

Scaling Up Primary Education Services in Rural India

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Scaling up Primary Education Services in Rural India:

Public Investment Requirements and Policy Reform

Case Studies of Uttar Pradesh and Madhya Pradesh

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Abstract

We attempt to address two key questions in this paper: 1) In terms of state-wide scaling up of rural services (in Uttar Pradesh, and Madhya Pradesh) in the area of primary education, what will it cost financially and in terms of human resources to scale-up these services in all the rural areas of these two states? And 2) what policy, institutional and governance reforms may be necessary so as to ensure proper service delivery? As is well known, merely setting up more schools, for instance, is not going to be enough; higher public investments in these areas needs to be accompanied by systemic reforms that will help overhaul the present service delivery system, including issues of control and oversight, for example.

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During the week of November 14, 2005, Nirupam Bajpai submitted this paper to His Excellency, Dr. A P J Abdul Kalam, President of India and the Honorable Dr. Manmohan Singh, Prime Minister of India. Nirupam Bajpai also presented and discussed this paper with Dr. Montek Singh Ahluwalia, Deputy Chairman, Planning Commission, Digvijaya Singh, General Secretary, All India Congress Committee and former Chief Minister of Madhya Pradesh, Babulal Gaur, Chief Minister of Madhya Pradesh, Mulayam Singh Yadav, Chief Minister of Uttar Pradesh, Vijay Singh, Chief Secretary of Madhya Pradesh and R Ramani, Chief Secretary of Uttar Pradesh and several other senior civil servants in Delhi, Bhopal and Lucknow.

Scaling up Primary Education Services in Rural India: Public Investment Requirements and Policy Reform

Case Studies of Uttar Pradesh and Madhya Pradesh

Key Recommendations

Per our estimates of the financial requirements of scaling up primary education services in rural Uttar Pradesh (UP) and Madhya Pradesh, (MP) additional public spending of Rs.161 per capita is needed for UP and Rs.65 per capita for MP. In 2004-05, on a per capita basis, the allocation to the primary education sector is almost the same in MP (Rs. 386) and UP (Rs. 376). Thus, scaling up of primary education in rural MP and UP on a per capita basis amounts to increasing the budget allocation by 8 percent in MP and 21 percent in UP. Although financially this is achievable in one year, at least in MP, however, it may be spread over the next 3 to 4 years in both the states considering implementation problems and delays in construction of school buildings.

MP needs to focus more on two key aspects: one, to get all the children from the poor families and special focus groups, such as girls and children from the SC and ST communities that are out of school into school and two, to strive harder to attain and sustain higher levels of quality in their primary schools. While the former may require measures, such as higher levels of financial incentives for poor parents to send their children to school, improved quality and quantity of the mid-day meals being provided, and wide-ranging awareness programs, the latter may require drastic changes in the learning methods and techniques, making classroom activities more experimental and enjoyable for the children, improved teacher training, and of course upgrading the school infrastructure. By contrast, UP needs to focus more on construction of more schools (25,426 additional schools are needed per our calculations) and hiring more teachers, (314,839 additional teachers are needed per our calculations) areas where MP seems to have achieved a fair bit. Of course, UP too needs to attain higher enrollment levels and improve the quality of teaching.

We recommend the following areas for much greater attention: school infrastructure, functioning, curriculum and instructional resources, stricter control over and improved oversight of teachers' improved and rigorous teachers' training, and improved quality and quantity of mid-day meals.

With regard to the Panchayati Raj Institutions, (PRIs) and their ability to deliver, the following questions need to be looked into: Has the power and authority that has been devolved to the PRIs on paper actually reached the people? Do they understand their duties/responsibilities on the one hand and their authority on the other? Do the PRIs have the capacity to manage schools? Are there regular (on an on-going basis) and comprehensive capacity building programs in place? And are any measures being undertaken to ensure that the caste and patriarchy do not prejudice effective management at the local level?

The syllabus and contents of the textbooks used in Mathematics, English and Environment studies in UP need serious modifications and improvements in style, relevance and simplification. In MP, the textbooks on Environmental studies need to introduce General Science more intensely than what is done presently. Like MP, English should be formally introduced from Standard I in UP also. Refer to Appendices 3 and 4.

Schools with fewer rooms should run in two shifts making better use of resources. This is equally applicable in both MP and UP. There is likely to be resistance from regular teachers, but it has to

be overcome, if needed, by the use of para-teachers from the village itself. If the timings of the classes are decided in consultation with Village Education Committees (VEC) and the Ward Education Committees (WEC), the problem of early dropout of children on economic considerations can also be resolved. This will improve the quality of education by removing the congestion and overcrowding due to simultaneous running of classes in the same room.

There is an urgent need to consider revision of the basic norm of a school with only two classrooms and an office room with a *verandah* to a minimum of three classrooms. This will also have implications on the revision of financial norms. The current financial norms are based wrongly on economizing resources to compromise on the quality of construction. They result in greater need for minor and major repairs much before they should normally be due.

The maintenance budget available to schools annually needs substantial increase. We have recommended almost four-fold increase to improve the conditions. Discretion in the hands of a principal of the school for using the maintenance budget and such other day-to-day matters should be increased. For every single and small decision, he/she should not be made to seek approval and concurrence by the president of VEC or the WEC.

There is a need to appoint a cook-cum-cleaner-helper in all primary schools. Currently, this is a responsibility of the village *Panchayat*, but hardly any *Panchayats* fulfill their obligations. As a result, it is the teacher who cooks the midday meal, serves and cleans up utensils. If he finds any time thereafter he may also teach! If an additional local help is regularly available again on an *ad hoc* basis, it can substantially improve the quality of instruction in the class and also help maintain cleanliness in the premises of the school. Every school must maintain a small garden as well. The helper can also look after the garden.

The incentive schemes need better targeting and management. The scholarship amount of Rs.250 to Rs.300 is handed over to the students in the beginning of the year itself. As a result, the attendance in the class drops sharply thereafter, having very adverse impact on the performance of the students. Instead, the scholarship amount should be divided into monthly installments of Rs.30 and paid to the students over 10 months with a condition of satisfactory attendance record during the previous month. Such an implementation will have less chances of abuse.

All scholarships or cash subsidies given to students of different categories should be of the same amount for Classes I through III and should be of progressively higher amounts for Classes IV and V. Like all the cash subsidies and school uniforms, the textbooks and stationary should also be given only to the children from the target group, *i.e.* to the families below the poverty line and SC/ST categories.

There is an urgent need to relax approvals to the private schools, particularly in UP. The official procedures and formalities to get an approval and recognition for private aided and non-aided schools should be simplified and expedited.

State government can think of collecting small fees from the non-target group population to provide better facilities like library, play ground with toys and sports equipments, small laboratory equipments for conducting experiments prescribed in their environment textbooks, etc.

In terms of furniture, the schools need to be better equipped. They should have one steel cupboard per classroom, a table and a chair per classroom, and a table and three chairs for the office room. Currently none of these are available. Moreover, students in rural areas may not sit on benches in

the government schools, but can certainly sit on carpets. Similarly, separate toilets for boys and girls should be constructed on an urgent basis in every school.

Para-teachers should be given rigorous training for 30 days in a year and should be paid the same allowance (Rs.70 / day) as the regular teachers. Moreover, they should also be given the teaching contingency on par with regular teachers (Rs.500 p.a.) on completion of one academic year.

Labor laws need to be reformed. The total number of leaves in a year that a regular teacher is entitled to is far in excess of what can be tolerated in an essential service like primary education. Moreover, the practice of having half-a-day casual leave also doubles the number of casual leaves effectively. This contributes to teachers' absenteeism, insincerity and irregularity ultimately discouraging students and harming the cause of education. Such laws need immediate revision.

We suggest an education sector strategy for India that is based on the objectives of the Sarva Siksha Abhiyan (SSA) not only at the national level, but also more importantly at the state and district levels. States and districts should strive hard to attain the goals laid out in the SSA, especially for the laggard states and districts, with particular focus on the 150 most backward districts of the country. Based on SSA's national goals, state governments should announce targets for education to be met at the state and district levels by the year 2010.

We suggest that the central government should plan to convene a meeting of Chief Ministers and Education Ministers of all Indian States in 2006 to discuss how the states will meet the education targets of SSA. This meeting will allow states to present their most successful initiatives, so that all states can adopt "best practices" in public education.

Scaling up Primary Education Services in Rural India: Public Investment Requirements and Policy Reform¹

Case Studies of Uttar Pradesh and Madhya Pradesh

Nirupam Bajpai, Ravindra H. Dholakia and Jeffrey D. Sachs²

This report is based on the work undertaken during Year I of a two-year project on scaling up primary education services in rural India. The report focuses on two states: Uttar Pradesh (henceforth UP) and Madhya Pradesh (henceforth MP). Unnao district in UP and Raisen district in MP were taken up for in-depth studies. Furthermore, detailed questionnaires were administered in five villages in each of the two districts that were distinct from each other and representative of the different conditions so that these could be reasonably extrapolated to the district.

We attempt to address two key questions in this report:

- 1) In terms of state-wide scaling up of rural services (in Uttar Pradesh and Madhya Pradesh) in the area of primary education, what will it cost financially and in terms of human resources to scale-up these services in all the rural areas of these two states? And
- 2) What policy, institutional and governance reforms may be necessary so as to ensure proper service delivery? As is well known, merely setting up more primary schools, for instance, is not going to be enough; higher public investments in these areas needs to be accompanied by systemic reforms that will help overhaul the present service delivery system, including issues of control and oversight, for example.

Elementary education was all along a part of the Directive Principles of State Policy in the Indian Constitution. Since the 83rd Amendment to the Indian Constitution, however, it is recognized as a fundamental right. The constitution states, "... the State shall endeavour to provide, within a period of ten years, for free and compulsory education for all children until they complete the age of fourteen years" (Article 45 of the Constitution). Literacy with primary education covering the three R's – reading, writing and arithmetic – is widely accepted as an essential ingredient of civilized existence, and an inevitable feature reflecting the quality of life. Education provides freedom from ignorance, access to information, technology, and communication channels, broader outlook, and ability to respect other viewpoints. It is, therefore, rightly treated as a merit

¹ This report is based on the work undertaken for a project entitled 'Scaling up Services in Rural India' that is housed at the Center on Globalization and Sustainable Development (CGSD) of the Earth Institute at Columbia University. CGSD is grateful to The William and Flora Hewlett Foundation for providing financial support to this project and especially thanks Smita Singh, Program Director, Global Development, and Shweta Siraj-Mehta, Program Officer for discussions and their keen interest in this project.

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good to be provided to all citizens by the government as a matter of their right. Given the state of current technology, formal education does not fulfill the criteria of non-excludability and non-rivalry in consumption. Private returns or benefits also justify the private costs, because the issue of externalities is largely off-set by the economies of scale in this sector. The case for public provisioning of primary education is, therefore, based on non-affordability and unduly high discount rates used by the poor. Secondly, the dimensions of space and distance are also important because the direct consumers of primary education are the small children living all over the space. Private players can and do provide the service in this sector, but would not find it viable to reach every nook and corner. Thirdly, public provisioning is required in this sector also to provide a choice or an option to consumers so that the quality and price of the private players can be regulated and indirectly controlled. Scaling up of rural services in the primary education sector should be viewed from this perspective.

In order to address the question of the magnitude of scaling up primary education services in rural areas, we have selected two large states in India. Uttar Pradesh and Madhya Pradesh. UP is the most populous state of India with 16.4 percent of India's population and MP is the second biggest state with 9.4 percent of geographical area of the country. Both these states are among economically most backward states in the country with relatively very high proportion of the poor. Moreover, MP has the largest tribal population, and UP has the largest Muslim and scheduled caste populations in the country. Attainment of the millennium development goals (MDGs) by 2015 individually in both these states is definitely a challenging task. The rural areas in both these states are relatively more lagging and need urgent attention. The estimates of the requirement of financial and human resources to scale up the rural primary education in these two states are likely to be on the upper end for making any generalization about the country as a whole. However, the issues pertaining to the quality of the service, effective delivery and incentive structure are likely to remain the same everywhere in rural India.

Primary education refers to the education of children between the ages 6-11 years (Standard/Grade I through V). As mentioned above, universalization of primary education (UPE) is a constitutional provision in India and there has been a steady expansion in the spread of primary education since Indian independence in 1947. The Indian educational system is the second largest in the world after China. In 2001-02, there were nearly 0.66 million primary schools in India providing access to 84 percent of habitations with a primary school located within a distance of one kilometer.

Table 1 shows literacy rates for India as a whole and by sex. It also shows the decadal rates of change from 1901 to the present.³ Literacy rates have increased for both males and females, and though the latter continues to lag behind the former, there has been a narrowing of the male-female gap in literacy: from 24.8 percent in 1991 to 21.7 percent in 2001. In 2001, the absolute number of illiterates declined historically for the

³ Before the 1991 census, only those belonging to the age-group 0-4 years were excluded from the population in order to compute literacy rates and the basis of the computation was the entire population. From the 1991 census onward, literacy rates were computed based on the population aged 7+ years and above.

first time by nearly 32 million. In terms of state-wise performance, Kerala continues to occupy the first rank as it has done historically followed by Maharashtra, Tamil Nadu and Karnataka; on the other hand, densely populated states like UP, Rajasthan and Bihar are yet to overcome their educational inertia.⁴

Table 1: Crude literacy rates by sex, India, 1901-2001

Census year	Crude literacy rates			Decadal change (in percentage points)		
	Persons	Males	Females	Persons	Males	Females
1901	5.4	9.8	0.6	--	--	--
1911	5.9	10.6	1.0	0.5	0.8	0.4
1921	7.2	12.2	1.8	1.3	1.6	0.8
1931	9.5	15.6	2.9	2.3	3.4	1.1
1941	16.1	24.9	7.3	6.6	9.3	4.4
1951	16.7	25.0	7.9	0.6	0.1	0.6
1961	24.0	34.4	13.0	7.3	9.4	5.1
1971	29.4	39.4	18.7	5.4	5.0	5.7
1981	36.2	45.9	24.8	6.8	6.5	6.1
1991	42.8	52.7	32.2	6.6	7.8	7.4
2001	55.3	64.1	45.8	12.5	11.4	13.6

Source: Registrar General CCI 2001: (2001a: 114)

Notes:

1. Figures from 1901 to 1941 are for undivided India.
2. Figures for 1981 exclude Assam and those for 1991 exclude Jammu and Kashmir as no census could be conducted in Assam in 1981 and in Jammu and Kashmir in 1991.
3. Figures for 2001 exclude the entire Kachchh district; Morvi, Maliya-Miyana and Wankaner talukas of Rajkot district; Jodiya taluka of Jamnagar district of Gujarat state, and entire Kinnaur district of Himachal Pradesh where 2001 census enumeration could not be held due to natural calamities.

