CONTENTS

CONTENTS

CASE STUDIES

CHAPTER I
INTRODUCTION

The Indian economy which was till the beginning of the early nineties a protected one, could not shield itself from the strong winds of globalisation and liberalization sweeping across the world and had to initiate economic reforms to remain an active player in the world economy. The early nineties, therefore, witnessed the beginning of a new era in the economic policies of the Government. It is no wonder that the economic scenario of India has undergone a sea-change since the early nineties. It is no more a protected economy where a few capitalists could thrive. The economic reforms which began in the early nineties have afforded every Indian to become a capitalist. Liberalization, privatization, globalization, computerization, fiscal reforms etc., are the keywords that are being liberally used in the corridors of power. The quota, licence and permit raj is fading away. Many of the sectors which were hitherto the monopoly of the state have been thrown open to the private sector. The key sectors like telecommunications and power have already been opened to the private sector. Even a few services in the railways are being opened to the private sector. Today, every Indian seems to be enjoying the economic freedom. Yes, capitalism has been democratized. Capitalism is no more a monopoly in India.

India always possessed the spiritual and political strength and with the ushering in of economic reforms, its economic strength is also growing day by day and the day is not far off when it would become the economic giant of the world. However, the urban problems that may escalate in the near future due to speedier economic growth should not be lost sight of. Since, globalization and liberalization will attract huge foreign investment and also increase domestic investment, there is an urgent need to improve the economic and social infrastructure of our cities and towns. In this connection, it has to be noted that foreign investment as well as domestic investment tend to concentrate more in larger and metro cities which have better infrastructural facilities. There is a feeling that small and medium towns lag far behind in infrastructural facilities and that the economic reforms may not benefit these towns and cities in a significant way.

It was, therefore, decided that the existing situation in the small and medium towns should be studied and suitable recommendations be made to remedy the situation. The instant report is result of this study. However, the study is confined to social infrastructure only, as this sector seems to have received lesser attention even though this sector is more important from the point of view of human resource development.

Definition of Small and Medium Towns

For the purpose of the study, all those towns which have a population between 50000 to 3 lakhs as per the 1991 census have been considered as small and medium towns. As per the 1991 census, there were 657 towns in the population range of 50000 to 3 lakhs.

Objectives

The main objectives of the study are:

- To ascertain the present status of existing social amenities and facilities like health, sanitation, education as well as recreational and entertainment facilities, both in terms of quantity and quality.
- To find out the adequacy of these amenities and facilities and evaluate the norms for providing these facilities.
- To find out the constraints/problems encountered by the authorities in the provision of these amenities and facilities.
- To assess and estimate the possible requirement of financial allocation and the means and ways for funding them.

Methodology

In order to fulfil the objectives of the study, data on varied aspects were required. A detailed proforma was prepared for collecting the required information and the copies of this proforma were mailed to the concerned states. A copy of the proforma can be seen in Appendix-I. The data sought through the proforma, included detailed data relating to educational facilities, medical facilities, public parks, public playgrounds and sanitation. The expenditure made on these sectors at town level by various agencies were also asked. It may be seen from the proforma that data relating to private sector was also asked.

Coverage

Considering the detailed proforma that was prepared and the volume of work involved, it was decided that for the purpose of fulfilling the objectives of the study, a sample survey would be conducted. The sample size was taken as 10%, selecting atleast one town from each state/UT, where small and medium towns were found. However, when the final list was drawn up some adjustments were made and in all a total of 86 small and medium towns were selected for the study. The towns were selected using random numbers and the sampling method could be described as 'stratified random sampling method', the strata being the states and union territories. The statewise number of towns selected for the study can be seen in Table 1.1 and the list of towns can be seen in Appendix-II.

Though 86 towns were selected for the study, all the towns could not be covered while analysing the data. The main reason for this was the non-availability of data at town level for many of the variables. The number of towns for which filled-in proforma were received from the state governments was sixty two. However, on scrutiny of the data received from the state governments, it was noticed that information pertaining to many of the items were completely missing. For example, information pertaining to private sector medical facilities, medical facilities relating to non-allopathic systems of medicine, tuition fees charged in schools, physical condition of school buildings, expenditure at town level on various services were almost completely missing. Further, there were also many inconsistencies in the data received for many of the towns. For example, for many of the towns, information under school education had data for number of schools, but the number of students and teachers was either completely missing or were found to be incorrect. Such towns had, therefore, to be omitted from analysis. Due to the inability of the state governments to give much of the data required for the study, the analysis had to be restricted to a few variables and that too to the data that could be utilised for analysis. In fact, the number of towns of which the data could be used for analysis purpose differed from sector to sector. The sectorwise number of towns, for which the data were used for analysis, is given below:

	Sector	No. of Towns
1.	School Education	16
2.	College Education	33
3.	Medical Facilities	38
4.	Parks and Playgrounds	19
5.	Sanitation	46

Table 1.1 : Statewise No. of Small and Medium Towns Selected for the Study

Sl. No.	State / UT	Total no. of towns (1991)	No. of small & medium towns (Popn. 50000 - 3 lakhs) (1991)	No. of small & medium towns selected for the study
1	Andhra Pradesh	264	71	7
2	Arunachal Pradesh	10	0	0
3	Assam	93	7	2
4	Bihar	271	50	5
5	Goa	31	3	1
6	Gujarat	264	46	6
7	Haryana	94	21	3
8	Himachal Pradesh	58	1	1
9	Jammu & Kashmir	N.A	N.A	0
10	Karnataka	306	40	5
11	Kerala	197	24	3
12	Madhya Pradesh	465	43	6
13	Maharashtra	336	47	6
14	Manipur	31	1	1
15	Meghalaya	12	1	1
16	Mizoram	22	1	1
17	Nagaland	9	2	1
18	Orissa	124	16	3
19	Punjab	120	25	4
20	Rajasthan	222	28	4
21	Sikkim	8	0	0
22	Tamil Nadu	469	69	7
23	Tripura	18	1	1
24	Uttar Pradesh	753	75	10
25	West Bengal	382	75	6
26	A. & Nicobar Island	1	1	1
27	Chandigarh	5	0	0
28	D & Nagar Haveli	1	0	0
29	Daman & Diu	2	0	0
30	Delhi	32	6	0
31	Lakshadweep	4	0	0
32	Pondicherry	11	3	1
Total		4615	657	86

Source : 'Town Directory' ,Census of India, 1991

Case Studies

In view of incompleteness and many discrepancies found in the data received through the questionnaires sent to the states, it was decided to select certain towns for personal visits and collect detailed and latest data so that the data is more reliable. Accordingly, six towns were selected for personal visits. These were selected keeping in view that there should be atleast one town from each of the four zones of the country, viz., north, east, south, west and centre and also that there should be atleast one town from each of the three population categories, viz., 50000 – 1 lakh, 1 lakh – 2 lakh and 2 lakh and above. The six towns which were finally selected and which were visited during 2001 are given below.

	Town	State	Population (1991)
1.	Baleshwar (Balasore)	Orissa	101829
2.	Dewas	M.P.	164364
3.	Gangapur City	Rajasthan	68886
4.	Karwar	Karnataka	51022
5.	Margao	Goa	64581
6.	Thanjavur	Tamilnadu	202013

(Note : Population figures are as given in the "Town Directory", Census of India, 1991)

The data obtained from these six towns have been analysed separately and separate chapters have been devoted for each of these six towns in this report.

Chapterisation

The report has been divided into 14 chapters including this introductory chapter. The second chapter deals with school education and the data obtained through the questionnaires have been analysed in this chapter. Chapter 3 covers college education and chapters 4, 5 and 6 present the scenario pertaining to medical facilities, parks and playgrounds and sanitation respectively. The seventh chapter is devoted to the case study of Balasore (Orissa). Chapter 8 to 12 cover the case study towns of Dewas, Gangapur City, Karwar, Margao and Thanjavur. In the thirteenth chapter, comparison of case study towns has been undertaken. The last chapter gives findings and recommendations.

CHAPTER II
SCHOOL EDUCATION

Education is an indispensable and the most crucial input in development. Only a learning society is a developing society. No society can become fully civilized unless all the members of the society become educated. It is rightly said that a man without education is a beast without its horns and tail. It is education which dispels darkness, develops mind to think independently and builds scientific temper. It has been rightly said that the real wealth of a country does not lie in the vaults of its banks or treasure houses but it lies in the classrooms of its schools, its playgrounds, the library and the laboratory. No country can become really advanced in every sector of its economy, unless all its inhabitants are educated. Education is required not only for material advancement but is also a pre-requisite for spiritual upliftment and orderly development of a society.

Literacy in Urban India – 1991

In the 1991 Census, any person who can both read and write with understanding in any language was taken as a literate. It is not necessary that a person who is literate should have received any formal education or should have passed any minimum educational standard. All children below the age of 7 years have been taken as illiterate in the 1991 Census.

In 1991, as per the 1991 Census, there were in all 4615 towns in the country with a total population of 21.57 crores (21,57,71612 persons). The total population aged 7 and above was 18.21 crores (18,21,73617 persons) and out of these, 13.31 crores (13,31,65952 persons) were literate, thereby giving a literacy rate of about 73% for urban India. Surprisingly, the literacy rate for all the small and medium towns (population rank 50000 – 3 lakhs) taken together also woked out to about 73%. For the purpose of the instant study, all those towns which lie in the population range of 50000 to 3 lakhs have been taken as small and medium towns. The total number of small and medium towns was 657 in 1991 and the total population of these towns was 6.54 crores (65428855 persons). The total population aged 7 and

above was 5.52 crores (55271143 persons) and of these, 4.04 crores (40406942 persons) was literate, thereby giving a literate rate of about 73%.

Though the overall literacy rate is about 73%, both for all the towns taken together and small and medium towns, there are wide variations among the various towns. The distribution of towns by literacy rate, as in 1991, can be seen in Table 2.1 (given below). The townwise information for small and medium towns can be seen in Appendix-III.

Table 2.1 : Distribution of Towns by Literacy Rate - 1991

S.No.	Literacy Rate Range (%)	No. of Towns			
		Small & Medium		All Towns	
		No.	%	No.	%
1	90 & above	20	3.0	223	4.8
2	80 ---------- 90	133	20.2	670	14.5
3	70 ---------- 80	268	40.8	1310	28.4
4	60 --------- 70	161	24.5	1152	25.0
5	50 --------- 60	57	8.7	765	16.6
6	40 --------- 50	15	2.3	328	7.1
7	30 --------- 40	2	0.3	110	2.4
8	20 --------- 30	1	0.2	53	1.1
9	10 --------- 20	0	0.0	4	0.1
Total		657	100.0	4615	100.0

Source: Compiled from the data given in "Town Directory", Census of India, 1991

It may be seen from Table 2.1 that when all the towns are taken together, not even one-fifth of towns in India have a literacy rate of 80% or above. The towns which have a literacy rate of less than 70% constitute about 52%. Thus, not even half of the towns in India have a literate rate of atleast 70%. The small and medium towns, surprisingly, depict a better picture. However, there are wide variations in them also. About 64% of the small and medium towns have a literacy rate of 70% or above. The proportion of small and medium towns having a literacy rate of 80% and above is about 23%.

It is depressing to note that there are still a large number of towns in the country where the percentage of literacy does not exceed fifty. Such towns constitute about 10% of the total. In case of small and medium towns the corresponding figure is about 3%.

The wide disparities in literacy rates among various towns can be attributed to various factors, one of which is of course the disparities in availability of infrastructure facilities with regard to education. In the following paragraphs, the disparities in infrastructural facilities, as revealed by the sample survey, are analysed.

Analysis of Sample Survey

School Education

Among the 62 sample towns which responded, data pertaining to only 16 towns were found suitable for analysis as far as school education is concerned. The data is analysed in the following paragraphs:

i) Primary School Education

The data relating to number of schools, teachers and students in the 16 sample towns are furnished in Table 2.2 and the development indicators that have been worked out are presented in Table 2.3.

a) Availability of Primary Schools in Relation to Area of the Town

It may be seen from Table 2.3 that there are wide variations with regard to availability of schools in relation to area. When the overall picture is considered one can come across a primary school within an area of about 0.05 sq.km. in Nawabganj, whereas in Payyannur, it is only after scanning an area of about 4.5 sq.km., it may be possible to see a primary school. The distribution of towns according to the average area over which one can come across a primary school is given in Table 2.4.

The figures given in Table 2.4 indicate that in 11 or about 70% of the sample towns, it would be possible to come across a primary school within an area of one

Table 2.2: Details of Primary Schools in Selected Sample Towns – 1997-98

Sl. No.	Town	Area in sq. km. 1991	Popn.1991	No. of Schools					No. of Teachers					No. of Students				
				Govt.	%	Pvt.	%	Total	Govt.	%	Pvt.	%	Total	Govt.	%	Pvt.	%	Total
1	AGARTALA	15.80	157358	10	76.9	3	23.1	13	107	84.9	19	15.1	126	1536	74.0	540	26.0	2076
2	AIZAWL	110.00	155240	128	76.2	40	23.8	168	742	78.1	208	21.9	950	15916	66.6	7964	33.4	23880
3	BEAWAR	17.74	106721	18	54.5	15	45.5	33	72	54.5	60	45.5	132	5400	54.5	4500	45.5	9900
4	FARRUKHABAD	17.04	194567	53	42.1	73	57.9	126	155	30.7	350	69.3	505	1750	20.8	6668	79.2	8418
5	FATEHPUR	56.98	117675	25	30.1	58	69.9	83	102	20.5	395	79.5	497	4509	24.9	13635	75.1	18144
6	HOSPET	28.39	114154	10	71.4	4	28.6	14	36	59.0	25	41.0	61	1500	78.9	400	21.1	1900
7	KARAIKAL	35.17	61804	18	85.7	3	14.3	21	88	70.4	37	29.6	125	1910	58.9	1335	41.1	3245
8	LALITPUR	17.35	79870	26	34.2	50	65.8	76	114	31.3	250	68.7	364	1830	31.6	3955	68.4	5785
9	NAGAON	9.22	93350	53	96.4	2	3.6	55	636	99.1	6	0.9	642	27150	98.4	452	1.6	27602
10	NAGERCOIL	24.27	190084	20	52.6	18	47.4	38	189	50.9	182	49.1	371	5345	45.7	6344	54.3	11689
11	NAWABGANJ	4.34	64933	24	28.6	60	71.4	84	72	17.1	349	82.9	421	1930	14.3	11586	85.7	13516
12	0RAI	20.29	98716	18	12.2	130	87.8	148	69	9.6	650	90.4	719	1515	6.4	22276	93.6	23791
13	PAYYANNUR	54.63	64032	5	41.7	7	58.3	12	25	29.1	61	70.9	86	406	34.4	775	65.6	1181
14	RABKAVI BANHATTI	3.62	60609	15	62.5	9	37.5	24	62	64.6	34	35.4	96	3957	72.8	1482	27.2	5439
15	SIKAR	22.57	148272	23	85.2	4	14.8	27	88	77.2	26	22.8	114	2956	71.6	1172	28.4	4128
16	TENKASI	26.16	55189	3	20.0	12	80.0	15	12	12.2	86	87.8	98	414	11.9	3073	88.1	3487
Total				449	47.9	488	52.1	937	2569	48.4	2738	51.6	5307	78024	47.5	86157	52.5	164181

Source: Data obtained from the State Governments (except Area and Population figures)

Table 2.3 : Development Indicators Pertaining to Primary Education

Sl. No.	Town	Average Area per School (in sq. km.)			Average No. of Students per Teacher			Average Population Served per School		
		Govt.	Private	Total	Govt.	Private	Total	Govt.	Private	Total
1	AGARTALA	1.58	5.27	1.22	14	28	16	15736	52453	12104
2	AIZAWL	0.86	2.75	0.65	21	38	25	1213	3881	924
3	BEAWAR	0.99	1.18	0.54	75	75	75	5929	7115	3234
4	FARRUKHABAD	0.32	0.23	0.14	11	19	17	3671	2665	1544
5	FATEHPUR	2.28	0.98	0.69	44	35	37	4707	2029	1418
6	HOSPET	2.84	7.10	2.03	42	16	31	11415	28539	8154
7	KARAIKAL	1.95	11.72	1.67	22	36	26	3434	20601	2943
8	LALITPUR	0.67	0.35	0.23	16	16	16	3072	1597	1051
9	NAGAON	0.17	4.61	0.17	43	75	43	1761	46675	1697
10	NAGERCOIL	1.21	1.35	0.64	28	35	32	9504	10560	5002
11	NAWABGANJ	0.18	0.07	0.05	27	33	32	2706	1082	773
12	0RAI	1.13	0.16	0.14	22	34	33	5484	759	667
13	PAYYANNUR	10.93	7.80	4.55	16	13	14	12806	9147	5336
14	RABKAVI BANHATTI	0.24	0.40	0.15	64	44	57	4041	6734	2525
15	SIKAR	0.98	5.64	0.84	34	45	36	6447	37068	5492
16	TENKASI	8.72	2.18	1.74	35	36	36	18396	4599	3679

Source : Compiled from the data obtained from the State Governments

.

Table 2.4 : Distribution of Towns by Average Area Served per School

Sl. No.	Range (Average Area (in Sq.km.)	Govt.		Private		Total All the schools	
		No.	%	No.	%	No.	%
1.	Less than 0.50	4	25.0	5	31.3	6	37.6
2.	0.50 – 1.00	4	25.0	1	6.2	5	31.3
3.	1.00 – 1.50	2	12.5	2	12.5	1	6.2
4.	1.50 – 2.00	2	12.5	Nil	Nil	2	12.5
5.	2.00 – 2.50	1	6.2	1	6.2	1	6.2
6.	2.50 – 3.00	1	6.2	1	6.2	Nil	Nil
7.	3 & above	2	12.5	6	37.6	1	6.2
Total		16	100.0	16	100.0	16	100.0

sq.km. However, if the private schools are excluded, it is seen that only in 8 or about 50% of the sample towns, there exists a primary school within a sq.km. of area. Out of the 16 sample towns, 2 or about 12% do not have a primary school even within an area of 2 sq.km.

To conclude, it can be said that there are still a significant number of towns where one can fail to come across a primary school within a sq.km. of area. This is inspite of the fact that private sector is also playing a dominant role in providing primary education. The total number of primary schools (as in 1997-98) in the 16 sample towns is 937, out of which 488 are private schools, which means that more than 50% of the primary schools belong to the private sector. In terms of teachers and students also, the private primary schools account for more than 50% (see Table 2.2).

In 7 out of the 16 sample towns, more than 50% of the primary schools belong to the private sector. In terms of teachers also, there are 7 towns which account for more than 50% in the private sector. As regards number of students, it is observed that there are 8 towns having more than 50% of the students in the private primary schools. In Orai and Tenkasi, the private primary schools account for more than 80% in terms of number of schools, teachers as well as number of students (see Table 2.2).

b) Average Number of Students Per Teacher (Student–Teacher Ratio)

The average number of students per teacher varies from 14 in Payyannur to 75 in Beawar. There are three towns (or about 18.85%) where the average is more than 40 students per teacher. The distribution of towns according to average number of students per teacher is given below (Table 2.5).

Table 2.5 : Distribution of Towns by Average Number of Students per Teacher

Sl. No.	Range (Average No. of Students per teacher)	Govt.		Private		Total	
		No. of towns	%	No. of towns	%	No. of towns	%
1.	Upto 20	4	25.0	4	25.0	4	25.0
2.	21 – 30	5	31.2	1	6.2	2	12.5
3.	31 – 40	2	12.5	7	43.8	7	43.8
4.	41 – 50	3	18.8	2	12.5	1	6.2
5.	More than 50	2	12.5	2	12.5	2	12.5
Total		16	100.0	16	100.0	16	100.0

When the government schools are considered separately, it is seen that among the 16 sample towns, the average number of students is found to be more than 40 in 5 towns (31%). In case of private schools, the corresponding number of towns is 4 or 25%. The statistics indicate that there are wide variations and that there are still a large number of towns where the student-teacher ratio is not satisfactory.

c) Availability of Primary Schools in Relation to Population

When both the government and private schools are taken together, it may be seen from the statistics furnished in Table 2.3 that the availability of one school in relation to total population varies from as low as 667 persons in Orai to as high as 12104 persons in Agartala. The distribution of towns by availability of school in relation to population is given below (Table 2.6).

Assuming that there should be atleast one primary school for every 5000 persons, the situation prevailing at present can be considered as unsatisfactory.

Table 2.6 : Distribution of Towns by Average Population served per School

Sl. No.	Population Range	Govt.		Private		Total	
		No. of towns	%	No. of towns	%	No. of towns	%
1.	Upto 3000	3	18.8	5	31.3	9	56.3
2.	3001-4000	3	18.8	1	6.3	2	12.5
3.	4001-5000	2	12.5	1	6.2	Nil	Nil
4.	5001-6000	2	12.5	Nil	Nil	3	18.8
5.	6001-7000	1	6.2	1	6.2	Nil	Nil
6.	7001-8000	Nil	Nil	1	6.2	Nil	Nil
7.	8001-9000	Nil	Nil	Nil	-	1	6.2
8.	9001-10000	1	6.2	1	6.2	Nil	Nil
9.	Above 10000	4	25.0	6	37.6	1	6.2
Total		16	100.0	16	100.0	16	100.0

Looking at the figures given in Table 2.6, it is evident that in about one-third (31.25%) of the sample towns, one finds a primary school for a population of only above 5000 persons. It seems it can be safely concluded that there are still a significant number of towns in this country where the availability of primary schools is inadequate in relation to population. This is inspite of private sector playing a dominant role in providing primary education. If private schools are excluded from analysis, it is seen that only about 50% of the sample towns have a primary school for a population of 5000 persons or below.

ii) Middle School Education

The statistics that were available pertaining to middle school education are presented in Table 2.7. The development indicators that have been worked out can be seen in Table 2.8.

a) Availability of Middle Schools in relation to Area

When all the schools are considered and analysed, it is seen that the minimum area over which one can come across a middle school in the 16 sample towns varies from 0.11 sq.km. in Nawabganj to 8.09 sq.km. in Nagercoil (see Table 2.8). The distribution of the 16 sample towns by average area per middle school may be seen in Table 2.9 given below.

.

Table 2.7 : Details of Middle Schools in Selected Sample Towns –1997-98

Sl No.	Town	Area in sq. km. 1991	Population 1981	No. of Schools					No. of Teachers					No. of Students				
				Govt.	%	Pvt.	%	Total	Govt.	%	Pvt.	%	Total	Govt.	%	Pvt.	%	Total
1.	NAGAON	9.22	93350	17	89.5	2	10.5	19	261	97.0	8	3.0	269	8784	97.9	190	2.1	8974
2.	RABKAVI BANHATTI	3.62	60609	10	62.5	6	37.5	16	42	60.9	27	39.1	69	1729	58.3	1236	41.7	2965
3.	HOSPET	28.39	114154	20	80.0	5	20.0	25	160	78.0	45	22.0	205	6000	75.0	2000	25.0	8000
4.	PAYYANNUR	54.63	64032	2	25.0	6	75.0	8	29	20.9	110	79.1	139	745	21.4	2730	78.6	3475
5.	AIZAWL	110.00	155240	82	71.9	32	28.1	114	771	71.9	302	28.1	1073	10830	77.0	3242	23.0	14072
6.	KARAIKAL	35.17	61804	7	70.0	3	30.0	10	100	66.2	51	33.8	151	1995	78.6	542	21.4	2537
7.	SIKAR	22.57	148272	9	81.8	2	18.2	11	87	75.0	29	25.0	116	2531	71.6	1004	28.4	3535
8.	BEAWAR	17.74	106721	17	70.8	7	29.2	24	225	69.2	100	30.8	325	8000	79.2	2100	20.8	10100
9.	TENKASI	26.16	55189	1	16.7	5	83.3	6	8	6.1	123	93.9	131	289	5.5	4994	94.5	5283
10.	NAGERCOIL	24.27	190084	1	33.3	2	66.7	3	11	25.6	32	74.4	43	284	18.6	1246	81.4	1530
11.	AGARTALA	15.80	157358	4	66.7	2	33.3	6	78	74.3	27	25.7	105	967	92.5	78	7.5	1045
12.	FATEHPUR	56.98	117675	6	21.4	22	78.6	28	30	23.1	100	76.9	130	347	7.6	4227	92.4	4574
13.	NAWABGANJ	4.34	64933	5	12.8	34	87.2	39	21	16.8	104	83.2	125	230	6.5	3287	93.5	3517
14.	0RAI	20.29	98716	5	7.6	61	92.4	66	29	8.7	305	91.3	334	300	5.7	5000	94.3	5300
15.	LALITPUR	17.35	79870	4	18.2	18	81.8	22	20	20.8	76	79.2	96	368	13.9	2276	86.1	2644
16.	FARRUKHABAD	17.04	194567	4	9.3	39	90.7	43	18	4.9	351	95.1	369	227	11.3	1780	88.7	2007
	TOTAL			194	44.1	246	55.9	440	1890	51.4	1790	48.6	3680	43626	54.8	35932	45.2	79558

Source: Data obtained from the State Governments

Table 2.8 : Development Indicators Pertaining to Middle School Education

Sl. No.	Town	Average Area per School (in sq.km.)			Average No. of Students per Teacher			Average Population served per School		
		Govt.	Pvt.	Total	Govt.	Pvt.	Total	Govt.	Pvt.	Total
1.	NAGAON	0.54	4.61	0.49	34	24	33	5491	46675	4913
2.	RABKAVI BANHATTI	0.36	0.60	0.23	41	46	43	6061	10102	3788
3.	HOSPET	1.42	5.68	1.14	38	44	39	5708	22831	4566
4.	PAYYANNUR	27.32	9.11	6.83	26	25	25	32016	10672	8004
5.	AIZAWL	1.34	3.44	0.96	14	11	13	1893	4851	1362
6.	KARAIKAL	5.02	11.72	3.52	20	11	17	8829	20601	6180
7.	SIKAR	2.51	11.29	2.05	29	35	30	16475	74136	13479
8.	BEAWAR	1.04	2.53	0.74	36	21	31	6278	15246	4447
9.	TENKASI	26.16	5.23	4.36	36	41	40	55189	11038	9198
10.	NAGERCOIL	24.27	12.14	8.09	26	39	36	190084	95042	63361
11.	AGARTALA	3.95	7.90	2.63	12	3	10	39340	78679	26226
12.	FATEHPUR	9.50	2.59	2.04	12	42	35	19613	5349	4203
13.	NAWABGANJ	0.87	0.13	0.11	11	32	28	12987	1910	1665
14.	0RAI	4.06	0.33	0.31	10	16	16	19743	1618	1496
15.	LALITPUR	4.34	0.96	0.79	18	30	28	19968	4437	3630
16.	FARRUKHABAD	4.26	0.44	0.40	13	5	5	48642	4989	4525

Source : Compiled from the data obtained from the State Governments

.

Table 2.9: Distribution of Towns by Average Area Served per Middle School

Sl. No.	Average Area Range(in Sq.km.)	Govt.		Private		Total	
		No. of towns	%	No. of towns	%	No. of towns	%
1.	Upto 0.50	1	6.2	3	18.8	5	31.2
2.	0.50 – 1.00	2	12.5	2	12.5	3	18.8
3.	1.00 – 1.50	3	18.8	Nil	Nil	1	6.2
4.	1.50 – 2.00	Nil	Nil	Nil	Nil	Nil	Nil
5.	2.00 – 2.50	Nil	Nil	Nil	Nil	2	12.5
6.	2.50 – 3.00	1	6.2	2	12.5	1	6.2
7.	3.00 – 3.50	Nil	Nil	1	6.2	Nil	Nil
8.	3.50 – 4.00	1	6.2	Nil	Nil	1	6.2
9.	Above 4	8	50.0	8	50.0	3	18.8
Total		16	100.0	16	100.0	16	100.0

It is observed from Table 2.9 that only 8 or 50% of the 16 sample towns have a middle school within an area of 1 sq.km. When the private schools are excluded, one can find a middle school within an area of one sq.km. in only 3 or about 19% of the 16 sample towns. In 3 towns (about 19%), it will not be possible to find a middle school within an area of even 4 sq.km. Had there been no private schools, one would not have come across a middle school even after scanning an area of 4 sq.km., in 8 or 50% of the sample towns.

As in case of primary schools, the scenario in case of middle schools also does not appear to be satisfactory. This is once again despite the fact that private sector is playing a significant role in providing middle school education. About 56% of the middle schools in the 16 sample towns are run by private institutions. In terms of teachers, the private schools account for about 49% in the 16 sample towns and in terms of students, the corresponding figure is about 45%. Out of the 16 sample towns, private schools account for atleast 50% of the respective total in 8 towns (50%). In terms of teachers and students also, the number of towns is observed to be 8, that is 50%, where the corresponding proportion is atleast 50% (see Table 2.7).

b) Student - Teacher Ratio

Among the 16 sample towns, the average number of students per teacher is above 40 in only one town (Rabkavi Banhatti). The average varies from 5 in

Farrukhabad to 43 in Rabkavi Banhatti. The distribution of the 16 sample towns according to the average number of students per teacher is given below (Table 2.10).

Table 2.10 : Distribution of Towns by Average Number of Students per Teacher

Sl. No.	Range (Average No. of Students per teacher)	Govt.		Private		Total	
		No. of towns	%	No. of towns	%	No. of towns	%
1.	Upto 20	8	50.0	5	31.2	5	31.2
2.	21 – 30	3	18.8	4	25.0	4	25.0
3.	31 – 40	4	25.0	3	18.8	6	37.5
4.	41 – 50	1	6.2	4	25.0	1	6.2
Total		16	100.0	16	100.0	16	100.0

As far as middle schools are concerned, the student - teacher ratio seems to be better in the government sector. Among the 16 sample towns, the average number of students per teacher in private schools is observed to be more than 40 in 4 towns whereas in case of government schools, there is only one town where the average is more than 40 students per teacher. When all the schools are taken together the average number of students per teacher is observed to be more than 40 in only one town.

c) Availability of Middle Schools in relation to Population

The relevant statistics are furnished in Table 2.8. It may be seen from Table 2.8 that the average population varies from as low as 1362 in Aizawl to as high as 63361 in Nagercoil. This shows that there are wide variations. As far as government schools are concerned, the average population for which one can find a middle school varies from 1893 to 190084. In case of private schools, the corresponding figure varies from 1618 in Orai to 95042 in Nagercoil. The distribution of the 16 sample towns according to the availability of schools in relation to population may be seen in Table 2.11.

Looking at the overall scenario, it is seen that the average population for which a middle school is available is more than 5000 in 6 or about 37% of the 16

Table 2.11: Distribution of Towns by Average Population Served per Middle School

Sl. No.	Average Population Range	Govt.		Private		Total	
		No. of towns	%	No. of towns	%	No. of towns	%
1.	Upto 3000	1	6.2	2	12.5	3	18.8
2.	3001-4000	Nil	Nil	Nil	Nil	2	12.5
3.	4001-5000	Nil	Nil	3	18.8	5	31.3
4.	5001-6000	2	12.5	1	6.2	Nil	Nil
5.	6001-7000	2	12.5	Nil	Nil	1	6.2
6.	7001-8000	Nil	Nil	Nil	Nil	Nil	Nil
7.	8001-9000	1	6.2	Nil	Nil	1	6.2
8.	9001-10000	Nil	Nil	Nil	Nil	1	6.2
9.	10001-15000	1	6.2	3	18.8	1	6.2
10.	15001-20000	4	25.0	1	6.2	Nil	Nil
11.	Above 20000	5	31.3	6	37.5	2	12.5
Total		16	100.0	16	100.0	16	100.0

sample towns. In 25% of the sample towns, the average is more than 10000. This means that there can still be a large number of towns in this country where the number of middle schools may not be adequate in relation to population. If the scenario in the 16 sample towns is analysed after excluding the private schools, the situation becomes highly unsatisfactory. It is seen that if only government schools are considered, there are only 6 towns or about 37% of the 16 sample towns where one can come across a middle school for a population of 10000. In fact, in more than half of the 16 sample towns, there exists a middle school for a population of more than 15000.

iii) Secondary/Senior Secondary School Education

With regard to secondary/senior secondary education, the data that could be used for analysis are presented in Table 2.12. The development indicators that have been arrived at on the basis of the data given in Table 2.12 can be seen in Table 2.13.

