Teacher-Related Indicators

Introduction

Apart from information on school facilities and enrolment, a good amount of information on teachers is also being collected under the DISE each year. Comprehensive data on profiles of more than 5.63 million teachers is being maintained under the DISE. This rich set of information could well be useful in developing teacher education plans by its potential users, the NCERT, SCERT, DIET and BRC faculty across the country. Many teacher indicators maintained under the DISE are also part of Quality Monitoring Tools (QMT) for elementary education under the SSA being developed by the NCERT. If needed, information on teachers can also be obtained at disaggregated levels, such as school, cluster, block, district, state and national level.

The following set of indicators with respect to teachers has been analysed both at the individual state levels and as average of all states. Wherever necessary, indicators are also presented and analysed by school category. In most of the cases, besides gender-wise distribution of teachers, comprehensive information about *para*-teachers (contractual teachers) is also presented. This renders the DISE as a singular source that disseminates detailed information on all aspects of *para*-teachers. This section presents the number of *para*-teachers by school category, their educational and professional qualifications, training status, etc. All these parameters have been analysed and presented, as also those of regular teachers. One of the other significant indicators is the percentage of teachers involved in non-teaching assignments and the average number of days of involvement in such assignments. The age distribution of teachers can also be of great help in planning for teachers' recruitment in years to come. Among other variables, the following deserve special mention: the number of teachers by age and sex, and by school category; teachers profile by caste; number of teachers provided in-service training; pupil-teacher ratio; average number of teachers by school category; percentage of female teachers; types of teachers, etc. Wherever required, indicators have also been separately analysed in the case of Government and Private managements.

> "The number of teachers distributed by school category in 2007-08 suggests that about 5.63 million teachers are engaged in teaching in schools, imparting elementary education in the country. About 78.09 percent teachers are located in rural areas in 87.39 percent of schools"

Number of Teachers

With the DISE improving its coverage of schools and districts each year, the number of teachers has also increased significantly. A consistent increase in the number of teachers from 2003-04 to 2007-08 is observed which is true in the case of most of the States and UTs covered under the DISE. The number of teachers distributed by school category in 2007-08 suggests that about 5.63 million (against 5.22 million in 2006-07) teachers are engaged in teaching in schools, imparting elementary education in the country. About 78.09 percent teachers are located in rural areas in 87.39 percent of schools. It was in 2005-06 that all the districts of the country were brought under the DISE for the first time with a total of 4.69 million teachers. The data for 2007-08 shows an increase of 0.94 million teachers, which in percentage term is as high as 20.04 percent.

In absolute terms, the number of Primary teachers increased from 1.67 million in 2003-04 to 2.41 million in 2007-08. Obviously, because higher the number of Primary schools across school categories, higher the number of teachers under this category of schools. However, in percentage terms, it has shown a declining trend, which is true for both rural and urban areas. In

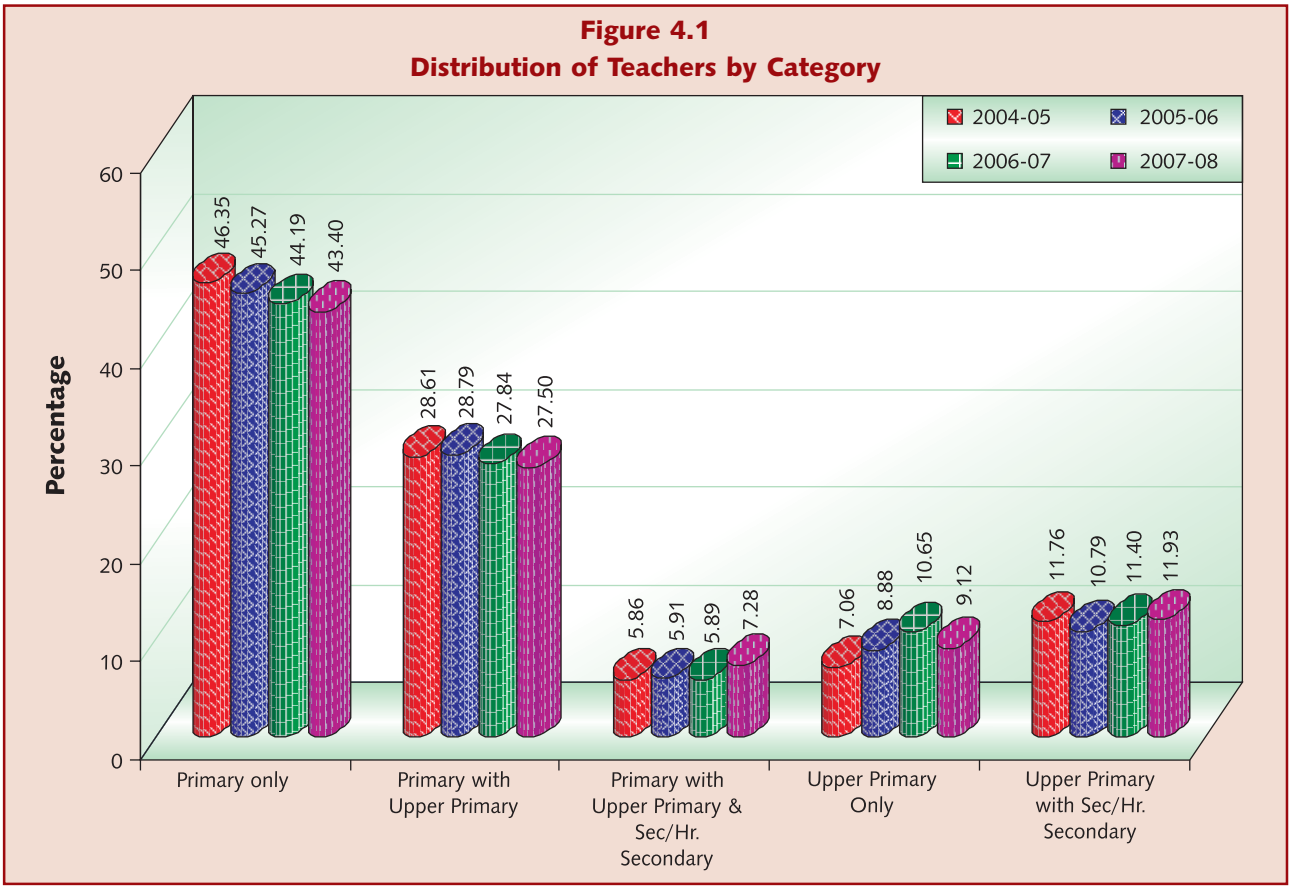
percentage terms, it has declined from a high of 46.35 percent in 2004-05 to 43.40 percent in 2007-08. Primary schools have more than 2.42 million teachers (against 2.27 million in 2006-07) of the total 5.63 million teachers. About 86 percent of Primary school teachers are located in rural areas. On the other hand, every fourth teacher is found to be teaching in independent Elementary schools (27.50 percent). The percentage of

Table D1
Distribution of Teachers by School Category: 2003-04 to 2007-08

Year	Number of Districts	School Category					Total Teachers
		Primary Only	Primary with Upper Primary	Primary with Upper Primary & Secondary/Hr. Secondary	Upper Primary Only	Upper Primary & Secondary/Hr. Secondary	
	Number						
2003-04	539	1674591	999855	179107	261856	304999	36,67,637
2004-05	581	1854473	1144835	234576	282517	470702	41,72,287
2005-06	604	2063342	1317058	270229	402161	491491	46,90,176
2006-07	609	2268014	1428944	302151	546590	584877	52,18,578
2007-08	**624**	**2416539**	**1531542**	**405375**	**507767**	**664566**	**56,34,589**

Note: Teachers in different categories may not add to total teachers because of missing values.

Figure 4.1
Distribution of Teachers by Category



teachers in such schools in rural and urban areas is 26.64 and 30.64, respectively (Tables D-1 and D-2). This is almost the same as their respective percentages in the previous year. In other types of schools, the percentage varies between 7.28 in integrated Higher Secondary schools and 11.93 in Upper Primary attached to Secondary and Higher Secondary schools. Independent Upper Primary schools reported to have 9.12 percent of the total number of teachers.

Table D2
Percentage Distribution of Teachers by Category: 2003-04 to 2007-08

School Category	All Areas				Rural Areas				Urban Areas			
	2004-05	2005-06	2006-07	2007-08	2004-05	2005-06	2006-07	2007-08	2004-05	2005-06	2006-07	2007-08
Primary Only	46.35	45.27	44.19	**43.40**	50.08	49.11	48.38	**47.44**	32.79	30.80	29.28	**28.75**
Primary with Upper Primary	28.61	28.79	27.84	**27.50**	27.88	28.09	26.89	**26.64**	31.58	31.44	31.27	**30.64**
Primary with Upper Primary & Secondary/ Hr. Secondary	5.86	5.91	5.89	**7.28**	3.70	4.11	3.79	**4.81**	14.00	12.71	13.37	**16.23**
Upper Primary Only	7.06	8.88	10.65	**9.12**	7.90	9.02	10.80	**9.65**	3.99	8.37	10.11	**7.19**
Upper Primary & Secondary/ Hr. Secondary	11.76	10.79	11.40	**11.93**	10.25	9.34	10.13	**10.55**	17.46	16.26	15.91	**16.97**

Note: Totals may not add to hundred because of missing values and rounding of figures.

Obviously, because of the size of the state, the highest number of teachers is in Uttar Pradesh (0.64 million), that is, 11.44 percent of the total teachers in the country. On the other hand, among other states, Himachal Pradesh (1.13 percent) and Uttarakhand (1.07 percent) have the least number of teachers. Delhi reported 1,01,895 teachers which is 1.81 percent of the total teachers imparting elementary education. It is similar to the figures for the previous year. The total number of teachers in Delhi is more than the same in a number of other states. The highest percentage of teachers among the north-eastern states is observed in Meghalaya (34,652). It is 0.62 percent of the total teachers imparting elementary education in the country. Uttar Pradesh also has the highest number of teachers in Primary schools (0.46 million), which is 18.91 percent of the total Primary teachers in the country. Lakshadweep has the least number of teachers in its 16 Primary schools (203) in 2007-08, while Delhi has 29,923 (1.24 percent) teachers. All the north-eastern states reported small number of Primary school teachers. Andhra Pradesh, Bihar, Madhya Pradesh, Maharashtra, Rajasthan, Tamil Nadu and West Bengal reported higher number of Primary school teachers, matching their geographical size.

"Obviously, because of the size of the state, the highest number of teachers is in Uttar Pradesh (0.64 million), that is, 11.44 percent of the total teachers in the country. Uttar Pradesh also has the highest number of teachers in Primary schools (0.46 million), which is 18.91 percent of the total Primary teachers in the country"

The DISE data further reveals that 69.28 percent of the total teachers imparting elementary education in 2007-08 is in schools that are under the government management compared to 69.14 percent in the previous year. Another 10.35 percent are in schools under government-aided management.

Together these schools have a percentage as high as 79.64 percent. This means that 8 out of 10 teachers are working either in government or aided management schools, compared to 2 out of 10 in the case of the Private Un-aided management. In a few states, such as, Bihar, Jharkhand, Orissa and Tripura, the percentage of teachers under government management is above 90. On the other hand, all the teachers in Lakshadweep are working under the Government management. Government and aided managements together in these states have about 95 percent of the total teachers. On the other hand, in a few states, such as Chandigarh, Delhi, Jammu & Kashmir, Madhya Pradesh, Rajasthan, Manipur and Nagaland, the percentage of teachers under the Private Un-aided management is high.

> "There are about 145 districts across 35 States and UTs that have more than 50 percent female teachers. All schools together have had 42.72 percent female teachers in 2007-08"

Female Teachers

One of the provisions of the Operation Blackboard scheme was to ensure that one of the teachers appointed would preferably be female. Over a period of time, the percentage of female teachers across types of school has increased. There are about 145 districts across 35 States and UTs that have more than 50 percent female teachers. All schools together have had 42.72 percent (against 41.86 percent in 2006-07) female teachers in 2007-08. Urban areas (65.23 percent) had higher percentage of female teachers than rural areas (36.51 percent) in 2007-08; this is true for all types of schools. Irrespective of the types of schools, a significant difference is also noticed in the case of female teachers in schools under private and government managements. Compared to 50.29 percent female teachers in private management schools, the corresponding percentage for government schools has been low at 38.62 (37.39 in 2006-07) (Tables D-3 and D-4).

Table D3
Distribution of Female Teachers by School Category: 2004-05 to 2007-08

School Category	All Areas				Rural Areas				Urban Areas			
	2004-05	2005-06	2006-07	2007-08	2004-05	2005-06	2006-07	2007-08	2004-05	2005-06	2006-07	2007-08
Primary Only	38.06	39.17	40.89	**42.30**	32.77	34.31	36.10	**37.73**	68.21	68.17	69.07	**69.63**
Primary with Upper Primary	43.20	42.96	44.46	**45.12**	36.35	36.40	37.38	**38.31**	65.79	65.01	66.18	**66.60**
Primary with Upper Primary & Secondary/ Hr. Secondary	58.30	54.39	53.67	**55.79**	44.25	43.25	39.45	**43.88**	72.21	67.90	68.07	**68.58**
Upper Primary Only	25.89	34.05	38.52	**35.36**	22.59	27.28	31.84	**29.78**	50.14	61.25	64.00	**62.51**
Upper Primary & Secondary/ Hr. Secondary	37.76	36.09	36.29	**37.91**	30.42	28.19	28.97	**30.96**	53.93	53.01	52.91	**53.58**
All Schools	**39.78**	**40.33**	**41.86**	**42.72**	33.12	34.00	35.39	**36.51**	64.75	64.02	64.94	**65.23**

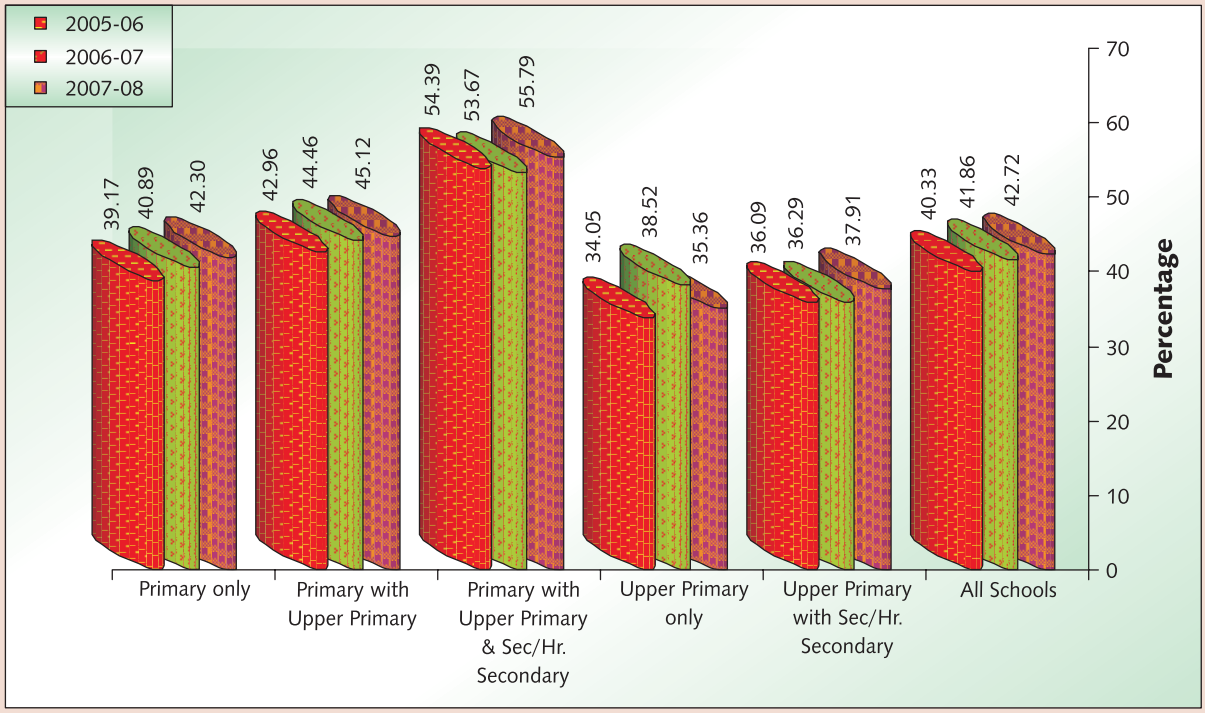
More than 80 percent of the total teachers in private managed (all categories) schools in Chandigarh (90.88 percent), Delhi (81.27 percent) and Tamil Nadu (81.63 percent), are female teachers. The percentage of female teachers under such managements is also high in the states like the Andaman and Nicobar Islands (78 percent), Dadra and Nagar Haveli (71 percent), Goa (75 percent), Himachal Pradesh (64 percent), Kerala (72

percent), Punjab (75 percent) and Karnataka (68.73 percent). Chandigarh also has the high percentage of female teachers (75 percent) in government schools, compared to 67 percent in Kerala. The corresponding percentage for Delhi is 59.

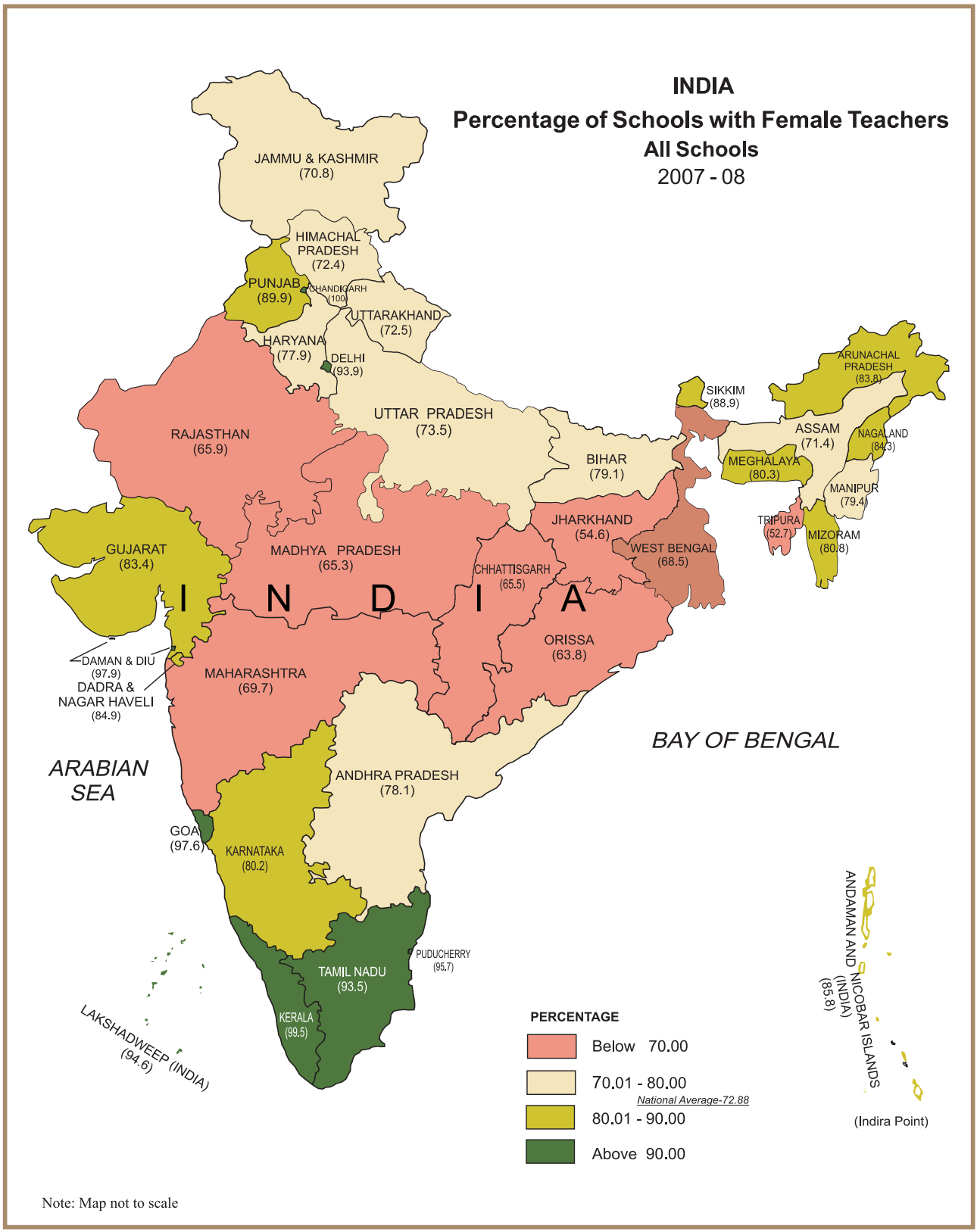
Further, it is noticed that percentage of female teachers in government managed schools (all categories) is higher than the same in private managed schools in Assam, Bihar, Maharashtra and Uttar Pradesh. However, the percentage of female teachers in government managed schools in Bihar has been low at 36.95, compared to 31.91 in West Bengal and 28.21 in Rajasthan, all of which have shown improvement over the previous year. On the other hand, in a few other states, the percentage of female teachers in government managed schools has been above 50 of the total strength of teachers. Puducherry (50 percent), Punjab (59 percent) and Tamil Nadu (65 percent) are such states. The percentage of female teachers in private managed schools in Puducherry (70), Punjab (75), and Tamil Nadu (82) is much higher than the same in government managed schools.

The percentage of female teachers by school category across 35 States and Union Territories reveals that irrespective of the type of school,the percentage of female teachers has been satisfactory, except the integrated Higher Secondary schools. In Higher Secondary schools, female teachers outnumber their male counterparts with a percentage of 55.79. The percentage of female teachers in such schools in urban areas is as high as 68.58, compared to 43.88 in rural areas. The percentage of female teachers in Higher Secondary schools under private management has been 59.47, compared to 47.91 in schools managed by government. However, a few states like Arunachal Pradesh (30 percent), Bihar (29 percent), Jharkhand (28 percent), Rajasthan (29 percent), Tripura (29 percent), Uttar Pradesh (43 percent),

Figure 4.2
Percentage of Female Teachers



"In a few states, the percentage of female teachers in government managed schools has been above 50 of the total strength of teachers. Puducherry, Punjab and Tamil Nadu are such states"


INDIA
Percentage of Schools with Female Teachers
All Schools
2007 - 08
JAMMU & KASHMIR (70.8)
HIMACHAL PRADESH (72.4)
PUNJAB (89.9)
CHANDIGARH (100)
UTTARAKHAND (72.5)
HARYANA (77.9)
DELHI (93.9)
RAJASTHAN (65.9)
UTTAR PRADESH (73.5)
BIHAR (79.1)
SIKKIM (88.9)
ARUNACHAL PRADESH (83.8)
ASSAM (71.4)
NAGALAND (84.3)
MEGHALAYA (80.3)
MANIPUR (79.4)
TRIPURA (52.7)
MIZORAM (80.8)
JHARKHAND (54.6)
WEST BENGAL (68.5)
GUJARAT (83.4)
MADHYA PRADESH (65.3)
CHHATTISGARH (65.5)
I N D I A
ORISSA (63.8)
DAMAN & DIU (97.9)
DADRA & NAGAR HAVELI (84.9)
MAHARASHTRA (69.7)
BAY OF BENGAL
ARABIAN SEA
ANDHRA PRADESH (78.1)
GOA (97.6)
KARNATAKA (80.2)
PUDUCHERRY (95.7)
TAMIL NADU (93.5)
KERALA (99.5)
LAKSHADWEEP (INDIA) (94.6)
ANDAMAN AND NICOBAR ISLANDS (INDIA) (85.8)
(Indira Point)
PERCENTAGE
Below 70.00
70.01 - 80.00
National Average-72.88
80.01 - 90.00
Above 90.00
Note: Map not to scale

Map 4.1

and West Bengal (42 percent), have had a very low percentage of female teachers in this category. On the other hand, in Delhi (64 percent), Karnataka (59 percent), Puducherry (48 percent) and Kerala (68 percent), the majority of teachers in integrated Higher Secondary schools are female. The North-Eastern states of Meghalaya (60 percent) and Mizoram (59 percent) also have high percentage of female teachers in such schools. However, it is Chandigarh that has the highest percentage of female teachers (75) in Higher Secondary schools.

this school category. In Upper Primary attached to Secondary and Higher Secondary schools, the percentage of female teachers has been about 37.91 (Rural, 30.96 percent and Urban, 53.58 percent). Gujarat (65 percent), Karnataka (50 percent), Kerala (70 percent), Chandigarh (84 percent) and the Andaman and Nicobar Islands (56 percent) have a very high percentage of female teachers in this category of schools. So far as Primary schools are concerned, more than one out of every three teachers is female (42.30 percent).

Table D4
Distribution of Female Teachers by School Category and Management: 2004-05 to 2007-08

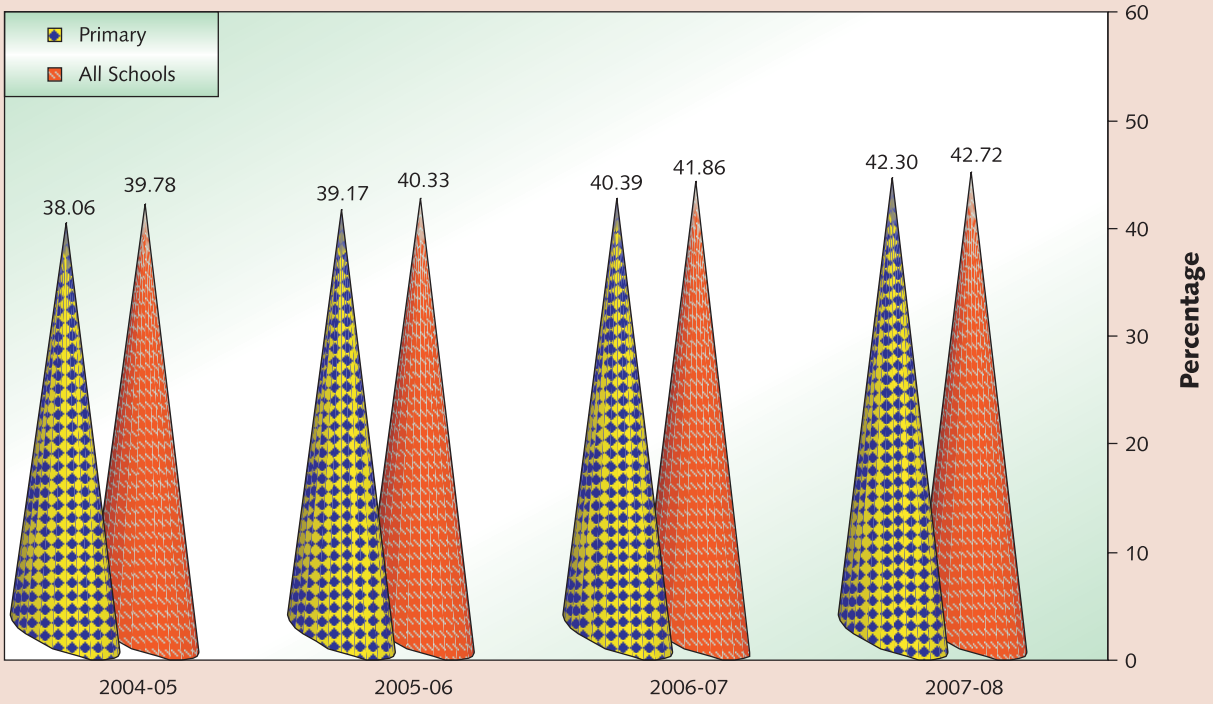
School Category	Percentage							
	All Government Managements				All Private Managements			
	2004-05	2005-06	2006-07	2007-08	2004-05	2005-06	2006-07	2007-08
Primary Only	34.31	35.58	37.30	**38.79**	58.65	57.03	57.74	**57.99**
Primary with Upper Primary	39.42	39.38	40.56	**41.24**	52.99	51.64	52.65	**53.32**
Primary with Upper Primary & Secondary/ Hr. Secondary	46.39	45.97	44.53	**47.91**	64.94	59.72	58.84	**59.47**
Upper Primary Only	24.76	28.73	32.00	**31.27**	29.83	45.95	49.90	**43.78**
Upper Primary with Secondary & Higher Secondary	36.70	34.26	34.65	**36.60**	39.10	37.99	37.94	**39.65**
All Schools	**34.56**	**35.77**	**37.39**	**38.62**	**47.97**	**47.72**	**49.69**	**50.29**

In Elementary (Primary with Upper Primary) schools, the percentage of female teachers (45.12) has been a bit higher than the same in the Primary schools (42.30 percent). On the other hand, the percentage of female teachers in independent Upper Primary schools has been only 35.36. A few states, such as the Andaman and Nicobar Islands (72.73 percent), Chandigarh (92.86 percent), Delhi (52.35 percent), Goa (60.17 percent), Gujarat (56.18 percent), Karnataka (52.70 percent), Kerala (70.59 percent), Jharkhand (69.29 percent) and Tamil Nadu (71.16 percent), have more female teachers in such schools than male teachers. Punjab too has a high percentage (49.65 percent) of female teachers in this school category. In Upper Primary attached to Secondary and Higher Secondary schools, the percentage of female teachers has been about 37.91 (Rural, 30.96 percent and Urban, 53.58 percent). Gujarat (65 percent), Karnataka (50 percent), Kerala (70 percent), Chandigarh (84 percent) and the Andaman and Nicobar Islands (56 percent) have a very high percentage of female teachers in this category of schools. So far as Primary schools are concerned, more than one out of every three teachers is female (42.30 percent). However, in the states of Arunachal Pradesh (37.32 percent), Bihar (38.78 percent against 28.41 percent in 2006-07), Chhattisgarh (31.05 percent), Jharkhand (26.99 percent), Madhya Pradesh (32.12 percent), Rajasthan (29.29 percent), Uttar Pradesh (39.83 percent) and West Bengal (29.36 percent), female teachers are in minority and their number is much lower than that of their male counterparts. On the other hand, in states like Kerala (74.37 percent) and Tamil Nadu (78.48 percent), the majority of Primary school teachers is female. The Andaman and Nicobar Islands (57.66 percent), Daman and Diu (73.10 percent), Goa (83.72 percent), Chandigarh (78.88 percent), Delhi (68.60 percent),

"A few states, such as the Andaman and Nicobar Islands, Chandigarh, Delhi, Goa, Gujarat, Karnataka, Kerala, Jharkhand and Tamil Nadu have more female teachers in Primary schools than male teachers"

Punjab (65.10 percent, Puducherry (64.859 percent), Uttarakhand (54.36 percent) and Meghalaya (51.66 percent) have a high percentage of female teachers in their Primary schools.