The average figures for India as a whole hide a great deal of variation among states. *Table 2* provides literacy rates for states for the years 1991 and 2001, for the population as a whole, by sex and also the decadal rate of change.

⁴ In Bihar, Nagaland and Manipur as well as Delhi and Chandigarh, the absolute number of illiterates has actually increased in the 1990s.

Table 2: Literacy rates for all Indian states, 1991 and 2001

State and Union Territory	1991			2001			Gains in literacy rates (2001-1991)		
	Persons	Male	Female	Persons	Male	Female	Persons	Male	Female
INDIA	52.2	64.1	39.3	65.4	75.6	54.0	13.0	11.5	14.7
Haryana	55.9	96.1	40.5	68.6	79.3	56.3	12.7	10.2	15.8
Himachal Pradesh	63.9	75.4	52.1	77.1	86.0	68.1	13.2	10.6	16.0
Jammu & Kashmir	51.5	63.3	38.8	65.4	75.9	54.2	13.9	12.6	15.4
Punjab	58.5	65.7	50.4	70.0	75.6	63.6	11.5	9.9	13.2
Rajasthan	38.6	55.0	20.4	61.0	76.5	44.3	22.4	21.5	23.9
Chandigarh (UT)	77.8	82.0	72.3	81.8	85.7	76.7	4.0	3.7	4.4
Delhi (UT)	75.3	82.0	67.0	81.8	87.4	75.0	6.5	5.4	8.0
Bihar	37.5	51.4	22.0	47.5	60.3	33.6	10.0	8.9	11.6
Sikkim	56.9	65.7	46.8	69.7	76.7	61.5	12.8	11.0	14.7
West Bengal	57.7	67.8	46.6	69.2	77.6	60.2	11.5	9.8	13.6
Orissa	49.1	63.1	34.7	63.6	76.0	51.0	14.5	12.9	16.3
A & N Islands (UT)	73.0	79.0	65.5	81.2	86.1	75.3	8.2	7.1	9.8
Assam	52.9	61.9	43.0	64.3	71.9	56.0	11.4	10.0	13.0
Arunachal Pradesh*	41.6	51.5	29.7	54.7	64.1	44.2	13.1	12.6	14.5
Manipur	59.9	71.6	47.6	68.9	77.9	59.7	9.0	6.3	12.1
Meghalaya	49.1	53.1	44.9	63.3	66.1	60.4	14.2	13.0	15.5
Mizoram	82.3	85.6	78.6	88.5	90.7	86.1	6.2	5.1	7.5
Nagaland	61.7	67.6	54.8	67.1	71.8	61.9	5.4	4.2	7.1
Tripura	60.4	70.6	49.7	73.7	81.5	65.4	13.3	10.9	15.7
Madhya Pradesh	44.2	58.5	29.4	64.1	76.8	50.3	19.4	18.3	20.9
Uttar Pradesh	41.6	54.8	24.4	57.4	70.2	43.0	16.7	15.4	18.6
Gujarat	61.3	73.1	48.6	70.0	80.5	58.6	8.7	7.4	10.0
Maharashtra	64.9	76.6	52.3	77.3	86.3	67.5	12.4	9.7	15.2
D & N Haveli (UT)	40.7	53.6	27.0	60.0	73.3	43.0	19.3	19.7	16.0
Daman & Diu (UT)	71.2	82.7	59.4	81.1	88.4	70.4	9.9	5.7	11.0
Andhra Pradesh	44.1	55.1	32.7	61.1	70.9	51.2	17.0	15.8	18.5
Goa	75.5	83.6	67.1	82.3	88.9	75.5	6.8	5.3	8.4
Karnataka	56.0	67.3	44.3	67.0	76.3	57.5	11.0	9.0	13.2
Kerala	89.8	93.6	86.2	90.9	94.2	87.9	1.1	0.6	1.7
Tamil Nadu	62.7	73.8	51.3	73.5	82.3	64.6	10.8	8.5	13.3
Lakshadweep (UT)	81.8	90.2	72.9	87.5	93.2	81.6	5.7	3.0	8.7
Pondicherry (UT)	74.7	83.7	65.6	81.5	88.9	74.1	6.8	5.2	8.5

Source: Census of India, 1991 and 2001.

Table 3 - Percentage Distribution of Districts Ranked on the basis of a Composite Index of socio-economic & demographic indicators

State	Total No. of districts	0-100	101-200	201-300	301-400	401-569	All
<i>Group-I</i>							
1. Andhra Pradesh	23	8.7	47.8	39.1	4.3	0.0	100.0
2. Gujarat	25	8.0	60.0	16.0	12.0	4.0	100.0
3. Haryana	19	21.1	57.9	21.1	0.0	0.0	100.0
4. Karnataka	27	48.1	29.6	18.5	0.0	0.0	100.0
5. Kerala	14	92.9	7.1	0.0	0.0	0.0	100.0
6. Maharashtra	35	17.1	40.0	31.4	11.4	0.0	100.0
7. Punjab	17	70.6	29.4	0.0	0.0	0.0	100.0
8. Tamil Nadu	30	93.3	6.7	0.0	0.0	0.0	100.0
Sub-total (1 to 8)	190	42.1	35.3	17.4	4.7	0.5	100.0
<i>Group-II</i>							
9. Assam	20	10.0	5.0	35.0	30.0	20.0	100.0
10. Bihar	55	0.0	0.0	0.0	7.3	92.7	100.0
11. Madhya Pradesh	61	0.0	6.6	32.8	24.6	36.1	100.0
12. Orissa	30	0.0	6.7	46.7	43.3	3.3	100.0
13. Rajasthan	32	0.0	0.0	0.0	28.1	71.9	100.0
14. Uttar Pradesh	83	0.0	6.0	10.8	27.7	55.4	100.0
15. West Bengal	18	11.1	22.2	33.3	27.8	5.6	100.0
Sub-total (9 to 15)	299	1.3	5.3	18.7	25.1	49.5	100.0
Total	489	17.2	17.0	18.2	17.2	30.5	100.0

Source of basic data: District-wise Social, Economic & Demographic Indicators, National Commission on Population, Government of India 2001.

If one were to look at the states in terms of a composite index based on indicators of socio-demographic characteristics, the divide between the Indian states shows up even more starkly. Rankings have been made on the basis of data provided by the National Commission on Population (see *Table 3*). These rankings bring out the extent of intra-state disparities along with the intensity of the differences among the states in social/demographic development. While all states have some districts which are relatively backward, the proportion of such districts is far larger in the Group II states than in Group I states⁵. The majority of the districts in Group I states come within the first 200, whereas in the case of Group II states, the bulk fall in the beyond-200 category. None of the districts of Kerala, Punjab and Tamil Nadu rank beyond the first 200, whereas 93 percent of the districts in Bihar, 72 percent of Rajasthan, 55 percent of UP and 36 percent in MP are placed in the 400 and beyond category.

⁵ States have been divided in two groups. In Group I are relatively better off states with respect to socio-economic and demographic indicators. Group I states are: Andhra Pradesh, Gujarat, Haryana, Karnataka, Kerala, Maharashtra, Punjab, and Tamil Nadu. In Group II, the states are: Assam, Bihar, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh and West Bengal. Data is prior to bifurcation of Bihar, MP and UP.

In 2001, Kerala, Maharashtra and Himachal Pradesh had more than 75 percent of their population of 7+ years literate. On the other hand, less than half of Bihar's population of seven years and above was literate with female literacy rate being only 33.6 percent. In terms of zones, states in the South and West outperform states in the North and East. Between 1997 and 2002, the gross primary school enrolment rate⁶ for India was 111 for males and 92 for females. The net primary school enrolment rate,⁷ on the other hand, was only 78 for males and 64 for females. The net primary school attendance rate between 1999 and 2002 was 79 for males and 73 for females. However, of the children who entered primary school, only 68 percent reached grade V between 1995 and 1999 (UNICEF, 2004).

Table 4 provides decadal data on gross primary school enrolments by sex between 1950-51 and 2001-2002. As can be seen from the table there has been a steady increase in the numbers of boys and girls attending primary school over time. Girls' enrolment has been steadily increasing over time and in 2000-01, nearly 50 percent of girls in the age-group 6-11 were enrolled in school. These statistics are heartening because at least until

Table 4: Gross Primary School Enrolment by sex: 1950-51 to 2000-01

Year	Primary School		
	Boys	Girls	Total
1950-51	13.8	5.4	19.2
1960-61	23.6	11.4	35.0
1970-71	35.7	21.3	57.0
1980-81	45.3	28.5	73.8
1990-91	57.0	40.4	97.4
2000-01	64.0	49.8	113.8

Table 5: Rural-Urban Literacy Rates 1991-2001

YEAR	MALE	FEMALE	PERSONS
1991 (7 years and above)			
- RURAL	57.87	30.62	44.69
- URBAN	81.09	64.05	73.08
- TOTAL	64.13	39.29	52.21
2001 (7 years and above)			
- RURAL	71.18	46.58	59.21
- URBAN	86.42	72.99	80.06
- TOTAL	75.85	54.16	65.38

Source: Ministry of Education, GOI and Census of India, 1991, 2001

⁶ Gross primary school enrolment rate is computed as the number of children enrolled in primary school regardless of age divided by the population of that age group.

⁷ Net primary school enrolment rate is computed as the number of children in that age group enrolled in primary school divided by the population of that age group.

the 1990s, one of the most dismal aspects of India's education system was the large percentage of the population in the younger age groups that were out of school. Despite the strong constitutional backing for the provision of primary education in India⁸ and its expansion over time, the system is characterized not only by low achievements, but also by large unevenness of achievements. Huge gaps remain between rural and urban areas, and the probability of getting any education at all sharply depends on gender, caste and income. Women, scheduled castes and tribes and the poor are faced with formidable barriers when it comes to getting basic education. Of the 200 million children in the age group 6-14, it is estimated that 59 million are out of school. Of these 35 million are girls and 24 million are boys (Ministry of Human Resources Development, GOI).

Apart from socio-economic determinants, the educational infrastructure and the management and the governance of the educational system in India are far from efficient or sufficient. The government is the largest provider of education in India with only about 10 percent of primary schools being in the private sector.⁹ The quality of education provided by the public education system is low which translates into low educational abilities even for those who are able to complete primary education cycle. Moreover, there is a lot of 'waste' in the educational system with dropout rates as high as 40 percent for the country as a whole and in some Indian states; they are as high as 75 percent. Though the number of primary schools in the country increased, more than 100,000 habitations still do not have access to a primary school within a distance of one kilometer. Teacher-pupil ratios are inadequate: less than 2 teachers are available in rural areas to teach a class size of around 100 students. Teacher motivation and teaching incentives are also very weak. India perhaps has the highest rate of teacher truancy¹⁰ in the world.

Existing Infrastructure and Performance in MP and UP

UP and MP were below the national average in the overall effective literacy rate in 2001. They were also below the national average in 1991. The basic reason for their overall lower literacy rates is extremely low literacy among females (*Table 6*). Both the states have made remarkable progress in improving their literacy rates during the 1990s.

⁸ In 2002, the Supreme Court of India decreed that free primary education was a constitutional right.

⁹ Around 3% of private schools are aided by the government, which makes government intervention in the education sector even greater.

¹⁰ According to a joint Harvard University and World Bank study (Burns et al. 2003) during which school visits to 3,700 randomly selected government primary schools, largely in rural areas, in 20 Indian states were undertaken, the study concluded that, at any time, 25 percent of the teachers were absent from schools. Studies conducted in other countries showed India to be one of the worst cases. Bangladesh's teacher-truancy rate was 16 percent. Zambia's was 17 percent. Only Uganda was worse, with 27 percent. Similarly, the Public Report on Basic Education (PROBE) in India examined potential reasons for teacher truancy or poor performance. Surveyed teachers were largely content with salary (68 percent) and leave entitlements (86 percent). The most common complaint was that schools are under-equipped, under-funded, under-staffed, and overcrowded. More than half had a leaking roof, 89 percent lacked functioning toilets, and half had no water supply. Some school buildings were misused as cattle sheds, police camps, teacher residences, or for drying cow-dung cakes.

Their rate of improvement is considerably higher than the nation. *Table 6* show that MP is catching up with the national average very rapidly and in male literacy, it has surpassed the national average in 2001. UP is still lagging behind.

Table 6: Effective Literacy Rates, 1991 and 2001.						
States	1991 Census			2001 Census		
	Male	Female	Persons	Male	Female	Persons
MP	58.4	28.9	44.2	76.8	50.3	64.1
UP	55.7	25.3	41.6	70.2	43.0	57.4
India	64.1	39.3	52.2	75.9	54.2	65.4

Source: *Census of India, 1991 and 2001.*

The spread of basic infrastructure with a primary school available within one kilometer distance exists in both UP and MP almost to the same extent as the national average. In 1996-97, 18.3 percent villages in MP and 20.1 percent villages in UP did not have a school within one kilometer distance (Hirway and Mahadevia, 2004, p.310). By September 2002, however, this proportion has come down to 10.8 percent in MP and 12 percent in UP. *Table 7* presents the enrolment by sex in the primary schools (classes I through V) in the two states as on September 2002; and *Table 8* provides number of schools by classrooms in these two states.