Table 2.12 : Details of Secondary Schools in Selected Sample Towns – 1997-

Sl. No.	Town	Area in Sq.Km. 1991	Popn. 1991	No. of Schools					No. of Teachers					No. of Students				
				Govt.	%	Pvt.	%	Total	Govt.	%	Pvt.	%	Total	Govt.	%	Pvt.	%	Total
1	NAGAON	9.22	93350	17	73.9	6	26.1	23	350	85.4	60	14.6	410	4850	80.8	1150	19.2	6000
2	RABKAVI BANHATTI	3.62	60609	2	25.0	6	75.0	8	17	25.8	49	74.2	66	716	36.5	1246	63.5	1962
3	HOSPET	28.39	114154	4	44.4	5	55.6	9	35	41.2	50	58.8	85	1500	42.9	2000	57.1	3500
4	PAYYANNUR	54.63	64032	4	57.1	3	42.9	7	135	50.0	135	50.0	270	3627	50.2	3598	49.8	7225
5	AIZAWL	110.00	155240	8	80.0	2	20.0	10	151	83.4	30	16.6	181	4600	93.9	301	6.1	4901
6	KARAIKAL	35.17	61804	6	60.0	4	40.0	10	161	53.8	138	46.2	299	3037	41.1	4358	58.9	7395
7	SIKAR	22.57	148272	4	50.0	4	50.0	8	164	59.2	113	40.8	277	6115	54.5	5100	45.5	11215
8	BEAWAR	17.74	106721	7	87.5	1	12.5	8	200	90.9	20	9.1	220	5000	89.3	600	10.7	5600
9	TENKASI	26.16	55189	2	40.0	3	60.0	5	90	62.9	53	37.1	143	2815	54.6	2343	45.4	5158
10	NAGERCOIL	24.27	190084	4	33.3	8	66.7	12	270	31.9	577	68.1	847	7811	32.2	16417	67.8	24228
11	AGARTALA	15.80	157358	18	52.9	16	47.1	34	1101	64.4	608	35.6	1709	22026	56.7	16832	43.3	38858
12	FATEHPUR	56.98	117675	5	4.5	107	95.5	112	161	9.6	1519	90.4	1680	5711	31.0	12684	69.0	18395
13	NAWABGANJ	4.34	64933	2	16.7	10	83.3	12	93	43.1	123	56.9	216	6223	57.6	4584	42.4	10807
14	0RAI	20.29	98716	2	22.2	7	77.8	9	72	22.0	255	78.0	327	2623	23.5	8536	76.5	11159
15	LALITPUR	17.35	79870	4	66.7	2	33.3	6	108	74.0	38	26.0	146	7125	81.5	1613	18.5	8738
16	FARRUKHABAD	17.04	194567	3	15.0	17	85.0	20	130	27.7	340	72.3	470	6040	28.3	15310	71.7	21350
TOTAL				92	31.4	201	68.6	293	3238	44.1	4108	55.9	7346	89819	48.2	96672	51.8	186491

Source : Data obtained from the State Governments

Table 2.13: Development Indicators Pertaining to Secondary School Education

Sl. No.	Town	Av. Area Served by one school (in sq. km.)			Av. No. of Students per Teacher			Av. Population Served per School		
		Govt.	Pvt.	Total	Govt.	Pvt.	Total	Govt.	Pvt.	Total
1	NAGAON	0.54	1.54	0.40	14	19	15	5491	15558	4059
2	RABKAVI BANHATTI	1.81	0.60	0.45	42	25	30	30305	10102	7576
3	HOSPET	7.10	5.68	3.15	43	40	41	28539	22831	12684
4	PAYYANNUR	13.66	18.21	7.80	27	27	27	16008	21344	9147
5	AIZAWL	13.75	55.00	11.00	30	10	27	19405	77620	15524
6	KARAIKAL	5.86	8.79	3.52	19	32	25	10301	15451	6180
7	SIKAR	5.64	5.64	2.82	37	45	40	37068	37068	18534
8	BEAWAR	2.53	17.74	2.22	25	30	25	15246	106721	13340
9	TENKASI	13.08	8.72	5.23	31	44	36	27595	18396	11038
10	NAGERCOIL	6.07	3.03	2.02	29	28	29	47521	23761	15840
11	AGARTALA	0.88	0.99	0.46	20	28	23	8742	9835	4628
12	FATEHPUR	11.40	0.53	0.51	35	8	11	23535	1100	1051
13	NAWABGANJ	2.17	0.43	0.36	67	37	50	32467	6493	5411
14	0RAI	10.15	2.90	2.25	36	33	34	49358	14102	10968
15	LALITPUR	4.34	8.68	2.89	66	42	60	19968	39935	13312
16	FARRUKHABAD	5.68	1.00	0.85	46	45	45	64856	11445	9728

Source : Compiled from the data obtained from the State Governments

.

a) Availability of Secondary Schools in Relation to Area of the Town

The figures furnished in Table 2.13 reveal that the availability of a secondary school in the 16 sample towns in relation to area varies from 0.36 sq.km. in Nawabganj to 11.0 sq.km. in Aizawl. The distribution of towns by average area of town served by a secondary school can be seen in the following table (Table 2.14).

Table 2.14: Distribution of Towns by Average Area Served by One School

Sl. No.	Average Area Range (in Sq.km.)	Govt.		Private		Total	
		No. of towns	%	No. of towns	%	No. of towns	%
1.	Upto 0.50	Nil	Nil	1	6.2	4	25.0
2.	0.50 – 1.00	2	12.5	4	25.0	2	12.5
3.	1.00 – 1.50	Nil	Nil	Nil	Nil	Nil	Nil
4.	1.50 – 2.00	1	6.2	1	6.2	Nil	Nil
5.	2.00 – 2.50	1	6.2	Nil	Nil	3	18.8
6.	2.50 – 3.00	1	6.2	1	6.2	2	12.5
7.	3.00 – 3.50	Nil	Nil	1	6.2	1	6.2
8.	3.50 – 4.00	Nil	Nil	Nil	Nil	1	6.2
9.	Above 4	11	68.8	8	50.0	3	18.8
Total		16	100.0	16	100.0	16	100.0

In case of government schools, the average area varies from 0.54 sq.km. in Nagaon to 13.75 sq.km. in Aizawl. As far as private schools are concerned, the average varies from 0.43 sq.km. in Nawabganj to 55 sq.km, in Aizawl. Among the 16 sample towns, Aizawl is having the worst position which can be attributed to its topography. The towns of Nagaon, Rabkavi Banhatti, Agartala, Fatehpur, Nawabganj and Farrukhabad are much better placed as far as availability of secondary schools is concerned, as in all these towns there exists a secondary school within an area of 1 sq.km.

Data given in Table 2.14 reveal that the towns having a secondary school within an area of 2 sq.km. constitute not even 40% of the total number of sample towns. It is seen that the number of towns where one cannot come across a secondary school even within an area of 3 sq.km. constitutes more than 30%, which

.

is quite significant. Had there been no private schools in the 16 sample towns the scenario would have been quite depressing. One would not have been able to come across a school even after scanning an area of 4 sq.km., in 11 or about 70% of the sample towns.

The availability of secondary schools in relation to area does not seem to be satisfactory inspite of private sector, as in case of primary and middle schools, playing an active role. The private secondary schools in the 16 sample towns account for about 70%. Among the 16 sample towns, the private secondary schools account for more than 50% in 8 towns(50%). In terms of teachers and students, the private schools account for about 56% and 52% respectively, in the 16 sample towns. It is thus clear that the private secondary schools account for more than 50% of the total, whether considered in terms of number of schools, teachers or students.

b) Student - Teacher Ratio

When all the schools are taken together, the average number of students ranges from 11 in Fatehpur to 60 in Lalitpur (Table 2.13). The distribution of towns according to the average number of students per teacher may be seen in the following table (Table 2.15).

Table 2.15 : Distribution of Towns by Average Number of Students per Teacher in Secondary Schools

Sl.No.	Range (Average No. of Students per teacher)	Govt.		Private		Total	
		No. of towns	%	No. of towns	%	No. of towns	%
1.	Upto 20	3	18.8	3	18.8	2	12.5
2.	21 – 30	4	25.0	5	31.2	7	43.8
3.	31 – 40	4	25.0	4	25.0	3	18.8
4.	41 – 50	3	18.8	4	25.0	3	18.8
5.	51 & above	2	12.5	Nil	Nil	1	6.2
Total		16	100.0	16	100.0	16	100.0

In private schools, the average number of students varies from 8 in Fatehpur to 45 in Sikar and Farrukhabad. In 25% of the 16 sample towns, the average

number of students is more than 40, which drives one to conclude that there are still a large number of secondary schools in this country where the student-teacher ratio cannot be termed as satisfactory. Among the 16 sample towns, 4 (25%) towns have an average of more than 40 students in the private schools whereas as far as government schools are concerned, the number of towns having an average of more than 40 students is observed to be 5 (31%). It seems private secondary schools have a better ratio when compared to government secondary schools.

c) Availability of Secondary Schools in Relation to Population

The figures given in Table 2.13 indicate that the average population for which a secondary school is available in the 16 sample towns varies from 1051 persons in Fatehpur to 18534 persons in Sikar. In case of private schools, the average population ranges from 1100 persons in Fatehpur to 106721 persons in Beawar. Looking at the data pertaining to government schools, it is observed that Nagaon has the lowest average (5491 persons) and the highest average (64856 persons) is accounted for by Farrukhabad. The distribution of towns by average population served by one school can be seen below in Table 2.16.

Table 2.16:Distribution of Towns by Average Population per Secondary School

Sl. No.	Population Range	Govt.		Private		Total	
		No. of towns	%	No. of towns	%	No. of towns	%
1.	Upto 5000	Nil	Nil	1	6.2	3	18.8
2.	5001-10000	2	12.5	2	12.5	5	31.2
3.	10001-15000	1	6.2	3	18.8	5	31.2
4.	15001-20000	4	25.0	3	18.8	3	18.8
5.	20001-25000	1	6.2	3	18.8	Nil	Nil
6.	25001-30000	2	12.5	Nil	Nil	Nil	Nil
7.	30001-35000	2	12.5	Nil	Nil	Nil	Nil
8.	35001-40000	1	6.2	2	12.5	Nil	Nil
9.	Above 40000	3	18.8	2	12.5	Nil	Nil
Total		16	100.0	16	100.0	16	100.0

Among 16 towns, there is no town which does not have atleast one school for a population of 20000 persons. However, if the average population for which atleast one school should be available is taken as 10000, then it is seen that only 8 or 50% of the 16 sample towns meet this requirement. If the private schools are excluded from analysis, a very dismal picture emerges. Out of the 16 sample towns, only 2 towns or about 12.5%, have atleast one school for a population of 10000 persons. From the results of the sample survey, it seems it can be easily concluded that there are still a large number of towns in this country, which do not have adequate number of secondary schools.

.

CHAPTER III

VOCATIONAL AND HIGHER EDUCATION (GENERAL)

Introduction

Demand for a graduate degree has been increasing day-by-day because today a degree has become a pre-requisite to seek employment. Since getting admission to engineering, medical or other professional courses is very difficult because of limited availability of seats in these courses, most of the students after schooling opt for general education courses like B.A., B.Com. etc.

Analysis of 1991 Census Data

1. All Towns

As far as educational facilities other than schools are concerned, the Census of 1991 gave data relating to number of institutions only. As per the 1991 census data, among the total number of 4615 towns (all towns), 1585 or about 34% of the towns, did not have any institution of any kind. There was no degree college for either arts, science or commerce courses in 2511 or about 54% of the towns. Surprisingly, even in some of the Class-I towns which numbered 15, there was not a single degree college to offer courses in arts, science or commerce (see Table 3.1).

The distribution of towns (all towns) by population groups and non-availability of various types of higher/vocational education facilities can be seen in Table 3.1. It may be seen from this table that though a large majority (about 88%) of towns where no facility of any kind was found, had a population below 20000, there were a significant number of Class-II towns also (22 or about 1.4%). If Class-I towns are also included, then it is found that there were 24 towns or about 2%, which did not have any institution. With regard to degree colleges for arts, science or commerce courses, the data given in Table 3.1 reveals that there were 85 (about 3%) Class-I and II towns which did not have any degree college.

Table 3.1 : Distribution of Towns (All Towns) by Population Groups and Non-availability of Various types of Educational Facilities – 1991

Population Range	No Vocational Institutue		No Polytechnic		No Arts College		No Science College		No Commerce College		No Voc.Inst., Polytechnic or College		No College for Arts, Science or Commerce	
	No.of Towns	%	No.of Towns	%	No.of Towns	%	No.of Towns	%	No.of Towns	%	No.of Towns	%	No.of Towns	%
Below 20000	1719	81.90	2646	64.33	1999	79.17	2405	73.89	2312	74.51	1388	87.57	1992	79.33
20000 - 49999	316	15.05	1041	25.31	437	17.31	678	20.83	619	19.95	173	10.91	434	17.28
50000 - 99999	54	2.57	301	7.32	72	2.85	139	4.27	136	4.38	22	1.39	70	2.79
1 Lakh - 199999	8	0.38	102	2.48	14	0.55	25	0.77	26	0.84	1	0.06	12	0.48
2 lakh - 3lakh	1	0.05	15	0.36	1	0.04	3	0.09	3	0.10	0	0.00	1	0.04
Above 3 lakh but below 10lakh	1	0.05	8	0.19	2	0.08	4	0.12	6	0.19	1	0.06	2	0.08
10 lakh & above	0	0.00	0	0.00	0	0.00	1	0.03	1	0.03	0	0.00	0	0.00
Total	2099	100.00	4113	100.00	2525	100.00	3255	100.00	3103	100.00	1585	100.00	2511	100.00

Source : Compiled from the data given in the Town Directory, Census of India,1991

Turning to typewise non-availability, it is seen that in 3255 towns or about 70% of the towns, there was no college for teaching science. Among these 3255 towns, the number of Class-I towns was 33 which works out to about 1%. The number of Class-II towns where no science college existed numbered 139, that is about 4.3%. Taking the Class-I and II towns together, it is evident that in 172 towns or about 5.3% there was no science college.

The scenario is equally dismal with regard to commerce course. There was no commerce college in 3103 or about 67% of the 4615 towns. The number of Class I towns where no commerce college existed, was 36, which forms about 1.2% of the 3103 towns where no commerce college existed. In 136 Class-II towns, that is about 4.4% of the 3103 towns, no college was found for commerce courses.

It is generally believed that facilities for acquiring education in arts are fairly satisfactory. However, the 1991 census data do not substantiate this hypothesis. In 1991, in more than half of the towns (about 55%), there was not even a single college for imparting education in arts, i.e. B.A. (Pass course), B.A. (Hons.) etc. Among the 2525 towns which did not have any arts college, 17 or about 0.7%, were Class-I towns and 72 or about 2.8%, were Class-II towns.

The foregoing analysis of facilities for college education indicates that even for people living in some of the Class-I cities, college education was not easily accessible.

Not only there are a large number of cities and towns without any college, or any other educational institute, but even in those towns where the facilities exist, do not seem to be adequate in relation to population. The distribution of towns (all towns) by average population catered to by an educational institute, is given in Table 3.2.

It is seen from Table 3.2 that in about 47% of the towns, either there is no vocational institute or the average population catered to is more than 60000. The corresponding figure for polytechnic is about 94%. With regard to degree colleges, the corresponding figures are about 61%, 78% and 75% for arts, science and commerce colleges respectively.

Table 3.2 : Distribution of Towns (All Towns) by Average Population Served by an Educational Institute - 1991

Average Population Range	Vocational Institutue		Polytechnic		Arts College		Science College		Commerce College	
	No.of Towns	%	No.of Towns	%	No.of Towns	%	No.of Towns	%	No.of Towns	%
Upto 20000	1971	42.7	59	1.3	853	18.5	356	7.7	434	9.4
20001 - 40000	340	7.4	90	2.0	674	14.6	444	9.6	495	10.7
40001 - 60000	79	1.7	83	1.8	256	5.5	213	4.6	220	4.8
60001 - 80000	43	0.9	54	1.2	130	2.8	123	2.7	145	3.1
80001 - 1 lakh	16	0.3	39	0.8	50	1.1	56	1.2	53	1.1
Above 1 lakh	31	0.7	164	3.6	108	2.3	149	3.2	147	3.2
No Institute	2099	45.5	4113	89.1	2525	54.7	3255	70.5	3103	67.2
Data Not Available	36	0.8	13	0.3	19	0.4	19	0.4	18	0.4
Total	4615	100.0	4615	100.0	4615	100.0	4615	100.0	4615	100.0

Source : Compiled from the data given in the Town Directory,Census of India,1991

2. Small and Medium Towns

The 1991 census figures relating to vocational institutions, polytechnics and colleges offering courses in arts/science/commerce, in small and medium towns (population range 50000 – 3 lakhs) can be seen in Appendix-IV.

Of the total 657 small and medium towns, 23 or about 3.5% did not have any institution or any kind (see Table 3.1). Of these 23 towns, 22 were Class-II towns and one was a Class-I town. With regard to degree colleges in small and medium towns, 83 or about 13% of the 657 towns, did not have any degree college. Looking at the non-availability of educational facilities by type of facility, it may be observed from Table 3.1 that vocational institutes did not exist in 63 or about 9.6% of the 657 small and medium towns. Among these 63 towns, 9 (about 14%) were Class-I towns. As regards polytechnic, 418 or about 64% of the 657 small and medium towns, did not have any polytechnic. Of these 418 towns, Class-I towns numbered 117 which account for about 28%. The number of towns where no college for imparting education in arts was found, was 87 constituting about 13% of the 657 small and medium towns. Of these 87, 15 towns, i.e. about 17%, were Class-I towns. There was no science college in 167 (about 25% of 657 towns) small and medium towns. The corresponding figure for commerce college was 165 towns i.e. about 25% of the 657 small and medium towns (see Table 3.1).

It has already been mentioned while analysing the overall urban scenario, that there are wide variations among towns with regard to adequacy of higher/vocational education facilities in relation to population. The same conclusion holds true even if the analysis is restricted to small and medium towns. The distribution of small and medium towns by average population catered to by an educational institute can be seen in Table 3.3. As far as vocational institutes are concerned, there are 63 towns, that is about 9.5% of the 657 towns, where the average population catered to by an institute is more than 60000. The corresponding proportions for polytechnic, arts college, science college and commerce college are about 27%, 34%, 39% and 42% respectively.

If the number of towns where the respective type of educational institute is not available and the towns for which no data is available are omitted from analysis, then

Table 3.3 : Distribution of Small and Medium Towns by Average Population Catered to by an Educational Institute - 1991

Average Population Range	Vocational Institutue		Polytechnic		Arts College		Science College		Commerce College	
	No.of Towns	%	No.of Towns	%	No.of Towns	%	No.of Towns	%	No.of Towns	%
Upto 20000	343	52.2	1	0.2	39	5.9	19	2.9	7	1.1
20001 – 40000	134	20.4	7	1.1	162	24.7	98	14.9	78	11.9
40001 – 60000	50	7.6	52	7.9	145	22.1	117	17.8	130	19.8
60001 – 80000	39	5.9	53	8.1	119	18.1	120	18.3	140	21.3
80001 - 1 lakh	11	1.7	38	5.8	35	5.3	42	6.4	44	6.7
Above 1 lakh	13	2.0	88	13.4	69	10.5	94	14.3	92	14.0
No Institute	63	9.6	418	63.6	87	13.2	167	25.4	165	25.1
Data Not Available	4	0.6	0	0.0	1	0.2	0	0.0	1	0.2
Total	657	100.0	657	100.0	657	100.0	657	100.0	657	100.0

Source : Compiled from the data given in Appendix IV

the proportion of small and medium towns where the average population catered to by an institute is more than 60000 works out as follows:

	Type of Facility		Proportion of towns
1.	Vocational Institute	-	10.7% (Out of 590 towns)
2.	Polytechnic	-	74.9% (out of 239 towns)
3.	Arts college	-	39.2% (out of 569 towns)
4.	Science College	-	52.2% (out of 490 towns)
5.	Commerce College	-	56.2% (out of 491 towns)

It seems it can be safely concluded from the analysis of census data that there are still a large number of small and medium towns where the availability of colleges in relation to population is not adequate.

Analysis of Survey

1. Number of Colleges

Table 3.4 provides town-wise availability of colleges for general education (i.e. B.A., B.Com, B.Sc. etc.) for government and private colleges separately alongwith number of teachers and students for 1997-98 for 33 sample towns. It may be noted from this table that all the 33 sample towns are having facilities for general education at college level. However, in as many as 13 sample towns there is no government college and in another 13 towns there is no private college. There are only 7 towns out of total 33 sample towns (namely, Aizawl, Beawar, Hospet, Kohima, Muzaffarpur, Nagaon and Sikar) which have both government and private colleges. It is interesting to note that highest number of colleges are reported in Kohima (32 = 8 Govt. + 24 Pvt.) followed by Muzaffarpur (16 = 12 Govt. + 4 Pvt.) and Aizawl (11 = 6 Govt. + 5 Pvt.). In the remaining 30 towns, the number of colleges ranged between 1-5 colleges excepting Kukatpally and Nagaon where the number was 10 and 7 respectively.

2. Development Indicators for General College Education :

To assess the availability and quality of general college education as well as role played by the private sector in this field, Table 3.5 provides town-wise indicators like average population served by a college and average number of

Table - 3.4 : Facilities for General College Education in Sample Towns - 1997 - 98

S.No.	Town	Area in sq.km. 1991	Popn. 1991	Number of colleges			Teachers			Students		
				Govt.	Pvt.	Total	Govt.	Pvt.	Total	Govt.	Pvt.	Total
1	ABOHAR	23.07	107163	3	0	3	107	0	107	3793	0	3793
2	AGARTALA	15.80	157358	3	0	3	224	0	224	6587	0	6587
3	AIZAWL	110.00	155240	6	5	11	229	50	279	7447	1557	9004
4	ALAPPUZHA	70.48	227716	0	2	2	0	240	240	0	6135	6135
5	BALLARPUR	16.51	83511	0	3	3	0	77	77	0	2444	2444
6	BARNALA	16.00	75430	2	0	2	75	0	75	2180	0	2180
7	BEAWAR	17.74	106721	1	2	3	93	28	121	2500	900	3400
8	ETAH	5.18	78458	0	1	1	0	46	46	0	3464	3464
9	FARRUKHABAD	17.04	194567	4	0	4	80	0	80	7890	0	7890
10	FATEHPUR	56.98	117675	2	0	2	28	0	28	2570	0	2570
11	GHAZIPUR	13.73	76547	0	4	4	0	88	88	0	4500	4500
12	HINGANGHAT	12.77	78715	0	3	3	0	96	96	0	3538	3538
13	HISSAR	49.43	181255	5	0	5	329	0	329	10603	0	10603
14	HOSPET	28.39	114154	3	2	5	40	75	115	1500	2000	3500
15	ICHALKARANJI	29.89	214950	0	4	4	0	135	135	0	3006	3006
16	JHARSUGUDA	70.47	65054	2	0	2	71	0	71	588	0	588
17	KARAIKAL	35.17	61804	2	0	2	84	0	84	1237	0	1237
18	KOHIMA	23.00	51418	8	24	32	129	313	442	8000	11000	19000
19	KUKATPALLY	43.69	186963	0	10	10	0	84	84	0	2120	2120

20	MATHURA	9.37	226691	0	5	5	0	206	206	0	8503	8503
21	MIRA-BHAYANDER	79.40	175605	0	2	2	0	67	67	0	2134	2134
22	MOKAMEH	14.18	59528	1	0	1	20	0	20	1415	0	1415
23	MUZAFFAR PUR	26.43	241107	12	4	16	692	60	752	54500	4000	58500
24	NAGAON	9.22	93350	6	1	7	259	9	268	7443	36	7479
25	NAGAUR	37.81	68194	2	0	2	109	0	109	1208	0	1208
26	NAGERCOIL	24.27	190084	0	5	5	0	630	630	0	7313	7313
27	NANDURBAR	31.41	78378	0	5	5	0	176	176	0	3336	3336
28	NEYVELI	97.27	118080	1	0	1	57	0	57	1276	0	1276
29	0RAI	20.29	98716	0	2	2	0	101	101	0	6990	6990
30	PALWAL	5.52	59168	0	2	2	0	66	66	0	2729	2729
31	PILIBHIT	9.97	106605	2	0	2	24	0	24	2045	0	2045
32	SIKAR	22.57	148272	2	1	3	135	10	145	4735	675	5410
33	SILCHAR	15.75	115483	4	0	4	208	0	208	5987	0	5987

Source : Data obtained from the State Governments

Table 3.5 : Development Indicators Pertaining to General College Education

Sl. No.	Town	Av. Popn. Per college			Av. No. of students per teacher		
		Govt.	Pvt.	Total	Govt.	Pvt.	Total
1	Abohar	35721	No college	35721	35	No college	35
2	Agartala	52453	No college	52453	29	No college	29
3	Aizawl	25873	31048	14113	33	31	32
4	Alappuzha	No college	113858	113858	No college	26	26
5	Ballarpur	No college	27837	27837	No college	32	32
6	Barnala	37715	No college	37715	29	No college	29
7	Beawar	106721	53361	35574	27	32	28
8	Etah	No college	78458	78458	No college	75	75
9	Farrukhabad	48642	No college	48642	99	No college	99
10	Fatehpur	58838	No college	58838	92	No college	92
11	Ghazipur	No college	19137	19137	No college	51	51
12	Hinganghat	No college	26238	26238	No college	37	37
13	Hissar	36251	No college	36251	32	No college	32
14	Hospet	38051	57077	22831	38	27	30
15	Ichalkaranji	No college	53738	53738	No college	22	22
16	Jharsuguda	32527	No college	32527	8	No college	8
17	Karaikal	30902	No college	30902	15	No college	15
18	Kohima	6427	2142	1607	62	35	43
19	Kukatpally	No college	18696	18696	No college	25	25
20	Mathura	No college	45338	45338	No college	41	41
21	Mira-bhayander	No college	87803	87803	No college	32	32
22	Mokameh	59528	No college	59528	71	No college	71
23	Muzaffar pur	20092	60277	15069	79	67	78
24	Nagaon	15558	93350	13336	29	4	28
25	Nagaur	34097	No college	34097	11	No college	11
26	Nagercoil	No college	38017	38017	No college	12	12
27	Nandurbar	No college	15676	15676	No college	19	19
28	Neyveli	118080	No college	118080	22	No college	22
29	0rai	No college	49358	49358	No college	69	69
30	Palwal	No college	29584	29584	No college	41	41

31	Pilibhit	53303	No college	53303	85	No college	85
32	Sikar	74136	148272	49424	35	68	37
33	Silchar	28871	No college	28871	29	No college	29

Source : Compiled from the data obtained from the State Governments

students per teacher (student-teacher ratio) in the sample towns during 1997-98, for government and private colleges separately. In the following paragraphs, a detailed analysis has been done for all the 33 sample towns using the indicators separately.

(a) Overall Position of General College Education in Sample Towns (Govt. + Private Colleges)

i) Average Population Served by a College

As pointed out earlier, the facilities for general college education is available in all the 33 sample towns. To know the availability of colleges in relation to population, Table 3.6 given below provides distribution of sample towns by average population served by a college during 1997-98.

Table 3.6 : Distribution of Towns by Average Population Served by a College (Govt. + Private Combined) - 1997-98

Average Population served by a college	No. of Towns	Percentage
Upto 20,000	7	21.21
20,001 – 40,000	13	39.39
40,001 – 60,000	9	27.28
60,001 – 80,000	1	3.03
80,001 – 1,00,000	1	3.03
Above 1,00,000	2	6.06
Total	33	100.00

It is seen from the table that in as many as 20 (60%) of the total 33 sample towns, a college exists for an average population of 40000. In 9 towns (i.e. 27%) the population served by a college is between 40,000 to 60,000. There are only 2 towns (namely Alappuzha and Neyveli) where a college is serving more than one lakh population.

ii) Average Number of Students per Teacher :

Student-teacher ratio indicates the load of students on teachers. Table 3.7 provides distribution of the sample towns according to student- teacher ratio for 1997-98.

Table - 3.7 : Distribution of Towns according to Student- Teacher ratio in Colleges for General Education (Govt.+Private combined)- 1997-98

Average number of students per teacher	No. of Towns	Percentage
Upto 20	5	15.15
21-40	17	51.52
41-60	4	12.12
61-80	4	12.12
Above 80	3	9.09
Total	33	100.00

It may be seen from the table that in two-thirds (or 22) of the total sample towns, a teacher has to attend only upto 40 students which can be considered quite satisfactory. In 8 towns (i.e. 24% of total), the student- teacher ratio is between 40 to 80. Only in 3 towns namely, Farrukhabad (99), Fatehpur (92) and Pilibhit (85), it is above 80.

(b) Government Colleges for General Education

As mentioned earlier, out of the total 33 sample towns, only 20 towns (i.e. 60%) have government colleges for general education. Further analysis shows that of these 20 towns, 13 towns do not have any private college (see Table 3.4). The townwise scenario pertaining to availability of colleges in relation to population and student-teacher ratios are analysed in the following paragraphs.

i) Average Population Served by a Govt. College

Table 3.8 given below provides distribution of 20 sample towns, where govt. colleges are functioning, by population served by a college during 1997-98.

It may be seen from the above table that in 50% of the sample towns where government colleges exists, the population served by a govt. college is between 20,000 to 40,000 and in another 25% towns, it is, 40,000 to 60,000 population. There are, however, 2 towns (10%) namely Beawar and Neyveli where a college is serving

more than one lakh population. It seems it can be safely concluded that there are still some towns where the availability of colleges for general education is inadequate.

Table 3.8 : Distribution of Towns by Average Population Served by a Govt. College - 1997-98

Average Population served by a college	No. of Towns	Percentage
Upto 20,000	2	10.00
20,001 – 40,000	10	50.00
40,001 – 60,000	5	25.00
60,001 – 80,000	1	5.00
80,001 – 1,00,000	0	0.00
Above 1,00,000	2	10.00
Total	20	100.00

ii) Average Number of Students Per Teacher

Table 3.9 gives the distribution of 20 sample towns, where government colleges are available, according to average number of students served by a teacher.

Table 3.9 : Distribution of Sample Towns according to Student-Teacher Ratio in Govt. Colleges for General Education - 1997-98

Average number of students per teacher	No. of Towns	Percentage
Upto 20	3	15.00
21 - 40	11	55.00
41 - 60	0	0.00
61 - 80	3	15.00
Above 80	3	15.00
Total	20	100.00

It is seen from this table that in 70 percent (i.e. 14 towns) of the total sample towns having government colleges for general education, the number of students per teacher is upto 40 students which can be considered quite satisfactory. In 15% of the sample towns the student-teacher ratio is between 60 and 80. In 3 towns (15%) namely Farrukhabad, Fatehpur and Pilibhit, the ratio was above 80.

c) Private Colleges for General Education

Out of the total 33 sample towns, only 20 towns were found having private colleges for general education. Out of these 20 towns, 13 towns, namely Alappuzha, Ballarpur, Etah, Ghazipur, Hinganghat, Ichalkaranji, Kukatpally, Mathura, Mira-Bhayander, Nagercoil, Nandurbar, Orai and Palwal are totally dependent on private colleges for general education and there is no government college in these towns (see Table 3.5). In the remaining 7 towns, there are both govt. and private colleges for general education. The availability of colleges in relation to population as well as number of students per teacher in these towns are discussed in the following paragraphs.

i) Average Population Served by a Private College

As seen from Table 3.10 given below in 70% of the sample towns (i.e. 14 towns) a private college exists for an average population of 60,000. Out of the remaining 30 percent towns, in 20 percent, the population served is between 60,000-100,000 whereas in remaining 10 percent (i.e. 2 towns) it is above 1,00,000 population.

Table 3.10 : Distribution of Sample Towns by Population Served by a Private College - 1997-98

Average Population served by a private college	No. of Towns	Percentage
Upto 20,000	4	20.00
20,001 – 40,000	5	25.00
40,001 – 60,000	5	25.00
60,001 – 80,000	2	10.00
80,001 – 1,00,000	2	10.00
Above 1,00,000	2	10.00
Total	20	100.00

The towns where population served by a college is below 20,000, are Ghazipur (19137), Kohima (2142 only), Kukatpally (18696) and Nandurbar (15676) whereas in Alappuzha (1,13,858) and Sikar (1,48,272) it is above one lakh (for details see Table 3.4).

ii) Student – Teacher Ratio

As seen from Table 3.11 given below, in most of the towns having private colleges (i.e. 65% of the total), a teacher has to teach upto 40 students which can be considered quite reasonable from any standard. In the remaining 35 percent (or 7 towns) also, the student-teacher ratio is not very high. It falls between 40-80. However, the ratio is above 60 in Etah (75), Muzaffarpur (67), Orai (69) and Sikar (68).