Figure 4.3
Percentage of Female Teachers in Primary & All Schools



Despite significant improvement in the availability of female teachers in Elementary schools, there may be a few schools without female teachers. Percentage of such schools has been analysed, based on schools having two and more teachers. As many as 27.16 percent of the Elementary schools, did not have any female teacher in 2007-08, compared to 28.26 percent such schools in the year 2006-07. The percentage of such schools in urban areas has been low at 8.61 against 29.84 in rural areas. About 96 percent of schools without female teachers are located in rural areas. A significant difference is also noticed in the case of schools managed by government (28.69 percent) and private management (21.03 percent). Again, in the case of Primary schools, it is noticed that in as many as 28.57 percent of schools, no female teacher has been posted. The percentage of schools without female teachers is as high as 21.05 (against 38.07 in 2006-07) in the state of Bihar, 37.17 in Madhya Pradesh, 36.23 in Chhattisgarh, 36.25 in Jammu & Kashmir, 49.07 in Jharkhand, 60.45 in Tripura and 35.11 in West Bengal. Rajasthan (31.45 percent) and Uttar Pradesh (19.11 percent) too have a large number of Primary schools without female teachers. Except Delhi, Kerala, Puducherry, Lakshadweep, Punjab, Sikkim and Tamil Nadu, in most of the other states, the number of Primary schools without female teachers is above 20 percent. The percentage of such schools is only 0.67 in Kerala and 8.15 in Tamil Nadu. Chandigarh did not have any Primary school without female teacher in 2007-08, which is also true for other types of schools. So far as independent Upper Primary schools are concerned, in as many as 37.51 percent schools, no female teacher is posted. Further, it has been observed that irrespective

> "As many as 27.16 percent of the Elementary schools, did not have any female teacher in 2007-08, compared to 28.26 percent such schools in the year 2006-07. The percentage of such schools in urban areas has been low at 8.61 against 29.84 in rural areas"

of the type of school, a large number of schools in the country do not have female teacher. This is applicable to Elementary schools (19.90 percent) and integrated Higher Secondary schools (13.83 percent).

The total number of teachers presented above is not expected to provide information on teachers in an individual type of school. For this purpose, the average number of teachers by school category is analysed. Its data is presented in Table D-3.

"Average number of teachers in a school imparting elementary education has shown consistent improvement over a period of time. Such schools/sections have had more teachers in 2007-08 than in the previous year"

Average Number of Teachers

The average number of teachers in a school imparting elementary education has shown consistent improvement over a period of time. Such schools/sections have had more teachers in 2007-08 than in the previous year. This also applies to all types of schools. By and large, this is also true for rural and urban areas, barring independent Upper Primary schools which had a slightly less number of teachers in 2007-08 than in the previous year. The all-India average of all states reveals that in 2007-08, there were 4.5 teachers (4.4 teachers in 2006-07) in a school that imparts elementary education. A significant difference is noticed in the availability of teachers in rural (4.0) and urban areas (7.9). Schools in rural areas have fewer teachers than schools in urban areas and the difference is significant. A wide difference is also seen between schools managed by government (3.9) and private management (7.2). The average number of teachers in government schools is a little less than half of the average in private managed schools. The average number of teachers by school category reveals that the highest number of teachers per school is observed in integrated Higher Secondary schools (11.5), followed by Upper Primary attached to Secondary and Higher Secondary schools (10.2), independent Elementary (7.1), and Upper Primary (4.4) schools. However, despite improvement, the lowest percentage is noticed in Primary schools (3.0 teachers) which is almost as much as in the previous year (2.9 teachers per school).

Table D5
Average Number of Teachers by School Category: 2004-05 to 2007-08

School Category	All Areas				Rural Areas				Urban Areas			
	2004-05	2005-06	2006-07	2007-08	2004-05	2005-06	2006-07	2007-08	2004-05	2005-06	2006-07	2007-08
Primary Only	2.7	2.8	2.9	**3.0**	2.6	2.7	2.8	**2.8**	4.6	4.6	4.7	**4.8**
Primary with Upper Primary	6.6	6.7	6.9	**7.1**	6.2	6.3	6.4	**6.6**	8.6	8.4	8.6	**8.9**
Primary with Upper Primary & Secondary/ Hr. Secondary	10.9	10.3	10.7	**11.5**	9.2	8.9	8.8	**9.7**	13.4	12.5	13.7	**14.4**
Upper Primary Only	4.0	4.6	5.1	**4.4**	3.8	4.1	4.5	**4.0**	5.5	9.1	10.1	**7.9**
Upper Primary & Secondary/ Hr. Secondary	9.0	9.1	9.4	**10.2**	8.0	8.0	8.4	**9.2**	12.1	12.4	12.6	**13.2**
All Schools	**4.0**	**4.2**	**4.4**	**4.5**	**3.6**	**3.8**	**3.9**	**4.0**	**7.3**	**7.4**	**7.7**	**7.9**

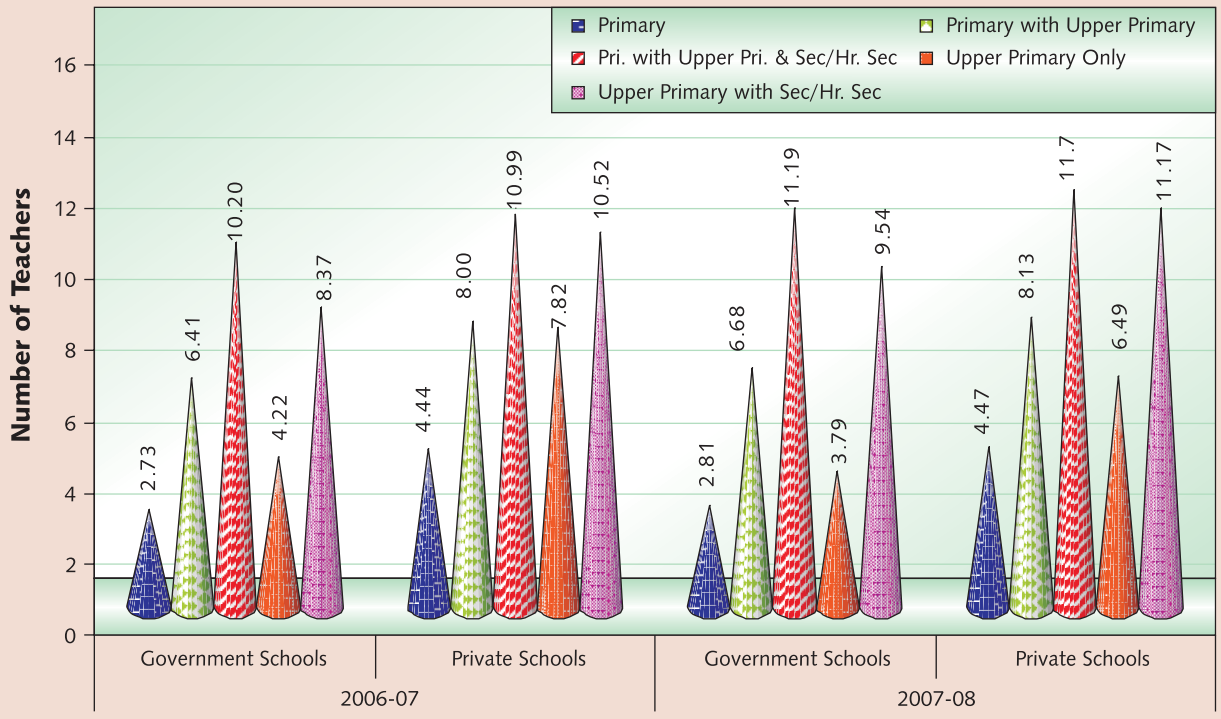
It is interesting to note that all the states have reported an average of three and more teachers in schools that impart elementary education across the county, but the same is not true for all types of schools. On the other hand, none of the major states reported

fewer than two teachers. This is true for all types of schools, including Primary schools. Among the states, Delhi has the highest average number of teachers (21.5) and Chhattisgarh (3.1), the lowest average. Madhya Pradesh too has a low (3.3) average number of teachers in its Elementary schools. Kerala with 13 teachers and Chandigarh with 31 teachers too have a very high average number of teachers, compared to 4.8 teachers in Bihar (4.3 in previous year). All the states in the north-eastern region have adequate number of teachers in their schools. The states, such as Gujarat (6.0), Maharashtra (6.6), Manipur (6.2), Mizoram (5.9) and Sikkim (7.3), have on an average more than 5 teachers. Tamil Nadu reported an average of 5.9 teachers and West Bengal, 3.9 teachers in schools that impart Elementary education. Lakshadweep too reported an average of 14.9 teachers and has a high average across school categories.

> "All-India average of all states reveals that in 2007-08, there were 4.5 teachers in a school that imparts elementary education. A significant difference is noticed in the availability of teachers in rural and urban areas"

Like teachers in other types of schools, the average number of teachers in Primary schools also has shown an increasing trend during the period from 2004-05 to 2007-08. On an average, Primary schools in India have now more than two teachers. This is also true for rural areas and also such schools under the government management. This clearly reflects the effect of the initiatives made under the SSA. This is likely to improve further as a number of teachers' positions under the SSA have been recently approved by the PAB. In addition, the states have also initiated the process of filling up of vacant positions.

Figure 4.4
Average Number of Teachers by School Category



Primary schools have had an average of 3.0 teachers per school in 2007-08 against 2.9 teachers per school in 2006-07 and 2.8 teachers in 2005-06. Schools located in rural areas had an average of 2.8 teachers, compared to 4.8 teachers in schools located in urban areas. The disparity noticed in rural and urban areas and also in government and private managed schools is also

true for all other types of schools. Except Arunachal Pradesh (1.89), all other states have an average of more than 2 teachers per school in Primary classes. In Kerala, the average per school is as high as 6.7 teachers at this level; in Chandigarh it is 14.7, and in Delhi 12.2. Lakshadweep also reported a high average of 12.7 teachers in its Primary schools which is also true for all other types of schools, as also for rural and urban areas. In Jharkhand, the average number of Primary teachers per school is 2.2, compared to 2.5 in Goa. All Primary schools in Bihar have had an average of 3.7 teachers (3.4 in previous year), compared to 2.2 teachers in Rajasthan and 3.0 in Andhra Pradesh. The average is as high as 5.9 in Nagaland, 6.1 in Puducherry, 5.0 in Sikkim and 4.0 in Tripura. West Bengal also reported an average of about 3 teachers in its Primary schools.

"On an average, Primary schools in India have more than two teachers. This is also true for rural areas and also such schools under the government management. This clearly reflects the effect of the initiatives made under the SSA"

the average number of teachers in government-managed Primary schools has been lower than the national average of 2.8 teachers. In the states of Chhattisgarh (2.5 teachers), Dadra and Nagar Haveli (2.0 teachers), Goa (2.1 teachers), Himachal Pradesh (2.5 teachers), Jammu and Kashmir (2.4 teachers), Jharkhand (2.2 teachers), Karnataka (2.2 teachers), Madhya Pradesh (2.4 teachers), Rajasthan (2.0 teachers), Uttarakhand (2.1 teachers), etc, the average number of teachers is lower than 2.8 in government managed Primary schools. Except Arunachal Pradesh and Meghalaya, all other states in the north-eastern region have higher number of teachers in their Primary schools than the national average. The private managed Primary schools in these states and all other states have had more than two teachers. Rajasthan has significantly high average number of teachers, i.e., 4.4 teachers in every private managed Primary school. The average number of teachers in Primary schools in Tripura has been high at 8.3 which is the fourth highest among all the states that reported the DISE data in 2007-08. Kerala too has an average of 7.3 teachers in the private managed Primary schools, compared to 9.8 in

Table D6
Average Number of Teachers by School Category and Management: 2004-05 to 2007-08

School Category	Percentage							
	All Government Managements				All Private Managements			
	2004-05	2005-06	2006-07	2007-08	2004-05	2005-06	2006-07	2007-08
Primary Only	2.5	2.6	**2.7**	**2.8**	4.8	4.7	**4.4**	**4.5**
Primary with Upper Primary	6.2	6.3	**6.4**	**6.7**	8.1	7.9	**8.0**	**8.1**
Primary with Upper Primary & Secondary/ Hr. Secondary	10.6	10.1	**10.3**	**11.2**	11.1	10.4	**11.0**	**11.7**
Upper Primary Only	3.8	4.0	**4.2**	**3.8**	4.8	6.8	**7.8**	**6.5**
Upper Primary with Secondary & Higher Secondary	8.0	7.9	**8.4**	**9.5**	10.3	10.7	**10.6**	**11.2**
All Schools	**3.5**	**3.6**	**3.7**	**3.9**	**7.1**	**7.1**	**7.1**	**7.2**

The analysis further reveals that, irrespective of the type of school and state, private managed schools have generally better average number of teachers per school than government managed schools. Compared to 2.8 teachers in government managed Primary schools, the corresponding number in private managed schools is as high as 4.5 teachers. In about 18 States and UTs,

Delhi and 18.3 in Chandigarh. Maharashtra also reported an average of almost 7.5 teachers in its Primary schools. Arunachal Pradesh which reported a low overall average of 2.0 teachers has had an average of 7.0 teachers in private managed Primary schools when only 1.8 percent of schools under government management reported such an average.

teacher ratio in 2007-08 is observed to be in the case of Primary schools (37: 1), followed by Elementary schools (34:1), integrated Higher Secondary schools and independent Upper Primary schools (29:1), and Upper Primary attached to Secondary & Higher Secondary schools (27:1). It is important to note that the PTR at Primary and Upper Primary levels of education is 34:1

Figure 4.5
Average Number of Teachers in Primary School

Pupil-Teacher Ratio

One of the important indicators that influence classroom transaction is the pupil-teacher ratio. The data is presented by school category in Table D-7 to D-9. Irrespective of the type of school, an improvement in pupil-teacher ratio has been noticed during the period 2004-05 to 2007-08. However, there are about 151 districts which still have a pupil-teacher ratio above 40:1 most of the districts of Bihar and Jharkhand falls under this category. The highest pupil-

"Average number of teachers in Primary schools in Tripura has been high at 8.3 which is the fourth highest among all the states that reported DISE data in 2007-08. Kerala too has an average of 7.3 teachers in the private managed Primary schools"

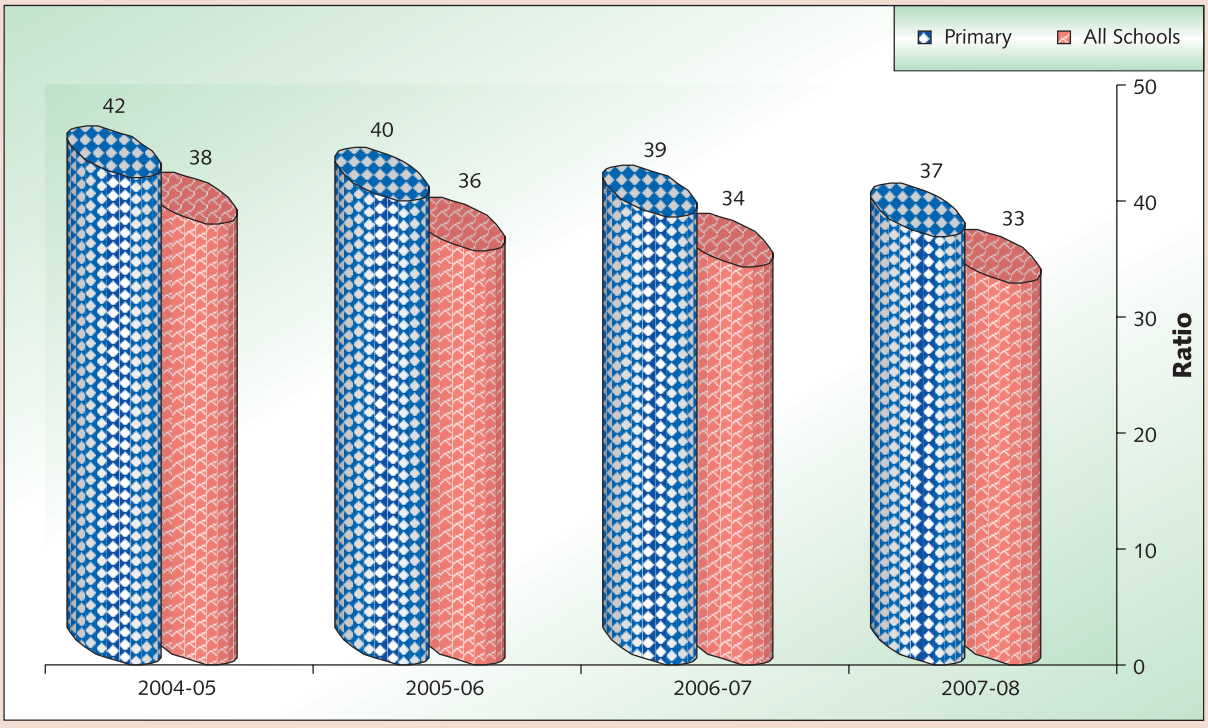
and 31:1 respectively, compared to 36:1 and 32:1 during the previous year. At Primary level, there are only four states (Bihar, Jharkhand, Uttar Pradesh and West Bengal) which reported a PTR above 40; in the rest of the states the position is quite comfortable. At Upper Primary level, the PTR varies from 14 students per teacher in Mizoram to 59 students per teacher in Bihar. Bihar too has a high (54:1) PTR at Primary level of education. The state has a high pupil-teacher ratio of 51:1 even in the case of schools managed by Private aided managements. The corresponding ratio

for Uttar Pradesh has also been high at 51:1. In Bihar, it is not only the PTR that is high but it has also reported a high student-classroom ratio of 96. With the appointment of a large number of teachers recently in the state, pupil-teacher ratio is expected to improve in the year that follows.

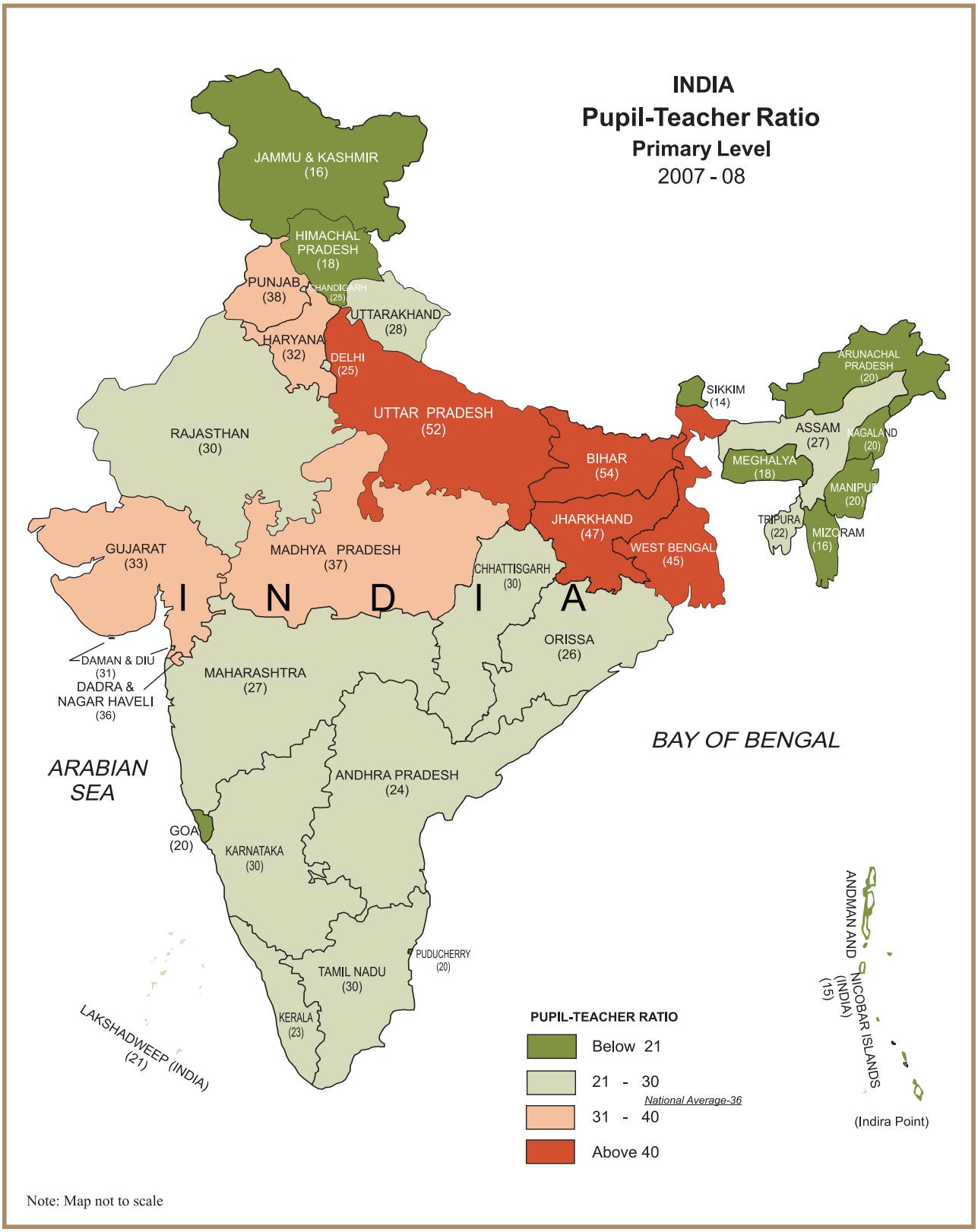
Table D7
Pupil-Teacher Ratio by School Category: 2004-05 to 2007-08

School Category	All Areas				Rural Areas				Urban Areas			
	2004-05	2005-06	2006-07	2007-08	2004-05	2005-06	2006-07	2007-08	2004-05	2005-06	2006-07	2007-08
Primary Only	42	40	39	**37**	44	41	39	**37**	37	36	36	**35**
Primary with Upper Primary	36	35	34	**34**	37	35	35	**34**	35	34	33	**33**
Primary with Upper Primary & Secondary/ Hr. Secondary	31	30	29	**27**	31	30	30	**26**	32	30	29	**27**
Upper Primary Only	31	30	29	**31**	32	31	30	**31**	29	26	26	**31**
Upper Primary & Secondary/ Hr. Secondary	31	30	27	**25**	33	31	28	**25**	28	27	25	**24**
All Schools	**38**	**36**	**34**	**33**	**39**	**37**	**35**	**33**	**33**	**32**	**31**	**31**

Figure 4.6
Pupil-Teacher Ratio in Primary Schools



On the other hand, all category schools together had a pupil-teacher ratio of 33 in 2007-08, compared


INDIA
Pupil-Teacher Ratio
Primary Level
2007 - 08
JAMMU & KASHMIR (16)
HIMACHAL PRADESH (18)
PUNJAB (38)
CHANDIGARH (25)
UTTARAKHAND (28)
HARYANA (32)
DELHI (25)
RAJASTHAN (30)
UTTAR PRADESH (52)
BIHAR (54)
SIKKIM (14)
ARUNACHAL PRADESH (20)
ASSAM (27)
NAGALAND (20)
MEGHALYA (18)
MANIPUR (20)
TRIPURA (22)
MIZORAM (16)
JHARKHAND (47)
WEST BENGAL (45)
GUJARAT (33)
MADHYA PRADESH (37)
CHHATTISGARH (30)
I N D I A
ORISSA (26)
DAMAN & DIU (31)
DADRA & NAGAR HAVELI (36)
MAHARASHTRA (27)
BAY OF BENGAL
ARABIAN SEA
ANDHRA PRADESH (24)
GOA (20)
KARNATAKA (30)
PUDUCHERRY (20)
TAMIL NADU (30)
KERALA (23)
LAKSHADWEEP (INDIA) (21)
ANDMAN AND NICOBAR ISLANDS (INDIA) (15)
(Indira Point)
PUPIL-TEACHER RATIO
Below 21
21 - 30
National Average-36
31 - 40
Above 40
Note: Map not to scale

Map 4.2

Table D8

Pupil-Teacher Ratio at Primary and Upper Primary Levels of Education: 2006-07 and 2007-08

Sl. No.	State/UT	Primary Level		Upper Primary Level		All Category Schools	Number of Districts where PTR is Above 40 : All Schools
		2006-07	2007-08	2006-07	2007-08	2007-08	2007-08
1	A & N Islands	15	15	15	16	15	0
2	Andhra Pradesh	25	24	19	19	21	0
3	Arunachal Pradesh	22	20	22	22	20	0
4	Assam	28	27	19	19	24	0
5	Bihar	65	54	67	59	54	36
6	Chandigarh	24	25	23	24	24	0
7	Chhattisgarh	29	30	21	22	28	0
8	D & N Haveli	45	36	46	38	36	0
9	Daman & Diu	31	31	41	31	30	0
10	Delhi	26	25	21	20	24	0
11	Goa	25	20	26	20	19	0
12	Gujarat	35	33	36	33	33	0
13	Haryana	36	32	28	23	28	1
14	Himachal Pradesh	19	18	18	17	17	0
15	Jammu & Kashmir	16	16	17	16	16	0
16	Jharkhand	49	47	48	45	45	17
17	Karnataka	32	30	34	33	30	2
18	Kerala	26	23	28	22	22	0
19	Lakshadweep	18	21	23	19	20	0
20	Madhya Pradesh	39	37	32	31	36	14
21	Maharashtra	27	27	31	30	27	0
22	Manipur	21	20	20	19	19	0
23	Meghalaya	19	18	17	16	17	0
24	Mizoram	16	16	12	14	14	0
25	Nagaland	24	20	25	24	19	0
26	Orissa	32	26	39	35	29	0
27	Puducherry	25	20	24	19	18	0
28	Punjab	36	38	27	29	32	3
29	Rajasthan	32	30	29	28	29	1
30	Sikkim	12	14	18	19	14	0
31	Tamil Nadu	31	30	26	34	31	0
32	Tripura	23	22	23	23	22	0
33	Uttar Pradesh	55	52	48	45	50	60
34	Uttarakhand	27	28	26	23	25	1
35	West Bengal	45	45	62	57	48	16
	All States	**36**	**34**	**32**	**31**	**33**	**151**

to 34 in 2006-07. The corresponding figures in rural and urban areas are 33 and 31 respectively. This also shows an improvement over the previous year. The government managed schools have a slightly higher pupil-teacher ratio (34) than the same in the private managed schools (29). The states like Arunachal Pradesh (20: 1), Himachal Pradesh (17: 1), Jammu and Kashmir (16: 1), Karnataka (30: 1), Kerala (22:1) and Tamil Nadu (31:1), have an ideal pupil-teacher ratio. Delhi reported a pupil-teacher ratio of 24: 1 and Puducherry, 18:1. All the states from the north-eastern region also have a comfortable pupil-teacher ratio of 25: 1.

