

Research Study Series  
Number 29

**National Capital Region**  
**A Perspective on Patterns and**  
**Processes of Urbanisation**

National Institute of Urban Affairs  
New Delhi  
May 1988

C O N T E N T S

- - - - -

CHAPTER 1	THE NATIONAL CAPITAL REGION .....	1
	The Concept	
	Area and Population	
CHAPTER 2	MORPHOLOGY OF URBANISATION .....	12
	Rural-Urban Composition	
	Spatial Distribution of Towns	
	New Towns	
CHAPTER 3	URBAN GROWTH .....	26
	Growth Rate	
	Urban Growth by Subregions	
	Components of Urban Growth	
	Urban Area Increase	
	Distance from Delhi and Growth Rate of Towns	
	Population Size Category and Growth Rate of Towns	
	Administrative Status and Growth Rate of Towns	
	Functional Status and Growth Rate of Towns	
	Dominant Functions and Growth Rate of Towns	
	Civic Status and Growth Rate of Towns	
	Delhi: A Special Note	
CHAPTER 4	SUMMARY AND CONCLUSIONS .....	51

PROJECT TEAM

Prof. Gopal Krishan	Consultant
Dr. Pushpa Pathak	Project Coordinator
Ms. Nalini Shangloo	Research Assistance
Mr. Nand Lal	Research Assistance
Mr. D.P. Dubey	Research Assistance
Ms. Durga Goplani	Secretarial Assistance
Ms. Indu Senan	Computation and Word Processing
Mr. T.C. Sharma	Computation and Word Processing
Mr. Ajoy Kashyep	Cartographic Assistance
Mr. Mehar Singh	Cartographic Assistance

## CHAPTER 1 THE NATIONAL CAPITAL REGION

Like most national capital regions of the Third World countries, India's national capital region has also experienced, and continues to experience, extraordinarily high urban population growth rate. During the last intercensal decade of 1971-81, it recorded an increase of 64.50 per cent (from 5.53 million to 9.10 million) in its urban population. This was accompanied not only by a further physical densification and expansion of its existing towns and cities but also by the emergence of many new ones. The demographic additions in Delhi itself were massive. With an average annual increment of about 0.2 million persons during 1971-81, it attained a population size of 5.77 million in 1981.

Urban growth on such a scale arouses mixed reactions. On the one hand, it reflects dynamism of the urban-regional economy and on the other, it represents mounting pressure on urban services, employment and land. Depending on one's perception, it could be viewed either as a development or as a doom situation. An inevitable question arises: should the region be allowed to continue with its current urban experience or should it be protected against the migration tide which, apart from natural increase, is the major cause of its phenomenal growth? The answer is rooted in the politico-economic and social context of a country. Issues relating to operational efficiency and social effectiveness of the urban system are invariably involved.

In the Indian situation, there is hardly any scope for direct intervention to regulate migration flows. Only indirect population



redistribution policies, taking a long time to mature, can be adopted. Accordingly, it seems that the National Capital Region (NCR) will have to cope with an increasing inflow of people, in addition to regular increments to its population through natural growth in the foreseeable future. The size of the problem is bound to grow with time. The crucial question remains: how to wean away migrants from Delhi and to deflect them to other towns and cities?

But what are the prevailing patterns and processes of urbanisation in the NCR? Do these match with one's perception of the explosive situation existing in Delhi, justifying emergency measures to decentralise its population? Are the other NCR towns not sharing the intensifying pressure on Delhi? What is the scope for dispersal of population from Delhi to other places?

This report intends to examine such core issues. This objective is achieved by way of addressing a number of specific questions.

These questions may be listed as follows:

- i. What is the urbanisation level of the NCR? How does it compare with the national average? Do the various parts of the NCR differ in this regard?
- ii. What are the urbanisation trends in the NCR? How do these manifest themselves at the subregional level?
- iii. What explains the rapid urban growth in the NCR? What has been the contribution of net immigration to this process? How much does natural growth account for? To what degree has the extension of existing town boundaries influenced this growth? What is the role of new towns in this regard?
- iv. By what magnitude has the NCR's urban area expanded? How has it affected the urban densities?
- v. What is the disparity in growth rate of the NCR towns? Does it differ by their distance from Delhi? What is the critical distance beyond which the impact of Delhi becomes secondary? Does Delhi have any urban shadow effect on the growth of towns in its region?

- vi. What is the effect of population size of towns on their growth? Do larger towns grow distinctly faster than their smaller counterparts?
- vii. How are the functions and growth rate of towns related to each other? Does administrative status of towns make any difference to their growth? What is the impact of their civic status on growth?
- viii. In which manner, does the public policy influence the urbanisation process in the NCR? What are its manifestations at the subregional level?
- ix. Above all, what are the policy implications of the findings of this research exercise?

The scope of this report is restricted to a demographic analysis of the urbanisation process in the NCR. The importance of studies on related themes, such as municipal finance, urban land use, urban services and urban employment, is fully appreciated. All these themes are suggested as the agenda for future research. The demographic dimension of the urbanisation process was deemed as pivotal and hence was accorded priority through the present research exercise.

Before an effort is made to find answers to the above listed questions, it would be necessary to provide a brief historical background to the formation of the NCR as a spatial strategy to overcome the problems of this rapidly urbanising region. A note on the administrative components of the NCR should be in order. The area and population size of the region, as also of its administrative subregions, will also be examined.

### The Concept

-----

The idea of the National Capital Region was conceived on the eve<sup>1</sup> of the preparation of the Master Plan for Delhi in 1962. It was indicated that this region, with interlinked problems and interdependent functions, must be planned as one integrated unit. The intention was not only to take care of the problems arising from the metropolitan growth but also to ensure a synchronous development of the region. The two goals to be achieved by 2001 A.D. include : (i) a manageable Delhi, and (ii) a harmonised and balanced development<sup>2</sup> of the National Capital Region. The whole scheme of things was visualised as a model for other developing metropolitan regions in the country.

Spatial decentralisation was deemed as the desirable strategy for the planning process. It basically involved redistribution and restructuring of the economic activities, population agglomerations and transport system. According to the initial thinking, this was expected to be achieved at four spatial levels : (i) Urban Delhi, (ii) Delhi Metropolitan Area, (iii) the remaining part of the National Capital Region, and (iv) the countermagnets, such as

- 
1. Town and Country Planning Organisation (1974): THE APPROACH TO PLANNING IN THE NATIONAL CAPITAL REGION, New Delhi, p.1.
  2. National Capital Region Planning Board (1987): DRAFT REGIONAL PLAN 2001, NATIONAL CAPITAL REGION, New Delhi, p. 133.

Gwalior, Mathura and Ambala, outside the NCR. A policy of disincentives to employment augmentation in Delhi and Delhi Metropolitan Area and incentives to employment generation in the remaining part of the NCR as also in the countermagnets was recommended.

The Town and Country Planning Organisation, New Delhi, delineated the region in 1974 on the basis of three groups of indicators: (i) demographic; (ii) those relating to interaction between Delhi and its surrounding area; and (iii) those permitting an efficient framework for urbanisation and urban services.<sup>3</sup> The demographic criteria included population growth rate, migration, population density and the share of working force in the non-agricultural sector. Supply of milk, vegetables and fruits, and the road and rail traffic were among the criteria representing the degree of 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 boundaries of the districts and matters of physical contiguity were not ignored. The region, thus determined, spread over an area of about 100 kms. radius around Delhi.

The region happens to fall in four separate political areas, namely the Union Territory of Delhi, the southeastern part of Haryana, the westcentral part of Uttar Pradesh, and the northeastern part of Rajasthan. It was considered essential to have a suitable legislation which would regulate and coordinate the development in various

---

3. Town and Country Planning Organisation (1974): OP.CIT., p.14.

subregional components of the NCR. The National Capital Region Planning Act, 1985 led to the formation of a statutory body National Capital Region Planning Board empowered to evolve a harmonised policy for a systematic development of the region.<sup>4</sup> A major gain which this Board can cash on is that its decisions on the Region's planned growth could be binding on the Central government as also on all the state/union territory governments, a coordination which has hitherto been lacking.<sup>5</sup>

#### Area and Population

The NCR is a contiguous area of constant interaction around the national capital of Delhi. It includes the whole of the Union Territory of Delhi, and parts of the states of Haryana, Uttar Pradesh and Rajasthan.<sup>6</sup> The Haryana subregion comprises Faridabad, Gurgaon, Rohtak and Sonapat 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

- 
4. National Capital Region Planning Board (1985): PLANNING FOR THE NATIONAL CAPITAL REGION, New Delhi.
  5. E.F.N. Ribeiro (1985): "National Capital Region: Framework for Integrated Growth", DELHI VIKAS VARTA, Vol 2, No.3, January-March, p.19.
  6. Within the NCR, the redefined Delhi Metropolitan Area comprises the Union of Delhi, Noida controlled area in Uttar Pradesh, and Faridabad - Ballabgarh Complex, Gurgaon, Bahadurgarh, Kundli and the extension of Delhi Ridge in Haryana. It covers an area of 3,182 sq.kms. Again within the Union Territory of Delhi, 448 sq.kms. out of a total area of 1,487 sq.kms. were prescribed as urbanisable limits. Subsequently, 40 sq.kms were added to make it 488 sq.kms. See "Development Policies, Planning, Norms and Land Use Plan" DELHI VIKAS VARTA, Vol 2, No.2 (Special Issue), 1985, pp.9-10.

districts. The Rajasthan subregion is composed of Alwar, Ramgarh, Behror, Kishengarh, Mandawar and Tijara tehsils of Alwar district (Table 1). The NCR brings together the segments of a number of states/union territory into a purposeful planning region.

