closely resembles the demographic-geographical regime of the Indian states. The South Indian states were less dependent on the agriculture and as one moves north-wards this dependence shows an increasing trend. A similar pattern was observed for most of the demographic parameters also. The (rank) correlation co-efficient between the proportion of male labour force in agricultural sector and fertility also comes out to be significantly high (+0.73), and supports are above observations.

The states, which have achieved some degree of economic diversification in the secondary and tertiary sectors of economy, also show a geographical clustering, quite close to that observed for the demographic parameters. The rank correlation co-efficient between the proportion of male workers in secondary and tertiary sectors with the fertility level (crude birth rate) comes out to be—0.61 and—0.70 respectively. In other words it shows that the economic diversification (or economic development) and fertility are closely associated with each other.

Conclusion

Our analysis shows a broad geographical variation in the Indian demographic behaviour. Interestingly the pattern observed indicates a clear north-central-south divide with southern states showing a better demographic regime followed by the central and northern states in that order. Moreover, these demographic imbalances, neatly chimes-in with the socio-economic differences observed between these states. Although, there would be many more variables depicting the socio - economic differences between the Indian states (A detailed study is already in progress,), the variables used here reflect some of the major differences.

The close association between the demographic imbalances and the socio-economic differences particularly, the female's education and economic diversification, make a strong case for the extra efforts to overcome these disparities to bridge the demographic gaps.

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NATIONAL CAPITAL REGION OF INDIA A CASE OF METROPOLITAN GROWTH MANAGEMENT

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The paper questions the wisdom of the fancied strategy of induced decentralisation for the National Capital Region of India. The decentralisation measures adopted so far have proved counterproductive. The persistent centralisation must be accepted as inevitable under the existing politico-economic context. Greater stress should be laid upon the management of this physically expanding metropolis than upon its spatial scattering. Some autonomous decentralisation can, of course, be achieved through a high speed, economical and reliable transport and communication system linking Delhi with its region.

Like most national capital regions of the developing countries, India's national capital region has experienced, and continues to experience, extraordinarily high urban growth rate. The same had happened in the developed countries immediately after the World War II when capital cities recorded unprecedented demographic expansion. Such a development was associated with a variety of urban management problems of colossal magnitude. This holds good also for the developing countries at present.

During 1971-81, the urban population of the India's National Capital Region (NCR) increased from 5.53 million to 9.09 million, representing a growth rate of 64.50 per cent. It is expected to rise further to 21.51 million by 2001. Out of this the share of the Union Territory of Delhi is projected at 13.26 million. The NCR's total population is likely to be 32.53 million as compared with 19.02 million in 1981 (National Capital Region Planning Board, 1986, pp. 14-15).

Urban growth on such a scale arouses mixed reactions. On the one hand, it reflects dynamism of the urban-regional economy; on the other, it represents mounting pressure on urban services, employment and land. Depending on one's perception, it could be viewed as either a boon or a doom situation. A spontaneous question arises : should Delhi be protected from the intensifying massive influx, which is viewed as the major cause of its phenomenal growth ?

The present paper intends to deliberate over this issue. It is organised into six sections. The first section traces the evolution of the NCR concept as a viable strategy to regulate the explosive growth of the India's National Capital of Delhi. The second section takes a note of the patterns and processes of urbanisation in the NCR. Three subsequent sections take a note of the goals and policies of the NCR plan, divergent perspectives on the proposed measures, and capital region strategies in other countries of the world. The sixth section presents a critique of the NCR plan.

NCR : The Concept

The Government of India's response to this situation has been on desired lines. Under the National Capital Region Planning Act, it constituted a statutory body of the National Capital Region Planning Board in 1985 to design and implement an appropriate strategy for the purpose (The National Capital Region Planning Board, 1985). The Board is empowered to evolve a harmonised policy for a systematic development of the Region which happens to fall in four separate political units, namely the Union Territory of Delhi, the southeastern part of Haryana, the west-central part of Uttar Pradesh, and the northeastern part of Rajasthan. Two goals earmarked to be achieved by 2001 include : (i) a manageable Delhi and (ii) a harmonised and balanced development of the National Capital Region. A major gain which this Board can cash on is that its decisions on the Region's planned growth could be binding on all the constituent parts (Ribeiro, 1985, p. 19). Such a coordination has been lacking in the past.

In point of fact, the idea of the NCR was conceived at the time of preparing the 1962 Master Plan of Delhi. It was emphasised that this Region, with interlinked problems and interdependent functions, must be planned as one integrated unit. The intention was to not only take care of the problems arising from the metropolitan growth but also to ensure a synchronous development of the Region. The whole scheme of things was visualised to serve as a model for other metropolitan regions in the country.

The Town and Country Planning Organisation, New Delhi, delineated the Region in 1974 on the basis of three groups of criteria : (i) demographic, (ii) those relating to interaction between Delhi and its surrounding area, and (iii) others permitting an efficient framework for urbanisation and urban services. The demographic criteria included population growth rate, migration, population density, and the share of working force in non-agricultural sector. Supply of milk, vegetables and fruits, and the road and rail traffic were among the criteria representing interaction between Delhi and its surrounding area. The last group was represented by the criterion of physiography which had a bearing on problems relating to water supply, flood control, and drainage. In addition, the existing administrative boundaries of the districts/tehsils and the matters of physical contiguity were not ignored.

