

**Scaling Up Primary Education Services in
Rural Rajasthan:
Public Investment Requirements and Policy Reform**

Nirupam Bajpai and Ravindra H. Dholakia

CGSD Working Paper No. 31
November 2006

Working Papers Series
Center on Globalization and
Sustainable Development

The Earth Institute at Columbia University
www.earth.columbia.edu

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

Nirupam Bajpai and Ravindra H. Dholakia

Abstract

We attempt to address two key questions in this paper: 1) In terms of state-wide scaling up of rural services in Rajasthan 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 the state? 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.

Nirupam Bajpai is Senior Development Advisor and Director of the South Asia Program at the Center on Globalization and Sustainable Development at the Earth Institute, Columbia University. He is also a member of the United Nations Millennium Project.

Ravindra H. Dholakia is Professor of Economics at the Indian Institute of Management at Ahmedabad in India.

Nirupam Bajpai presented this paper to the Honorable Vasundhara Raje, Chief Minister of Rajasthan and Montek Singh Ahluwalia, Deputy Chairman, Planning Commission of India and to the concerned officials of the Rajasthan Government in Jaipur on November 17, 2006.

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

Key Findings and Recommendations

Per our estimates of the financial requirements of scaling up primary education services in rural Rajasthan, additional public spending of Rs.164 per capita is needed. Of which, Rs.74 would be needed to meet the capital costs and Rs.90 to meet the recurring costs. Flexibility in the form of employing para-teachers, providing them increased teacher training, building additional classroom as extension, etc. have significantly reduced additional resource requirements to meet the targets relating to the selected parameters. Moreover, the 12th Finance Commission has provided Rs.1 billion of additional resources for this purpose. Thus the Rajasthan state government needs to allocate additional resources to the tune of Rs.9.5 billion to the primary education sector.

Rajasthan 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, ST and OBC 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 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.

The education of the girl child is a crucial area in Rajasthan. Rajasthan has been known to have very adverse figures of girl child enrolment and retention. The government needs to pay much greater attention to girl child education in the State. Suitable strategies will have to be evolved to attract the girl children to schools and to ensure that they complete senior secondary level. Special programs, including stipend or scholarships can be considered in this regard.

Textbooks need to be modified and contents of syllabus made more oriented to the rural children. English getting introduced from Standard I is good, but the contents become more difficult suddenly from Standard III for the students and teachers in rural areas. Similarly, the level of abstraction increases sharply from Standard III in Mathematics. We find that the principles of Science are comparatively less emphasized and more emphasis seems to be on language skills, History and Geography.

There must be at least 3 classrooms per primary school. Almost 35% of the classrooms in rural Rajasthan require either minor repairs or major repairs. Thus, although new schools and new buildings may not be required in big numbers in the state, significant repairs besides additional rooms need to be constructed.

Schools with fewer rooms should run in two shifts making better use of resources. If the timings of the classes are decided in consultation with education committees, 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.

The major infrastructural shortfall in the primary schools in Rajasthan is lack of toilets in general and girls' toilets in particular.

There is a serious problem of small schools with less than 50 students accounting for almost one-third of all primary schools in the state. As a consequence, single teacher schools account for 39% of primary schools and 25% of enrolment in primary schools. Schools with pre-primary section are not very popular in Rajasthan so far. Special efforts are required in this direction to enhance quality of education and learning in Rajasthan.

Another major problem with existing primary schools in Rajasthan is of availability of teachers in general, and of female teachers in particular. Average number of regular teachers in government primary schools in rural Rajasthan is only 2.1. Single teacher Primary Schools are about 39%, which includes private schools and Primary Schools in urban areas too.

There is a technical problem in budget making at the state level. It is very well-known that most of the revenue expenditure on education consists of teachers' salaries. However, this is considered a non-plan expenditure item in the state budget. In the overall environment of severe resource crunch and constant pressure under Fiscal Responsibility and Budget Management (FRBM) concerns even at the state level, the non-plan expenditures are always the easy targets for the cuts. That is how sanctioned posts of teachers in primary and secondary schools are allowed to remain unfilled for years leading to the serious scarcity of teachers in the public schools. Currently, these vacancies are filled on *ad hoc* temporary basis by para-teachers who are paid almost one-fourth or less of the salary of a regular teacher. While this is a reasonable solution to save public resources in the short run, it may not work in the long run unless a new scale/cadre of para-teachers is formally established in the government. Another option is to treat teacher salaries as a plan expenditure item.