Table 3.11 : Distribution of Sample Towns According to Student- Teacher Ratio in Private Colleges for General Education - 1997-98

Average number of students per teacher	No. of Towns	Percentage
Upto 20	3	15.00
21 - 40	10	50.00
41 - 60	3	15.00
61 - 80	4	20.00
Above 80	0	0.00
Total	20	100.00

The foregoing analysis of infrastructural facilities for general higher education existing in 33 sample towns clearly reveal the following conclusions:

1. Colleges for general higher education seem to be inadequate only in a few towns. The overall scenario can, therefore, be termed as satisfactory.
2. Private sector is playing a dominant role in providing general higher education.
3. The student – teacher ratio does not seem to be satisfactory in many of the colleges. However, student-teacher ratio seems to be better in government colleges when compared to private colleges. If the quality of education has to improve, the student-teacher ratio needs to be improved.

CHAPTER IV
HEALTH AND MEDICAL FACILITIES

Introduction

Health of the people is an important factor of national development and needs to be accorded highest priority. The goal of 'Health for all by 2000' was adopted by the Government of India from the resolution of World Health Organisation made at Alma Ata more than 25 years ago. In the Eighth Plan this goal was restricted as "Health for the Underprivileged by 2000" because it was found that efforts made so far turned out to be far below expectations, particularly in respect of health care delivery to rural population and urban slum dwellers.

Under the Constitution, Health is a State subject. Central government's intervention to assist the state governments is needed in the areas of control/ eradication of major communicable and non-communicable diseases, broad policy formulation, medical and para-medical education alongwith regulatory measures, drug control and prevention of food adulteration, besides activities concerning the containment of population growth.

The National Health Policy of 1983 and the programmes initiated so far under it have shown considerable impact on public health. In quite a few indices, the record has been creditable. The crude mortality rate declined from 27.4 per 1000 population at the time of independence to 8.9 in 1996, and infant mortality rate has been brought down from 134 per 1000 live births to 71 over the same period. Life expectancy has risen from mere 32 years in 1947 to about 62 years. The country has been able to achieve zero guinea worm status as no new cases of guinea worm have been reported after 1996. We are making steady progress towards elimination of leprosy, polio, neonatal tetanus and Iodine Deficiency Disorders.

Though the health status of the population is determined not merely by the level of medical care but by a host of other factors like safe drinking water, sanitation, illiteracy, environmental pollution, lack of purchasing power, malnutrition

etc., but the availability of the medical facilities like hospitals, dispensaries, doctors alongwith trained para-medical personnel is utmost necessary to look after the health of the people. As per Statistical Abstract, India, 2000, during 1998 there were 15,533 hospitals, 22,708 dispensaries and 5,10,744 registered doctors in the country. The number of hospital beds was about 898000 which shows an availability of less than one bed per 1000 population in the country. About urban areas of the country, separate information is not available.

Analysis of Census Data – 1991

The 1991 census data on medical facilities gave information on medical institutions that were run or aided by government/semi-government/local body/ charitable institutions or social service agencies like the missionaries. The medical institutions that were run by private doctors were excluded. The townwise information pertaining to medical facilities for small and medium towns (population range 50,000 to 3 lakhs) can be seen in Appendix-V.

I. Average Population Per Medical Institution

Out of the total number of 4615 towns in 1991 (as per the 1991 census), not even half of the towns had a hospital or dispensary or health centre for every 10000 population. The distribution of towns by average population per hospital/ dispensary/ health centre can be seen in Table 4.1. It may be seen from the table that about 437 towns, or about 9.5%, had no medical facility of any kind. About one-fourth of the towns had either a dispensary or a health centre or a hospital serving a population of 10000 to 20000 persons only. There were 25 towns where the availability of a medical institution in relation to population was above 1 lakh.

Looking at the scenario of small and medium towns, the statistics furnished in Table 4.1 show that only about 20% of the towns had a medical institution for every 10000 population. The corresponding percentage for all the towns taken together is 47%. The proportion of small and medium towns having a medical institution for 20000 population was about 48% as against 73% for all the towns taken together. When all the towns are taken together, about 87% of the towns had some

Table 4.1 : Distribution of Towns by Average Population Catered to by a Hosp.+Disp.+Health Centre – 1991

S.No.	Range (Av.Population)	All towns		Small and medium towns	
		Number	%	Number	%
1	Upto 10000	2170	47.0	131	19.9
2	10001 – 20000	1219	26.4	186	28.3
3	20001 – 30000	408	8.8	118	18.0
4	30001 – 40000	149	3.2	64	9.7
5	40001 – 50000	76	1.6	23	3.5
6	50001 – 60000	50	1.1	46	7.0
7	60001 – 70000	27	0.6	25	3.8
8	70001 – 80000	26	0.6	22	3.3
9	80001 – 90000	6	0.1	5	0.8
10	90001 – 1 lakh	9	0.2	8	1.2
11	Above 1 lakh	25	0.5	22	3.3
12	No facility	437	9.5	6	0.9
13	Data not available	13	0.3	1	0.2
Total		4615	100.0	657	100.0

Source : Compiled from the data given in Appendix- V.

kind of medical institutions for every 50000 population, but the corresponding proportion for small and medium towns was about 79%. The proportion of small and medium towns where one could find a medical institution for above 1 lakh persons formed about 3.3%, whereas the corresponding proportion for all the towns taken together was only 0.5 percent. These statistics indicate that the inadequacy of medical institutions is higher in small and medium towns when compared to the overall scenario.

2. Towns Having No Medical Facility

A detailed analysis of the 1991 census data on medical facilities highlights a major gap with regard to availability of medical facilities in the urban areas of the country. As shown in Table 4.2, in as many as 437 (9.47%) towns, out of total 4615 towns in India, there was no medical institution to serve their inhabitants. It is further noted that of these 437 towns, 191 (43.7%) were Class-V towns, 136 (31.1%)

Table 4.2 : Distribution of Towns (All Towns) by Population Range Where No Medical Facility (Hosp./Disp./Health Centre) was Available-1991

S.No.	Population Range	Number	%
1	Upto 4999(Class VI)	68	15.6
2	5000 - 9999 (Class V)	191	43.7
3	10000 - 19999 (Class IV)	136	31.1
4	20000 - 49999 (Class III)	36	8.2
5	50000 - 99999 (Class II)	5	1.1
6	100000 - 199999 (Class I)	1	0.2
7	200000 - 300000 (Class I)	0	0.0
8	300000 - < 10 lakh (Class I)	0	0.0
9	10 lakh & above (Metro)	0	0.0
Total		437	100.0

Source : Compiled from the data given in the Town Directory, Census of India,1991

were Class-IV towns and about 68 (15.6%) were Class-VI towns. Thus, 395 towns which form 90% of the total towns having no medical facility, were having less than 20000 population.

3. Hospital Beds

The World Health Organisation's recommendation relating to bed-population ratio is 5:1000, that is there should be 5 beds for every 1000 population. The number of towns meeting this norm of 5 beds constituted only 10.7% of the total number of 4615 towns in 1991. The corresponding proportion for small and medium towns is 13.5%. The distribution of towns by bed-population ratio is given in Table 4.3

It may be seen from Table 4.3 that in more than half of the 4615 towns, the availability of beds per 1000 population was below 1.50. In case of small and medium towns, the corresponding proportion is observed to be about 38%. Looking at the overall picture, it may be seen that in about 45% of the 4615 towns, the availability of beds per 1000 population was not even one. In case of small and medium towns, the corresponding figure is 25.7%.

Table 4.3: Distribution of Towns by Beds per 1000 Population - 1991

S.No.	Range (Beds per 1000 population)	All towns		Small and Medium towns	
		Number	%	Number	%
1	Nil	887	19.2	21	3.2
2	Below 1	1176	25.5	148	22.5
3	1.00 - < 1.50	506	11.0	81	12.3
4	1.50 - < 2.00	396	8.6	68	10.4
5	2.00 - < 2.50	316	6.8	66	10.0
6	2.50 - < 3.00	240	5.2	54	8.2
7	3.00 - < 3.50	191	4.1	35	5.3
8	3.50 - < 4.00	145	3.1	48	7.3
9	4.00 - < 4.50	103	2.2	19	2.9
10	4.50 - < 5.00	90	2.0	22	3.3
11	5.00 & above	496	10.7	89	13.5
12	Data Not Available	69	1.5	6	0.9
Total		4615	100.0	657	100.0

Source: Compiled from the data given in the Town Directory, Census of India, 1991

One interesting conclusion that emerges from the analysis of census data of 1991 is that though the inadequacy of medical institutions is higher in small and medium towns when compared to all the towns taken together, the small and medium towns seem to be better placed as far as bed-population ratio is concerned. However, it has to be noted that there are wide variations among towns.

Medical Facilities in Selected Sample Towns

I. Hospitals/Dispensaries

The analysis of the medical facilities has been limited to only government hospitals and dispensaries as reliable data for private hospitals and dispensaries was not made available by the concerned authorities. Table 4.4 provides townwise information regarding availability of hospitals/dispensaries alongwith number of doctors and hospital beds, for 38 sample towns. A glance at Table 4.4 shows that

Table 4.4 : Medical Facilities in Selected Sample Towns – 1997-98

Sl. No.	Town	Area in Sq. Km. 1991	Popn. 1991	Government General Hospital			Government Dispensary		Govt. Genl. Hosp. Plus Govt.Disp.		Govt. Speciality Hospital		
				No.	Drs.	Beds	No.	Drs.	No.	Drs.	No.	Drs.	Beds
1	AGARTALA	15.80	157358	2	143	576	6	6	8	149	2	88	320
2	AIZAWL	110.00	155240	1	66	350	8	16	9	82	1	3	50
3	ALAPPUZHA	70.48	227716	4	172	1406	2	7	6	179	0	0	0
4	BARNALA	16.00	75430	1	22	50	1	1	2	23	1	0	0
5	BEAWAR	17.74	106721	1	45	300	2	2	3	47	0	0	0
6	DARBHANGA	19.18	218391	1	58	1050	0	0	1	58	0	0	0
7	ETAH	5.18	78458	2	24	128	0	0	2	24	2	3	16
8	FARRUKHABAD	17.04	194567	3	45	132	0	0	3	45	3	4	136
9	FATEHPUR	56.98	117675	4	22	118	0	0	4	22	0	0	0
10	HINGANGHAT	12.77	78715	2	9	60	0	0	2	9	0	0	0
11	HOSPET	28.39	114154	1	20	100	4	4	5	24	0	0	0
12	JHARSUGUDA	70.47	65054	4	26	87	10	10	14	36	0	0	0
13	JORAPOKHAR	16.40	72919	3	25	56	0	0	3	25	0	0	0
14	KADAIYANALLUR	52.25	68819	1	9	54	1	1	2	10	0	0	0
15	KARAIKAL	35.17	61804	2	50	355	11	21	13	71	0	0	0
16	KOHIMA	23.00	51418	1	30	150	0	0	1	30	0	0	0
17	KURICHI	20.33	64796	2	4	20	2	2	4	6	0	0	0
18	LALITPUR	17.35	79870	2	23	200	0	0	2	23	0	0	0

19	MOKAMEH	14.18	59528	1	6	30	0	0	1	6	0	0	0
20	MUKTSAR	13.80	66383	1	8	100	1	1	2	9	0	0	0
21	MUZAFFAR PUR	26.43	241107	4	21	261	0	0	4	21	0	0	0
22	NAGERCOIL	24.27	190084	1	36	374	2	10	3	46	0	0	0
23	NANDURBAR	31.41	78378	1	5	50	40	40	41	45	0	0	0
24	NARASARAOPET	7.65	88726	1	5	50	0	0	1	5	1	5	10
25	NAWABGANJ	4.34	64933	2	51	199	0	0	2	51	1	3	0
26	NEYVELI	97.27	118080	1	64	369	4	4	5	68	0	0	0
27	0RAI	20.29	98716	2	36	223	0	0	2	36	1	3	34
28	PALWAL	5.52	59168	1	11	30	1	2	2	13	0	0	0
29	PILIBHIT	9.97	106605	3	25	176	0	0	3	25	0	0	0
30	PORT BLAIR	14.14	74955	2	56	454	3	15	5	71	0	0	0
31	RABKAVI BANHATTI	3.62	60609	1	2	30	0	0	1	2	0	0	0
32	ROURKELA STEEL TOWN	132.86	233058	2	42	1120	3	3	5	45	0	0	0
33	SASARAM	10.90	98122	1	14	120	0	0	1	14	0	0	0
34	SHIVPURI	81.11	108277	1	34	198	0	0	1	34	0	0	0
35	SIKAR	22.57	148272	1	52	300	2	2	3	54	0	0	0
36	SILCHAR	15.75	115483	1	20	50	0	0	1	20	0	0	0
37	TENKASI	26.16	55189	1	14	102	13	14	14	28	10	0	105
38	TUMKUR	36.71	179877	1	25	353	9	9	10	34	0	18	348

Source: Data obtained from the Sate Governments

each of the 38 towns have atleast one general hospital showing that no town is deprived of minimum basic medical facility. In as many as 18 towns, there was no separate dispensary, with the result people living in these towns had to go to hospital even for minor ailments. In addition to general hospitals, in nine towns (namely, Agartala, Aizawl, Barnala, Etah, Farrukhabad, Narasaraopet, Nawabganj, Orai and Tenkasi), government speciality hospitals were also available.

Development indicators pertaining to medical facilities for the 38 sample towns are given in Table 4.5. These indicators analyse the availability of hospitals, dispensaries, doctors and hospital beds in relation to area and population of the respective towns. The main indicators given in the Table 4.5 are as follows:

i) Average area per Hospital/Dispensary

ii) Average population per Hospital/Dispensary

iii) Average population per doctor in Hospitals/Dispensaries

iv) Hospital beds per 1000 population.

In the following paragraphs, an attempt has been made to analyse the availability of medical facilities in the 38 sample towns on the basis of above mentioned parameters, so as to highlight the inter-town disparities in health services.

(i) Average Area served by a Hospital/Dispensary

Easy accessibility to hospitals/dispensaries for the population of a town, particularly in case of minor ailments, is of paramount importance. It is possible only when the average distance to be covered by the people remain minimum which in turn would require at least two-tier health care facilities – a hospital in the centre of the town and a chain of dispensaries spread over throughout the city. Table 4.6 given below, shows the distribution of 38 sample towns by average area served by a hospital and/or a dispensary.

The statistics furnished in Table 4.6 indicate a pathetic situation in the sample towns, as far as the accessibility to the medical facilities is concerned, because it is

Table 4.5 : Development Indicators Pertaining to Medical Facilities in Selected Sample Towns – 1997-98

Sl. No.	Town	Govt. Gen. Hospital			Govt. Dispensary			Govt. Gen. Hosp. + Disp.			Govt. Speciality Hospital		
		Av. Area Per Hosp. In Sq. Km.	Av. Popn. Per Dr.	Beds Per 1000 Popn.	Av. Area Per Disp. In Sq. Km.	Av. Popn. Per Disp.	Av. Popn. Per Dr.	Av. Area Per Hosp. /Disp. in Sq. Km.	Av. Popn. Per Hosp. /Disp	Av. Popn. Per Dr.	Av. Popn. Per Hosp.	Av. Popn. Per Dr.	Beds Per 10000 Popn.
1	AGARTALA	7.9	1100	3.7	2.6	26226	26226	1.98	19670	1056	78679	1788	20.3
2	AIZAWL	110.0	2352	2.3	13.8	19405	9703	12.22	17249	1893	155240	51747	3.2
3	ALAPPUZHA	17.6	1324	6.2	35.2	113858	32531	11.75	37953	1272	0	0	0.0
4	BARNALA	16.0	3429	0.7	16.0	75430	75430	8.00	37715	3280	75430	0	0.0
5	BEAWAR	17.7	2372	2.8	8.9	53361	53361	5.91	35574	2271	0	0	0.0
6	DARBHANGA	19.2	3765	4.8	0	0	0	19.18	218391	3765	0	0	0.0
7	ETAH	2.6	3269	1.6	0	0	0	2.59	39229	3269	39229	26153	2.0
8	FARRUKHABAD	5.7	4324	0.7	0	0	0	5.68	64856	4324	64855.7	48642	7.0
9	FATEHPUR	14.2	5349	1.0	0	0	0	14.25	29419	5349	0	0	0.0
10	HINGANGHAT	6.4	8746	0.8	0	0	0	6.39	39358	8746	0	0	0.0
11	HOSPET	28.4	5708	0.9	7.1	28539	28539	5.68	22831	4756	0	0	0.0
12	JHARSUGUDA	17.6	2502	1.3	7.0	6505	6505	5.03	4647	1807	0	0	0.0
13	JORAPOKHAR	5.5	2917	0.8	0	0	0	5.47	24306	2917	0	0	0.0
14	KADAIYANALLUR	52.3	7647	0.8	52.3	68819	68819	26.13	34410	6882	0	0	0.0
15	KARAIKAL	17.6	1236	5.7	3.2	5619	2943	2.71	4754	870	0	0	0.0
16	KOHIMA	23.0	1714	2.9	0	0	0	23.00	51418	1714	0	0	0.0
17	KURICHI	10.2	16199	0.3	10.2	32398	32398	5.08	16199	10799	0	0	0.0
18	LALITPUR	8.7	3473	2.5	0	0	0	8.68	39935	3473	0	0	0.0

19	MOKAMEH	14.2	9921	0.5	0	0	0	14.18	59528	9921	0	0	0.0
20	MUKTSAR	13.8	8298	1.5	13.8	66383	66383	6.90	33192	7376	0	0	0.0
21	MUZAFFAR PUR	6.6	11481	1.1	0	0	0	6.61	60277	11481	0	0	0.0
22	NAGERCOIL	24.3	5280	2.0	12.1	95042	19008	8.09	63361	4132	0	0	0.0
23	NANDURBAR	31.4	15676	0.6	0.8	1959	1959	0.77	1912	1742	0	0	0.0
24	NARASARAOPET	7.7	17745	0.6	0	0	0	7.65	88726	17745	88726	17745	1.1
25	NAWABGANJ	2.2	1273	3.1	0	0	0	2.17	32467	1273	64933	21644	0.0
26	NEYVELI	97.3	1845	3.1	24.3	29520	29520	19.45	23616	1736	0	0	0.0
27	0RAI	10.1	2742	2.3	0	0	0	10.15	49358	2742	98716	32905	3.4
28	PALWAL	5.5	5379	0.5	5.5	59168	29584	2.76	29584	4551	0	0	0.0
29	PILIBHIT	3.3	4264	1.7	0	0	0	3.32	35535	4264	0	0	0.0
30	PORT BLAIR	7.1	1338	6.1	4.7	24985	4997	2.83	14991	1056	0	0	0.0
31	RABKAVI BANHATTI	3.6	30305	0.5	0	0	0	3.62	60609	30305	0	0	0.0
32	ROURKELA ST. TOWN	66.4	5549	4.8	44.3	77686	77686	26.57	46612	5179	0	0	0.0
33	SASARAM	10.9	7009	1.2	0	0	0	10.90	98122	7009	0	0	0.0
34	SHIVPURI	81.1	3185	1.8	0	0	0	81.11	108277	3185	0	0	0.0
35	SIKAR	22.6	2851	2.0	11.3	74136	74136	7.52	49424	2746	0	0	0.0
36	SILCHAR	15.8	5774	0.4	0	0	0	15.75	115483	5774	0	0	0.0
37	TENKASI	26.2	3942	1.8	2.0	4245	3942	1.87	3942	1971	5518.9	0	19.0
38	TUMKUR	36.7	7195	2.0	4.1	19986	19986	3.67	17988	5291	0	9993	19.3

Source: Compiled from the data obtained from the State Governments

Table 4.6: Distribution of towns by Average Area served by a Hospital and/or Dispensary – 1997-98

Average Area served (in sq.km.)	No. of Towns	Percentage
0-5	11	29.0
5.1-10	14	36.8
10.1-15	6	15.8
15.1-20	3	7.9
Above 20	4	10.5
Total	38	100.0

found that out of the 38 sample towns, in 27 towns (i.e. 71%) a patient has to cover more than 5 kms. to reach a dispensary or hospital. A detailed analysis further shows that in four towns (namely Kadaiyanallur, Kohima, Rourkela Steel Township and Shivpuri), area served by a hospital/dispensary is more than 20 kms. There are only 11 towns namely, Agartala (1.98), Etah (2.59), Karaikal (2.71), Nandurbar (0.77), Nawabganj (2.17), Palwal (2.76), Pilibhit (3.32), Port Blair (2.83), Rabkavi Banhatti (3.62), Tenkasi (1.87) and Tumkur (3.67) in which area served by a hospital/dispensary was below 5 kms. In these 11 towns, the distance ranged from 0.77 km. (in Nandurbar) to 3.67 km. (in Tumkur). These 11 towns are found to be comparatively well placed as far as accessibility to medical facilities in the sample towns is concerned.

(ii) Average Population Per Hospital/Dispensary

Average population served by a medical institution indicates the work-load of a medical institution. Of course, availability of adequate number of medical institutions in relation to population alone is not enough as adequate availability of doctors, nurses, beds, equipments as well as other para-medical staff etc., also determine the quality of medical services. As per Master Plan of Delhi-2001 (MPD-2001), Category 'A' Hospital for 1 lakh population should have 200 bed capacity and Category 'B' Hospital for the same population should have about 80 beds. Regarding dispensaries, it suggests that there should be one dispensary for every 15000 population. Table 4.7 given below, gives the distribution of 38 sample towns according to population served by a hospital and/or dispensary during 1997-98.

Table 4.7 : Distribution of Towns by Population served by a Hospital and/or Dispensary During 1997-98

Population Served	No. of Towns	Percentage
Upto 10,000	4	10.5
10,001 – 20,000	5	13.2
20,001 – 30,000	5	13.2
30,001 – 40,000	10	26.3
40,001 – 50,000	3	7.9
50,001 – 1 lakh	8	21.0
Above 1 lakh	3	7.9
Total	38	100.0

It can be seen from Table 4.7 that out of 38 towns, only in 9 towns (i.e. about 24% of the total) a hospital/dispensary is serving 20,000 or below population. On the other hand, in 3 towns, namely Darbhanga, Silchar and Shivpuri, a hospital/ dispensary is serving more than one lakh population indicating a very low availability of medical facilities. It is further noted from Table 4.7 that in 8 towns (i.e. 21% of the total) a hospital/dispensary has to serve a population between 50,000 to 1,00,000 which is also on the high side. When a larger population has to be served by a hospital/dispensary, certainly there is more pressure on the doctors and therefore the quality of medical services deteriorates.

(iii) Average Population Served by a Doctor

Table 4.8 gives the distribution of the sample towns according to average population served by a doctor in government hospitals/dispensaries which indicates the work-load of a doctor.

Table 4.8: Distribution of Towns by Average Population served by a Doctor in Govt. Hospitals/Dispensaries – 1997-98

Average Population served by a doctor	No. of Towns	Percentage
Upto 2000	11	28.9
2001-4000	9	23.7
4001-6000	9	23.7
6001-8000	3	7.9
8001-10,000	2	5.3
Above 10,000	4	10.5
Total	38	100.0

Assuming that at least 5% of the average population served by a doctor has to go to the doctor every day for minor or major ailments, it is found from Table 4.8 that even in 11 towns (i.e. 28.9%) where the population served by a doctor is lowest (i.e. upto 2000), a doctor has to attend upto 100 patients every day which is very strenuous and can affect the quality of medical service. In the remaining 27 towns, the average number of patients per day ranges from 100 to 500. In four towns, where the average population served is above 10,000, a doctor may have to attend more than 500 patients everyday which is practically not possible. This lacuna in government medical facilities has led to mushrooming of private medical practitioners and hospitals in almost all the towns.

(iv) Hospital Beds

Hospital beds per 1000 population is an important indicator to assess the availability of medical facilities in a particular town. Higher the number of hospital beds per 1000 population, better the availability of medical facilities. Master Plan for Delhi-2001 suggested that there should be 5 hospital beds per 1000 population to attain reasonable standard of medical facilities in a town. Table 4.9 gives distribution of sample towns according to availability of hospital beds per 1000 population in government hospitals.

Table 4.9: Distribution of Towns by no. of Hospital Beds available per 1000 population in government hospitals – 1997-98

Beds per 1000 population	No. of Towns	Percentage to total No. of towns
Less than 1	13	34.2
1 – <2	11	28.9
2 – <3	6	15.8
3 – <4	3	7.9
4 – <5	2	5.3
5 and Above	3	7.9
Total	38	100.0

It can be seen from Table 4.9 that in 13 towns (i.e. 34.2%), there is less than one hospital bed per 1000 population and in 11 towns (i.e. 28.9%), the availability is between 1 to 2 beds which means that in 24 or 63% of the sample towns, the

availability of hospital beds is below 2 per 1000 population. It can be regarded as a very pathetic situation so far as availability of medical facilities are concerned. A detailed study of the sample towns shows that out of the 38 sample towns, in three towns, namely, Alappuzha (6.2), Port Blair (6.1) and Karaikal (5.7), the availability of hospital beds is above 5 beds, which meets the norm suggested in the MPD-2001. The above analysis of hospital beds is limited to the government hospitals only because data for private hospitals/nursing homes was not available.

CHAPTER VI
SANITATION

I. Introduction

Sanitation is a broad term which includes water supply, safe disposal of human waste, waste water and solid waste, control of vectors of diseases, domestic and personal hygiene, food, housing etc. It is generally used to cover the removal and disposal of all waste whether liquid or solid. Liquid wastes generally called sewage include rain and other surface water, all domestic liquid wastes and the effluent from industrial establishments. The solid waste consists of garbage, ashes, rubbish, street sweepings, leaves and snow. In this report, only two components of sanitation, viz., street-cleaning and garbage-clearance, have been dealt with.

Rapid growth of population and industrialization degrades urban environment and places serious stress on natural resources. As per the 1991 census, 217 million, out of 844 million people of India (25.72%) live in urban areas. This urban population is expected to rise to 395 million by 2011. Very high rate of urban growth is a major reason for the increased solid waste management problems. It is a fact that inefficient management in disposal of solid waste is an obvious cause for degradation of environment in most cities of India as well as of developing world. Improper disposal of waste not only spreads communicable diseases but also spoils biosphere as a whole.

According to a report of the WHO Commission on Health and Environment, (Our Planet, Our Health) garbage collection services are inadequate or non-existent in most residential areas of developing cities and an estimated 30-50% of the solid waste generated within urban centres is left uncollected. It accumulates on streets and in open spaces between houses, causing or contributing to serious health problems. The poorer households suffer most, since it is overwhelmingly in the poorer areas of cities that there are no services to collect garbage or the services are very inadequate.

Garbage left uncollected encourages fly-breeding, the flies promoting the transmission of infection. It can also promote diseases associated with rats such as

plague, leptospirosis, salmonellosis, endemic typhus, rat-bite-fever and some arboviral infection. Uncollected garbage can be a serious fire hazard and a serious health hazard for children playing in the site. Uncollected garbage blocks drainage channels.

According to ”Sulabh Sanitation Movement Vision – 2000 Plus”, solid waste management system in India fails at collection stage. Uncollected and poorly segregated waste creates unhygienic conditions at collection centres and also makes retrieval of reusable material. Dumping of waste in abandoned and derelict lands is most usual mode of solid waste disposal in India. Inspite of huge budgetary and resource allocation, the municipal solid waste management failed to keep cities clean and hygiene mainly due to poor collection efficiency, transportation and maintenance of dump site. Ever-increasing rates of waste generation further adds to the already grave situation. In addition to this, defecation in the open space is also creating lot of health problems as far as sanitation is concerned.

II. Sanitation Facilities in Selected Sample Towns

Among the 62 sample towns which responded, data pertaining to only 46 towns were found suitable for analysis as for as sanitation is concerned. The data in relation to area, population, frequency of garbage clearance, frequency of street cleaning, field staff for sanitation work and vehicles for carrying garbage can be seen in Table 6.1. These development indicators/variables have been analysed in the following paragraphs.

i) Field Staff – Sanitation Work

a) Availability of Field Staff for Sanitation Work in relation to Area of Town

The figures given in Table 6.1 indicate that the number of sanitation workers per sq. km. of area of town, varies widely from town to town. Alappuzha, Jharsuguda, Mira-Bhyander, Payyannur and Shivpuri which are having larger areas are observed to be having very low average number of sanitation workers per sq. km. In none of these towns, the average number of sanitation workers per sq. km. is more than two. The smaller towns like Nawabganj, Pilibhit and Mathura are placed

Table 6.1 : Sanitation Facilities in Selected Sample Towns - 1997 - 98

S.No.	Town	Area in sq. Km.	Popn. 1991	Freq. Of garbage clearance	Freq. Of street cleaning	Field staff for sanitation work			No. of vehicles for carrying garbage		
						Total	Av. No. Per sq.km.	Av. No. Per 10000 popn.	Total	Av. Area served by a vehicle in sq. Km.	Av. Popn. Served per vehicle
1	ABOHAR	23.07	107163	DAILY	DAILY	225	10	21	5	4.61	21433
2	AGARTALA	15.80	157358	DAILY	DAILY	431	27	27	10	1.58	15736
3	ALAPPUZHA	70.48	227716	DAILY	DAILY	130	2	6	5	14.10	45543
4	BALARPUR	16.51	83511	DAILY	DAILY	338	20	40	5	3.30	16702
5	BANSBERIA	10.94	94698	DAILY	DAILY	166	15	18	21	0.52	4509
6	BARNALA	16.00	75430	DAILY	DAILY	128	8	17	6	2.67	12572
7	BEAWAR	17.74	106721	DAILY	DAILY	314	18	29	7	2.53	15246
8	HUGLI-CHINSURAH	17.28	160976	BI-WEEKLY	BI-WEEKLY	397	23	25	11	1.57	14634
9	CHITRADURGA	16.47	103435	DAILY	DAILY	130	8	13	5	3.29	20687
10	DARBHANGA	19.18	218391	DAILY	DAILY	530	28	24	8	2.40	27299
11	FARRUKHABAD	17.04	194567	DAILY	DAILY	267	16	14	6	2.84	32428
12	GHAZIPUR	13.73	76547	DAILY	DAILY	148	11	19	3	4.58	25516
13	HINGANGHAT	12.77	78715	DAILY	DAILY	355	28	45	1	12.77	78715
14	HISSAR	49.43	181255	DAILY	DAILY	591	12	33	8	6.18	22657
15	HOSPET	28.39	114154	DAILY	DAILY	160	6	14	5	5.68	22831
16	ICHALKARANJI	29.89	214950	DAILY	DAILY	672	22	31	15	1.99	14330
17	JHARSUGUDA	70.47	65054	DAILY	DAILY	146	2	22	4	17.62	16264
18	JORAPOKHAR	16.40	72919	DAILY	DAILY	14	1	2	2	8.20	36460
19	KOHIMA	23.00	51418	DAILY	DAILY	150	7	29	5	4.60	10284
20	KUKATPALLY	43.69	186963	DAILY	DAILY	245	6	13	12	3.64	15580
21	LALITPUR	17.35	79870	DAILY	TWICE	150	9	19	4	4.34	19968
22	MATHURA	9.37	226691	TWICE	TWICE	619	66	27	10	0.94	22669
23	MIRA-BHAYANDER	79.40	175605	DAILY	DAILY	116	1	7	34	2.34	5165
24	MOKAMEH	14.18	59528	DAILY	DAILY	92	6	15	2	7.09	29764
25	MUKTSAR	13.80	66383	DAILY	DAILY	160	12	24	3	4.60	22128
26	MUZAFFAR PUR	26.43	241107	TWICE	TWICE	383	14	16	13	2.03	18547
27	NAGAON	9.22	93350	DAILY	DAILY	6	1	1	3	3.07	31117

28	NAGAUR	37.81	68194	DAILY	DAILY	205	5	30	4	9.45	17049
29	NAGERCOIL	24.27	190084	DAILY	DAILY	333	14	18	9	2.70	21120
30	NANDURBAR	31.41	78378	ONCE IN THREE DAYS	DAILY	261	8	33	4	7.85	19595
31	NARASARAOPET	7.65	88726	DAILY	DAILY	145	19	16	8	0.96	11091
32	NAWABGANJ	4.34	64933	DAILY	DAILY	165	38	25	2	2.17	32467
33	0RAI	20.29	98716	DAILY	DAILY	212	10	21	3	6.76	32905
34	PALWAL	5.52	59168	TWICE	TWICE	106	19	18	4	1.38	14792
35	PATIALA	31.20	253706	DAILY	DAILY	784	25	31	15	2.08	16914
36	PAYYANNUR	54.63	64032	DAILY	DAILY	16	0	2	1	54.63	64032
37	PILIBHIT	9.97	106605	TWICE	TWICE	371	37	35	3	3.32	35535
38	RABKAVI BANHATTI	3.62	60609	ONCE IN THREE DAYS	DAILY	65	18	11	1	3.62	60609
39	SASARAM	10.90	98122	DAILY	DAILY	288	26	29	3	3.63	32707
40	SHILLONG	10.36	131719	DAILY	DAILY	87	8	7	6	1.73	21953
41	SHIMLA	31.60	102186	DAILY	DAILY	500	16	49	9	3.51	11354
42	SHIVPURI	81.11	108277	DAILY	DAILY	191	2	18	5	16.22	21655
43	SIKAR	22.57	148272	DAILY	DAILY	243	11	16	9	2.51	16475
44	SILCHAR	15.75	115483	DAILY	DAILY	210	13	18	5	3.15	23097
45	TENKASI	26.16	55189	TWICE	TWICE	106	4	19	4	6.54	13797
46	TUMKUR	36.71	179877	ONCE IN THREE DAYS	DAILY	415	11	23	10	3.67	17988

Source : Basic data obtained from the State Governments

in better position as these towns have 38, 37 and 66 workers per sq. km. of area, respectively. The distribution of towns by average number of sanitation workers per sq. km. of area is given in Table 6.2.