The NCR, thus delimited, spreads over an area of about 100 kilometres radius around Delhi (Map 1). It comprises the whole of Union Territory of Delhi, and parts of Haryana, Uttar Pradesh and Rajasthan States. The Haryana subregion comprises Faridabad, Gurgaon, Rohtak and Sonipat districts as well as Rewari and Bawal tehsils of Mahendragarh district and Panipat tehsil of Karnal district. The Uttar Pradesh subregion covers Meerut, Bulandshahr and Ghaziabad districts. The Rajasthan subregion is composed of Alwar, Ramgarh, Behror Kishengarh, Mandawar, and Tijara tehsils of Alwar district (Table 1). The NCR, thus, coheres segments of three states and one whole union territory into a purposeful planning region.

The Region had a population of 19.19 million, spread over an area of 30.241 kms.[2],

Table 1

National Capital Region : Political Constituents and their Area, 1981

Subregion/district/tehsil	Area in sq. kms.
A. **Haryana Subregion**	13412.48
Faridabad district	2150.00
Gurgaon district	2716.00
Rohtak district	3841.00
Sonipat district	2206.00
Rewari tehsil (district Mahendragarh)	1018.70
Bawal tehsil (district Mahendragarh)	245.34
Panipat tehsil (district Karnal)	1235.44
B. **Uttar Pradesh Subregion**	10853.20
Meerut district	3911.20
Bulandshahr district	4352.00
Ghaziabad district	2590.00
C. **Rajasthan Subregion**	4492.90
Alwar tehsil (district Alwar)	1102.70
Ramgarh tehsil (district Alwar)	579.80
Behror tehsil (district Alwar)	812.50
Kishengarh tehsil (district Alwar)	748.60
Mandawar tehsil (district Alwar)	574.70
Tijara tehsil (district Alwar)	674.60
D. **Delhi Subregion (the entire Union Territory)**	1483.00
NCR	30241.58

Source : National Capital Region Planning Board (1985) : *Growth Pattern in the National Capital Region, 1961-2001*, New Delhi.

NATIONAL CAPITAL REGION
DISTRIBUTION OF TOWNS/ URBAN AGGLOMERATIONS : 1981
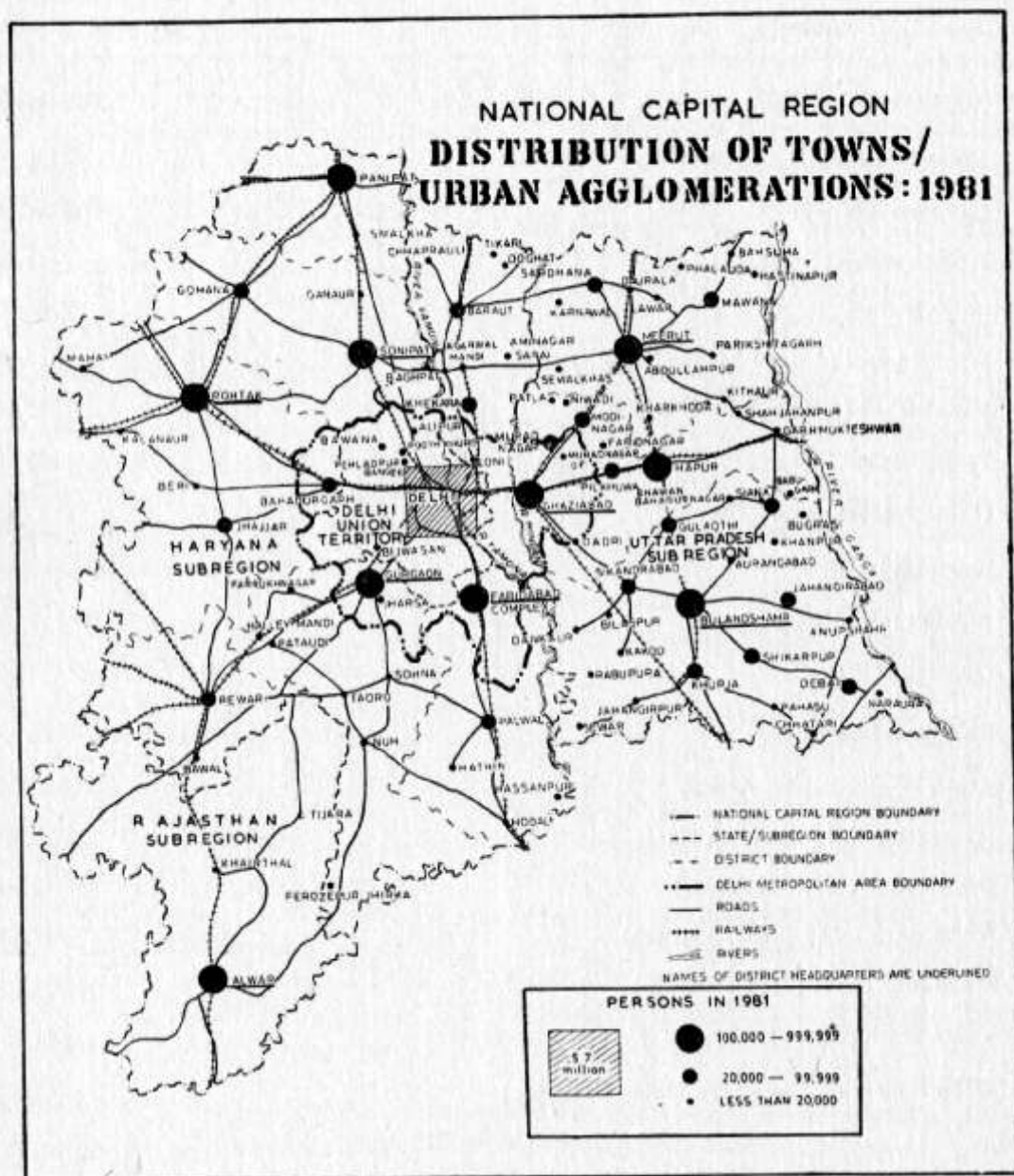
MAP 1