Table D9
Pupil-Teacher Ratio by School Category and by Management: 2004-05 to 2007-08

School Category	All Government Managements				All Private Managements			
	2004-05	2005-06	2006-07	2007-08	2004-05	2005-06	2006-07	2007-08
Primary Only	44	41	**39**	**37**	35	34	**35**	**34**
Primary with Upper Primary	39	36	**36**	**35**	31	31	**31**	**31**
Primary with Upper Primary & Secondary/ Hr. Secondary	29	30	**28**	**25**	31	30	**30**	**27**
Upper Primary Only	30	30	**29**	**31**	35	32	**29**	**31**
Upper Primary with Secondary & Hr. Secondary	30	27	**24**	**27**	28	32	**29**	**22**
All Schools	**40**	**37**	**36**	**34**	**31**	**32**	**31**	**29**

Table D10
Percentage of Schools having PTR Above 100 by School Category: 2004-05 to 2007-08

School Category	All Areas				Rural Areas				Urban Areas			
	2004-05	2005-06	2006-07	2007-08	2004-05	2005-06	2006-07	2007-08	2004-05	2005-06	2006-07	2007-08
Primary Only	8.32	5.93	**5.21**	**4.11**	8.66	6.05	**5.20**	**4.13**	4.94	4.68	**5.38**	**3.89**
Primary with Upper Primary	4.82	3.76	**4.49**	**3.31**	5.08	3.69	**4.15**	**3.09**	3.73	4.09	**5.89**	**4.24**
Primary with Upper Primary & Secondary/ Hr. Secondary	4.46	3.98	**5.27**	**3.39**	4.39	4.02	**4.65**	**2.87**	4.58	3.94	**6.23**	**4.22**
Upper Primary Only	4.96	4.90	**4.95**	**4.65**	5.08	5.10	**5.07**	**4.77**	3.80	3.08	**3.89**	**3.50**
Upper Primary & Secondary/ Hr. Secondary	5.32	4.62	**3.11**	**1.93**	6.05	5.15	**3.26**	**2.07**	3.19	3.03	**2.64**	**1.51**
All Schools	**7.14**	**5.30**	**4.94**	**3.86**	**7.61**	**5.49**	**4.91**	**3.88**	**4.33**	**4.16**	**5.17**	**3.72**

Note: Totals may not add to hundred because of missing values and rounding of figures.

Despite improvement in pupil-teacher ratio across school types, there are still a few schools that have reported a PTR of more than 100. About 3.88 percent schools located in rural areas have the PTR above 100, compared to 3.72 percent in urban areas. In as many as 4.11 percent of Primary schools, the pupil-teacher ratio

is above 100 (rural 4.13 and urban 3.89 percent). The percentage in government schools (3.98 percent) having the PTR more than 100 and is lower than in private managed schools (5.04 percent). On the other hand, 4.65 percent Upper Primary schools, 3.31 percent Elementary schools, 3.39 percent integrated Higher Secondary schools and 1.93 percent Upper Primary attached to Higher Secondary schools also have had pupil-teacher ratio above 100 (Tables D-10 and D-11). It is also observed that 11.40 percent Primary schools in

Figure 4.7
Percentage of Schools with PTR Above 100

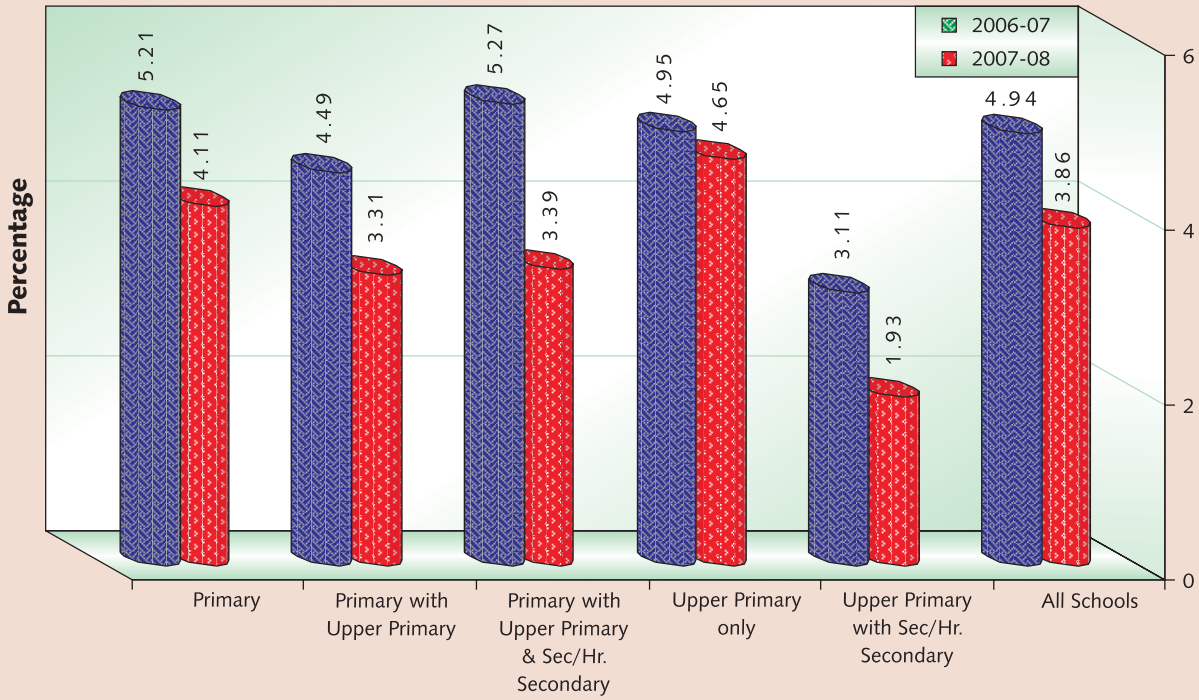
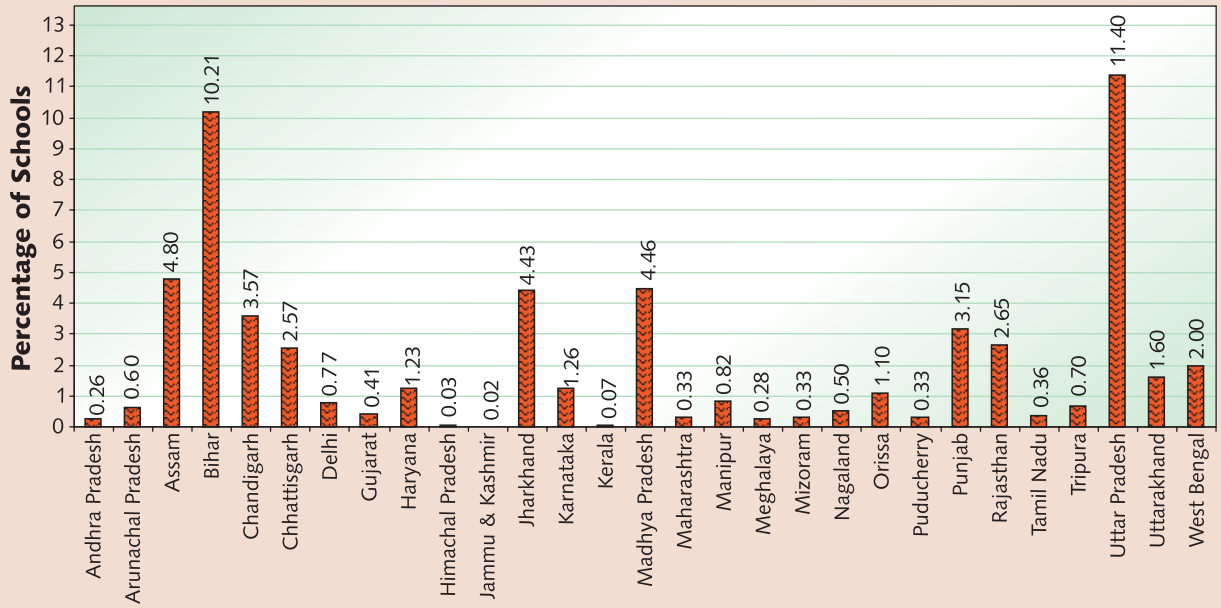


Table D11
Percentage of Schools having PTR Above 100 by School Category and Management: 2004-05 to 2007-08

School Category	Percentage							
	All Government Managements				All Private Managements			
	2004-05	2005-06	2006-07	2007-08	2004-05	2005-06	2006-07	2007-08
Primary Only	8.51	5.94	**5.07**	**3.98**	6.37	5.80	**6.24**	**5.04**
Primary with Upper Primary	5.06	3.59	**3.95**	**2.65**	4.03	4.27	**5.91**	**4.91**
Primary with Upper Primary & Secondary/ Hr. Secondary	4.05	3.51	**4.29**	**2.73**	4.69	4.29	**5.84**	**3.71**
Upper Primary Only	4.20	4.48	**4.62**	**4.40**	8.28	6.53	**6.03**	**5.54**
Upper Primary with Secondary & Hr. Secondary	4.54	3.42	**2.67**	**2.28**	6.44	6.13	**3.61**	**1.47**
All Schools	**7.39**	**5.33**	**4.76**	**3.72**	**5.73**	**5.28**	**5.70**	**4.44**

Uttar Pradesh have a PTR of 100 and above compared to only 0.07 percent schools in Kerala. Bihar (10.21 percent) and Jharkhand (4.43 percent) too have a large number of such schools. Himachal and all the states from the north-eastern region have negligible number of such schools. A few states/UTs such as the Andaman & Nicobar Islands, Daman and Diu, Dadra and Nagar Haveli, Lakshadweep and Sikkim reported no such schools.

Figure 4.8
Percentage of Primary Schools with PTR Above 100: 2007-08



Age Profile of Teachers

The percentage distribution of teachers by age groups (below 18, 18-25, 26-35, 36-45, 46-55 and above 55 years) has been presented in Tables D-12 and D-13.

The average age of teachers across states suggests that majority of teachers in Primary schools are in the age group of 26-45 years. This also applies to other types of schools. A few teachers across all types of school are found to be below 18 years of age; both male and female teachers. Further, it has been noticed that the percentage of teachers in the age group 18-25 years across all types of school has been low compared to the same in other age groups. However, their percentage in the current year has improved over the previous year. In 2006-07, the percentage of male and female teachers (all categories) of age between 18 to 25 years was 12.94 and 19.67, respectively, compared to 15.29 and 22.65 percent in 2007-08. The percentage is quite similar to the same in the case of teachers in Primary schools. The improvement in the percentage of young teachers (18-25 years) is because of their recruitment initiated in a few states, recently. A number of regular posts of teachers have been lying vacant across states while fresh recruitments have been initiated only in a few states. A few others have instead appointed *para*-teachers against regular positions. This is evident in the statistics presented in the following section.

> "In Bihar, it is not only the PTR that is high but it has also reported a high student-classroom ratio of 96. With the appointment of a large number of teachers recently in the state, pupil-teacher ratio is expected to improve in the year that follows"

It is observed that the percentage of male teachers in the age group of above 55 years has been 4.08 and that of female teachers 2.09. All these teachers are

Table D12
Percentage of Teachers Aged 55 Years and Above: 2007-08

Sl. No.	State/UT	All Schools	All Government Schools	All Aided Schools	All Unaided Schools
1	Andaman & Nicobar Islands	1.87	2.01	0.00	1.01
2	Andhra Pradesh	0.83	0.45	0.96	1.56
3	Arunachal Pradesh	1.37	1.40	1.36	1.06
4	Assam	2.16	2.68	0.56	1.01
5	Bihar	3.98	3.93	7.22	2.06
6	Chandigarh	2.61	3.00	1.34	2.07
7	Chhattisgarh	5.48	6.20	7.52	1.57
8	Dadra & Nagar Haveli	1.61	1.79	0.00	0.74
9	Daman & Diu	3.55	4.16	6.67	0.90
10	Delhi	3.89	4.68	6.48	1.73
11	Goa	3.87	4.35	3.55	2.13
12	Gujarat	1.13	1.01	1.81	1.56
13	Haryana	1.01	0.78	1.91	1.67
14	Himachal Pradesh	0.95	0.71	1.78	1.80
15	Jammu & Kashmir	1.04	0.14	5.41	2.63
16	Jharkhand	5.04	5.03	7.74	3.16
17	Karnataka	2.64	1.16	3.61	7.02
18	Kerala	0.61	0.60	0.43	2.66
19	Lakshadweep	1.64	1.64	0.00	0.00
20	Madhya Pradesh	4.09	4.95	10.27	2.14
21	Maharashtra	1.11	1.10	1.07	1.33
22	Manipur	1.99	2.25	4.69	1.06
23	Meghalaya	1.44	1.84	1.26	1.12
24	Mizoram	26.52	24.85	44.47	29.69
25	Nagaland	0.77	0.60	0.00	1.07
26	Orissa	1.03	1.03	0.90	1.12
27	Puducherry	3.72	5.42	2.09	1.08
28	Punjab	0.94	0.72	2.02	2.47
29	Rajasthan	2.41	2.73	2.45	1.93
30	Sikkim	1.12	1.15	1.60	0.87
31	Tamil Nadu	0.92	0.72	1.07	1.13
32	Tripura	1.73	1.47	8.59	1.90
33	Uttar Pradesh	8.78	11.21	9.19	2.05
34	Uttarakhand	3.60	4.05	4.35	1.86
35	West Bengal	6.87	6.86	7.45	2.35
	All States	**3.23**	**3.71**	**2.15**	**2.12**

expected to retire in the next 2-3 years. In the case of government schools, this percentage is 3.71 (Table D-12). In the case of aided schools, the percentage is 2.15 compared to 2.12 in un-aided schools. In a few states, such as Mizoram, the percentage of teachers of 55 and above is much higher than the national average i.e. 3.23 percent. In view of their large number (5.63 million), the number of teachers retiring soon is also very high and the majority of them is from rural areas. The states should, therefore, undertake a thorough analysis of data on teachers and initiate steps for timely recruitment.

Table D13
Percentage Distribution of Teachers by Age Group: 2007-08

Age Group	All Category Teachers			All Teachers in Primary Schools
	Total	Male	Female	
Below 18	1.11	0.68	1.69	1.30
18 to 25	18.43	15.29	22.65	20.77
26 to 35	34.11	34.21	33.98	34.97
36 to 45	25.64	26.41	24.60	23.64
46 to 55	16.53	18.25	14.24	15.17
Above 55	3.23	4.08	2.09	3.51

Note: Total may not add to hundred because of no responses and rounding of figures.

Academic and Professional Qualifications of Teachers

Educational as well as professional qualifications of teachers across school types have been presented in Tables D-14 to D-16. Irrespective of the type of schools, qualifications of a good number of teachers (2.58 percent against 2.92 percent in 2006-07) are below Secondary level. This is also applicable even to integrated Higher Secondary schools (2.20 percent) and Upper Primary attached to Secondary and Higher Secondary schools (1.32 percent). The distribution of all categories of teachers by educational qualifications reveals that 42.82 percent of male teachers and 44.51 percent of female teachers are Higher Secondary and below. These figures are quite similar to those in the previous year (44.27 and 45.32 percent). Altogether 43.54 percent (44.71 percent in 2006-07) (all categories) of teachers, who impart elementary education in the country, are Higher Secondary and below. It may be recalled that in many states the minimum qualification that has been prescribed for a teacher is Secondary. However, a few of them with below Secondary level (2.58 percent) qualifications are also appointed. The percentage of teachers with Higher Secondary level qualification is higher in rural areas (total 46.39 percent; male 44.69 percent; and female 49.47 percent) than the same in urban areas (total 34.17 percent; male 31.46 percent; and female 35.60 percent). On the other hand, about 56 percent (54 percent in 2006-07) male and 54 percent (53 percent in 2006-07) female teachers are Graduates and Post-Graduates (total 53.97 percent). Urban areas (64.32 percent against 63.16 percent in 2006-07) have more Graduate and Post- Graduate teachers than the same in rural areas (52.65 percent against 51.14 percent in 2006-07). Only 49.36 percent female teachers are Graduates and above in rural areas, compared to 62.89 percent in urban areas. Irrespective of the school type, a few teachers have even M.Phil and Ph.D degrees (total 0.46 percent; male 0.41 percent; and female 0.52

"About 11.40 percent Primary schools in Uttar Pradesh have a PTR of 100 and above compared to only 0.07 percent schools in Kerala. Bihar and Jharkhand too have a large number of such schools. Himachal and all the states from the north-eastern region have negligible number of such schools"

percent). In urban areas, the percentage of such teachers is 0.68, 0.62 and 0.64 respectively in case of male, female and all teachers together.

areas and urban areas but the same is not true in the case of teachers having Graduate and Post-Graduate degrees. Further, it is observed that percentage of female

Table D14
Academic Qualification of All Category Regular Teachers: 2007-08

Qualification	All Areas			Rural Areas			Urban Areas		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Below Secondary	2.56	2.61	2.58	2.57	2.74	2.63	2.52	2.39	2.44
Secondary	16.11	17.75	16.81	16.72	18.84	17.47	12.39	15.79	14.61
Higher Secondary	24.15	24.15	24.15	25.40	27.89	26.29	16.55	17.42	17.12
Up to Higher Secondary Level, 2007-08	**42.82**	**44.51**	**43.54**	**44.69**	**49.47**	**46.39**	**31.46**	**35.60**	**34.17**
Up to Higher Secondary Level, 2006-07	44.27	45.32	44.71	46.28	50.39	47.71	32.10	36.55	34.99
Graduate	37.72	35.55	36.80	36.79	32.54	35.29	43.41	40.93	41.80
Post Graduate	18.50	18.65	18.56	17.66	16.82	17.36	23.59	21.96	22.52
Graduate & Post Graduates, 2007-08	**56.22**	**54.20**	**55.36**	**54.45**	**49.36**	**52.65**	**67.00**	**62.89**	**64.32**
Graduate & Post Graduates, 2006-07	54.49	53.25	53.97	52.61	48.38	51.14	65.91	61.68	63.16
M.Phil/ Ph.D	0.41	0.52	0.46	0.37	0.47	0.40	0.68	0.62	0.64
Others	0.44	0.64	0.52	0.38	0.53	0.43	0.76	0.83	0.80
No Response	0.11	0.13	0.12	0.11	0.17	0.13	0.10	0.06	0.07

Note: Totals may not add to hundred because of rounding of figures.

The distribution of Primary school teachers in position by qualifications (Table D-15) reveals that majority of the teachers are Higher Secondary and below (total 54.91 percent against 55.77 percent in 2006-07, male 55.65 percent, and female 53.89 percent). About 3.54 percent male and 3.62 percent female teachers are below Secondary level and another 31.71 percent male and 30.21 percent female teachers have completed Secondary level of education. Not much difference is noticed in percentages of teachers below Secondary level in rural

"It is observed that percentage of female teachers having Graduate and Post-Graduate degrees is a bit higher than their male counterparts, which is true for both rural and urban areas. Only 30.27 percent of the total Primary school male teachers are Graduates against 30.62 percent such female teachers"

teachers having Graduate and Post-Graduate degrees is a bit higher than their male counterparts, which is true for both rural and urban areas. Only 30.27 percent of the total Primary school male teachers are Graduates against 30.62 percent such female teachers. Another 13.66 percent male and 14.57 percent female teachers are Post-Graduates. A few of them have even M.Phil and Ph.D degrees (0.31 percent). About 54 percent Primary school teachers in urban areas have Graduate and Post-Graduate degrees against about 43 percent in rural areas. It has

also been observed that compared to teachers in Primary schools, teachers in other types of schools are better qualified. Only 1.98 percent male and 2.18 percent female teachers in Elementary schools are below Secondary level (all teachers, 1.98 percent). About 54 percent male and 46 percent female teachers in such schools are Graduates and Post-Graduates, compared to 48 percent of all teachers. In addition, about 0.29

Figure 4.9
Percentage of Teachers by Academic Qualification: All Category Regular Teachers: 2007-08

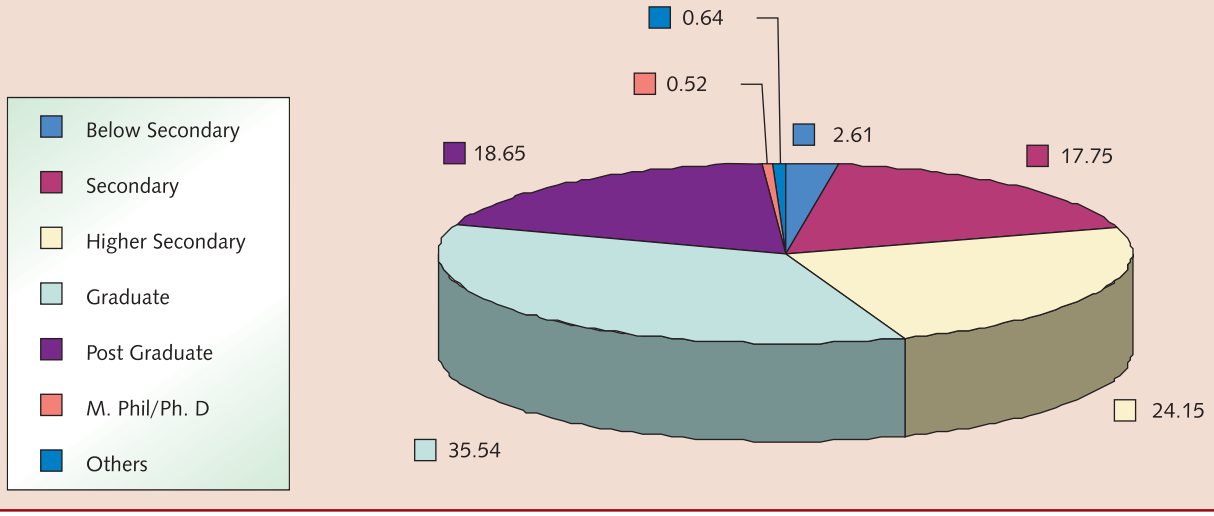


Table D15
Academic Qualification of Primary School Teachers (Regular): 2007-08

Qualification	All Areas			Rural Areas			Urban Areas		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Below Secondary	3.54	3.62	3.57	3.52	3.71	3.59	3.75	3.37	3.48
Secondary	20.40	20.06	20.26	20.77	20.59	20.70	16.42	18.62	17.95
Higher Secondary	31.71	30.21	31.08	32.30	32.87	32.52	25.29	22.97	23.67
Up to Higher Secondary Level, 2007-08	**55.65**	**53.89**	**54.91**	**56.59**	**57.17**	**56.81**	**45.46**	**44.96**	**45.10**
Up to Higher Secondary Level, 2006-07	56.82	54.23	55.77	57.76	57.43	57.64	46.67	46.04	46.23
Graduate	30.02	30.62	30.27	29.40	28.03	28.90	36.73	37.67	37.39
Post Graduate	13.66	14.57	14.04	13.36	13.92	13.56	16.89	16.33	16.50
Graduate & Post Graduates, 2007-08	**43.68**	**45.19**	**44.31**	**42.76**	**41.95**	**42.46**	**53.62**	**54.00**	**53.89**
Graduate & Post Graduates, 2006-07	42.40	44.83	43.38	41.47	41.69	41.55	52.22	52.84	52.65
M.Phil/Ph.D	0.28	0.35	0.31	0.27	0.35	0.30	0.33	0.35	0.35
Others	0.28	0.44	0.35	0.26	0.37	0.30	0.49	0.61	0.58
No Response	0.11	0.14	0.12	0.12	0.16	0.13	0.10	0.08	0.08

Note: Totals may not add to hundred because of rounding of figures.

percent of total teachers in such schools possess M.Phil and Ph.D degrees. Majority of teachers in integrated Higher Secondary schools are either Graduates (male 47.97 percent; and female 45.89 percent) or Post-Graduates (male 26.72 percent, and females 29.96 percent). The majority of teachers in independent Upper Primary schools is either Graduates (38.54 percent) or Post-Graduates (28.63 percent). Similar pattern is observed in the case of Upper Primary integrated with Higher Secondary schools as about 70 percent of the total teachers in such schools are either Graduates or Post Graduates.

"About 54 percent Primary school teachers in urban areas have Graduate and Post-Graduate degrees against 43 percent in rural areas"

a few states, such as Assam (10.32 percent), Daman & Diu 7.07 percent), Goa (6.12 percent), Gujarat (6.98 percent), Haryana (6.97 percent); Meghalaya (14.46 percent); Mizoram (24.31 percent); Nagaland (14.30 percent); Punjab (12.24 percent); Sikkim (7.33 percent); and Tripura (30.99 percent), have a significant percentage of teachers below Secondary level. The majority of primary teachers in these and a few other states, such as Assam (56.58 percent), Daman and Diu (44.17 percent), Goa (54.73 percent), Gujarat (45.14 percent), Himachal Pradesh (40.62 percent), Lakshadweep (81.77 percent), Maharashtra

Table D16
Professional Qualification of All Category Teachers (Regular): 2007-08

Professional Qualification	All Areas			Rural Areas			Urban Areas		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
J.B.T or Equivalent	22.99	18.87	**20.94**	24.54	21.59	**23.26**	13.71	14.05	**13.57**
S.B.T or Equivalent	20.32	27.08	**22.90**	20.33	27.69	**22.75**	20.25	26.00	**23.39**
B.Ed or Equivalent	33.07	31.28	**31.87**	31.68	27.67	**29.95**	41.36	37.68	**37.95**
M.Ed or Equivalent	2.14	2.17	**2.12**	1.95	1.80	**1.88**	3.28	2.82	**2.91**
Others	2.76	3.56	**3.06**	2.61	3.26	**2.82**	3.66	4.09	**3.84**
No Response	18.72	17.04	19.10	18.89	17.98	19.34	17.74	15.35	18.33

Note: Totals may not add to hundred because of rounding of figures.

Table D17
Professional Qualification of Primary School Teachers (Regular): 2007-08

Qualification	All Areas			Rural Areas			Urban Areas		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
J.B.T or Equivalent	35.29	27.20	**31.86**	35.89	28.80	**33.27**	28.96	22.97	**24.78**
S.B.T or Equivalent	19.39	27.76	**22.94**	19.31	27.51	**22.34**	20.28	28.41	**25.97**
B.Ed or Equivalent	22.08	21.64	**21.90**	21.54	19.36	**20.74**	27.76	27.68	**27.71**
M.Ed or Equivalent	1.13	1.30	**1.20**	1.08	1.14	**1.10**	1.70	1.70	**1.70**
Others	2.03	3.13	**2.50**	1.99	2.83	**2.30**	2.44	3.93	**3.48**
No Response	20.07	18.98	19.60	20.18	20.36	20.25	18.86	15.30	16.37

Note: Totals may not add to hundred because of rounding of figures.