Table - 6.2 : Distribution of Towns by Average Number of Sanitation Workers per sq.km. of Area 1997-98

Range (Av. No. of workers serving in a sq.km. of area)	No. of Towns	Percentage (%)
Less than 5	9	19.6
6-10	11	23.9
11-15	9	19.6
16-20	7	15.2
21-24	2	4.3
25 & above	8	17.4
Total	46	100.0

The figures furnished in Table 6.2 indicate that about 23.9 percent of towns fall in the category of 6-10 sanitation workers per sq.km. of area, whereas about 4.3 percent of towns fall in the category of 21-24 sanitation workers per sq.km. of area. As per the figures, 11 towns (about 24%) towns are having 6-10 sanitation workers per sq.km. of area, and only two towns, viz. Hugli-Chinsurah and Ichalkaranji are having 21-24 sanitation workers per sq.km. of area. There is a large difference among towns with regard to sanitation workers per sq.km. of area. If the norm is taken as 25 sanitation workers for every sq. km. of area of the town, only 8 towns (i.e. 17%) out of total 46 sample towns fulfill this norm. These towns are Patiala (25), Sasaram (26), Agartala (27), Darbhanga (28), Hinganghat (28), Pilibhit (37), Nawabganj (38) and Mathura, which is having 66 workers per sq. km. of area. In fact, every town should try to have adequate number of sanitation workers to ensure proper sanitation in the town.

a) Availability of Field Staff for Sanitation Work in relation to Population

It is seen from the Table 6.1 that the availability of sanitation workers in relation to population, varies widely from town to town. In Alappuzha, Darbhanga, Ichalkaranji, Mathura, Muzaffarpur and Patiala, a sanitation worker is found serving 227716, 218391, 214950, 226691, 221107 and 253706 persons respectively. The average number of sanitation workers per 10,000 population in these towns are 6, 24, 31, 27, 16 and 31 respectively. On the contrary, in towns like Balarpur (83511

persons), Hinganghat (78715), Nagaur (68194), Nandurbar (78378) and Shimla (102186) having lesser population, the average number of sanitation workers per 10,000 population is found comparatively higher at 40, 45, 30, 33 and 49 respectively. The distribution of towns by average number of sanitation workers per 10,000 population is given in Table 6.3.

Table - 6.3 : Distribution of Towns by Average Number of Sanitation Workers per 10,000 Population 1997-98

Range (Av. No. of workers per 10,000 population)	No. of Towns	Percentage (%)
Below 5	3	6.5
6-10	3	6.5
11-15	6	13.0
16-20	12	26.1
21-25	8	17.4
26 & above	14	30.4
Total	46	100.0

As shown in Table 6.3, about 30.4 percent of towns fall in the category of 26 and above sanitation workers per 10,000 population and only 6.5 percent of towns fall in the category of below 5 and 6-10 sanitation workers per 10,000 population. In other words, above-cited figures clearly indicate that a large number of towns are having 26 and above workers per 10,000 population, whereas only a small number of towns, i.e. three towns such as Jorapokhar, Nagaon and Payyannur, are having below 5 workers per 10,000 population. Three towns, viz., Alappuzha, Mira-Bhayander and Shillong, are having 6-10 workers per 10,000 population. There is a wide gap among the small and medium towns with regard to availability of sanitation workers in relation to population.

ii) Vehicles for Carrying Garbage

a) Availability of Vehicles for Carrying Garbage in relation to Area of Towns

It may be seen from Table 6.1 that the average area of town served by a garbage vehicle, varies widely from town to town. In bigger towns like Alappuzha, Hinganghat and Shivpuri, the average area served by a vehicle is higher at 14.10 sq. km., 12.77 sq. km. and 16.22 sq. km. respectively. One interesting fact is that

Payyannur is having the highest (54.63 sq.km.) area served by a garbage vehicle. On the contrary, in towns like Bansberia (0.52 sq.km), Mathura (0.94 sq. km.), Narasaraopet (0.96 sq.km.) there is less than 1 sq.km. of average area served by a vehicle. The distribution of towns by average area served by a vehicle is given in Table 6.4.

Table- 6.4 : Distribution of Towns by Average Area Served by a Vehicle for Carrying Garbage – 1997-98

Av. Area served by a vehicle (in sq.km.)	No. of Towns	Percentage (%)
Upto 2	8	17.4
2-4	20	43.5
4-6	6	13.0
6-8	5	10.8
8-10	2	4.3
Above 10	5	10.8
Total	46	100.0

It is seen from the Table 6.4 that about 43.5 percent of the sample towns fall in the category of 2-4 sq.km. of average area served by one garbage vehicle whereas only 4.35 percent of towns fall in the category of 8-10 sq.km. of average area served by a vehicle for carrying garbage. Thus in 60 per cent of the sample towns the average area served by a vehicle is less than 4 km. and only in two towns namely Jorapokhar and Nagaon, it is 8-10 kms. The above figures clearly indicate that there is a wide disparity among the towns in terms of area served by a garbage vehicle.

b) Average Population Served by a Vehicle for Carrying Garbage

The figures given in Table 6.1 state that the average population served by a vehicle differ from town to town. In Alappuzha, Hinganghat, Joraphokar, Payyannur, Pilibhit and Rabkavi-Banhatti towns, the average population served by a garbage vehicle was 45543, 78715, 36460, 64032, 35535 and 60609 persons respectively, whereas in towns like Bansberia, Kohima, Mira-Bhayander, Narasaraopet, and Shimla it was at 4509, 10284, 5165, 11091 and 11354 persons respectively. The distribution of towns by average population served by a vehicle for carrying garbage is given in Table 6.5.

Table- 6.5 : Distribution of Towns by Average Population Served by a Vehicle for Carrying Garbage - 1997-98

Population Range	No. of Towns	Percentage (%)
Less than 10,000	2	4.3
10,001-15,000	8	17.4
15,001-20,000	12	26.1
20,001-25,000	10	21.7
25,001-30,000	3	6.5
Above 30,000	11	23.9
Total	46	100.0

As seen in Table 6.5, about 26.1 percent of the sample towns fall in the category of 15001-20000 population served by a garbage vehicle whereas only 4.3 percent towns fall into the category of less than 10,000 population. In 11 or about 24% of the 46 sample towns, the average population is more than 30000.

iii) Garbage Clearance

Frequency of Garbage Clearance

As per the information received from the respective municipalities, garbage-clearance is being done on daily basis in 37 or about 80% of the 46 sample towns. In three towns, viz., Nandurbar, Rabkavi-Banhatti and Tumkur, garbage is being cleared once in three days. In six towns, that is about 6.5% of the 46 sample towns, the garbage-clearance is done thrice a week. The distribution of sample towns by frequency of garbage clearance is given below in Table 6.6.

Table- 6.6 : Distribution of Towns by Frequency of Garbage Clearance 1997-98

Frequency of garbage clearance	No. of Towns	Percentage (%)
Daily	37	80.4
Twice a week	6	13.0
Thrice a week	3	6.5
Total	46	100.0

The figures given in Table 6.6 in majority of towns, frequency of garbage-clearance is done on daily basis. However, the reality may be different considering the fact that there is acute manpower shortage for sanitation work in many of the small and medium towns.

IV. Street Cleaning

Frequency of Street Cleaning

The frequency of street cleaning is on daily basis. On the other hand in comparatively smaller towns such as Palwal, Mathura and Pilibhit areas, the frequency of street cleaning is twice a week. The distribution of towns by frequency of street cleaning is given below in Table 6.7. Alappuzha, Jharsuguda, Mira-Bhayander, Payyannur and Shivpuri which are comparatively though bigger in size, are having street cleaning on daily basis.

Table - 6.7 : Distribution of towns by frequency of street cleaning 1997-98

Frequency of street cleaning	No. of Towns	Percentage (%)
Daily	39	84.8
Twice a week	7	15.2
Total	46	100.0

As shown in Table 6.7, in 84.8 percent of sample towns the street cleaning is done on daily basis whereas in 15.2 percent of towns, it is done only thrice a week. In other words, in majority of towns the frequency of street cleaning is on daily basis and only in a few towns the frequency of street cleaning is twice a week. Though this number is negligible, it is desirable that in these towns also the street cleaning is done on daily basis to maintain healthy environment.

As per the information made available, majority of small and medium towns do not have adequate infrastructure facilities for sanitation work. Unless there are no basic facilities for sanitation, proper sanitation can not be ensured. In order to maintain proper sanitation facilities, each town/city must have adequate sanitation workers, dustbins and garbage vehicles.

CHAPTER VIII
CASE STUDY – DEWAS

I. Introduction

Dewas is one of the important cities of Madhya Pradesh. It is also a district headquarters. It is longing ahead to become a potential industrial town of Madhya Pradesh. It's proximity to Indore, the industrial capital of Madhya Pradesh, has made considerable contribution to its growth. Many of the promising and reputed industrial houses of the country have their pockets in the industrial areas of Dewas.

Dewas town is situated 1784 feet above sea level at 22^0 58' N 76^0 6' E. The town lies at the foot of a conical hill known as the Chamuda Pahar or hill of the Goddess Chamunda which raises some 300 ft. above the general level. The town derived its name either from this hill which, owing to the shrine upon it, was known as Devivasini (the goddess's residence) or from the name of the founder of the village Dewasa bania.

The two palaces, the court houses, the guest house, the school and the hospital are the most important buildings in the town. Climate of the town is moderate. Nights even in summer are generally pleasant. During the past few years, due to insufficient rains or perhaps destruction of forests have resulted in a slight change in its climatic condition. Therefore, of late, summers are becoming somewhat unpleasant with scorching heat during the peak month of May.

II. Area and Population

Dewas city is spread over an area of 100.22 sq. kms. (1991 census) and covering 1,64,364 population (1991 census) giving thereby density of about 1640 persons per sq. km. The urban density in the state of Madhya Pradesh was 1940 in 1991 and in the country as a whole (All India excluding Jammu and Kashmir) was 3337 persons (Table-8.1). Hence, it is observed that Dewas City has a lesser density when compared to urban density of Madhya Pradesh and the country as a whole. The density of Dewas is not even half of the urban density of All India (Urban) and is also slightly lesser than the density of Madhya Pradesh (Urban).

Table – 8.1: Area, Population and Density for Dewas City - 1991

Sl. No.	Name of Town/ State/All India	Area in sq. kms. (1991)	Population					Density 1991
			1951	1961	1971	1981	1991	
1	Dewas City*	100.22	27879	34577 (24.03)	51866 (50.00)	83465 (60.92)	164364 (96.93)	1640
2.	Madhya Pradesh[+](Urban)	7907.67[++]	3132937	4627234 (47.70)	6784767 (46.63)	10586459 (56.03)	15338837 (44.89)	1940
3.	All India[@+](Urban)	63889.89	61986496	78343288 (26.39)	108255756 (38.18)	156419768 (44.49)	215771612 (37.94)	3337

*Source: * Census of India, 1991 Series I – India Part IIA(ii) – A Series - Towns and Urban Agglomeration 1991 – with their population 1901-1991*

[+] Census of India, 1991 Series I – Paper – 2 of 1992 Final Population Totals

[++] Census of India, 1991 Series I – India Part IIB (i) Vol.II Primary Census Abstract General Population

[@+]Excludes the figure of J&K from 1951 to 1991 where census was not conducted in 1991. Also excludes the figures of Assam of 1981 where census was not held in 1981.

Note: 1. Figures in brackets show decadal growth of population (%).

III. Growth of Population

Dewas city's population gradually increased during the period of 30 years from 1951-81 and doubled during the decade 1981-91. Looking at decadal growth rate given in Table–8.1, it may be seen that the peak growth rate (96.93%) was observed during the decade 1981-91 and the lowest (24.03%) during the decade 1951-61. The population of Dewas grew at an increasing rate from 1951 to 1991.

The figures given in Table–8.1 show that the urban population of Madhya Pradesh registered a slight decline in its growth rate during 1961-71 decade and again in 1981-1991 decade. The decadal growth rate of Dewas has always been much higher than that of Madhya Pradesh and the country as a whole, except during the decade 1951-61.

IV. Literacy

In Dewas, as per 1991 census, about 72% of the people in the age group of seven and above are literates. This is slightly higher than that of Madhya Pradesh (71%) and slightly lower than the All India average of about 73% (Table 8.2). Low literacy rate is due to existence of poverty and lack of education- awareness among the people. More-over poor parents do not send their children to schools, but make them to earn their livelihood.

Table –8. 2: Literacy – 1991

Sl. No.	City/State	Urban Population in the age-group of 7 and above	No. of literates in the age-group of 7 and above (Urban)	%age of Literates (co.4/3)
1.	Dewas City	133,571	96,103	71.95
2.	Madhya Pradesh (Urban)	12,656,191	8,962,354	70.81
3.	All India (Urban) Excluding J&K	182,178,769	133,140,330	73.08

Source: Census of India – 1991 – Series I, Paper-2 of 1992 – Final Population Totals

V. School Education

i) Primary School

In Dewas City there are in all 80 primary schools with 10825 students and 370 teachers. It may be seen from the figures given in Table-8.3 that the number of

private schools is more but the number of students and teachers is lesser in private schools when compared to government schools. The average number of students per school works out to 235 in case of government schools and about 72 in case of private schools.

Table – 8.3 Primary Schools in Dewas City – 2001

Sl. No.	Status	No. of schools	No. of students	No. of teachers	No. of schools per sq. km.	No. of students per school	Student teacher ratio	Popul-ation served by a school
1.	Govern-ment	31	7286	199	0.31	235	37	5302
2.	Private	49	3539*	171*	0.49	72	21	3354
Total		80	10825	370	0.80	135	29	2055

**Information of Private Schools belongs to 1997-98*

Source: District Education Office, Dewas

The average number of students per teacher (student-teacher ratio) is about 37 in case of government schools and 21 in case of private schools. When all the government schools and private schools are taken together, the average number of students per teacher works out to 29. The standard norms for average number of students (as per Sarva Shiksha Abhiyan) per teacher is 40. Hence, the scenario with regard to the adequacy of teachers in relation to students can be termed as satisfactory.

In relation to area, there are in all about 0.80 schools per sq. km. The corresponding figures for government and private schools are 0.31 and 0.49 respectively. The standard norm is that there should be one school within every kilometre of any habitation. It is, therefore, clear that in Dewas city, standard norm is not being met neither in case of government schools nor in case of private schools, the scenario with regard to the adequacy of primary schools in relation to area can be termed as unsatisfactory.

With regard to availability of primary schools in relation to population, it is seen that on an average there is one school for a population of 2055 persons (based on 1991 population). The corresponding figures for government schools and private

schools are 5302 and 3354 persons respectively. Assuming a standard norm of one primary school for every 5000 population, the scenario with regard to the adequacy of schools in relation to population can be termed as satisfactory.

If the adequacy of number of schools is examined in terms of population in the age group of 7 and above, which is 1,33,571 persons (1991 census), then the scenario emerges to be a better one, if the accepted norm is kept at one primary school for every 5000 persons in the age group of 7 and above. In case of Dewas the figure works out to 1670 persons.

ii) Middle School

Middle Schools number 52 in Dewas city out of which 19 belongs to government and 33 to private sector, thereby indicating that the number of private schools is 1.74 times higher the number of government schools. Figures in table–8.4 indicate that the number of teachers in middle schools in the private sector is almost double (1.95 times) the number in government schools. As regards students also, private schools have 1.7 times the strength in government schools. It is thus, clear that in providing middle school education private sector outweighs the government sector. The average number of students in a private school works out to 240 students and in a government school the figure is 245.

Dewas city has on an average about 26 students per teacher in government schools and 22 students per teacher in private schools. Taking the government schools and private schools together, the number of students per teacher works out to 24.

Table –8. 4 Middle Schools in Dewas City – 2001

Sl. No.	Status	No. of Schools	No. of students	No. of teachers	No. of schools per sq.km.	No. of students per schools	Student-teacher ratio	Popul-ation served by a school
1.	Govt,	19	4662	181	0.19	245	26	8651
2.	Private	33*	7933*	353*	0.33	240	22	4981
Total		52	12595	534	0.52	242	24	3161

Source: District Education Office, Dewas

**Information of Private Schools belongs to 1997-98.*

Looking at the student-teacher ratio, it is seen that both primary and middle schools meet the standard norm and the situation, therefore can be termed as satisfactory.

Dewas city has, when all the schools are taken together 0.52 middle schools per sq. km. which can be termed as satisfactory. If private schools are excluded, the number of schools per sq. km. drops down to about 0.19. In case of private schools, the number of schools per sq. km. is observed to be 0.33.

The availability of middle schools in relation to population works out to one school for 3161 persons which is considered as satisfactory, if a norm of 10,000 persons for one school is accepted. If the adequacy of middle school is analysed in relation to the population in the age group of 7 and above, the scenario looks much better, as then the number of persons per school works out to 2569. If the private schools are excluded, then the number of persons per school works out to 8651 persons, when the ratio is worked out in relation to total population. When the ratio is calculated with reference to the population in the age-group of 7 and above the figure comes to 7030 persons. In any case, the adequacy of schools in relation to population can be termed as satisfactory.

iii) Secondary / Senior Secondary School

There are in all 26 Secondary / Senior secondary schools in Dewas City, giving an average of about 0.26 schools per sq. km. of area. The number of private schools is more i.e. 20 whereas government schools are only 6 (Table –8.5). The number of students in private schools is 3.19 times the number in government schools and the number of teachers in private schools is more than three times (3.45 times) the number in government schools. These statistics indicate the predominant position the private sector is occupying in school education. In private sector, the average number of students per school is 946 and the corresponding figure for the government sector is 990.

Private Secondary / Senior secondary schools have an average of 31 students per teacher, whereas the corresponding figure for the government school is 34, which shows that the position is better in private schools. When the overall picture (government + private) is analysed, it is seen that there are 32 students per teacher.

Table – 8.5:Secondary/Senior Secondary Schools in Dewas City – 2001

Sl. No.	Status	No. of Schools	No. of students	No. of teachers	No. of schools per sq. km.	No. of students per schools	Student-Teacher ratio	Popul-ation served by a school
1.	Govt.	6	5940	177	0.06	990	34	27394
2.	Private	20*	18929*	610*	0.10	946	31	8218
Total		26	24869	787	0.26	957	32	6322

Source: District Education Office, Dewas

**Information for Private Schools belongs to 1997-98.*

In Dewas, there is one Secondary/Senior Secondary school for every 6322 persons. The corresponding figures separately for government sector and private sector work out to 27394 persons and 8218 persons respectively. On the basis of population in the age-group of 7 and above, the overall average comes to 5137 persons and corresponding figures separately for government schools and private schools are 22262 persons and 6679 persons respectively.

From the foregoing analysis of school education, it seems Dewas has adequate number of schools in relation to population at all levels of school education. The student-teacher ratio is also satisfactory at all levels of school education. The scenario with regard to number of primary schools per sq. km. is slightly unsatisfactory. However, in case of middle schools, the situation is satisfactory. There is no doubt that private sector is playing an active role in providing school education in Dewas city.

VI. College Education

i) General Education

In Dewas city, there are 2 college for general education (arts, science, commerce etc.). The strength of teachers is 59 and the number of students is 2880. The average number of students per college works out to 1440. There is on an average one college for a population of 82182 persons in Dewas city. Turning to student- teacher ratio, it is seen that there is one teacher for every 49 students (Table 8.6).

Table-8.6 : Details of Colleges for General Education in Dewas City -2001-2002

Sl. No.	Area/ Item	No. of Colleges	No. of Teachers	No. of Students	Average No. of students per college	Average population served per college (based on 1991 pop.)	Average No. of students per teacher
1.	Govt.	2	59	2880	1440	82182	49
2.	Private	-	-	-	-	-	-

Source : Office of the District Education Office, Dewas

ii) Professional Colleges

Dewas city has one government Industrial Training Institute. This Institute has 18 teachers and 199 students. Thus, the student-teacher ratio is 11 students per teacher. There is no university within the municipal limits of Dewas city.

VII. Medical Facilities (Allopathy)

In Dewas city, there are in all 22 hospitals with a total of 160 doctors and 554 beds. It may be seen from the figures given in Table-8.7 that the number of private hospitals is more than double the number of government hospitals. The number of doctors in private hospitals is observed to be 2.9 times the number in government hospitals. The average number of beds per doctor works out to about 8 beds in case of government hospitals and 2 beds in private hospitals (Table-8.7), thereby indicating that bed-doctor ratio is better in private hospitals.

Table-8.7 : Details of Hospitals (Allopathy) in Dewas City

Sl. No.	Ownership	No. of Hospitals	No. of Doctors	No. of beds	Average No. of beds per doctor
1,	Government	7	41	340	8
2.	Private	15	119	214	2
	Total	22	160	554	4

Source: Office of the Chief Medical Officer, District Dewas

For Dewas City, the average population (based on 1991 population) served by one hospital works to about 7471. The number of hospital beds per 1000 population works out to 3.37. If private hospitals are excluded, then the bed-population ratio works out to 2.06.

Dispensary is a lower level of medical facility and every town is expected to have dispensaries. Dewas city has 29 government dispensaries with 46 doctors and 95 beds. Based on 1991 population, the average population per dispensary works out to 5668, which can be described as satisfactory, assuming a norm of one dispensary for every 15000 population.

When both private and government hospitals and dispensaries are taken together there is on an average 31.03 hospitals / dispensaries (Government+Private) for every lakh of population in Dewas city. If private sector is excluded, then the average works out to 21.9.

According to information available, there are 87 private doctors registered with the Indian Medical Association. In addition, there are 32 special private doctors registered with IMA in Dewas city.

VIII. Public Parks and Playgrounds

As per the information made available by the Dewas Municipality, the city has no public parks and playgrounds owned by Central Government, State Government or any private agency. However, the city has 9 parks owned and maintained by the Municipality.

The total area of the 9 parks is 12 acres which works out to about 0.05% of the area of the city. Assuming a minimum of 10 sq.m. per person for public parks and playgrounds, the minimum area required to be allotted for public parks and playgrounds in Dewas city works out to about 1.64 sq.km. or about 1.64% of the area of the city. As, at present, the parks accounts for only 0.05% of the area, it is evident that the situation is not satisfactory.

Parks and playgrounds should be well spread out throughout the city and not concentrated in a few areas. A satisfactory norm would be to have a park for every 10000 population which means the city should have atleast 16 parks and playgrounds. The city has, however, only 9 parks. Today, the city has on an average one park for every 18263 persons. There is no doubt that the number of parks as well as the area under them is grossly inadequate in the city.

Maintenance of Parks and Playgrounds

In case of Dewas, 9 parks are owned and maintained by the municipality. It is reported by the Municipality that there is periodic and proper maintenance of these parks. However, the reality may be different.

IX. Sanitation

i) Field Staff, Vehicles and Garbage bins

In case of Dewas, as is generally the case in respect of other cities and towns also, the responsibility of street-cleaning and garbage clearance rests with the municipality. The relevant statistics pertaining to sanitation work are furnished in Table –8.8.

Table – 8.8: Sanitation Facilities in Dewas City – 2001

Sl. No.	Item	No. of Sanitation Workers/ Garbage bins/ trucks	No. per sq.km. of area of Dewas city (based on 1991 area)	Average, population per worker/ bin/vehicle based on 1991 popn.)
1.	Field Staff for Sanitation work	600	6	274
2.	No. of garbage bins	1	0.01	164364
3.	No. of garbage trucks/ vehicle	5	0.05	32873

Source: Urban District Development Authority, Dewas

Assuming a per capita generation of 250 gms. or ¼ kg. of garbage per day, the total garbage generated in the city works out to about 41091 kgs. As per the information made available, the municipality has 5 garbage trucks to transport garbage. Assuming that an average a truck can carry about 3000 kgs. of garbage and can at least make 2 trips a day, it can be concluded that the municipality has inadequate number of trucks to transport garbage to the land fill area.

It is reported that there are 600 sanitation workers which include workers for street cleaning and garbage clearance. Assuming that 25 sanitation workers are required for every 1 sq.km. area of the city, there is definitely acute shortage of manpower for sanitation work in Dewas city, as there are on an average only 6 workers for a sq.km. of area of the city in Dewas.

It seems it can be safely assumed that there should be 20 garbage dumps (bins) in a sq. km. of area. As far as Dewas city is concerned the corresponding figure is only 0.01, which is very much less than the actual requirement. It may, however, be noted here that data pertaining to garbage dumps was not available. The situation may, therefore, be not that bad.

ii) Frequency of Street Cleaning and Clearance of Dust-bins

It has been reported that street-cleaning and clearance of garbage are being done on daily basis. It is, however, doubtful whether all the streets/roads and garbage bins are being cleaned daily. The infrastructure that is available at present does not indicate that it would be possible to have cent-percent achievement as far as street-cleaning and garbage clearance are concerned.

CHAPTER IX

CASE STUDY – GANGAPUR CITY

I. Introduction

Gangapur is the headquarters of the sub-division, tehsil and panchayat samiti of the same name. It is situated north-east of Sawai Madhopur in $26^{0-}28'$ north latitude and $76^{0}44'$ east longitude and is linked with it both by rail (64 km.) and road (85 km.). It is an important commercial mart on the Bombay-Delhi broad gauge line of the Western Railway. The place is well connected with Karauli, Bamanwas, Nadauti, Kailadevi and Jaipur (via Lalsot) by road.

The town is said to have been named Gangapur after Gangaram, its founder; but people also believe that it was named after the famous deity Gangaji. It had been an important railway station in the British period. It was known for its Loco Workshop and Wagon Repair Factory.

There are many temples in the town, of which the more important ones are those of Kalyanji, Sitaramji, Balaji, Gangaji, Ramdevji and Badrinathji. Besides these, there are Jain temples, a Gurudwara, a church and some mosques.

II. Area and Population

Gangapur city is spread over an area of 3.45 sq.km. (1991 Census) and inhabited by 53,689 persons (1991 census), giving thereby a density of 15,562 persons per sq.km. The urban density in the state of Rajasthan was 2070 persons in 1991 and in the country as a whole (All-India excluding Jammu & Kashmir) was 3377 persons (Table-9.I). It is, therefore, observed that Gangapur has a much higher density when compared to urban density of Rajasthan or the country as a whole. The density of Gangapur is about 4.6 times the All India (Urban) average and 7.5 times to the density of Rajasthan (Urban).

III. Growth of Population

Gangapur's population had increased about 3.8 times during the period of 40 years from 1951-91. Looking at decadal growth rates given in Table-9.I, it may be seen that the peak in growth rates (60.47%) was observed during the decade 1951-

Table –9.1: Area, Growth of Population (1951-91) and Density (1991)

Sl. No.	Name of Town/ State/All India	Area in sq.kms. (1991)	Population					Density 1991
			1951	1961	1971	1981	1991	
1.	Gangapur City (M) *	3.45	14,078	22,591 (+60.47)	27,453 (+21.52)	40,407 (+47.19)	53,689 (+32.87)	15,562
2.	Rajasthan+ (Urban)	4864.25++	2,955,275	3,281,478 (+11.04)	4,543,761 (+38.47)	72,10,508 (+58.69)	10,067,113 (+39.62)	2070
3.	All India @+ (Urban)	63889.89	61,986,496	78,343,288 (+26.39)	108,255,756 (+38.18)	156,419,768 (+44.49)	215,771,612 (+37.94)	3377

Source: * *Census of India-1991, Series I – India Part IIA(ii) A series Towns and Urban Agglomeration 1991 with their population 1901-1991*

+*Census of India, 1991 Series I –Final Population Totals - Paper 2 of 1992 ,.*

++*Census of India 1991 – Series I – Part IIB(i) – Vol.II – Primary Census Abstract General Population.*

@+*Excludes the figure of J&K from 1951 to 1991 where census was not conducted in 1991, also excludes the figures of Assam of 1981 where census was not held in 1981.*

Note: Figures in brackets indicate decadal growth (%) in population.

61 and the lowest (21.52%) during the decade 1961-71. The population of Gangapur grew at a lesser rate during 1961-71 and 1981-91. However, the growth rate was quite high (47.19%) during 1971-81.

The figures given in Table-9.1 show that the decadal growth rate of Rajasthan's urban population was lowest (11.04%) during 1951-61 whereas it was highest (60.47%) in Gangapur during this period. Gangapur's decadal growth rate has always been lower than that of Rajasthan and country as a whole except during the decade 1951-61 when Gangapur had a higher growth rate than Rajasthan and country as a whole and in 1971-81 when Gangapur had a higher growth rate than country as a whole. The decadal growth rate of population of Rajasthan was always slightly higher than the growth rate of the country as a whole after 1961.

IV. Literacy

In Gangapur City, as per the 1991 Census, 29,027 persons or about 67% of the people in the age group of seven and above, are literates. Thus the literate rate in Gangapur is lower than the All India average of 73% and higher than the state's average of 65% (Table-9.2).

Table – 9.2: Literacy (1991)

Sl. No.	City/State	Urban Population in the age group of 7 and above	No. of literates in the age group of 7 and above	Percentage of Literates (col. 4/3)
1.	Gangapur City[@] (M)	43,208	29,027	67.18
2.	Rajasthan (Urban) *	8,220,730	5,370,395	65.33
3.	All India (Urban) Excluding J&K	182,178,769	133,140,330	73.08

*Source: * Census of India, 1991 Series-I, Paper 2 of 1992 - Final Population totals*

[@] District Census Hand Book - Sawai Madhopur, Census of India, 1991

V. School Education

(i) Primary School

In Gangapur City, there are, as in the year 2001, in all 24 primary schools with a total of 2393 students. It may be seen from the figures given in Table 9.3 that the

number of private schools is more than double the number of government schools. The number of students in private schools is observed to be more than 1.56 times the number in government schools. These statistics indicates that the private sector is playing an important role in primary education in Gangapur city. The average number of students per school works out to about 86 students in case of private schools and 133 in case of government schools.

Table – 9.3: Details of Primary Schools in Gangapur City – 2000-2001

Sl. No.	Status	No. of Schools	No. of students	No. of teachers	No. of schools per sq. km.)	No. of students per school	Student-Teacher ratio	Popul-ation served by a school
1.	Govt.	7	934	41	2.03	133	23	7670
2.	Private[@]	17	1459	NA	4.93	86	NA	3158
Total		24	2393	41	6.96	100	58	2237

Source: Office of the Dy. Education Officer, Gangapur City
[@] Data obtained from the concerned colleges
Note : NA – Not available

The average number of students per teacher (student – teacher ratio) is 23 in case of government schools. The standard norm for average number of students (as per Sarva Shiksha Abhiyan) per teacher is 40. This means the student-teacher ratio is satisfactory in government schools.