in 1981 (Table 2). For implementation of various development programmes and schemes, it is divided into three policy zones. These include (i) Delhi Union Territory (1483 kms.²), (ii) Delhi Metropolitan Area, covering the Union Territory of Delhi, Faridabad-Bahadurgarh Complex, Noida Controlled Area, Gurgaon, Bahadurgarh, Kundli and extension of Delhi ridge in Haryana (3,182 kms.²), and (iii) Rest of the Region (27,060 kms.²). Population growth, associated with migration, is to be checked in the first zone, stabilised in the second, and promoted in the third.

Urbanisation : Patterns and Processes

Of the 19.19 million people in the NCR, 10.09 million were rural based and 9.10 million urban in 1981 (Table 3). Urban population accounted for 47.40 per cent of the total, a percentage which was twice the national average of 23.31 (Table 4). The proportion of the NCR's urban population had increased by 8.09 per cent points (39.31 to 47.40) during 1971-81 as compared with a corresponding increase of only 3.26 per cent points (20.05 to 23.31) at the national level. The NCR is evidently not only a significantly more urbanised but also a fast urbanising part of India.

Table 2

National Capital Region : Proportion of Area, and Population in Different Political Constituents, 1981

Name of the political constituent*	Area in 1981 (sq. kms.)	Percentage share in the NCR's area	Percentage share in the area of the respective state/union territory	Population in 1981 (millions)	Percentage share in the NCR's population	Percentage share in the population of the respective state/union territory
Delhi subregion	1483.00	4.90	100.00	6.22	32.41	100.00
Haryana subregion	13412.48	44.35	30.33	4.94	25.73	19.91
Rajasthan subregion	4492.90	14.85	1.31	1.06	5.54	1.61
Uttar Pradesh subregion	10853.20	35.88	3.68	6.97	36.31	3.27
NCR	30241.58	100.00	—	19.19	100.00	—

Source : i. National Capital Region Planning Board (1985) : *Growth Pattern in the National Capital Region, 1961-2001*, New Delhi.

ii. Census of India, 1981, *India, Primary Census Abstract, General Population Tables*, New Delhi.

* Henceforth called subregion.

Table 3

National Capital Region : Rural-Urban Composition of Population by Subregions, 1981

Name of the subregion		Population		
		1961	1971	1981
Delhi subregion	T*	2,658,612	4,065,698	6,220,406
	R	299,204	418,675	452,206
	U	2,359,408	3,647,023	5,768,200
Haryana subregion	T	2,899,289	3,804,788	4,938,541
	R	2,432,155	3,120,886	3,731,837
	U	467,134	683,902	1,206,704
Rajasthan subregion	T	584,204	757,409	1,064,509
	R	511,497	646,344	890,553
	U	72,707	111,065	173,956
Uttar Pradesh subregion	T	4,450,172	5,440,296	6,968,646
	R	3,671,496	4,351,826	5,019,579
	U	778,676	1,088,470	1,949,067
NCR	T	10,592,277	14,068,191	19,192,102
	R	6,914,352	8,537,731	10,094,175
	U	3,677,925	5,530,460	9,097,927

Source : i. National Capital Region Planning Board (1985) : *Growth Pattern in the National Capital Region, 1961- 2001*, New Delhi.

    ii. Census of India, 1981, *General Population Tables of the Delhi Union Territory, Haryana, Rajasthan and Uttar Pradesh.*

    * T stands for total area
       R stands for rural area
       U stands for urban area

The level of urbanisation varies sharply within the NCR (Table 4). In 1981, the Delhi subregion had 92.73 per cent of its total population as urban, Uttar Pradesh subregion 27.97 per cent, Haryana subregion 24.43 per cent, and Rajasthan subregion 16.34 per cent. It indicates that all the subregions of the NCR, barring the Rajasthan one, were at a higher level of urbanisation than the country as a whole. The variation in the urbanisation level of different subregions conformed to their development level.

Table 4

**National Capital Region : Percentage of Urban Population
by Subregions, States of their Location and India, 1961-81**

Name of the subregion	Percentage of urban population					
	Subregions of the National Capital Region			Respective states/union territory in which the subregion is located		
	1961	1971	1981	1961	1971	1981
Delhi subregion	88.74	89.70	92.73	88.74	89.70	92.73
Haryana subregion	16.11	17.97	24.43	17.22	17.66	21.87
Rajasthan subregion	12.44	14.66	16.34	16.28	17.63	21.04
Uttar Pradeshsubregion	17.49	20.00	27.97	12.85	14.02	17.94
NCR	34.72	39.31	47.40			
India*	17.97	20.05	23.31			

Source : i. National Capital Region Planning Board (1985): *Growth Pattern in the National Capital Region, 1961-2001*, New Delhi.

ii. Census of India, 1981, *India, Paper-1 of 1982, Final Population Totals*, New Delhi.

iii. Census of India, 1981, *General Population Tables of Delhi Union Territory, Haryana, Rajasthan, and Uttar Pradesh*.

* Includes projected figures for Assam in the year 1981.