Further, the state-specific distribution of teachers in Primary schools by academic qualifications reveals that (38.14) and Orissa (44.98 percent), has Secondary level qualification; this is also true for a few north-eastern

Table D18
Percentage of Regular and *Para*-Teachers with Professional Qualifications: 2007-08

State/UT	All Teachers (Regular & *Para*-Teachers)		Only Regular Teachers		*Para*-Teachers				
					Under All Managements		Under Government Managements	Under Government Aided Managements	Under All Private Managements
	2006-07	2007-08	2006-07	2007-08	2006-07	2007-08			
Andaman & Nicobar Islands	97.87	97.44	97.93	97.52	94.12	90.24	91.67	100.00	80.00
Andhra Pradesh	85.23	85.68	92.68	93.50	39.21	42.03	41.47	72.72	57.27
Arunachal Pradesh	35.02	27.78	37.21	31.97	21.42	7.78	7.15	40.00	15.74
Assam	39.77	37.23	41.54	39.15	15.72	15.23	15.35	9.14	11.94
Bihar	62.78	49.65	64.78	50.68	51.51	36.23	36.08	57.00	49.61
Chandigarh	99.14	99.96	99.17	99.96	96.72	100.00	100.00	100.00	100.00
Chhattisgarh	56.66	61.84	58.81	63.21	46.39	48.15	53.67	42.27	27.78
Dadra & Nagar Haveli	86.80	95.00	87.05	94.99	79.41	100.00	100.00	100.00	100.00
Daman & Diu	68.29	78.02	69.92	77.48	37.50	95.24	100.00	100.00	88.89
Delhi	99.14	93.39	99.17	93.31	98.53	96.20	96.07	96.30	97.44
Goa	92.34	93.59	92.48	93.78	82.29	78.57	72.73	91.18	86.05
Gujarat	96.03	96.56	96.05	96.59	94.12	94.14	98.37	94.04	90.26
Haryana	88.85	91.07	88.90	90.20	84.75	97.20	98.38	58.93	55.37
Himachal Pradesh	92.99	91.92	95.68	94.66	77.77	77.75	78.26	100.00	67.91
Jammu & Kashmir	50.72	48.67	53.18	51.55	42.10	38.69	38.76	100.00	34.61
Jharkhand	67.14	63.82	86.65	84.21	36.19	38.44	38.41	48.31	40.13
Karnataka	99.85	100.00	99.86	100.00	92.00	100.00	100.00	100.00	100.00
Kerala	96.97	96.56	96.95	96.54	97.89	97.37	97.92	97.24	96.85
Lakshadweep	88.73	98.55	88.65	98.91	100.00	33.33	33.33	100.00	100.00
Madhya Pradesh	60.09	75.08	60.17	65.29	59.33	42.74	85.35	47.87	28.28
Maharashtra	87.95	89.12	87.86	89.04	97.49	96.94	97.74	96.97	96.30
Manipur	39.43	37.86	39.64	38.17	23.86	18.04	31.45	6.90	11.46
Meghalaya	33.81	29.54	34.52	30.47	22.35	15.85	28.85	14.02	13.33
Mizoram	60.48	56.62	70.61	70.33	16.61	14.61	23.20	12.20	3.77
Nagaland	15.92	19.70	15.93	19.69	13.82	21.47	22.86	100.00	17.65
Orissa	89.74	85.89	89.82	88.84	65.82	77.07	77.10	80.69	76.27
Puducherry	93.92	89.50	94.11	89.59	86.10	84.95	90.08	100.00	75.38
Punjab	93.27	96.91	93.64	97.20	74.51	79.28	79.95	79.41	74.15
Rajasthan	86.00	85.04	86.10	85.16	84.99	83.59	86.45	62.90	57.53
Sikkim	37.09	39.82	37.22	39.93	11.76	23.21	21.28	0.00	33.33
Tamil Nadu	95.40	94.33	95.46	94.38	90.35	87.10	93.90	91.73	84.84
Tripura	38.47	40.25	39.11	40.85	19.75	20.90	20.76	20.00	22.73
Uttar Pradesh	75.25	73.29	88.73	86.70	35.71	34.91	34.63	55.30	58.29
Uttarakhand	71.13	76.69	73.96	79.58	29.27	38.44	37.86	53.12	41.90
West Bengal	71.02	66.37	75.71	74.29	22.24	18.62	18.38	22.09	22.35
All States*	**78.21**	**77.68**	**81.85**	**80.90**	**44.88**	**45.54**	**45.06**	**60.09**	**52.99**

* Percentage is computed based on all teachers including those who have not responded and reported not having professional qualification.

states. On the other hand, in a few states, such as Andhra Pradesh, Chandigarh, Delhi, Puducherry, Punjab, Rajasthan, Uttar Pradesh and Uttarakhand, the majority (above 50 percent) of Primary school teachers is Graduates and above. Uttarakhand has more Post-Graduate Primary school teachers (35.92 percent) than teachers having Graduate degrees (31.47 percent) and the percentage of such female teachers is more than their male counterparts.

Percentage of teachers by professional qualification (excluding *para*-teachers) presented in Tables D-16 and D-17 suggests that about 41.36 percent male and 37.68 percent female teachers (all categories) in urban areas are B.Ed or equivalent, compared to 31.68 percent male and 27.67 percent female teachers in rural areas. The total of these two shows that 38 and 30 percent teachers, respectively, in urban and rural areas have such degrees. It has also been noticed that percentage of such teachers in urban areas is higher than the same in rural areas. The corresponding figures in the case of teachers at Primary level are 27.76 percent male and 27.68 percent female (total 27.71 percent). In the case of integrated Higher Secondary schools, as many as 44.44 percent male and 47.32 percent female teachers had B.Ed or equivalent degree in 2007-08, compared to 46.05 percent in the case of all teachers. Upper Primary attached to Secondary and Higher Secondary schools also have 61.35 percent (61.14 male and 61.71 female) teachers with B.Ed degree. Further, it is noticed that compared to teachers having B.Ed degree, the percentage of teachers having M.Ed degree across school types is low. On the other hand, a good number of teachers are J.B.T or equivalent which is true for all categories and Primary teachers. Considering all teachers together, only 1.20 percent teachers in Primary schools have M.Ed or equivalent degree compared to 1.84 percent in independent Elementary, 3.88 percent in integrated Higher Secondary, 2.98 percent in Upper Primary and 3.97 percent in Upper Primary attached to Secondary and Higher Secondary schools.

> "Percentage of teachers by professional qualification suggests that about 41.36 percent male and 37.68 percent female teachers in urban areas are B.Ed or equivalent, compared to 31.68 percent male and 27.67 percent female teachers in rural areas"

The percentage of no response in each school category indicates that a fairly good number of regular teachers do not possess any professional qualification. The percentage of such teachers (both regular and *para*-teachers) is 22.32, compared to 19.10 percent in the case of regular teachers of all categories. The state-wise percentage of teachers with professional qualifications is presented in Table D-18. It reveals that about 78 percent of the total teachers at Elementary level possess one or the other professional qualification, compared to 45 percent in the case of *para*-teachers. In the case of regular teachers alone, the percentage is as high as 81. The state-specific percentages reveal that the majority of regular teachers in all the north-eastern states, including Assam as well as in Jammu and Kashmir and in a few other states is yet to attain professional qualification. This is also true for *para*-teachers. On the other hand, in a few states, like Delhi, Kerala, Karnataka, Maharashtra, Rajasthan and Tamil Nadu, the majority of *para*-teachers are professionally trained; the majority of regular teachers in such states are also trained.

In-Service Training of Teachers

As many as 2.07 million teachers had undergone in-service training in 2006-07 compared to 1.69 million in 2005-06. In other words, about 38.32 percent male and 35.80 percent female teachers (all categories) were imparted in-service training during the year 2006-07, compared to 33.22 percent male and 32.30 percent female teachers in 2005-06. In percentage terms, more female teachers were imparted in-service training than their male counterparts in both rural and urban areas. More than 71 percent of teachers in Gujarat (males 79.13 percent and females, 64.03 percent) underwent in-service training, the highest amongst all the states.

The percentage of such teachers in Sikkim was the lowest (0.31 percent). Their percentage was as high as 63.77 percent in Kerala, 51.57 percent in Uttarakhand, 53.81 in Tamil Nadu, 55.07 percent in Himachal Pradesh and 55.58 percent in Punjab, and as low as 8.25 percent in Arunachal Pradesh and 8.52 percent in Manipur. Delhi (26.62 percent), Chandigarh (15.00 percent), Puducherry (8.14 percent), etc., too have a very low percentage of teachers who were imparted in-service training during the previous year.

"More female teachers were imparted in-service training than their male counterparts in both rural and urban areas. More than 71 percent of teachers in Gujarat underwent in-service training, the highest amongst all the states"

About 44 percent teachers in the Primary schools, both male and female, received in-service training during the previous academic year. The percentage of such teachers has been much higher in rural areas (46.54 percent) than in urban areas (29.15 percent). Further, it has also been observed that a good number of Primary school teachers in government managed schools received in-service training (43.84 percent), compared to only 13.24 percent teachers in private managed schools. A few states, such as Andhra Pradesh (54 percent), Goa (68 percent),

Table D19
Percentage of Teachers Received In-Service Training: 2007-08*

School Category	All Areas			Rural Areas			Urban Areas		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Primary only	45.89	41.53	44.05	47.14	45.55	46.54	30.64	28.50	29.15
Primary with Upper Primary	41.77	38.65	40.36	45.46	47.65	46.30	20.28	22.35	21.66
Primary with Upper Primary & Secondary/ Hr. Secondary	14.39	15.21	14.85	17.15	23.05	19.74	9.10	9.82	9.60
Upper Primary only	32.71	32.50	32.64	33.39	36.16	34.21	26.56	24.03	24.98
Upper Primary & Secondary/ Hr. Secondary	23.59	26.64	24.75	26.24	34.00	28.64	14.73	17.07	15.98
All Schools	**38.32**	**35.80**	**36.81**	**41.02**	**42.88**	**41.36**	**20.40**	**21.45**	**20.57**

* In previous academic year 2006-07.

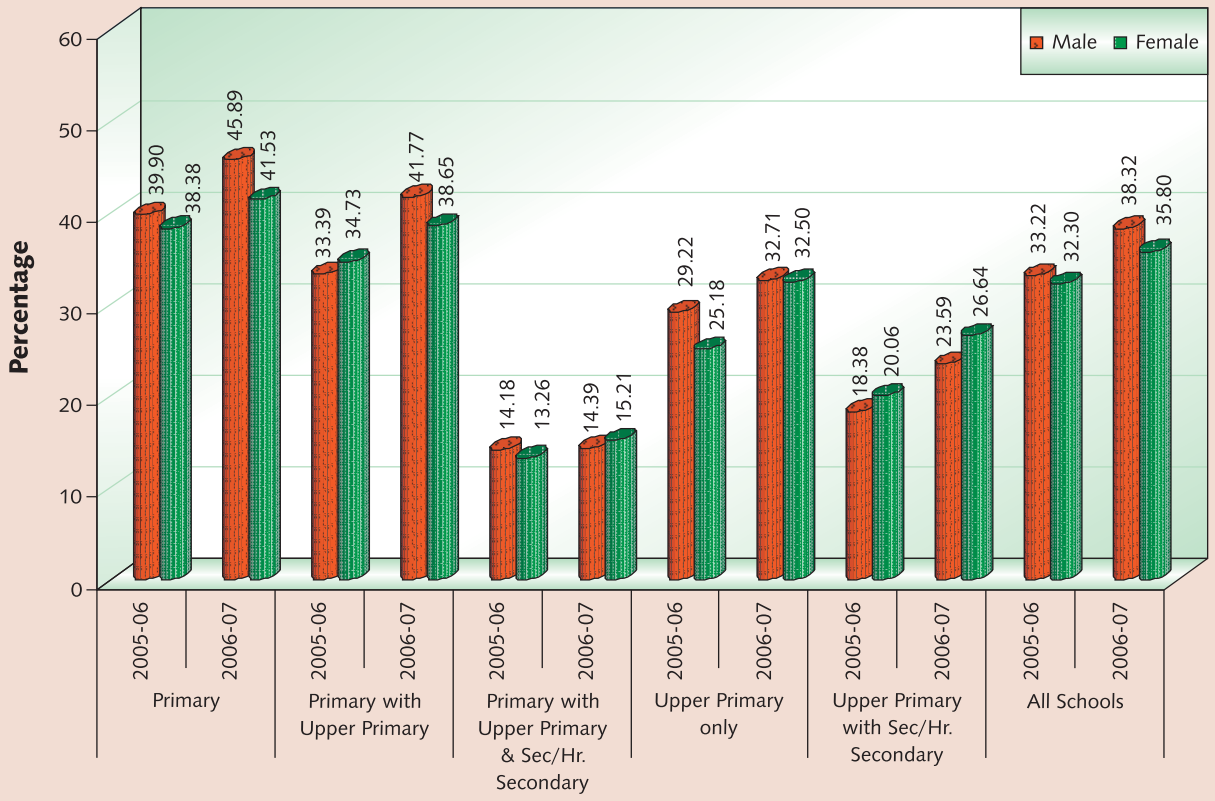
The highest percentage of teachers imparted in-service training is noticed in the case of teachers in Primary schools (total 44.05 percent; male 45.89 percent, and female 41.53 percent), followed by independent Elementary schools (total 40.36 percent; male 41.77 percent; and females 38.65 percent), Upper Primary schools (total 32.64 percent; male 32.71 percent; and female 32.50 percent), Upper Primary attached to Secondary and Higher Secondary schools (total 24.75 percent; male 23.59 percent; and female 26.64 percent) and integrated Higher Secondary schools (total 14.85 percent; male 14.39 percent; and female 15.21 percent) (Table D-19).

Gujarat (72 percent), Himachal Pradesh (71 percent), Kerala (67 percent), Tamil Nadu (65 percent), Uttarakhand (51 percent) and West Bengal (69 percent), have had a much higher percentage of trained teachers (Primary) than the average of all districts (44.05 percent). On the other hand, the percentage of trained teachers in the states of Arunachal Pradesh (10 percent), Bihar (45 percent), Chhattisgarh (46 percent), Delhi (19 percent), Karnataka (39 percent), Maharashtra (21 percent), Meghalaya (24 percent), Nagaland (20 percent) and Uttar Pradesh (18 percent) has been low as the majority of Primary school teachers in these states were not provided in-service training during the pervious

year. All the north-eastern states too have a lower percentage of teachers who were imparted in-service training than the all-India average of 44.05.

para-teachers are not confined to Primary and Upper Primary schools but a good number of them have also been posted in other types of schools. Further, in as many as 68,186 schools (5.45 percent of total schools) only *para*-teachers were working in 2007-08 against 70,338 (5.88 percent) in 2006-07. The number of such schools in Rajasthan, Jharkhand and Assam, has been as high as 13,097, 16,408 and 12,436 schools, respectively, their corresponding percentages being 12.68, 39.12 and 18.64 of the total schools in these states. It may be recalled that the total number of such schools in Madhya Pradesh has come down to 898 in 2007-08 from 7,423 in 2006-07 and from 37,285 schools reported in 2005-06 as the state has recently upgraded most of its EGS into formal Primary schools and teachers in such schools has shown under regular teachers category. Still it may possible that all these teachers in the state may not draw full salary of a regular teacher. In other states such schools are only a few but in states such as Arunachal Pradesh (2,086, 45.75 percent) and Jammu and Kashmir 3,716 (17.87 percent), in percentage term, it is quite high.

Figure 4.10
Percentage Distribution of Teachers Received In-Service Training



From the DISE database, it is possible to locate all such schools where teachers were imparted in-service training. Together with information on schools with availability of infrastructure, or independent students' assessment in terminal grades can also be identified; all of which are factors that influence quality of education and examination results. While planning for in-service training in the following year, institutions like the SCERT may like to use the rich DISE database to identify training needs.

Para-Teachers

The comprehensive data on *para*-teachers is being collected through the DISE operations every year. It reveals that all the states (except Karnataka) have reported information on *para*-teachers though in a few states (Chandigarh, Dadra and Nagar Haveli, Lakshadweep etc.) their number is negligible. It has also been observed that

Across the country, as many as 584,000 *para*-teachers were working in 2007-08 which is 10.48 percent of total teachers, compared to 514,000 (9.86 percent) in 2005-06. During 2006-07 and 2007-08, as many as 70,186 additional *para*-teachers were appointed. This shows an increase of 13.66 percent over the total *para*-teachers in the previous year. Of the total *para*-teachers, 56 percent are male and the remaining 44 percent are female teachers. The respective percentage of male and female *para*-teachers to total male and female teachers works out to 10.22 and 10.84, which is quite similar to the corresponding figures in the previous year. In other words, about 10.48 percent of total teachers (all categories) are *para*-teachers compared to 10 percent in the previous year.

It may also be of interest to know that 92.62 percent of the total *para*-teachers have been posted in rural areas.

Table D20
Distribution of *Para*-Teachers by School Category: 2007-08

School Category	Number of *Para*-Teachers					
	Male	Female	Total		Rural Areas	
			2007-08	2006-07	Number	% to Total
Primary only	212683	171082	383765	351236	366508	95.50
Primary with Upper Primary	66380	47513	113893	89788	103151	90.57
Primary with Upper Primary & Secondary/Hr. Secondary	5303	5721	11024	10898	7235	65.63
Upper Primary only	9378	5959	15337	21031	13904	90.66
Upper Primary & Secondary/Hr. Secondary	29795	26555	56350	40644	46611	82.72
No Response	2388	1067	3455	41	3335	96.53
All Schools (2007-08)	**325927**	**257897**	**583824**	**–**	**540744**	**92.62**
All Schools (2006-07)	292831	220807	513638	513638	475859	92.64
All Schools (2005-06)	305973	192971	498944	498944	464535	93.10
All Schools (2004-05)	241926	135740	379385	379385	346824	91.42
All Schools (2003-04)	167730	91369	259099	259099	240734	92.91

Note: Rural and urban totals may not add to total number of *para*-teachers because of no responses in these areas and also in male and female categories.

Urban areas had only 43,100 *para*-teachers in 2007-08, compared to 540,700 in rural areas (Table D-20). In percentage terms, the share of *para*-teachers is very high in rural areas (12.39 percent) than in urban areas (3.58 percent). In rural areas, the percentage of female *para*-teachers has been very high in a few school types, such as Primary (20.40 percent) but it is not the case in urban areas. The percentage of female *para*-teachers in Primary schools in urban areas has been as low as 4.88. Further, it has also been observed that in both schools under Government (14.10 percent) as well as Government Aided (2.21 percent) managements, a large number of *para*-teachers have been appointed across the country.

"Across the country, as many as 584,000 *para*-teachers were working in 2007-08 which is 10.48 percent of total teachers, compared to 514,000 in 2005-06. During 2006-07 and 2007-08, as many as 70,186 additional *para*-teachers were appointed. This shows an increase of 13.66 percent over the total *para*-teachers in the previous year"

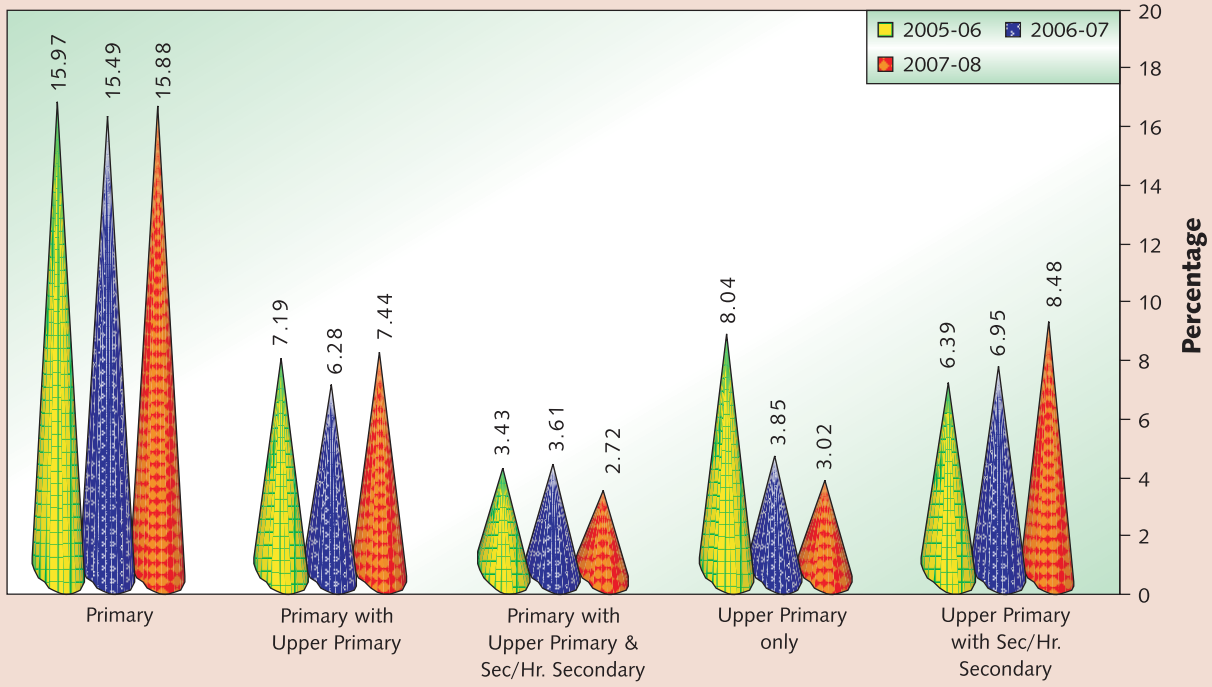
The state-specific number of *para*-teachers reveals that majority of *para*-teachers have been appointed in the states of Andhra Pradesh (78,829; 15.19 percent of total *para*-teachers), Bihar (23,487; 7.16 percent)), Chhattisgarh (14,110; 9.11 percent), Jharkhand (66,100; 44.57 percent), Orissa (55,785, 25.09 percent), Rajasthan (33,287; 7.88 percent), Uttar Pradesh (1,66,923; 25.90 percent), and West Bengal (39,013;

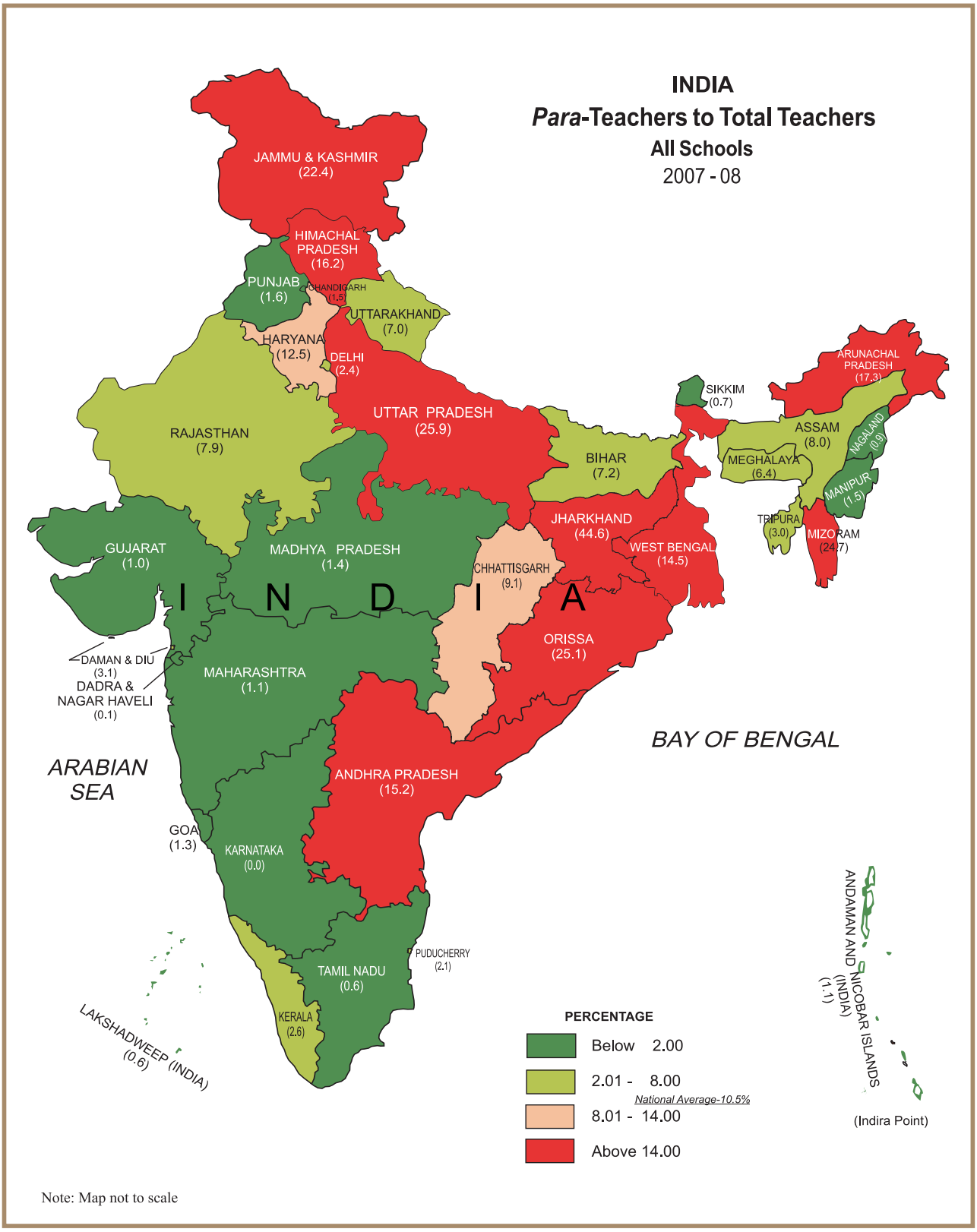
Table D21
Percentage of *Para*-Teachers to Total Teachers: 2007-08

School Category	All Areas			Rural Areas			Urban Areas		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Primary only	15.25	16.74	15.88	16.07	20.40	17.70	5.22	4.88	4.98
Primary with Upper Primary	7.90	6.88	7.44	8.74	9.09	8.87	3.02	2.85	2.91
Primary with Upper Primary & Secondary/ Hr. Secondary	2.96	2.53	2.72	3.49	3.40	3.45	1.95	1.93	1.94
Upper Primary only	2.86	3.32	3.02	2.98	4.07	3.30	1.78	1.58	1.65
Upper Primary & Secondary/ Hr. Secondary	7.22	10.54	8.48	8.23	14.36	10.13	3.84	5.57	4.77
All Schools (2007-08)	10.22	10.84	10.48	11.23	14.41	12.39	3.51	3.61	3.58
All Schools (2006-07)	9.81	10.28	9.86	10.78	13.87	11.87	3.47	3.30	3.36
All Schools (2005-06)	11.21	10.47	10.91	12.29	14.00	12.87	3.81	3.42	3.27
All Schools (2004-05)	10.04	8.53	9.09	10.91	11.27	10.72	3.87	3.29	3.27

Note: Total may not add to hundred because of missing values and rounding of figures.

Figure 4.11
Percentage of *Para*-Teachers to Total Teachers




INDIA
Para-Teachers to Total Teachers
All Schools
2007 - 08
JAMMU & KASHMIR (22.4)
HIMACHAL PRADESH (16.2)
PUNJAB (1.6)
CHANDIGARH (1.5)
UTTARAKHAND (7.0)
HARYANA (12.5)
DELHI (2.4)
RAJASTHAN (7.9)
UTTAR PRADESH (25.9)
BIHAR (7.2)
SIKKIM (0.7)
ARUNACHAL PRADESH (17.3)
ASSAM (8.0)
NAGALAND (0.9)
MEGHALAYA (6.4)
MANIPUR (1.5)
TRIPURA (3.0)
MIZORAM (24.7)
JHARKHAND (44.6)
WEST BENGAL (14.5)
GUJARAT (1.0)
MADHYA PRADESH (1.4)
CHHATTISGARH (9.1)
I N D I A
ORISSA (25.1)
DAMAN & DIU (3.1)
DADRA & NAGAR HAVELI (0.1)
MAHARASHTRA (1.1)
BAY OF BENGAL
ARABIAN SEA
ANDHRA PRADESH (15.2)
GOA (1.3)
KARNATAKA (0.0)
PUDUCHERRY (2.1)
TAMIL NADU (0.6)
KERALA (2.6)
LAKSHADWEEP (INDIA) (0.6)
ANDAMAN AND NICOBAR ISLANDS (INDIA) (1.1)
(Indira Point)
PERCENTAGE
Below 2.00
2.01 - 8.00
National Average-10.5%
8.01 - 14.00
Above 14.00
Note: Map not to scale

Map 4.3

14.51 percent) which together constitute a total of 478,000 *para*-teachers, i.e. 82 percent of the total *para*-teachers across 35 States and UTs. Compared to these, other states, except Assam (19,457 *para*-teachers) and Himachal Pradesh (10,292 *para*-teachers), have only lesser number of *para*-teachers.

Notably, *para*-teachers are not confined to Primary schools. A good number of other types of schools also have *para*-teachers as of 2007-08. However, majority of them have been posted in Primary schools. A total of 384,000 *para*-teachers are posted in Primary schools, which is 66 percent of total *para*-teachers in the country. The distribution of *para*-teachers by school category reveals that 15.25 percent male teachers and 16.74 percent female teachers of the corresponding gender-wise total teachers posted in Primary schools are *para*-teachers. About 56 percent of the total *para*-teachers in Primary schools are male and the remaining 44 percent female teachers. Their combined percentage is about 15.88, which means 16 out of every 100 teachers in Primary schools are *para*-teachers, of which 18 out of 100 are in rural areas and 5 out of 100 in urban areas. Their number is more than 113,900 in Elementary (Primary with Upper Primary) schools, which amounts to 7.44 percent of the total teachers in Elementary schools. On the other hand, as many as 15,337 *para*-teachers are posted in independent Upper Primary schools which is 3.02 percent of the total teachers in such schools. Compared to Primary schools, Upper Primary and Elementary schools, integrated Higher Secondary, and Upper Primary attached to Secondary and Higher Secondary schools have much less number of *para*-teachers. In both these types of schools, about 11,000 and 56,400 *para*-teachers were appointed in 2007-08, which works out to be 2.72 and 8.48 percent, respectively, of the total teachers in these schools (Table D-21).