Covering an area of 30,242 sq.kms., the NCR is bigger in physical size than the states of Goa, Manipur, Meghalaya, Nagaland, Sikkim and Tripura. Its population of 19.19 million in 1981 was larger than that of no less than ten states, including Punjab, Jammu & Kashmir, Himachal Pradesh and Haryana, in addition to the six states referred to above. Thus, both in physical and demographic terms, the size of the NCR is indeed impressive.

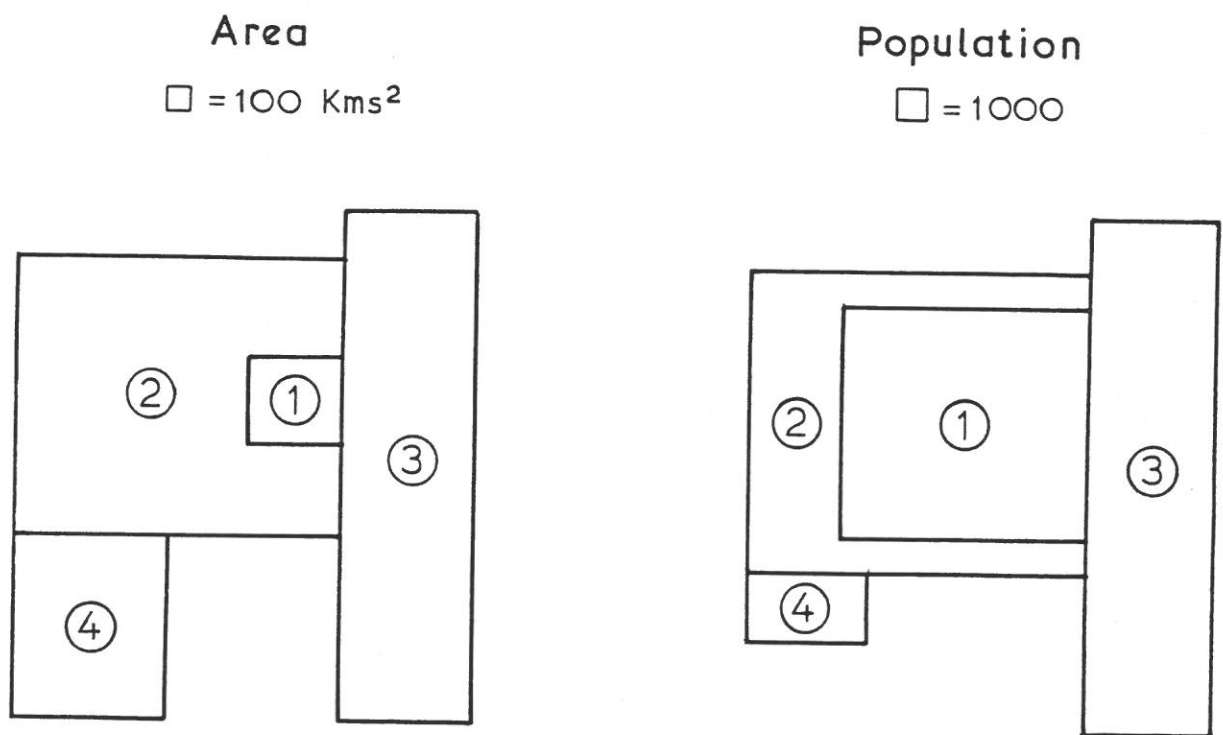
Of the total area of the NCR, 44.35 per cent falls in Haryana, 35.88 per cent in Uttar Pradesh and 14.86 per cent in Rajasthan. The Union Territory of Delhi accounts for only 4.90 per cent of the NCR's area (Table 2).

It is notable that 30.33 per cent of the total area of Haryana falls within the NCR. The comparable figures for Uttar Pradesh and Rajasthan are 3.68 and 1.31 per cent respectively. This signifies that almost one-third of Haryana is going to benefit directly from any development schemes initiated in the NCR.

Distribution of population by subregions presents a somewhat different picture (Table 2). The Union Territory of Delhi shares 32.41 per cent of the total population on only 4.90 per cent of the area. Uttar Pradesh accounts for 36.54 per cent. This represents the varying nature of population density within the region (Fig. 1).

Fig. 1

NATIONAL CAPITAL REGION  
Area and Population  
(by subregions)  
1981



- ① Delhi Subregion
- ② Haryana Subregion
- ③ Uttar Pradesh Subregion
- ④ Rajasthan Subregion

Fig. 1



Table - 1

National Capital Region: Political Constituents and their Area, 1981

Subregion/district/tehsil	Area in sq.kms.
A. <u>Haryana Subregion</u>	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. <u>Uttar Pradesh Subregion</u>	10853.20
Meerut district	3911.20
Bulandshahr district	4352.00
Ghaziabad district	2590.00
C. <u>Rajasthan Subregion</u>	4492.90
Alwar tehsil (district Alwar)	1102.70
Rangarh 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. <u>Delhi Subregion (the entire Union Territory)</u>	1483.00
Total area of the NCR	30241.58

Source: National Capital Region Planning Board (1985): GROWTH PATTERN IN THE NATIONAL CAPITAL REGION, 1961-2001, New Delhi.

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 Total	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 INIDA, 1981, India, Primary Census Abstract, General Population Tables, New Delhi.

\* Henceforth called subregion.

With its entire population located within the NCR, the Union Territory of Delhi would be the major beneficiary of the new set up. It would also have to bear with any adverse fallout. Almost one-fifth of Haryana's population will also be affected directly. By comparison, only 3.27 per cent of the population of Uttar Pradesh and 1.61 per cent of that of Rajasthan would be directly covered. Thus, the NCR plan would have differential impact on the development process in the three states of Haryana, Uttar Pradesh and Rajasthan.

Simultaneously, whatever is done by the various states in their respective segments of the NCR would not be without its influence on Delhi. A stimulus to further industrialisation, for example, in these areas would strengthen the trade, transport, service and other functions of Delhi. This, in return, may foster further industrialisation in the region. Such a process, contributing to an increased economic buoyancy of the whole system, has crucial demographic implications which must be understood and taken care of. An effective coordination between the four subregions in the planning of urban employment, services, housing and transport, is imperative.

## CHAPTER 2 MORPHOLOGY OF URBANISATION

### Rural-Urban Composition

Of the 19.19 million people in the NCR, 10.09 million are rural based and 9.10 million urban (Table 3). Urban population accounts for 47.40 per cent of the total in 1981, a percentage which is twice the national average of 23.31 (Table 4). The proportion of the NCR's urban population has increased by 8.09 per cent points (39.31 to 47.41) during 1971-81 while the corresponding increase at the national level is by only 3.26 per cent points (from 20.05 to 23.31). The NCR is evidently not only a significantly more urbanised but also fast urbanising part of India.

It is worthy of note that the size of urban population in the NCR is bigger than that of urban population in many states of India. Only Andhra Pradesh, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Tamil Nadu, Uttar Pradesh and West Bengal have larger urban populations than that of the NCR. This gives an idea about the magnitude of the problem we are dealing with.

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 subregion, are at a higher level of urbanisation than the country as a whole. The relative difference in the level of urbanisation of different subregions conforms to the level of their development.

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

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 Pradesh subregion	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, and Rajasthan, Uttar Pradesh.

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

Spatial Distribution of Towns

In 1981, urban population in the NCR is distributed among its 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 Rajasthan 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 density of rural population in 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 represent the 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. In other words, a part of the migration destined for Delhi can be absorbed by other NCR towns, provided these promise the necessary commuting facility to Delhi.