In relation to area, there are in all about 6.96 schools per sq.km. The corresponding figures for private schools and government schools are 4.93 and 2.03 respectively. The standard norm is that there should be one school within every kilometer of any habitation. It is, therefore, clear that in Gangapur city, the standard norm is being met by both private and government schools. With regard to availability of schools in relation to population, it is seen that on an average there is one school for a population of 2237 persons (based on 1991 population). The corresponding figures for private schools and government schools are 3158 and 7670 persons. Assuming a standard norm of one primary school for every 5000 population, the scenario with regard to the adequacy of primary schools in relation to population can be termed as satisfactory, though it is unsatisfactory in case of government schools.

If the adequacy of number of schools is examined in terms of population in the age group of 7 and above which is 43,208 persons (1991 census), then the scenario emerges to be a better one. In case of Gangapur, the figure works out to 1800 persons.

ii) Middle School

Middle schools number 46 in Gangapur city out of which 6 belong to government and 40 to private sector, thereby indicating that the number of private schools is more than 6 times the number in the government sector. Figures in Table-9.4 indicate that the number of teachers in government middle schools is 48. As regards students, private schools have 5 times the strength in government schools. It is, thus clear that in providing middle school education also, private sector outweighs the government sector. The average number of students in a private school works out to 196 students and in a government school, the figure is 238 students.

Table –9.4: Details of Middle Schools in Gangapur City – 2000-2001

Sl. No.	Status	No. of Schools	No. of students	No. of teachers	No. of schools per sq. km.)	No. of students per school	Student-Teacher ratio	Popul-ation served by a school
1.	Govt.	6	1426	48	1.74	238	30	8948
2.	Private	40	7853	NA	11.59	196	NA	1342
Total		46	9279	48	13.33	202	193	1167

Source: Office of the Education Officer, Swai Madhopur

Government middle schools in Gangapur city have on an average about 30 students per teacher, whereas the corresponding figure for private schools could not be derived as the number of teachers in private schools is not available.

It is seen that the student-teacher ratio in government primary schools and government middle schools meet the standard norm of 40 students per teacher (as per Sarva Shiksha Abhiyan).

Gangapur city has, when all the schools are taken together, 13.33 middle schools per sq.km. of area, which can be termed as highly satisfactory. It has to be noted that Gangapur city has a satisfactory position with regard to adequacy of middle schools because much of the requirements of middle schools is being met by the private sector. If private schools are excluded, the number of schools per sq.km. reduces to about 1.74. In case of private schools, the number of schools per sq.km. is observed to be 11.59 which is more than six times the figure for government schools.

The availability of middle schools in relation to population works out to one school for every 1167 persons, which can be considered as very good, if a norm of 10,000 persons for one school is accepted. If the adequacy of middle schools is analysed in relation to the population in the age group of 7 and above, the number of persons per school works out to 939. Of course, here also the important role being played by the private schools cannot be brushed aside. If the private schools are excluded, then the number of persons per school works out to 8948 persons, when the ratio is worked out in relation to total population. When the ratio is calculated with reference to the population in the age group of 7 and above, the figure comes to 7201 persons.

iii) Secondary/Senior Secondary School

There are in all 9 secondary/senior secondary schools in Gangapur city, out of which 3 belong to government and 6 to private sector, giving an average of about 2.61 schools per sq.km. of area. The number of secondary/senior secondary schools seems to be adequate in relation to area of the city. The number of students in private schools is 1.91 times the number in government schools and the number of teachers in private schools is also 1.95 times the number in government schools. These statistics indicate that the private sector is occupying a better position in school education. In the private sector, the average number of students per school is 1521 and the corresponding figure for government sector is 1593 as shown in Table-9.5.

Table –9.5: Details of Secondary/Senior Secondary Schools in Gangapur City – 2000-2001

Sl. No.	Status	No. of Schools	No. of students	No. of teachers	No. of schools per sq. km.)	No. of students per school	Student-Teacher ratio	Popul-ation served by a school
1.	Govt.*	3	4778	187	0.87	1593	26	17896
2.	Private[@]	6	9123	209	1.74	1521	44	8948
Total		9	13901	396	2.61	1545	35	5965

*Source: * Office of the Dy. Education Officer,Gangapur City*

[@] Data obtained from concerned schools.

Private secondary and senior secondary schools have an average of 44 students per teacher, whereas the corresponding figure for the government schools is 26 students, which shows that the position in the government sector is better. When the overall picture (govt. + private) is analysed, it is seen that there are 35 students per teacher.

In Gangapur, there is one secondary/senior secondary school for every 5965 persons. The corresponding figures separately for govt. sector and private sector work out to 17896 and 8948 persons respectively.

On the basis of population in the age group of 7 and above, the overall average comes to 4801 persons and the corresponding figures separately for government schools and private schools are 14403 persons and 7201 persons.

From the foregoing analysis of school education, it seems Gangapur has adequate number of schools in relation to area and population, at all levels of school education. There is no doubt that private sector is playing an active role in providing school education in Gangapur city. However, the number of government primary schools and government secondary and senior secondary schools in relation to population are inadequate.

VI. College Education

1. General Education

In Gangapur city, there are 3 colleges for general education, out of which one is a government one and two are private. The strength of teachers and students in these colleges can be seen in Table-9.6.

It may be seen from Table-9.6 that in Gangapur city the number of teachers in private colleges, even though their number is double, is observed to be lesser than the number of teachers in government college. With regard to number of students, the figure is slightly higher in government college. The average number of students per college works out to about 1143 in case of government college and 552 in case of private colleges and 749 for government and private colleges taken together.

When all the colleges (government and private) are taken together there is on an average, one college for a population of 17896 in Gangapur city (Table-9.6). If only government college is considered the average population served by a college is 53,689. For private colleges, the corresponding figure is 26,845.

Table –9.6: Details of Colleges for General Education in Gangapur City – 2000-2001

Sl. No.	Status	No. of Colleges	No. of students	No. of teachers	Average no. of students per college	Average population served per college (based on 1991 pop.)	Average no. of students per teacher
1.	Govt.	1	1143	33	1143	53689	35
2.	Private	2	1104	23	552	26845	48
Total		3	2247	56	749	17896	40

Source: Data obtained from the concerned colleges

Turning to student-teacher ratio (Table-9.6), it is seen that the situation in government college is better than the one prevailing in private colleges. The private colleges are on an average having one teacher for every 48 students, but in government colleges the average number of students per teacher is only 35. The reason is perhaps the private colleges may be self-financing and therefore, cannot

afford to employ more teachers, as that would result in charging higher fees. Taking together the private and government colleges, the average number of students per teacher works out to 40.

2. Professional Colleges

In Gangapur city, there is neither an engineering college nor a medical college. It is also not served by any Polytechnic or college for vocational education. There is only one private women (B.Ed) college for professional education. The number of students in this college is 60 and the number of teachers is only 6. The number of students per teacher works out to about 10. (Table-9.7). There is no university within the municipal limits of Gangapur City.

Table 9.7 : List of technical / Medical / Professional Colleges / Institution in Gangapur City 2000-2001

Sl. No.	Name of College	Type of Manage-ment	No. of Teachers	No. of Students	Average No. of students per Teacher
1.	Women College for Professional Education (B.Ed)	Private	6	60	10
2.	Polytechnic	NA	NA	NA	NA
3.	College for Technical/ Education/Engineering College	NA	NA	NA	NA
4.	Medical College	NA	NA	NA	NA
5.	College for Vocational Education	NA	NA	NA	NA

Source : Aggarwal Mahila college, Gangapur City

VII. Medical Facilities (Allopathy)

1. Government General Hospital

Gangapur city has one government general hospital with 9 doctors and 62 beds (Table-9.8). In this hospital, there is a doctor for every 7 beds. The average population (based on 1991 population) served by this hospital doctor works out to about 5965 and the number of hospital beds per 1000 population works out to about 1.15.

2. Private General Hospital and Medical Institutions

There is no agency which collects and compile data relating to private medical institutions. However, during survey some information was provided by the concerned hospitals. As per the information as shown in Table-9.8, there are 5 private medical institutions (which include 2 general hospitals, 2 nursing homes and 1 maternity home) with 64 beds and 8 doctos. In these hospitals, there is a doctor for every 8 beds.

The total number of (government + private) hospitals in Gangapur comes to 6 with 126 beds and 17 doctors. The average number of beds per doctor comes to 7.4. The average population (based on 1991 population) served by one hospital doctor works out to about 3158, the number of hospitals beds per 1000 population works out to 2.35.

Table - 9.8:Hospitals and Dispensaries (Allopathy) in Gangapur City 2000-2001

Sl. No.	Hospital / Nursing Home/Maternity Home	No. of Hospitals	No. of Doctors	No. of Beds	Average No. of beds per doctor
1.	Govt. General Hospital	1	9	62	7
2.	Private Hospitals/Nursing Homes/ Maternity Homes	5	8	64	8
Total		6	17	126	7

Source : Medical & Health Block Office, – Gangapur City

Dispensary is a lower level of medical facility and every town is expected to have dispensaries. Gangapur city has no dispensary. However, there are two private clinics and each one has one doctor. There is no bed in these clinics. According to the information available, there are 16 registered medical practitioners (Allopathy) in Gangapur city.

VIII. Public Parks and Playgrounds

As per the information made available by the Gangapur municipality, the city has no public parks or playgrounds owned by Central Government, State Government or any private agency. However, the city has 4 parks owned and maintained by the municipality. The total area occupied by these parks is not

available. Assuming a minimum of 10 sq.m. per person for public parks and playgrounds, the minimum area required for public parks and playgrounds in Gangapur city works out to 536890 sq. metres or above 0.54 sq.km.. This works out to about 15.65% of the total area of the city. This means the area of the city needs to be increased to have more area allocated for parks and playgrounds. The average population served by one park works out to 13422 persons (based on 1991 population).

Parks and playgrounds/open spaces should be well spread out throughout the city and not concentrated in a few areas. A satisfactory norm would be to have a park for every 10000 population, which means the city should have atleast 5 parks and playgrounds. The city has, however only 4 parks. Today, the city has an average one park for every 13422 persons.

Maintenance of Parks and Playgrounds

In case of Gangapur, there are only 4 parks which are owned and maintained by the municipality. Though it has been reported that there is periodic and proper maintenance of these parks, it is doubtful whether the municipality is able to maintain all the 4 parks well, as the municipality may not have sufficient funds.

IX. Sanitation

1. Field Staff, Vehicles and Garbage Bins

In case of Gangapur, as is generally the case in respect of other cities and towns also, the responsibility of street cleaning and garbage clearance rests with the municipality. The relevant statistics pertaining to sanitation work are furnished below (Table-9.9).

Table 9.9 : Sanitation Facilities in Gangapur City -2000-2001

Sl. No.	Item	No. of Sanitation workers/Garbage Bins/Trucks	No. per sq.km. of area of Gangapur (based on 1991 area)	Average pop. per worker/bin vehicle (based on 1991 population
1.	Field staff for sanitation work	132	38	407
2.	No. of garbage bins	NA	NA	NA
3.	No. of garbage trucks/ vehicles	5	1.45	10738

Source : Gangapur Municipality

Assuming a per capita generation of 250 gms. or ¼ kg. of garbage per day, the total garbage generated in the city every day works out to about 13422 kg. As per the information made available, the municipality has hired 5 garbage trucks to transport garbage. Assuming that on an average a truck can carry about 3000 kg. of garbage and can atleast make 2 trips a day, it can be easily concluded that the municipality has adequate number of trucks to transport garbage to the landfill area.

It is reported that there are 132 sanitation workers. Assuming that a minimum of 25 workers for every sq.km. of area the city is required for sanitation work, the city requires atleast 86 workers. Since the city is already having 132 workers, it can be said that there is no shortage of manpower for sanitation work in the city.

It seems it can be safely assumed that there should be 20 garbage dumps (bins) in a sq.km. of area. The data pertaining to garbage bins in the city is not available. Hence, no analysis has been done.

2. Frequency of Street Cleaning and Garbage Clearance

It has been reported that street cleaning is being done once a day and garbage clearance is being done twice a day. Since Gangapur city does not seem to have shortage of manpower for sanitation work, the information given by the Municipality with regard to street-cleaning and garbage clearance can be relied upon.

CHAPTER X
CASE STUDY - KARWAR

I. Introduction

Karwar, the district headquarters of Uttar Kannada is a charming port town and situated on the left bank of river Kali on the western coast of Karnataka State, facing the Arabian Sea. It is located on Bombay – Kochi National Highway No. 17 and Konkan railway line and thus well connected by road / rail with other parts of the country. The all-weather port has also connected Karwar with distant countries by ocean ways. Historically, this Karwar town came into prominence in 17th century, when during 1650 to 1660 'East India Company' opened a branch here to export muslin, pepper, cardamom, cashew etc. For about hundred years from the middle of 17th century to the middle of the 18th century, the East India Company did roaring trade here.

Although, Karwar remained the district headquarters of North Canara (now known as Uttar Kannada) after the rise of Mysore State in 1956, the city did not register positive growth and remained as under - developed city. Until recently, Karwar suffered backwardness without proper transportation facilities with other developed areas. With the development of Konkan railway line and all-weather port facilities, things are changing. The setting up of Naval base (Project Sea Bird), Kalinga Thermal Power Plant, Kadra Hydel Power Project in the vicinity of Karwar coupled with above mentioned two transportation projects would further help Karwar to develop faster in the years to come. A caustic soda factory and a Mini-Cement factory have already started working in the vicinity of the town. If efforts are made to establish fish-based, food processing and forest-based industries, Karwar would emerge as leading commercial and industrial city on the west coast of India.

II. Area and Population

As per the 1991 Census, Karwar town is spread over an area of 14.35 sq. kms. having a population of 51,022 and density of about 3555 persons per sq. km. The urban density of Karwar is much higher than the urban density of Karnataka which is 2513. It is also lower than the All-India (excluding J&K) urban density of 3377 persons (see Table-10.1).

Table –10.1: Area, Density (1991) and Decadal Growth of Urban Population (1951-91)

Sl. No.	Name of Town/ State/All India	Area 1991 (in sq.km.)	Population					Density 1991
			1951	1961	1971	1981	1991	
1.	All India (Urban)[# +]	63889.89	61986496	78343288 (26.39)	108255756 (38.18)	156419768 (44.49)	215771612 (+37.94)	3377
2.	Karnataka*	4270.15	4453480	5266493 (18.26)	7122093 (35.23)	10729606 (50.65)	13907788 (29.62)	2513
3.	Karwar (M)[@]	14.35	19764	23906 (20.96)	27770 (16.16)	47210 (70.00)	51022 (8.07)	3555

Source: [+] *Excludes the figure of J&K from 1951-1991 where census was not conducted in 1991. Also excludes the figures of Assam of 1981 where census was not held in 1981.*

[@] *Census of India, 1991 Series I – India Part IIA(ii) – Towns and Urban Agglomeration 1991 – with their population 1901-1991*

* *Census of India, 1991 Series I – Final Population Totals – Paper 2 of 1992*

[#] *Census of India, 1991 Series I – Part IIB (1) Vol.II Primary Census Abstract General Population (For area only)*

Note: Figures in brackets show percentage decadal growth of population.

III. Growth of Population

Karwar's population increased by more than 2½ times during the period of 40 years from 1951-91. Looking at the decadal growth rate of the town given in Table-10.1, it may be seen that the highest growth rate (i.e. 70.00%) was observed during the decade 1971-81 and the lowest (i.e.8.07%) during the decade 1981-91. It is also interesting to note from Table-10.1 that during 1951, Karwar was only a class IV town having population of 19,764 but in 1991 it became a class II town (with a population of 51,022). This can be attributed to the growth of industrial and commercial activities in the town.

The figures given in Table-10.1 further show that Karnataka's urban population also registered a sharp decline in its growth rate during 1981-91. Karwar's decadal growth rate was considerably lower than that of Karnataka state during 1961-71 and 1981-91 but it was surprisingly higher during 1951-61 and 1971-81. The growth rate of urban polpulation at all - India level during 1951-91 has been constantly higher than that of the Karnataka State as well as Karwar town except during 1971-81 when it was 44.49% as compared to 50.65% in Karnataka and 70.00% in Karwar town (Table-10.1).

IV. Literacy

In Karwar city, as per the 1991 Census, about 84% of the people in the age-group of seven and above were literates. This was much higher than the All India average of 73% and the Karnataka state average of about 74% (Table-10.2). The higher literacy rate in the town may be because of its historical background as it served as a centre for economic activity of the East India Company in 17th and 18th century.

Table – 10. 2: Literacy Rates – 1991

Sl. No.	City/State	Urban Population in the age-group 7 and above	No. of literates in the age-group of 7 and above	Literacy rate (percentage)
1.	Karwar City (M)	44996	38108	84.69
2.	Karnataka	11808918	8762573	74.20
3.	All India (Urban)	182178769	133140330	73.08

Source: District Census Handbook, Uttar Kannada, District - Village and Town Directory – Part XII - Census of India – 1991

V. School Education

i) Primary School

In Karwar city, during 2001, there were in all 17 primary schools with a total of 5968 students and 50 teachers. It may be seen from the figures in Table –10.3 that the number of government schools (15) is more than seven times the number of private schools (2), but surprisingly the enrolment in both the government and private schools is almost same, showing a strong preference of parents for sending their children to private schools. The average number of students per school works out to only 201 in government schools whereas in private schools it was as high as 1473 students.

Table – 10.3 : Primary Schools in Karwar City – 2001

Sl. No.	Status	No. of Schools	No. of stud-ents	No. of teachers	Accessi-bility (No. of schools per sq. km. area)	No. of students per school	Student-Teacher ratio	Popu-lation served by a school
1.	Govt.	15	3021	39	1.04	201	77	3401
2.	Private	2	2947	11	0.14	1473	268	25511
Total		17	5968	50	1.18	351	119	3001

Source: Block Education Officer, Karwar

The average number of students per teacher (student- teacher ratio) is about 268 in case of private schools and 77 in case of government schools. When all the government and private schools are taken together, the average number of students per teacher works out to 119. The standard norm for average number of students (as per Sarva Shiksha Abhiyan) per teacher is 40. This means that neither the private schools nor the government schools meet the prescribed norms and the load of students on teachers is heavier in both the private as well as government schools. However, the position is observed far better in government schools.

In relation to area, there are in all about 1.18 schools per sq. km. The corresponding figures for private schools and government schools are 0.14 and 1.04 respectively. The standard norm is that there should be one school within every kilometer of any habitation which is found to be fulfilled in case of Karwar town (Table-10.3).

With regard to availability of primary schools in relation to population, it is seen that on an average there is one primary school for a population of 3001 persons (based on 1991 census). The corresponding figures for private schools and government schools are 25,511 and 3401 respectively. Assuming a standard norm of one primary school for every 5000 population, the scenario with regard to the adequacy of primary schools in relation to population in the Karwar town, on the whole, can be termed as satisfactory.

ii) Middle School

In Karwar city, there are 27 middle schools out of which 22 are government schools and only 5 are private schools. As given in Table – 10.4, though the number of government schools is more than four times that of private schools, the enrolment in these schools was quite low (916) as compared to private schools (1334). The average number of students in a government middle school was only 42 as compared 267 in private school. This, again, shows the preference of parents for private schools in Karwar town.

Table – 10.4 : Middle Schools in Karwar City – 2001

Sl. No.	Status	No. of Schools	No. of students	No. of tea-chers	Accessi-bility (No. of schools per sq.km. area)	No. of students per school	Student-teacher ratio	Popu-lation served by a school
1.	Govt.	22	916	159	1.53	42	6	2319
2.	Private	5	1334	51	0.35	267	26	10204
Total		27	2250	210	1.88	83	11	1890

Source: Block Education Officer, Karwar

Student-teacher ratio in government schools was found to be only 6 as compared to 26 in private schools. Taking the private schools and government schools together, the number of students per teacher works out to 11, which can be termed as highly satisfactory because standard norm is 40 students per teacher (as per Sarva Shiksha Abhiyan).

From the point of view of accessibility, on an average there is 1.88 middle schools for every sq. km. of area in the city, which can be termed as satisfactory, if it is assumed that there should be one middle school for every two primary schools

and that the norm for primary school is one primary school in every sq. km. of area. It should be noted that this satisfactory position is mainly because of the existence of government schools as there are 1.53 government schools per sq. km. as compared to only 0.35 private school in the town.

The availability of middle schools in relation to population works out to one school for every 1890 persons, which can be considered 'highly satisfactory' if a norm of 10,000 persons for one middle school is accepted. As shown in table – 10.4, this satisfactory position is mainly because of the availability of large number of government schools in the town as the average population served by a government middle school is only 2319 whereas by a private school it is as high as 10,204.

iii) Secondary / Senior Secondary School

There are in all 19 secondary / senior secondary schools in Karwar city, giving an average of about 1.32 school per sq. km. of area thereby showing a 'highly satisfactory' position with regard to accessibility and availability. Unlike primary or middle schools, here, the adequate availability is mainly because of private schools which cover 15 of the total 19 schools (see Table –10.5). The number of students as well as teachers in private schools is also more than three times the number in government schools. This indicates that private sector is occupying a predominant position in providing secondary / senior secondary education in Karwar town. In the private schools, the average number of students per school is 263 and the corresponding figure for the government schools is 256.

Table – 10.5 : Secondary/Senior Secondary Schools in Karwar City – 2001

Sl. No.	Status	No. of Schools	No. of students	No. of teachers	Accessi-bility (No. of schools per sq.km. area)	No. of students per schools	Student-Teacher ratio	Popul-ation served by a school
1.	Govt.	4	1027	44	0.28	256	23	12755
2.	Private	15	3955	140	1.04	263	28	3401
Total		19	4982	184	1.32	262	27	2685

Source: i) Block Education Officer, Karwar
ii) Office of the Deputy Director of Pre-University Education, Uttar Kanada Distt., Karwar

Private secondary and senior secondary schools have an average of 28 students per teacher as compared to only 23 in government schools. When the overall picture (govt. + private schools) is analysed, it is seen that there are 27 students per teacher (see Table – 10.5). The student-teacher ratio can, therefore, be termed as 'quite satisfactory' in Karwar town.

In relation to population it was found that in Karwar City, there is one secondary / senior secondary school for every 2685 persons. The corresponding figures for government schools and private schools works out to12755 and 3401 respectively.

From the foregoing analysis of school education, it seems Karwar city has adequate number of schools in relation to population at all levels of school education. There is no doubt that, as in other parts of the country, the private sector is playing an active role in providing school education in Karwar town also.

VI. College Education

1. General Education

In Karwar city, there are 3 colleges for general education (arts, science, commerce etc.) out of which one is a government college and two are private colleges. The average number students per college is 1267 in case of government colleges, about 728 in private colleges and 907 for government and private colleges taken together. The number of teachers in private colleges is observed to be slightly lower, than in the government colleges. The student-teacher ratio in private colleges which is much higher than (40.8) in government colleges. As seen in table – 10.6, in Karwar city, on an average, one college (for general education) is available for every 17000 population which is quite satisfactory.

Table - 10.6 : Colleges for General Education in Karwar City -2001-2002

Sl. No.	Status	No. of Colleges	No. of Teachers	No. of Students	Average No. of students per college	Average population served per college (based on 1991 pop.)	Average No. of students per teacher
1.	Govt.	1	31	1267	1267	51022	40.87
2.	Private	2	30	1455	728	25511	48.5
Total		3	61	2722	907	17007	44.62

Source : Karwar Municipal Council - Karwar

2. Professional / Technical Education

For professional education Karwar city has two degree colleges i.e. one for B. Ed. course in private sector and the other a special college for Marine Biology in government sector. As shown in table – 10.7, the B. Ed. college has 86 students and 9 teachers, thus having a student - teacher ratio of only 9.55. The Marine Biology college is a special college which has 100 students and 15 teachers. Here the student – teacher ratio was works out to only 6.66 students.

Table – 10.7: List of Technical/Professional Colleges/Institutions in Karwar City – 2001

Sl. No.	Name of College	Type of management	No. of teachers	No. of students	Average No. of students per teacher
1.	Govt. Polytechnic	Government	56	460	8.21
2.	Shivaji-B.Ed.College	Private	9	86	9.55
3.	Marine - Biology (Special College)	Government	15	100	6.66
4.	Govt. ITI	Government	8	151	18.87
5.	Binga ITI	Private	23	325	14.13

Source: Karwar Municipal Council – Karwar

For technical education in Karwar city, there is no degree college. As seen in table – 10.7 there are 3 institutions providing diploma level technical education in the city out of which one is a government polytechnic and two are Industrial Training Institutes (ITIs) – one in government sector and the other in private sector. The government polytechnic has 460 students and 56 teachers, thus having a student - teacher ratio of 8.21 students. Of the two ITI's the government ITI has only 151 students and 8 teachers with a higher student - teacher ratio of 18.87 as compared to private ITI which has 325 students and 23 teachers with a student - teacher ratio of 14.13.

VII. Health / Medical Facilities

Karwar, being a district headquarters town is well served by medical facilities, details of which are given in table-10.8. In the government sector, there is one General Hospital having 300 beds with 25 doctors and one Ayurvedic Hospital with 10 beds and 3 doctors. In the private sector, there are 7 Nursing Homes having 88 beds and 9 doctors, one Eye Hospital with 6 beds and two Dental Clinics. In addition

to these there are seven private Registered Medical Practitioners. Here it should be noted that people in Karwar can also get the services of government doctors privately, as they (govt. doctors) are allowed to do private practice. Taking both government sector and private medical facilities together, the average number of hospital beds per 1000 population works out to 7.93 which can be regarded as satisfactory.

Table – 10.8 : Medical Facilities in Karwar City – 2001

Sl. No.	Name of Hospital	No. of Hospitals	Owner-ship	No. of doctors	No. of beds	Average No. of beds per doctor	Average No. of beds per 1000 pop.
1.	General Hospital	1	Govt.	25	300	12.00	5.88
2.	Ayurvedic Hospital	1	Govt.	3	10	3.33	0.19
3.	Nursing Home	7	Private	9	88	9.77	1.72
4.	Eye Hospital	1	Private	1	6	6.00	0.12
5.	Dental Clinic	2	Private	2	1	-	0.5
6.	Registerd Medical Practitioners	-	-	7	-	-	-
Total		12	-	47	405	10.12	7.93

Source : Karwar Municipal Council, Karwar

VIII. Public Parks and Playgrounds

As per the information made available by the Karwar Municipal Council, the city has two parks with an area of 14 acres (one state government park with an area of 10 acres and the other a local body park with an area of 4 acres) and one playground with an area of 5 acres. As seen in Table – 10.9 in Karwar city, only 0.53% of the total area of the city is under parks and playgrounds. When considered separately, it is seen that the total area under parks constitutes less than 0.4% of the total area of the city. Assuming a minimum of 10 sq. meters per person for public parks and playgrounds, the minimum area required to be allotted for public parks and playgrounds in Karwar city works out to 510220 sq. meters or 0.51 sq. km., i.e., about 3.55% of the total area. The scenario pertaining to parks and playgrounds in Karwar can be described as ‘dismal’, as at present not even half a percent is devoted to parks and playgrounds.

Table –10.9 : Parks and Playgrounds / Open Spaces as in 2001

Sl. No.	Item	No.	Total area in acres	%age of area to the total area of the city (based on 1991 area)	Average population served by a park/ playground (based on 1991 pop.)
1.	Parks				
	i)State Govt.	1	10	0.28	51022
	ii)Local Body	1	4	0.11	51022
Sub-Total		2	14	0.39	25511
2.	Playgrounds/ Open spaces	1	5	0.14	51022
Grand Total		3	19	0.53	17007

Source: Municipal Council, Karwar

Parks and playgrounds / open spaces should be well spread out throughout the city and not concentrated in a few areas. A satisfactory norm could be to have a park for every 10000 population, which means the city should have about 5 parks and playgrounds but as per the information available it has only 3 parks / playgrounds. At present, in Karwar city, one park/play-ground serves 17007 persons (see Table – 10.9).

IX. Maintenance of Parks and Grounds

Due to lack of funds and staff, the concerned authorities are not able to have proper maintenance of the parks/playgrounds in the town. Voluntary agencies need to be encouraged to come to the rescue of the government and assist in maintaining parks/open spaces in the interest of public at large.

X. Sanitation

1. Field Staff, Garbage Bins and Garbage Vehicles

Cleaning of streets and clearance of garbage bins regularly is necessary to keep a city clean and tidy so that people residing in the city can lead a healthy life. This responsibility of keeping city clean rests with the municipality of the town. As shown in Table – 10.10 below, in Karwar city, the municipality is performing this duty with the help of 71 sanitation workers and 3 garbage trucks.

Table – 10.10 : Sanitation Facilities in Karwar City – 2001

Sl. No.	Item	Number	No. of garbage bins/ trucks/vehicles per sq. km. of area of Karwar city (based on 1991 area)	Average, popula-tion per worker/bin/ vehicle (based on 1991 pop.)
1.	Field Staff for Sanitation work	71	5	719
2.	Garbage bins	345	24	148
3.	Garbage trucks/ vehicles	3	0.20	17007

Source: Municipal Council, Karwar

Assuming a per capita generation of 250 gms. or ¼ kg. of garbage per day, the total garbage generated in the city per day works out to about 13000 kgs. or 13 tonnes. This garbage is collected by the 3 garbage trucks from 345 garbage bins in the city and disposed off at the dumping yard which is 6 kms. away from the city. Assuming that on an average a truck can carry about 3000 kgs. of garbage and can at least make two trips a day, it can be easily concluded that at present the municipality has adequate number of trucks to transport garbage to the dumping ground.

It is reported that there are 71 sanitation workers which include workers for street cleaning and garbage clearance. Assuming 25 sanitation workers are required for every sq. km. of area of the city, it can be safety concluded that there is shortage of manpower for sanitation work in Karwar, as the city has only 5 workers for a sq. km. of area (see Table – 10.10).

It seems it can be safely assumed that there should be at least 20 garbage bins/dumps in one sq. km. of area. As far as Karwar city is concerned, it has 24 garbage bins and therefore, the situation seems to be satisfactory.

2. Frequency of Street-Cleaning and Clearance of Garbage Bins

It has been reported that street-cleaning is done on daily basis in 30 to 40 per cent area and in the remaining areas, it is done on weekly basis. For garbage cleaning the town has been categorized into 3 areas, that is ‘A’, ‘B’ and ‘C’. In ‘A’ area, i.e., Central business District Area, the garbage clearance is done on daily basis; in ‘B’ area, i.e., Residential Areas, the clearance is done once in two days and in ‘C’ Area, i.e., the new areas which have come up recently, the clearance is done

once in 3 days. There is no provision for converting the city garbage into bio-gas, or manure or for being used for electricity generation. The garbage is being dumped in the dumping ground which is 6 kms. away from the town. It was reported by the municipal authorities that for privatization of garbage collection and disposal, efforts were made but no private sector came forward to take up the job.

CHAPTER XI
CASE STUDY – MARGAO

I. Introduction

Margao (Madgao) is the biggest commercial centre of the state of Goa. It is also a principal centre for manufacturing soap, country liquor and canning of fish. The town lies about 30 kilometres of the south by south-east of Panaji and is situated in the heart of the Salcete Taluka. It is linked by rail to Vasco da Gama and the Mormugao harbour on one side and rest of the country on the other side. River navigational facilities are also provided to the town by the river Sal at a distance of about two kilometers. Geographically, it is situated at an altitude of 20 metres and receives an annual rainfall of 2611.7 mm. The average maximum and minimum temperatures at Margao are 34.3^0 C and 18^0 C respectively. The climate is good and specially on the outskirts it is very cool and pleasant as there are extensive coconut groves and orchards. The town is a popular tourist spot of southern Goa and a number of splendid beaches lie close by, the biggest being Colva beach, one of the loveliest beaches in Goa. It has an impressive church called the "Church of the Holy Spirit'. There are also a number of objects of interest in the town viz., Hari Mandir, Damodar Temple and Vitthal Mandir. The town is also considered to be the cultural centre of Goa. This is also the place where the first Satyagraha for the Liberation of Goa, under the leadership of Dr. Ram Manohar Lohia, had taken place.