Table 7: Sex-wise Enrolment in Primary School (Class I to V) in MP and UP as on September 30, 2002 in million				
Sex	MP		UP	
	Total	Rural / Total	Total	Rural / Total
Boys	4,140,536	72.85%	12,227,344	81.32%
Girls	3,569,822	73.27%	10,484,963	82.05%
Total	7,710,358	73.05%	22,712,307	81.66%

Source: www.indiastat.com

It can be seen from these tables that the proportion of rural enrolment in the primary school is about 9 percentage points higher in UP than in MP. The rural enrolment proportion is marginally higher among girls than among boys in both the states. Thus, while this is certainly encouraging, it is equally important for the girls to complete schooling rather than dropping out. Moreover, the primary schools in both the states are relatively small. In MP almost 59 percent of the primary schools have only upto 3 rooms, whereas in UP it is 72.4 percent. Thus, in these schools, two and often three classes operate in the same classroom, and that too, simultaneously. There is a serious constraint of availability of classrooms. Several of these primary schools also suffer from the lack of other physical infrastructure like buildings, classrooms, toilets, separate toilets for girls, electricity, drinking water, and blackboards (see *Table 9*). It is clear from *Table 9* that elementary schools in UP, relative to MP have better physical infrastructural facilities like blackboards, buildings, toilets, drinking water, condition of classrooms, and number of classrooms. However, their major problem is the congestion in the classroom. 55 to 60 percent of pupils study in schools with student-classroom ratio (SCR) greater

than 60. In MP, this proportion is half. *Table 9* also reveals that pre-primary education is more popular in MP than in UP.

Table 8: Number of Primary and Upper Primary Schools by Classrooms in MP and UP, 2003-04				
Number of Classrooms	MP		UP	
	Schools	%	Schools	%
1	5641	7.8	2367	2.1
2	19928	27.5	41768	37.7
3	16874	23.3	36110	32.6
4	5742	7.9	10446	9.4
5	4500	6.2	9895	8.9
6 or more	19777	27.3	10147	9.2
Total	72462	100.0	110733	100.0

Source: www.indiastat.com

Availability of trained manpower to take up teaching in this sector is also very important for successful and effective delivery of the service to the target group. *Table 10* presents the number of teachers in recognized primary schools in the two states. As per the table, there were 0.17 million primary teachers in MP and 0.29 million in UP in September 2001. Although MP had only 67 percent of them trained, UP had almost 95 percent trained teachers. However, these numbers are only of the teachers in regular employment.

In 1994, the Central government launched the District Primary Education Programme (DPEP) and subsequently in 2000, the *Sarva Shiksha Abhiyan* (SSA). DPEP aimed to attain the goal of universal elementary education through district specific planning, decentralized management and community participation, empowerment and capacity building at all levels (Ministry of Education, GOI).

The stated objectives of the DPEP are:

- Provide all children with access to primary education.
- Reduce dropout rates at the primary school level to less than 10%.
- Reduce differences in enrolment, dropout rates, and learning achievement among gender and social groups to less than 5%.
- Raise the average achievement of students in language and mathematics by 25% and by 40% in other subjects.
- Strengthen the capacity of national, state and district level institutions and organizations for planning, management and evaluation of primary education.

In order to be selected for the DPEP, the district has to have female literacy rates that are below the national average. Moreover those states are selected for DPEP where the Total Literacy Campaign (TLC) has generated a demand for elementary education.

When the program was launched in 1994, it covered forty-two districts in seven states, namely Assam, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra and Tamil Nadu. Later, it was extended to Uttar Pradesh, Bihar, West Bengal, Orissa, Andhra Pradesh, Gujarat and Himachal Pradesh. Currently, the program covers 176 districts in 15 states of India. These states together have 60 percent of the child population in India. Another 60-65 districts are slated to be brought into the DPEP fold.

DPEP is a centrally sponsored scheme with the central government providing 85 percent of funds and the state government providing the remaining 15 percent. The share of the central government comes from external assistance from bilateral and multilateral agencies such as the World Bank, IDA, DFID, EC, UNICEF and the government of Netherlands. Some of these funds are in the form of soft loans while others are outright grants. Under the DPEP, a maximum of Rupees 40 million is provided for implementation and a project's life lasts between five and seven years. Of the total project cost, 70 percent has to be spent on improving the quality of education, whereas only 24 percent can be spent on civil works and 6 percent on management.

Table 9: Infrastructure Availability in Elementary Schools in MP and UP, 2003-04

State / Description	Primary only	Primary with Upper Primary	Primary + Upper Primary + Secondary + Higher	Upper Primary only	Upper Primary + Secondary + Higher
Madhya Pradesh					
1) % School with Pre-primary	36.8	47.7	55.8	0	0
2) % of Single Teacher schools	13.4	5.2	4.8	9.7	1.6
3) % of Enrol. In Single Teach. Sch.	9.1	3.2	5.0	4.7	1.0
4) % of Single Classroom Schools	8.9	4.5	2.0	3.2	1.8
5) % of Schools with SCR* > 60	16.1	23.6	14.8	9.2	15.8
6) % of Enrol. In schools with SCR* > 60	29.8	41.9	28.8	20.0	23.0
7) % of No Female Teacher Schools	45.9	32.8	41.8	32.7	16.2
8) % of Schools without Blackboards	11.3	13.9	27.5	15.8	15.6
9) % of Schools with Common Toilets	23.8	43.1	64.4	20.8	47.6
10) % of Schools with Girls' Toilets	13.6	33.7	67.7	14.2	41.3
11) % of Schools without Buildings	6.3	33.0	31.3	0.2	5.5
12) % of Enrol. In Schools without Buildings	5.3	3.1	1.2	29.2	6.0
13) % of School with Drinking Water Facility	81.8	87.4	92.3	78.6	88.6
Total Classrooms (CR) (in '00)	1280	572	171	217	56
Other Rooms (in '00)	369	145	51	81	21
% of CR needing Minor Repairs	29.2	22.1	13.2	29.7	21.4
% of CR needing Major Repairs	9.9	6.5	2.5	9.2	6.0
Uttar Pradesh					
1) % School with Pre-primary	7.3	3.0	6.3	0	0
2) % of Single Teacher schools	16.1	2.4	2.4	13.4	1.8
3) % of Enrol. In Single Teach. Sch.	13.3	4.3	1.8	7.5	1.9
4) % of Single Classroom Schools	2.2	0.5	0.3	1.2	0.4
5) % of Schools with SCR* > 60	49.6	32.7	22.4	16.5	13.4
6) % of Enrol. In schools with SCR* > 60	66.1	52.2	37.6	36.1	22.1
7) % of No Female Teacher Schools	39.8	36.2	51.4	69.8	41.6
8) % of Schools without Blackboards	2.9	9.7	5.2	3.4	3.4
9) % of Schools with Common Toilets	65.6	83.3	83.7	66.7	88.0
10) % of Schools with Girls' Toilets	50.8	77.6	77.6	54.1	80.7
11) % of Schools without Buildings	1.2	17.1	2.4	0	0.2
12) % of Enrol. In Schools without Buildings	0.8	0.1	0.3	1.3	0
13) % of School with Drinking Water Facility	94.9	97.8	97.9	90.4	98.6
Total Classrooms (CR) (in '00)	3247	256	40	870	122
Other Rooms (in '00)	965	53	10	318	41
% of CR needing Minor Repairs	24.3	12.4	14.4	18.8	10.4
% of CR needing Major Repairs	9.3	3.9	2.6	8.2	2.5
*SCR = Student – Class Ratio Source: www.dpepmis.org					

Table 10: Number of Regular Teachers in Primary Schools, September 2001		
State	Number of Regular Teachers	% Trained
MP	173,770	67%
UP	293,911	95%
Source: www.indiastat.com		

The central government launched the Sarva Shiksha Abhiyan (Universal Elementary Education¹¹) in 2001.¹² As mandated by the 86th amendment to the Indian Constitution, free and compulsory education to all children between the ages 6-14 was to be provided as a Fundamental Right. The goal of SSA is to achieve Universalization of Elementary Education (UEE) to all children between the ages 6-14 by 2010. It is an umbrella plan for elementary education in India and includes the DPEP.

The objectives of the SSA are:

- All children in school, Education Guarantee Center, Alternative School, 'Back to School' camp by 2003.
- All children complete five years of primary schooling by 2007.
- All children complete eight years of schooling by 2008.
- Focus on quality primary education with emphasis on education for life.
- Bridge social and gender gaps in primary education by 2007 and in elementary education by 2010.
- Universal retention by 2010.

The SSA will not seek to dislodge or supersede state educational infrastructure. However, it will seek greater community participation and to that effect will aim at decentralization of the school system with community ownership of schools. SSA is being implemented in partnership with State Governments to cover the entire country and address the needs of 192 million children in 1.1 million habitations. The program seeks to open new schools in those habitations which do not have schooling facilities and strengthen existing school infrastructure through provision of additional classrooms, toilets, drinking water, maintenance grant and school improvement grants. Existing schools with inadequate teacher strength are supposed to be provided with additional teachers, while the capacity of existing teachers is being strengthened by extensive training, grants for developing teaching-learning materials and strengthening of the academic support structure at a cluster, block and district level. The financial obligation by the government towards SSA has been estimated to be an additional Rupees 6 billion over the next ten years¹³ to be shared by the central and state governments. The assistance

¹¹ Primary education refers to the first five years of schooling and Elementary Education to the first eight years of schooling.

¹² The idea was recommended to the Prime Minister of India by Bajpai and Sachs (2000).

¹³ There has been a continual upward revision of the estimated financial requirements for achieving universal elementary education. In 1997 when the 93rd amendment bill was introduced, it was estimated

under the SSA program was planned to be on 85:15 sharing arrangement during the IX Five-Year Plan¹⁴, 75:25 sharing arrangement during the X Five-Year Plan, and 50:50 sharing thereafter between the Central government and the State governments.

DPEP focused on increasing enrolment and literacy in the lagging states and helped hire para-teachers¹⁵, called *Shiksha Mitras* on an ad hoc basis. These *Shiksha Mitras* are substantial in numbers. It is not that *Shiksha Mitras* have lower academic qualifications than the regular teachers. In fact, a large proportion of them have graduate and postgraduate qualifications. The academic qualification profile of teachers in MP is better than in UP. About 15 percent of the regular teachers in UP have qualifications of secondary school or below. This proportion in MP is less than 10 percent. In order to better understand the situation prevailing in the rural areas of these two states, *Table 11* presents number of elementary schools, enrolment and number of teachers including the regular and *Shiksha Mitras* by different categories of schools in the year 2003-04.

From *Table 11*, we can see that in rural areas, average enrolment per school is considerably lower in MP than UP, both in the government schools (104 v/s. 180) and in the private schools (139 v/s. 236). Enrolment per teacher is also significantly lower in MP than in UP, the overall average ratio being 25.3 in MP and 57.3 in UP. It is interesting to see that, while the average size of a private school in rural area is greater than the government school in both the states, their average enrolment per teacher is considerably lower. This is because the availability of teachers in the private schools measured by teachers per school is considerably higher than the government schools (12.3 v/s. 3.5 in MP and 6.2 v/s. 3.3 in UP). Thus, the private schools have addressed important concerns of the parents about the availability of teachers in the school and amount of attention given to their children by the teachers in the school. The fact that private schools survive and attract a large number of students in the face of almost free primary public schools in the two states indicates a strong desire and preference on the part of parents for better quality of primary education for their children.

Table 11 also reveals that private schools in the elementary education sector play an important role on margin in rural areas of both the states. In rural MP, they contribute 8.4 percent in all categories of schools, whereas in rural UP, it is almost 15 percent. In terms of enrolment and teachers, private schools have a larger share in the elementary education in both the states. In enrolment, they contribute 10.8 percent in MP and 18.6 percent in UP; and in teachers their share is 24.3 percent in MP and 28 percent in UP. Thus, the private sector schools cannot be ignored in the elementary education sector of rural MP and UP.

that an additional Rupees 800 million would be required annually for elementary education. By 2002, when the bill was passed, the estimate had gone up to Rupees 980 million.

¹⁴ The IX Five-Year Plan was from 1997-2002 and the X Plan runs from 2002-07.

¹⁵ Para teachers are full-time teachers who are para-professionals. They are paid lower than government teachers and are mostly employed from the local community.

Table 11: Rural Elementary Schools, Enrolment and Teachers in MP and UP, 2003-04						
State/Type of Schools	Schools		Enrolment		Teachers	
	Govt.	Private	Govt.	Private	Govt.	Private
MP (Rural)						
Primary only	46366	3003	4319528	298267	133116	19588
Primary with Upper Primary	9236	2339	1515834	413225	49893	37358
Primary + Upper Primary + Secondary/Higher	755	482	152656	103332	7238	14966
Upper Primary only	10811	285	978028	33771	41698	2390
Upper Primary + Secondary/Higher	606	92	107072	11424	5531	1923
No response in school category	24	1	699	186	172	8
Total	67798	6202	7073817	860205	237648	76225
UP (Rural)						
Primary only	87047	10862	16302051	2302476	228779	63422
Primary with Upper Primary	364	1760	116542	801057	2914	17351
Primary + Upper Primary + Secondary/Higher	73	209	22164	86989	575	2082
Upper Primary only	15743	4384	2161909	843827	54543	24160
Upper Primary + Secondary/Higher	120	817	23824	229116	813	5139
No response in school category	16	0	0	0	35	0
Total	103363	18032	18626490	4263465	287659	112154
Source: www.dpepmis.org						

We can also see from *Table 11* that elementary schools in UP are bigger than in MP in terms of number of children, but are smaller in terms of teachers. It is not surprising, therefore, to find gross enrolment ratio in elementary education (*i.e.* standards I to VII or age 6 to 14 years) is only 75.3 percent in UP as compared to 83.3 percent in MP¹⁶. Thus, in relative terms, MP seems to have better soft-infrastructure in primary education than UP. The lower dropout rates (*Table 12*) in MP than in UP might be ascribed to the better soft infrastructure.

¹⁶ If we consider the gross enrolment ratio in lower primary *i.e.* standard I – V (age 6-11 years), it is 85.7% in UP and 93.8% in MP in 2002-03. However, the net enrolment rate in the same year is estimated as 78.6% and 72.5% respectively in UP and MP. This happens because of predominance of tribal population in MP leading to late schooling.