Further, it is observed that Andhra Pradesh, Haryana, Jammu and Kashmir, Jharkhand, Mizoram, Orissa and Uttar Pradesh have an average of almost one *para*-teacher each in all categories of schools. It is also true for Primary schools in Jammu and Kashmir, Jharkhand, Orissa and Uttar Pradesh and in schools located in rural areas. The respective percentage of male and female *para*-teachers in Primary schools in Jharkhand is as high as 62.89 and 60.54. Arunachal Pradesh too has a high percentage of male *para*-teachers, 30.89, and female *para*-teachers, 40.52. Their respective percentages are 44.25 and 32.76 in Jammu and Kashmir, 22.42 and 12.56 in Rajasthan, 24.20 and 15.72 in Himachal Pradesh, 19.97 and 14.98 in Haryana and 27.89 and 48.96 in Uttar Pradesh. Compared to high percentage in these states, the percentage of *para*-teachers to total teachers in the remaining states is low. Kerala has only 2.21 percent *para*-teachers against 0.85 percent in Gujarat. The percentage of male and female para-teachers to total teachers in Delhi comes to 2.88 and 2.67. All the states in the north-eastern region of the country also reported information on *para*-teachers in all types of schools; the percentage of *para*-teachers to total teachers in these states (except Mizoram and Tripura) is quite low as compared to other states. The Andaman and Nicobar Islands, Chandigarh, Goa, Daman and Diu, Dadra and Nagar Haveli, and Maharashtra hardly have any *para*-teacher in their Primary schools. On the other hand, Karnataka and Lakshadweep did not report any *para*-teacher in its Primary schools as also in most of other school types.

"Andhra Pradesh, Haryana, Jammu and Kashmir, Jharkhand, Mizoram, Orissa and Uttar Pradesh have an average of almost one *para*-teacher each in all categories of schools. It is also true for Primary schools in Jammu and Kashmir, Jharkhand, Orissa and Uttar Pradesh and in schools located in rural areas"

Academic Qualifications of Para-Teachers

The distribution of *para*-teachers by school category reveals that they are almost equally qualified as regular teachers (Tables D-14 & 15 and Tables D-22 & 23). About 42.82 percent regular male teachers, 44.51 percent regular female teachers and 43.54 percent all regular teachers have up to Higher Secondary education. The percentage in case of *para*-teachers is 44.84 percent male, 48.43 percent female and 46.42 all *para*-teachers. The distribution of teachers below Higher Secondary level further reveals that

the percentage in the case of regular teachers (2.58 percent) is slightly lower than that of the *para*-teachers (2.86 percent). This is also true for such *para*-teachers in Primary schools. Only 2.86 percent (all categories) *para*-teachers are below Secondary level, compared to 2.58 percent of regular teachers. The percentage in the case of the percentage of such *para*-teachers is much higher at 65.90 compared to 51.71 in rural areas. Though the number is small, a few regular (0.46 percent) and *para*-teachers (0.42 percent) are even M.Phil/Ph.D degree holders. This is also true in the case of teachers in Primary schools (Tables D-22 and D-23).

Table D22
Academic Qualification of *Para*-Teachers: 2007-08, All Categories

Qualification	All Areas			Rural Areas			Urban Areas		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Below Secondary	2.98	2.71	2.86	3.01	2.78	2.91	2.33	2.16	2.22
Secondary	10.60	11.69	11.08	10.71	11.93	11.23	8.16	9.72	9.19
Higher Secondary	31.26	34.03	32.48	31.82	35.58	33.43	19.24	21.43	20.69
Up to Higher Secondary Level, 2007-08	**44.84**	**48.43**	**46.42**	**45.54**	**50.29**	**47.57**	**29.73**	**33.31**	**32.10**
Up to Higher Secondary Level, 2006-07	45.89	50.37	47.81	46.65	52.42	49.03	30.30	33.65	32.42
Graduate	41.78	37.99	40.07	41.31	36.83	39.41	50.14	47.45	48.36
Post Graduate	12.62	12.78	12.69	12.39	12.19	12.30	17.48	17.58	17.54
Graduate & Post Graduates, 2007-08	**54.40**	**50.77**	**52.76**	**53.70**	**49.02**	**51.71**	**67.62**	**65.03**	**65.90**
Graduate & Post Graduates, 2006-07	53.23	48.79	51.32	52.54	46.84	50.19	67.28	64.79	65.69
M.Phil/Ph.D	0.41	0.43	0.42	0.40	0.41	0.40	0.63	0.57	0.59
Others	0.21	0.21	0.21	0.20	0.18	0.19	0.51	0.45	0.47
No Response	0.22	0.16	0.19	0.16	0.10	0.13	1.51	0.64	0.94

Note: Totals may not add to hundred because of rounding of figures.

regular Primary teachers is still higher at 3.57 teachers; the corresponding percentage of primary *para*-teachers is 3.60 teachers. About 54.40 percent male and 50.77 percent female *para*-teachers are Graduates and Post Graduates, compared to 56.22 percent male and 54.20 percent female regular (all categories) teachers. This shows that about 53 percent *para*-teachers have Graduate and Post Graduate degrees, compared to 55 percent in the case of regular teachers. In urban areas,

"Distribution of teachers below Higher Secondary level further reveals that the percentage in the case of regular teachers is slightly lower than that of the *para*-teachers. This is also true for such *para*-teachers in Primary schools"

The state-specific distribution of *para*-teachers by qualifications suggests that some states have higher percentage of teachers with qualification below Secondary level than the average of all districts (2.86 percent). Arunachal Pradesh (37.87 percent), Daman and Diu (14.29 percent), Meghalaya (10.90 percent), Nagaland (10.47 percent), Rajasthan (6.47 percent) and Tripura (15.76 percent) are a few such states. On the other hand, Andhra Pradesh, Bihar, Delhi,

Figure 4.12
Percentage of *Para*-Teachers by Educational Qualification

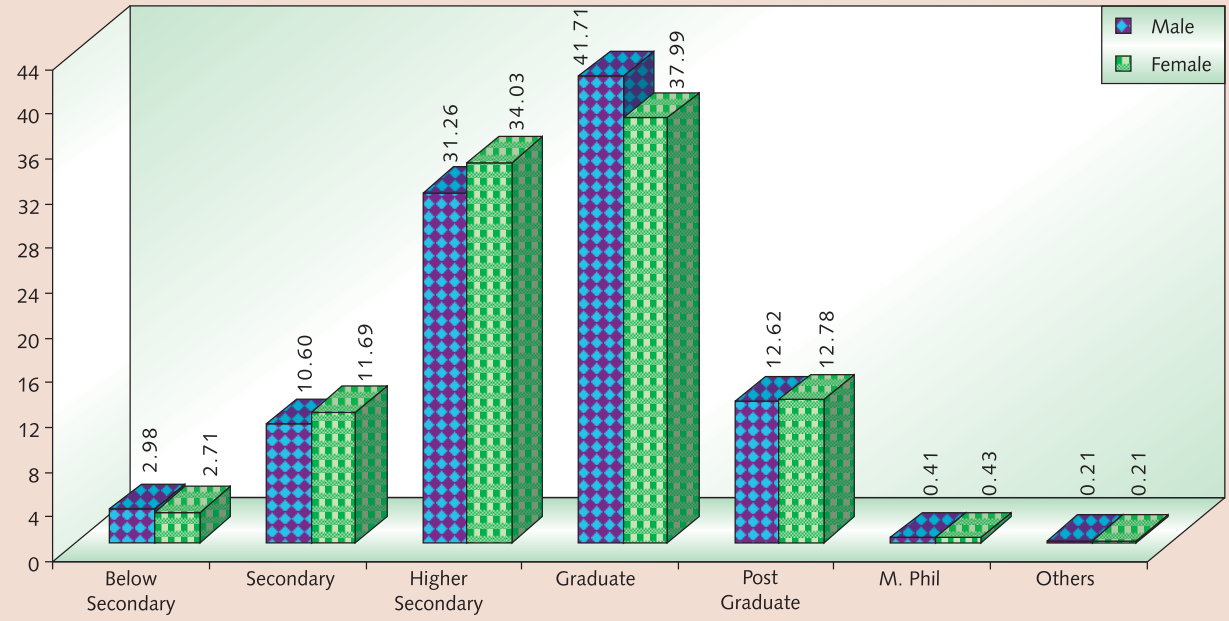


Table D23
Academic Qualification of Primary School *Para*-Teachers: 2007-08

Qualification	All Areas			Rural Areas			Urban Areas		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Below Secondary	3.83	3.32	3.60	3.84	3.34	3.62	3.41	3.06	3.17
Secondary	12.11	12.61	12.34	12.10	12.45	12.24	12.53	14.82	14.09
Higher Secondary	36.31	39.24	37.60	36.53	39.91	38.00	27.25	30.11	29.20
Up to Higher Secondary Level, 2007-08	**52.25**	**55.17**	**53.54**	**52.47**	**55.70**	**53.86**	**43.19**	**47.99**	**46.46**
Up to Higher Secondary Level, 2006-07	52.19	56.29	53.93	52.40	56.65	54.19	43.35	50.21	47.73
Graduate	35.15	32.44	33.93	34.96	32.00	33.68	41.82	38.23	39.38
Post Graduate	12.02	11.87	11.96	11.99	11.80	11.91	13.19	12.88	12.98
Graduate & Post Graduates, 2007-08	**47.17**	**44.31**	**45.89**	**46.95**	**43.80**	**45.59**	**55.01**	**51.11**	**52.36**
Graduate & Post Graduates, 2006-07	47.19	43.08	45.43	46.99	42.73	45.20	55.67	48.94	51.37
M.Phil/Ph.D	0.34	0.34	0.34	0.34	0.34	0.34	0.51	0.34	0.39
Others	0.13	0.12	0.13	0.12	0.11	0.12	0.38	0.32	0.34
No Response	0.14	0.06	0.10	0.12	0.05	0.09	0.91	0.24	0.45

Note: Totals may not add to hundred because of rounding of figures.

Haryana, Himachal Pradesh, Jammu and Kashmir, Manipur, Orissa, Sikkim, Karnataka and Uttarakhand have lower percentage of *para*-teachers with below Secondary level qualifications. Comparatively, percentage of such teachers in other school types is lower than Primary schools (3.60 percent). Even in integrated Higher Secondary schools, about 2.29 percent teachers are below Secondary level compared to 0.68 percent such teachers in Upper Primary attached to Secondary and Higher Secondary schools. In the case of Elementary and independent Upper Primary schools, the corresponding percentages are 1.49 and 1.34.

On the other hand, it is observed that in a number of states, the percentage of *para*-teachers with Secondary School qualification is much higher than the national average (11.08 percent). Arunachal Pradesh, Andhra Pradesh, Assam, Daman and Diu, Goa, Gujarat, Kerala, Maharashtra, Meghalaya, Mizoram, Nagaland, Orissa, Tripura and West Bengal are a few such states. On the other hand, more than 50 percent teachers in the states of Goa, Manipur and West Bengal are Graduates compared to the national average of 40.07 percent. In Chandigarh, more than half of the total teachers that impart elementary education are Post-Graduates. Chhattisgarh, Delhi, Haryana, Himachal Pradesh, Jammu & Kashmir, Madhya Pradesh, Punjab, Rajasthan, Tamil Nadu and Uttarakhand too have a good number of Post-Graduate *para*-teachers.

"Majority of teachers imparting elementary education across 35 States and Union Territories were not involved in non-teaching assignments in 2006-07 which is also true for the previous year. The percentage of such teachers has been as low as 10.84 compared to 12.16 percent in rural and only 6.17 percent in urban areas"

Professional Qualifications of Para-Teachers

Para-teachers though are academically equally or better qualified than the regular teachers, but many of them do not possess professional qualifications. Not much difference is observed across school types between male and female *para*-teachers. However, the percentage of *para*-teachers without professional qualification is a bit low in urban areas than in rural areas. The percentage of such teachers in urban areas in the case of male teachers is 46.42 and for female teachers 45.03. The corresponding figures in rural areas are 52.62 percent for male and 58.39 percent for female teachers.

It is also interesting to note that 10.89 percent male *para*-teachers and 7.40 percent female *para*-teachers in Primary schools have B.Ed or equivalent degrees. Percentage of such *para*-teachers is a little higher in urban areas (15.45 percent male and 14.27 percent

Table D24
Percentage of *P*ara-Teachers with Professional Qualification by School Category: 2007-08

School Category	Percentage				
	Male	Female	All Areas	Rural Areas	Urban Areas
Primary only	44.20	37.63	**41.27**	40.92	48.81
Primary with Upper Primary	84.37	52.74	**51.18**	50.93	53.57
Primary with Upper Primary & Secondary/Hr. Secondary	99.00	69.58	**64.95**	63.69	67.40
Upper Primary only	98.48	64.46	**64.81**	64.91	63.79
Upper Primary & Secondary/Hr. Secondary	93.82	48.57	**52.49**	51.16	58.89
All Schools	**47.66**	**43.08**	**45.63**	**44.93**	**54.50**

Note: Percentages have been worked out taking into account the teachers not responded as well as not having any professional qualification.

female *para*-teachers) than in rural areas (10.77 percent male and 6.90 percent female *para*-teachers). In addition, about one percent *para*-teachers in the Primary schools have M.Ed or equivalent degrees. The percentage of *para*-teachers with M.Ed degrees is slightly higher in the case of other school types. About 15 percent *para*-teachers teaching in Primary schools are J.B.T or equivalent and another 9.14 percent male and 6.79 percent female teachers have S.B.T or equivalent qualifications.

State-specific percentages of *para*-teachers [Table D-18] reveal that in the majority of states all such teachers are yet to attain professional qualifications. However, in Chandigarh, Daman and Diu, Delhi, Gujarat, Haryana, Maharashtra, Puducherry, Rajasthan and Tamil Nadu and in a few smaller states, above 80 percent *para*-teachers possess professional qualifications. But the percentage of such *para*-teachers is as low as 36.23 percent in Bihar, 34.91 percent in Uttar Pradesh, 38.44 percent in Uttarakhand and 18.62 percent in West Bengal.

Table D25
Professional Qualifications of *Para*-Teachers (All Categories): 2007-08

Qualification	Percentage								
	All Areas			Rural Areas			Urban Areas		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
J.B.T or Equivalent	12.21	11.62	**11.95**	12.36	11.99	**12.20**	9.08	8.65	**8.80**
S.B.T or Equivalent	10.64	9.33	**10.06**	10.61	8.94	**9.90**	11.39	12.51	**12.13**
B.Ed or Equivalent	16.38	14.00	**15.33**	15.96	12.56	**14.52**	25.27	25.57	**25.47**
M.Ed or Equivalent	1.39	1.31	**1.36**	1.33	1.17	**1.27**	2.56	2.44	**2.48**
Others	7.03	6.82	**6.94**	7.12	6.94	**7.04**	5.28	5.79	**5.62**
No Response*	52.34	56.92	54.37	52.62	58.39	55.07	46.42	45.03	45.50

* Including teachers without professional qualification.

Distribution of Teachers by Caste

The caste distribution of teachers (including *para*-teachers) is presented in Table D-26. This has also been presented in the case of all government and private managements together. The data reveals that government is the main employer of both the Scheduled Castes and Scheduled Tribes teachers as the majority of SC and ST teachers (all categories) are employed in schools run by government managements. However, the

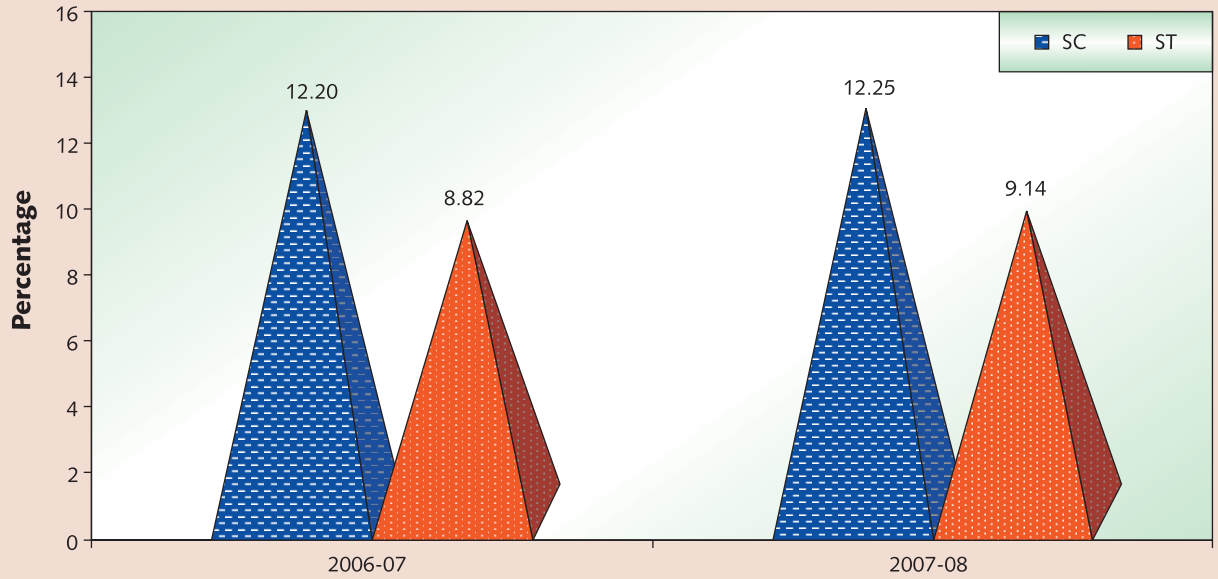
Table D26
SC & ST Teachers Employed in Government and Private Managed Schools: 2007-08
(Including *Para*-Teachers)

Management	Number of Teachers			
	Scheduled Castes	Scheduled Tribes	Scheduled Castes & Scheduled Tribes	Other Backward Classes
Government Managements	548806	417688	966494	1259495
Percentage	79.53	81.17	80.23	68.22
Private Managements	140091	95569	235660	584034
Percentage	20.30	18.57	19.56	31.63
All Managements	690072	514602	1204674	1846284
% to Total Teachers	**12.25**	**9.14**	**21.39**	**32.76**

Note: Total may not add to 100 because of missing values as percentages are worked out based on total teachers.

percentage of OBC teachers is comparatively lower than the same in the case of Scheduled Castes and Scheduled Tribes teachers. About 79.53 percent SC and 81.17 percent ST teachers are employed respectively in the government managed schools. The share of the SC and ST teachers together in government schools is 80 percent, compared to about 20 percent in the case of private managed schools. As many as 0.69 million SC and 0.51 million ST teachers are engaged in imparting elementary education, representing 12.25 percent and 9.14 percent of the total teachers. Altogether, there are about 1.20 million SC and ST teachers, which is 21.39 percent of the total teachers that impart elementary education in the country. The percentage of OBC teachers in government managed schools stands at 68 percent compared to 32 percent in private managed schools.

Figure 4.13
Percentage of SC & ST Teachers (All Schools)



"Teaching-learning, if not taking place regularly may not be because of involvement of teachers in non-teaching assignments as teachers are involved in non-teaching assignments only for a few days and the percentage of such teachers has also been quite low"

Teachers involved in Non-Teaching Assignments

It is a common belief that teachers in general, and Primary schools in particular, hardly get time for teaching because they are mostly involved in non-teaching assignments. Through the DISE 2007-08 operations, information was collected from all teachers on the number of working days spent on non-teaching assignments during the previous academic year i.e. 2006-07. The information thus obtained has been used to compute average number of working days spent on non-teaching assignments, which is presented by school category and also separately for all Government and Private management schools (Table D-27). While computing the average number of days, only the teachers who were involved in non-teaching assignments during the previous year, that is, in 2006-07 were considered. The percentage of such teachers is also presented separately both in the case of rural and urban areas (Table D-27).

Table D-27 reveals that the majority of teachers imparting elementary education across 35 States and Union Territories were not involved in non-teaching assignments in 2006-07 which is also true for the previous year. The percentage of such teachers (all categories) has been as low as 10.84 (11.36 percent in

the previous year) compared to 12.16 percent in rural and only 6.17 percent in urban areas. This suggests that 88 out of 100 teachers in rural areas and 94 out of 100 teachers in urban areas were not involved in non-teaching assignments. Comparatively, a little less than double the percentage of teachers in rural areas was involved in non-teaching assignments than teachers in the urban areas. Not much difference is observed in the number of days spent on non-teaching assignments across school types.

It is further observed that the highest number of teachers involved in non-teaching assignments, among the major states, was in West Bengal (28 percent), followed by Himachal Pradesh (14 percent), Kerala (21 percent) and Tamil Nadu (16 percent). In Lakshadweep, as many as 40.58 percent teachers (all categories) were involved in non-teaching assignments for an average of 14 days compared to 21 percent/21 days in Chandigarh. On the other hand, the percentage of such teachers in Chhattisgarh, Karnataka, Puducherry, Rajasthan, Sikkim, Tripura, etc., was low as the majority of the teachers in these states was not involved in non-teaching assignments during the previous academic year. The teaching-learning, if not taking place regularly may not be because of involvement of teachers in non-teaching assignments as teachers are involved in non-teaching assignments only for a few days and the percentage of such teachers has also been quite low. It may, however, be noted that in a few smaller states, such as Goa and Meghalaya, the teachers involved in such assignments are more than 25 percent.

The data on all schools together reveals that, on an average, a teacher was involved in non-teaching assignments only for 16 days

Table D27
Average Number of Working Days Spent on Non-Teaching Assignments: 2004-05 to 2006-07

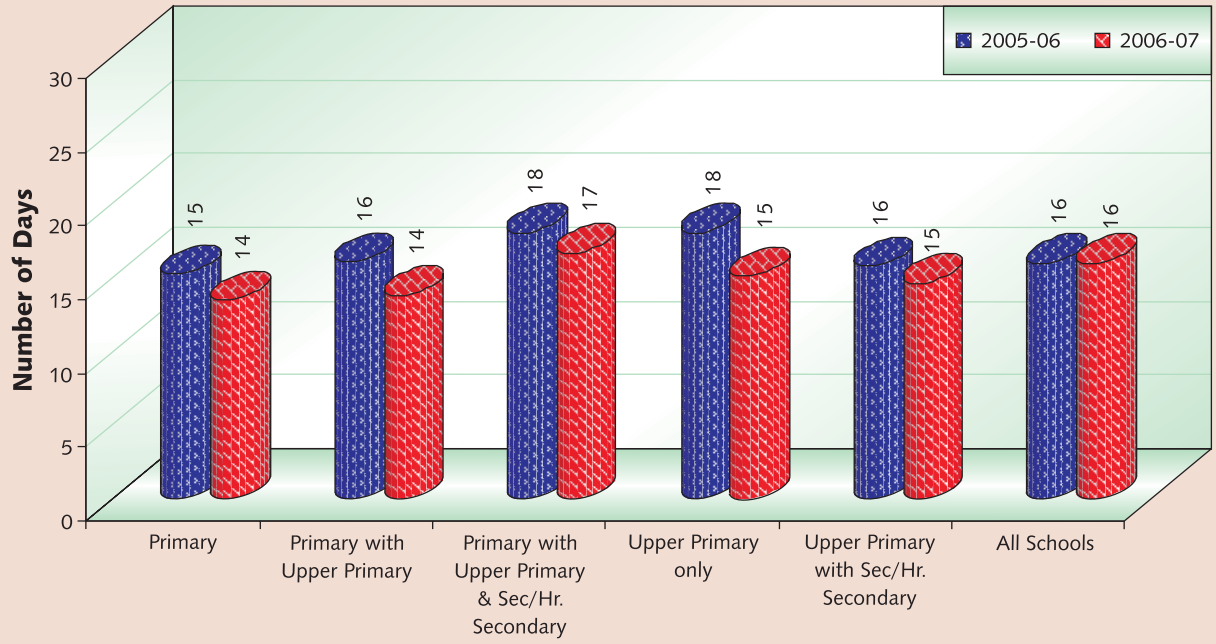
School Category	Number of Days Involved				
	All Areas	Rural Areas	Urban Areas	All Government Managements	All Private Managements
Primary only	14	13	15	14	11
Primary with Upper Primary	14	14	16	14	11
Primary with Upper Primary & Secondary/Hr. Secondary	17	14	20	16	17
Upper Primary only	15	15	17	15	14
Upper Primary & Secondary/Hr. Secondary	15	14	18	15	14
All Schools	16	14	17	14	13
Percentage of Teachers Involved in Non-Teaching Assignments to Total Teachers					
2006-07	**10.84**	**12.16**	**6.17**	**13.58**	**4.82**
2005-06	11.36	12.63	6.98	13.76	6.02
2004-05	15.06	16.60	9.56	18.06	7.62

"Quite a good number of schools are left to *para*-teachers to manage the school affairs. Studies should be conducted on the functioning of all such schools and also the quality of learner's attainment in these schools for which the DISE data can be a rich source of information"

during the pervious academic year (of the 10.84 percent of those who were involved). In rural areas, teachers were involved in assignments for 14 days compared to 17 days in urban areas. Teachers in government

Delhi, Primary school teachers are reported to have been engaged for 20 days in non-teaching assignments, compared to 9 days in Chandigarh, 8 days in Tamil Nadu, 7 days in Karnataka and 6 days in Kerala.

Figure 4.14
Average Number of Working Days Spent on Non-Teaching Assignments



managed schools as well as teachers in schools run by private management were engaged for 13 to 14 days in non-teaching activities. The average number of days spent on non-teaching assignments was highest (49 days) in Tripura and the lowest (6 days) in Kerala and Mizoram. The average number of days spent on such types of assignments was also high in Bihar (24 days), Assam (22 days), Delhi (24 days), Jharkhand (28 days), Madhya Pradesh (21 days), Manipur (28 days), Punjab (20 days), etc. So far as teachers in Primary schools/sections are concerned, only 11 states reported more than 20 days of involvement in non-teaching assignments during the previous academic year. Assam (21 days), Bihar (23 days), Daman and Diu (29 days), Jharkhand (28 days), Madhya Pradesh (21 days), Puducherry (19 days) and Tripura (51 days) are some of such states. In

> "Despite improvements, there are still locations where PTR is not satisfactory and a single classroom has to accommodate a large number of pupils. A good number of schools are single-teacher schools despite availability of an average of four teachers per school"

Concluding Observations

The analyses presented above not only indicate that the number of teachers imparting elementary level of education has increased but all indicators analysed have shown consistent improvement over the previous year. The elementary schools/ sections now have more average number of teachers than a few years back. The pupil-teacher ratio, the average number of students sitting in one classroom, etc, have improved over the previous years. Despite such improvements, there are still locations where PTR is not satisfactory and a single classroom has to accommodate a large number of pupils. A good number of schools are single-teacher schools despite availability of an average of four

teachers per school. All these need serious intervention. May be rationalization of teachers will help in ensuring adequate number of teachers in all schools.

The percentage of female teachers engaged in imparting elementary education has also improved but in a few states their number is not satisfactory and hence need improvement. The previous section on enrolment-based indicators reveals that quality of education in terms of learners' attainment across the country is not satisfactory. It can be improved only through the active participation of teachers. Useful in-service programmes can be of great help in improving classroom transaction. In the previous academic year, a good number of teachers across the country has undergone in-service training but efforts made are not reflected in the learners' attainment which is still a major area of concern. Without delay we should seriously identify training needs so that training commensurate with the need can be arranged.

Lastly, we should initiate the process of filling-up of vacant positions of teachers. The recruitment process, which was undertaken in the recent past, suggests that many of the new teachers recruited are *para*-teachers. This is also evident from the growing number of such teachers engaged in imparting elementary education across the country. Quite a good number of schools are left to *para*-teachers to manage the school affairs. Studies should be conducted on the functioning of all such schools and also the quality of learner's attainment in these schools for which the DISE data can be a rich source of information.