Encourage private participation in building and running schools. As the draft Approach Paper of XI Plan (2006) suggests, the weaker sections of the society can be given coupons and thereby a choice of choosing the school for their kids. This can take off a lot of financial burden from the government. We have seen that in the private rural schools, the number of teachers per school, classrooms per school, students per teacher, and students per classrooms are far better than the public schools. The government needs to take a policy stance to positively encourage private schools to expand their scale and area of operation by providing appropriate incentives, establish inspection norms, admission criteria and procedures, etc. The idea is not for the government to withdraw, but provide competent and qualitative benchmarks for the private schools through their illustrative presence in different areas. The expansion of employment of teachers and helpers can largely take place in the private sector if proper policies are followed to allow some of the public primary schools to be taken over by the private management.

Accountability of teachers should be accorded high priority. The assessment of a teacher must be made on the basis of his performance in class especially with reference to enrolment, retention, percentage of children passing the exams, percentage of children in the higher ranks, development of learning skills and the like. Similarly, it is also necessary to ensure that administrative staff exercises proper control and supervision over the teachers by inspections and other improvement mechanisms.

Since the coverage of primary schools is now reasonably good, especially with the help of SSA, with a primary school in almost every square kilometre, the focus should now be on improving the quality of education. The key requirement for this is training of teachers for skill upgradation and for developing higher levels of motivation. This, in turn, requires well qualified master

trainers with security of tenure and better remuneration so that the quality of training is of a high order. There must be periodic training of all teachers and they must be new trends in educational theory, pedagogical practices and classroom transaction methods. To improve the quality of regular teachers, annual grant for 20 days training is provided. For para-teachers, annually 30 days of training is recommended. The District Institutes of Educational Training (DIET) need to be upgraded and mechanisms introduced for evolving training modules that can help large number of teachers.

Special separate educational camps for boys and girls in the age-group 6-14 years can be organised to address the problem of illiterate and school dropouts. These camps can be for 6 months on the lines of BSS under SSA. This will solve the problems of children from remote locations and migrant families because all expenses of children including health, medicine, textbooks, stationary, clothing and food are taken care of in these camps.

With immediate effect, there is a need to address the problem of migrant family children missing the annual examination and not getting a chance to appear in the re-test because of the change of academic calendar this year. Otherwise, this will result in wastage and dropouts by such children from schools.

There is an urgent need to streamline the administration for providing caste certificates to all SC/ST and OBC families. If the government thinks that these families need concessions and subsidies/ incentives, they must first be properly identified and certified so that they do not have to incur disproportionate resources to obtain such certification. Otherwise, the scheme becomes wasteful, discriminating and unjust for the real target group.

The non-teaching activities expected from a school teacher can be reduced considerably and effectively outsourced to increase employment in the rural areas.

While the mid-day meal scheme seems to be working well in the state, however, financial allocation needs to be raised for the mid day meal program. The government of Rajasthan spends only 50 paise per day, per child on recurring costs of mid-day meals, compared with more than one rupee per child, per day in Karnataka. Additionally, there is a need for introducing more varied and nutritious lunch since children are fed Ghogri most of the time. There is also potential for linking mid-day meals with related inputs such as micronutrient supplementation, health services and nutrition education.

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.

Primary schools with 3 classrooms and 5 teachers should run in two shifts to ensure availability of separate classroom for every Standard/Grade.

There is a need to appoint a cook-cum-cleaner-helper in all primary schools. If an additional local help is regularly available 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.

State government can think of collecting small fees from the non-target group population to provide better facilities like libraries, play grounds 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 very little of this is available. 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.

We suggest an education sector strategy for India that is based on the objectives of the Sarva Shiksha 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.

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?

We suggest that the central government should plan to convene a meeting of Chief Ministers and Education Ministers of all Indian States in 2007 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 RAJASTHAN¹

I. Introduction

The draft Approach Paper of the 11th Five Year Plan (2006) in India states, “A central part of the vision of the 11th Plan must be to extend access to essential public services such as health, education, clean drinking water, sanitation, etc., which are currently denied to large parts of our population especially in rural areas. The provision of good quality of education is the most important equaliser in society and it is time we launched a major effort in this area” (p.75). It considers the essential public services of health and education as critical inputs determining the growth potential of the economy in the long term. The draft Approach Paper (2006) clearly asserts that “Governments at different levels must ensure provision of these services” (p.1). However, it also recognises on p.46 a need to enable people with appropriate entitlements to choose between public and private schools by promoting some competition to increase efficiency and effectiveness of the services. The Planning Commission, thus, considers the problem of scaling up of primary education services in the rural areas as not only of critical importance in the long term growth strategy, but also has an open mind about the modality of its provision. It has shown awareness about several problems associated with the service delivery in this sector (see p.4 and pp. 45-47), and has explicitly recognised that in this sector, the major

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 Karen Lindblom, Program Officer for discussions and their keen interest in this project.

Nirupam Bajpai is Senior Development Advisor and Director of the South Asia Program at CGSD.
Ravindra H. Dholakia is Professor of Economics at the Indian Institute of Management at Ahmedabad, India.