Table 12: Sex-wise Gross Dropout Rates in Primary and Elementary Education in 2002-03 (in %)				
Sex	MP		UP	
	Classes I – V	Classes I – VIII	Classes I – V	Classes I – VIII
Boys	29.24	46.22	44.69	54.57
Girls	29.96	55.32	49.75	64.56
Total	29.55	50.11	46.63	58.43
Source: www.indiastat.com				

Administration and Delivery System

As mentioned earlier, primary education is a sector where the federal government already has considerable presence through substantial programs like DPEP and the *Sarva Shiksha Abhiyan*. This is over and above the regular state government's departmental schemes in the sector. As a result, the whole administrative structure and delivery mechanism is more complicated than other sectors. Both MP and UP are covered under DPEP as well as SSA. Thus, in both these states, there are three different types of primary education programs running in parallel, *viz.* SSA, DPEP and Basic (*i.e.* regular state government program). There are, moreover, three types of recognized schools *viz.* the government, private, but aided by the government, and private non-aided, but recognized by the government.

In the rural areas, the district level is the most relevant and important highest point. The District Education Officer (DEO) is the highest authority in education with all administrative and financial regulations relevant for primary education in rural areas. For the training of primary school teachers and other academic staff, the District Institute for Education and Training (DIET) operates along with Basic *Shiksha Adhikari* (BSA) at the district level in charge of monitoring this activity. He also supervises all the block level officers, called Assistant Basic *Shiksha Adhikaris* (ABSA) who, in turn, monitor all the school teachers and headmasters of primary schools in the block. At the block level, there is a Block Resource Centre (BRC) that imparts training to the teachers in the block. Every block is further divided into *Nyaya Panchayats* (or village *Panchayats*) who also have their own Resource Centers. The ABSAs are generally direct recruits whereas the BRC heads are from the senior teachers or headmasters.

At the village level, there is a Village Education Committee (VEC) presided over by the Village *Pradhan* or *Sarpanch*, a political leader in the village. The headmaster of the school is the secretary of the VEC and there are additionally two parents nominated by the ABSA or BRC on VEC. It is such a committee that looks after the day-to-day functioning and overseeing of the school. Similarly, at the block and *Tehsil* level, there is a Ward Education Committee that looks after the block level schools. All these committees also put checks and balances on the resources transferred from above. Thus, neither the headmaster nor the president of the VEC can withdraw any amount from the bank without the prior approval of each other and the nominated members of VEC. Such a process is perhaps followed with an intention to stop any possible misuse of the funds

meant for the school, but they may create avoidable delays and, timely use of funds may have to be sacrificed. However, senior officials in the government have favorable inclination to involve the *Pachayati Raj* Institutions (PRIs) rather than operating through the regular departmental district or block level administration of the state government.

In MP there are additional schools operated under Education Guarantee Scheme (EGS). These schools are generally started at selected hamlets of villages to make the primary education more accessible to population. These schools start with standard I in the first year, and progressively cover standards II and III in two more years. Depending on the need and the availability of another school nearby for the standard IV and V, a decision is taken to extend it to include these standards. Otherwise, the school runs with only standards I to III. This is a flexible structure created to offer a very utility oriented location-specific service to distant locations so that young children are not deprived of learning opportunities because of sheer distance. Rapid strides in effective literacy and considerable increase in primary enrolment in MP could be due to such useful and thoughtful interventions by the government. We will discuss EGS in some detail later in the paper.

Findings of the Household Survey

In order to examine the gap in the existing rural primary education services in UP and MP particularly to address the needs of the poor and economically backward segments of the population, it was necessary to better understand the difficulties and problems in the delivery of the services on one hand, and the issues in extending the coverage of the target population on the other hand. This required familiarity with ground conditions in the villages and an idea about the perception and utilization of the available services by the target population. Unnao district from UP and Raisen district from MP were selected in consultation with the state governments of UP and MP for further investigation. Considering the cost in terms of time and effort, it was decided to select five villages from each district and survey selected households belonging to the economically backward segment in these villages to get their perception and service-use characteristics¹⁷. Simultaneously, it was decided to conduct a separate survey of the primary schools existing in the same and surrounding villages to get an idea about utilization, availability of manpower, school supplies, midday meals, and teachers' and officials' perception of the problems.

Selection of villages for the sample survey was critical because it required reflecting the socioeconomic milieu in rural areas of the district and the state. We

¹⁷ During the course of this study, we traveled extensively in and around the selected villages from the two districts of Unnao (UP) and Raisen (MP). We had detailed interactions with the District Collectors of Unnao and Raisen. We met teachers and students who were present in the schools during our unannounced visits. Discussions were also held with Sarpanchs and other members of the panchayats besides a large number of villagers. We also spoke at length with the Principal Secretaries of the Education and Planning Departments among others of the Governments of UP and MP. One of the most striking things during these school visits was to see the dilapidated condition of the buildings, which typically had just two rooms for teaching Grades I through V. Many school building walls had major water seepage, buildings were not usable due to prolonged decay, lack of repairs, incomplete construction and lack of maintenance

considered the Census information on all the villages in the district pertaining to size of the village in terms of number of households, literacy rate, female literacy, work participation rate, proportion of scheduled castes (SC) and scheduled tribe (ST) population, and geographical location of the village. Based on correlations of these characteristics, we finally decided to select the villages on the basis of the following three

Table 13: Selected Villages for Sample Survey with Some Characteristics

Raisen								
Name of Village	Tehsil	# of HH	Total Population	% of SC/ST Population	Literacy Rate	Female Literacy Rate	Working Population	Worker-Population Ratio
Gadarwara	Silwani	43	256	57.42	0.449	0.352	146	0.570
Imaliya Gondi	Goharganj	76	403	84.62	0.524	0.435	188	0.467
Pati	Raisen	112	689	43.39	0.578	0.481	198	0.287
Purohit Pipriya	Baraily	114	630	16.51	0.402	0.201	353	0.560
Salahpur Surbarri	Gairatganj	86	580	93.10	0.676	0.643	259	0.447
Raisen District	Rural	162945	918354	-	0.571	0.477	349984	0.381
Unnao								
Name of Village	Tehsil	# of HH	Total Population	% of SC/ST Population	Literacy Rate	Female Literacy Rate	Working Population	Worker-Population Ratio
Baruaghat	Safipur	364	2009	41.70	0.434	0.259	796	0.396
Behta	Unnao	430	2731	29.50	0.546	0.473	1037	0.380
Bilahaor	Hasanganj	100	510	88.80	0.276	0.176	310	0.608
Digvijaipur	Bighapur	79	600	0.00	0.582	0.419	248	0.413
Majharia	Purwa	184	1062	27.90	0.417	0.272	354	0.333
Unnao District	Rural	398756	2288781	-	0.425	0.309	814741	0.356

Source: *Census of India, 2001*

criteria: (i) proportion of SC/ST population; (ii) size of the village; and (iii) geographical spread. *Table 13* presents the selected villages and some of their basic characteristics. The next step was to draw the sample of the households to be surveyed with a formal questionnaire. The household questionnaire is provided in *Appendix 1*. In order to select the households on a random basis, we would require a complete list of households¹⁸.

¹⁸ Such a list was readily available for most of the selected villages for the families living below poverty line. These lists are prepared by the district administration for implementing various government schemes with the help of local staff.

Proportional sample of households was randomly drawn from each village. *Table 14* provides the broad characteristics of the selected sample in each district particularly classified by occupational categories like agricultural laborers, marginal farmers, small farmers, and other labor households.

Category	Raisen District					Unnao District				
	AL	NAL	MF	SF	Raisen	AL	NAL	MF	SF	Unnao
Total # of households	54	27	29	34	144	56	77	49	7	189
Total population	349	179	171	203	902	331	392	274	42	1039
Average Family size	5.6	5.85	5.97	5.9	5.8	5.91	5.09	5.59	6	5.65
Average family annual income (Rs.)	8603	10867	9428	10212	9777	6711	9621	8008	7357	7924
Average land per landowning families (in Ha.)	0	0	1.82	1.27	1.5	-	-	0.438	1.22	1.658
% HH with Cattle	72	67	100	97	83	80	73	86	100	80
Average # of cattle per family	3.08	1.56	3.03	3	2.73	2.04	1.82	2.64	1.14	1.91
% of Households having 2 or more rooms	31.48	33.33	48.28	41.18	37.5	32.14	27.27	44.9	57.14	34.39
% of Households having cement house	1.852	0.000	3.448	2.941	2.083	26.79	42.86	20.41	57.14	32.80
% of Households having Tractor	0	0	3.448	0	0.694	3.57	3.90	10.20	14.29	5.82
% of Households having Cycle	37.04	40.74	44.83	35.29	38.89	48.21	49.35	48.98	57.17	49.21
% of Households having electricity	55.56	77.78	62.07	50.00	59.72	7.14	1.30	2.04	0.00	3.17
Literacy rate %	45.56	51.40	59.06	51.72	51.94	46.53	52.30	56.20	78.57	58.40
% of Earning population	25.79	31.28	27.49	28.08	28.16	24.47	25.26	23.72	23.81	24.31

Source: Sample Survey, 2005

AL = Agricultural labor; NAL = Non-agricultural labor; MF = Marginal farmer & SF = Small farmer

Table 14 confirms the general impression that among the poor, the agricultural labor households are the poorest. However, compared to the land owning poor, *viz.* marginal and small farmers, the non-agricultural labor households are relatively better off. This is because the proportion of earning members in the household is higher among the non-agricultural laborers. It is interesting to note that a large proportion of the poor households owned cattle, and that the average cattle holding per household was around 3 in MP and 2 in UP. Similarly, almost half of the poor households owned some means of transport like a bicycle or a scooter in both the states. It is surprising to find that the proportion of cement houses was substantially higher in UP than in MP, but the proportion of households having electricity was significantly lower in UP than in MP. Rural electrification in MP has certainly been more effective with greater coverage among the target population than in UP.

The average family income in both the districts is considerably low in our sample confirming that our sample essentially captures the conditions of the economically most backward segments of the population in these two states. *Table 15* presents some crucial findings from our household survey of the poor in Raisen and Unnao districts. From the table, we can see that school attendance among the children in the age-group of 6 to 14 years is considerably higher in Raisen (MP) than Unnao (UP). Moreover, there is hardly any disparity between boys and girls in this. In fact, in Raisen, the school attendance proportion is marginally higher among girls than boys. In order to ensure universal enrolment, while a lot of effort is required in the rural areas of both the states; UP needs a more concerted effort to make the poor consume this service effectively. Our findings also reveal that almost 51 percent of children in Raisen have to go more than one kilometer to attend a school; the proportion is much more at 62 percent in Unnao. This could be because in Unnao, about 13 percent of the children are attending private schools compared to only 2 percent in Raisen. The private schools are usually not located in every small village, and the children may have to travel longer distances and pay higher costs. Average cost of education per child to a family turns out substantially higher in Unnao than in Raisen.

Item	Raisen (MP)	Unnao (UP)
% of children attending school	92%	84%
- Male	92%	84%
- Female	91%	83%
% of children traveling a distance > 1 K.M. for school	51%	62%
% of children attending a private school	2%	13%
Average Household annual cost per child	Rs.198	Rs.227
- Boys	Rs.230	Rs.256
- Girls	Rs.181	Rs.207
Source: Sample Survey, 2005		

It would be interesting to compare our findings with a much larger scale survey conducted by NCAER in the rural UP in 1994. They reported non-attendance rate to be only 6.8 percent in rural UP. Their non-attendance was defined as “never attended” rather than our definition of “not attending”. Our estimate of about 16 percent is, therefore,

possible without assuming any deterioration in the overall conditions. The NCAER survey had found that the factors perceived to lead to non-enrolment and discontinuation of children in the school were predominantly arising out of demand and interest in the school and studies related matters. Customs and cultural factors did play a role, but were not found to be significant. Even a decade back, supply factors were not found to be the major problem in the NCAER Survey. However, this conclusion is not warranted because if the interest in studies and school is a dominant factor, it is dependent directly on the quality of education, facilities and regularity of schools. All these are supply side features.

Our survey of households also revealed the coverage of children among the poor under various cost items of schooling like uniform, textbooks, school supplies, transport facility, library facility, sports facility and midday meals. *Table 16* summarizes the findings.

Facility	Raisen (MP)			Unnao (UP)		
	Boys	Girls	Children	Boys	Girls	Children
% Getting school uniform	17.4	76.2	45.6	01.0	03.8	02.2
% Getting Textbooks	93.6	97.2	95.3	81.4	81.3	81.3
% Getting school supplies	03.2	01.4	02.4	01.5	00.6	01.1
% Getting transport facility	0	0	0	0	0	0
% Getting library facility	07.7	02.1	05.0	02.0	01.9	01.9
% Getting sports facility	22.9	15.6	19.5	16.7	08.8	13.2
% Getting midday meal	68.2	80.4	74.0	75.6	78.8	77.0

Source: Sample Survey, 2005

The table reveals differences in the operation of the primary education programs in the rural areas of the two states. In MP, girls get school uniform in the government schools. Even boys belonging to scheduled tribes and poor strata get school uniform from the government schools. In UP, however, giving the school uniform from the school is not practiced on a large scale. In both the states school supplies and transport facilities are not provided, but textbooks are provided in the government schools. Sports and library facilities are again largely absent and their access to the poor children is very limited wherever they exist. Boys get marginally higher access than girls. However, in both MP and UP, the midday meal to the primary school children is provided. Similarly, the scheme of giving cash subsidy to the needy children exists in the rural areas of both the states. From our sample in Raisen, about 56 percent of the poor children going to school received cash subsidy, whereas in Unnao about 76 percent of the poor children received cash subsidy. The average amount of subsidy also differs substantially in MP and UP. In Raisen, it is only Rs.133 per child per annum, while in Unnao, it is Rs.300. The cash subsidy is generally given to the students belonging to scheduled castes and tribes only. Even the students from other backward classes and castes like other backward castes (OBCs) are not given the cash subsidy. Higher subsidy in UP basically compensates the poor children from SC/ST category for the school uniform and school supplies.

We also found that the average private expenditure on education in the rural areas is about Rs.421 per annum per household in Raisen and Rs.473 in Unnao. It works out to 4.4 percent of the household income of the poor in Raisen and 6.2 percent in Unnao. On per capita annual basis, the poor in the rural MP spend about Rs.73 and in rural UP about Rs.84 on primary education. However, per student cost is about Rs.198 in rural MP and Rs.227 in rural UP. Thus, the cash subsidy in MP covers about two-third cost to the household on an average, whereas it not only covers the full cost, but also provides additional one-third as an incentive to the family in the rural UP.