II. Area and Population

Margao city, as per the 1991 census, has an area of 15.05 sq.kms. and is inhabited by 58951 persons, giving thereby a density of 3917 persons per sq.km. As compared to this, the urban density of the state of Goa was quite less at 1247 and for the country as a whole it was marginally low at 3377 (Table- 11.1). Higher density of the town reflects the importance of Margao city as a major commercial centre within the state of Goa.

III. Growth of Population

Margao city's population increased more than three times during the period of 40 years from 1951-91. Looking at the decadal growth rates given in Table-I1.1, it

Table –11.1 : Area, Density (1991) and Decadal Growth of Urban Population (1951-91)

Sl. No.	Name of Town/ State/All India	Area in sq. kms.(1991)	Population					Density 1991
			1951	1961	1971	1981	1991	
1	Margao (MC)	15.05	17175	15364 (-10.54)	41655 (+171.12)	53076 (+27.42)	58951 (+11.07)	3917
2.	Goa* (Urban)	384.67	70931	87329 (+23.12)	203243 (+132.73)	322785 (+58.82)	479752 (+48.63)	1247
3.	All India@ (Urban)	63889.89	61986496	78343288 (+26.39)	108255756 (+38.18)	156419768 (+44.49)	215771612 (+37.94)	3377

Source: 1. *Census of India, 1991 Goa District Census Handbook, South Goa, Part XII – A&B*

2. *Census of India, 1991 Series I – India Part IIA(ii) – Towns and Urban Agglomeration 1991 – with their population 1901-1991*

3. *Census of India, 1991 Series I – Final Population Totals – Paper 2 of 1992*

4. *Census of India, 1991 Series I – Part IIB (1) Vol.II Primary Census Abstract General Population (For area only)*

Note: 1. *Figures in brackets show percentage decadal growth of population.*

* *Population figure for1951 and 1961 actually belongs to 1950 and 1960 respectively.*

@ *Excludes the figure of J&K from 1951 to 1991 where census was not conducted in 1991. Also excludes the figures of Assam for 1981 where census was not held in 1981*.

may be seen that in Margo city, whereas during 1951-61 there was decline in population by 10.54%, during 1961-71 it suddenly increased by 171 percent. During 1961-71, Goa state's urban population also shot up by 132.7 percent. Leaving aside this decade of 1961-71, the growth rate of town population has been consistently lower than that of the urban population growth rate of Goa state as well as the country as a whole during 1951-91. This unprecedented growth during 1961-71 of the town as well as state of Goa was mainly because in 1971, for the first time, proper census was held in this state by Govt. of India after liberation of Goa in December, 1961.

IV. Literacy

In Margao city, as per the 1991 Census, about 79.5 per cent of the people in the age group of seven years and above are literates. The literacy rate of the town is found almost equal to the literacy rate of the urban Goa which was 80.10 per cent and little higher than the all-India (Urban) literacy rate of 73.08 per cent (see Table-11.2). The high literacy rate in Margao and Goa state can be attributed to Goa being under Portugee's rule till its liberation in 1961.

Table – 11.2: Literacy Rates – 1991

Sl. No.	City/State	Urban Population in the age-group 7 and above	No. of literates in the age-group of 7 and above	Literacy rate (percentage)
1.	Margao (MCL)	51,786	41,178	79.51
2.	Goa State (Urban)	423,654	339,359	80.10
3.	All India (Urban)	182,178,769	133,140,330	73.08

Source: District Census Handbook, South Goa – Village and Town Directory – Part XII– A&B, Census of India – 1991

V. School Education

i) Primary School

As shown in Table-11.3, during 2001, there were in all 38 primary schools with a total of 6519 students and 267 teachers in Margao city. Though the number of government schools (24) was substantially higher than the number of private schools (14), the total number of students enrolled in these (Govt.) schools was lower than in private schools. The average number of students in government schools was only

122 as compared to 256 in private schools. This probably indicates that parents in Margao prefer to send their wards to private schools.

Table – 11.3 Primary Schools in Margao City – 2001

Sl. No.	Status	No. of Schools	No. of students	No. of teachers	Accessi-bility (No. of sch-ools per sq. km. area)	No. of students per school	Student-Teacher ratio	Popul-ation served by a school
1.	Govt.	24	2938	134	1.59	122	22	2456
2.	Private	14	3581	133	0.93	256	27	4211
Total		38	6519	267	2.52	172	24	1551

Source: Asstt. Director of Education, South Education Zone, Margao - Goa

The student- teacher ratio (average number of students per teacher) in private schools is 27 against 22 in government schools. When compared with the standard norm of 40 (as per Sarva Shiksha Abhiyan) students per teacher, it is evident that both the government as well as private primary schools in Margao city are well placed.

In relation to area, there are in all about 2.52 primary schools per sq. km. in the town. In view of the standard norm that there should be at least one primary school within an area of one sq. kilometer so that children can easily walk down to their schools, the situation with regard to accessibility to primary schools in Margao city is found to be more than satisfactory (see Table-11.3).

With regards to availability of primary schools in relation to population in the town, it is seen that on an average there is one school for 1551 population (based on 1991 census). The corresponding figures for private and government schools are 4211 and 2456 respectively. Assuming a standard norm of one primary school for every 5000 population, the scenario with regard to the adequacy of primary schools in relation to population in the town seems to be very satisfactory (see Table-11.3).

ii) Middle School

As shown in Table-11.4, there are only two middle schools in the town and both are government schools. There is no private middle school in the city. These two schools are having only 163 students and 10 teachers showing a very low enrolment (i.e. only 82 students per school) and thus giving a very satisfactory

student-teacher ratio, which is 16. Since the number of middle schools is only two, in relation to area, the availability of middle school in the city comes to only 0.13 school per sq. km. whereas the population served by a school is as high as 29475 which is quite high. If adequacy of middle schools is examined in relation to the population in the age-group of 7 and above, the scenario, slightly improves, as, then, the number of persons served by a middle school works out to 25893.

Table – 11.4 : Middle Schools in Margao City – 2001

Sl. No.	Status	No. of Schools	No. of students	No. of teachers	Accessi-bility No. of schools per sq.km. area)	No. of students per school	Student-Teacher ratio	Popul-ation served by a school
1.	Govt.	02	163	10	0.13	82	16	29475
2.	Private	-	-	-	-	-	-	-
Total		02	163	10	0.13	82	16	29475

Source: Assistant Director of Education, South Education Zone, Margao-Goa

iii) Secondary / Senior Secondary School

There are in all 27 secondary /senior secondary schools in Margao city, giving an average of 1.79 schools per sq. km. of area. The number of secondary/senior secondary schools seems to be adequate in relation to area of the city. Here, the adequacy has been made possible by private sector which covers 23 of the total 27 schools i.e. about 85% of the total schools (see Table – 11.5). Of the total number of 19377 students studying in these schools, 18193 (i.e. 93.91%) are in private schools and only 1184 are in government schools, which indicates the predominant role being played by the private schools in providing secondary/senior secondary school education in the town. On an average, a private school is having 791 students as against only 296 in a government school.

As shown in Table 11.5, the student- teacher ratio in private schools is 31 as compared to 22 in government schools, mainly because generally students do not prefer to go to government schools. In relation to population, on an average a secondary / senior secondary school is serving 2183 persons which is a very satisfactory situation. The corresponding figures separately for government and private schools work out to 14737 and 2563 persons respectively. On the basis of

population in the age group of 7 and above given in Table 11.2, the overall average comes to 1918 persons and corresponding figures separately for government and private schools are 12946 persons and 2251 persons respectively.

Table – 11.5 : Secondary/Senior Secondary Schools in Margao City - 2001

Sl. No.	Status	No. of Schools	No. of students	No. of teachers	Accessi-bility (No. of schools per sq. km. area)	No. of students per school	Student-Teacher ratio	Popul-ation served by a school
1.	Govt.	04	1184	54	0.26	296	22	14737
2.	Private	23	18193	585	1.52	791	31	2563
Total		27	19377	639	1.79	718	30	2183

Source: Assistant Director of Education, South Education Zone, Margao-Goa

From the foregoing analysis of school education, it seems Margao city has adequate number of schools in relation to population except in case of middle schools, but there is no reason to worry about as generally middle level classes are covered in secondary / senior secondary schools. Private sector is also found to be playing a major role in the school education of the city particularly at secondary / senior secondary level education.

VI. College Education

i) General Education

In Margao city, there are only 3 colleges for general education (arts, science, commerce etc.) having 2357 students and 133 teachers. Surprisingly, all these three colleges are in the private sector and there is no government college for general education in the town (see Table-11.6).

It may be seen from Table-11.6 that the average number of students per college for general education in the city is 786 and average number of students per teacher is 18. Even the average population served per college is 1965. All these indicators show that facilities for college level general education in Margao town are satisfactory, inspite of the fact that there is no government college in the town.

Table- 11.6: Details of Colleges for General Education in Margao City-2001-2002

Sl. No.	Status	No. of Colleges	No. of Teachers	No. of Students	Average No. of Students Per College	Average Pop. Served per College (based on 1991 pop.)	Average No. of students per teacher
1.	Govt.	-	-	-	-	-	-
2.	Private	3	133	2357	786	1965	18
Total		3	133	2357	786	1965	18

Source:- Asstt. Director of Education, South Education Zone, Margao -Goa

ii) Technical / Professional Education

There are two colleges for professional education (Law, Management) in the private sector having 392 students and 14 teachers. In addition to this there is one government Industrial Training Institute (ITI) giving training to 178 students with the help of 17 teachers. There is no engineering or medical college in the town. The average number of students per teacher is 28 in the college for professional education and 10 in the ITI. The student-teacher ratio indicate that students are getting better coaching facilities in both the institutions (see Table –11.7).

Table- 11.7 : Details of Technical/Professional Colleges/Institutions in Margao City -2001-2002

Sl. No.	Name of College	No. of College	Type of Manage-ment	No. of Teachers	No. of Students	Average No. of students per teacher
1.	College for Professio-nal Education (Law, Management)	2	Private	14	392	28
2.	Industrial Training Institute (ITI)	1	Govt.	17	178	10

Source: Asstt. Director of Education, South Education Zone, Margao-Goa.

VII Medical Facilities:

Margao, being the district headquarters town, has a quite big District Government Hospital which has 230 beds and 43 doctors. There is, on an average, one doctor for 5.35 beds, which can be termed as satisfactory. In addition to this, there is one T.B. Hospital with 70 beds and an Urban Health Centre (see Table –

11.8). In private sector, there are 8 Nursing Homes and 12 Maternity Homes serving the population of the town. In case of the District Government Hospital, the bed – population ratio works out to 3.90. In case of private nursing homes/maternity homes, the data for beds is not available.

Table- 11.8 : Details of Medical Facilities Available in Margao City 2001-02.

Sl. No.	Hospital/Dispensary	Number	Ownership	No. of Doctors	No. of Beds	Average No.of beds per Doctor
1.	District Hospital	1	State Govt.	43	230	5.35
2.	Nursing Homes	8	Private	N.A.	N.A.	-
3.	T.B. Hospital	1	State Govt.	5	70	14
4.	Maternity Homes	12	Private	N.A.	N.A.	-
5.	Urban Health Centre	1	State Govt.	2	Nil	Nil

Source: Office of the Medical Superintendent, District Govt. Hospital, Margao.

VIII Public Parks and Playgrounds:

As per the information made available by the Margao Municipality the city has 3 Municipal parks and 9 playgrounds. Out of the 9 playgrounds, 3 belong to State Govt., and 6 are private playgrounds. One of the three playgrounds owned by the State Govt. is a stadium. The necessary statistics are given in Table-11.9.

Table- 11.9 : Parks and Playgrounds/Open Spaces – as in October,2001

Sl. No.	Item	No.	Total area (in acres	%age of area to the total area of the city (based on 1991 Census)	Average No.of parks/ playgrounds per sq. km. area of the city (based on 1991 area)	Average population served by a park/play-ground (based on 1991 pop.)	Area of parks/ play-grounds per 10000 population (in acres) based on 1991 pop.)
1.	Parks	3	4	0.10	0.26	19650	0.68
2.	Playground/ Stadium/ Open Spaces	9	62	1.67	0.60	6550	10.52
Total		12	66	1.77	0.80	4912	11.19

Source:- Margao Municipality.

As seen in Table 11.9, in Margao, only about 1.77 percent of the total area of the town is under public parks and playgrounds (including stadia & private playgrounds). When considered separately, it is found that total area under parks in the town is only 0.10 percent. This sad state of affairs regarding public parks may be because of availability of open spaces at the beaches in the vicinity of the town.

Assuming a minimum required area of 10 sq. metres per person for pubic parks and playgrounds in a town, the total minimum area required to be allotted for public parks and playgrounds in Margao city works out to about 0.58 sq. km. or about 3.85% of the area of the city. However, at present, the city has only about 1.77% of the city area under parks and playgrounds which include a stadia also. It is, thus, clear that area under parks and playgrounds is far from satisfactory.

Parks and playgrounds/open spaces should be well spread out throughout the city and not concentrated in a few areas. A satisfactory norm would be to have a park/playground for every 10000 population, which means the city should have 6 parks and playgrounds but at present the city has 11 parks/ playgrounds. Though the number of parks and playgrounds is satisfactory, the area under them is not satisfactory. The existing parks and playgrounds seem to be very small. Today, on an average the city has one park / playground for every 4912 persons (see Table-11.9).

VIII. Maintenance of Parks and Playgrounds:

There are 3 parks/gardens under the Municipal Council of Margao which are being well maintained by them. Out of the 9 playgrounds in the town three belong to the State Government and one of them is a stadium. The other six are private playgrounds. It was reported that periodical maintenance of these playgrounds is being done by the concerned authorities.

IX. Sanitation

1. Field Staff, Garbage Bins and Garbage Vehicles:

In Margao city, the Municipal Council is looking after the sanitation work which includes cleaning of streets, clearance of garbage bins and dumping the garbage at

designated dump yard. It helps in providing healthy environment in the town. The relevant statistics pertaining to sanitation work are furnished below in Table-11.10.

Table- 11.10 : Sanitation Facilities in Margao City 2001-02

Sl. No.	Item	Number	No. per Sq.Km. of Area of Margao City (based on 1991 Area)	Average population per worker/ bin/garbage vehicle (based on 1991 population)
1.	Field staff for sanitation work.	94	6	627
2.	Garbage Bins	326	22	181
3.	Garbage trucks/ vehicles.	7	-	8421

Source: Municipal Council, Margao.

Assuming a per capita generation of 250 gms. or ¼ kg. of garbage per day, the total garbage generated in the city works out to about 14750 kg. As per the information made available, the municipality has 7 garbage vehicles to transport garbage. Assuming that on an average a truck can carry about 3000 kg. of garbage, and can atleast make two trips a day, it can be easily concluded that municipality has adequate facility for collection and transportation of garbage to the dumping area.

It is reported that there are 94 sanitation workers out of which 48 are male workers and 46 female workers. They are all engaged in cleaning of streets and collection of garbage. Assuming 25 sanitation workers are required for a sq.km. of area of the city, the city can be said to be facing a shortage of manpower for sanitation work as the city has only, on an average, 6 workers for a sq. km. of area of the city.

It seems it can be safely assumed that there should be 20 garbage bins in one sq.km of area. As far as Margao city is concerned, the corresponding figure is 22, which means that the existing number of bins can be considered as adequate.

2. Frequency of Street-cleaning and Clearance of Garbage-Bins:

It has been reported that street-cleaning, and garbage clearance are being done twice a day. The town has the facility of hydraulically operated garbage compactors for clearance of garbage. The daily collected garbage is dumped at a designated dumping yard. Presently the garbage is converted into manure by a

private firm. Periodical assessment of work load regarding collection and disposal of the garbage is effectively done by the municipality. The sanitary Inspector is regularly inspecting and supervising the work. It was reported by the municipal authorities that due to the increase in population of the city in the recent years, a proposal is under consideration for privatization of collection and disposal of garbage in the city.

CHAPTER XII
CASE STUDY – THANJAVUR

I. Introduction

Thanjavur, one of the important cities of Tamilnadu, rose to glory during the Chola reign between the 10^{th} and 14^{th} centuries and became a centre of learning and culture. It is the headquarters of the district of the same name. Thanjavur district, the "Rice Bowl" of Tamilnadu, is famous for its exquisite handicrafts, bronzes and South Indian Musical instruments. Thanjavur city is well known throughout the world for its Brahdeeshwara temple, magnificent palace and Rajah Serforjis Saraswati Mahal Library. The Brahdeeshwara temple was built by the great Chola King, Raja Raja-I, in the 10^{th} century A.D. Through the history of Thanjavur is far older than the Chola period itself, it was during their reign between the 10^{th} and 14^{th} centuries that the city rose to glorifying heights, becoming the center of Tamil learning and culture. The Tamil University, set up in 1981, is situated here and is devoted to the growth of Tamil literature and language.

Thanjavur lies at an altitude of 59 metres and receives on an average about 112 mm. of rain in a year. The climate is tropical and the city can be visited any time of the year. The temperature ranges from about 22^0c in Winter to a maximum of about 36^0c in Summer. The important languages spoken here are Tamil, English and Marathi. Thanjavur is connected by rail with Chennai, the state capital directly. The city is connected by road with all major cities of the state. The nearest airport is Tiruchchirappalli (55 kms.).

II. Area and Population

Thanjavur city is spread over an area of 15.36 sq.kms. (1991 Census) and is inhabited by 202013 persons (1991 census), giving thereby a density of about 13152 persons per sq.km. The urban density in the state of Tamilnadu was 3089 in 1991 and in the country as a whole (All-India excluding Jammu & Kashmir) was 3377 persons (Table-12.1). It is, therefore observed that Thanjavur has a much higher density when compared to the urban density of Tamilnadu or the country as a whole. The density of Thanjavur is more than 3½ times the All-India (urban) average, which is itself slightly higher than the urban density of Tamilnadu.

Table-12.1 : Area, Growth of Population (1951-1991) and Density (1991)

Sl. No.	State/City	Area (in sq.km.) 1991	Population					Density 1991
			1951	1961	1971	1981	1991	
1.	All India [@+] (Urban)	63,889.89	61,986,496	78,343,288 (26.39)	108,255,756 (38.18)	156,419,768 (44.49)	215,771,612 (37.94)	3377
2.	Tamil Nadu[+] (Urban)	6,175.95[++]	7,333,525	8,990,528 (22.59)	12,464,834 (38.64)	15,951,875 (27.98)	19,077,592 (19.59)	3089
3.	Thanjavur[*] (M)	15.36	100,680	111,099 (10.35)	140,547 (26.51)	184,015 (30.93)	202,013 (9.78)	13152

[@*] *Excludes the figure of J&K from 1951 to 1991 where census was not conducted in 1991. Also excludes the figures of Assam of 1981 where census was not held in 1981.*

*Source : *Census of India – 1991, Series I – India Part IIA (ii) A series - Towns and Urban Agglomerations 1991 with their population – 1901-1991.*

[+] *Census of India 1991 – Series I – Final Population Totals - Paper 2 of 1992. (for population figures only)*

[++]*Census of India 1991 – Series I – Part IIB (i) – Vol.II – Primary Census Abstract General Population. (for Area only)*

Note: Figures in brackets indicate decadal growth (%) in population.

III. Growth of Population

Thanjavur's population doubled during the period of 40 years from 1951-91. Looking at the decadal growth rates given in Table-12.I, it may be seen that the peak in growth rate (30.93%) was observed during the decade 1971-81 and the lowest (9.78%) during the decade 1981-91. The population of Thanjavur grew at an increasing rate from 1951 to 1981 but after 1981, the growth rate not only sharply declined but was also less than 10%. During the previous years, the decadal rate of growth was always above 10%.

The figures given in Table-12.1 show that Tamilnadu's urban population also registered a sharp decline in its growth rate after 1981. Thanjavur's decadal growth rate has always been much lesser than that of Tamilnadu and the country as a whole, except during the decade 1971-81, when Thanjavur had a slightly higher growth rate than Tamilnadu. However, even during 1971-81, Thanjavur's growth rate was much lesser than that of the country (urban).

During 1981-91, Thanjavur's growth rate was almost half of the growth rate of Tamilnadu, which in turn, surprisingly, had almost half the growth rate of the country as a whole (urban). The low growth rates in case of Tamilnadu and Thanjavur can be attributed to the small family norm which has been accepted in Tamilnadu. Tamilnadu is comparatively an advanced state as far as education is concerned and this is clearly reflected in the growth rates of population. Tamilnadu had almost the same or only slightly lower growth rates in urban population when compared to the All-India figures during the decades 1951-61 and 1961-71; but after 1971, the growth rates declined sharply in Tamilnadu.

IV. Literacy

In Thanjavur; as per the 1991 Census, about 85% of the people in the age group of seven and above are literates. This is much higher than not only the All-India average of about 73% but also the state's average of about 78% (Table-12.2). The low growth rates in population, combined with the high literacy rates, both in case of Tamilnadu and Thanjavur, clearly prove that reduction in population growth can be easily achieved by spreading education.

Table-12.2 : Literacy Rates – 1991

Sl. No.	City/State	Urban Population in the Age group of 7 & above	No. of literates in the Age group of 7 & above(urban)	Percentage of literates(col.4/3)
1.	Thanjavur City	179597	151959	84.61
2.	Tamilnadu	16698933	13024074	77.99
3.	All India	182178769	133140330	73.08

Source : Census of India, 1991

V. School Education

i) Primary School

In Thanjavur city, there are, as in August 2001, in all 36 primary schools with a total 17214 students and 281 teachers. It may be seen from the figures given in Table 12.3 that the number of private schools is more than double the number of government schools. With regard to the number of teachers, the number in private schools is more than eight times the figure in government schools. The number of students in private schools is observed to be more than six times the number in government schools. These statistics clearly indicate the dominant role the private sector is playing in primary education in Thanjavur city. The average number of students per school works out to about 592 students in case of private schools and about 220 in case of government schools.

Table 12.3 : Details Of Primary Schools In Thanjavur City – 2001-2002

Sl. No.	Status	No. of Schools	No. of Students	No. of Teachers	Accessibi-lity (No. of Schools per Sq. Km. Area)	No. of Students per school	Student-Teacher Ratio	Pop. Served by actual
1	Govt.	11	2418	31	0.71	220	78	18364
2	Private	25	14796	250	0.62	592	59	8080
Total		36	17214	281	2.34	478	61	5611

Source: Assistant Elementary Education Officer, (Thanjavur Urban), Thanjavur

The average number of students per teacher (student-teacher ratio) is about 59 in case of private schools and 78 in case of government schools. When all the government schools and private schools are taken together, the average number of students per teacher works out to 61. The standard norms for average number of

students (as per Sarva Shiksha Abhiyan) per teacher is 40. This means that neither the private schools nor the government schools meet the prescribed norm and the load of students on teachers is heavier in both the private and government schools. However, the position is observed to be far better in private schools. This is one of the reasons that parents from even lower middle class prefer to send their wards to private schools.

In relation to area, there are in all about 2.34 schools per sq.km. The corresponding figures for private schools and government schools are 1.62 and 0.71 respectively. The standard norm is that there should be one school within every kilometer of any habitation. It is, therefore, clear that in Thanjavur city, the standard norm is being met only because of the existence of private schools.

With regard to availability of primary schools in relation to population, it is seen that on an average there is one school for a population of 5611 persons (based on 1991 population). The corresponding figures for private schools and government schools are 8080 and 18364 persons. Assuming a standard norm of one primary school for every 5000 population, the scenario with regard to the adequacy of primary schools in relation to population can be termed as only slightly unsatisfactory.

If the adequacy of number of schools is examined in terms of population in the age-group of 7 and above, which is 179597 persons (1991 census) then the scenario emerges to be a satisfactory one, if the accepted norm is kept at one primary school for every 5000 persons in the age group of 7 and above. In case of Thanjavur, the figure works out to 4989 persons.

ii) Middle School

Middle schools number 21 in Thanjavur city out of which 7 belong to government and 14 to private sector, thereby indicating that the number of private schools is double the number in the government sector. Figures in Table-12.4 indicate that the number of teachers in middle schools in the private sector is more than $2^{1/2}$ times in the government sector. As regards students also, private schools have more than $2^{1/2}$ times the strength in government schools. It is, thus, clear that in providing middle school education also, private sector outweighs the government

sector. The average number of students in a private school works out to 1101 students and in a government school, the figure is 773 students.

Private middle schools in Thanjavur city have on an average about 86 students per teacher, whereas the corresponding figure for government schools is 84. Surprisingly, the students-teacher ratio is observed to be better in the government sector, as far as middle school education is concerned. It has already been seen that in case of primary school education, the private sector had a much better scenario. Taking the private schools and government schools together, the number of students per teacher works out to 86, which is far away from the standard norm of 40 students per teacher (as per Sarva Shiksha Abhiyan).

Looking at the student-teacher ratio in primary schools and middle schools, it is seen that the situation obtaining at primary level is much better.

Thanjavur city has, when all the schools are taken together, 1.37 middle schools per sq.km. of area, which can be termed as satisfactory, if it is assumed that there should be one middle school for every two primary schools and that the norm for primary school is one school in every sq.km. of area. It has to be noted that Thanjavur city has a satisfactory position with regard to adequacy of middle schools because much of the requirement of middle schools is being met by the private sector. If private schools are excluded, the number of schools per sq.km. drops down to about 0.45. In case of private schools, the number of schools per sq.km. is observed to be 0.91, which is more than double the figure for government schools.

The availability of middle schools in relation to population works out to one school for every 9620 persons, which can be considered as ‘satisfactory’, if a norm of 10000 persons for one school as accepted. If the adequacy of middle schools is analysed in relation to the population in the age group of 7 and above, the scenario looks much better, as, then, the number of persons per school works out to 8552. Of course, here also the important role being played by the private schools cannot be brushed aside. If the private schools are excluded, then the number of persons per school works out to 28859 persons, when the ratio is worked out in relation to total population. When the ratio is calculated with reference to the population in the age-group of 7 and above, the figure comes to 25657 persons.

Table- 12.4 : Details Of Middle Schools In Thanjavur City – 2001-2002

Sl. No.	Status	No. of Schools	No. of Students	No. of Teachers	Accessibi-lity (No. of Schools per Sq. Km. Area)	No. of Students per school	Student-Teacher Ratio	Pop. Served by actual
1.	Govt.	7	5409	64	0.45	773	84	28859
2.	Private	14	15415	179	0.91	1101	86	14429
Total		21	20824	243	1.37	992	86	9620

Source: Assistant Elementary Education Officer, (Thanjavur Urban), Thanjavur

iii) Secondary/Senior Secondary School

There are in all 23 secondary/senior secondary schools in Thanjavur city, giving an average of about 1.5 schools per sq.km. of area. The number of secondary/senior secondary schools seems to be adequate in relation to area of the city. Here again, the adequacy has been made possible by the private sector which covers 17 of the 23 schools (Table 12.5), that is about 74%. The number of students in private schools is more than 10 times the number in government schools and the number of teachers in private schools is more than six times the figure in government schools. These statistics indicate the predominant position the private sector is occupying in school education. In the private sector, the average number of students per school is 1511 and the corresponding figure for the government sector is 421.

Private secondary and senior secondary schools have an average of 38 students per teacher, whereas the corresponding figure for the government schools is 23 students, which shows that the position is much better in the government sector. When the overall picture (govt. + private combined) is analysed, it is seen that there are 36 students per teacher.

In Thanjavur, there is one secondary/senior secondary school for every 8783 persons. The corresponding figures separately for govt. sector and private sector work out to 33669 persons and 11883 persons respectively. On the basis of population in the age-group of 7 and above, the overall average comes to 7808 persons and the corresponding figures separately for government schools and private schools are 29933 persons and 10564 persons.

From the foregoing analysis of school education, it seems Thanjavur has adequate number of schools in relation to population, at all levels of school education. There is no doubt that private sector is playing an active role providing school education in Thanjavur and this is perhaps the main reason that today Thanjavur has a very high literacy rate of 85%.

Table-12.5: Details Of Secondary/Senior Secondary Schools In Thanjavur City– 2001-2002

Sl. No.	Category	No. of Schools	No. of Students	No. of Teachers	Accessi-bility (No. of Schools per sq. km. area)	No. of Students per school	Stu-dent-Teach-er Ratio	Pop. Served by actual
1.	Govt.	6	2529	109	0.39	421	23	33669
2.	Private	17	25692	668	1.11	1511	38	11883
Total		23	28221	777	1.50	1227	36	8783

Source : District Education Office, Thanjavur

VI. College Education

i) General Education (within Thanjavur City)

In Thanjavur City (i.e. within municipal limits), and within about 10 kms. of the city, these are 11 colleges for general education (arts, science, commerce etc.). The strength of teachers and students in these seven colleges by type of management can be seen in Table 12.6.

It may be seen from Table 12.6 that within Thanjavur City, the number of private colleges is more than double the number of government colleges. However, surprisingly, the number of teachers in private colleges, even though their number is more than double, is observed to be much lesser than the number of teachers in government colleges. With regard to number of students, the figure is observed to be only slightly higher in private colleges. The average number of students per colleges works out to 2395 in case of government colleges, about 1033 in case of private colleges and 1422 for government and private colleges taken together.

Table 12.6: Details of Colleges for General Education in and around Thanjavur City – 2001-2002

Sl. No.	Area/Item	No. of Colleges	No. of Teachers	No. of Stu-dents	Average No. of stu-dents per college	Average population served per college (based on 1991 pop.)	Average No. of stu-dents per teacher
1.	Within the city						
	i)Govt.	2	264	4790	2395	101006	18
	ii)Private	5	205	5167	1033	40403	25
Total		7	469	9957	1422	28859	21
2.	Outside the City but within a radius of about 10 km.						
	i)Govt.	Nil	Nil	Nil	Nil	Nil	Nil
	ii)Private	4	277	5592	1398	Not req.	Not req.
Total		4	277	5592	1398	Not Required	Not Required
3.	Combined (1+2)						
	i)Govt.	2	264	4790	2395	Not	Not req.
	ii)Private	9	482	10759	1195	required	
Total		11	746	15549	1414	Not req.	Not req.

Source: Office of the Joint Director of Collegiate Education, Tiruchirappally

When all the colleges (government + private) are taken together, there is on an average, one college for a population of 28859 in Thanjavur city (Table – 12.6). If only government colleges are considered, then the average population per college works out to about 1,01,006. For private colleges, the corresponding figure is about 40403.

Turning to student-teacher ratio (Table12.6) it is seen that the situation obtaining in government colleges is far better than the one prevailing in private colleges. The private colleges are on an average having one teacher for every 25 students, but in government colleges the average number of students per teacher is only 18. The reason is perhaps many of the private colleges are self-financing and therefore cannot afford to employ more teachers, as that would result in charging higher fees. Taking together the private and government colleges, the average number of students per teacher works out to 21.