The authors are grateful to Mr C K Mathew, Principal Secretary to Rajasthan Government, Education Department, District Administration of Jalore and Chittorgarh, and authorities of selected schools, and respondents from selected households for their cooperation and support. We are also thankful to Anurag Sinha for research assistance, Shreekanth Iyengar, Prakash Parmar and Gopakumar, for providing valuable support in data collection, collation, tabulation and preparing useful notes based on discussions and observations during the survey. Prakash Damor and Chirag Patel also helped as investigators in data collection.

problem is of quality rather than of quantity *per se*. Only then, the proposed shift of emphasis from outlays to outcome would be meaningful.

Primary education cannot be considered to be a public good because it does not meet the theoretical criteria of non-rivalry in consumption, non-excludability and externality. However, in most of the developing societies it is considered as a merit good because its universal consumption has a high intrinsic value determining the physical quality of life in the society. The Planning Commission in India (2006), moreover, considers it as an important equaliser and a determinant of future growth. There is a strong case for its public provisioning or budgetary support for its provisioning. In this context, the present paper attempts to estimate the efforts needed to scale up primary education services in the rural areas of Rajasthan both in financial and physical resources required and changes in policies, institutions and practices needed. In the next section we briefly discuss the status of primary education services in Rajasthan and its rural areas. The third section discusses the results of our sample survey of households, and the fourth section describes the findings of our primary school survey. The fifth section attempts estimates of the financial and human resources required for scaling up the primary education services in rural Rajasthan. The sixth and final section concludes the paper with our recommendations for improving the delivery of the service in rural Rajasthan.

II. Primary Education in Rajasthan – Status Report

Rajasthan is geographically the largest state in India with an area of 342,239 square kilometres accounting for 10.4% of the national area. About one-third of its area is desert with extremely low population density. This landlocked state has its geography dominated by the Aravalli range of hills and hillocks making it climate-wise an arid zone. The hilly terrain is also a part of the tribal belt in the country. Vast desert land on one hand and tribal belt on the other hand are distinguishing specific features of Rajasthan relevant for the delivery of public services in rural areas.

In spite of such a difficult geographical terrain, Rajasthan has an impressive coverage of habitations in rural areas with schooling facilities at primary stage within one kilometre. In September 2002, 80% of rural habitations had already been covered. Since

the state runs the *Sarva Shiksha Abhiyan* (SSA or Universal Education Campaign) quite successfully, the goal of providing physical access (availability) of a primary school in almost every square kilometre is more or less achieved by now. The issues are, however, of the quality of the facility and the services, besides ensuring that children do not remain out of school. In September 2005, the Government of India commissioned an independent survey on literacy by IMRB, and in December 2005, ASER survey by an NGO called Pratham was conducted. According to the IMRB survey, percentage of out of school children between 6 and 13 years was 6.90% in Rajasthan as against 6.94% for All-India. The ASER results, however, shows that 10.4% of the children between 6 and 14 years were out of school in Rajasthan against only 6.6% in All-India. As per ASER literacy survey, Rajasthan ranked next to Bihar in percentage of out of school children, whereas in IMRB survey Rajasthan's rank was sixth after Jharkhand, Bihar, West Bengal, Madhya Pradesh and Uttar Pradesh. Thus, Rajasthan does have a problem of attracting children to school and retaining them. The problem is more serious for the girls than the boys. In 2003-04, the proportion of girls in total enrolment in the Primary Schools was 46.9% and sharply falls in upper primary schools. The gross enrolment rate for primary education was 87.5% while the net enrolment rate was only 61.9% in Rajasthan². Thus there is a problem of late entry of children to school and also of 38% children not enrolling in the primary schools. *Table 1* provides the information about the type of schools with enrolment and *Table 2* about comparison of schools in Rajasthan in 2003-04. These tables summarise the current situation of schools and several of their problems in Rajasthan.

It can be seen from *Table 1* that there is hardly any substantial difference in the average size of a school between the urban and the rural areas in Rajasthan, except for the completely integrated schools having primary, upper primary, secondary and higher secondary sections. The government integrated schools are larger in rural areas and private integrated schools are larger in urban areas. While there is hardly any difference in the average size of only primary schools between the government sector and private sector, private schools are smaller where the entire elementary education is provided.

² Gross Enrolment Rate (GER) is defined by considering total enrolment in the primary schools as a percentage of population in the age group of 6-11 years; while Net Enrolment Rate (NER) considers enrolment in the age group of 6-11 years.