Findings from School Survey

Since our primary objective in this paper is to provide estimates of resources required for scaling up rural primary education services, and also give some suggestions to improve the quality of the service in MP and UP, we conducted a specially designed sample survey of 18 primary schools in Raisen and 24 schools in Unnao. We covered 15 village level schools in Raisen and 14 in Unnao; one block level school in Raisen and 9 in Unnao; and two private schools in Raisen and one in Unnao. The questionnaire for schools is given in *Appendix 2*.

During our field visits we observed that most of the village schools have buildings and classrooms that are in very poor condition. As reported by the district administration, about 30 to 35 percent of the classrooms require either minor repairs or major repairs. The school infrastructure is in dilapidated conditions with walls having water seepage, uneven floors, lack of proper ventilation, ceilings leaking in monsoon, inadequate space to accommodate all the children when they are all present, children sitting on floor, blackboards of poor quality, and of course insufficient rooms for the number of standards. The conditions are so bad that teachers find it easier to take classes out in the open under a tree or in *verandah*. In the rainy season, the classes and the school buildings are in such a bad condition that teaching gets suspended for days together. This introduces an element of irregularity and when mixed with the insincerity of teachers it becomes a major deterrent for the rural children to pursue their studies.

The problem of teachers abstaining on days together without official leaves sanctioned by the authorities is also a widespread phenomenon in the rural areas. The school teachers often do not live in the same village, and prefer to commute from a nearby urban location. Their loyalty gets divided as a result. The school timings are decided by the bus timings that the teachers use to commute from their home to the school in the village. This happens because, as per the government norms, residing within 5 kilometers is considered as staying in the headquarter itself. Once this is accepted in principle, it is very difficult to monitor whether the distance is actually 5 kilometers or 50 kilometers.

While it is often argued that higher salaries of teachers would provide sufficient incentives for them to live in a village itself, in practice, however this is unlikely to solve

the problem¹⁹. This is because of their preference to live in urban centers where they would have access to better facilities and living conditions. Unless better infrastructure and facilities are also made available in the villages themselves, the teachers are unlikely to live in the village for longer periods of time. In the short to medium term, however, the only solution is to provide employment to local persons from the village itself by hiring them as Para-teachers even if their formal academic qualifications are lower. They can be given more intensive training before appointment which is temporary and subject to continuation on satisfactory performance. In short, if the government cannot modify the labor laws, it should use whatever flexibility is available within the existing laws to ensure performance. In the longer run, however the problem can be effectively solved only by upgrading the overall infrastructure like electricity, sanitation, drinking water, health facilities, road connectivity and entertainment channels in all villages. Only then can we expect regular teachers to live in the villages.

Another major problem in the rural areas of these two states that came to sharp notice during our field visits and analysis of the sample data was the high dropout rates among pupils. *Table 17* provides estimates of the dropout rates in the village schools of our sample.

Standards	Raisen (MP)	Unnao (UP)
I to II	7%	15%
II to III	1 %	3%
III to IV	6%	13%
IV to V	10%	16%

Source: Sample survey of Village Schools, 2005.

Relatively high dropout rates in UP are again confirmed by our sample survey. Even in MP, the dropout rate is high for standards IV to V. The school functionaries ascribed it to economic destitution and extreme poverty. Several household activities like fetching firewood and water, baby-sitting their younger siblings, etc., and other gainful activities like supporting parents and sharing or helping them in their activities are important reasons why children (both boys and girls) tend to withdraw. During the off season, the families are without regular employment and source of income. In the government supported programs, they also tend to involve children indirectly, if not

¹⁹ High teacher salaries also do not seem to provide adequate incentives for better teacher performance (Grover and Singh, 2002; World Bank, 1997). Moreover, politically strong teacher unions further weakens accountability of teachers. Another lacuna in the education system is teacher qualification. While in some states such as Tamil Nadu, most teachers have the basic requirements of a high school degree and two years of training, in other states, this is not the case. Moreover, teacher training programs do not take into account the reality of the environments and constraints under which teaching actually takes place into account. No attention is paid to the fact that in most schools, the same teacher is responsible for more than one Grade. More often than not more than one Grade occupies the same classroom as we observed during our school visits. In a study of two districts of Tamil Nadu, Grover and Singh (2002) report that nearly 80 % of schools have multi-grade classrooms and that this was representative of schools in Tamil Nadu as a whole.

directly. Sometimes, the children substitute their parents' casual activities to relieve them so that they can go for such programs. Moreover, monetary incentives in the form of scholarships become a great pulling factor for attendance to school till the amount gets disbursed in September or October. Thereafter, the attendance drops, affecting the passing/failure rate at the end of the year. The scholarship amount needs to be distributed in small amounts monthly throughout the year depending on the effective presence of the pupil in the school during the previous month.

Poor quality²⁰ and irregular teaching would also be contributory factors for high dropout rates as pointed out by households in our surveys²¹. We, therefore, examined the textbooks and syllabus of standards I through V in both the states. A brief contents analysis of the textbooks by standards is presented for MP in *Appendix 3* and for UP in *Appendix 4*. The quality of textbooks, contents and the way they are presented particularly in English and Mathematics are far from satisfactory in UP. While English is formally introduced from standard I in MP, it is introduced only from standard III in UP and then, very unrealistically it tries to cover ground in standards IV and V. This puts undue pressure on rural students and teachers. The books have to be designed keeping in mind relevance and usefulness to the rural environment of students. In UP they demand a lot of effort both from the teachers and the students, which in itself is a discouraging factor. In MP, on the other hand, the textbooks are more suited to the level and learning abilities of the students. In MP, however, the teaching of general science gets a backseat.

Let us now consider certain norms for costing provision of the primary school with all relevant facilities in adequate quantity and quality to ensure better quality of education. These norms are obtained from the government departments in both the states and modified to accommodate quality concerns in consultation with school functionaries at the ground level. *Table 18* provides these norms.

²⁰ The caste system also plays a role in the quality of teaching imparted to students. Especially in areas where children belong to castes lower down in the social hierarchy and teachers belong to dominant castes. The social attitudes towards the former are reproduced inside schools. This further de-motivates students from education, and compounds further the problem of non-enrolment, low attendance and dropping out of those enrolled.

²¹ One World Bank (1997) study estimated that 45% of girls and 41% of boys drop out before reaching Grade V. Our sample shows overall dropout rate of 22% in MP and 40% in UP.

**Table 18: Cost Norms for Primary Education in Rural Areas –
MP and UP, 2005**

Item	Per Unit Cost (Rs.)	No. of Units Required / School	Remarks / Details
1) School building	350,000	1	3 CR + 10 R + <i>Verandah</i>
2) New classroom	96,000	-	Extension if needed.
3) Major repairs	20,000	-	Per classroom
4) Minor repairs	10,000	-	Per classroom
5) Regular maintenance	15,000	1	Utilities + color + garden
6) Toilets	30,000	1 unit	Unit of 1 for boys + 1 for girls
7) Furniture	13,000	-	
- Tables	500	3	
- Chairs	300	6	
- Cupboard	2,500	3	
- Blackboard (wall)	500	3	
- Blackboard (hanging)	200	4	
8) Teacher salary (regular)	110,000	2	Regular teachers are on scale
9) Para-teachers	12,000	3	Local and ad hoc.
10) Teaching contingency	500	5	To each teacher
11) Teacher training stipend	1,400	2	For regular teachers @ Rs.70 for 20 days / year
12) Training of Para-teachers	2,100	3	@ Rs.70 for 30 days / year.
13) Helpers (staff)	6,000	1	Cleaning, gardening, cooking and general.
14) Textbooks + stationery	60	-	To every student from BPL families.
15) Scholarship	300	-	To every student from BPL families.
Source: Our discussions and survey, 2005.			

Estimating the Gap in Service

It is important to note that efforts to scale up rural primary education services in all the lagging regions have recently picked up. There has been a substantial increase in the number of classrooms, schools and teachers in the rural areas to raise the enrolment in the primary education. However, the situation on ground is still far from satisfactory. Substantial efforts are needed to scale up the services of primary education in rural areas in the two states. The existing situation as in 2003-04 points to the sharp differences in the two states. In order to estimate the gap or shortfall in the services in the two states, we begin by first estimating the number of children in the age group 6 – 11 years in the rural areas of MP and UP in 2003 -04 and 2006-07. *Table 19* presents these estimates derived from the 2001 Census by assuming annual growth of 2 percent.

States	Children (6 – 11 years)	
	2003-04	2006-07
MP (Rural)	7,509,024	7,942,237
UP (Rural)	23,777,654	25,149,442

Basic Source: *Census of India, 2001.*

There was already a shortfall in the actual enrolment in 2003-04 in both the states, the one in UP being almost 6 times the one in MP. We consolidate and present the existing scenario with the required and desirable levels of services in the sector in *Table 20*; and the underlying existing and desirable parameter values in *Table 21*.

From the *Tables 20* and *21*, we can see that MP and UP have very different problems. MP has already built a large number of classrooms and schools and has recruited a number of teachers and para-teachers. Their problem now is to increase utilization and improve the enrolment per teacher and classroom. Some population growth and better incentives would largely solve the problem. We have, therefore, set the target values for parameters keeping in view the geographical spread and low density factor of rural MP. On the other hand, UP is very densely populated and suffers from the problem of inadequacy of classroom and teachers.

Table 20: Gap between Required and Existing Level of Services in Primary Education in Rural MP and UP				
States / Year	Schools	Enrolment	Teachers	Classrooms (CR)
<i>1) 2003-04 (Existing situation)</i>				
MP (Rural)	62181	6802842	262159	155452
UP (Rural)	100315	19631279	315123	319267
<i>2) 2003-04 (Required numbers with existing parameters)</i>				
MP (Rural)	68638	7509024	289997	171596
UP (Rural)	120841	23777654	382824	386691
<i>3) 2003-04 (The gap as per existing parameters) (2 – 1)</i>				
MP (Rural)	6457	706182	27838	16144
UP (Rural)	20526	4146375	67701	67424
<i>4) 2003-04 (Required numbers with desirable parameters)</i>				
MP (Rural)	63538	7942237	265271	158845
UP (Rural)	125741	25149442	629962	377223
<i>5) 2006-07 (The gap as per desirable parameters) (4 – 1)</i>				
MP (Rural)	1357	113935	3112	3393
UP (Rural)	25426	5518163	314839	57956
Source: Tables 11, 19 and 21.				

Table 21: Selected Parameters – Existing and Desirable				
States / Years	Enrol. / CR.	CR / School	Teacher / CR	Enrol. / Teacher
<i>1) 2003-04 (Existing values)</i>				
M.P. (Rural)	43.76	2.5	1.69	26
U.P. (Rural)	61.49	3.2	0.99	62
<i>2) 2003-04 (Desirable values)</i>				
M.P. (Rural)	50.00	2.5	1.67	30
U.P. (Rural)	66.67	3.0	1.67	40
Source: 1) www.dpepmis.org ; 2) Our discussions and survey, 2005.				

As a result of bad management, there is congestion and overcrowding in classrooms. It is also because the existing number of teachers, including para-teachers is almost half the number required for proper delivery of educational services. It may be noted that we have recommended a reduction in the enrolment per teacher from existing 62 to 40, but propose to increase enrolment per classroom from the current 61.5 to 66.7. This is not inconsistent considering that we propose to increase teacher per classroom from 0.99 to 1.67. In order to ensure better utilization of the infrastructure, we suggest that the primary school having 3 classrooms be run in two shifts – the morning shift with classes 1 to 3 and the afternoon shift for classes 4 and 5 or vice-versa. If the schools have at least 5 teachers, including para-teachers this should be possible. It would reduce the congestion and help improve the quality of education imparted.

We now turn to estimating the financial resources required to scale up the services of primary education in rural areas of MP and UP. Given the relatively better position of MP in the number of schools, classrooms and teachers, we have considered only one

additional regular teacher per new school in MP, but two additional regular teachers per new school in UP. The rest of the short-fall of teachers in primary schools in the two states (as given in Table 20 row 5) should be met by para-teachers. We also take note of the major repairs, minor repairs and toilets needed in the existing schools in both the states and provide for the same. Similarly, a helper per school is also provided for cooking the midday meals, cleaning, gardening, etc. We present our estimates in *Table 22*.

Item	Unit Cost (Rs.'000)	MP		UP	
		No. of Units	Cost	No. of Units	Cost
1) Classrooms	96	3393	325.7	57956	5563.8
2) New school with toilets + furniture – classrooms	105	1357	142.5	25426	266.7
3) Major repairs	20	12916	258.3	28201	564.0
4) Minor repairs	10	40146	401.5	74470	744.7
5) Toilets*	(30)4	124362	(3730.9) 497.4	156441	(4693.2) 625.8
Total capital cost	-	-	1625.4	-	10168.0
6) Maintenance	15	63538	953.1	125741	1886.1
7) Regular teacher	110	1357	149.3	50852	5593.7
8) Para-teachers	12	1755	21.1	263987	3167.8
9) Teaching costing	0.5	3112	1.6	314839	157.4
10) Training stipend (R)	1.4	1357	1.9	50852	71.2
- Para-teachers	2.1	1755	3.7	263987	554.4
11) Helper	6	63538	381.2	125741	754.4
12) Textbooks + stationery	0.06	113935	6.8	5518163	331.1
13) Scholarship	0.3	45574	13.7	2207265	662.2
Total recurring cost	-	-	1532.4	-	13178.3
Total cost	-	-	3157.8	-	23346.3
Per capita capital cost (Rs.)			33		70
Per capita recurring cost (Rs.)			32		91
Per capita total cost (Rs.)			65		161
* Note: Cost of toilets is shared by the Public Health Department. The cost for education department for a twin-toilet unit (M/F) is Rs.4000.					
Source: (1) Tables 9, 11, 18 and 20 (2) Census of India, 2001.					

Table 22 shows that the total additional requirement of financial resources is Rs.3 billion in MP and Rs.23 billion in UP to scale up the efforts on the primary education front in the rural areas. This is because the federal government has already stepped up resource allocation to this sector through special programs like DPEP and SSA in the recent past. The introduction of some flexibility in the form of para-teachers, and additional resources for incentives to children, training of teachers and classroom building has reduced the additional requirement of resources in this sector. Moreover, financing of these additional resources is already being taken care of by the award of the 12th Finance Commission (TFC).