Educational Development Index

Introduction

Internationally, Human Development Index (HDI) and Education for All (EFA) Development Index (EFA-DI) have been used for cross-country comparisons in overall human development and universalising elementary education, respectively. Both the HDI and EFA-DI measures the outcomes. The HDI measures development by combining indicators of life expectancy, educational attainment and income. It uses adult literacy rates and combined gross enrolment ratio for primary, secondary and tertiary schooling as indicators of educational development and gives adult literacy more significance in computing the index. On the other hand, the EFA development index uses one indicator as a proxy measure for each of the four EDI components and each component is assigned equal weight in the overall index. The indicators used are: (i) total primary net enrolment ratio; (ii) adult literacy rate; (iii) survival rate to Grade V; and (iv) the average of gender parity index for primary education, secondary education and adult literacy, with each being given equal weight.

"Based on the DISE data, an effort has been made by NUEPA and the Government of India to compute an Educational Development Index, separately for Primary and Upper Primary levels of education and also a composite index for the entire Elementary education"

The provision and use of elementary education services in India has been improving quite fast during the last decade. However, the development has not been uniform across the states and districts in the country. The elementary education related interventions have been creating and improving access and infrastructure, investing in more teachers and their quality and several processes, aimed at improving educational outcomes related to not only enrolment and retention, but also in improving the learning levels. From the point of view of an education system that is transforming itself, it is important to look at not only the outcome indicators, but also at the input and process indicators. The purpose of an index that summarizes various aspects related to input, process and outcome indicators is to identify geographic areas that lag behind in overall education development. In India, the DISE provides information on various school-based inputs and processes as well as some indicators related to the outcomes. Based on the DISE data, an effort has been made by the National University of Educational Planning and Administration (NUEPA) and the Government of India (MHRD, Department of School Education and Literacy) to compute an Educational Development Index (EDI), separately for Primary and Upper Primary levels of education and also a composite index for the entire Elementary education[1] for which the Government of India constituted a *Multi-Disciplinary Expert and Core Group on EDI* in 2005-06 of which NUEPA was also a member[2]. It identified indicators and developed computation methodology. The basic purpose of computing an EDI is to know comparative status of a state vis-à-vis other states with regard to different aspects of universalisation.

Variables Used

The Working Group on the EDI identified a number of indicators falling under different aspects of universalisation of education, covering input, process and outcome indicators. This set of indicators take note of all aspects and is expected to present the true picture

1 Elementary Education in India: Progress towards UEE: DISE Flash Statistics: 2007-08 ; NUEPA and Ministry of Human Resource Development, Government of India, New Delhi, 2009

2 Contributions received from the members of the Multi-Disciplinary Expert and Core Group on EDI constituted by the MHRD, in particular Dr. Deepa Sankar, World Bank, Delhi, and Mr. Dhir Jhingran, MHRD, New Delhi in developing methodology and identification of indicators are gratefully acknowledged. Inputs received from Prof. Shri Prakash on this section is also thankfully acknowledged.

of universalisation. The variables used to compute the EDI in the present exercise are presented in Table E-1. It may also be noted that the EDI in India is still evolving and each indicator used have a specific purpose. However, they are not fixed and hence a review is being undertaken periodically and new indicators are added to the existing set of indicators or a few of them may be dropped or used in the modified form. In the 2007-08 EDI computation, an improved version of a few variables has been used. Percentage of access-less habitation was one such variable. Similarly, in place of schools without drinking water facility, schools with drinking water facility has been used as a positive variable. In place of Gross Enrolment Ratio of SC/ST population, percentage of SC/ST population (to total population, 2001 Census) minus percentage of SC/ST share of enrolment in Primary and Upper Primary classes has been used to assess participation of the SC/ST children. As many as 23 indicators have been used in computing the EDI which are further re-grouped into the following four sub-groups:

- Access,
- Infrastructure,
- Teachers, and
- Outcome indicators.

"It may be noted that the EDI in India is still evolving and each indicator used have a specific purpose. However, they are not fixed and hence a review is being undertaken periodically and new indicators are added to the existing set of indicators or a few of them may be dropped or used in the modified form"

The DISE provides information on most of these indicators that have been used to compute the EDI at Primary and Upper Primary levels of education in 2007-08. Under the access indicators, two indicators namely, percentage of un-served habitations and availability of schools per thousand child population (6-11/11-14 years) have been used. The projected child population provided by the Office of the Registrar General of India has been used, while the percentage of un-served habitations has been obtained from the All-India Education Survey: 2002-03. It may be noted that the latest information on un-served habitations is available only for the year 2002-03, though a number of Primary and Upper Primary schools have been opened across the county since then. Thus the same may not present the true picture with regard to the availability of schooling facility in 2007-08. However, in view of the absence of other independent source of data on coverage of habitations, except state reports, the EDI continues to use 2002-03 data, which will be updated as and when independent data becomes available. In the absence of latest data, the 2002-03 data has been corrected with reference to new schools (government) opened since 2002-03. In addition, ratio of Primary to Upper Primary schools/sections has also been used as an indicator of access at Upper Primary level of education. While computing the ratio, both Primary and Upper Primary schools as well as Primary and Upper Primary sections attached to Secondary and Higher Secondary schools have been considered.

The Working Group on the EDI identified five indicators under infrastructure set of indicators. The average student-classroom ratio, percentage of schools with student-classroom ratio 60 and above, percentage of schools with drinking water facility in school and percentage of schools with common and girls' toilet are such indicators. The third set of indicators, six in numbers, is teacher related indicators. They are: Pupil-teacher ratio, percentage of female teachers, schools with PTR 60 and above, percentage of single-teacher schools, percentage of schools with less than 3 teachers and percentage of teachers without professional qualifications.

The last set of indicators is related to outcome indicators among them gross enrolment ratio is the most important one. While computing the GER, projected population figures provided by the Office of the Registrar General of India have been used to workout 6-11 and 11-14 year population. As already mentioned, the GER for SC and ST population, percentage difference of SC/ST population in 2001 Census and percentage of SC/ST enrolment to total enrolment at Primary and Upper Primary level of education have been used to assess the participation of SC/ST children (*in case of negative difference, the same is treated to be zero; thus meaning*

that all children are enrolled). Gender Parity Index (enrolment) is another important indicator which shows the extent of participation of girls compared to their counterpart boys in the educational programmes. One

Table E1
Indicators Used in Computing EDI

Component	Indicator
ACCESS	Percentage of Habitations not Served* (corrected with reference to new schools (Government) opened since 2002-03)
	Availability of Schools per 1000 Child Population
	Ratio of Primary to Upper Primary Schools/Sections (only at Upper Primary stage)
INFRASTRUCTURE	Average Student-Classroom Ratio
	Schools with Student Classroom Ratio ≥ 60
	Schools with Drinking Water facility
	Schools with Common toilet
	Schools with Girls' toilet
TEACHERS	Percentage of Female Teachers
	Pupil-Teacher Ratio
	Schools with Pupil-Teacher Ratio ≥ 60
	Single-Teacher Schools (in schools with more than 15 students)
	Percentage of Schools with ≤ 3 teachers
	Teachers without Professional Qualification
OUTCOME	Gross Enrolment Ratio – Overall
	Participation of Scheduled Castes Children: Percentage SC Population (2001 Census)-Percentage SC Enrolment
	Participation of Scheduled Tribes Children: Percentage ST Population (2001 Census)-Percentage ST Enrolment
	Gender Parity Index in Enrolment
	Repetition Rate
	Drop-out Rate*
	Ratio of Exit Class over Class I Enrolment (only at Primary stage)
	Percentage of Passed Children to Total Enrolment
	Percentage of Appeared Children passing with 60 per cent and more marks

Note:

- For methodological details, please refer:
  - *Addressing Education Disparity: Using District Level Education Development Indices for Equitable Resource Allocation, Policy Research Working Paper 4955, The World Bank, June 2009 by* Dhir Jhingran and Deepa Sankar.
  - *Educational Development Index: A Suggestive Framework for Computation* by Arun C. Mehta and S. A. Siddiqui, NUEPA, New Delhi, Unpublished, 2007.
- Indicators used for constructing the EDI were pre-determined by the MHRD, Government of India. Contributions received from the members of the Multi-Disciplinary Expert and Core Group on the EDI constituted by the MHRD in 2005-06 is gratefully acknowledged.
- Indicators were normalized before the Principal Component Analysis was applied to decide the factor loadings and weights.
- Separate dimensional indices were constructed first before finalizing the EDI; and

* Number of access-less habitations has been obtained from the Seventh All India Education Survey and drop-out rate at Upper Primary level from the Selected Educational Statistics. Wherever necessary projected child population provided by the Office of the Registrar General of India has been used.

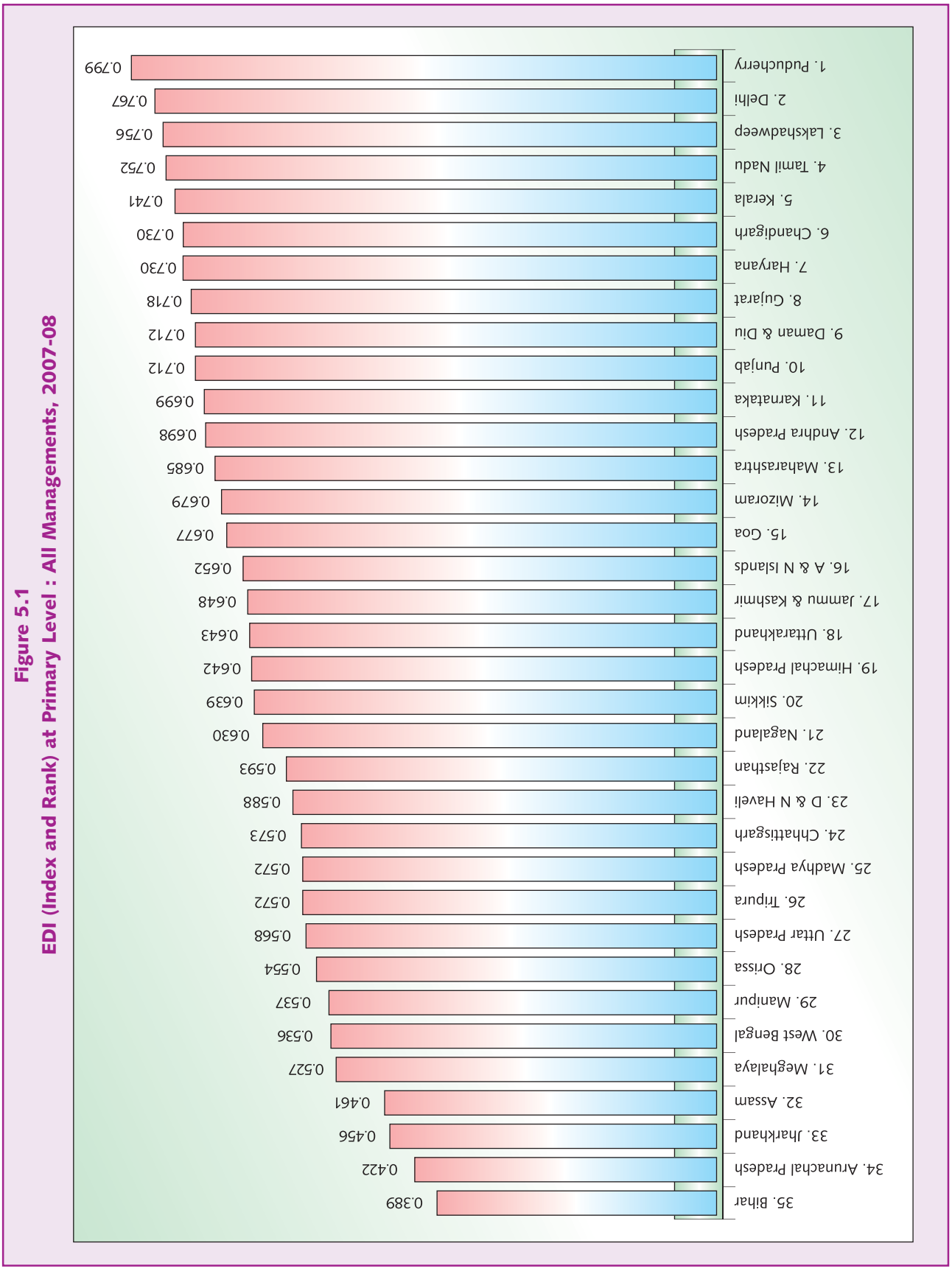


Figure 5.1
EDI (Index and Rank) at Primary Level : All Managements, 2007-08

of the other important outcome indicators is the ratio of exit class over Class I enrolment which has been used only at the Primary level. A few states reported this to be above 100 percent which is treated as hundred in the EDI computations. The average dropout and repetition rates are other important outcome indicators which have been computed by using the DISE data based on common schools in 2006-07 and 2007-08. The states having negative dropout rate are considered as missing values. The pass percentage and percentage of appeared children passing with 60 percent and above marks in terminal Grades IV/V and VII/VIII, considered as proxy indicators of learners' attainment, are also used in the outcome indicators in the EDI. Needless to mention that while analysing the EDI, data limitations presented above should be kept in mind.

Methodology

A cursory look at the set of 23 indicators (Table E-1) reveals that they have either direct or inverse relationship. Some of these indicators are in ratio form and others in percentage form. In view of this, each indicator considered in the EDI computation is first required to be normalised. Normalised values range between 0 and 1 and it indicates the relative position of states with reference to a selected indicator. Thus in the case of each indicator, in view of its nature, the *best value* and the *worst value* are identified which are then used to transform by using the following formula:

"A cursory look at the set of 23 indicators reveals that they have either direct or inverse relationship. Some of these indicators are in ratio form and others in percentage form. In view of this, each indicator considered in the EDI computation was normalised"

$$NV_{ij} = 1 - \left[\frac{\{\text{Best } X_i - \text{Observed } X_{ij}\}}{\{\text{Best } X_i - \text{Worst } X_i\}} \right]$$

where NV_{ij} represents normalized index of i^{th} indicator of j^{th} state and X_i is the original value of the i^{th} indicator. Unlike in the previous years, in the case of a few variables, policy options were explored to identify the *best values* instead of the *observed values* (*normalized values in the case of such variables, if obtained above one are treated as one*). Some of such variables are: access-less habitations (*best value, zero*), average pupil-teacher and students-classroom ratio (*best value, 40*), drop out rate (*best value, zero*), percentage of schools having PTR and SCR 60 and above (*best value, zero*), percentage of single-teacher schools (*best value, zero*) and percentage of teachers without professional qualification (*best value, zero*).

Upon receiving *normalized values*, the next step was to assign *factor loadings* and *weights.* Weights to indicators can be assigned in a number of ways. One can judge the significance of an indicator and accordingly assign weight which is based on the value judgment of an individual. On the other hand, one can assign equal weights to all the indicators or assign different weights to different indicators according to the significance of an indicator. The weightage in the computation of an EDI in the present exercise is determined by using *Factor Loadings* and *Eigen Values* from the *Principal Component Analysis* (PCA). The PCA helps in reducing the number of indicators (indicators/categories) without losing their significance that also simplifies analysis. The PCA helps in weighing each indicator according to its statistical significance.The components identified are known as *Principal Components* which explain maximum variance among a set of indicators. Therefore, the *Principal Component Analysis* is used to obtain factor loading and weights of the indicators in each of the four sets of indicators, that is done first at the Primary level and then at the Upper Primary level of education. Needless to mention that Primary stage/level of education consists of all Primary schools/ sections irrespective of the type of schools; and Upper Primary stage/level of education consists of all the Upper Primary schools/sections irrespective of the type of schools. This means that all the schools imparting elementary education across the country irrespective of the type of school are considered in computing the EDI which includes schools under the government as well as private managements. Thus, indices for all the four types of indicators have been first obtained separately for Primary and Upper Primary level of education. It is then used to compute composite EDI for Primary and Upper

Primary levels of education separately. The composite EDI for Primary and Upper Primary levels of education is used to obtain the composite EDI for the Elementary level of education.

In this section, the outcome of the EDI based on the DISE 2007-08 data is presented.

Analysis of the EDI

In view of the different sizes and geographical locations of different States and UTs, they are further re-grouped under major states (21 states), states from the north-eastern region (seven states, excluding Assam, which has been considered as a major state because of its size and experience in DPEP), and smaller states (seven states/UTs). All the three groups and states in each group are at different levels of education development. In view of spatial dimension, their need and requirement vary from state to state. For example, north-eastern states may need more new schools than in the states from the southern region. Similarly, smaller States/UTs such as the Andaman and Nicobar Islands because of their location, need to be analysed separately. Most of the major states have experience of implementing large scale programmes, such as the DPEP, but the same is not true in the case of states in the other two groups, which practically did not experience any such programme in the past. The SSA is the first major programme which has been initiated in these smaller states besides the major states. Within each state group, the EDI of each state has been used to assign fresh rankings based on each set of indicators as well as separately for Primary, Upper Primary and composite Elementary levels of education. The EDI reveals a lot about the regional variations that exist in the country which is true both for Primary and Upper Primary levels of education.

"In view of the different sizes and geographical locations of different States and UTs, they are further re-grouped under major states, states from the north-eastern region and smaller states. All the three groups and states in each group are at different levels of education development"

North-Eastern States

The seven states grouped under the north-eastern region are Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, and Tripura. Assam is not included in this group because of its size and also because of the fact that it has the experience of the DPEP. The EDI presented in Table E-2 reveals that Mizoram outperformed the other six states in the region which is true for Primary, Upper Primary and composite Primary and Upper Primary (Elementary) levels of education. In the previous years, Sikkim was ranked first with regard to Primary and Composite Primary and Upper Primary levels of education. Incidentally, Mizoram is placed 16th among all the 35 States and UTs of the country for composite Primary and Upper Primary levels of education. The state attained an overall EDI of 0.705 for Elementary, 0.679 for Primary (14th rank), and 0.731(17th rank) for Upper Primary levels of education that is treated as above average as an EDI ranges between 0.00 and 1.00. On the other hand, Sikkim with an EDI of 0.639 at Primary level and Manipur with an EDI of 0.686 for Upper Primary level are positioned second in Primary and Upper Primary levels of Education, respectively. In the previous year 2006-07, Sikkim was ranked first in Primary level and Mizoram, first in both Upper Primary and composite Primary and Upper Primary levels of education. Mizoram could improve its EDI values and ranks in Primary, Upper Primary and composite Primary and Upper Primary levels of education, but Arunachal Pradesh could not improve its position. It is placed 34th in the all-India ranking in composite Primary and Upper Primary levels of education as also at the Primary level. At Upper Primary level, Arunachal Pradesh is ranked 32nd with an EDI value of 0.548 compared to 0.842 in the case of Kerala, which is ranked first at this level of education. Analysis of individual indicators across all four types reveals that it could not improve much over the previous year.

Individual EDIs in each set of indicators, however, reveal that Mizoram does not stand first in all the four sets of indicators. It is true both for Primary and Upper Primary levels of education. So far as the access indicators at Primary level are concerned, it is found to be very

high at 0.788 in Meghalaya, compared to 0.744 in Mizoram. The lowest EDI of access indicators is observed in Tripura, having an EDI of 0.430, followed by Manipur with an EDI of 0.432. On the other hand, Nagaland is placed third with an EDI of 0.587 in the case of access indicators, compared to an overall third rank at Primary level of education but the situation is not the same in other sets of indicators at Primary level. Nagaland is placed 23rd (EDI, 0.653) in overall ranking in composite Primary and Upper Primary levels of education.

average SCR, availability of drinking water and common toilets and girls' toilets, are considered under infrastructural set of indicators. Sikkim is followed by Nagaland with EDI of 0.658. The lowest EDI (0.371) is observed in Meghalaya which is quite similar to the position in the previous year 2006-07. This shows a wide spread regional variations. Meghalaya also has the lowest infrastructure index (0.400) in case of Upper Primary level, indicating that by and large the majority of its schools imparting Elementary education do not

Table E2(A)
Indices & Ranking at Primary/Upper Primary Level: North-Eastern States (Excluding Assam)
All Managements: All Schools: 2007-08

State	Access Index				Infrastructure Index				Teachers Index			
	Primary Level	Rank	Upper Primary Level	Rank	Primary Level	Rank	Upper Primary Level	Rank	Primary Level	Rank	Upper Primary Level	Rank
Arunachal Pradesh	0.500	4	0.171	7	0.427	6	0.646	4	0.367	7	0.701	6
Manipur	0.432	6	0.582	4	0.562	5	0.665	3	0.565	5	0.752	2
Meghalaya	0.788	1	0.605	3	0.371	7	0.400	7	0.521	6	0.746	3
Mizoram	0.744	2	0.943	1	0.651	3	0.644	5	0.723	2	0.723	5
Nagaland	0.587	3	0.573	6	0.658	2	0.690	2	0.682	3	0.733	4
Sikkim	0.484	5	0.581	5	0.744	1	0.775	1	0.731	1	0.792	1
Tripura	0.430	7	0.699	2	0.599	4	0.613	6	0.619	4	0.681	7

State	Outcome Index				Composite EDI					
	Primary Level	Rank	Upper Primary Level	Rank	Primary Level	Rank	Upper Primary Level	Rank	Primary & Upper Primary Level	Rank
Arunachal Pradesh	0.405	7	0.613	4	0.422	7	0.548	7	0.485	7
Manipur	0.573	3	0.734	1	0.537	5	0.686	2	0.611	4
Meghalaya	0.483	6	0.604	5	0.527	6	0.586	6	0.556	6
Mizoram	0.582	2	0.636	3	0.679	1	0.731	1	0.705	1
Nagaland	0.555	4	0.690	2	0.630	3	0.676	3	0.653	3
Sikkim	0.509	5	0.484	7	0.639	2	0.672	4	0.656	2
Tripura	0.621	1	0.594	6	0.572	4	0.647	5	0.609	5

So far as infrastructure set of indicators at Primary level is concerned, Sikkim has the highest EDI (0.744), which is also true for Upper Primary level of education (EDI, 0.775). It may be recalled that indicators, such as

possess minimum facilities in schools. But the position of the state in the case of other sets of indicators is slightly better than that of the infrastructure index which is true both for Primary and Upper Primary levels of

education. The schools in Arunachal Pradesh also do not have minimum facilities as the EDIs obtained at the in the Primary schools across the seven states of the north-eastern region.

Figure 5.2
EDI at Primary Level : North-Eastern States

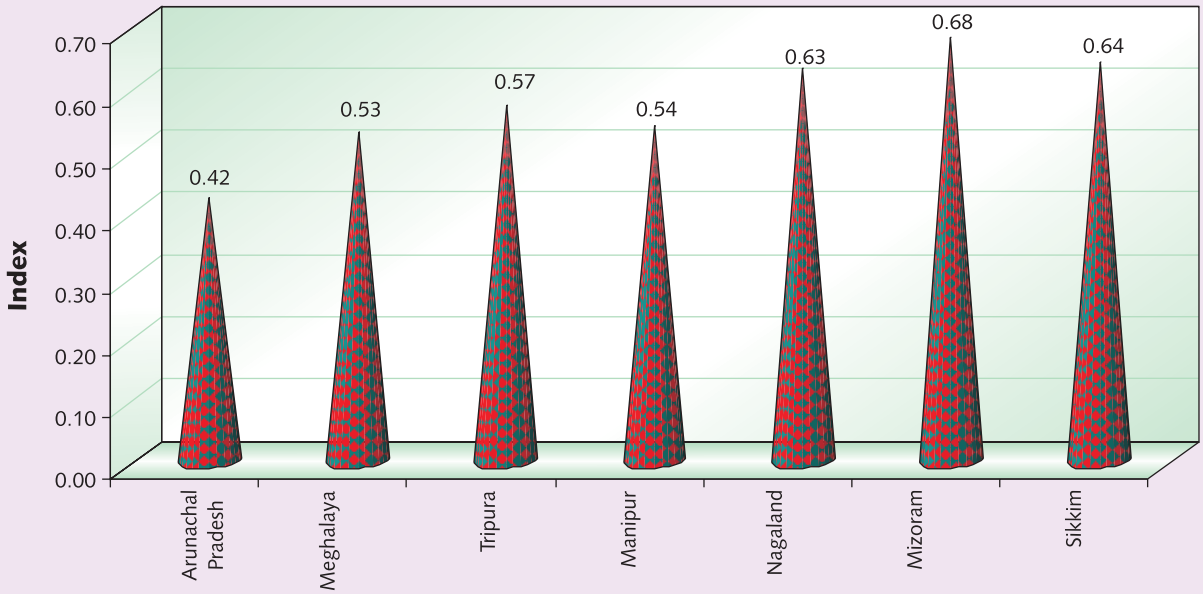


Table E2(B)
Composite Educational Development Index: North-Eastern States (Excluding Assam)
Primary and Upper Primary Levels: All Schools & All Managements

State/UT	EDI & Rank Primary Level				EDI & Rank Upper Primary Level				Composite EDI & Rank (Primary & Upper Primary)			
	2006-07		2007-08		2006-07		2007-08		2006-07		2007-08	
Arunachal Pradesh	0.432	7	0.422	7	0.484	7	0.548	7	0.458	7	0.485	7
Manipur	0.547	4	0.537	5	0.649	2	0.686	2	0.598	3	0.611	4
Meghalaya	0.512	6	0.527	6	0.522	6	0.586	6	0.517	6	0.556	6
Mizoram	0.663	2	0.679	1	0.658	1	0.731	1	0.661	2	0.705	1
Nagaland	0.590	3	0.630	3	0.572	4	0.676	3	0.581	4	0.653	3
Sikkim	0.686	1	0.639	2	0.637	3	0.672	4	0.662	1	0.656	2
Tripura	0.542	5	0.572	4	0.547	5	0.647	5	0.545	5	0.609	5

Primary and Upper Primary levels, respectively, are 0.427 and 0.646. It is worth mentioning here that Arunachal Pradesh stands last in Primary level EDI (0.422) as its ranking is 34 out of 35 states included in the analysis. In 2006-07, it was at 33rd position. Arunachal Pradesh has also a lower rank in Upper Primary (32) and Elementary (34) levels as a whole. It is also interesting to further note that barring Mizoram, the infrastructure facilities are much better in Upper Primary schools than the same

So far as the set of teachers' indicators is concerned, it is Sikkim that is on top of the list with EDI of 0.731, compared to an EDI of 0.780 in the previous year. It may be recalled that six indicators concerning teachers, including percentage of female teachers and pupil-teacher ratio, were used. Mizoram is placed second with an EDI value of 0.723 and Arunachal Pradesh, the last with an EDI 0.367. In the case of teachers' indicators, Sikkim, with an EDI of 0.731, stands 12th among all the

35 States/UTs in Primary education; and with an EDI of 0.792 in Upper Primary level of education, its rank is 18th. Last year, Sikkim was ranked 12th in the case of teachers index at Upper Primary level. Likewise, the state has lower ranks in all the three levels of education compared to its ranking in 2006-07. It is also true for individual set of indicators. Like infrastructure, states in the north-eastern region are also better placed at Upper Primary level with regard to teachers' indicators, compared to Primary level. The lowest ranked state in the north-eastern region with regard to teachers' indicators is Arunachal Pradesh with an EDI of 0.367 at Primary and Tripura with an EDI of 0.681 at Upper Primary level. The corresponding position of Arunachal Pradesh, among all the 35 States/UTs, is 33rd at Primary (EDI, 0.367) and 24th at Upper Primary level of education (EDI, 0.701) that shows decline in its position compared to the same in the previous year.

The last set of indicators used is the outcome indicators. As many as nine indicators are used to see the position of all the 35 states, including seven states from the north-eastern region. The list of indicators used is quite comprehensive through which the true picture of universalisation can be obtained. Barring Sikkim and Tripura, all the other states in the north-eastern region reported a higher EDI for Upper Primary level compared to Primary level of education, which is just like the teachers and infrastructure indicators presented above. Among all the states at Primary level, Sikkim is ranked 31st (in 2007-08) compared to 35th position of Arunachal Pradesh. It shows no improvement in the case of Arunachal Pradesh and deterioration in the case of Sikkim over the previous year in outcome indicators. Correspondingly, they stand 7th and 5th within the north-eastern states with respective EDI values of 0.405 and 0.509. The EDI at Upper Primary level in the case of Sikkim being lower than Primary level is 0.484, which may be termed as far below the average EDI. However, Tripura with an EDI of 0.621 and Manipur with an EDI value of 0.734 ranked first in outcome index at Primary and Upper Primary levels of education, respectively. Though Mizoram stands first with regard to its position at the Primary level, it is not true in the case of outcome index where it is ranked second with an EDI value of 0.582. At the Upper Primary level, it is ranked first compared to the third position in the case of outcome index. It is observed that different states have different positions in different sets of indicators. A careful examination of all the four sets of indicators as well as individual indicators, and also computation of district-specific EDIs in each state, will help states to identify limitations without which no improvement is expected. The provisions made under the SSA can also be best used if such an analysis is carried out district-wise and within the district, block-wise.