However, for all other types of schools, the private schools are larger than the government schools in both the urban and the rural areas of the state.

| Type of Schools | Govt. or Pvt. | All Areas | | | Rural Areas | | |
|------------------|---------------|-----------|-----------|------------------------------|-------------|-----------|------------------------------|
| | | Schools | Enrolment | Average Enrolment Per School | Schools | Enrolment | Average Enrolment Per School |
| Primary only | Govt. | 49621 | 4010092 | 80.8 | 47451 | 3771606 | 79.5 |
| | Pvt. | 2991 | 261240 | 87.3 | 2412 | 201268 | 83.4 |
| Primary with UP | Govt. | 11395 | 2406529 | 211.2 | 10491 | 2198485 | 209.6 |
| | Pvt. | 5856 | 985610 | 168.3 | 4317 | 722781 | 167.4 |
| Primary, UP & HS | Govt. | 1348 | 187804 | 139.3 | 873 | 165020 | 189.0 |
| | Pvt. | 970 | 324741 | 334.8 | 815 | 194256 | 238.4 |
| UP only | Govt. | 669 | 97350 | 145.5 | 584 | 81195 | 139.0 |
| | Pvt. | 87 | 14972 | 172.1 | 53 | 8574 | 161.8 |
| UP & HS | Govt. | 2988 | 374618 | 125.4 | 2746 | 340536 | 124.0 |
| | Pvt. | 177 | 32788 | 185.2 | 70 | 12192 | 174.2 |
| No response | Govt. | 2027 | 34476 | 17.0 | 179 | 15211 | 85.0 |
| | Pvt. | 29 | 4219 | 145.5 | 18 | 2415 | 134.2 |

Note : P=Primary; UP=Upper Primary; HS=Higher Secondary; Govt.=Government; Pvt.=Private

Source: <http://www.dpepmis.org>

| Sr. No. | Characteristics | Type of Schools | | | | |
|---------|---------------------------------------|-----------------|------|---------|---------|-------|
| | | Only P | P+UP | P+UP+HS | Only UP | UP+HS |
| 1 | % of Single classroom schools | 4.4 | 0.7 | 0.8 | 1.7 | 0.4 |
| 2 | % of Schools with Pucca Buildings | 85.3 | 97.9 | 97.3 | 97.8 | 99.5 |
| 3 | % of Schools with No Buildings | 13.1 | 1.5 | 0.4 | 0.7 | 0.3 |
| 4 | % of Enrol. in Schools w/o Buildings | 7.7 | 1.1 | 1.7 | 1.2 | 0.9 |
| 5 | % of Schools with Girls' Toilets | 14.1 | 42.3 | 70.5 | 47.0 | 58.1 |
| 6 | % of Schools w/o Toilets | 65.4 | 35.5 | 21.6 | 36.1 | 27.7 |
| 7 | % of Single Teacher Schools | 38.6 | 1.3 | 2.0 | 2.8 | 3.2 |
| 8 | % of Enrol. In Single Teacher Schools | 24.7 | 0.8 | 0.8 | 1.8 | 2.7 |
| 9 | % of Schools with SCR>60* | 7.7 | 10.2 | 4.4 | 5.2 | 1.3 |
| 10 | % of Enrol. In Schools with SCR>60* | 16.1 | 16.2 | 7.5 | 9.0 | 2.4 |
| 11 | % of Enrol. In Schools w/o Blackboard | 8.6 | 5.0 | 3.8 | 5.3 | 6.7 |
| 12 | % of No Female Teacher Schools | 35.6 | 37.5 | 57.2 | 47.2 | 36.0 |
| 13 | % of Schools with Pre-primary Section | 11.3 | 21.8 | 23.9 | 0 | 0 |
| 14 | % of Girls' Enrolment | 46.9 | 42.1 | 38.0 | 40.2 | 34.3 |
| 15 | % of Schools with Students < = 50 | 32.9 | 9.8 | 10.1 | 14.8 | 13.9 |
| 16 | % Schools with PTR > 100* | 2.7 | 1.8 | 2.5 | 2.0 | 2.6 |
| 17 | % of Schools Established since 1994 | 57.2 | 29.0 | 31.0 | 17.1 | 7.5 |

** Note : SCR = Students Classroom Ratio; PTR = Pupil Teacher Ratio*

Source: Same as Table 1.

Table 2 shows that there has been a substantial expansion of primary schools in Rajasthan since 1994. The government has given explicit and effective emphasis on the primary education. As a result, more than 85% of the primary schools and 98% of the elementary schools have *pucca* buildings. Only 13% of the primary schools are without buildings, perhaps operating in the open or in a tent. Given the preponderance of desert area in the state, this may not be very objectionable in itself because the enrolment in such schools is hardly 8%. The major infrastructural shortfall in the primary schools in Rajasthan is lack of toilets in general and girls' toilets in particular. Schools without blackboards are hardly 9%, but without any female teachers is more than one-third even in the primary and elementary section. There is a serious problem of small schools with students less than 50 accounting for almost one-third of all primary schools in the state. As a consequence, single teacher schools account for 39% of primary schools and 25% of enrolment in primary schools. Schools with pre-primary section are not very popular in Rajasthan so far. Special efforts are required in this direction to enhance quality of education and learning in Rajasthan.