The urban population in the NCR is distributed among 94 towns (Table 5). Of these, 58 are located in Uttar Pradesh subregion, 27 in Haryana subregion, six in Delhi subregion, and the remaining three in Rajasthan subregion. While Delhi subregion is characterised by the thickest concentration of urban population, Uttar Pradesh subregion is noted for the closest spacing of towns. Towns are few and distantly located in Rajashan subregion. The number of towns per 1000 sq. kms of area is five in Uttar Pradesh subregion, four in Delhi subregion, two in Haryana subregion, and less than one in Rajasthan subregion. The concentration of towns is significantly related to the rural population density of various subregions.

Most of the towns are located along the main road and rail transport routes emanating from Delhi : Delhi-Panipat, Delhi-Meerut, Delhi-Garhmukteswar, Delhi-Bulandshahr, Delhi-Hodel, Delhi-Rewari and Delhi-Baraut. They represent an axial pattern of urban development in the NCR. Such a pattern facilitates massive commuting which can be further encouraged not only to check but also to divert migration from the national capital. A part of the migration destinated for Delhi can be absorbed by other NCR towns, provided these promise the necessary commuting facility to Delhi.

Almost two-thirds of the NCR's urban population are confined to Delhi alone. If we disregard Delhi's population, one-half of the remaining urban population is concentrated in just seven places namely Meerut, Faridabad Complex, Ghaziabad, Rohtak, Alwar, Panipat and Sonipat (Table 5). On the other hand, 40 towns share less than 10 per cent of the urban population (excluding that of Delhi). A highly skewed distribution of urban population among towns is evident.

The urban population of the NCR had grown by 64.50 per cent during 1971-81 (Table 6). This rate was considerably faster than that experienced during the preceding decade of 1961-71 (50.37 per cent). The urban population had increased from 3.68 million in 1961 to 5.53 million in 1971, and further to 9.10 million in 1981. The urban population in the NCR grew by 2.5 times during a short span of only 20 years.

By comparison, the NCR's rural population increased by only 23.48 per cent during 1961-71 and 18.23 per cent during 1971-81. These rates were practically the same as those of natural increase. The lower rural growth rate during 1971-81 can be explained partly by the upgradation of some villages to towns as also by absorption of some by the existing towns.

Urban growth rate in the NCR was conspicuously higher than that in India during 1961-71 (64.41 and 46.41 per cent) and also during 1971-81 (50.37 and 38.22 per cent). This is in line with higher urban growth rates in the national capital regions of most of the developing countries. The prime administrative city of a country tends to attract employment and people not only to itself but also to its neighbouring towns.

The pace of urban growth was, however, not the same in different parts of the NCR. During 1971-81, urban population increased by 79.06 per cent in Uttar Pradesh subregion and by 76.44 per cent in Haryana subregion. The corresponding increase in the Delhi subregion was 58.16 per cent. The Rajasthan subregion was at the bottom with an urban growth rate of 56.62 per cent.

An explanatory note on the differential urban growth by subregions will not be out of place. Uttar Pradesh subregion recorded the highest rate. This could be accounted for by three factors : (i) impact of Delhi, stimulating industrial and residential growth in many towns near Delhi; (ii) agricultural advancement strengthening the commercial base of several small towns; and (iii) emergence of many new towns. Haryana subregion recorded an almost equally fast urban growth rate. Industrial expansion, especially of cities located close to Delhi, is very much evident in this case. The urban growth rate of the Delhi subregion is lower than that of the two subregions discussed above yet it was phenomenal in absolute terms.

Table 5

National Capital Region : Ranking of Towns by Population Size in 1981 and their Growth Rate during 1971-81

Name of the town	Rank	Population 1981	Percentage share in NCR's urban population	Percentage growth rate
Delhi	1	5729283	62.97	57.09
Meerut	2	536615	5.90	40.07
Faridabad Complex	3	330864	3.64	169.40
Ghaziabad	4	287170	3.16	109.56
Rohtak	5	166767	1.83	33.68
Alwar	6	145795	1.60	45.25
Panipat	7	137927	1.52	56.77
Sonipat	8	109369	1.20	75.29
Bulandshahr	9	103436	1.14	73.83
Hapur	10	102837	1.13	44.30
Gurgaon	11	100877	1.11	76.51
Modinagar	12	87665	0.96	101.67
Khurja	13	67119	0.74	33.58
Rewari	14	51562	0.57	17.49
Palwal	15	47328	0.52	30.72
Baraut	16	46292	0.51	48.07
Sikandrabad	17	43135	0.47	34.67
Pilkhuwa	18	37884	0.42	58.24
Mawana	19	37620	0.41	51.34
Bahadurgarh	20	37488	0.41	45.23
Sardhana	21	30138	0.33	36.48
Jahangirabad	22	29301	0.32	35.79
Gohana	23	26188	0.29	56.31
Muradnagar	24	26047	0.29	86.25
Khekra	25	24984	0.27	N
Gulaothi	26	24416	0.27	40.52
Jhajjar	27	24247	0.27	27.97
Debai	28	22430	0.25	31.62
Siana	29	22410	0.25	35.97
Shikarpur	30	21499	0.24	29.79
Dadri	31	19723	0.22	51.01
Hodel	32	18740	0.21	32.49
Garhmukteshwar	33	17914	0.20	63.79
Baghpat	34	17157	0.19	47.07
Ganaur	35	16489	0.18	96.32
Khairthal	36	15962	0.18	49.36
Jewar	37	15275	0.17	N
Anupshahr	38	15193	0.17	23.99
Chhaprauli	39	13805	0.15	N
Kithaur	40	13791	0.15	N
Smalkha	41	13532	0.15	N
Beri	42	13490	0.15	9.35
Ordn. Ftry. Muradnagar	43	13147	0.14	45.66
Sohna	44	12667	0.14	44.35
Bawana	45	12637	0.14	N
Kalanaur	46	12380	0.14	N
Tijara	47	12199	0.13	N