Further, the regular and close spacing of towns in the northern agriculturally developed part of the NCR contrasts with the sporadic

Table - 5  
National Capital Region: Distribution of Towns  
by Subregions, 1961-81

Name of the subregion	Year	Number of towns* by population size class**						Number of towns
		I	II	III	IV	V	VI	
Delhi subregion	1961	1	-	-	-	-	-	1
	1971	1	-	-	-	-	-	1
	1981	1	-	-	1	4	-	6
Haryana subregion	1961	-	3	4	5	4	4	20
	1971	2	3	3	5	6	2	21
	1981	5	1	4	8	9	-	27
Rajasthan subregion	1961	-	1	-	-	-	-	1
	1971	1	-	-	1	-	-	2
	1981	1	-	-	2	-	-	3
Uttar Pradesh subregion	1961	1	2	6	8	9	-	26
	1971	2	3	7	9	8	-	29
	1981	4	2	12	17	20	3	58
NCR	1961	2	6	10	13	13	4	48
	1971	6	6	10	15	14	2	53***
	1981	11	3	16	28	33	3	94

Source: i. CENSUS OF INDIA, 1961 and 1971, General Population Tables, India, New Delhi, and

ii. CENSUS OF INDIA, 1981, General Population Tables of Delhi Union Territory, Haryana, Rajasthan and Uttar Pradesh.

\* The term 'town' refers to all urban centres irrespective of their population size. An urban agglomeration has been treated as one town.

\*\* Class I towns, population 100,000+; Class II, 50,000-99,999; Class III, 20,000-49,999; Class IV, 10,000-19,999; Class V, 5,000-9,999; and Class VI, less than 5,000

\*\*\* Four towns of Uttar Pradesh subregion at the 1971 census lost their status at the 1981 census. Two of these were merged with an urban agglomeration and two were declassified.



distribution of towns in the southwestern hilly tract where agriculture suffers from the constraints of uneven terrain, less fertile soils and lack of adequate irrigation. Rural population is also sparse in the latter area. Indeed this is the area which should accommodate future urban expansion, and thereby save the more productive agricultural land from urban encroachments.

Almost two-thirds of the NCR's urban population is confined to Delhi alone (Table 6). 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 7). 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 same observation is reinforced if the distribution of urban population is examined by size categories of towns (Table 8). In 1981, large towns with a population of at least 100,000 each account for 85.91 per cent; the medium towns with population between 20,000 and 99,999 for 7.77 per cent; and the small towns having a population of less than 20,000 each account for 7.02 per cent of the total urban population. By comparison, the medium and small towns numerically make almost 90 per cent of the total.

Table - 6  
National Capital Region: Ranking of Towns  
by their Population Size, 1981

Name of the town	Rank	Popula- tion 1981	Percentage share in the NCR's urban population
Delhi	1	5729283	62.97
Meerut	2	536615	5.90
Faridabad Complex	3	330864	3.64
Ghaziabad	4	287170	3.16
Rohatak	5	166767	1.83
Alwar	6	145795	1.60
Panipat	7	137927	1.52
Sonipat	8	109369	1.20
Bulandshahar	9	103436	1.14
Hapur	10	102837	1.13
Gurgaon	11	100877	1.11
Modinagar	12	87665	0.96
Khurja	13	67119	0.74
Rewari	14	51562	0.57
Palwal	15	47328	0.52
Baraut	16	46292	0.51
Sikandrabad	17	43135	0.47
Pilkhuwa	18	37884	0.42
Mawana	19	37620	0.41
Bahadurgarh	20	37488	0.41
Sardhana	21	30138	0.33
Jahangirabad	22	29301	0.32
Gohana	23	26188	0.29
Moradnagar	24	26047	0.29
Khekra	25	24984	0.27
Gulothi	26	24416	0.27
Jhajhar	27	24247	0.27
Debai	28	22430	0.25
Siana	29	22410	0.25
Shikarpur	30	21499	0.24
Dadri	31	19723	0.22
Hodel	32	18740	0.21
Garh Mukteshwar	33	17914	0.20
Bagpat	34	17157	0.19
Ganaur	35	16489	0.18
Khairthal	36	15962	0.18
Jewar	37	15275	0.17
Anoopshahar	38	15193	0.17
Chhaprauli	39	13805	0.15
Kithaur	40	13791	0.15
Samalkha	41	13532	0.15
Beri	42	13490	0.15
Ordn. Ftry. Muradnagar	43	13147	0.14
Sohna	44	12667	0.14
Bawana	45	12637	0.14
Kalanaur	46	12380	0.14
Tijara	47	12199	0.13

Name of the town	Rank	Popula- tion 1981	Percentage share in the NCR's urban population
Maham	48	11722	0.13
Hastinapur	49	11637	0.13
Aurangabad	50	11622	0.13
Lowar	51	11535	0.13
Parikhshitgarh	52	11328	0.12
Tikri	53	11315	0.12
Phalanda	54	10357	0.11
Sewalkhas	55	10278	0.11
Loni	56	10259	0.11
Hailey Mandi	57	10140	0.11
Doghat	58	10019	0.11
Karnwal	59	9895	0.11
Naraula	60	9573	0.11
Ferosepur Jhirka	61	9400	0.10
Agarwalmandi (Tikri)	62	9353	0.10
Daurala	63	9146	0.10
Faridnagar	64	9116	0.10
Pahasu	65	9016	0.10
Rabupur	66	8999	0.10
Shahjahanpur	67	8867	0.10
Kharkhoda	68	8708	0.10
Pataudi	69	8422	0.09
Jharsa	70	8412	0.09
Khanpur	71	8311	0.09
Bugrasi	72	8307	0.09
Dankaur	73	7935	0.09
Bahsuma	74	7906	0.09
Patla	75	7847	0.09
Bawal	76	7760	0.09
Bijwasan	77	7389	0.08
Pooth Khurd	78	7145	0.08
Niwadi	79	7078	0.08
Taoru	80	6912	0.08
Aminanagar Sarai	81	6837	0.08
Bhawan Bahadurnagar	82	6779	0.07
Alipur	83	6735	0.07
Hathin	84	6553	0.07
Jahangirpur	85	6447	0.07
Abdulapur	86	6383	0.07
Farukhanagar	87	6367	0.07
Nuh	88	5992	0.07
Chhatari	89	5862	0.06
Hassanpur	90	5109	0.06
Pahladpur Banga	91	5011	0.06
Bilaspur	92	4661	0.05
Kakod	93	4299	0.05
Babugarh	94	2389	0.03
Total		9097927	100.00

Source: Calculated from the CENSUS OF INDIA, 1981 data.

Table - 7  
National Capital Region (excluding Delhi Subregion):  
Ranking of Towns by Their Population Size, 1981

Name of the town	Rank	Popula- tion 1981	Percentage share in the NCR's urban popu- lation (excluding Delhi subregion)
Meerut	1	536615	16.12
Faridabad Complex	2	330864	9.94
Ghaziabad	3	287170	8.62
Rohtak	4	166767	5.01
Alwar	5	145795	4.38
Panipat	6	137927	4.14
Sonipat	7	109369	3.28
Bulandshahar	8	103436	3.11
Hapur	9	102837	3.09
Gurgaon	10	100877	3.03
Modinagar	11	87665	2.63
Khurja	12	67119	2.02
Rewari	13	51562	1.55
Palwal	14	47328	1.42
Baraut	15	46292	1.39
Sikandrabad	16	43135	1.30
Pilkhuwa	17	37884	1.14
Mawana	18	37620	1.13
Bahadurgarh	19	37488	1.13
Sardhana	20	30138	0.91
Jahangirabad	21	29301	0.88
Gohana	22	26188	0.79
Muradnagar	23	26047	0.78
Khekra	24	24984	0.75
Gulothi	25	24416	0.73
Jhajjar	26	24247	0.73
Debai	27	22430	0.67
Siana	28	22410	0.67
Shikarpur	29	21499	0.65
Dadri	30	19723	0.59
Hoḍal	31	18740	0.56
Garhmukteshwar	32	17914	0.54
Bagpat	33	17157	0.52
Ganaur	34	16489	0.50
Khairthal	35	15962	0.48
Jewar	36	15275	0.46
Anupshahr	37	15193	0.46
Chhaprauli	38	13805	0.41
Kithaur	39	13791	0.41
Samalkha	40	13532	0.41
Beri	41	13490	0.41
Ordn. Ftry. Muradnagar	42	13147	0.39
Sohna	43	12667	0.38
Kalanaur	44	12380	0.37

Table 7: (contd..)