Physical infrastructure in terms of classrooms and their quality is important in attracting pupils to school. *Table 3* provides the data in this regard by types of schools. Only primary schools in Rajasthan have on an average about 2.24 classrooms. Only 4% of the schools have a single classroom. Hence most of the schools with only primary section (1 to 5 standards) have only 2 classrooms. If these schools run in two shifts, still there may be a problem of multiple standards using the same classroom simultaneously. This cannot ensure quality education. There must be at least 3 classrooms per primary school. Moreover, these classrooms are also not in good condition in the state. Almost 35% of the classrooms require either minor repairs or major repairs. Thus, although new schools and new buildings may not be required in big number in the state, significant repairs besides additional rooms needs to be constructed.

| Sr. No. | Specification | Type of Schools | | | | |
|---------|--------------------------------|-----------------|--------|---------|---------|-------|
| | | Only P | P+UP | P+UP+HS | Only UP | UP+HS |
| 1 | No. of schools | 52612 | 17251 | 2318 | 756 | 3165 |
| 2 | No. of classrooms (CR) | 118775 | 100829 | 202294 | 4890 | 23323 |
| 3 | No. of other rooms | 45450 | 32769 | 7105 | 3028 | 17225 |
| 4 | No. of CR needing Minor Repair | 29456 | 19863 | 2111 | 1042 | 4898 |
| 5 | No. of CR needing Major Repair | 12709 | 9276 | 568 | 411 | 1843 |
| 6 | Av. No. of CR per school | 2.26 | 5.84 | 8.75 | 6.47 | 7.37 |

Source: Same as Table 1.

Another major problem with existing primary schools in Rajasthan is of availability of teachers in general and of female teachers in particular. Table 4 provides teacher related relevant data for schools in rural area.

| Sr. No. | Specification | Type of Schools | | | | |
|---------|-------------------------------------|-----------------|--------|---------|---------|-------|
| | | Only P | P+UP | P+UP+HS | Only UP | UP+HS |
| 1 | No. of Teachers in Govt. schools | 99614 | 68120 | 5855 | 3677 | 16578 |
| 2 | No. of Teachers in Pvt. schools. | 12474 | 39460 | 11251 | 596 | 1325 |
| 3 | No. of Regular Teachers | 89198 | 101104 | 16411 | 4108 | 17443 |
| 4 | No. of Para Teachers | 22890 | 6476 | 695 | 165 | 460 |
| 5 | No. of Total Teachers | 112088 | 107580 | 17106 | 4273 | 17903 |
| 6 | % of Trained Teachers (Males) | 51.9 | 32.5 | 9.0 | 18.5 | 6.0 |
| 7 | % of Trained Teachers (Females) | 49.3 | 28.2 | 9.5 | 14.0 | 5.7 |
| 8 | Regular Teachers Per School (Govt.) | 2.1 | 6.5 | 6.7 | 6.3 | 6.0 |
| 9 | Regular Teachers Per School (Pvt.) | 5.2 | 9.1 | 13.8 | 11.2 | 18.9 |
| 10 | Enrol. Per Regular Teacher (Govt.) | 37.9 | 32.3 | 28.2 | 22.1 | 20.5 |
| 11 | Enrol. Per Regular Teacher (Pvt.) | 16.1 | 18.3 | 17.3 | 14.4 | 9.2 |

Note : P=Primary; UP=Upper Primary; HS=Higher Secondary; Govt.=Government; Pvt.=Private

Source: Same as Table 1.

It can be seen from the Table 4 that average number of regular teachers in government primary schools in rural Rajasthan is only 2.1. Single teacher Primary Schools are about 39% (see Table 3), which includes private schools and Primary Schools in urban areas, too. Since government schools are known to have less number of teachers in rural areas as compared to the private schools, it implies that a majority of the government primary schools in rural Rajasthan have only one or two regular teachers. Government Primary schools in rural Rajasthan have one or two classrooms and one or two regular teachers with 5 standards running simultaneously. There is therefore, a

complete lack of proper learning environment and the quality of education suffers as a result. Student-teacher ratio is also extremely unfavourable in government primary schools being as high as 38 on an average. The table clearly brings out that the physical learning environment indicators are far better for the private primary schools. It is not surprising if parents prefer to send their children to private schools. It only shows that parents highly value educational quality and learning environment provided to their children. For any exercise of scaling up rural primary education services, the teacher-school ratio, student-teacher ratio and classroom-school ratio cannot be ignored. Rural Rajasthan faces problems on all these three fronts. As a result, the transition rate of primary to upper primary level for students is only 68% and the drop-out and wastage rates are very high.