Name of the town	Rank	Population 1981	Percentage share in NCR's urban population	Percentage growth rate
Maham	48	11722	0.13	11.20
Hastinapur	49	11637	0.13	30.91
Aurangabad	50	11622	0.13	N
Lawar	51	11535	0.13	N
Parikshitgarh	52	11328	0.12	N
Tikari	53	11315	0.12	N
Phalauda	54	10357	0.11	N
Sewalkhas	55	10278	0.11	N
Loni	56	10259	0.11	N
Haileymandi	57	10140	0.11	350.27
Doghat	58	10019	0.11	N
Karnawal	59	9895	0.11	N
Naraula	60	9573	0.11	N
Ferozepur Jhirka	61	9400	0.10	18.06
Agarwal Mandi (Tikri)	62	9353	0.10	N
Daurala	63	9146	0.10	N
Faridnagar	64	9116	0.10	20.89
Pahasu	65	9016	0.10	45.35
Rabupura	66	8999	0.10	N
Shahjahanpur	67	8867	0.10	20.80
Kharkhoda	68	8708	0.10	N
Pataudi	69	8422	0.09	39.32
Jharsa	70	8412	0.09	N
Khanpur	71	8311	0.09	N
Bugrasi	72	8307	0.09	16.12
Dankaur	73	7935	0.09	14.78
Bahsuma	74	7906	0.09	N
Patla	75	7847	0.09	N
Bawal	76	7760	0.09	18.85
Bijwasan	77	7389	0.08	N
Pooth Khurd	78	7145	0.08	N
Niwadi	79	7078	0.08	N
Taoru	80	6912	0.08	N
Aminagar Sarai	81	6837	0.08	21.29
Bhawan Bahadurnagar	82	6779	0.07	N
Alipur	83	6735	0.07	N
Hathin	84	6553	0.07	N
Jahangirpur	85	6447	0.07	N
Abdullahpur	86	6383	0.07	N
Farrukhnagar	87	6367	0.07	16.04
Nuh	88	5992	0.07	26.68
Chhatari	89	5862	0.06	N
Hassanpur	90	5109	0.06	N
Pehladpur Banger	91	5011	0.06	N
Bilaspur	92	4661	0.05	N
Kakod	93	4299	0.05	N
Babugarh	94	2389	0.03	N
Total		9097927	100.00	

Source : Calculated from the Census of India, 1981 data. N stands for New Towns. These places were elevated from their previous status of a village to that of a town in 1981.

Table 6

National Capital Region : Population Growth Rates by Subregions, States of their Location, and India, 1961-81

Name of the subregion		Decennial growth rate			
		Subregions of the National Capital Region		Respective states/union territory in which the subregion is located	
		1961-71	1971-81	1961-71	1971-81
Delhi subregion	T*	+52.92	+53.00	+52.92	+52.99
	R	+39.93	+ 8.01	+39.92	+ 8.01
	U	+54.57	+58.16	+54.57	+58.16
Haryana subregion	T	+31.23	+29.80	+32.23	+28.75
	R	+28.32	+19.58	+31.53	+22.16
	U	+46.40	+76.44	+35.58	+59.47
Rajasthan subregion	T	+29.65	+40.55	+27.83	+32.97
	R	+26.36	+37.78	+25.77	+27.47
	U	+52.76	+56.62	+38.47	+58.69
Uttar Pradesh subregion	T	+22.25	+28.09	+19.79	+25.49
	R	+18.53	+15.34	+18.18	+19.78
	U	+39.78	+79.06	+30.68	+60.63
NCR Total	T	+32.81	+36.42		
	R	+23.48	+18.23		
	U	+50.37	+64.50		
INDIA**	T	+24.80	+25.04		
	R	+21.86	+19.73		
	U	+38.22	+46.41		

Source : i. National Capital Region Planning Board (1985), *Growth Pattern in the National Capital Region, 1961-2001*, New Delhi.

ii. Census of India, 1981 *India, Primary Census Abstract, General Population*, New Delhi.

iii. Census of India, 1971, *Union Primary Census Abstract*.

iv. Census of India, 1961, *General Population Tables, Delhi Union Territory, Haryana, Rajasthan and Uttar Pradesh*, New Delhi.

v. Census of India, 1981, *General Population Tables of Delhi Union Territory, Haryana, Rajasthan and Uttar Pradesh*, New Delhi.

* T stands for total, R for rural and U for urban.

** Includes projected figures for Assam in the year 1981.

It signifies that despite sizeable dispersion of the urban growth from the national capital to its neighbouring towns, there is no respite to its own massive urban accretion. The comparatively lower growth rate of towns in Rajasthan subregion was understandable in the context of their relatively distant location from Delhi.

The mutual differences withstanding, all the subregions of the NCR recorded an urban growth rate, during 1971-81, which was notably higher than the national average. Practically the same situation prevailed during 1961-71. The NCR is poised for an accelerated rate of urban growth in future as well.