Name of the town	Rank	Popula- tion 1981	Percentage share in the NCR's urban popu- lation (excluding Delhi subregion)
Tijara	45	12199	0.37
Maham	46	11722	0.35
Hastinapur	47	11637	0.35
Aurangabad	48	11622	0.35
Lowar	49	11535	0.35
Parikhsitgarh	50	11328	0.34
Tikri	51	11315	0.34
Thalanda	52	10357	0.31
Sewalkhas	53	10278	0.31
Loni	54	10259	0.31
Hailey Mandi	55	10140	0.30
Doghat	56	10019	0.30
Karnwal	57	9895	0.30
Naraula	58	9573	0.29
Firozpur Jhirka	59	9400	0.28
Agarawalmandi (Tikri)	60	9353	0.28
Daurala	61	9146	0.27
Faridnagar	62	9116	0.27
Pahasu	63	9016	0.27
Rabupur	64	8999	0.27
Shahjahanpur	65	8867	0.27
Kharkhoda	66	8708	0.26
Pataudi	67	8422	0.25
Jharsa	68	8412	0.25
Khanpur	69	8311	0.25
Bugrasi	70	8304	0.25
Dankaur	71	7935	0.24
Bahsuma	72	7906	0.24
Patla	73	7847	0.24
Bawal	74	7760	0.23
Niwadi	75	7078	0.21
Taoru	76	6912	0.21
Aminanagar Sarai	76	6837	0.21
Bhavan Bahadurnagar	77	6779	0.20
Hathin	78	6553	0.20
Jahangirpur	79	6447	0.19
Abdulapur	80	6383	0.19
Farukhanagar	81	6367	0.19
Nuh	82	5992	0.18
Chhatari	83	5862	0.18
Hasanpur	84	5109	0.15
Bilaspur	85	4661	0.14
Kakod	86	4299	0.13
Babugarh	87	2389	0.07
Total		3329727	100.00

Source: Calculated from the CENSUS OF INDIA, 1981 data.

Table - 8  
National Capital Region: Distribution of Urban Population by Population Size Class of Towns, 1961-81

Name of the subregion	Census year	I	II	III	IV	V	VI	Total
		Population (in millions) and its percentage (in parentheses) by size class of towns						
Delhi subregion	1961	2.36 (100.00)	-	-	-	-	-	2.36 (100.00)
	1971	3.65 (100.00)	-	-	-	-	-	3.65 (100.00)
	1981	5.73 (99.33)	-	-	0.13 (0.22)	0.26 (0.46)	-	5.73 (100.00)
Haryana subregion	1961	-	0.21 (45.87)	0.15 (31.21)	0.06 (13.21)	0.03 (5.97)	0.02 (3.14)	0.47 (100.00)
	1971	0.25 (36.20)	0.21 (30.34)	0.10 (15.49)	0.07 (10.63)	0.04 (6.32)	0.01 (1.02)	0.68 (100.00)
	1981	0.54 (70.09)	0.05 (4.27)	0.14 (11.21)	0.11 (9.05)	0.07 (5.38)	-	1.21 (100.00)
Rajasthan subregion	1961	-	0.07 (100.00)	-	-	-	-	0.07 (100.00)
	1971	0.10 (90.38)	-	-	0.10 (9.62)	-	-	1.01 (100.00)
	1981	0.14 (83.81)	-	-	0.03 (16.19)	-	-	0.17 (100.00)
Uttar Pradesh subregion	1961	0.29 (37.87)	0.13 (16.14)	0.18 (23.08)	0.11 (14.45)	0.07 (8.46)	-	0.78 (100.00)
	1971	0.52 (47.79)	0.18 (16.63)	0.20 (18.30)	0.13 (11.89)	0.06 (5.39)	-	1.09 (100.00)
	1981	1.03 (52.85)	0.16 (7.94)	0.37 (18.79)	0.22 (11.51)	0.16 (8.33)	0.01 (0.58)	1.95 (100.00)
NCR	1961	2.65 (72.17)	0.41 (11.22)	0.33 (8.93)	0.18 (4.74)	0.09 (2.55)	0.02 (0.40)	3.68 (100.00)
	1971	4.52 (81.64)	0.39 (7.03)	0.30 (5.52)	0.21 (3.85)	0.10 (1.84)	0.01 (0.13)	5.53 (100.00)
	1981	7.75 (85.91)	0.21 (2.26)	0.50 (5.51)	0.38 (4.11)	0.25 (2.79)	0.01 (0.12)	9.10 (100.00)

Source: CENSUS OF INDIA, 1961 & 1971, General Population Tables, India, and CENSUS OF INDIA, 1981 General Population Tables, Delhi Union Territory, Haryana, Rajasthan, Uttar Pradesh and New Delhi.

Table - 9

National Capital Region: Distribution of New Towns by  
Subregions and Population Size Class, 1961-81

Name of the subregion	Census year	Number of new towns by size class				
		III	IV	V	VI	Total
Delhi subregion	1961	-	-	-	-	-
	1971	-	-	-	-	-
	1981	-	-	5	-	5
Haryana subregion	1961	-	-	-	-	-
	1971	-	-	1	-	1
	1981	-	2	4	-	6
Rajasthan subregion	1961	-	-	-	-	-
	1971	-	1	-	-	1
	1981	-	1	-	-	1
Uttar Pradesh subregion	1961	-	-	1	-	1
	1971	-	1	5	1	7*
	1981	1	11	14	3	29
NCR	1961	-	-	1	-	1
	1971	-	2	6	1	9
	1981	1	14	23	3	41

Source: i. CENSUS OF INDIA, 1961 and 1971, General Population Tables, India, New Delhi.

ii. CENSUS OF INDIA, 1981, General Population Tables of Delhi Union Territory, Haryana, Rajasthan, Uttar Pradesh and New Delhi.

\* Out of these seven new towns in 1971, two were declassified and another two were merged into an urban agglomeration in 1981.

New Towns

At the 1981 census, 41 out of the NCR's 94 towns were new towns.<sup>7</sup> Among these, 29 are located in Uttar Pradesh Subregion. Quite a few of them are the reclassification cases.<sup>8</sup> The same is the case with the solitary new town in Rajasthan subregion.

Five new towns in Delhi subregion and six in Haryana subregion represent graduation of rural settlements into towns. These places acquired urban status by virtue of their functional and demographic transformation.

The 41 new towns together share only about 4 per cent of the urban population in the NCR. As expected, most of the new towns were small in size as all, but one, had a population of less than 20,000. Four of them recorded a population of less than even 5000.

On the other hand, only two towns were declassified at the 1981 census (Table 10). Both of them belonged to the Uttar Pradesh subregion and had a population of less than 10,000.

The emergence of several new towns and declassification of only a few conforms to the buoyant state of urbanisation in the NCR.

---

7. New towns, as per the Indian Census, are settlements which did not enjoy an urban status at the previous census. Many of them had moved upward from a village status, a few may be just newly constructed ones. Some of them may have been a town at the census/es prior to the previous one. Such new towns are deemed as reclassification cases.

8. A large number of towns in the state of Uttar Pradesh were declassified at the 1961 census when a more strict definition of a town was adopted. Some declassification went by default. These were the situations where some towns, enjoying a civic status of town area committee/notified area committee but not satisfying the demographic criteria, were also declassified. This was overlooked even at the 1971 census. At the 1981 census, however, the mistake was rectified. The places, which enjoyed a civic status but had been declassified inadvertently, were reclassified as new towns.



Table - 10

National Capital Region: Distribution of Declassified Towns by Subregions and Population Size Class, 1961-81.

Name of the subregion	Census year	Number of towns by size class				
		III	IV	V	VI	Total
Delhi subregion	1961	-	-	-	-	-
	1971	-	-	-	-	-
	1981	-	-	-	-	-
Haryana subregion	1961	-	-	-	-	-
	1971	-	-	-	-	-
	1981	-	-	-	-	-
Rajasthan subregion	1961	-	-	1	-	1
	1971	-	-	-	-	-
	1981	-	-	-	-	-
Uttar Pradesh subregion	1961	-	1	14	8	23
	1971	-	-	-	-	-
	1981	-	-	1	-	-
NCR Total	1961	-	1	15	8	24
	1971	-	-	-	-	-
	1981	-	-	1	1	2

- Source: i. CENSUS OF INDIA, General Population Tables, India, 1961 and 1971.
- ii. CENSUS OF INDIA, General Population Tables, 1981 of Delhi Union Territory, Haryana, Rajasthan and Uttar Pradesh.

### CHAPTER 3 URBAN GROWTH

The urban population of the NCR had grown by 64.50 per cent during 1971-81 (Table 11). This rate was considerably faster than that experienced during the preceding decade, 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. In other words, 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.