The standard response of the government to reduce drop-out rate, increase attendance, retention, and transition rates is to provide incentives to children besides free education and the mid-day meal schemes. Accordingly the government of Rajasthan provides various incentives in terms of providing free textbooks, stationery, uniform and attendance related incentives for the children in the primary and upper primary government schools. *Table 5* provides the number of beneficiary children in the primary and upper primary schools in Rajasthan in 2003-04.

| Table 5: Number of Beneficiaries of Various Incentives, Rajasthan, 2003-04 | | | | |
|---|----------------|---------|----------------------|--------|
| Incentives | Primary | | Upper Primary | |
| | Boys | Girls | Boys | Girls |
| Text-Books | 2771393 | 2454271 | 67048 | 360716 |
| Stationery | 99885 | 76877 | 6709 | 5651 |
| Attendance | 138948 | 135285 | 223284 | 135907 |
| Uniform | 9495 | 11566 | 3930 | 2735 |
| <i>Source: Same as Table 1.</i> | | | | |

In Rajasthan, textbooks are distributed free to all children in the Primary schools and to girls and children of SC/ST categories in the upper primary classes. Stationery like notebooks, pencil, eraser, etc. is distributed free to children belonging to SC/ST in upper primary schools. Attendance incentives in terms of freeships are given to the students belonging to SC/ST/OBC groups in upper primary and secondary schools to

encourage them to study in the school and continue studies. Uniforms are given free to the SC/ST students on selective basis.

III. Results of Household Survey

In order to get better insights into the conditions prevailing in rural Rajasthan among the weaker sections particularly in the primary education and health sector, a sample survey of households was conducted. More specifically, the intension was to get some idea about (i) the household expenditure on these services among the weaker sections; (ii) the reasons why the enrolment of children in schools is low; (iii) the extent of the benefits of incentives provided by the government actually reaching the weaker section; and (iv) their perception about the quality of the service, its management, etc. Given the geographical special features of Rajasthan – desert area and tribal zone – it was decided to select two districts, Jalore and Chittorgarh for the survey. Jalore is in the desert area and Chittorgarh is in the tribal belt. Moreover, we conducted the purposive sample survey of the households belonging to the weaker sections of the society, besides in-depth survey of the schools in and around the selected villages. *Appendix A and B* provide the methodology of sample selection for our household and school survey respectively. They also give the questionnaires used for the survey.

The sample survey of households revealed some interesting features of the weaker section in rural Rajasthan. We surveyed 247 households in Jalore and 253 households in Chittorgarh district³. All these households belonged to the poor strata as identified through a comprehensive BPL survey conducted by the government administration. About 70% households in Jalore and 81% households in Chittorgarh out of our sample owned land, and 81% in Jalore and 78% in Chittorgarh owned cattles. Thus, ownership of cattle among the poor household is almost 80% irrespective of the area-desert or tribal

³ During the course of this study, we travelled extensively in and around the selected villages from the two districts. We had detailed interactions with the District Collectors. 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 Rajasthan. 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 were not usable due to prolonged decay, lack of repairs, incomplete construction and lack of maintenance.

belt. Moreover, the average number of cattle per poor household is 8 in Jalore and 5 in Chittorgarh. Considering the income levels, looking after these cattles is an important activity for these households. Generally the children both girls and boys, are driven to this activity even if they have to sacrifice attending schools. These families also often migrate out seasonally in search of food, fodder and employment. This happens because only 60% of the sample households in both the districts reported farming as their main occupation. The other 40% of the households depending on non-farm activities get employment only during certain seasons in their homeland. Solution to this problem of drop-out and migration cannot be piecemeal. It has to be comprehensive.

Second relevant feature of the weaker section households in rural Rajasthan is that only 18% of them have access to electricity in their residence. Even such an access is also limited to 3 days in a week for about 6 hours / day in Jalore and 6 days in a week for about 10 hours / day in Chittorgarh. The learning and reading environment at home is, thus seriously lacking.

Another relevant problem clearly brought out during the sample survey was that there is a substantial proportion of illness and morbidity prevailing among the weaker section in rural Rajasthan. Almost 42% in Jalore and 43% in Chittorgarh population fell sick during the last year and the incidence of hospitalization is also alarmingly high at 11% in Jalore and 5% in Chittorgarh. The sickness in the poor families would obviously discourage children from attending schools either because they have to take rest to get cured or they have to substitute for the sick member in his/her routine work.

Contrary to general belief, we found only 2.9 children (0-15 years) per household in Jalore and only 2.0 in Chittorgarh among the poor families. Out of these the children in the school going age are 51% in Jalore and 59% in Chittorgarh. In both the districts, among the poor households, about 80% of children in school going age are attending schools⁴. Thus, about 20% of the children of poor families in the school-going age group (5 to 15 years) were not attending schools. *Table 6* provides distribution of children either not attending schools or very irregular in attending schools by the most important stated reason.

⁴ The proportions are 79% in the Chittorgarh and 81% in Jalore. Our *a priori* expectation was about 80% for this ratio that helped us select the sample size.