It is estimated that nearly one-third (31.27 per cent) of the growth in the NCR's urban population during 1971-81 was due to natural increase. About two-fifths (39.24 per cent) was contributed by net inmigration. The remaining over one-fourth (29.49 per cent) of the urban growth could be attributed to reclassification associated with emergence of new towns or extension in the territorial jurisdiction of the existing ones (National Institute of Urban Affairs, 1988, p.30). In case of the Delhi subregion, the corresponding figures were 34.39 per cent (natural increase), 40.83 per cent (net in migration), and 24.78 per cent (reclassification). It is evident that there was only a marginal difference in the contribution of net migration to urban growth in Delhi subregion and the NCR as a whole.

A wide variation was observed in the growth rates of towns during 1971-81. It ranged from 350.27 per cent in Haileymandi, a small market town, to 9.35 per cent in Beri, a tiny agricultural town (Table 5).

Both the towns happen to fall in Haryana subregion.

Growth rate was higher than 100 per cent in the case of prominent industrial centres like Faridabad, Ghaziabad and Modinagar. Another 12 towns, including Delhi and some industrial and/or service towns like Gurgaon, Sonipat, Bulandshahr and Panipat, also grew by 50 to 100 per cent. The natural increase rate of population being around 20 per cent, net inmigration (in addition to some gain through territorial extension) accounted for one half to more than three-fourths of their total growth.

The six ring towns of Delhi recorded a dramatic growth. Faridabad complex was noted for a population increase by 169.40 per cent and Ghaziabad by 109.56 per cent. Gurgaon, Bahadurgarh Kundli and Noida also expanded fast. It may be added that Kundli and Noida acquired urban states only after 1981.

The same cannot, however, be said for the 13 priority towns. Only Modinagar (101.67 per cent), Sonipat (75.29 per cent), Bulandshahr (78.83 per cent), and Panipat (56.77 per cent) grew by more than 50 per cent. On the other hand, growth rate was less than 40 per cent in Khurja, Sikandrabad, Rohtak, Rewari and Palwal. The remaining four towns of Meerut, Hapur, Alwar and Khairtal grew by 40 to 50 per cent. It follows that the growth of ring towns was far more rapid than that of priority towns.

Table 7 shows that towns within a distance of 50 kms. from Delhi recorded an explosive growth of around 100 per cent. The growth rate declines sharply to 42.09 per cent in the 50 to 75 kms. distance zone. The growth rate falls somewhat further to

39.07 per cent in the 75 to 100 kms. distance zone. A small rise to 42.19 per cent was noticed in the case of towns located beyond a distance of 100 kms. from Delhi.

Table 7

National Capital Region : Growth Rate of Towns by Distance from Delhi, 1971-81

Category of towns by distance from Delhi	Growth rate during 1971-81
25 kms. or less	99.83
26 to 50 kms.	100.00
51 to 75 kms.	42 09
76 to 100 kms.	39.07
More than 100 kms.	42.19

Source : Calculated from the Census of India, 1971 and 1981 data.

It emerges that : (i) Delhi had a strong positive effect on the growth of towns located within 50 kms.; (ii) this effect significantly declined in the case of towns at a distance of 50 to 100 kms.; and (iii) factors other than proximity to Delhi emerged as more critical in towns beyond 100 kms. from Delhi. Delhi did not have an urban shadow effect on the growth rate of towns in any part of the Region. The growth rate of towns in all the five distance zones was distinctly higher than their rate of natural increase.

A broad association between the size and growth rate of towns is noted in Table 8. The growth rate consistently declined from Class I towns (excluding the metropolitan city of Delhi) to Class V towns. Two other features also stand out :

(i) higher growth rate of non-metropolitan cities as compared to that of Delhi; and (ii) phenomenally high growth rate of Class VI towns, which constitute a special category of towns with a population of less than 5,000 each. The growth rate of towns in all population size categories remains distinctly higher than the rate of their natural increase of around 20 per cent. All categories of the NCR towns experienced net inmigration, of course in varying magnitude.

Table 8

National Capital Region : Growth Rate of Towns by Population Size Category, 1971-81

Population size category	Growth rate
Metropolitan (1,000,000+)	57.09
Class I (excluding metropolitan (100,000—999,999)	67.58
Class II (50,000—99,999)	59.97
Class III (20,000—49,999)	46.96
Class IV (10,000—19,999)	39.65
Class V (5,000—9,999)	33.43
Class VI (Less than 5,000)	131.05

Source : Calculated from the Census of India, 1971 and 1981 data

No consistent relationship is observed between the administrative status and growth rate of towns (Table 9). The tehsil head-

quarters are distinctly ahead of the districty headquarters in this regard. Nor is the growth rate of towns 'without any administrative status' significantly lower. Such towns also experienced sizeable net inmigration.

Table 9

National Capital Region : Growth Rate of Towns by Administrative Status, 1971-81

Administrative status	Growth rate
National/union territory capital	57.09
District headquarters	55.14
Tehsil headquarters	76.03
Other towns	49.13

Source : Calculated from the Census of India, 1971 and 1981 data.

It seems that the factor of proximity to Delhi overpowered the role of administrative status of towns in influencing their growth rate. Many of the tehsil headquarters are located close to Delhi while the district headquarters, such as Meerut and Alwar, are relatively distant. Some of the erstwhile tehsil headquarters, such as Ghaziabad, grew so fast that these were elevated to the status of district headquarters. Faridabad is another example of a town having no administrative status in 1971 but eventually growing into a district headquarters in 1981.

It is evident that the towns with 'industry' as their dominant function are growing the fastest, followed by service towns. Trade & commerce towns have a moderate growth. Primary activity towns

are the slowest to grow. It is remarkable that actual growth is higher than natural increase even in small agricultural towns (Table 10).