By fitting the second degree parabola curve, the NCR Planning Board projected the Region's population at 33 million in 2001, of this 19.3 million is expected to be urban by residence. This represents a

doubling of the NCR's urban population during 1981-2001. Delhi is expected to grow to a size of about 12 million.<sup>9</sup>

Urban Growth by Subregions

The pace of urban growth was, however, not the same in different parts of the NCR (Table 11). 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 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, is very much evident in this case. The urban growth rate of the Delhi subregion is, of course, lower than that of the two subregions discussed above yet it was phenomenal in absolute terms. 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.

---

9. National Capital Region Planning Board (1985): GROWTH PATTERN IN THE NATIONAL CAPITAL REGION, 1961-2001, New Delhi.

Table - 11

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, 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.

The mutual differences withstanding, during 1971-81 all the subregions of the NCR recorded an urban growth rate 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. Appropriate strategies have to be evolved to meet the emerging situation.

#### Components of Urban Growth

For a realistic appraisal of the urban growth in the NCR, it is necessary to examine its various components. These include: (i) natural increase, that is the additions made by excess of birth over death rate; (ii) net immigration, that is the difference between immigration and outmigration; (iii) reclassification, by way of (a) changes in the territorial jurisdiction of towns, that is the addition in urban population due to merger of some villages in towns, (b) emergence of new towns, that is the elevation of some villages to urban status or construction of new urban settlements, and (c) declassification of some towns to rural status and resultant loss in urban population.

The requisite direct data in respect of the above mentioned components of urban growth are not available. These have to be worked out indirectly. In the present study, the contribution made by natural increase to urban growth was arrived at by applying 20 per cent (which equals the 1971-81 rate at the national level) to the 1971 urban population. To assess the contribution made by reclassification, population of new towns was aggregated. Added to this was the estimated population of net additional area brought under

the jurisdiction of existing towns. This was obtained by multiplying the additional urban area in each subregion by the total population density of the respective subregion. The contribution made by net migration was treated as a residual category. In other words, contributions made by natural increase and reclassification were subtracted from the total urban population increase to find out the magnitude of net migration.

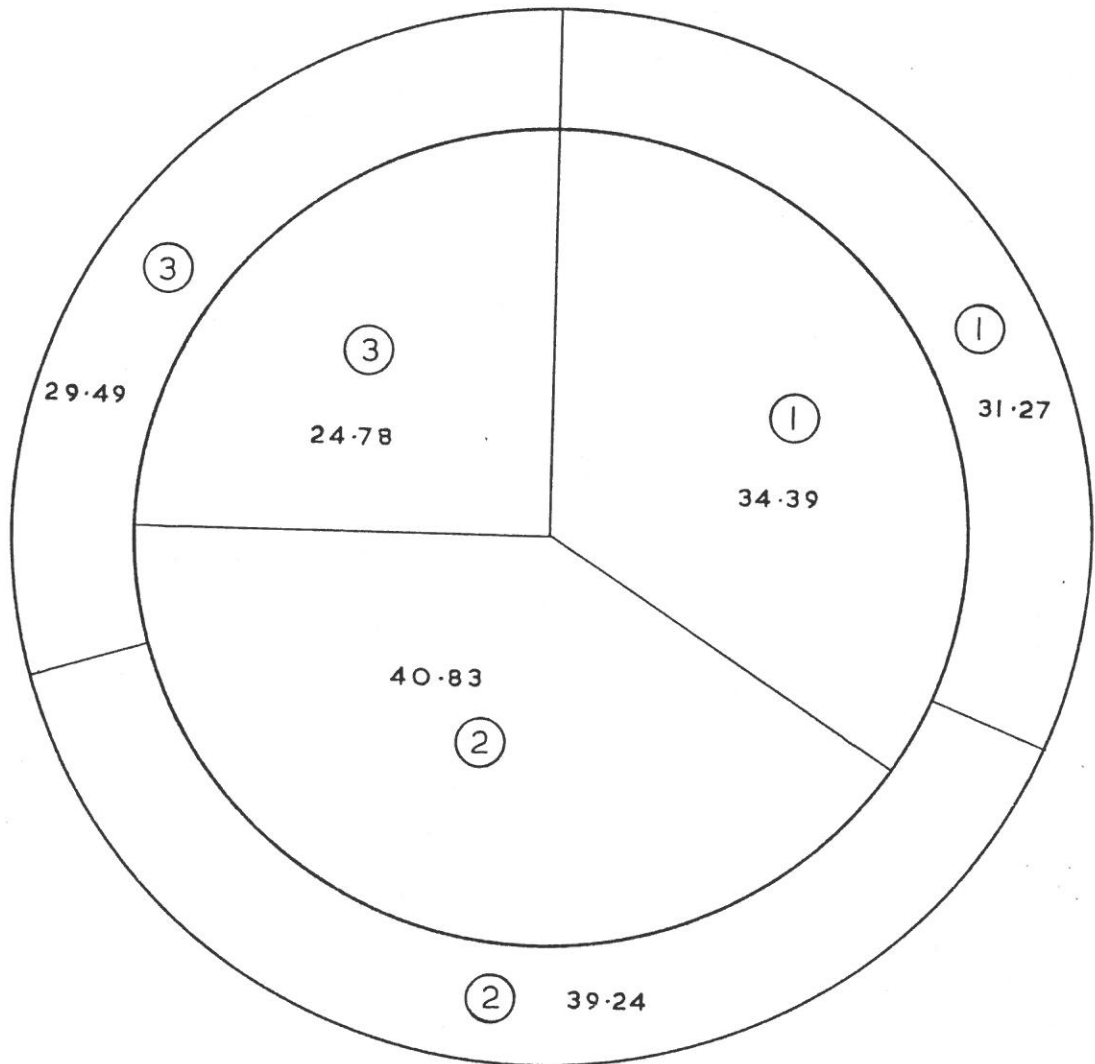
It is estimated that nearly one-third (31.27 per cent) of the growth in the NCR's urban population during 1971-81 was due to natural increase. About two-fifths (39.24 per cent) was contributed by net immigration. The remaining over one-fourth (29.49 per cent) of the urban growth could be attributed to reclassification. In case of the Delhi subregion, the corresponding figures were 34.39 per cent (natural increase), 40.83 per cent (net immigration), 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 (Fig. 2).

A recent study of metropolitan growth in developing countries showed that net migration, along with reclassification, accounted for 37 per cent of the increase in population of these cities.<sup>10</sup> The remaining 63 per cent of the increase was attributed to natural increase, a factor which has come into greater prominence

---

10. United Nations Secretariat (1983): "Metropolitan Migration and Population Growth in Selected Developing Countries, 1960-70", POPULATION BULLETIN of the United Nations, No.15, p.50.

NATIONAL CAPITAL REGION AND DELHI U.T.  
**Components of Urban Growth**  
 1971 - 81



**Absolute increase**

[ National Capital Region: 3537467  
 Delhi Union Territory: 2121177

- ① Natural increase
- ② Net Immigration
- ③ Reclassification

Fig. 2

Fig. 2



than immigration in determining the metropolitan growth. The Delhi pattern was, however, distinctly different. Here net immigration and reclassification accounted for 66 per cent of urban growth, and the share of natural increase was to the tune of 34 per cent. The city continues to function as a powerful magnet for the migrants.

Table - 12

National Capital Region: Components of Urban Growth, 1971-81

Component	Delhi Subregion		National Capital Region	
	Population added	% of the total increase in urban population	Population added	% of the total increase in urban population
Natural increase	729,405	34.39	1,106,092	31.27
In-migration	866,001	40.83	1,388,062	39.24
Reclassification	525,761	24.78	1,043,313	29.49
Total	2,121,177	100.00	3,537,467	100.00

Source: Derived from data available in Census of India, 1981, General Population Tables of Delhi Union Territory, Haryana, Rajasthan, Uttar Pradesh, New Delhi.

#### Urban Area Increase

Now we may have work at 'urban area increase'. This represents the conversion of rural area into urban. In the process, considerable area is lost to agriculture practically for all times.

There has been a phenomenal increase in the NCR's urban area from 859.1 sq.kms. in 1971 to 1,498.9 sq.kms in 1981. This represents an

addition of 639.8 sq.kms during the last intercensal period. During 1961-71, urban area had increased from 640.4 to 859.1 sq.kms. (Table 13).

As noted earlier, this increase is attributable partly to the emergence of new towns and partly to the extension of existing town boundaries.<sup>11</sup> Normally these boundaries are extended to enclose the urban outgrowth. In practice, the extension ropes in some additional area so as to make a provision for future expansion. Such towns become overbounded from an earlier position of being underbounded.

The territorial extension of many towns in the NCR is explained also by the establishment of new residential and industrial estates. The neighbouring states of Uttar Pradesh, Haryana and Rajasthan were eager to capitalise on the growth impulses emanating from the national capital.