There are four colleges for general education, within a radius and about 10 kms. from Thanjavur city. These colleges are also benefiting Thanjavur city as far as college education facilities are concerned. All these four colleges are privately managed. The total number of students in these colleges is 5592 and the strength of teachers is 277, thereby giving an average of about 20 students per teacher. The average number of students per college is observed to be 1398.

ii) Professional Colleges

Within its municipal limits, Thanjavur city has a medical college with 685 students and 143 teachers (Table 12.7). There is neither a government engineering college nor a private one within Thanjavur City. However, outside Thanjavur city, there are two engineering colleges within a radius of 16 kms. from the city. Among these two, one viz. Periyar Maniammai Engineering College, which is exclusively for women, has a student strength of 1150 with 87 teachers, giving thereby an average

Table-12.7: List of Technical / Medical / Professional Colleges / Institution in and around Thanjavur City –2001 – 2002

Sl. No.	Name of College	Within or Outside City	Type of Manage-ment	No. of Tea-chers	No. of Students	Average No of student per teacher
1.	Shanmuga Polytechnic	Outside (16 km.)	Private	100	2000	20
2.	Manali Ramakrishna Polytechnic	Outside (16 km.)	Private	35	603	17
3.	Periyar Maniammai Polytechnic	Outside (10 km.)	Private	50	550	11
4.	Shanmuga Engineering College	Outside (16 km.)	Private	204	2495	12
5.	Medical College	Within the city	Govt.	143	685	5
6.	Govt. I.T.I.	Within the city	Govt.	45	329	7
7.	Perior Maniammai Engineering College (for women only)	Outside (10 km.)	Private	87	1150	13

Source : Thanjavur Municipality, Thanjavur

of about 13 students per teacher. The other engineering college, which is co-educational, has an average of 12 students per teacher. Both the engineering colleges located outside the city belong to private sector. There are three private

polytechnics around Thanjavur and the average number of students per teacher in these polytechnics ranges from 11 to 20. Other details pertaining to these polytechnics can be seen in Table 12.7. There is an Industrial Training Institute, owned by Government, within Thanjavur city and this has an average of 7 students per teacher.

iii) University

There is no university within the municipal limits of Thanjavur City. However, Tamil University (started in September, 1981) exists on the outskirts of Thanjavur. The Tamil University is a unitary type of university with no affiliated colleges and no under-graduate or post-graduate courses of study. It is meant solely for higher research and advanced study in Tamil language and literature and of a few other allied disciplines. The University has 23 departments under five faculties. The University has been conducting research in literature, arts, science, medicine, engineering and industries, linked to Tamil language and literature, past and present. At present (as in August 2001), the University has 75 M. Phil students and 58 Ph.D students. The teaching staff is 78. The various areas / subjects in which the University is working at present can be known from the list of faculties and departments which is given below.

List of Faculties and Departments

(i) Faculty of Arts

1. Department of Sculpture
2. Department of Music
3. Department of Drama

(ii) Faculty of Manuscriptology

1. Department of Palmleaf Manuscripts
2. Department of Rare paper Manuscripts
3. Department of Epigraphy and Archaeology
4. Centre for Underwater Archaeology

(iii) Faculty of Development of Tamil

1. Department of Tamil Studies in Foreign countries
2. Department of Translation
3. Department of Compilation
4. Department of Sociology and Rural Development and
5. Department of Scientific Tamil and Tamil Development

(iv) Faculty of Language

1. Department of Literature
2. Department of Linguistics
3. Centre for Philosophy
4. Tribal Research Centre
5. Department of Folklore and
6. School of Indian Languages

(v) Faculty of Science

1. Department of Siddha Medicine
2. Department of Ancient Science
3. Department of Industries and Earth Science
4. Department of Architecture and
5. Department of Computer Science

VII. Medical Facilities (Allopathy)

i). Government General Hospitals and Dispensaries

Thanjavur, being a district headquarters town, is well served by medical facilities. There are two govt. hospitals within the municipal limits of Thanjavur city. The details of these hospitals can be seen in Table 12.8.

Table-12. 8: Govt. Hospitals and Dispensaries (Allopathy) in Thanjavur City – 2001-02

Sl.No.	Name of Hospital	Ownership	No. of Doctors	No. of Beds	Average No. of beds per doctor
1.	Raja Mirasdar Govt. Hospital	State	26	640	25
2.	Thanjavur Medical College Hospital	State	103	658	6
Total			129	1298	10

Source : Data obtained from the concerned hospitals.

It is seen that Thanjavur Medical College Hospital, being attached to the Medical College, has a much larger number of doctors in relation to beds, when compared to the other hospital. In this hospital, there is a doctor for every 6 beds, whereas the corresponding figure for the Raja Mirasdar Hospital is 25.

For Thanjavur city, the average population (based on 1991 population) served by one hospital doctor works out to about 1566. The number of hospital beds per 1000 population works out to 6.43.

Dispensary is a lower level of medical facility and every town is expected to have dispensaries. Thanjavur city has 5 dispensaries (all run by municipality) as in 2001-2002 and each one has one doctor. There is no bed in any of these dispensaries. Based on 1991 population, the average population per dispensary works out to 40403.

When hospitals and dispensaries are taken together, there is on an average 3.47 hospitals/dispensaries (Government) for every lakh of population Thanjavur city.

ii) Specialised Govt. Hospitals/Medical Institutions (Allopathy) (2001-02)

The Thanjavur Municipality is running 5 Maternity Centres and each one is having one doctor. These Maternity Centres have 25 beds. In addition to these 5 Maternity Centres, the Municipality is also running 5 special Medical Centres under Indian Population Project. These Medical Centres are for pregnant women and nursing mothers. Each one of these Medical Centres is having one doctor. However, there is no bed in any of these Medical Centres.

iii) Private Medical Institutions (2001-02)

There is no agency which collects and compiles data relating to private medical institutions. However, some information was provided by the President of the Indian Medical Association, (Thanjavur branch). As per his information, there are 26 Nursing Homes with about 200 beds. The number of regular doctors in these Homes can be taken as 26. There is no private general hospital. However, private consultants are there. According to the information available, there are about 250 doctors registered with the IMA in Thanjavur. In addition, there are about 50 doctors not registered with the IMA. It should be noted here that the above figures include those doctors employed in government hospitals. As private practice by government doctors is allowed in Tamil Nadu, many of the private practitioners are government doctors also.

VIII. Public Parks and Playgrounds

As per the information made available by the Thanjavur Municipality the city has no public parks or playground owned by Central Government, State Government or any private agency. However, the city has parks and playgrounds/open spaces

owned area maintained by the Municipality. The necessary statistics are given below (Table-12.9).

Table- 12.9: Parks and Playgrounds/Open Spaces as in 2001

Sl. No.	Item	Number	Total Area in acres	Percentage area to the total area of the city (based on 1991 area)	Average population served by a park/ play-grounds (based on 1991 population
1.	Parks	51	63.99	1.69	3961
2.	Playgrounds	15	24.09	0.63	13468
Total		66	88.08	2.32	3061

Source: Thanjavur Municipality

In Thanjavur city, only about 2.3% of the area is devoted to public parks and playgrounds. When considered separately, it is seen that the total area of parks constitutes less than 2% of the total area of the city. Assuming a minimum of 10 sq.m. per person for public parks and playgrounds, the minimum area required to be allotted for public parks and playgrounds in Thanjavur city works out to about 499.17 acres. The existing area works out to only 17.6% of the required area. The scenario pertaining to parks and playgrounds can therefore be described as “dismal”.

Parks and playgrounds/open spaces should be well spread out throughout the city and not concentrated in a few areas. A satisfactory norm would be to have a park/playground for every 10000 population, which means the city should have about 20 parks and playgrounds. The city, has, already 66 parks and playgrounds which means the city has satisfactory number of parks and playgrounds. However, in terms of area, the position, as mentioned above, is highly unsatisfactory. It seems, the parks and playground are very small.

IX. Maintenance of Parks and Playgrounds

There is hardly any municipality in this country which is able to provide satisfactory civic services and maintain well certain amenities created by it. The principal reason of course is lack of funds, though in case of many municipalities lack of proper supervision can also be cited as an important reason. In case of

Thanjavur, the municipality has admitted that it is not able to maintain parks and playgrounds well because of lack of funds. The will however, seems to be there.

X. Sanitation

i) Field Staff, Vehicles and Bins

Cleaning of streets and clearance of garbage bins on daily basis are indispensable not only for keeping a city neat and tidy but also from the point of view of public health. In case of Thanjavur, as is generally the case in respect of other cities and towns also, the responsibility of street-cleaning and garbage clearance rest with the municipality. The relevant statistics pertaining to sanitation work are furnished below (Table-12.10):

Table 12.10: Sanitation Facilities in Thanjavur City – 2001

Sl. No.	Item	No.	No. per sq.km. of area of Thanjavur City (based on 1991 area)	Average population per worker/bin/vehicle (based on 1991 population)
1.	Field Staff for Sanitation work	529	34	382
2.	No. of garbage bins	450	29	449
3.	No. of garbage trucks/ vehicle	10	Not worked out	20201

Source: Thanjavur Municipality

Assuming a per capita generation of 250 gms. or ¼ kg. Of garbage per day, the total garbage generated in the city works out to about 50500 kgs. As per the information made available, the municipality has 10 garbage trucks to transport garbage. Assuming that an average a truck can carry about 3000 kgs. of garbage, and can atleast make 2 trips a day, it can be easily concluded that the municipality has adequate number of trucks to transport garbage to the landfill area.

It is reported that there are 529 sanitation workers which include workers for street cleaning and garbage clearance. Assuming that 25 sanitation workers are required for every sq. km. of area of the city, the situation seems to be satisfactory in Thanjavur, as it has already 34 workers for a sq.km. of area.

It seems it can be safely assumed that there should be 20 garbage dumps (bins) in a sq. km. of area. As far as Thanjavur city is concerned, the corresponding figure is 29, which shows that the existing number of bins is adequate in relation to the area.

ii) Frequency of Street-Cleaning and Clearance of Garbage

It has been reported that street-cleaning and clearance of garbage are being done on daily basis. Considering the fact that the city has adequate number of vehicles and workers, it should not be difficult for the municipality to do clean streets and clear garbage on daily basis.

CHAPTER XIV
FINDINGS AND RECOMMENDATIONS

I. Findings

1. With regard to school education, the study reveals that inspite of priority being given by the government for elementary education, there are not only wide variations among the towns, but also there is shortage of schools and teachers in some of the towns. The student-teacher ratio varies widely and in some of the towns, the ratio is more than 50. Among the 16 sample towns, as far as primary school is concerned, the student-teacher ratio was observed to be more than 50 in 2 or about 12.5% of the towns. The corresponding figures for middle schools and secondary/senior secondary schools are 0 and 1 (6.2%) respectively. With regard to adequacy of schools, if the norm is taken as one primary school for every 5000 population, then inadequacy of primary schools is observed in 5 or about 31.2% of the sample towns. In case of secondary/senior secondary schools, if the norm is taken as one school for every 10,000 population, then the inadequacy is noted in 8 or about 50% of the 16 sample towns.

2. In case of higher education, it is observed that all the 33 sample towns have atleast one college each for general education. This is mainly because of the big role played by the private sector in providing college education. Assuming a norm of 60 for student-teacher ratio in colleges for general education, it is observed that in 7 or about 21% of the sample towns, this norm has not been met. The student-teacher ratio is observed to be not only unsatisfactory in some of the towns, but there are wide variations also among the towns. The survey results do not indicate shortage of colleges for general education in the sample towns but the student-teacher ratio has not been satisfactory in all the towns.

3. As far as medical facilities are concerned, the study shows that all the 38 sample towns whose data were analysed, have atleast one hospital each. However, the average area served by a hospital varies widely, from below 5 sq.km. to above 20 sq. kms. In terms of population also, there are wide disparities, as the average population served by a hospital ranges between 10,000 to above 1 lakh.

4. When the medical facilities are analysed in terms of number of beds per 1000 population, the survey results show that in about 8% of the sample towns, the number of beds per 1000 population is atleast 5. The number of beds seems to be inadequate in most of the towns. Hence, the scenario can be described as 'alarming'.

5. There seems to be inadequacy of doctors also in majority of the towns. In about 48% of the sample towns, one doctor is available for a population of above 4000 persons.

6. The situation pertaining to parks and playground is, of course unsatisfactory in almost all the towns of India. This is because many of our towns are unplanned. Survey results indicate that not even in a single town, the area devoted to parks and playgrounds constituted 100% of the required area. In fact, the existing area was observed to be not even one-third of the required area in any of the 19 sample towns whose data were analysed. Among the six case study towns, only one town is having more than one-third of the required area. In relation to population, the norm of one park/playground for every 10000 population is met only in about 10% of the 19 sample towns.

7. The scenario relating to street cleaning and garbage clearance, as is well known, has to be described as only 'dismal' in our towns and cities. Street cleaning and garbage-clearance are rarely done on daily basis in any of our cities. Though there are many other reasons, the principal reason is, of course, the acute shortage of manpower and equipments needed for street-cleaning and garbage-clearance. If the norm is taken as 25 workers for every sq.km. of area of town, then the acute shortage of manpower is revealed by the fact that only in about 17% of the 46 sample towns, this norm is met. Assuming the norm to be one worker for every 500 population, the shortage of manpower is observed in about 48% of the sample towns. Turning to equipments and assuming a norm of one vehicle for every 20000 population for garbage clearance, the dismal picture is revealed by the fact that only in 48% of the sample towns, this norm is met. Due to acute shortage of manpower and equipments, our cities are dirty and filthy with garbage strewn all around. Clogged sewers with over flowing water, dirty streets, flooded roads and streets during rainy season, are common sights in many of our towns.

II. Recommendations

1. India has the largest educational system in the world in terms of students, teachers and educational institutions, but yet it has the largest number of illiterates in the world. Against India's literacy rate of about 65% as per the 2001 Census (provisional figures), China has a literacy rate of 81%, Malaysia 84%, South Korea 98%, the Phillippines 95%, Thailand 94%, Indonesia 84% and Sri Lanka 90%. If the nation has to be made fully literate by 2005, as is the goal, then more priority needs to be given to school education. Further, with the 93rd Amendment of the Constitution which has made free and compulsory education for all children in the 6 to 14 age-group a fundamental right, there can be no laxity in giving top priority to elementary education. More schools need to be opened in those towns where there is overcrowding in schools. More teachers need to be recruited to improve the student-teacher ratio in many of the towns. This will go a long way in improving the quality of education. Infrastructural facilities need to be improved in our schools. Many of the schools are housed in kutcha buildings. Toilet facilities and facilities for drinking water are lacking in many schools. In some of the schools, children sit on bare earth without any table. There are schools without electricity also. Hence lot of investment needs to be made not only to increase the number of schools and teachers, but also to provide better infrastructural facilities in the existing schools. Budget allocation in our five year plans for education has to be stepped up. At present, the budget allocation is not even three percent of the GDP, which is far below the official goal of six percent of the GDP.

2. In order to improve the quality of school education, teachers need to be trained and made to concentrate on their teaching work. They should not be deputed for non-academic work. At present, the quality of school education, especially in government schools, is neither in accordance with the required standard nor is it result-oriented because many times teachers are forced to engage themselves in non-academic activities such as census work, election duty, industrial survey, clerical duties etc.

3. The 93rd amendment has made education a fundamental right for children upto the age of 14 years. Since a formal certificate of schooling is given after completion of Xth standard, it would be better if the fundamental right is continued

upto the age of 18 years or till the completion of X^{th} standard whichever is earlier, as students from poor families may not complete X^{th} standard before the age of eighteen.

4. Drop-out rate at school level is very high in India. This is mainly because of poverty. In order to encourage poor parents to continue the education of their children, "free education" should include not only fees but also uniforms, text books, stationery, transportation etc.

5. Higher education does not seem to be getting much priority in our Plans. This is one of the reasons that we find wide disparities among various towns, as far as higher education is concerned. However, higher education, especially for general courses like arts, commerce, general science, management, education, computer software, law etc. can be made accessible to one and all by making maximum use of distance education. Distance education is becoming user-friendly due to Information Technology revolution. In fact, Information Technology has advanced so much that even engineering and medicine can be covered, to some extent, under distance-learning. If engineering and medicine are also brought under distance-learning, it can go a long way in reducing the mad-rush for doing engineering and medicine through regular colleges. Further, even students from poor families will be able to afford engineering and medical courses.

6. In order to increase the intake in colleges, the existing colleges can resort to "double-shifts", if necessary.

7. Private sector should be given more incentives to play active role in providing higher education.

8. Fees for higher education need to be revised upwards to realistic levels, so that enough money can be raised for higher education. This is also necessary to make the students take higher education seriously.

9. "Health" is a social sector where the government has to play a greater role and give more priority. Facilities for health care have to be improved, both in terms of quantity and quality, and therefore more investment has to be made to increase number of hospitals, dispensaries, beds in hospitals, and also for providing modern

equipments in the existing hospitals. Private sector can be encouraged to supplement the efforts of government. However, it has to be noted that even middle class families cannot afford hospitalization in private hospitals and, therefore, government has to play a greater role in providing medical facilities to the people.

10. In order to increase government's revenue to provide better educational and medical facilities, the Central Government can think of introducing "education tax" and "health tax". Government hospitals can also think of charging nominal fees from the patients for generating revenue.

11. There is no doubt that proper sanitation is not only an essential element but also critical to the quality of life and people's health. However, sanitation facilities are alarmingly inadequate in our cities. There is hardly any city where street-cleaning and garbage clearance are done on daily basis. The principal reason is, of course, lack of manpower and equipments, though lack of proper supervision is also a major cause. Shortage of manpower and equipments is, of course, due to lack of funds with the municipal bodies, who have the responsibility to provide civic services in their towns. The small and medium towns have weak economic base and therefore, many of the local bodies of these towns may not be able to raise much of the resources themselves to provide satisfactory civic services. Such local bodies will continue to depend on grants and loans from state governments. In order to reduce the financial burden of local bodies, it would be better if sanitation services such as street-cleaning, garbage disposal are fully privatized, wherever possible. In those towns where it is not possible to fully privatize the services, the services can be contracted out to private sector, as this may lessen the expenditure to be incurred on street-cleaning, garbage-clearance etc. Private sector participation in solid waste management can be encouraged by giving soft loan for compost plant, land on lease for a period of 30 years, tax holiday etc. The organic manure produced by these compost plants can be granted the same subsidy as is in vogue for fertilizers. In order to help municipalities to acquire more vehicles for transportation of garbage, transport vehicles carrying the solid wastes can be exempted from excise, sales tax and other duties. The municipalities should also rationalize these taxes and service charges so as to recover atleast the cost of solid waste management.

12. Parks and playgrounds/open spaces are indispensable in any town or city to make environment healthy and to afford people to relax in peaceful and beautiful surroundings. There is no doubt that many of our small and medium towns are old and unplanned and hardly have any parks. Even the existing parks are ill-maintained because of lack of resources. Many of the parks in our towns do not have even a blade of grass to assist morning walkers or soothe the eyes. Most of the parks do not have proper irrigational facilities and many do not have boundary walls. It is suggested that a separate scheme may be launched to help municipalities to set up parks or it may be included as one of the components of Integrated Development of Small and Medium Towns scheme to give financial assistance to the municipalities. Municipalities may also charge nominal fees from users of parks to generate some revenue. Private companies may come forward to set up parks and maintain them, if they are given incentives like tax concessions, free space for advertisements etc. Considering the meagre resources of local bodies and the tight monetary position of Central and State Governments, the involvement of private sector, NGO's, CBO's and Resident Welfare Associations, etc., by giving proper incentives, needs to be given top priority.

APPENDIX I

Social Infrastructure Scenario in Selected Small and Medium Towns

Proforma for Collection of Information/Data

1. Name of the Town :
2. District :
3. State :
4. Municipal Status :
5. Area as in 1991 :
6. Area as on date (please mention year) :
7. Populatiuon (1991) (corresponding to the area in 1991) :
8. Projected Population in 1996-97 corresponding to the area as on date :
9. Education --- 1997 - 98

I. Institutions

Number Recognised institutions	No.of of institutions Public	Private	No.of teachers Public	Private	students Public	Private
Universities						
Institutions deemed as Universities						
Institutions of national importance						
Colleges for general education						
Colleges for professional education (e.g. Law, Management etc.)						
Colleges for technical						

education (Engineering Degree)

Colleges for vocational education

Colleges for medical education

1. Allopathic
2. Homoeopathic
3. Ayurvedic
4. Unani

Polytechnics

Industrial Training Institutes

Higher /Senior Secondary Schools

Middle Schools

Primary Schools

Pre-primary Schools

II. Literacy

	Total Popn.			Literate Persons		
Year	Males	Females	Total	Males	Females	Total
1951						
1961						
1971						
1981						
1991						

III. Drop-out at School Level

Item	1997-98
Enrolment at the beginning of the year	
No.of students at the end of the year	

IV. Tuition Fees charged at school level - 1997-98

Sector	Range of fees at various school levels		
	Primary	Middle	Secondary/Senior Secondary
i. Government			
Central			
State			
Local Body			
ii. Private			
Public School			
Non-Public School			

V. Physical condition of school buildings

Item	Number of schools during 1997 - 98
Housed in pucca building	

Housed in kutcha building

Housed in tents/thatched huts etc.

VI. Expenditure under 'Education 'in the town during 1996 - 97

Sector	Actual Expenditure (Rs.lakhs)
Central Govt.	
State Govt.	
Local Body	
Private Sector	

---

10. Medical Facilities --- 1997- 98

I. Institutions

Item	Number of Institutions		No.of doctors		No.of beds	
	Public	Private	Public	Pvt.	Public	Pvt.
i. Hospitals						
Allopathic (General)						
Allopathic (Special)						
Homoeopathy						
Ayurvedic						

Unani

ii.Dispensaries/Clinics/Primary Health Centres

Allopathic (General)

Allopathic (Speciality)

Homoeopathy

Ayurvedic

Unani

II. Registered Medical Practitioners

Type	Number
Allopathic (General)	
Allopathic (Specialised)	
Homoeopathy	
Ayurvedic	
Unani	

III. Expenditure under 'Health ' in the town during 1996-97

Sector	Actual Expenditure (Rs.lakhs)
Central Govt.	
State Govt.	
Local Body	
Private Sector	

11.Public Parks

I. Number,area and expenditure

Agency	Number (1997-98)	Area in acres (1997-98)	Expendr. (Rs.lakhs) (for the town only) (1996-97) Revenue	Capital
Central Govt.				
State Govt.				
Local Govt.				
Private				

II. Maintenance

Whether there is periodical and proper maintenance of public parks ?. If not, the reasons may be stated.

12. Public Playgrounds

I. Number, area and expenditure for the year 1996-97

Agency	Number	Area in acres	Expendr. (Rs.lakhs) (for the town only) Revenue	Capital
Central Govt.				
State Govt.				
Local Govt.				
Private				

II. Maintenance

Whether there is periodical and proper maintenance of

public playgrounds ? If not, the reasons may be stated.

13. Sanitation

i. Frequency of garbage clearance :

ii. No.of garbage dumps :

iii. Frequency of street cleaning :

iv. Expenditure during 1996-97 :

a. Revenue :

b. Capital :

v. Efforts made by the local body to educate people regarding garbage disposal. Please give details.

vi. Whether the city garbage is being converted into bio-gas, manure or is being used to manufacture electrical energy ? Please give details.

vii. Whether garbage collection and disposal work is already privatised ? If not, whether there is any proposal in this regard ? Please give details.

viii. Whether there is any periodical assessment of work load relating to garbage disposal ? Is the work relating to sanitation being regularly inspected/supervised ?

ix. Field staff for sanitation work (1997-98) :

x. No. of garbage trucks (1997-98) :

14. Is there any people's forum /NGO to act as watchdog and/or to help in providing and maintaining social infrastructure ? Please give details.

15. Steps taken by the local body for enhancing financial resources to provide and maintain better social infrastructure.

16. Landuse (Please mention year .....)

Category Area in .....

---

17. A copy of the budget for the year 1998-99 giving the actuals for 1996 - 97,revised estimates for 1997-98 and budget estimates for 1998-99 may be given.

18. A copy of the latest Administration Report of the local body of the town may be given.

19. Norms and standards fixed for providing social infrastructure at city level . Please give details

20. Problems and suggestions to be given by :

    1. Department of Education
    2. Department of Health
    3. The concerned Local Body

APPENDIX I I

List of Sample Small and Medium Towns Selected for the Study along with their Poulation as per 1991 Census

Sl. No.	State / Town	Population
I	**A & N Islands**	
1	Port Blair	74955
II	**Andhra pradesh**	
1	Kakinada	298050
2	Kukatpally	186963
3	Cuddapah	140660
4	Mahbubnagar	116833
5	Narsaraopet	88726
6	Mangalagiri	59152
7	Gudur	55984
III	**Assam**	
1	Silchar	115483
2	Nagaon	93350
IV	**Bihar**	
1	Muzaffarpur	241107
2	Darbhanga	218391
3	Sasaram	98122
4	Jorapokhar	72919
5	Mokameh	59528
V	**Goa**	
1	Margao	64581
VI	**Gujarat**	
1	Gandhinagar	123359
2	Surendranagar	116371
3	Mahesana	109950
4	Palanpur	90269
5	Gondal	81611
6	Ghatlodiya	62248
VII	**Himachal Pradesh**	
1	Shimla	102186
VIII	**Haryana**	
1	Hissar	181255
2	Sonipat	143922
3	Palwal	59168
IX	**Karnataka**	
1	Tumkur	179877

2	Hospet	114154
3	Chitradurga	103435
4	Rabkavi-Banhatti	60609
5	Karwar	51022
X	**Kerala**	
1	Alappuzha	227716
2	Palakkad	139136
3	Payyannur	64032
XI	**Madhya Pradesh**	
1	Ratlam	183375
2	Dewas	164364
3	Shivpuri	108277
4	Mhow Cantt	83796
5	Datia	64477
6	Betul	63694
XII	**Maharashtra**	
1	Ichalkarnji	214950
2	Latur	197408
3	Mira-Bhayandar	175605
4	Ballarpur	83511
5	Hinganghat	78715
6	Nandurbar	78378
XIII	**Manipur**	
1	Imphal	198535
XIV	**Meghalaya**	
1	Shillong	131719
XV	**Mizoram**	
1	Aizawl	155240
XVI	**Nagaland**	
1	Kohima	51418
XVII	**Orissa**	
1	Raurkela Steel Township	233058
2	Baleshwar	101829
3	Jharsuguda	65054
XVIII	**Pondicherry**	
1	Karaikal	61804
XIX	**Punjab**	
1	Patiala	253706
2	Abohar	107163
3	Barnala	75430
4	Muktsar	66383
XX	**Rajathan**	

1	Sikar	148272
2	Beawar	106721
3	Gangapur City	68886
4	Nagaur	68194
XXI	**Tamilnadu**	
1	Thanjavur	202013
2	Nagercoil	190084
3	Neyveli	118080
4	Ponmalai	69639
5	Kadaiyanallur	68819
6	Kurichi	64796
7	Tenkasi	55189
XXII	**Tripura**	
1	Agartala	157358
XXIII	**Uttar Pradesh**	
1	Mathura	226691
2	Farrukhabad-Fatehgarh	194567
3	Noida	146514
4	Fatehpur (UP-2)	117675
5	Pilibhit	106605
6	Orai	98716
7	Lalitpur	79870
8	Etah	78458
9	Ghazipur	76547
10	Nawabganj	64933
XXIV	**West Bengal**	
1	Kamarhati	266889
2	Barddhaman	245079
3	Hugli-Chinsurah	160976
4	Raiganj	151045
5	Bansberia	94698
6	Budge Budge	77575

Note : Population figures as given in the 'Town Directory', Census of india,1991

APPENDIX III

TOWNWISE AREA, POPULATION AND LITERACY --- SMALL & MEDIUM TOWNS - ALL

Sl. No.	Name Of Town	Civic Status (in 1990)	Area (sq. km.)	Popn.	Popn. age 7 and above	Li ag a
1	Changanassery	M	13.50	52445	46402	4
2	Thiruvalla	M	27.94	54780	48518	4
3	Kottayam	M & OG	27.33	89625	79893	1
4	Thrissur	M & OG	18.47	81798	73240	(
5	Aizawl	NM	110.00	155240	129330	1
6	Thalassery	M	23.96	103579	90913	8
7	Trippunithura	M	18.69	51078	45423	4
8	Alappuzha	M & OG	70.48	227716	201057	1
9	Cheruvannur	CT	10.31	50556	43298	4
10	Beypore	CT	10.42	56505	48676	4
11	Kannur (Ke)	M	11.03	65238	56667	5
12	Malappuram	M & OG	58.14	72870	60010	5
13	Manjeri	M	53.06	69334	57512	5
14	Kayamkulam	M	21.79	67151	58506	5
15	Payyannur	M	54.63	64032	56015	5
16	Vadakara	M	21.33	72434	62643	5
17	Kalamassery	M	27.00	54342	48037	4
18	Vadakkevila	CT	8.55	50165	43873	3
19	Kollam	M & OG	41.29	221007	194574	1
20	Nagercoil	M	24.27	190084	168833	1
21	Taliparamba	M	43.08	60226	51968	4
22	Ghatlodiya	NP	4.41	62248	54607	4
23	Palayankottai	M	19.52	98399	88430	1
24	Agartala	M	15.80	157358	139594	1
25	Pune Cantt.	CB	13.88	82139	72709	(
26	Udipi	M Cl & OG	51.15	78094	70092	(
27	Palakkad	M & OG	29.60	139136	121467	1
28	S.A.S.Nagar (Mohali)	NAC	16.68	78457	66482	5
29	New Barrackpur	M	17.17	63795	57330	5
30	Contai	M	14.25	53484	46464	4
31	Shimla	M.Corp & OG	31.60	102186	89992	1
32	Alandur	M	19.42	125244	110459	9
33	Satara	M	7.69	95180	82591	1
34	Kasaragod	M	16.68	50126	42393	3
35	Edathala	CT	28.92	56397	49594	4
36	Panihati	M	19.40	275990	250796	2
37	Mangalore	M.Cor & OG	75.30	281161	249242	2

38	Bidhan Nagar	NAC	20.34	100048	90339	
39	Ranip	NP	5.68	60537	51542	
40	Suratakal	M Cl & OG	26.15	55925	48426	
41	Wardha	M	7.77	102985	89911	
42	Neyveli	TS	97.27	118080	103912	
43	Ponmalai	M	24.61	69639	60701	
44	Shillong	M	10.36	131719	112625	
45	Tuticorin (TN-2)	M	13.47	199854	174720	1
46	Virudunagar	M	6.60	70971	62299	
47	Nalasopara	M	8.10	67732	57103	
48	North Dum Dum	M	19.42	149965	134165	1
49	Kolar Gold Fields	SB	35.83	72485	62705	
50	Gandhinagar (Gu)	NA	56.75	123359	104362	
51	Jabalpur Cantt.	CB	28.49	56124	49000	
52	South Dumdum	M	10.69	232811	211553	1
53	Ramanathapuram	M	5.89	52879	45771	
54	Vejalpur	GP	12.35	92116	79777	
55	Kohima	TC	23.00	51418	42827	
56	Kanhangad	M	39.54	57165	49257	
57	Valsad (Gu-2)	M & OG	NA	70314	61607	
58	Chengalpattu	M	6.03	54127	47883	
59	Ambattur	M	37.35	215424	187103	1
60	Avadi	MTS	25.62	183215	159404	1
61	Karwar	M Cl	14.35	51022	44996	
62	Khardaha	M	6.87	88358	79756	
63	Bhandara	M	16.84	71813	61157	
64	Thanjavur	M	15.36	202013	179597	1
65	Pallavaram	M	18.00	111866	97994	
66	North Barrackpur	M	8.42	100606	90954	
67	Arakkonam	M	9.06	71928	62761	
68	Panchkula U.Estate	EO	15.24	70375	59941	
69	Baranagar	M	7.12	224821	203987	1
70	Gurgaon	MC	15.33	121486	103169	
71	Chikmagalur	M Cl	9.32	60816	52299	
72	Mayiladuthurai	M	11.27	76837	67932	
73	Sirsi (Ka)	M Cl & OG	25.67	50895	43712	
74	Rajpur (WB)	M & OG	21.61	63210	56321	
75	Ratnagiri	M	10.49	56529	49183	
76	Panvel	M	12.15	58986	50262	
77	Balurghat	M & OG	8.32	126225	107919	
78	Uttarpara Kotrung	M	7.25	101268	91446	
79	Kirkee Cantt.	CB	13.23	78323	67416	
80	Hassan	M Cl & OG	26.67	108706	93930	
81	Madhyamgram	NM	9.71	69252	61696	