Table 10

National Capital Region : Growth Rate of Towns by Functional Category, 1971-81

Functional category	Growth rate
Industry	69.89
Service	56.08
Trade & Commerce	41.76
Primary activities	31.48
Transport	No town

Source : Calculated from the Census of India, 1971 and 1981 data.

Goals and Policies

Two stipulated goals for the NCR plan are to achieve a manageable Delhi by 2001, and a systematic and balanced development of its Region. The policies for the purpose are meant :

(i)   to decelerate the growth of Delhi, to control population increase in the Delhi Metropolitan Area, and to induce urbanisation in the remaining part of the NCR by adopting appropriate location measures in respect of government and public sector offices;

(ii) to evolve a four-tier hierarchy of settlements consisting of regional centres, subregional centres, service centres, and basic villages for the Region's balanced development;

(iii) to design a unified metropolitan transport authority for the entire Region, and to lay an effective tele-communication network which together would promote dispersal of economic activity away from the Delhi;

(iv) to improve infrastructural facilities/ services like power, water supply, sanitation, education and health in both urban and rural segments of the Region;

(v) to protect fertile agricultural land from conversion into urban and non-agricultural uses ; and

(vi) conserve environment through controlled development.

Evidently spatial decentralisation has been favoured as the desired strategy. It involves redistribution and restructuring of economic activities, population agglomerations and transport networks. All this is expected to be achieved at four spatial scales of Delhi, Delhi Metropolitan Area, the remaining part of the NCR, and the countermagnets, such as, Bareilly, Gwalior, Kota, Hisar and Patiala, outside the Region (Town and Country Planning Organisation, 1974, p. iv). A conspicuous faith has been placed in a variety of controls, calling for a high level of administrative capacity.

Divergent Perspectives

The development perspective of the National Capital Region Planning Board is enunciated above. Basic assumptions are : (i) the requisite cooperation from the various constituent units of the NCR will be forthcoming, (ii) the necessary financial resources to carry out the developmental activities will be made available, and (iii) suitable institutional and administrative arrangements will be made to implement the plan proposals.

The situation is not so simple in practice. To begin with, one has to take into account the development perspectives of the constituent political units of the NCR. One may as well look at the motives and mechanisations of the private colonisers and builders in this respect. The decisions of the individuals who flock to Delhi for employment or investment cannot be ignored either.

Although all the constituent political units of the NCR appreciate the need for a coordinated effort yet their respective interests come into conflict with the plan proposals of the NCR Planning Board. For example, many in Delhi view the NCR plan as detrimental to the industrial, commercial and institutional interests of the city. Likewise, the state governments of Haryana, Uttar Pradesh, and Rajasthan would like to benefit from their proximity to Delhi by way of raising industrial and residential estates on its fringe in place of making less gainful investments at a relative distance from it to oblige the stipulations of the NCR plan. While remaining eager to share the resource cake made available through the NCR Planning Board, they would certainly resist any proposal which goes contrary to their interests.

The approach of the private colonisers and builders is blatantly commercial. With the acquisition of the entire urbanisable land in Delhi by the Delhi Development

Authority, these agencies have directed their activities to its outer fringes in the neighbouring states. Large lots of agricultural land have been brought under urban carpet in connivance with politicians and administrators. The surface reality is that Delhi is getting physically extended virtually every day through accretion.

The case of individuals' planning to move to Delhi for employment or investment is the same. The chances of getting better employment or quicker returns from investments are distinctly higher in this city than at other places in the NCR. Some people, who make industrial or commercial investments in towns around Delhi, are likely to take residence in the metropolis for attractions of its life.

To cap all this, even the government and public sector offices located in Delhi are reluctant to move out. Convincing and effective arguments are put forward to stall any such proposal. It is argued that the administrative efficiency is bound to suffer when government offices are scattered. The argument is reinforced by adding that Delhi is the prime administrative city of India and there is no rationale for shifting government offices from here.

It seems that Delhi is bound to grow, with or without the NCR plan. The huge investment, stipulated under the plan, cannot but accelerate its growth. Even if a large part of the new investment goes to areas outside Delhi, the resultant buoyancy of the regional economy will cause a faster growth of the city on which the entire region focuses. Then what to do ? Let us review some efforts made in other countries to meet a similar situation.

Capital Region Strategies in Other Countries

The NCR is not the first attempt to resolve urban development problems of such massive and fast growing population concentrations. The problems in the post-War Europe were similar, may it be London, Paris, Copenhagen, Stockholm or Randstad. The familiar story of housing shortages, traffic congestion, inadequate public services, and increasing pollution of air and water was common (Hall, 1974, pp. 200-243). What strategies were adopted in their case and with what results ? Do these have any lessons to offer ?

The strategies differed. For example, the way to decongest London was found in raising a number of new towns in its proximity, with strict zoning of green belts in their intervening areas. The plan for the Paris Basin favoured the construction of eight new towns along the two parallel axes to the east and the west of the city, in addition to 'balancing' metropolises or 'countermagnets' elsewhere in the country. In Copenhagen, efforts were directed toward increasing the accessibility of the central city by providing higher speed suburban transport, alongwith planned extensions of the 'finger routes' to accommodate further growth. Stockholm decided to confine its future growth around new railway stations planned on the high under-ground suburban railroutes radiating from the city centre. The Dutch strategy was different. It opted for a 'concentrated deconcentration'. Its Randstad takes the form of an 180 kilometres long crescent. Along it are located a number of cities or towns, each with specific functions. Amsterdam, Rotterdam and the Hague mark the biggest concentration : the government is concentrated in The

Hague ; the port, wholesale activity and heavy industry in Rotterdam ; and finance, retailing, tourism and culture in Amsterdam. It is a policentric metropolis as a whole. In the case of Moscow, past attempts in restraining its growth have been unsuccessful. The only strategy likely to counteract the trend is to build infrastructure in a selected set of subcentres around it to work as 'countweights' (Bobkov, 1987, p. 244).