"It is observed that different states have different positions in different sets of indicators. A careful examination of all the four sets of indicators as well as individual indicators, and also computation of district-specific EDIs in each state, will help states to identify limitations without which no improvement is expected"

Smaller States

The States/UTs, such as Andaman and Nicobar Islands, Chandigarh, Dadra and Nagar Haveli, Daman and Diu, Goa, Lakshadweep, and Puducherry, are the seven states/UTs which have been grouped under smaller states, based on the total number of schools and population they have (Table E-3). May be these states are small in size but a cursory look at the EDI values indicates that a few of them are doing much better than a number of major states, both in Primary and Upper Primary levels of education. The EDI values and rankings during 2006-07 and 2007-08 indicate a marked improvement in the case of Lakshadweep and Puducherry in composite Primary and Upper Primary levels of education. Puducherry is not only ranked first within the set of smaller states but is also ranked first with an EDI value of 0.808 among the States and UTs of the country in the case of composite Primary and Upper Primary levels of education. The corresponding EDI value of Bihar which is ranked 35th is as low as 0.406; thus showing a significant regional deviation in the EDI values revealing that states are a different pace of educational

development in general and elementary education in particular. Among all states, Puducherry is ranked first in the case of Primary (EDI, 0.799) and third in the case of Upper Primary (EDI, 0.816) level of education. Not only that it could improve its position in composite Primary and Upper Primary index but it has also advanced from second (EDI, 0.761) position in 2006-07 to first (EDI, 0.799) position with regard to Primary level of education. Irrespective of its educational level, Puducherry is ranked first among the smaller set of states but it is not true in the case of all the four individual sets of indicators used in computing the EDI, both at the Primary and Upper Primary levels of education. The second among these states is Lakshadweep with an EDI of 0.756 at Primary and 0.788 in composite Primary and Upper Primary level of education. In case of Upper Primary level, Puducherry is ranked second with an EDI of 0.816 followed by Chandigarh (EDI, 0.795) and Daman and Diu (EDI, 0.789). With an EDI value of 0.723, Dadra and Nagar Haveli is ranked seventh within the seven smaller states.

Table E3(A)
Indices & Ranking at Primary/Upper Primary Level: Smaller States/UTs
All Managements: All Schools, 2007-08

State/UT	Access Index				Infrastructure Index				Teachers Index			
	Primary Level	Rank	Upper Primary Level	Rank	Primary Level	Rank	Upper Primary Level	Rank	Primary Level	Rank	Upper Primary Level	Rank
A & N Islands	0.127	7	0.544	7	0.888	1	0.871	2	0.850	5	0.900	4
Chandigarh	0.500	4	0.760	3	0.785	5	0.808	3	0.991	1	0.998	1
D & N Haveli	0.633	1	0.741	4	0.607	7	0.683	7	0.606	7	0.848	7
Daman & Diu	0.381	6	0.809	1	0.787	4	0.824	4	0.876	3	0.858	6
Goa	0.458	5	0.607	6	0.708	6	0.866	6	0.732	6	0.911	2
Lakshadweep	0.535	2	0.795	2	0.836	3	0.849	1	0.874	4	0.867	5
Puducherry	0.528	3	0.736	5	0.880	2	0.890	5	0.880	2	0.910	3

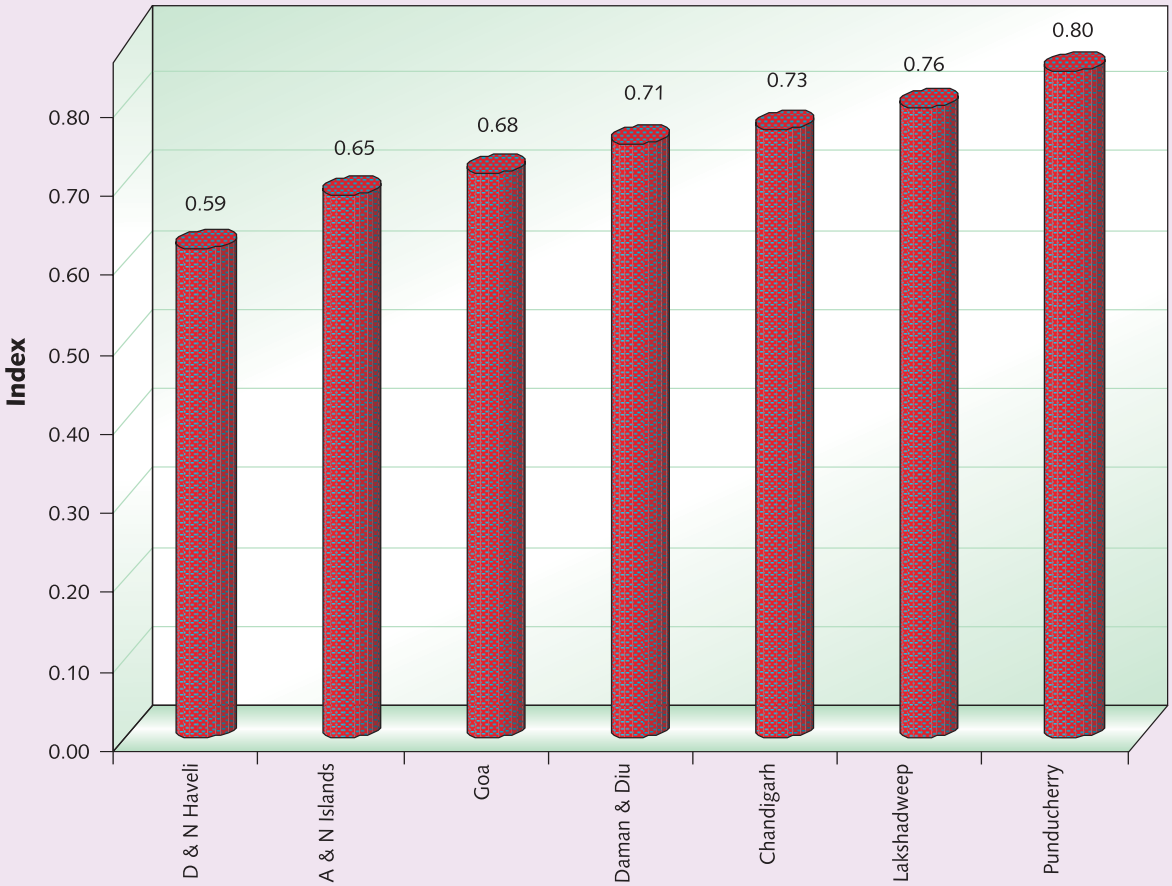
State/UT	Outcome Index				EDI					
	Primary Level	Rank	Upper Primary Level	Rank	Primary Level	Rank	Upper Primary Level	Rank	Composite (Primary & Upper Primary) Level	Rank
A & N Islands	0.580	5	0.669	3	0.652	6	0.762	5	0.707	6
Chandigarh	0.509	6	0.561	7	0.730	3	0.795	3	0.763	3
D & N Haveli	0.480	7	0.602	5	0.588	7	0.723	7	0.656	7
Daman & Diu	0.722	3	0.640	4	0.712	4	0.789	4	0.750	4
Goa	0.798	2	0.563	6	0.677	5	0.754	6	0.716	5
Lakshadweep	0.701	4	0.756	1	0.756	2	0.821	1	0.788	2
Puducherry	0.860	1	0.685	2	0.799	1	0.816	2	0.808	1

It may be of interest to note that Chandigarh's overall ranking is 6th (EDI 0.730) at the Primary and 4th (EDI 0.795) at Upper Primary level of education. The other smaller state doing better in overall all-India ranking is Lakshadweep, which has only 37 schools under its administration. It stands third at Primary level (EDI, 0.756) and second (EDI, 0.821) at Upper Primary level of education. Except teachers index, it has outperformed other states in all other sets of indices. Irrespective of the states, the EDI value at Upper Primary level of education is much higher than at the Primary level of education that is quite similar to the states in the north-eastern region and also during the previous year. Further, it is

observed that except Dadra and Nagar Haveli (23rd rank), all smaller states have rankings within the first 16 states at the Primary level. With regard to ranking at Upper Primary level, all of them except Dadra and Nagar Haveli (18th rank) stands within the first 14 states.

0.795) of education. Even within a set of indicators, the states have not provided equal measure of Primary and Upper Primary schooling facilities. Further, it is observed that by and large states have a higher EDI value at Upper Primary level than at Primary level.

Figure 5.3
EDI at Primary Level : Smaller States/UTs



Like the states in the north-eastern region, separate analysis is also carried out in the case of each of the four sets of indicators. It is observed that EDI value for access indicators is much lower than for the other sets of indicators, which is true for both Primary and Upper Primary levels. The highest EDI for access indicators at Primary level is observed in Dadra and Nagar Haveli (EDI, 0.633) and the lowest (EDI, 0.127) in the Andaman and Nicobar Islands. At Upper Primary level, the lowest EDI is also observed in the Andaman and Nicobar Islands (EDI, 0.544) and the highest in Daman and Diu (EDI, 0.809). Lakshadweep stands second among seven smaller states included in the analysis which is true for both Primary (EDI, 0.535) and Upper Primary levels (EDI,

It may be recalled that only two indicators, namely, access-less habitations and the number of schools per thousand population, were used under access indicators at Primary level. Since the DISE does not collect information according to habitations, the number of access-less habitations in each state, as mentioned above, is taken from the All India School Education Survey (AISES). It is also true that a good number of habitations have been provided with schooling facilities since 2002-03, the year for which the AISES data is the latest available. This is also true in view of the SSA under which activities in terms of opening of new schools picked-up in 2002-03 onwards; this is not reflected in school-less habitations. In the light of these observations,

the percentage of access-less habitations has been corrected with reference to new schools opened since 2002-03. In addition, the ratio of Primary to Upper Primary schools/sections has also been used as an indicator of access at the Upper Primary level of education to assess the availability of Upper Primary schooling facilities which, like other indicators, is computed based on the DISE data.

The next set of indicators analysed is infrastructure indicators. The highest EDI value at Primary level is observed in the Andaman and Nicobar Islands (EDI, 0.888) and lowest (EDI, 0.607) in the case of Dadra and Nagar Haveli. The Andaman and Nicobar Islands attained fifth position among 35 States/UTs in this respect and Dadra and Nagar Haveli, 25th. Puducherry's overall position in infrastructure index at Upper Primary level is fourth with an EDI value of 0.890 compared to 0.880 (sixth rank) at Primary level. Except Dadra & Nagar Haveli (EDI, 0.607 and rank 25), other six smaller states ranked high and are within the first 17 amongst all the 35 states in the case of Primary level of education. Almost similar positions are observed at Upper Primary level wherein the position of Dadra and Nagar Haveli is 23rd and the rest of the six states are ranked among the first 14 states. It may be recalled that Dadra and Nagar Haveli is among the lowest ranked states having an overall rank of 23rd at Primary level (EDI, 0.588). However, it has improved its position at Upper Primary level from 24th (EDI, 0.568) in 2006-07 to eighth (EDI, 0.723) in 2007-08. Further, it has also been observed that at these levels, the EDI values of infrastructure indicators rather than access indicators are much higher except in Dadra and Nagar Haveli. This is similar to the situation in 2006-07. The EDI also suggests that Upper Primary schools/sections are better placed with regard to infrastructure than in Primary schools/sections. This is quite similar to the states (barring a few states) in the north-eastern region. It is good to have better infrastructure in Upper Primary schools but it is equally important to provide better infrastructure also in all Primary schools for which provisions made under the SSA can be best utilised.

> "Percentage of access-less habitations has been corrected with reference to new schools opened since 2002-03. In addition, the ratio of Primary to Upper Primary schools/sections has also been used as an indicator of access at the Upper Primary level of education"

The next set of indicators that have been analysed is indicators concerning teachers among which pupil-teacher ratio and percentage of single-teacher schools are the most prominent ones. In a good number of smaller states, the EDI values for teacher's indicators are higher than for access and infrastructure indicators. It may be recalled that smaller states as well as states

Table E3(B)
Composite Educational Development Index: Smaller States/UTs
Primary and Upper Primary Levels: All Schools & All Managements

State/UT	EDI & Rank Primary Level				EDI & Rank Upper Primary Level				Composite EDI & Rank (Primary & Upper Primary)			
	2006-07		2007-08		2006-07		2007-08		2006-07		2007-08	
A & N Islands	0.670	4	0.652	6	0.683	4	0.762	5	0.676	4	0.707	6
Chandigarh	0.709	2	0.730	3	0.752	2	0.795	3	0.731	2	0.763	3
D & N Haveli	0.502	7	0.588	7	0.568	7	0.723	7	0.535	7	0.656	7
Daman & Diu	0.601	6	0.712	4	0.660	5	0.789	4	0.631	6	0.750	4
Goa	0.636	5	0.677	5	0.654	6	0.754	6	0.645	5	0.716	5
Lakshadweep	0.672	3	0.756	2	0.713	3	0.821	1	0.692	3	0.788	2
Puducherry	0.761	1	0.799	1	0.780	1	0.816	2	0.771	1	0.808	1

from the north-eastern region are better placed with regard to PTR, both at Primary and Upper Primary levels of education. This is also true in the case of a few other states, like Himachal Pradesh. However, in the process of normalization, 40:1 is considered to be the best PTR.

The highest EDI at Primary level is observed in Chandigarh (EDI, 0.991) and the lowest (EDI, 0.606) in Dadra and Nagar Haveli, which is exactly similar to the ranking in 2006-07. The second ranked state for this set of indicators at Primary level is Puducherry with an EDI of 0.880, followed by Daman and Diu (EDI, 0.876) and Lakshadweep (EDI, 0.874). On the other hand, at Upper Primary level, Chandigarh with an EDI of 0.998 is ranked first, followed by Goa (EDI, 0.911). Though small in size, Chandigarh is ranked first with regard to teacher indicators among all the 35 States/UTs. It applies to both Primary and Upper Primary levels of education.

Further, it is observed that the ranking of smaller states, except Dadra and Nagar Haveli, both in case of Primary and Upper Primary levels, is very high with regard to teacher indicators analysed among the 35 states/ UTs. Chandigarh UT is ranked first, both at Primary and Upper Primary levels, and Puducherry fourth at Primary and fifth at Upper Primary level of education. Another UT from this group, i.e. Lakshadweep, is also ranked high at sixth at Primary and eighth at Upper Primary levels of education. However, many of these states are not comfortably placed in other sets of indicators wherein their positions are much lower than the same in case of teacher-based indicators.

> "It is good to have better infrastructure in Upper Primary schools but it is equally important to provide better infrastructure also in all Primary schools for which provisions made under the SSA can be best utilised"

Making available schooling facilities, infrastructure and teachers in schools should also be reflected in the outcome indicators. That is why outcome indicators are analysed at the last. It is noticed to have much lower EDI values than the infrastructure and teacher indicators and it is true for both Primary and Upper Primary levels of education. The highest EDI is observed in Puducherry at Primary (EDI, 0.860) and Lakshadweep at Upper Primary (EDI, 0.756) levels of education. It may be observed that Puducherry is not ranked first among other sets of indicators used in computation of the EDI. It is also of interest to note that in four out of seven states, the EDI values are much lower at Upper Primary level than at Primary level, which is just the reverse when other sets of indictors are considered. Infrastructure and teacher indicators are better placed in the Upper Primary level but the same is not true of outcome indicators that play the most important role in achieving the goal of universalisation of elementary education. Unlike in other sets of indicators, most of the smaller states (barring Goa and Puducherry) are not placed within the first 10 states at Primary level so far as outcome indicators are concerned. However, Puducherry is placed second among the 35 States/UTs with regard to outcome indicators at Primary level and 10th at Upper Primary level. The fifth ranked state at Primary level is Goa but the state is ranked 26th at Upper Primary level (EDI, 0.563). The EDI for Chandigarh at Primary (EDI, 0.509) and at Upper Primary level (EDI, 0.561) is much lower than the same in the case of Lakshadweep (ranked first at Primary level) and Puducherry (ranked second at Upper Primary level) with regard to outcome indicators within smaller states. Incidentally, Dadra and Nagar Haveli is one of the lowest ranked states with regard to outcome indicators at Primary level (ranked 34th).

Major States

As mentioned above, the seven states of the north-eastern region and seven other smaller states have been clubbed in two separate groups, and the remaining 21 states, including the national capital of Delhi, have been grouped under major states. Except Delhi, all the other states in the group have experience of initiating major programmes like the District Primary Education Programme (DPEP).

So far as the composite Primary and Upper Primary EDI amongst 21 major states is concerned, the top five ranking states are Kerala (EDI, 0.791), Delhi (EDI, 0.780), Tamil Nadu (EDI, 0.771), Haryana (EDI, 0.755) and Gujarat (EDI, 0.748); the first three ranks are similar to the rankings in the previous year. Kerala, Delhi and Tamil

Nadu maintained their first, second and third positions but Himachal Pradesh conceded its fourth position (EDI, 0.695) to Haryana (EDI, 0.755). Karnataka has also moved to sixth position from the fifth position in 2006-07. However, Karnataka's EDI value (0.743) in 2007-08 is higher than the same in the previous year (0.680). The first three ranked states maintained their rankings both in case of Primary and Upper Primary levels of education but swapped each other within the first three positions. Delhi with an EDI value of 0.767 is ranked second at Primary level which is similar to its position in 2006-07. However, Kerala at Primary level conceded its second position to Tamil Nadu, and Himachal Pradesh its fourth position to Haryana. The EDI at Primary level in the case of Kerala is slightly lower in 2007-08 (0.741) than the same in 2006-07 (0.756). Kerala and Tamil Nadu are seen as educationally advanced states and are respectively placed at first (EDI, 0.842) and third (EDI, 0.790) at Upper Primary level of education. As mentioned above, no major difference is observed in composite EDI of the first three states. However, irrespective of an educational level, the difference in EDI values between the highest and lowest ranked states is significant, showing that states are at different levels of educational development but the EDI values show that they have improved over the pervious year. This is

Table E4(A)
Indices & Ranking at Primary/Upper Primary Level: Major States
All Managements: All Schools, 2007-08

State	Access Index				Infrastructure Index				Teachers Index			
	Primary Level	Rank	Upper Primary Level	Rank	Primary Level	Rank	Upper Primary Level	Rank	Primary Level	Rank	Upper Primary Level	Rank
Andhra Pradesh	0.631	5	0.676	14	0.690	13	0.797	9	0.674	8	0.851	4
Assam	0.701	1	0.607	17	0.316	20	0.386	20	0.328	21	0.659	13
Bihar	0.556	8	0.481	20	0.233	21	0.343	21	0.334	20	0.412	20
Chhattisgarh	0.673	3	0.783	4	0.555	16	0.570	17	0.448	16	0.473	19
Delhi	0.515	13	0.784	3	0.909	2	0.871	4	0.937	2	0.935	2
Gujarat	0.574	7	0.820	1	0.762	7	0.789	10	0.794	4	0.818	5
Haryana	0.525	12	0.766	6	0.903	3	0.945	1	0.727	6	0.763	11
Himachal Pradesh	0.445	20	0.803	2	0.684	14	0.724	14	0.660	10	0.803	8
Jammu & Kashmir	0.676	2	0.743	7	0.540	17	0.627	15	0.648	11	0.798	9
Jharkhand	0.636	4	0.482	19	0.339	19	0.495	18	0.379	19	0.555	16
Karnataka	0.540	10	0.775	5	0.691	11	0.765	12	0.711	7	0.795	10
Kerala	0.257	21	0.687	13	0.894	4	0.920	2	0.950	1	0.950	1
Madhya Pradesh	0.554	9	0.694	12	0.721	9	0.764	13	0.446	17	0.501	18
Maharashtra	0.477	19	0.709	11	0.739	8	0.821	6	0.732	5	0.807	7
Orissa	0.485	17	0.634	16	0.616	15	0.626	16	0.536	13	0.615	14
Punjab	0.487	15	0.720	10	0.917	1	0.917	3	0.663	9	0.810	6
Rajasthan	0.586	6	0.737	8	0.716	10	0.817	8	0.471	15	0.685	12
Tamil Nadu	0.505	14	0.605	18	0.808	5	0.819	7	0.811	3	0.876	3
Uttar Pradesh	0.487	16	0.640	15	0.691	12	0.838	5	0.414	18	0.265	21
Uttarakhand	0.537	11	0.731	9	0.772	6	0.769	11	0.543	12	0.572	15
West Bengal	0.481	18	0.269	21	0.521	18	0.458	19	0.508	14	0.539	17

Continued...

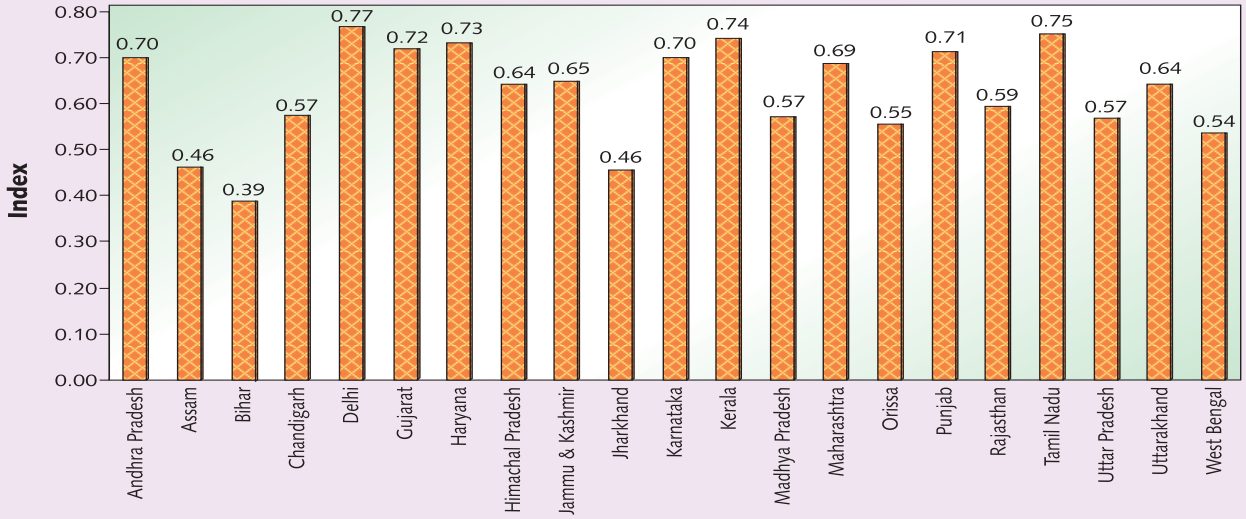
also true for all the four sets of indicators used in computing the EDI.

On the other hand, Bihar, Arunachal Pradesh and West Bengal are ranked 35, 34 and 33 in composite Primary and Upper Primary levels of education with an EDI as low as 0.406, 0.485 and 0.488 respectively, which is much lower than that of the top ranked states. However, these states have a slightly higher EDI values in 2007-08 than the same in 2006-07 which is true (barring Arunachal Pradesh at primary level) for Primary, Upper Primary and composite Primary and Upper Primary levels of education. In the overall ranking, Jharkhand is placed at 32nd in composite EDI at Primary and Upper Primary levels compared to 34th position in 2006-07. Its EDI value has also improved from 0.381 in 2006-07 to 0.491 in 2007-08 which is an encouraging sign.

Like smaller states and states from the north-eastern region, the top ranked five states have higher EDI values at Upper Primary than at Primary level of education. For example, the EDIs in the case of Kerala are 0.741 at Primary and 0.842 at Upper Primary levels compared to 0.767 and 0.793 respectively for Delhi. This is also true for Tamil Nadu, Haryana and Gujarat, which are ranked third, fourth and fifth, in composite Primary and Upper Primary levels of education among the 21 major states. Karnataka (0.743), Andhra Pradesh (0.740), Punjab (0.732) and Maharashtra (0.727), closely follow the first five ranked states (Table E-4) in composite Primary and Upper Primary levels of education.

The individual EDI values of each of these states in four sets of indicators have also been analysed critically. First, the index of access indicators is discussed which reveals that none of the top three ranked states maintained their respective positions at Primary level, as well as at Upper Primary level of education. At Primary level, Assam (EDI, 0.701), Jammu and Kashmir (EDI, 0.676) and Chhattisgarh (EDI, 0.673) are ranked first, second and third, respectively, in access set of indicators which is much better than their over-all position in composite index.

Figure 5.4
EDI at Primary Level : Major States



> "So far as the composite Primary and Upper Primary EDI amongst 21 major states is concerned, the top five ranking states are Kerala, Delhi, Tamil Nadu, Haryana and Gujarat; the first three ranks are similar to the rankings in the previous year"

The top ranked Kerala lost its position to Assam at Primary level and to Gujarat at Upper Primary level. Needless to mention that Gujarat is ranked fifth (EDI, 0.718) at Primary level among the 21 major states but it is ranked at eighth, if all the 35 states are considered. The respective indices in the case of Kerala are as low as 0.257 (rank 21) at

Primary and 0.687 (rank 13) at Upper primary level. Despite Kerala doing well in other sets of indicators, the state is not well placed with regard to access indicators. May be the state has achieved the goal of universal access and does not need more schools to open. Access index of Tamil Nadu is also low (EDI, 0.505 and 0.605) and the state is ranked 14th and 18th respectively in Primary and Upper Primary levels of education. The indices in the case of Assam with regard to access indicators is as high as 0.701 at Primary level but the same is as low as 0.607 at Upper Primary level where it is ranked 17th. Gujarat with an EDI of 0.820 is ranked first at Upper Primary level. Further, it has been observed that like other groups of states, namely, north-eastern and smaller states, the EDI values of major states in access indicators is far below than that of the other sets of indicators which is by and large true for both Primary as well as Upper Primary levels of education.