82	Udumalaippettai	M	7.41	58678	52499	4
83	Srirangam	M	9.01	70109	62424	5
84	Yavatmal	M	10.17	108578	93416	1
85	Tambaram	M	20.72	107187	93802	1
86	Virar	M	19.52	57600	49150	4
87	Ashoknagar Kalyangarh	M	18.44	96747	85602	1
88	Silchar	MB	15.75	115483	100575	8
89	Gondiya	M	18.11	109470	94248	1
90	Hugli-Chinsurah	M & OG	17.28	160976	144235	1
91	Kumbakonam	M	12.58	139483	123882	1
92	Darjiling	M	10.57	73062	65977	5
93	Ahmadnagar	M	18.29	181339	153491	1
94	Konnagar	M	4.33	62200	56313	4
95	Delhi Cantt.	CB	42.97	94393	80768	6
96	Mira-Bhayandar	M	79.40	175605	145965	1
97	Chidambaram	M	4.80	58740	51828	4
98	Nabapally	NM	7.85	52507	46505	3
99	Barrackpur	M & OG	13.63	142557	126786	1
100	Impahl	M	33.30	198535	171685	1
101	Dimapur	TC	25.54	57182	47379	3
102	Robertson Pet	M Cl	6.65	68230	58201	4
103	Mahesana	M & OG	NA	109950	93126	1
104	Bhusawal	M	13.38	145143	123395	1
105	Anand	M & OG	NA	131104	112473	9
106	Buldana	M	10.89	52767	44166	3
107	Tezpur	MB	7.10	55084	48386	3
108	Villupuram	M	8.93	88788	77043	6
109	Pudukkottai (TN-2)	M	12.95	99058	87180	1
110	Krishna Nagar	M	15.96	121110	107227	8
111	Ambala	MC	16.94	119338	101908	8
112	Bally (WB-1)	NM	11.68	73322	65359	5
113	Ranaghat	M & OG	12.02	71929	64108	5
114	Khamgaon	M	13.36	73692	61683	5
115	Dehradun	MB	37.17	270159	231856	1
116	Karaikkudi	M	10.63	71965	63217	5
117	Gurdaspur	MC	10.85	54733	46974	3
118	Himatnagar	M	8.82	51461	43774	3
119	Port Blair	MB	14.14	74955	64427	5
120	Panaji	M Cl & OG	35.99	53823	44438	6
121	Chakdaha	M	15.54	74769	66129	5
122	Nadiad	M & OG	NA	170217	147204	1
123	Hinganghat	M	12.77	78715	67554	5
124	Tirunelveli	M	15.15	135825	120057	9
125	Daltonganj	M	3.45	56323	47083	3

126	Chandannagar (WB-2)	MC	9.66	120378	108117	
127	Medinipur	M	14.78	125498	109052	
128	Samastipur+Rly.Colony	M	3.45	58952	49411	
129	Baharampur	M & OG	16.67	117647	103924	
130	Betul	M & OG	17.10	63694	53281	
131	Kurichi	NP	20.33	64796	56707	
132	Mannargudi	M	11.55	56552	49847	
133	Bharuch (Gu-2)	M & OG	NA	139029	119238	
134	Itarsi	M & OG	14.15	77966	64736	
135	Tinsukia	MB	33.27	73918	64265	
136	Seoni (MP)	M	8.47	64532	54092	
137	Bilimora	M & OG	NA	51039	44166	
138	Jalpaiguri	M	10.08	68732	60666	
139	Dibrugarh	MB	15.50	120127	104811	
140	Chhindwara	M & OG	12.21	96858	81818	
141	Amreli	M & OG	NA	69366	59125	
142	Pondicherry	M	19.54	203065	178536	1
143	Roorkee	MB	7.74	80262	68281	
144	Baidyabati	M	9.06	90081	80920	
145	Gayespur	NAC	30.00	52158	45831	
146	Tiruvottiyur	M	21.42	168642	145767	1
147	Erode	M	8.44	159232	141005	1
148	Mormugao	M Cl	27.37	83367	71940	
149	Dindigul	M	14.01	182477	161379	1
150	Udhagamandalam	M	30.67	81763	72696	
151	Jatani	NAC & OG	18.30	50116	43068	
152	Hoshiarpur	MC	28.21	122705	104730	
153	Aruppukkottai	M	31.48	78976	70283	
154	Ambala Sadar	MC	6.33	90872	78172	
155	Bhadravati New Town	NAC & OG	21.69	82238	72312	
156	Ambika Pur	M & OG	10.03	53227	44441	
157	Shimoga	M Cl & OG	32.19	193028	165362	1
158	Shahdol	M	19.92	55508	46363	
159	Visnagar .	M & OG	NA	59647	50671	
160	Karad	M	2.56	56819	49214	
161	Serampore	M	5.88	137028	123830	
162	Jorhat	MB & OG	59.64	105364	91934	
163	Jamalpur	M	10.65	86112	70913	
164	Raurkela Steel Township	NAC & OG	132.86	233058	202087	1
165	Dhule	M	46.46	278317	231915	1
166	Sivakasi	M	6.89	65593	56592	
167	Koch-Bihar	M	8.29	71215	63141	
168	Karur	M	6.03	73418	65995	
169	Chitradurga	M Cl & OG	16.47	103435	88206	

170	Sagar (MP)	M. Corp.. & OG	35.72	219984	180257	1
171	Ozhukarai	CP & OG	33.07	157131	136541	1
172	Margao	M Cl & OG	16.79	64581	55673	
173	Navsari	M & OG	NA	144249	124083	
174	Hazaribagh	M	26.35	97824	82079	
175	Dhanbad	M	23.39	151789	128445	1
176	Habra	M	18.44	100223	88285	
177	Nagaon	MB	9.22	93350	79853	
178	Nasir Pur	CT	2.85	81366	65864	
179	Banswara	M & OG	16.95	67908	56306	
180	Chaibasa	M	8.60	56729	47877	
181	Balaghat	M & OG	19.98	67151	56578	
182	Kalol (Gu-2)	M	17.23	82137	69570	
183	Junagadh (Gu)	M & OG	NA	151207	130013	1
184	Meerut Cantt.	CB	35.69	96021	81444	
185	Raiganj	M	10.64	151045	133197	1
186	Jalgaon (Ma-2)	M	62.29	242193	202164	1
187	Bahadurgarh	MC & OG	10.00	57235	47367	
188	Pollachi	M	13.86	86897	77587	
189	I.T.I.Notified Area	NAC & OG	24.05	71662	61487	
190	Kamptee	M	4.27	78612	65553	
191	Unjha	M	35.15	51003	43580	
192	Malkajgiri	M	17.30	127178	108895	
193	Hoshangabad	M	24.27	70914	59258	
194	Ratlam	M. Corp.	39.19	183375	153632	1
195	Tumkur	M Cl & OG	36.71	179877	154451	1
196	English Bazar	M	13.63	139204	119353	
197	Patiala	MC & OG	31.20	253706	216265	1
198	Rewari	MC	18.43	75342	62846	
199	Paramakkudi	M	13.00	72321	62738	
200	Gondal	M & OG	NA	81611	69475	
201	Yelahanka	M Cl & OG	23.46	50782	43200	
202	Manmad	M	28.70	61312	51316	
203	Bilaspur (MP)	M. Corp. & OG	35.92	192396	161930	1
204	Nangi	NAC	6.91	52956	47492	
205	Karaikal	M	35.17	61804	53458	
206	Anklesvar (Gu-2)	M & OG	NA	71888	59913	
207	Mhow Cantt	CB & OG	17.21	83796	71196	
208	Palam	CT	8.49	98975	79382	
209	Tindivanam	M	22.37	61579	53648	
210	Alipurduar	M & OG	10.89	69613	60919	
211	Bhuj	M & OG	NA	104303	88265	
212	Nabadwip	M	11.66	125037	109371	
213	Chalisgaon	M	18.59	77420	64291	

214	Nalgonda	M	14.14	84910	72442	5
215	Kharagpur (WB)	M	90.65	177989	155700	1
216	Osmanabad	M	12.06	68019	55979	4
217	Achalpur	M	16.54	96229	80676	6
218	Karimnagar	M	23.82	148583	124722	9
219	Haldia	NM	69.10	100347	82839	6
220	Yamunanagar	MC	15.88	144346	122070	9
221	Rohtak	MC	28.38	216096	181957	1
222	Chandrapur	M	56.28	226105	188792	1
223	Pattukkottai	M	21.83	58062	50634	3
224	Tiruvannamalai	M	13.64	109196	93955	7
225	Puri	M	16.84	125199	108325	8
226	Karnal	MC & OG	23.60	176131	147333	1
227	Phagwara	MC & OG	16.00	88316	75143	5
228	Barasat	M & OG	20.77	107537	92750	7
229	Modinagar	MB	10.36	101660	84540	6
230	Tirupati (AP-2)	M	16.07	174369	153465	1
231	Chittoor	M	33.47	133462	115048	8
232	Tenkasi	M	26.16	55189	47938	3
233	Deoghar	M	16.29	76380	64611	4
234	Pathankot	MC & OG	22.10	128198	108899	8
235	Kanchrapara	M & OG	12.72	111602	99200	7
236	Pusad	M	7.62	55931	46383	3
237	Surendranagar	M & OG	NA	116371	98741	7
238	Ponnani	M	9.32	51770	42769	3
239	Nandurbar	M	31.41	78378	65985	5
240	Khambhat	M & OG	NA	89834	76200	5
241	Baripada	M & OG	29.98	69240	59782	4
242	Kharag Pur Rly Settlement	NM	32.37	84252	74721	5
243	Nabha	MC	15.48	54421	46259	3
244	Damoh	M & OG	35.65	105043	85953	6
245	Dandeli	M Cl	8.52	52701	44659	3
246	Asansol	M	25.02	262188	225239	1
247	Kovilpatti	M	5.21	78834	69119	5
248	Kanchipuram	M	11.60	144955	126386	9
249	Kamarhati	M	10.96	266889	238239	1
250	Kadi .	M & OG	NA	50733	42677	3
251	Sonipat	MC	28.32	143922	119808	9
252	H.A Sanitary Board	SB & OG	NA	98858	84502	6
253	Amalner	M	9.71	76442	64674	4
254	Thanesar	MC	30.71	81255	68566	5
255	Beawar	M Cl & OG	17.74	106721	88647	6
256	Vidisha	M	5.83	92922	77004	5
257	Godhra	M & OG	NA	100662	83312	6

258	Cuddalore	M	27.71	144561	125926	
259	Barddhaman	M	23.04	245079	212721	1
260	Keshod	M	41.87	50172	42786	
261	Nagappattinam	M	14.80	86489	75280	
262	Khandwa	M. Corp.	35.77	145133	120794	
263	Secunderabad Cantonment	CB	40.17	171148	146750	1
264	Kapurthala	MC	56.00	64567	54657	
265	Durg	M.Corp. & OG	50.80	166932	138547	1
266	Bangaon	NAC	15.57	79571	69926	
267	Bhadravati (Ka)	M Cl & OG	12.97	67019	57034	
268	Bankura	M	19.06	114876	99220	
269	Palani	M	6.63	68907	61068	
270	Bally (WB-2)	M	11.81	184474	166094	1
271	Nipani	M Cl	5.24	51624	44372	
272	Dharmapuri	M	11.65	59318	51281	
273	Rajpura	MC	14.00	70983	60114	
274	Bid	M	8.29	112434	90596	
275	Porbandar	M & OG	NA	134139	115999	
276	Lakhimpur	MB	6.99	79951	66889	
277	Katwa	M	8.53	55541	47605	
278	Vellore	M	11.65	175061	151623	1
279	Alwar	M Cl & OG	58.13	210146	174596	1
280	Bela Pratapgarh	MB	12.00	65945	53911	
281	Jagadhri	MC	24.80	67386	56248	
282	Sindri	NAC	46.65	72333	62220	
283	Mahbubnagar	M	13.70	116833	97294	
284	Hisar	MC & OG	49.43	181255	151425	1
285	Wadhwan	M & OG	NA	50095	42593	
286	Deoria	MB	16.19	82168	68015	
287	Jind	MC	15.30	85315	70815	
288	Patan (Gu-2)	M & OG	NA	97025	82583	
289	Bagalkot	M Cl	33.59	76903	65191	
290	Kadugondanahalli	CT & OG	NA	52660	43521	
291	Sangrur	MC	13.90	56419	47552	
292	Sangli	M & OG	NA	226510	191734	1
293	Miraj	M & OG	NA	125407	106467	
294	Muzaffarpur	M.Corp.	26.43	241107	203558	1
295	Ichalkarnji	M	29.89	214950	179520	1
296	Khanna	MC	16.02	71990	60260	
297	Bijapur	M Cl & OG	75.36	193131	162302	1
298	Harihar	M Cl	7.78	66647	55455	
299	Viramgam	M	8.78	50698	43145	
300	Neemuch	M & OG	13.48	90474	75047	
301	Bidar	M Cl & OG	47.05	132408	108084	

302	Tiruppur	M	43.52	235661	209483	1
303	Azamgarh	MB	12.71	78567	64808	
304	Dohad	M & OG	NA	78265	66215	
305	Vriddhachalam	M	27.24	52819	45248	
306	Dhar	M	17.48	59246	49411	
307	Siliguri	M	15.54	216950	189388	1
308	Pandharpur	M	11.97	79902	67529	
309	Raurkela	M & OG	18.13	152690	127390	
310	Brahmapur	M	79.80	210418	181682	1
311	Upleta	M	50.57	51801	44883	
312	Tiruppattur (TN-2)	M	4.66	55282	47921	
313	Hardoi	MB	6.48	88651	73801	
314	Ballarpur	M	16.51	83511	70154	
315	Shrirampur (Ma-1)	M	9.02	71368	59510	
316	Dabhoi	M	23.82	50641	43655	
317	Palanpur	M & OG	NA	90269	74435	
318	Suri	M	9.48	54298	46278	
319	Kapra	M	43.90	87747	74425	
320	Narsapur	M	11.32	56362	48528	
321	Gaya	M.Corp.	28.62	291675	240230	1
322	Rewa	M. Corp.	54.99	128981	107243	
323	Akot	M	14.34	65681	54012	
324	Etah	MB	5.18	78458	63896	
325	Jetpur (Gu-2)	M & OG	NA	95297	79596	
326	Halisahar	M & OG	10.10	117539	102760	
327	Hardwar	MB & OG	15.07	149011	125229	
328	Ghazipur	MB	13.73	76547	61999	
329	Gadag-Betigeri	M Cl	34.75	134051	113129	
330	Rajapalaiyam	M	11.36	114202	100115	
331	Srikakulam	M	14.12	88883	76961	
332	Dhubri	MB	4.23	66216	56305	
333	Kolar	M Cl	7.91	83287	69931	
334	Arani (TN-2)	M	9.76	54898	47749	
335	Ambejogai	M	10.18	57159	46723	
336	Udgir	M	5.80	70453	56813	
337	Tanuku	M	15.55	62913	54646	
338	Chhatarpur	M & OG	14.51	75594	61797	
339	Murwara (Katni)	M. Corp.	107.10	163431	135943	
340	Gandhidham	M	29.58	104585	86530	
341	Mettuppalaiyam (TN-2)	M	7.20	63479	55753	
342	Nawada	M	5.68	53174	43446	
343	Bhagalpur	M.Corp.	30.17	253225	209188	1
344	Narnaul	MC	9.67	51976	42796	
345	Hansi	MC	9.07	59653	49162	

346	Barshi	M	36.27	88810	75530	5
347	Korba	SADA	35.07	124501	100820	1
348	Malkapur (Ma-2)	M	5.12	51311	41670	3
349	Sarni	M & OG	22.35	84543	64497	4
350	Kalyani	NAC	23.30	57648	50083	3
351	Giridih	M	9.75	78097	63835	4
352	Nanded	M	20.62	275083	223359	1
353	Theni Allinagaram	M	21.94	66050	57456	4
354	Jagdalpur	M & OG	23.75	84578	70865	5
355	Bansberia	M & OG	10.94	94698	82178	5
356	Alwal	M & OG	37.90	67271	57504	4
357	Davangere	M Cl & OG	48.46	287233	241625	1
358	Panipat	MC	20.82	191212	157313	1
359	Khammam	M & OG	25.52	149077	127555	9
360	Mandsaur	M	10.32	95907	79929	5
361	Firozpur Cantt	CB	20.10	53094	43183	3
362	Motihari	M	13.52	77432	64494	4
363	Sidhpur	M & OG	NA	51794	43715	3
364	Lalbahadur Nagar	M	70.00	155514	131980	9
365	Puruliya	M	13.90	92386	78005	5
366	Orai	MB	20.29	98716	81417	5
367	Dhoraji	M & OG	NA	79479	68824	4
368	Jharia	NAC	4.42	69641	57475	4
369	Rajnandgaon	M. Corp.	93.34	125371	104600	1
370	Mainpuri	MB	7.77	76735	62694	4
371	Morvi	M & OG	NA	120117	99111	1
372	Basirhat	M	22.01	101409	87284	6
373	Garulia	M	6.48	80918	70317	5
374	Ramgarh Cantonment	CB	34.46	51264	42136	3
375	Balangir	M	31.08	69920	59852	4
376	Dewas	M. Corp.	100.22	164364	133571	9
377	Bathinda	MC	97.00	159042	132741	9
378	Rishra	M	6.48	102815	90959	6
379	Latur	M	21.00	197408	158764	1
380	Dhrangadhra	M	10.36	57961	48905	3
381	Sultanpur (UP-2)	MB	12.00	76533	63012	4
382	Raniganj	M & OG	6.45	65517	55185	3
383	Tikamgarh	M	6.22	54173	44025	3
384	Mandya	M Cl	16.84	120265	103382	1
385	Basti	MB	19.43	87371	72038	5
386	Arrah	M	30.97	157082	128528	9
387	Firozpur	MC	11.33	78738	65805	4
388	Suryapet	M	23.65	60630	51725	3
389	Mango	NAC	19.45	108100	88373	6

390	Bhiwani	MC	27.64	121629	100352	
391	Dholka .	M & OG	NA	54352	45726	
392	Baleshwar	M & OG	41.82	101829	86265	
393	Ongole (AP-2)	M	8.24	100836	88627	
394	Sehore	M & OG	16.53	71945	58604	
395	Burnpur	NAC	65.79	174933	147999	1
396	Auraiya	MB	4.24	50772	41879	
397	Kanpur Cantt.	CB	16.08	95021	81179	
398	Valparai	PTS	393.68	106523	93410	
399	Kashipur	MB	5.46	69870	57122	
400	Srivilliputtur	M	5.72	68644	60386	
401	Palacole	M	4.69	56969	49039	
402	Palwal	MC	5.52	59168	48453	
403	Faridkot	MC &OG	18.14	58625	49074	
404	Satna	M. Corp. & OG	86.77	160500	131247	
405	Kaithal	MC	7.90	71142	58937	
406	Bolpur	M	13.13	52760	45205	
407	Sangareddy	M	13.60	50123	40636	
408	Krishnagiri	M	11.50	60315	51554	
409	Chittaurgarh	M	41.76	71569	59524	
410	Sirsa (Hy)	MC	19.33	112841	93544	
411	Sambalpur	M & OG	49.75	134824	114097	
412	Dod Ballapur	M Cl	13.06	54609	46296	
413	Tiruchengodu	M	25.19	63027	55531	
414	Uppal Kalan	M & OG	19.16	75660	63789	
415	Veerappanchattiram	NP	30.72	61649	53850	
416	Bhind	M	17.18	109755	89240	
417	Munger	M	17.50	150112	123912	
418	Machilipatnam	M	26.67	159110	137376	
419	Dehri	M	21.32	93594	76716	
420	Raigarh	M & OG	20.68	90265	74963	
421	Panruti	M	18.03	51394	43988	
422	Bishnupur (WB-2)	M	22.01	56128	48496	
423	Ballia	MB	16.11	84063	69044	
424	Gudiyattam	M	4.71	83232	72132	
425	Dhamtari	M	23.40	69357	57622	
426	Vaniambadi	M	9.53	72428	60722	
427	Moga	MC & OG	16.10	110958	93381	
428	Channapatna	M Cl	8.42	55209	46727	
429	Lucknow Cantt.	CB	27.40	50089	41614	
430	Bodinayakkanur	M	8.74	66500	58465	
431	Botad	M	10.36	64603	52175	
432	Khargone	M	10.00	66786	55567	
433	Haldwani-Cum-Kathgodam	MB	10.62	104195	85844	

434	Bundi	M	22.76	65047	53471	
435	Kavali	M	22.95	65910	57146	
436	Fazilka	MC	7.34	58028	47875	
437	Faizabad	MB	33.47	124437	103057	
438	Sitapur	MB	25.90	121842	101013	
439	Malout	MC	10.00	56868	46686	
440	Anantapur	M	16.35	174924	150913	1
441	Bhawanipatna	M	15.40	51062	43390	
442	Ambur	M	18.05	75911	63547	
443	Naihati	M	4.35	132701	117951	
444	Ranibennur	M Cl	5.55	67442	55521	
445	Adityapur	NAC	49.82	77803	64664	
446	Ganga Ghat	MB	4.91	50260	40912	
447	Nagda	M	23.83	79622	65886	
448	Buxar	M	5.16	55753	45776	
449	Hingoli	M	16.90	54457	44333	
450	Katihar + Rly. Colony	M	24.54	154367	127230	
451	Budge Budge	M & OG	10.05	77575	68747	
452	Parbhani	M	57.60	190255	152340	1
453	Savarkundla	M & OG	NA	65785	54731	
454	Gokak	M Cl	7.22	52080	43570	
455	Cuddapah	M & OG	41.92	140660	119382	
456	Mahuva	M & OG	NA	64144	53193	
457	Jalna	M	81.64	174985	140191	
458	Chas	M	20.49	65207	52306	
459	Kukatpally	M	43.69	186963	155336	1
460	Lalitpur	MB	17.35	79870	64346	
461	Bharatpur	M Cl & OG	40.72	150042	122521	
462	Jeypur	NAC	25.90	65246	55370	
463	Purnia	M	44.52	114912	94058	
464	Miryalaguda	M	21.91	65879	54917	
465	Gudivada	M	12.67	101656	86342	
466	Nawabganj (UP-4)	MB & OG	4.34	64933	53912	
467	Shivpuri	M	81.11	108277	87543	
468	Kambam	M	6.48	52435	45410	
469	Bhadreswar	M	6.48	72474	63020	
470	Parli	M	7.81	72670	57541	
471	Bhimavaram	M	26.14	121314	105010	
472	Muzaffarnagar	MB & OG	NA	247624	202056	1
473	Kulti Barakar	NAC	32.57	108518	90401	
474	Bargarh	M	16.72	51205	42847	
475	Eluru	M	14.55	212866	184241	1
476	Attur	M	27.62	55667	48396	
477	Batala	MC & OG	8.75	103367	86702	

478	Anakapalle	M	23.28	84356	73075	
479	Bihar	M	23.50	201323	162700	1
480	Rae Bareli	MB	50.12	129904	105212	
481	Anjar	M	17.81	51209	42115	
482	Kothagudem	NAC & OG	25.90	86951	73559	
483	Bellary	M Cl	65.90	245391	206358	1
484	Baran	M	13.88	57719	46523	
485	Sasaram	M	10.90	98122	79424	
486	Bagbera	CT	10.70	57039	47432	
487	Gonda	MB	12.67	95553	77855	
488	Unnao	MB	15.54	107425	88512	
489	Baraut	MB	10.36	67705	54561	
490	Tenali	M	15.11	143726	125040	
491	Darbhanga	M.Corp.	19.18	218391	180818	1
492	Vizianagaram	M & OG	20.73	161331	138724	
493	Nangloi Jat	CT	6.67	76063	60384	
494	Begusarai	M	8.99	71424	59051	
495	Jharsuguda	M	70.47	65054	54804	
496	Guna	M	45.75	100490	81459	
497	Madanapalle	M	7.74	73820	63606	
498	Bettiah	M	8.01	92653	75564	
499	Datia	M	4.07	64477	52436	
500	Melappalaiyam	M	16.83	68347	58148	
501	Rajhara Jharan Dalli	NM	22.24	55996	47400	
502	Chintamani	M Cl	5.61	50394	42538	
503	Noida	CT	90.43	146514	118912	
504	Kakinada	M & OG	39.28	298050	253245	1
505	Muktsar	MC	13.80	66383	55554	
506	Gudur	M	9.42	55984	48674	
507	Gangapur City (Rj-2)	M & OG	9.95	68886	55441	
508	Veraval	M & OG	NA	96915	80265	
509	Banda (UP)	MB	11.29	96795	79298	
510	Proddatur	M	7.12	133914	114230	
511	Siddipet	M	13.34	54091	45080	
512	Uluberia	M	30.48	155172	130140	
513	Bhilwara	M Cl	118.49	183965	150744	
514	Jagitial	M	30.00	67591	56791	
515	Kumarapalaiyam (TN-2)	M	7.80	57672	50773	
516	Chapra	M	16.96	136877	112325	
517	Sunabeda	NAC	76.48	52507	43659	
518	Hanumangarh	M Cl & OG	13.45	82733	67518	
519	Siwan	M	12.19	83125	67309	
520	Sawai Madhopur	M Cl & OG	60.38	77690	63171	
521	Shamli	MB	3.73	70853	57674	

522	Bulandshahr	MB	12.33	127201	103808	
523	Abohar	MC	23.07	107163	88781	
524	Kishangarh	M Cl	25.10	81948	66720	
525	Maunath Bhanjan	MB	9.11	136697	108448	
526	Kot Kapura	MC	14.50	62430	51459	
527	Tadepalligudem	M	20.71	88878	76297	
528	Barmer	M Cl	10.29	68625	56483	
529	Guntakal	M	51.93	107592	90607	
530	Mughalsarai	MB	3.89	66529	53155	
531	Kasganj	MB	4.89	75634	61368	
532	Kurnool	M	15.01	236800	199789	1
533	Deesa	M	8.43	62435	50737	
534	Burhanpur	M. Corp.	12.67	172710	140396	
535	Champdani	M	6.47	101067	88527	
536	Bhadrak	M	31.08	76435	62057	
537	Mansa (Pu)	MC	20.00	55089	45823	
538	Narsaraopet	M	7.65	88726	75890	
539	Bijnor	MB	3.65	66486	53871	
540	Barnala	MC	16.00	75430	63308	
541	Adilabad	M	23.45	84255	68469	
542	Ramanagaram	M Cl	4.96	50437	41909	
543	Jehenabad	M	20.23	52332	43163	
544	Srikalahasti	M	24.50	61578	53567	
545	Madhubani	M	2.52	53747	44051	
546	Bhuli	CT	11.74	56774	45971	
547	Kadaiyanallur	M	52.25	68819	59843	
548	Jorapokhar	CT	16.40	72919	60376	
549	Saharsa	M	21.13	80149	66188	
550	Jaunpur	MB	25.25	136062	109172	
551	Morena	M	96.00	147124	117826	
552	Sitamarhi	M & OG	7.77	55704	45759	
553	Bhalswa Jahangirpur	CT	6.70	95065	75482	
554	Palwancha	M	101.70	53102	44703	
555	Jhumri Tilaiya	M	51.14	53577	43470	
556	Shikohabad	MB	10.36	62829	51058	
557	Pilkhua	MB	4.53	50162	40010	
558	Chandausi	MB	8.80	82748	67083	
559	Etawah	MB	9.35	124072	102230	
560	Brajarajnagar	M	41.44	69667	57385	
561	Dabgram	NM	45.86	147217	122852	
562	Pali (Rj)	M Cl	83.97	136842	109287	
563	Rabkavi-Banhatti	M Cl	3.62	60609	49856	
564	Mokameh	M	14.18	59528	48233	
565	Fatehpur (UP-2)	MB	56.98	117675	95860	

566	Qutubullapur	M	46.87	106591	87407	5
567	Raichur	M Cl & OG	75.24	170577	141115	8
568	Hospet	M Cl & OG	28.39	114154	95105	5
569	Nandyal	M	15.42	119813	99715	6
570	Mathura	MB	9.37	226691	183761	1
571	Seri Lingampally	M	108.15	72320	59517	3
572	Titagarh	M	3.24	114085	97673	5
573	Jaora	M & OG	5.93	56023	45821	2
574	Kagaznagar	M	12.87	57535	48169	2
575	Saunda	CT	24.26	76691	63147	3
576	Bapatla	M	17.97	62536	54139	3
577	Ponnuru	M	26.14	54363	46427	2
578	Hathras	MB	8.33	113285	91763	5
579	Rayachoti	P	39.78	51931	42633	2
580	Hajipur	M	19.64	87687	70886	4
581	Hindaun	M	48.00	60780	48173	2
582	Mirzapur-Cum-Vindhyachal	MB	38.85	169336	135599	8
583	Santipur	M	24.60	109956	93434	5
584	Chirala	M & OG	36.96	108467	93857	5
585	Phusro	NAC	36.72	70544	56920	3
586	Nizamabad (AP)	M	36.86	241034	199522	1
587	Nirmal	M	11.39	57761	47384	2
588	Devarajivanahalli	CT	NA	56707	45590	2
589	Hindupur	M	38.16	104651	87198	5
590	Ganganagar	M Cl	20.87	161482	133544	9
591	Kannauj	MB	12.46	58932	47122	2
592	Dhaulpur	M	32.03	68533	54553	3
593	Dinapur Nizamat	M	11.63	84616	67761	3
594	Jangipur (WB)	M	7.77	55981	44710	2
595	Dishergarh	NAC	39.79	86832	72062	4
596	Farrukhabad-Fatehgarh	MB	17.04	194567	158227	9
597	Ramagundam	NAC	28.47	214384	172369	9
598	Hapur	MB	14.20	146262	119170	6
599	Nagaur	M	37.81	68194	55194	3
600	Pilibhit	MB	9.97	106605	86992	4
601	Balrampur	MB	14.25	59619	49037	2
602	Sardarshahar	M	16.20	67954	54851	3
603	Ratangarh (Rj)	M	50.20	55079	43731	2
604	Budaun	MB	4.39	116695	95286	5
605	Sikar	M Cl	22.57	148272	116215	6
606	Sultanpur Majra	CT	2.77	111567	87483	4
607	Tanda (UP-2)	MB	10.45	70605	56796	3
608	Sujangarh	M	5.18	70843	55969	3
609	Niamatpur	NAC	27.21	54930	45151	2

610	Panchur	NM	7.87	77547	63646	
611	Puliyangudi	M	55.17	53287	45184	
612	Bellampalle	M	7.36	66780	54793	
613	Bahraich	MB	13.30	135400	109460	
614	Mahoba	MB	8.15	56247	45051	
615	Mancheriyal	M	41.44	52657	43448	
616	Churu	M Cl & OG	28.80	82852	65838	
617	Siricilla	M	12.50	50048	42114	
618	Jhunjhunun	M	3.08	72187	57034	
619	Tadipatri	M	7.45	71068	60033	
620	Kadiri	M	25.88	63378	53805	
621	Kishanganj	M	30.12	64568	52014	
622	Rudrapur (UP-2)	MB	12.43	61280	49212	
623	Deoband	MB	7.90	66208	53962	
624	Dharmavaram	M	40.45	78961	66200	
625	Chilakaluripet	M	10.36	79142	67919	
626	Mangalagiri	M	11.19	59152	49913	
627	Bodhan	M	21.36	64406	51570	
628	Najibabad	MB	4.30	66860	53169	
629	Shahjahanpur (UP-2)	MB & OG	13.02	241393	196934	1
630	Firozabad	MB & OG	NA	261584	207848	1
631	Fatehpur (Rj)	M	9.06	66387	51936	
632	Barauni	CT	19.31	60685	47959	
633	Khurja	MB	10.36	80305	65105	
634	Peda Gantyada Incl.Dibbapalem	P	22.08	51676	42873	
635	Adoni	M	30.12	136182	111040	
636	Tonk	M Cl & OG	16.03	100235	79635	
637	Malerkotla	MC	4.25	88600	72456	
638	Mandamarri	P	38.85	66145	53110	
639	Tisra	CT	14.02	55677	45823	
640	Gangawati	M Cl & OG	29.99	81156	66058	
641	Chandpur	MB	1.53	55825	43917	
642	Lakhisarai	M	24.79	53360	42853	
643	Nawalgarh	M	18.00	51190	39677	
644	Rajendranagar	M & OG	52.34	84548	68160	
645	Sikandrabad	MB	8.78	60992	47951	
646	Yemmiganur	M	14.50	65089	53280	
647	Rampur (UP)	MB	20.20	243742	202821	
648	Shahabad (UP-2)	MB	10.36	53657	42668	
649	Bhadohi	MB	10.36	64010	49695	
650	Mawana	MB	4.00	51701	40798	
651	Nagina	MB	8.35	58513	45898	
652	Bagaha	M	46.83	64627	52251	
653	Makrana	M & OG	3.43	66720	50987	

654	Amroha	MB	6.32	137061	109699	4
655	Sambhal	MB	15.65	150869	118378	4
656	Kairana	MB	3.83	56079	43200	3
657	Sahaswan	MB	7.50	51080	40092	3
				65428855	55271143	40

SOURCE : ' TOWN DIRECTORY ' (ON FLOPPY), CENSUS OF INDIA, 1991