It follows that the European capital regions tended to adopt different solutions to the problem. The London situation was tackled through decentralisation at the local/regional level. Decentralisation in the case of Paris Basin was sought at the regional/national level. Copenhagen and Stockholm opted for a severe measure of encouraging convergence by increasing the accessibility of the central city. Randstad, by comparison, tried to combine the virtues of concentration and deconcentration.

Of special interest are the results obtained from the research exercises on the development experience of the capital regions in Europe. Some of these may be listed below :

(i) Huge investments in such regions have often harmed the economic interests of other parts of respective countries.

(ii) Centralisation strategies, as in Copenhagen and Stockholm, have been no less successful than decentralisation strategies, as in London or Paris.

(iii) The polycentric city region, such as Dutch Randstad, has been more successful than its monocentric equivalents, such as London or Paris.

(iv) Controls rather than incentives have been more effective in achieving the objectives.

A Critique of the Strategy for the NCR

A careful perusal of the *Draft Regional Plan* for the National Capital Region clearly brings forth that the twin objective of a manageable Delhi and a harmonised and balanced development of the Region by 2001 A.D. is meant to be realised mainly through :

(i) reversing the spatial patterns of economic and demographic growth in and around Delhi;

(ii) adopting suitable economic measures for decelerating growth in Delhi, controlling growth on its fringe, and inducing growth at a relative distance from it; and

(iii) designing a uniform tax structure for all the constituent units of the Region.

The basic underlying philosophy is to decentralise, primarily through economic and fiscal measures.

The current trends do not offer an optimistic picture on this count. As we have already seen, the decentralisation measures have rather led to further centralisation in and around Delhi. The physical dimension of the problem has grown despite the 'ring towns' or 'priority towns' strategies. The kind of decentralisation taking place in the Region has simply led to coalescence of many towns with Delhi. The city is assuming the form of a mega-metropolis. In view of the above, a case in favour of further centralisation, as in the plans for Copenhagen or Stockholm, cannot be dismissed easily.

The research evidence shows that the population redistribution policies are less likely to succeed if these are in strong opposition to the counteracting market forces (Richardson, 1983, p. 48)

In fact, answer to many of the NCR's problems lies in designing an efficient, higher-speed and reliable, transport and communication system. Let Delhi not be deprived of benefits accruing from its functional dynamism and let the desired dispersal take place through the mechanism of high-speed mobility. A mature centralisation will be followed by an autonomous decentralisation in due course of time.

Summary and Conclusions

(i) The National Capital Region of India, with the country's prime administrative city at its core and 93 other towns situated within a radius of approximately 100 kms., is distinguished by an urbanisation level and rate which is strikingly higher than the national average. The magnetism of Delhi apart, the eagerness of the neighbouring states to make capital of their proximity to it has contributed to this development. In all probability, the trend is likely to continue and the Region is not going to have a respite from this inetnsifying pressure of urbanisation in the foreseeable future.

(ii) A redeeming feature of urbanisation in the NCR however, is the axial pattern of town distribution along the transport routes converging on Delhi from all directions. Such a pattern responds favourably to any scheme designed to regulate commu-

ting. It can also help in reorienting migration to different places.

(iii) During 1971-81, about one-third of the urban growth in the NCR was due to natural increase, one-third to net inmigration, and the remaining one-third to reclassification. The transformation of many rural settlements into urban was a noticeable feature in the Region. Practically all towns in the Region experienced net inmigration, their actual growth rate being considerably higher than the natural growth rate.

(iv) Proximity to Delhi is the most critical factor in determining the growth rate of towns in the NCR. The impact of Delhi is distinctly strong up to a radius of 50 kms. The city does not display any urban shadow effect on its neighbouring towns. The functional nature of town comes next in importance as the factor underlying town growth. Industrial and service towns are marked by notably higher growth rates. Even the small agricultural towns show considerable net inmigration. Towns do display a positive association with their population size. The growth rate of the non metropolitan cities is, however, faster than that of metropolis.

(v) Many towns, such as Faridabad, Gurgaon, Bahadurgarh, and Ghaziabad which were initially meant to function as satellite towns to share the intensifying demographic pressure of Delhi, have become a contiguous

physical extension of the city. It signifies that the satellite town strategy has proved counter productive. In place of easing the situation, it has extended the physical scale of the problem. The policy of induced growth in 13 priority towns has not proved that successful in case of the towns located at a relative distance from Delhi. On the other hand, phenomenal growth of many a town near Delhi is independent of any priority status.

vi) It seems that Delhi is bound to grow, with or without the NCR plan. The huge investments in Delhi or its Region, stipulated under the plan, cannot but accelerate the growth process of the city. Even if a large part of the new investment goes to areas outside Delhi, the resultant buoyancy of the regional economy is expected to favour a faster growth of the city on which the entire Region focuses. Our analysis shows that the 'decentralisation' strategy, meant to reduce the intensifying demographic pressure on the national capital, did not achieve its objective. The physical dimension of the problem has grown despite the 'ring towns' or 'priority towns' strategies. The kind of decentralisation, taking place in the Region, is simply leading to coalescence of many towns with Delhi. If the present trend continues, the city is sure to take the form of a megametropolis.

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