During 1971-81, the urban area increased by 2.5 times (140.9 sq.kms to 365.2 sq.kms.) in Haryana subregion, and by two times in Uttar Pradesh subregion (210.3 to 420.2 sq.kms) and in Rajasthan subregion (61.6 to 121.6 sq.kms.). In Delhi subregion, the increase was from 446.3 to 591.9 sq.kms. As a result, there was some decrease in the density of urban population in the NCR from 6,438 persons per sq.kms. in 1971 to 6,070 in 1981. The Delhi subregion is, however, exceptional in recording a rise in its urban population density from 8,172 to 9,745 persons. In this case, the proportionate increase in urban area was considerably less than that in urban population (Fig 3).

---

11. Elevation of a village to the status of a town changes the character of its area from rural to urban. The same happens in the case of its population.

Fig. 3

# NATIONAL CAPITAL REGION

## Change in Urban Area and Urban Density (by subregions)

### 1961 — 81

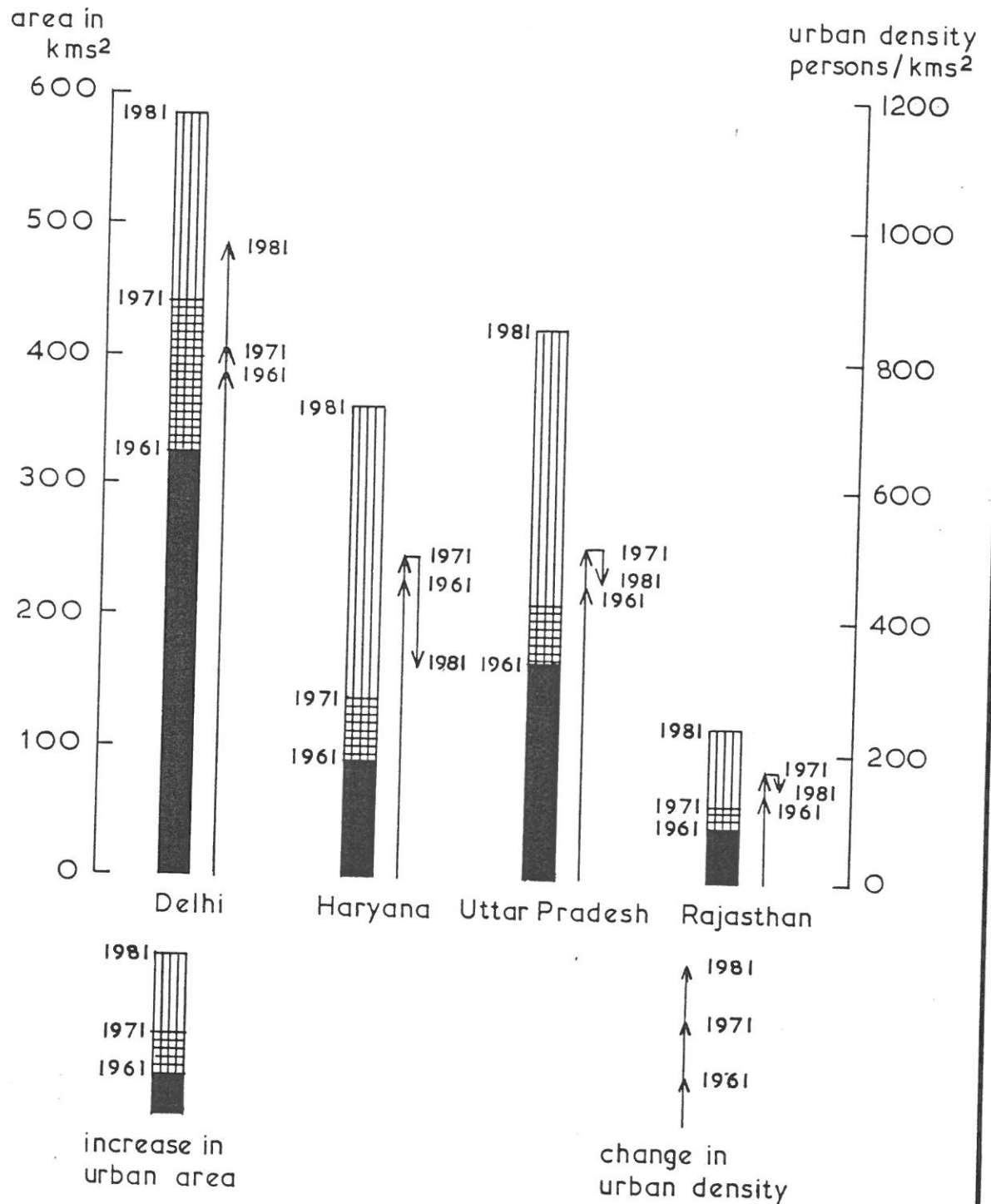


Fig. 3

Table - 13

## National Capital Region: Distribution of Urban Area and Patterns of Urban Density by Subregion, 1961-81

Name of the subregion	Urban area (in sq.kms.)			Percentage variation in urban area		Density of urban population			Density of total population		
	1961	1971	1981	1961-71	1971-81	1961	1971	1981	1961	1971	1981
Delhi Subregion	326.5	446.3	591.9	+36.69	+32.62	7726	8172	9745	1792	2738	4195
Haryana Subregion	99.6	140.9	365.2	+45.46	+159.98	4690	4854	3304	216	283	368
Rajasthan Subregion	44.8	61.6	121.6	+37.50	+97.40	1623	1803	1431	127	171	237
Uttar Pradesh Subregion	169.5	210.3	420.2	+24.07	+99.80	4594	5199	4638	405	502	642
NCR	640.4	859.1	1498.9	+34.50	+74.47	5743	6438	6070	347	466	635

Source: CENSUS OF INDIA, 1981, General Population Tables and Primary Census Abstracts of Delhi Union Territory, Haryana, Rajasthan and Uttar Pradesh, 1981.

Nearly half of the NCR's towns in 1971 experienced an increase in their area. The increase is striking in the case of cities. Most of them are important administrative centres. Many are the scene of newly planned residential and industrial estates. Table 14 shows the increase in area of some illustrative towns.

Table - 14

National Capital Region: Increase in the Area of Selected Towns, 1971-81

Name of the town	Area (in sq.kms.)	
	1971	1981
Delhi	446.30	540.75
Faridabad Complex	25.75	178.24
Gurgaon	15.33	24.13
Rohtak	11.66	22.03
Panipat	7.77	20.84
Alwar	40.47	80.00
Meerut	57.27	80.82
Ghaziabad	38.22	65.77
Garhmukteshwar	15.54	32.00

Source: CENSUS OF INDIA, 1981.

#### Growth Rate of Towns

A wide variation was observed in the growth rates of towns during 1971-81. It ranged from 350.27 per cent in Hailey Mandi, a small market town, to 9.35 per cent in Beri, a tiny agricultural town (Table 15). Both the towns happen to fall in Haryana subregion.

Table - 15

National Capital Region: Population Growth Rate of Towns

Name of the town	Rank in growth rate	Growth rate during 1971-81
Hailey Mandi	1	350.27
Faridabad Complex	2	169.40
Ghaziabad	3	109.56
Modinagar	4	101.67
Ganaur	5	96.32
Moradnagar	6	86.25
Gurgaonn	7	76.51
Sonipat	8	75.29
Bulandshahr	9	73.83
Garhmukteshwar	10	63.79
Pilkhuwa	11	58.24
Delhi	12	57.09
Panipat	13	56.77
Gohana	14	56.31
Mawana	15	51.34
Dađri	16	51.01
Khairthal	17	49.36
Baraut	18	48.07
Bagpat	19	47.07
Ordn.Ftry. Moradnagar	20	45.66
Pahasu	21	45.35
Alwar	22	45.25
Bahadurgarh	23	45.23
Sohna	24	44.35
Hapur	25	45.30
Gulothi	26	40.52
Meerut	27	40.07
Pataudi	28	39.32
Sardhana	29	36.48
Siana	30	35.97
Jahangirabad	31	35.79
Sikandrabad	32	34.67
Rohtak	33	33.68
Khurja	34	33.58
Hodel	35	32.49
Debai	36	31.62
Hastinapur	37	30.91
Palwal	38	30.72
Shikarpur	39	29.79
Jhajjar	40	27.97
Nuh	41	26.68
Anupshahr	42	23.99
Aminanagar Sarai	43	21.29

Contd.....

Table 15 (Contd...)