Table 6: Number of Children by Reason for Non-Attendance and Irregularity in Attending School in Jalore & Chittorgarh (in %)

| Sr. No. | Reasons | Jalore District | | | Chittorgarh District | | |
|---------|--------------------|-----------------|--------|--------|----------------------|--------|--------|
| | | Boys | Girls | Total | Boys | Girls | Total |
| 1 | Household Activity | 6.4% | 31.7% | 17.2% | 2.1% | 32.8% | 14.5% |
| 2 | Employment | 10.9% | 2.4% | 7.3% | 23.2% | 12.5% | 18.9% |
| 3 | Sickness | 20.9% | 28.0% | 24.0% | 18.9% | 10.9% | 15.7% |
| 4 | No Interest | 28.2% | 18.3% | 24.0% | 25.3% | 14.1% | 20.8% |
| 5 | Teacher Related | 13.6% | 2.4% | 8.8% | 1.0% | 3.1% | 1.8% |
| 6 | Others | 20.0% | 17.2% | 18.7% | 29.5% | 26.6% | 28.3% |
| | All | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

Source: Household Sample Survey, 2006.

Findings of the sample survey reported in *Table 6* show the importance of the reasons we have discussed above. Our survey could not capture the phenomenon of seasonal migration because the timings of our survey (April – May) coincided with the migration of families. It can be seen from the table that “other” reasons account for a large proportion. One of the reasons included in “other reasons” is the distance of the school. If the school is relatively far-off say, 2 to 5 Kms, the children and the parents are discouraged. The problem is more intense for girls than for boys because parents do not want to take risk of sending their adolescent girls so far to attend schools. While most of the villages have a primary school, for the upper primary classes and secondary schools, children have to travel longer distances. For boys, moreover, grazing the cattle or helping on family farms are some important reasons included in “other reasons”. Moreover, “other reasons” in *Table 6* also includes sickness of other family members.

The average annual reported income of the sample households is Rs.16,169 in Jalore and Rs.15,157 in Chittorgarh. Per capita annual income in our sample is Rs.2,764 in Jalore and Rs.3,253 in Chittorgarh confirming that our sample consists of very poor households⁵. Average annual expenditure on education by households is Rs.474 in Jalore and Rs.179 in Chittorgarh. On per capita basis, it is Rs.81 in Jalore and Rs.38 in Chittorgarh. Thus, on an average the poor households spend on education about 2.9% of their income in Jalore and about 1.2% in Chittorgarh. However, these average values hide the tremendous variations across families. If we take the median expenditures on

⁵ Even in purchasing power parity terms the per capita incomes of our sample households is \$276 p.a. in Jalore and \$325 p.a. in Chittorgarh, which is considerably less than \$1/ day.

education by families, it turns out to be only about Rs.100 in Jalore and Rs.42 in Chittorgarh; and on median basis the proportion of income spent on education works out to only 0.35% in Chittorgarh and 0.8% in Jalore. For the families sending their children to the government schools, average expenditure is about Rs.300 in Jalore and Rs.165 in Chittorgarh. On the other hand, the families sending their children to the private school spend an average of about Rs.1848 in Jalore and Rs.785 in Chittorgarh.

In our sample survey of the poor households, we found that out of the families who send their children to school about 12% in Jalore and 5% in Chittorgarh prefer to put their children in the private schools rather than the public schools. There were about 4% families in Jalore and 1% families in Chittorgarh sending one child to private school and other child or children to public school. Generally in such cases, the boy in the family is sent to a private school. Our discussions with families revealed that people do recognise better facilities, quality and learning environment in the private school compared to the public schools. However, the cost of education in private schools and the incentives offered in the public schools make it economically unaffordable for them to put their children in the private school. If, as the draft Approach Paper of 11th Plan (2006) suggests, an effective choice is given to them at the same cost, they would invariably prefer private schools over the public schools. This raises questions about the incentives given to children and families by the public schools, because they contribute to perpetuating the basic inefficiency.

Our sample survey also shows the extent to which different types of incentives reach the children of the poor section in rural Rajasthan. Out of the children going to public school from the poor families, the benefit of free textbook reaches 103% in Chittorgarh and 98% in Jalore. In Chittorgarh, we found some families registering their children in the public schools to get benefits of various incentives, but sending their children to private schools for studying. We did not find any family reporting the benefits of either stationary or uniforms given to students, but some Chittorgarh families did report receiving cash subsidy (the attendance incentive) from the government, perhaps because such benefits are given only in the tribal belt. About 37% of the children attending public schools in Chittorgarh were given cash subsidy. The mid-day meal benefits were available to 72% children in Chittorgarh and 77% children Jalore out

of all children attending the public school. The benefit of mid-day meal is not available in the upper primary and above classes. Thus, the benefits of free textbooks and mid-day meals do actually reach almost all primary school going children from the poor families in rural Rajasthan.