The TFC has specially recognized primary education and primary health as the sectors requiring greater resource support in the lagging states. This would be in addition to the normal allocation by the Center and the States to these two sectors. It recognizes that, in spite of considerable funds made available to states by the Center through the Plan route, the availability of funds would still be less than the requirements. TFC has observed that the lagging states have frequently failed to utilize the Central grant fully because of the condition that they have to contribute 25 percent of the scheme outlay from their own resources. To overcome this deficiency in fiscal capacity, the TFC has specially augmented grants-in-aid to the lagging states in these two sectors with proper conditionality to ensure right use of those funds. Under the award, both UP and MP are getting additional grants-in-aid as given in Table 23.

States	Primary Education	Primary Health
MP (Rs. Billion)	4.5956	1.8164
UP (Rs. Billion)	44.5407	23.1238

Source: Report of TFC (2004), pp.180-181.

Before we move on to our recommendations, let us briefly examine the budget allocations in the two states in 2004-05 on education and culture. Table 24 gives these estimates.

States/ Year	Revenue Expenditure (Rs. Million)	Capital Outlay (Rs. Million)	Total Outlay (Rs. Million)	Per Capita Expenditure (In Rs.)
MP (2004-05)	24492.5	220.8	24713.3	386
UP (2004-05)	65442.6	779.7	66222.3	376
All-India (2003-04)	813915.8	11266.4	825182.2	779

Source: i) RBI (Dec. 2004): *State Finances – A Study of Budgets of 2004-05*.
ii) MoF (Aug.2004): *Indian Public Finance Statistics, 2003-04*.

We can see from Table 24 that on per capita basis, the allocation to education sector is almost the same in MP and UP in 2004-05. The central government's allocation

is marginally more than these two states on per capita basis. Since Rs.779 per capita expenditure represents a combined Center + State budget for the country as a whole, we may expect that with greater allocation of the Center to the lagging states, overall per capita expenditure by the government sector would almost remove any imbalance due to deficiency of fiscal capacity in the lagging states like UP and MP. Whatever would still remain would be removed by the TFC's award. Thus, scaling up of primary education in rural MP and UP on a per capita basis amounts to increasing the budget allocation by 8 percent in MP and 21 percent in UP. Although financially this is feasible and can be achieved in one year, at least in MP, however, we may spread it over the next 3 to 4 years in both the states considering implementation problems and delays in construction of schools and classrooms.

Rural School System and Quality

While there has been a continuous upsurge in the number of schools established at the primary level, thus increasing physical access to schools, the low quality of education provided in these schools remains a critical issue in India's educational system. Low quality education implies that even those children who have completed five years of primary schooling may not be functionally literate and numerate. Thus, while an increase in literacy rates is of significance, we cannot overlook the fact that the numbers may be misleading as to what such literacy rates actually means about the presence of effective literacy and numeric skills in the children.

The quality of 'literate' of the rural school system is very low. The actual quantity of schooling that children experience and the quality of teaching they receive are extremely insufficient to any mastery of basic literacy and numeric skills. Surprisingly, this seems to be true in the educationally more advanced states as well. In Maharashtra, for instance, community based surveys of twenty eight cities and eight rural districts found that only 30 percent of boys and girls in the age group 6-14 could read basic text fluently or do simple arithmetic (Banerji, 2003). Grover and Singh (2002) too found in their study of two districts of Tamil Nadu that most students lacked functional literacy and numeric skills. Similar results were also reported by the PROBE team (1999) in their surveys of four North Indian states. Leclercq (2002) in his study of two districts of MP found that in most schools visited, few children could read basic texts fluently. Needless to say that we too found similar results during our field investigations in rural MP and UP. The emphasis currently is on rote learning and there was little attempt in teaching activities to impart understanding or comprehension of the text.

Educational deprivation in India has, among others, two crucial dimensions: lack of schools and the low quality of teaching. The latter is the outcome of a combination of lack of school supplies, lack of teacher testing, very ineffective control and oversight of their functioning and weak links between the school system and the society. In India, there has been a greater emphasis on the provision of more schools ('quantity') than on activities that actually take place inside classrooms ('quality').

As noted earlier, most schools do not have enough classrooms to accommodate all children. School structures also lack basic facilities such as running water and toilets.

These problems are more acute in some states than in others. A study of Uttar Pradesh found that 54 percent of schools did not have running water and as high as 80 percent of schools did not have latrines (World Bank, 1997). Grover and Singh (2002) in their study of schools in two districts of Tamil Nadu found that of the twenty schools they visited, only two had toilets, of which only one was functional and only two schools had running water on their premises. Lack of access to toilets and running water reduce student attendance as students have to go home to use these facilities. The lack of separate toilets for boys and girls also influence parents' incentives to send daughters to school.

Educational outcomes depend on the number of teachers and their qualifications, availability of teaching and learning resources in schools such as textbooks and blackboards, and their use made by teachers in actual classroom activities. Educational outcomes also depend on how much teaching actually takes place, which in turn depends on the number of hours (and days) the school is operational, whether teachers are present or absent, and for each student, whether he or she attends school or not and for how long.

Again, as noted above, teacher availability in rural areas continues to be low. Teachers posted to rural and remote areas usually apply for transfers and in general their willingness to be posted in such areas is rather low. This leads to severe imbalances in the distribution of school resources between rural and urban areas and adds to the low teacher-pupil ratios generally observed within the school system. Pupil-teacher ratios are very high, especially in rural areas - around 63 students per teacher for rural India as a whole. The all-India average is around 46 students per teacher. The pupil-teacher ratio for UP (67 per teacher) is almost double that of MP (35 per teacher). Additionally, given the large presence of single and two-teacher schools, there is multi-grade teaching, a fact that detracts from the quality of teaching even further and not captured by pupil-teacher ratios. Moreover, teacher absenteeism is a pervasive phenomenon, especially in rural areas. This effectively reduces the teacher-pupil ratio even further. There is little effective monitoring of teacher attendance. A lot of teaching time is devoted in many schools by teachers to paperwork than in actual teaching.

It is interesting to compare the number of regular teachers employed in the rural areas of some of the largest Chinese provinces with those employed in rural UP and MP. In 2003, for instance, in the Chinese provinces of Henan, Shandong and Sichuan, the number of regular teachers employed in their primary schools were way above those in UP and MP relative to their rural population of school going children.

The central Chinese province of Henan with a rural population that was around 77 percent of its total population of 92.5 million had a total of 488,490 full-time primary school teachers. Of this, almost 77 percent or 374,936 were teaching in the rural areas. Similarly, in the coastal Chinese province of Shandong where the rural population was around 66 percent of its total population of 90.7 million, there were 380,066 full-time primary school teachers, of which almost 63 percent or 238,720 were serving in the rural areas. In the Sichuan province in southwestern China, almost 70 percent of their province-wide primary school teachers were located in the rural areas, that is, 221,109

teachers. As against these, in 2003, while rural MP had 133,116 regular teachers, rural UP had 228,779 teachers only, lower than those in Shandong, but with almost double the rural population of Shandong.

In addition to the much larger number of teachers in these Chinese provinces, it is also important to say a few words about the functioning of some of the rural Sichuan schools that we visited in the outskirts of Chengdu in 2004. By and large, all the state-run primary schools that we visited²² (unannounced) were functional, had fairly well constructed buildings with numerous class rooms as most Grades from I through V had several sections. We rarely heard of complaints regarding lack of teachers, teaching materials, shortages of drinking water or bathroom facilities that one comes across so often while visiting rural schools in UP or MP. In fact, in some rural schools we were pleasantly surprised to see children in Grades IV and V being taught how to use computers, say word processing using MS Word or data entry using MS Excel, of course in southern Mandarin Chinese. The most serious problem that we came across in rural Sichuan schools was the very poor quality of teaching English language. Of course, we emphasize that the above description of the schools is based on our observations in a small number of schools that we visited and so these characteristics cannot be generalized for all of rural China's primary schools.

Under the Law on Nine-Year Compulsory Education, primary schools are tuition-free and reasonably located for the convenience of children attending them; students would attend primary schools in their neighborhoods or villages. Parents paid a small fee per term for books and other expenses such as transportation, food, and heating. Under the education reform, students from poor families received stipends, and state enterprises, institutions, and other sectors of society were encouraged to establish their own schools.

The primary-school curriculum consisted of Chinese, mathematics, physical education, music, drawing, and elementary instruction in nature, history, and geography, combined with practical work experiences around the school compound. A foreign language, often English, was introduced in about the third grade. The rural schools generally operated on a flexible schedule geared to the needs of the agricultural seasons. To promote attendance and allow the class schedule and academic year to be completed, agricultural seasons were taken into account.

The low quality of the school system in UP and MP contributes to parental apathy towards actually sending their children to school even when most parents recognize the importance of education as a means to social and economic mobility for their children and have strong educational aspirations for their children. Teacher apathy comes out very strongly in small surveys conducted by research teams with the aim to adjudge the teaching-learning processes as they are taking place in schools. For instance, the PROBE team (1999) reports that there was no teaching going on in half the sample schools visited by them, a problem further compounded by dismal infrastructure, overcrowded

²² Bajpai and Sachs China visit in summer 2004.

classrooms and lack of teaching materials and resources.²³ Grover and Singh (2002) found that in nearly 70 percent of the schools visited in two districts of Madurai and Villupuram in Tamil Nadu, no instruction was taking place. Such severe teacher apathy and lack of commitment undermines the efficiency of the education system drastically.

The following areas, in our view, need much greater attention: school infrastructure, functioning, curriculum and instructional resources, stricter control over and improved oversight of teachers' presence and behavior, improved and rigorous teachers' training, and improved quality and quantity of mid-day meals.

The school system is also not without 'corruption'. Misuses of school funds as well as recruitment of relatives and friends as teachers are not uncommon – there is a market in public employment in India, where positions can be bought by means of social connections and bribes. Even in states that are better off in terms of physical infrastructure and other teaching/learning inputs, weak accountability plagues the system and negatively influences learning outcomes, the ultimate goal of education. Some steps in improving the management of the school system has been taken in some states via administrative decentralization, that is by giving control of local schools to village level bodies such as the gram panchayats and the formation of village education committees. Notable in this regard has been the educational reforms undertaken in MP. Next, we look at some of the initiatives that the MP government has taken in this regard.

Education sector Reforms in Madhya Pradesh

Over the 1990s, the education sector in MP witnessed substantial delegation of powers to the local panchayat bodies and Village Education Committees, (VECs) thereby decentralizing the school management to the district and sub-district levels. The panchayats were made responsible for the recruitment and transfer of teachers, construction of school buildings, and procurement of school equipments. Parent Teacher Associations (PTAs) have been set-up with substantive powers in school management. The PTA and VEC have been given powers to decide on issues that impinge on the daily functioning of the school, such as school timings, local holidays, and monitoring the regular functioning of the school. Teachers are accountable to the local PTA and the VEC rather than the district and state-level bureaucracy as was the case in the pre-reform period.

Interestingly, during the 1990s, (the time when decentralization took place in MP) the state has had significant achievements in the area of education. During 1991-2001, MP's literacy rate rose by 19.4 percent as against the national average of 13.2 percent. Male and female literacy rates during the decade rose by 18.3 percent and 20.9 percent as against the national average of 11.7 and 14.9 percent narrowing the gap between female and male literacy levels. Two key reasons that have been attributed for this success in MP are the above mentioned decentralization process and the Education Guarantee Scheme²⁴

²³ These visits were unannounced.

²⁴ Launched in January 1997, EGS is a demand-based and time bound strategy of the MP government to universalize access. Under the scheme, the government guarantees to provide a primary school in a

(EGS). EGS has provided a cost effective solution to the delivery of primary education without compromising on quality (Vyasulu, 1999). The underlying reason as to why EGS has been so successful in MP has to do with political decentralization through the Panchayati Raj system. The Seventy Third Constitutional Amendment provided an enabling context for a sharper focus towards human development goals with a changeover to a participatory model. Education and health became part of the main agendas of the elected representatives of the Panchayati Raj Institutions (PRIs) in MP.

However, observers note that while these reforms have increased physical access to schools in MP, quality-wise this new system does not deviate much from the old system and is characterized by the same set of practices that account for malfunctioning of the public educational system (Leclercq, 2002). Moreover, these educational reforms, focusing on 'alternative schools' create a second track school system which can lead to increased enrolment in the short run, however, in the long run they could contribute to further social differentiation and social inequality (Drèze and Sen, 2002).

With regard to the PRIs and their ability to perform, the following questions need to be looked into: Has the power and authority that has been devolved to the PRIs on paper actually reached the people? Do they understand their duties/responsibilities on the one hand and their authority on the other? Do the PRIs have the capacity to manage schools? Are there regular and comprehensive capacity building programs in place? And are any measures being undertaken to ensure that the caste and patriarchy do not prejudice effective management at the local level?

As per the statistics provided by the MP government, the state universalized access to primary schooling in August of 1998 essentially via the EGS²⁵ by adding around 30,540 new primary schools spread all over the state. However, the main challenge for MP is the education of the poor children and improving educational opportunities for the special focus groups, such as girls and the children from the SC and ST communities. Despite the universalization of access, and increase in the provisioning of infrastructure and teachers, the problem of retention, substantial reduction in drop out rates and improved learning levels for all children remains. Be that as it may, decentralizing the school management to the district and sub-district levels in MP has certainly been a change of policy in the right direction.

Concluding Remarks

Relative to the health sector, the education sector has not suffered as much for lack of public spending, though there is certainly room to do much more. In part, this is explained by the role played by the federal government in the primary education sector, especially since 1994. With the initiation of schemes, such as DPEP in 1994 and SSA in 2001, the federal government has helped make available fairly large sums of money to

habitation where there is no school within a kilometer within a period of 90 days of receiving a demand for a school by the local community.

²⁵ EGS won the Gold Award at the first Commonwealth International Innovations Award in 1998.

the state governments. The lack of federal government's involvement in the health sector relative to the education sector may also be due to the fact that while health (public health and sanitation; hospitals and dispensaries) is in the State list per the Indian Constitution, whereas education is in the Concurrent list²⁶. For details on health sector financing and reform, refer to our companion report on scaling up primary health services in rural India (Bajpai et al., 2005a).