Name of the town	Rank in growth rate	Growth rate during 1971-81
Faridnagar	44	20.89
Shahjahanpur	45	20.80
Bawal	46	18.85
Ferozepur Jhirka	47	18.06
Rewari	48	17.49
Bhugrasi	49	16.12
Farrukhanagar	50	16.04
Dankaur	51	14.78
Maham	82	11.20
Beri	53	9.35

Source: Calculated from the CENSUS OF INDIA, 1971 and 1981 data.



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 in-migration (in addition to some gain through territorial extension) accounted for one-half to more than three-fourths of their total growth.

On the other hand, 12 towns grew by less than 25 per cent. These represent the outmigration cases. Many of them are simply overgrown villages, with agriculture as their predominant activity. Rewari, an important commercial and transport town, is the one to record a distinctly slow growth. Why should a town of its eminence show a sluggish growth rate while others of the same kind in the NCR are showing phenomenal growth? The fact that Rewari has been bypassed by the Delhi-Jaipur National Highway and that a fast growing industrial complex of Dharuhera is located in its vicinity seem to be plausible reasons for its retarded growth.

The six ring towns of Delhi recorded a dramatic growth. The relevant data are given in the table below.

Table - 16  
National Capital Region: Growth Rate of Ring Towns, 1971-81

Name of the ring town	Growth rate during 1971-81
Faridabad Complex	169.40
Ghaziabad U.A.	109.56
Gurgaon U.A.	76.51
Bahadurgarh	45.23
Kundli	Proposed industrial township*
Noida	Industrial township*

Source: CENSUS OF INDIA, 1981, 1971 and 1981 data.

\* These two places had not acquired an urban status by 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 they of priority towns.

Distance from Delhi and Growth Rate of Towns

The growth rate of towns, by their distance from Delhi, has been calculated. The intention is to discern the role of a town's proximity to Delhi as a factor in its growth (Table 17).

Table - 17

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 is evident 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 group. The growth rate falls somewhat further to 39.07 per cent in the 75 to 100 kms. distance group. A small rise to 42.19 per cent was noticed in the case of towns located beyond a distance of 100 kms. from Delhi (Fig 4).

It emerges that: (i) Delhi had a strong positive effect on the growth of towns located within 50 kms. from it; (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 emerge as more prominent in towns beyond 100 kms. from Delhi.

It is also to be noted that 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 is distinctly higher than the rate of natural increase.

The adoption of territorial limits of the NCR up to a distance of about 100 kms. from Delhi finds a support from the above findings. The factor of proximity to Delhi in relation to urban growth seems to be of secondary importance beyond this distance.

#### Population Size Category and Growth Rate of Towns

A positive association between the population size and growth rate of towns has generally been observed in studies on Indian urbanisation. It is envisaged that the larger cities have a self propulsive growth under the multiplier effect of increasing functions.

-42-

fig 4

NATIONAL CAPITAL REGION  
Distance and Urban Growth  
1971 - 81

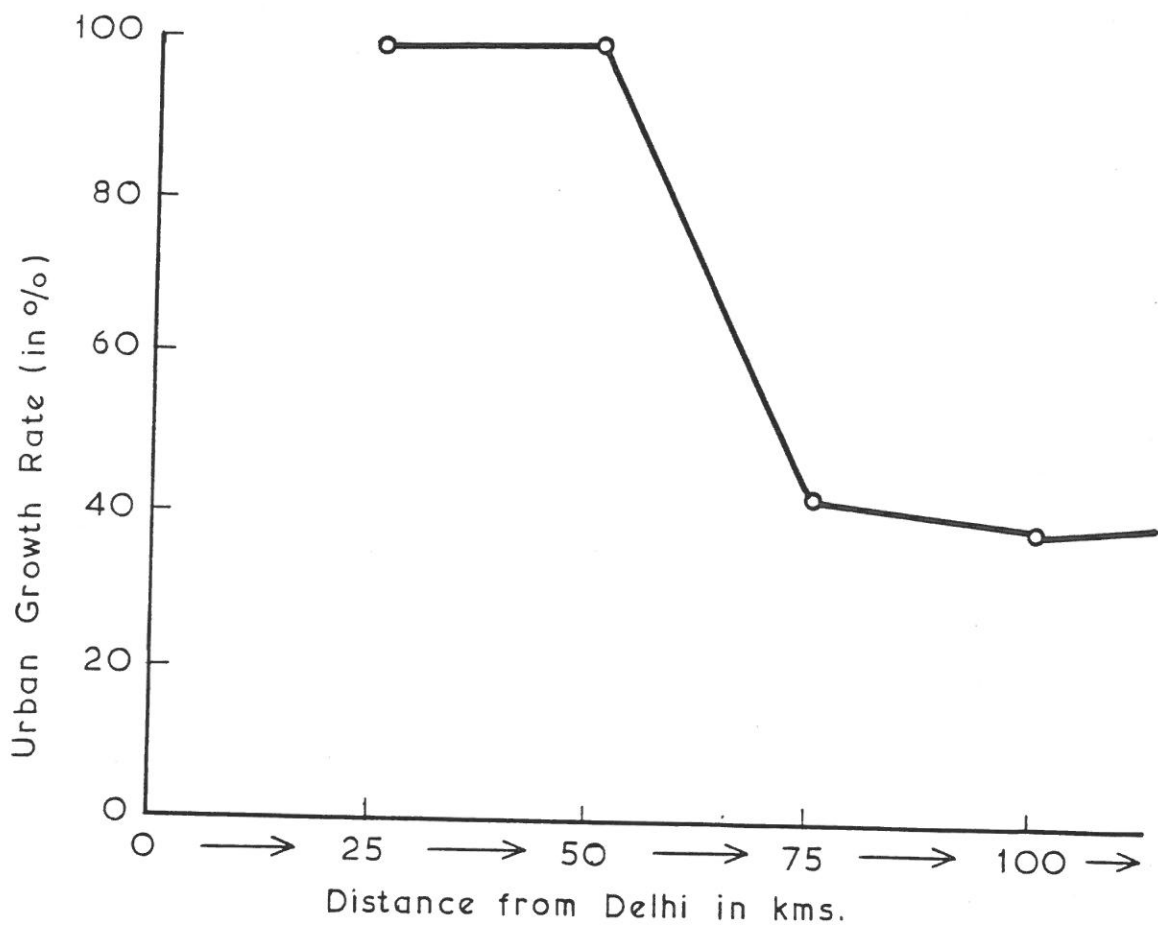


Fig. 4

This idea was put to an empirical test through an analysis of the growth behaviour of the NCR towns during 1971-81. Only those towns are taken into account which existed both in 1971 and 1981. These are classified into seven categories on the basis of their population in the base year of 1971. Their population is aggregated by size category and growth rate computed. Table 18 presents the results obtained:

Table - 18  
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.

A broad association between the size and growth rate of towns is noted. The growth rate consistently declined from Class I towns (excluding the metropolitan city of Delhi) to Class V towns. However, 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 immigration, of course, in varying magnitude.

Two other features also stand out in Table 18: (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.

However, the demographic significance of the two situations differs. Despite a comparatively lower growth rate of Delhi, the absolute increment to its population is massive and in spite of a rapid growth of Class VI towns, their contribution to urban population increase is small.

There is not denying the fact that Delhi has been exercising a positive influence on the growth of towns in its region. The influence, in addition to being distance biased, was generally hierarchical since the bigger towns were the greater beneficiary in this regard.

Administrative Status and Growth Rate of Towns

Administrative activity plays a vital role in any scheme of things, particularly in developing countries. In spatial terms, the development process is said to spread out of the places of administrative eminence to those of lower order. The national or the state capitals are the first beneficiary of any provision of urban facilities or services. These places tend to attract industry and a variety of commercial and service establishments by virtue of their administrative status. Additional employment is generated which attracts migrants. The same process operates, with a much lower intensity, at the district and then at the tehsil levels. The remaining towns, without any administrative status, are placed at the tail end to benefit from such a mechanism.

Accordingly, it is expected that the national/state capitals would grow faster than the district headquarters. The latter, in their own turn, may record a higher rate of growth than the tehsil headquarters and so on. To test the validity of this hypothesis in the context of the NCR, the growth rate of towns has been analysed by their administrative status (Table 19).

Table - 19  
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.



The findings do not support the hypothesis consistently. The tehsil headquarters are noted for the highest growth. These are distinctly ahead of the district headquarters in this regard. Nor is the growth rate of towns 'without any administrative status' significantly lower. These towns have also experienced sizeable net immigration.

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 headquarter in 1981.

#### Functional Status and Growth Rate of Towns

It is postulated that the growth rate of towns is influenced by the degree of their functional diversity. Towns with diversified functions are expected to grow faster than those depending primarily on a single function. Diversity of functions, through a mechanism of mutual interdependence, is supposed to contribute to a faster growth of a town.