Table E4(A)
Indices & Ranking at Primary/Upper Primary Level: Major States
All Managements: All Schools, 2007-08

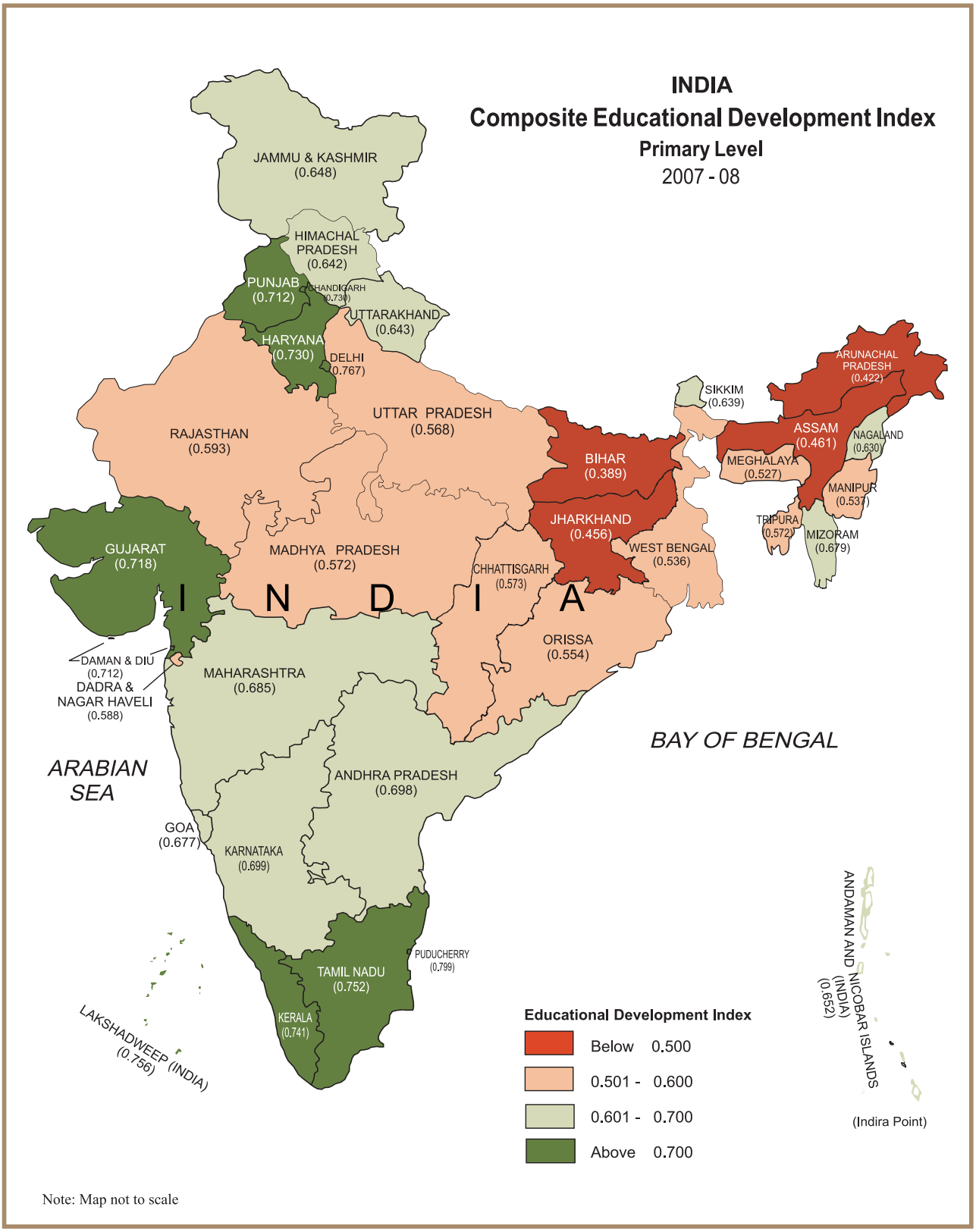
State	Outcome Index				EDI					
	Primary Level	Rank	Upper Primary Level	Rank	Primary Level	Rank	Upper Primary Level	Rank	Composite (Primary & Upper Primary) Level	Rank
Andhra Pradesh	0.826	3	0.780	3	0.698	8	0.781	5	0.740	7
Assam	0.622	15	0.648	9	0.461	19	0.568	17	0.515	18
Bihar	0.530	21	0.485	17	0.389	21	0.424	21	0.406	21
Chhattisgarh	0.675	13	0.461	20	0.573	14	0.567	18	0.570	17
Delhi	0.570	17	0.525	15	0.767	1	0.793	2	0.780	2
Gujarat	0.698	11	0.672	7	0.718	5	0.778	7	0.748	5
Haryana	0.692	12	0.605	12	0.730	4	0.780	6	0.755	4
Himachal Pradesh	0.777	5	0.648	10	0.642	12	0.747	10	0.695	10
Jammu & Kashmir	0.791	4	0.662	8	0.648	10	0.708	12	0.678	11
Jharkhand	0.551	19	0.578	14	0.456	20	0.527	19	0.491	19
Karnataka	0.880	1	0.819	2	0.699	7	0.787	4	0.743	6
Kerala	0.732	7	0.764	4	0.741	3	0.842	1	0.791	1
Madhya Pradesh	0.546	20	0.451	21	0.572	15	0.607	14	0.590	14
Maharashtra	0.767	6	0.720	5	0.685	9	0.770	8	0.727	9
Orissa	0.563	18	0.463	19	0.554	17	0.589	16	0.572	16
Punjab	0.721	8	0.498	16	0.712	6	0.751	9	0.732	8
Rajasthan	0.589	16	0.593	13	0.593	13	0.714	11	0.653	13
Tamil Nadu	0.859	2	0.833	1	0.752	2	0.790	3	0.771	3
Uttar Pradesh	0.700	10	0.690	6	0.568	16	0.603	15	0.586	15
Uttarakhand	0.711	9	0.634	11	0.643	11	0.677	13	0.660	12
West Bengal	0.666	14	0.469	18	0.536	18	0.441	20	0.488	20

So far as infrastructure indicators are concerned, none of the first three ranked states could maintain their respective positions. Delhi is ranked second in composite Primary and Upper Primary index and first in the case of Primary level. Delhi is ranked second (EDI, 0.909) at Primary and fourth at Upper Primary level (EDI, 0.871)

in the infrastructure index. Higher infrastructure index indicates that most of the schools in Delhi have got drinking water, common toilets and girls' toilet facility, which is also true for other top ranking states. It may be recalled that Assam has very high ranking with respect to access indicators at Primary level but the same is not true for infrastructure index. The state ranked 20th both at Primary (EDI, 0.316) and Upper Primary level (EDI, 0.386) in this aspect. Punjab with an overall rank of eighth (composite Primary and Upper Primary) is placed first (EDI, 0.917) at Primary level and third at Upper Primary level (EDI, 0.917) with regard to infrastructure index. By and large, Tamil Nadu could also maintain its overall rank regarding infrastructure indicators, that is, it is ranked fifth (EDI, 0.808) at Primary and seventh (EDI, 0.819) at Upper Primary level, compared to its overall third rank (EDI, 0.771). It may be observed that infrastructure index in Bihar is as low as 0.233 at Primary and 0.343 at Upper Primary levels of education. This clearly reveals that schools in the state are not better placed. This is also true for a few other states, such as Assam, Jharkhand, West Bengal and Jammu and Kashmir. It may be recalled that Jammu and Kashmir which is ranked second in the case of Access index at Primary level is ranked 17th in the case of infrastructure index. Further, infrastructure index reveals that by and

Table E4(B)
Composite Educational Development Index
Primary and Upper Primary Level: Major States
All Schools: All Managements

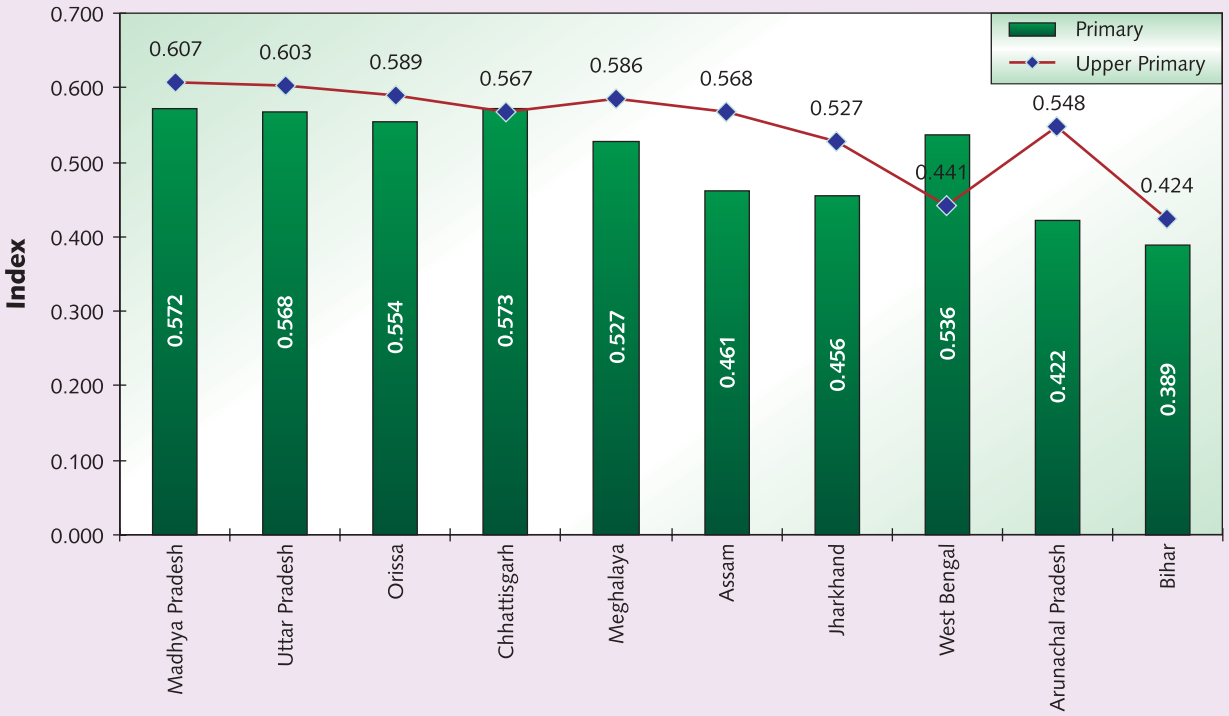
State/UT	EDI & Rank Primary Level				EDI & Rank Upper Primary Level				Composite EDI & Rank (Primary & Upper Primary)			
	2006-07		2007-08		2006-07		2007-08		2006-07		2007-08	
Andhra Pradesh	0.639	9	0.698	8	0.700	7	0.781	5	0.670	8	0.740	7
Assam	0.433	19	0.461	19	0.521	15	0.568	17	0.477	18	0.515	18
Bihar	0.309	21	0.389	21	0.334	21	0.424	21	0.321	21	0.406	21
Chhattisgarh	0.517	16	0.573	14	0.526	14	0.567	18	0.521	15	0.570	17
Delhi	0.767	1	0.767	1	0.747	3	0.793	2	0.757	2	0.780	2
Gujarat	0.655	5	0.718	5	0.699	8	0.778	7	0.677	6	0.748	5
Haryana	0.591	12	0.730	4	0.632	12	0.780	6	0.612	12	0.755	4
Himachal Pradesh	0.675	4	0.642	12	0.739	4	0.747	10	0.707	4	0.695	10
Jammu & Kashmir	0.599	11	0.648	10	0.667	9	0.708	12	0.633	10	0.678	11
Jharkhand	0.360	20	0.456	20	0.402	20	0.527	19	0.381	20	0.491	19
Karnataka	0.653	6	0.699	7	0.708	6	0.787	4	0.680	5	0.743	6
Kerala	0.756	2	0.741	3	0.788	1	0.842	1	0.772	1	0.791	1
Madhya Pradesh	0.478	18	0.572	15	0.483	17	0.607	14	0.481	17	0.590	14
Maharashtra	0.644	8	0.685	9	0.710	5	0.770	8	0.677	7	0.727	9
Orissa	0.529	15	0.554	17	0.445	18	0.589	16	0.487	16	0.572	16
Punjab	0.649	7	0.712	6	0.659	10	0.751	9	0.654	9	0.732	8
Rajasthan	0.532	14	0.593	13	0.632	13	0.714	11	0.582	13	0.653	13
Tamil Nadu	0.724	3	0.752	2	0.757	2	0.790	3	0.741	3	0.771	3
Uttar Pradesh	0.538	13	0.568	16	0.514	16	0.603	15	0.526	14	0.586	15
Uttarakhand	0.615	10	0.643	11	0.643	11	0.677	13	0.629	11	0.660	12
West Bengal	0.500	17	0.536	18	0.416	19	0.441	20	0.458	19	0.488	20


INDIA
Composite Educational Development Index
Primary Level
2007 - 08
JAMMU & KASHMIR (0.648)
HIMACHAL PRADESH (0.642)
PUNJAB (0.712)
CHANDIGARH (0.730)
UTTARAKHAND (0.643)
HARYANA (0.730)
DELHI (0.767)
RAJASTHAN (0.593)
UTTAR PRADESH (0.568)
SIKKIM (0.639)
ARUNACHAL PRADESH (0.422)
ASSAM (0.461)
NAGALAND (0.630)
MEGHALAYA (0.527)
MANIPUR (0.537)
TRIPURA (0.572)
MIZORAM (0.679)
BIHAR (0.389)
JHARKHAND (0.456)
WEST BENGAL (0.536)
GUJARAT (0.718)
MADHYA PRADESH (0.572)
CHHATTISGARH (0.573)
I N D I A
ORISSA (0.554)
DAMAN & DIU (0.712)
DADRA & NAGAR HAVELI (0.588)
MAHARASHTRA (0.685)
BAY OF BENGAL
ARABIAN SEA
ANDHRA PRADESH (0.698)
GOA (0.677)
KARNATAKA (0.699)
PUDUCHERRY (0.799)
TAMIL NADU (0.752)
KERALA (0.741)
LAKSHADWEEP (INDIA) (0.756)
ANDAMAN AND NICOBAR ISLANDS (INDIA) (0.652)
(Indira Point)
Educational Development Index
Below 0.500
0.501 - 0.600
0.601 - 0.700
Above 0.700
Note: Map not to scale

Map 5.1

large, it is higher in Upper Primary level compared to Primary level. The same was also observed in the case of smaller states and states in the north-eastern region.

Figure 5.5
EDI at Primary & Upper Primary Level, Ten Bottom Ranked States: 2007-08



The next sets of indicators that have been discussed fall under the category of teacher and outcome indicators. By and large, Kerala, Delhi and Tamil Nadu maintained their high rankings with regard to teachers' index at Primary level which is also true for Upper Primary level of education. Gujarat is ranked fourth at Primary and fifth at Upper Primary level which is in line with its over all ranking in composite Primary and Upper Primary index. Kerala with an EDI of 0.950, both at the Primary and Upper Primary levels, is ranked first so far as teachers' index is concerned. Kerala is followed by Delhi (EDI 0.937; rank 2nd) and Tamil Nadu (EDI 0.811; rank 3rd) at the Primary level which is also true for infrastructure index in Upper Primary level of education. On the other hand, with regard to teacher index, Assam (EDI, 0.328), Bihar (EDI, 0.334) and Jharkhand (EDI, 0.379) are respectively placed at 21st, 20th and 19th position. In view of low EDI values, they need significant improvement in most of their teacher related indictors.

"Analysis of the EDI clearly reveals that different states are at different levels of educational development in general, and Primary and Upper Primary levels of education in particular. A few states with high EDI values are termed better than the rest of the states but still they may not be well placed with regard to all the four sets of indicators used in computation of the EDI"

Further, it is observed that in most of the 21 major states, teachers' index is observed to be higher for Upper Primary level compared to Primary level. However, the same is not true for outcome index, consisting of GER, examination results, GPI, dropout and repetition rates, etc. Karnataka is ranked first with an EDI value as high as 0.880 at Primary level and is ranked second (EDI, 0.819) at Upper Primary level of education. It may be noted that its ranking in access, infrastructure and teachers indices is

much lower than that in outcome index. Next to Karnataka is Tamil Nadu at Primary (EDI, 0.859) level. However, at Upper Primary level, Tamil Nadu (EDI, 0.833) is ranked first followed by Andhra Pradesh (EDI, 0.780) and Kerala (EDI, 0.764) with regard to outcome index.

The analysis of the EDI clearly reveals that different states are at different levels of educational development in general, and Primary and Upper Primary levels of education in particular. A few states with high EDI values are termed better than the rest of the states but still they may not be well placed with regard to all the four sets of indicators used in computation of the EDI. Even if a state is ranked first, it may need further improvement for which individual EDI value should be critically analyzed. In addition, there is also need to analyse each indicator separately and identify states that need improvement. For instance, Bihar (21), West Bengal (20), Jharkhand (19), Assam (18), Chhattisgarh (17) and Orissa (16), are a few low ranking states on composite Primary and Upper Primary levels. This is also almost true separately for Primary and Upper Primary levels. The composite rank of Bihar and West Bengal among 21 major states remained the same both in 2006-07 and 2007-08 whereas Uttar Pradesh slipped to 27th position from 26th in 2006-07. Among the 35 States and UTs, overall ranking of Bihar, West Bengal and Jharkhand is 35, 33 and 32 respectively, all of which are traditionally seen as educationally backward states. Irrespective of sets of indicators, rank of Bihar varies between 7 and 21 among the 21 major states considered in analysis under major group of states. However, in the case of access index, it is ranked eighth at Primary level.

"Among the 35 States and UTs, overall ranking of Bihar, West Bengal and Jharkhand is 35, 33 and 32 respectively, all of which are traditionally seen as educationally backward states. Irrespective of sets of indicators, rank of Bihar varies between 7 and 21 among the 21 major states considered in analysis under major group of states"

A careful analysis would reveal that in a state like Bihar, more than 96 pupils are made to sit in one classroom imparting elementary education. At the same time, pupil-teacher ratio in Bihar is high (54 pupils per teacher), and in a good number of schools (11.39 percent) PTR is above 100. This is also true for another educationally backward state, Jharkhand. The student-classroom ratio in Jharkhand is as high as 60:1. There are still 11.24 percent single-teacher primary schools across the state. On the other hand, in a state like West Bengal, the ratio of Primary to Upper Primary schools/sections is above five; barring Arunachal Pradesh, it is the only state in the county to have the ratio above five, meaning availability of an Upper Primary school/section per set of five Primary schools/sections. In many of these educationally backward states, enrolment is noticed to be on the rise but at the same time a good number of pupils drop out and those who continue do not reach the terminal grade. Bihar also has low percentage of girls both at Primary (46.56 percent) and Upper Primary (43.04 percent) levels. In Bihar, the average dropout rate is as high as 13.79 percent in Primary classes compared to 12.82 percent drop out rate in Jharkhand. On the other hand, retention rate at Primary level in Bihar is around 53 percent. Over time, transition rate has improved but still a good number of pupils drop out from the system before the completion of an educational level and those who continue do not necessarily attain education that can be called satisfactory. All districts together reveal that only 48.67 percent boys and 48.80 percent girls pass with 60 percent and above marks in the terminal Grade IV/V, suggesting the need for careful identification of problems. The DISE database can be used to identify all such locations and schools which need immediate attention.

Concluding Observations

Based on the composite EDI at Primary level, states can be grouped into four clusters: Cluster I: EDI up to 0.50, Cluster II: 0.51 to 0.60, Cluster III: 0.61 to 0.70 and Cluster IV: 0.71 and above. Four states have found place in the first cluster having EDI value up to 0.50; the states are Bihar, Jharkhand, Arunachal Pradesh, and Assam. Except Arunachal Pradesh, remaining states are

big in size (population) and important for the country to achieve the goal of UEE. On the other hand, 10 states are placed in the second cluster having an EDI value between 0.51 and 0.60. Small as well as major states are placed in this cluster. States like West Bengal, Chhattisgarh, Orissa, Rajasthan, Uttar Pradesh and Madhya Pradesh are in this cluster. On the other hand, smaller states like Dadra and Nagar Haveli, Meghalaya, Tripura and Manipur are also placed in the second cluster with an EDI value between 0.51 and 0.60. All the 14 states from the first and second group need immediate attention. To improve their overall position, these states should compute district-specific EDIs and analyse EDI values separately in the case of access, infrastructure, teachers and outcome indicators. On the other hand, eleven states are placed in the third cluster with an EDI between 0.61 and 0.70 and only 10 in the fourth cluster having an EDI between 0.71 and 0.77. Even the five top ranking states are not perfect in all the four sets of indicators as reflected in individual EDI values. The states are Puducherry, Kerala, Lakshadweep, Delhi and Tamil Nadu. The EDI in this group varies from 0.808 in Puducherry to 0.771 in Tamil Nadu. Uttarakhand, Andhra Pradesh, Maharashtra, Karnataka and Jammu and Kashmir are placed in the third cluster with an EDI between 0.61 and 0.70. All the states including the top ranking states should analyse all the indicators used in the EDI computation district-wise, and block wise within a district. It should be followed by adopting appropriate strategies without which neither their overall ranking nor status of universal elementary education in the state is expected to improve. Variables found to have higher weightage than others should be accorded the top most priority while adopting strategies in the year that follows. Some of such variables are:

"All the states including the top ranking states should analyse all the indicators used in the EDI computation district-wise, and block wise within a district. It should be followed by adopting appropriate strategies without which neither their overall ranking nor status of universal elementary education in the state is expected to improve"

Primary Level: Percentage of schools with drinking water facility, percentage of schools with girls' toilet, percentage of female teachers, percentage of schools with PTR and SCR above 60, percentage of single-teacher schools, GER and GPI, dropout rate, and students passing with 60 percent and above marks in Grade IV/V.

Upper Primary Level: Schools with SCR and PTR 60 and above, percentage of single-teacher schools, percentage of schools with girls' toilet, percentage of schools with drinking water facility, percentage of female teachers, average repetition rate, schools with less than three teachers, GER and students passing with 60 percent and above marks in Grade VII/VIII.

DISE Publications: A Few Comments

- *I wish to compliment NUEPA for the valuable documents, very well structured to serve as valuable reference material.* Dr. M. Anandakrishnan, Chairman, Indian Institute of Technology, Kanpur.
- *I must compliment NUEPA for producing such an informative well led out document which will give opportunity to researchers and policy makers to access vital information pertaining to various facets of elementary education.* Maj. Gen. S.N. Mukharjee, Lakshmibai National University of Physical Education, Gwalior.
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- *I just browsed through the publications and found that they are quite useful and informative.* Prof. R.S. Deshpande, Director, Institute for Social and Economic Change, Bangalore.
- *Both these publications will be of immense help for the department.* Dr. R.G. Kothari, Professor of Education, The Maharaja Sayajirao University of Baroda, Vadodara.
- *These documents are useful for the users of our library.* Professor In-charge (Library), Maharshi Dayanand University Library, Rohtak.
- *The publications are very informative and would be used widely by researchers and policy makers engaged in the field of elementary education in India.* Prof. R. Sambasiva Rao, Special Director General, Ministry of Health and Family Welfare, New Delhi
- *The data complied and presented in the publication are of immense value for research work on education and gender, and commendable. I congratulate NUEPA for bringing out such a useful publication.* Swamy Swarupanand, Secretary, Ramakrishna Ashrama, Ramakrishnapuri, Gwalior.
- *These publications are very useful and we will definitely share it with the interested organizations and individuals.* Mr. Patwari, Akshara Foundation, E-mail: aksharadwd@gmail.com.
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- *I agree that the reports would of great value from the point of view of planning experiments in universalization of the education.* Dr. Ragini Prem, Secretary, Banwasi Seva Ashram, Sonbhadra.
- *It looks a very useful collection of data.* Mr. Sabtasachi Bhattacharya, Chairman, Indian Council of Historical Research, New Delhi.
- *The documents are of great use to the students and faculty members of our Department. Please convey our complements to DISE team for bringing out such an important statistics.* Dr. A.K. Kundu, Deputy Librarian, North-Eastern Hill University, Meghalaya.
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- *We researchers are able to know both a bird's-eye view at national level and the detailed report regarding each district in India. I highly appreciate your hard efforts and analysis.* Hisako Akai, Fukuoka, Japan.
- *The District Report Cards provide ample information for making critical analysis of various states in India especially on elementary education*. Dr. R.S. Sharma, Ex-Fellow, NUEPA, New Delhi.
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- *I had a quick glance of the contents and the work reported is very high quality. I wish you all success in dissemination this report.* Dr. S. Sadagopan, Director, International Institute of Information Technology, Bangalore.
- *It will be very useful for our faculty and students. Some of our students are working on education for their M.A/M.Phil dissertation.* Dr. M. Indira, Associate Professor, Department of Studies in Economics and Co-operation, University of Mysore, Mysore.
- *Congratulations on all your good work with DISE data. It is really a fantastic achievement to get increasingly reliable data on 1.25 million elementary schools in India. I think a lot can be done in terms of district level analysis of the data.* Dr. Geeta Kingdon, Department of Economics, University of Oxford, Oxford.
- *We are delighted to see that the new District Report Cards using DISE data are already online as they have wealth of interesting information,* Dr. Vandana Sipahimalani Rao, Human Development Economist, Manila, Philippines.
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- *I am sure it would be of great help.* Dr. Sharada Jain, Director, Sandhan (Society for Education & Development), New Delhi.
- *This is what we have been waiting for.* Ms. Varsha Hooja, Director, Technical Operations, National Resource Centre for Inclusion Spastics Society of India.
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- *This is really amazing to see the remote village schools information on your website. The site will be very useful in understanding the status of the Indian schools.* Mr. R. Venkat Reddy, venkatmvf@yahoo.com.
- *Thanks for felicitations for your monumental publication, Elementary Education in India: Progress towards UEE, Analytical Report.* Mr. Saiyid Hamid, former Vice-Chancellor, Aligarh Muslim University, Chancellor, Jamia Hamdard and Secretary, Hamdard Education Society, New Delhi.
- *The data provided by DISE would be of immense help to the people who are working in the field of primary education. It would have been of great help to government to properly plan for the school level education for Muslims.* Mr. Kamal Faruqui, Chariman, Delhi Minorities Commission, Vikas Bhawan, New Delhi.
- *It was great to learn about the progress made regarding DISE.* Dr. Deepa Sankar, Education Economist, The World Bank, New Delhi.

- *DISE publications annually produce a vast wealth of educational statistics and I am so happy that NUEPA has kept up the standards in generating periodic information so useful for all of us.* Dr. Preet Rustagi, Senior Fellow, Institute for Human Development, New Delhi.
- *I must confess that after the monumental work of J.P.Naik on the history of Indian education your work related to elementary education in India is the most comprehensive data-base published so far. It will be an invaluable for all researchers and policy makers on education in the coming decades.* Prof. Gautam Sen, Director General, Indian Institute of Education, Pune.
- *We hope to benefit from the publication.* Dr. Montek Singh Ahluwalia, Deputy Chairman, Planning Commission, New Delhi.
- *Congratulations on the excellent production of the two volumes of the District Report Cards.* Prof. Amitabh Kundu, Centre for Studies in Regional Development, Jawaharlal Nehru University, New Delhi.
- *The publication is very useful containing considerable amount of data and analysis, which will be useful for researchers in the field of education.* Prof. Anandakrishnan, Chairman, Madras Institute of Development, Chennai.
- T*hank you for sending me very useful publications. Shri* J. Veeraraghavan, Director, Bhartiya Vidya Bhavan, New Delhi.
- *I have placed the publication in our library for wider consultation by our scholars.* Prof. C.H. Hanumantha Rao, Chairman, Centre for Economic and Social Studies, Hyderabad.
- *NUEPA's success in operationalising the nationally acclaimed DISE has been one such landmark, revolutionizing the role of education planners, who can now address local developmental needs from an informed perspective, armed with statistical and situational data.* Mr. Samphe Lhalungpa, Ex-Chief, Education Section, UNICEF India Country Office, New Delhi.
- *A great piece of work, congratulation for putting everything in black and white.* Dr. Maheswar Lal, Asha for Education, Philadelphia.
- *The publications (Elementary Education in Rural and Urban India) would be very useful addition to our library.* Mr. Mohammad Hamid Ansari, Chairperson, National Commission for Minorities, Government of India, New Delhi.
- *The publications containing valuable recent data on the state of elementary education in India will no doubt be found most useful by myself and my students at JNU.* Prof. D.N. Rao, Centre for Economic Studies & Planning School of Sciences, Jawaharlal Nehru University, New Delhi.
- *The data provided in the Analytical Tables are of immense utility.* Prof. P.M. Kulkarni, Centre for the Study of Regional Development, Jawaharlal Nehru University, New Delhi.
- *The DISE Flash Statistics is becoming smarter with more and more information. I congratulate DISE team for their total dedication in compiling the data.* Mr. S.S. Rajagopalan, Chennai.
- *This is a welcome step and I appreciate the efforts undertaken by NUEPA.* Dr. Lokesh K. Shekhawat, Vice-Chancellor, Jai Narain Vyas University, Jodhpur.
- *We are extremely thankful to you for sending such a valuable publication.* Librarian, Tilak Maharashtra University Library, Pune.

- *We have kept the publication in the Central Library of the institute, which will be useful for our readers.* Dr. Yogendra Singh, Ex-Scientist, Indian Institute of Technology, Roorkee Central Library, Roorkee.
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- *Just received the two volumes of elementary education in India. Should I say I am privileged? I have just leafed through the pages and have had a sensation. What a tremendous job done! Really grateful for the prompt dispatch.* Mr. Soumen Hom, Kolkotta.
- *District Report Cards will be of immense help in the activities in school education at CII.* Ms. Alka Chaudhary, Director, Confederation of Indian Industry, New Delhi.
- *The information would help us in many ways.* Mr. Sunil Gautam, Indian Institute of Dalit Studies, New Delhi.
- *I have gone through documents on the web, they are immensely useful for my research. I want to congratulate you and also convey my thanks for providing such vast information.* Prof. Amulya Chagapuram, ICFAI University, Hyderabad.
- *The http://schoolreportcards.in is nice move. It helps if you are an academician, it helps if you are a policy maker, and it helps even if you are a common citizen. The data will help the process of empowerment and strengthen the democracy*. Dr. Ram Manohar Vikas, Indian Institute of Technology, Kanpur.

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For detailed information on DISE, please visit
Website: http://www.schoolreportcards.in
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The National University of Educational Planning and Administration has created a comprehensive database on elementary education in India under one of its most prestigious projects, known as, District Information System for Education (DISE). The project covers both primary and upper primary schools/sections of all the districts of the country. What is more remarkable about DISE is that it has drastically reduced the time-lag in availability of educational statistics which is now down from 7-8 years to less than a year at the national and only a few months at the district and state levels. DISE is supported by the Ministry of Human Resource Development and UNICEF.

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The Report Cards are produced to provide users comprehensive information on all the vital parameters, be it student, teacher or school related variables, yet concise, accurate information about each school in a standard format which is easy to understand and allows meaningful comparisons to be made among schools. We hope that these reports are used in constructive conversations which lead to improved education for all children across the country.

Please also visit: www.dise.in
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