The conditions of primary schooling in rural areas, of course, cannot be studied in isolation. The shortfalls in health, education, and population control among others are all mutually interactive. Illiterate mothers are much more likely than literate mothers to suffer the deaths of young children due to disease, since literate mothers are more effective at care giving and at seeking out medical help in emergencies. High infant mortality rates promote high fertility rates, since households have many children to compensate for the risks of childhood deaths. High fertility rates, in turn, promote a social bias against educating young girls, since parents lack the resources to provide a quality education for all of their children, and therefore invest scarce resources in boys, for whom the market returns to investment are higher and moreover girls are married while they are still very young and therefore investing in their education is not considered worthwhile.

MP needs to focus more on two key aspects: One: to get all the children from the poor families and special focus groups, such as girls and children from the SC and ST communities that are out of school into school, and Two: to strive harder to attain and sustain higher levels of quality in their primary schools. While the former may require measures, such as higher levels of financial incentives for poor parents to send their children to school, improved quality and quantity of the mid-day meals being provided, and wide-ranging awareness programs, the latter may require drastic changes in the learning methods and techniques, making classroom activities more experimental and enjoyable for the children, improved teacher training, and of course upgrading the school infrastructure. By contrast, UP needs to focus more on construction of more schools and hiring more teachers, areas where MP seems to have done substantially better. Of course, UP too needs to attain higher enrollment levels and improve the quality of teaching. By our calculations, the shortfall of schools in rural MP is merely 1,357 and that of teachers is 3,112. As against these numbers, those for UP are significantly higher. In order to scale up rural primary education services in UP, the state requires 314,839 additional teachers and 25,426 additional schools.

Interestingly enough, in rural UP even in villages that are not electrified and have serious shortages of clean drinking water, there are privately-run primary schools. On an average, these private schools charge anywhere between Rs.40 to 50 per child per month as school fees and are seen to be functioning quite well. These private schools are able to run essentially because the public schools are by and large dysfunctional and there is

²⁶ According to the Seventh Schedule, Article 246 of the Indian Constitution, subjects have been divided under three lists. These are: Union List, State List and the Concurrent List. Subjects under the Union list are exclusively under the jurisdiction of the Federal Government and those under the State list are exclusively under the purview of the State Governments. However, the subjects under the Concurrent list are under both the federal and state governments, though historically the federal government has always prevailed over the states when a dispute has arisen over any matter which is under the Concurrent list.

effective demand from the parents of relatively better off sections of the village to send their children to school. Such private schools are far less in number in rural MP than in rural UP since the public schools in rural MP are relatively better performing and are far more in number relative to rural MP's population.

Even though the number of private schools may be rising, however, under no circumstances can they be a substitute for the public schools in rural UP where there were around 24 million children in the 6-11 age group in 2003-04. In a recent study (Singh and Sridhar, 2002) conducted in two regions of Uttar Pradesh, namely Firozabad and Deoria, it was found that though the proportion of students in private schools was consistently rising, the government schools still scored over private ones in the area of gender sensitivity. This differs with an earlier study (Drèze and Gazdar, 1997), which noted that government schools were marked by chronic absenteeism of teachers and low levels of female enrollment and attendance. By contrast, private schools (only recognized) have higher attendance levels and low dropout rates, but are dominated by male students (Singh and Sridhar, 2002). This is not surprising since parents want to invest in educating their sons rather than daughters.

MP has taken large steps forward in the spread of primary education, as is evidenced by increasing enrolment rates for both boys and girls, as well as increasing literacy rates. These achievements have been the result both of greater funds allocated to the education sector and also due to programs and schemes that focus on specific lacunae in the educational infrastructure and the educational system. These programs and schemes seek to align supply side incentives with demand side incentives and generate positive synergy between the two.

Apart from household income/wealth, caste and gender continue to determine access to education. The poor, girls, and members of scheduled castes and tribes still face formidable barriers in acquiring basic education. In recent years, the situation has improved for female schooling, especially in the younger age-groups. However, the discrepancies between rural and urban areas continue to be large and the educational situation of scheduled castes and tribes lags considerably behind the rest of the population. In terms of quality of education provided, the system underperforms critically. In terms of learning outcomes, even the graduates of the primary school system lack basic functional literacy and numeric skills. Weak teacher motivations, their apathy towards teaching and high teacher truancy plague the educational system.

One policy initiative that has been successful is the provision of mid-day meals in primary schools. It has increased enrolment, attendance and retention, especially of girls. Moreover, to a certain extent, it also helps take care of nutritional needs of students. This not only affects positively the health of poor students but also improves learning outcomes by ending 'school hunger'.

The state of the quality of education provided and hence the quality of literacy in the 'literate' population is worryingly low, both in MP and UP. The quantity and quality of education provided should be such that all children of school going age must be in school, remain in school till they complete the school cycle and when they leave school they should have mastered the three R's firmly.

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APPENDIX 1

Household Questionnaire

(For "Scaling up Services in Rural India" project
by the Earth Institute, Columbia University)

Village: _____ Tehsil: _____ District: _____
State: _____

Head of HH: _____ (M/F); Investigator:

Date: _____

A. 1 Type of HH: MF/SF/OF/AL/RA/Others; 2. Size of HH: _____

3. Family Income: Rs _____ p.a

4. Caste: SC/ ST/ OBC/ Others;
Hindu/

5. Religion:

Others

Muslim/

B. HH Assets: 1. Land in Ha.: _____; 2. Irrigated Land in Ha.:
_____;

3. Well: Yes/No; 4. Canal: Govt./ Society/ Private/ Pipe

Type of Dwelling: 5. Rooms: One/ Two/ Three/ More(_____)

6. Material: Cement/ Wood/ Mud/ Grass/ Steel sheet 7. No. of
Animals/ Cattle: _____

Buffalo: _____; Cows: _____; Bullocks: _____; Goats & Sheep: _____; Donkey:
_____; Poultry: _____

8. Vehicles: Car: Yes/ No; Two-wheeler: Yes/ No; Tractor: Yes/ No;
Cycle: Yes/ No;

Tempo: Yes/ No; Cart: Yes/ No; Others (_____): Yes/ No;

9. Durable Goods: TV: Yes/ No; Radio: Yes/ No; Fridge: Yes/ No; Stove: Gas/ _____ Kerosene/

Earthen

Sewing Machine: Yes/ No; Thrasher: Yes/ No; Pump/ Engine: Yes/ No
In Numbers: Cots: _____; Tables: _____; Chairs: _____; Cupboards:

C. Information on HH Amenities:

1. Is the HH electrified? Yes/ No.
electricity? _____

2. How many points of

3. Electricity available for: _____ hrs./ day. 4. For _____ days/
week.

5. Amount of light bill: Rs. _____ p.a.:

6. Source of drinking water:

Winter: Tap/ Well/ Public Well/ Public Tap/ Pond/ Canal/ Other (_____)

Summer: Tap/ Well/ Public Well/ Public Tap/ Pond/ Canal/ Other (_____)

Monsoon: Tap/ Well/ Public Well/ Public Tap/ Pond/ Canal/ Other (_____)

7. Distance to the source of drinking water: _____ k.m. 8. Do you
filter water? Yes/ No

9. Do you boil the water? Yes/ No.
water: Rs. _____

10. Money spent on drinking

11. Facility for Latrine and Toilet: Exclusive/ Common/ Open space

12. Sewerage: Underground/ Covered path/ Open path/ No system

13. Drainage: Underground/ Covered path/ Open path/ No system

14. Road cleaning and waste removing facility: Yes/ No; 15. _____
times per week.

D. Information on HH Members:

Sl. No	Questions	Member							
		1	2	3	4	5	6	7	8
1	Name								
2	Relation with Head of HH.								
3	Sex (M/F)								
4	Age (yrs.)								
5	Main activity during year@								
6	Subsidiary activity@								
7	Level of education.								
8	Enrolled in school? (Y/N)								
9	Gainfully employed (Y/N)								
10	Where?--In Family/Outside								
11	For how many days / year?								
12	Earnings per month. (Rs.)								
13	Hospitalisation last year (Y/N)								
14	Any major sickness last year (Name the disease)								
15	How many days in the year for the sickness?								
16	Is medicine taken? (Y/N)								
17	For how many days?								

18	From where? (Public/ Private)								
19	At what cost? (Rs. /p.m.)								
© Farmer - Ag ; Animal Husbandry - AH ; Poultry - P ; Rural Artisan - RA ; Any Service - SS ; Agri. Labor - AL ; Other Labor - OL ; Household work - HH ; Attending school - ST ; No Activity - nil .									

E. Health Related Information:

a) Maternal Health:

1. # of deliveries performed in the HH: _____ so far.
2. # of children survived: _____ (out of the above)
3. # of children died during the delivery: _____
4. # of deliveries attended by *Dai*: _____
5. # of deliveries in hospital: _____; Govt. _____; Private: _____
6. # of deliveries at home not attended by a trained *Dai*: _____
7. Did the mother get antenatal checkups? Yes/No; _____ times.
8. Did the mother receive any injection / vaccination? Yes/No
9. Did the mother get any medicines / tablets? Yes/No
10. Did the mother die at the time of delivery? Yes/No; Which delivery?

11. If yes, the cause. _____
12. Was THE delivery attended by a *Dai* / Nurse/ doctor? Yes/No

b) Infants' Health (<3 months):

1. Do infants get normal breast-feeding? Yes/No
2. If no, is it attended by medical personnel? Yes/No
3. Do infants (< 3 months) suffer from:
4. Infections? Yes/No; If yes, which type? _____
5. Diarrhea? Yes/No
6. Do they receive medial treatment? Yes/No

c) Child Health:

1. # of children surviving below 5 years: _____
2. # of children died within one year of birth: _____
3. # of children died before reaching 5 years of age: _____
4. These deaths occurred due to: Diarrhea/ Jaundice/ Malaria/ Respiratory/ Anemia/ Underweight/ Others (_____)
5. Did the children receive immunization/ vaccination/ *Tika*?
Yes/No
6. BCG: Yes/No; DPT1: Yes/No; DPT2: Yes/No; DPT3: Yes/No;
Polio: Yes/No; MMR: Yes/No; Measles: Yes/No.

(Note: If more than one child is below 5 years of age, mention separately if any one/more of them did not receive immunization / vaccination.)

7. Do children (< 5 yrs.) suffer from :
 - Diarrhea: Yes/No; _____ times/year.

- Fever: Yes/No; _____ times/year.
 - Malaria: Yes/No; _____ times/year.
 - Typhoid: Yes/No
 - Ear Infection: Yes/No; _____ times/year.
 - Respiratory Disease: Yes/No; _____ times/year.
 - Jaundice: Yes/No
8. Do the children (< 5 yrs.) receive medical check-up? Yes/No
9. Do they get medicines? Yes/No
10. From where? Public/Private

d) Medical Facilities:

1. Are you satisfied with existing medical facilities in your village?
Yes/No
2. Do you go to the Govt. PHC/ CHC/ Town Referral/ Private Doctor/ Tantrik?
3. When you visit, is the doctor available? Yes/No

If No, what do you do? Buy/ Go to private doctor.
4. What is the distance you travel for medical facility? _____ k.m.
5. On the whole, how do you rate the medical facilities available to you? By Govt. _____; by Private Sector: _____
(Excellent - 5; Very good - 4; Good - 3; Fair - 2; Poor - 1; Very poor - 0)

6. Who manages the health facility in your village? Village Panchayat/ District Panchayat / District Administration

7. Will the situation improve if the management and oversight functions are shifted to: Village Panchayat/ District Panchayat / District Administration?

Y/N

F. Education Related Information

Number of children eligible for schools

(>5)

	1	2	3	4
Age				
Sex				
Going to school? (Y/N)				
If yes, which? Govt./Pvt.				
Which standard?				
If not going to school, what activity?				
Earnings (in Rs. P.m.)				
Distance to school in k.m.				
Is cash subsidy given (Y/N)				
How much? (In Rs. P.a.)				
School uniform given? (Y/N)				
Text books given? (Y/N)				
School supplies given? (Bag, notebook, pencil, etc.) (Y/N)				
Mid-Day meal given? (Y/N)				
Food grains given? (Y/N)				
Transport provided? (Y/N)				
Library available? (Y/N)				
Sports facilities available? (Y/N)				
Attending the school regularly? (Y/N)				
How many days absent in a month?				
Does teacher come regularly? (Y/N)				

If not attending school, why? @				
Are you satisfied with the school facilities? (Low/Medium/High)				
What is the cost of studying in Rs./p.a.				
Fees				
Private Tuition				
School supplies				
@ HH activities - HH; Employment - Em; Sickness - Sk; Marriage - Ma; No interest - Ni; Irregularity of teachers - It; Behavior of teacher - Bt; Others - Ot (specify).				

1. Who manages the primary school in your village? Village Panchayat/ District Panchayat / District Administration

2. Will the situation improve if the management and oversight functions are shifted to: Village Panchayat/ District Panchayat / District Administration?
Y/N

G. Investigator's Notes / Observations:

APPENDIX 2
School Questionnaire
 (For "Scaling up Services in Rural India" project
 by the Earth Institute, Columbia University)

Village: _____ Tehsil: _____ District: _____ State:

Head of the school/principal: _____ Investigator:

Type of school: Panchayat / District Panchayat / District Administration /
Private

: Pre-primary / Primary/ Secondary/ Higher Secondary

A. Information Regarding Staff and Students in primary section

Sl. No.	Particulars		Primary	Remarks
1	Number of students enrolled.	M		
		F		
2	Number of students with cash subsidy.	M		
		F		
3	Fees charged per student (Rs.)	M		
		F		
4	Number of Teachers	M		
		F		
5	Number of qualified Teachers	M		
		F		
6	Reduction in number of Teachers due to:	Death		
		Retire ment		
		Resign ation		
7	Number of Administrative staff			

8	Salary bill of teachers per month (Rs.)			
9	Salary bill of Administrative staff per month (Rs.)			

B. Information Regarding Infrastructure in primary school:

Sl. No	Particulars	No. of Units	Capital Cost / Unit (Rs.)	Recurrent and O&M Cost / Unit (Rs.)
1	Classrooms			
2	Blackboard			
3	Desk/Bench			
4	Chairs			
5	Toilet	Male		
		Female		
6	School Administration			
7	School mid-day Meals (Y/N)			
8	Transportation Facilities (Y/N)			

C. Information about costs incurred for students

Sr No.	Particulars	No. of Units	Recurrent and O&M Cost / Unit (Rs.)	Remarks
1	Textbooks			
2	Uniform			
3	School Supplies (Slate-pen, exercise books, pens, pencils etc.)			
4	Examination Related Cost			

Dropout and Completion Rates:

How many standards are there in the school? : _____

Year wise & standard wise enrolment in the school

Standard	2004-05	2003-04	2002-03	2001-02	2000-01
1					
2					
3					
4					
5					

E. Information Regarding Teacher's presence and working:

How many teachers stay in the village? : _____

How many teachers stay outside the village? : _____

What proportion of the year does the school normally function? : 20%/40%/60%/80%/100%.