Going by the methodology of the Census of India, the NCR towns are categorised as monofunctional, bifunctional and multifunctional. The requisite information on the functional status pertains to the base year of 1971. The growth rates of the three categories of towns during 1971-81 are presented in Table 20.

Table - 20  
National Capital Region: Growth Rate of Towns by  
Functional Status, 1971-81

Functional status	Growth rate
Monofunctional	94.67
Bifunctional	56.27
Multifunctional	44.44

Source: Calculated from the CENSUS OF INDIA, 1971-81 data.

The results obtained are contrary to what was expected. Monofunctional towns show the fastest rate of growth. These are followed by bifunctional and multifunctional towns. Most of the monofunctional towns are either industrial, such as Faridabad complex and Modinagar, or administrative, such as, Alwar and Gurgaon. The nature of their function is such that it gives a boost to their demographic growth. It may be added that the multifunctional towns are generally more stable in their growth behaviour than the monofunctional ones. It would, therefore, be imperative to diversify the economic base of monofunctional towns so as to check fluctuations in their future growth.

#### Dominant Function and Growth Rate of Towns

The study of growth rate of towns by their function throws an additional light on the matter. Industrial towns are expected to grow faster than the trade and commerce towns. This is explained by a stronger multiplier affect of industry in terms of employment generation than that of trading activity.

The NCR towns were grouped into five categories on the basis of their dominant function for this purpose. The dominant function of a town was determined within the framework of the fivefold functional classification of towns adopted by the Indian census. The monofunctional towns do not pose any problem since these are distinguished by a single dominant function. In the case of bifunctional and multifunctional towns, the dominant function is the one which accounts for the higher or the highest proportion of workers, respectively. The 1971 census information is used for this purpose (Table 21).

Table - 21  
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.

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.

Civic Status and Growth Rate of Towns  
-----

Towns are classified also by their civic status for the purpose of their growth analysis. One could postulate that the towns with higher civic status, such as municipal corporation, grow faster than those with lower status, such as notified area committee. The empirical situation, as obtained by data for the NCR towns, is presented in Table 22.

Table - 22

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

Category of towns by civic status	Growth rate
Municipal Corporation	57.09
Municipal Committee/Board/Council	59.21
Town area/town area committee	42.15
Notified area/notified area committee	72.56
Census town	34.51

Source: Calculated from the CENSUS OF INDIA, 1971 and 1981 data.

It is evident that the notified area committee towns, which are generally tiny, have the highest growth rate. The municipal corporations and the municipal committee towns are also noted for practically the same high rate of growth. On the other hand, the census towns, which are non-statutory towns, are comparatively the slowest to grow. Town area committee towns, which are normally small, also show relatively slow growth rate. On the whole, no definite

relationship can be discerned between the civic status and growth rate of a town.

Delhi: A Special Note  
-----

In view of the pivotal position which Delhi holds in the NCR, it would be desirable to close this report with a special note on future population growth and physical expansion of the city. The urbanisable limits of Delhi were prescribed at 448 sq.kms. (later revised to 488 sq.kms.) for the year 1981 by the Delhi Master Plan, 1962. The actual urban area of 592 sq.kms., as recorded by the 1981 census of India, is much larger. The population of Delhi is expected to grow to about 12 million in 2001. Earlier studies had revealed that the 1981 urbanisable limits of Delhi could accommodate about 8 million people, provided there was judicious infilling and proper intensification of densities.<sup>12</sup> The remaining 4 million people will have to be accommodated through urban extension. The official estimates are that an additional 200 sq.kms. of area would be required for this purpose. If the previous events are any guide, these estimates are likely to prove as underestimates. This means that Delhi has to gear itself for an urban scenario which is massive both in demographic and territorial sense.

---

12. "Delhi Urban Area - 2001" (1985): DELHI VIKAS VARTA, Vol 2 (Special Issue), p.10.

CHAPTER 4 SUMMARY AND CONCLUSIONS

- 1) 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 the city 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 intensifying pressure of urbanisation in the foreseeable future.
- 2) The NCR's urban population is bigger in size than that of many states of India; its urban growth rate higher than that of several others. The magnitude of urban problems to be tackled is evidently colossal.
- 3) During 1971-81, about one-third of the urban growth in the NCR was due to natural increase, one-third to net immigration, and the remaining one-third to reclassification (jurisdictional extension of existing towns and emergence of new ones). The transformation of many rural settlements into urban was a noticeable feature in the region.
- 4) In the process, sizeable amount of rural agricultural land has been lost to urban sprawl and extension. The region's urban area increased by as many as 640 sq.kms. during 1971-81. It was accompanied by a decrease in urban density. In Delhi, however,

urban density continued to rise despite a significant increase in its urban area.

- 5) 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 commuting. It can also help in not only checking but also reallocating migration to different places.
- 6) The growth rate of rural population in the NCR corresponds to the natural growth rate. It seems that any outmigration from the rural parts of the region is compensated by immigration. The rural pockets of inflow and outflow are, of course, not the same.
- 7) Practically all towns in the NCR experienced net immigration, their actual growth rate being considerably higher than the natural growth rate.
- 8) Proximity to Delhi is the most critical factor in determining the growth rate of a town 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 the towns in its region.
- 9) The functional nature of towns comes next in importance as the factor underlying town growth. Industrial and service towns are marked by notably higher growth rates. Also, the monofunctional towns outrate the bifunctional and multifunctional towns in

population growth. Nevertheless, even the small agricultural towns are noted for considerable net immigration.

- 10) All categories of the NCR towns, as classified by their population size, show net immigration in varying magnitude. Although the bigger towns have grown faster than the smaller yet the growth rate of the non-metropolitan cities is higher than that of the metropolis while the tiny class VI towns were noted for the highest growth rate.
- 11) The administrative status and the civic status of towns are relegated to secondary importance by the factors of proximity to Delhi and the functional nature of towns in determining their growth rate.
- 12) Many towns, such as Faridabad, Gurgaon, Bahadurgarh, and Ghaziabad which were initially meant to function as satellite towns to share the intensifying demographic pressure on Delhi, have become a contiguous physical extension of the city. It shows that the satellite town strategy has proved counter productive. In place of easing the situation, it has extended the physical scale of the problem.
- 13) 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.
- 14) 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.

This leaves us with two options: either to permit the operation of inherently centralising forces as at present, or to think of alternate decentralisation strategies which could be successful.

A case in favour of further centralisation cannot be dismissed that easily. This is what is already happening. The research evidence shows that the population redistribution policies are less likely to succeed if these are in strong  
13  
opposition to the counteracting market forces.

In physical terms, it may lead to a conversion of many residential localities into dominantly commercial, industrial or institutional. The problem of residential areas dispersed to

---

13. Harry W. Richardson (1983): "Population Distribution Policies", in United Nations: POPULATION BULLETIN No. 15, New York, p.48.

the periphery, in the process, could be solved through a high speed transport system. The answer to many of the problems of the NCR may accordingly lie in designing an efficient regional transport system. Alternatively, if decentralisation is the most desirable goal, it would not be achieved unless effective land use policies are adopted. For this, the following points must be kept in view :

- i. Since the zone upto 50 kms. from Delhi is experiencing exceptionally rapid urban growth, it would be imperative to have impregnable 'green belts' around towns located in this zone. This is to check the coalescence of these towns which otherwise would generate a problem of colossal size.
- ii. A corollary of the above would be to give a greater thrust to growth of towns beyond the 50 kms. zone. The state governments of Haryana, Rajasthan and Uttar Pradesh may be encouraged to direct the future thrust of their industrial and urban development to this zone.
- iii. The existing densities within the already urbanised areas should be intensified. There exists a scope for this, as indicated in the text.
- iv. Since the land in the southwestern part of the NCR is agriculturally less productive and demographically less populous, the unavoidable future physical growth of Delhi may be encouraged in this direction. Simultaneously, activities of the private urban land development agencies

may be examined, especially with reference to encroachment on agriculturally productive land.

- 15) And to do that it is necessary to supplement the present study by additional investigations, relating in particular to the levels of urban services and the status of municipal finance in individual towns. Changes in land use pattern and emerging scenario of housing in individual towns are the other items to be placed on the future research agenda. Feasibility studies, in terms of the capacity of different categories of towns to imbibe new developments at minimum cost, are also called for. At the regional level, a crucial area of future research is the patterns of mobility, both migration and commuting. Such an exercise would remain incomplete if the transport network is not examined in detail. Above all, the mighty encroachment of the urban areas onto agriculturally productive countryside in their environs is a matter of great concern. This has to be checked, if not stopped.