Are there multiple classes being handled by one teacher? Y/N

If yes, details: _____

Is the school managed by the Village Panchayat? : Y/N

If yes, are there any problems? Enumerate.

Will the situation improve if the management and oversight functions are shifted to District Panchayat / District Administration? Y/N
Explain.

**F. Information to be sought from Teacher's Training College/
Educational Authority:**

Particulars	Capital Cost per unit (Rupees)	Recurrent cost per unit (Rupees)	Norms
Teacher's pre- service training			
Teacher's in- service training			
Curriculum development			
Making a new Classroom			
Transport Facility			
Toilets			
Student-Teacher Ratio			
Mid-day Meal			
Others			

G. Investigator's Notes / Observations:

APPENDIX 3

Content Analysis of Primary School Textbooks in MP Board Schools

<i>Appendix Table 3.1: Number of Textbooks by Classes in MP</i>			
Standard/Grade	No. of books	Name of the books	Pages including cover page
I	3	<i>Bhasha Bharati</i> <i>Ganit</i> English Reader	114 140 92
II	3	<i>Bhasha Bharati</i> <i>Ganit</i> English Reader	116 137 84
III	4	<i>Bhasa Bharati</i> <i>Ganit</i> English Reader <i>Paryabaran Adhyayan</i>	118 148 124 124
IV	4	<i>Bhasha Bharati</i> <i>Ganit</i> English Reader <i>Paryabaran Adhyayan</i>	164 196 124 124
V	4	<i>Bhasha Bharati</i> <i>Ganit</i> English Reader <i>Paryabaran Adhyayan</i>	126 220 112 172
Source: Education Department, Government of Madhya Pradesh			

<i>English</i>		
Standard/Grade	Content in brief	Observations
Standard I	Simple Rhymes, small and capital letters, count and write, draw objects, oral sentences, manners, reading, recognizing animal and birds and their pronunciation, matching the pictures and words	English to Hindi pronunciation and meaning is given. Not difficult for teachers and students in rural areas.
Standard II	Listening, speaking, reading and writing of small words and sentences, paper work in the form of preparing different objects like boat, lion, rocket etc; word formation, numbers and counting in English, count and write	Same as above
Standard III	Conversation in detail, word power, and word formation, sentence formation with grammar, days, months in English, small stories about family, village, awareness about different objects and their utilities	The exercises at the end of the lessons are also explained in Hindi. Written to facilitate learning and teaching.
Standard IV	Longer lessons of 50 and 100 words, sentence formation with grammar, surrounding and different places and their	Exercises appear to be lengthy – greater effort needed from students and teachers in rural areas.

	names in English, increasing word power, small poems, conversations , service personnel and their duties	
Standard V	Tales from mythologies, comprehension, small letter writing and essay writing , poems and the questions from these poems, more on grammar, singular and plural, gender recognition, comparative sentence building	Same as above

<i>Science and Environment studies</i>		
Standard/Grade	Content in brief	Observations
Standard I	Recognition of different objects, small sentence in Hindi, awareness about Sun, moon , animals, birds, their sounds, small stories from mythologies and the learning from these stories	No separate book. However, <i>Bhasha Bharati</i> covers the environment aspects and other general understanding.
Standard II	Small patriotic rhymes, and the exercises from them, longer stories from mythologies and their learning, religious festivals, about the school, about oneself	
Standard III	Immediate environment, body parts, utilities, service personnel, vehicles, awareness about health and hygiene, the physical environment and the problems associated with them in the form of pollution, non-availability, utilities of simple machineries, security concerns and the fundamentals of the security from own point of view, entertainment means, religious festivals	Useful and relevant for rural areas.
Standard IV	Evolution of mankind, introduction to living and non-living organisms, awareness about biological concepts, study of populations like tribes and their habitat introduction to solar system and planet system, basics of civil administration, ideas about map, globe continents, countries and neighbors, national symbols, roads, wealth of the state and importance of Yoga	No emphasis on General Science – useful and relevant for rural areas.
Standard V	More on geography of India and Madhya Pradesh, the topography of the country, history of freedom struggle and the leaders, freedom fighters more on public administration in the form of council of ministers, governors, prime minister, president, their functioning, problem of population	Informative-exercises need teacher’s intervention. Ideas about General Science is absolutely missing

<i>Mathematics</i>		
Standard/Grade	Content in brief	Observations
Standard I	Numbers, counting through objects, comparison between large and small, tall and short, more and less, matching objects through counting, writing of numbers, reciting the numbers (1-100), simple addition, ascending order, descending order, simple subtraction, shape and size, nearest and farthest	Exercises are simple enough and appear to test the pupil's awareness and knowledge rather than the memory power – useful and relevant for rural areas.
Standard II	Number system, counting, more on ten, hundred, thousand, writing words for numbers and vice-versa, importance on memorizing the numbers up to 100, addition and subtraction of two digit numbers, simple multiplication of one digit and two digit numbers, introductory menstruation, time, days, months and years, introducing rupees and coins, weight and measures without details of units	Same as above
Standard III	Numbers up to 1000, addition, subtraction, multiplication and division up to three digits, fractions and points, small sums involving the above, calculations of time, calendar, weight and measures with units, simple co-ordinate geometry, mensuration, sums on rupees and coins	Same as above
Standard IV	Numbers up to 10,000 and above, idea about 1,000, 100,000, million etc, sums on addition, subtraction, multiplication and division, writing four digit numbers both in words and numbers, ascending and descending order of four digit numbers, complex additions and subtractions, divisions of three and four digit numbers, small sums on income and expenditure, profit and loss, sums on height and weight, their units, more on mensuration with sums on area calculation etc, more of co-ordinate geometry, and drawing of angles sums on fractions and points.	There is a sudden increase in the level of difficulty and greater effort is required for students and teachers from previous standard.
Standard V	Numbers up to ten million, addition, subtraction, multiplication and division up to eight numbers, writing style of these numbers both in words and letters, complicated sums on these eight digit numbers, fill in the blanks type exercises	Logically follows from standard 4 text books. Exercises are heavy and time consuming – more effort from teachers and students is required. Good understanding of basics and fundamentals needed for the

	for comprehension, LCM , HCF and the sums, more rigorous sum on income, expenditure, profit and loss, time, calendar, simple interest calculation, percent calculation, preparing bills and introduction of accounts, more on co-ordinate geometry and mensuration involving sums on angles, areas, construction of angles, working of different compass box instruments, clock and anti clockwise movements and their significance and sums on them.	teachers to do justice.
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General Observation

- The quality of the book is good both in terms of printing and paper.
- The content of the books in most of the subjects are well sequenced.
- The texts on English are good and appear to be less burdensome to the students.
- The teachers should not find it difficult to teach these subjects as these are well sequenced.
- The mathematics text books for standard 4 and 5 are heavy in content, but several exercises and examples help clarify concepts.
- Surprisingly, there is no introduction of General Science in the syllabus.
- It appears there is more emphasis on language and literature in standard 3, 4 and five as they have separate books for these subjects under the title *Bhasha Bharati* and *Bharati*, which cover to a larger extent the language, literature, history and culture in the form of stories.

APPENDIX 4

Content Analysis of Primary School Textbooks in UP Board Schools

<i>Appendix Table 4.1: Number of Textbooks by Standards in U.P.</i>			
Standard/Grade	No. of books	Name of the books	Pages including cover page
I	1	<i>Bhasa Kiran</i>	90
II	2	<i>Bhasa Kiran</i>	85
		<i>Bal Ganit</i>	85
III	4	<i>Bhasa Kiran</i>	85
		<i>Bal Ganit</i>	92
		Elementary English	68
		<i>Hamara Paribesh</i>	96
IV	5	<i>Bhasa Kiran</i>	130
		<i>Bal Ganit</i>	154
		Elementary English	67
		<i>Hamara Samaj</i>	114
		<i>Gyan Vigyan</i>	116
V	5	<i>Bhasa Kiran</i>	131
		<i>Bal Ganit</i>	164
		Elementary English	67
		<i>Hamara Samaj</i>	139
		<i>Gyan Vigyan</i>	116
Source: Education Department, Government of Uttar Pradesh			

<i>English</i>		
Standard	Content in brief	Observations
Standard I	No English	Need to introduce English
Standard II	No English	
Standard III	Alphabet identification, practice, drawing lines, Alphabets and corresponding objects, vowels and consonants, small and capital letters, matching the small with capital letters, rhymes in English, counting in English, the numbers, plural and singular, putting articles like “a” and “an”, This and That, sentence formation, conversation	There is English to Hindi translation of selected words, their pronunciation and also meaning. This may facilitate the students in picking up the word and its meaning. However, looking differently, it may not increase the pupil’s ability to comprehend.
Standard IV	Conversations, Self identifications, fun with numbers, rhymes, manners , big words and their spellings, small lessons, small stories, story telling, introduction to tenses and grammars	Exercises are practice oriented and require high involvement from the teacher’s side.
Standard V	Longer lessons, poems, comprehensions,	In the very third year, long essays

	question answers from these poems and lessons more emphasis on grammar and long sentence formation.	and poems would be difficult for rural children as well as teachers. Contents do not match with family environment and background of rural children.
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<i>Mathematics</i>		
Standard	Content in brief	Observations
Standard I	Counting, writing, count and write, draw objects as per the numbers, additions, subtractions, mathematical rhymes and puzzles, after numbers, before numbers and missing numbers	Puzzles appear to be complicated for Standard I students in rural areas.
Standard II	Numbers, counting, ten, hundred, thousand etc. ascending order, descending order, greater than less than with symbols, additions, subtractions, multiplications and divisions of three digit numbers, rupees and calculations, time and calculations, income –expenditure, height and weight calculations along with the relevant units, year-month and days calculations	Explained in a story telling format – exercises at the end of each section or topic – requires good understanding and efforts from the teacher.
Standard III	Four digit calculations through games, calculations, multiplicative and additive factors, introduction to mensuration, co-ordinate geometry in the form of dot, line, straight line. More advanced sums.	Requires better understanding of fundamentals in teachers – Difficult conceptualization for average children in rural areas.
Standard IV	Four and five digit numbers, writing in words and numbers, fractions and their addition, subtraction, multiplication, division, more on height, weight measurements, unit and calendar type sums	Heavy sums and exercises at the end of chapters. –Difficult for conceptualization for rural children and teachers. –However, plenty of examples are given prior to the exercises.
Standard V	LCM, HCF, Income-expenditure statement preparations, multiple digit multiplication and subtraction, more on co-ordinate geometry and mensuration, interest and simple interest calculations, profit and loss concepts, power and points	Structured better as compared to Standard IV. The exercises and examples are plenty. – More conceptual than practical.

General Science and Environment Studies		
Standard	Content in brief	Observations
Standard I	Rhymes on nation, habits in a lyrical format, Identification of different objects around us, comparison in size, identification of vehicles, drawing of simple objects, small stories on daily habits, recognition of seasons	The ideas communicated appear to be good, but difficult for teachers to teach in Grade I
Standard II	Relationships, etiquettes, small rhymes on water, fire, birds, tastes, about villages, towns, personal hygiene, different occupations, national symbols, climate, small stories from mythologies, fairs and festivals	-Nil-
Standard III	Surrounding environment, natural and man-made objects, body parts and their utilities, food habits and nutrition, idea about map, globe; ASIA as a continent, location of India, evolution of human life in a simpler story format, stories from mythologies on friendship, fairs and festivals in a longer version, religion, small scientific experiments, idea about environmental pollutions and its causes, consequences and the ways of controlling these pollution at our level; basics of public administration and different layers of administration from <i>Panchayat</i> to district level.	The exercises at the end appear to be little lengthy – considerable efforts from teachers is required.
Standard IV	Introduction to biology, living organisms their properties; human body parts, its utilities in detail from biology point of view, their working, botanical and zoological terms like chlorophyll, photosynthesis, the cycle of environment change; health and hygiene, introductory physics and chemistry in the form of different objects, their properties, working, matters and their properties; a number of small scientific experiments; soil and its properties, introduction to planetary and solar system, scientific interpretation of work and energy.	Conduct of the experiments is doubtful. Exercises are very exhaustive. Extensive effort from teachers is required.
Standard V	Biology in a greater detail; idea about different type of species, their functions, growth, interdependence between living and non-living organisms, introducing scientists like Charles Darwin, Einstein, Galileo, their contributions in brief and	Gradual increase in the rigor of the content. – Good effort required from teachers to do justice.

	<p>in story format, more on nutrition, vitamins, disease pattern, ways and means of first aid treatment, properties of air, wave and introductory optics, more on work and energy along with their measuring units, introduction to simple mechanics and its working and the science behind it.</p>	
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General Observation

- Printing Quality/Paper is poor. Must be difficult to keep for the entire year by small children particularly in rural environment.
- From standard III onwards, small scientific experiments are included. On the face of it though these are simple but how far the school is equipped with the required instruments is doubtful as in most of the schools the basic infrastructure is lacking.
- Course and textbooks on general science and environmental studies need teachers with some science background. A generalist may not be able to do justice. Regular training for a few days in a year may not replace the background.
- As far as English teaching is concerned, the problem is also severe as there may not be trained English teachers handling the classes in standard IV and V. Apart from spelling errors in question papers, there may be serious concerns about the competence of existing teachers to handle the subject in rural areas.