IV. Findings of Sample Survey of Schools

During April-May, 2006 sample survey of households in Jalore and Chittorgarh districts, we simultaneously conducted a sample survey of 36 schools in Jalore and 40 schools in Chittorgarh. We surveyed the schools in and around the selected villages and talukas / blocks. The types of schools selected and the questionnaire used for the survey are given in *Appendix B*. The purpose of the survey was to get some idea about the quantity and quality of infrastructure, specific problems faced by schools, the cost of furniture, equipments and facilities, the problems of teachers, etc. Although the survey was formally conducted with a questionnaire, we collected considerable information through discussion and observation.

In rural Rajasthan, apart from the regular Government Primary Schools (GPS), there used to be Rajiv Gandhi Primary Schools (RGPS) and Shiksha Karmi Primary Schools (SKPS) which were outside the usual state government machinery. RGPS was the Central initiative and SKPS was the result of a Swedish Government aided project (75% grant component with the remaining 25% from the central government). Now, both these types of schools are under the state government with all financial implications. Although these schools are now a part of the GPS, they are treated separately and hence we have also treated them as a separate entity.

Table 7 summarises physical infrastructure and manpower position of the surveyed schools. There are sharp differences coming to the fore between the public schools and the private schools. While all public schools by and large have their own building, private schools are operated in rented premises. The private schools (except PPS in Jalore) have more number of classrooms than the public schools, although the area of the primary schools is hardly different and the area of the Upper Primary (P+UP) schools is actually less in private schools than the public schools by 600 sq. feet or more.

This happens because private schools in rural Rajasthan do not provide enough toilets and urinals. In fact, some of them do not provide these facilities at all and yet managed the permission to function in the state!

There are no major differences in the furniture and blackboards in these two types of schools. But the major differences are in the quantity and quality of manpower. Number of teachers is significantly more in private schools than the public schools, though the number of trained teachers is less in the private schools than the public schools. Thus, the private schools have not been attracting the trained teachers from the public schools. Rather they prefer using the untrained teachers. This is because they prefer local teachers staying in the same village. As a result, the number of teachers staying in the same village as the school is significantly higher in private school than in public school. Moreover, the student-teacher ratio is considerably lower in the private schools than the public school. It is pertinent for governments at all levels to recognise explicitly that the student-teacher ratio is inversely related to the quality of education. If there is a high preference for the private schools even among the poorest sections of the society, it shows that they clearly understand and appreciate the quality aspects. It is for this reason coupled with the social priority of providing better education to a boy in the family than to a girl, that we find the sex ratio of enrolment so adverse in the private schools as compared to the public schools.

Table 7: Infrastructure and Manpower in Government and Private schools in Jalore and Chittorgarh

| Infrastructure | Government Schools | | | | | | Private Schools | | | |
|---|--------------------|------|-------------|-------------|------|-------------|-----------------|------|-------------|------|
| | Jalore | | | Chittorgarh | | | Jalore | | Chittorgarh | |
| | GPS | GUPS | RGPS & SKPS | GPS | GUPS | RGPS & SKPS | PPS | PUPS | PPS | PUPS |
| Total Number of Schools | 10 | 8 | 6 | 17 | 9 | 7 | 8 | 4 | 4 | 3 |
| No.of Schools with own building | 10 | 8 | 5 | 17 | 9 | 7 | 0 | 0 | 1 | 1 |
| No.of Schools without building | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| No.of Schools with rented building | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 4 | 3 | 2 |
| Avg No. of rooms | 4.4 | 8.6 | 3.4 | 3.5 | 7.9 | 3.0 | 2.3 | 9.0 | 4.5 | 7.0 |
| Avg No. of classrooms | 2.5 | 5.4 | 2.0 | 2.4 | 5.7 | 2.1 | 1.3 | 7.0 | 3.8 | 7.0 |
| Avg area in square feet | 1766 | 3325 | 1179 | 1234 | 3139 | 1047 | 1673 | 2718 | 1343 | 2483 |
| Avg No. of toilets | 1.2 | 1.4 | 0.0 | 1.2 | 1.0 | 0.5 | 0.0 | 0.8 | 0.5 | 1.0 |
| Avg. No.of Urinals | 1.8 | 1.9 | 0.8 | 2.0 | 2.0 | 1.2 | 0.0 | 1.3 | 0.5 | 1.0 |
| No.of Schools without Toilet | 1 | 0 | 4 | 2 | 0 | 4 | 8 | 1 | 2 | 0 |
| Avg. No.of Tables | 2.8 | 7.3 | 2.4 | 2.5 | 5.8 | 1.5 | 1.4 | 2.8 | 1.5 | 5.7 |
| Avg. No.of Chairs | 8.2 | 18.0 | 6.4 | 5.8 | 11.3 | 2.2 | 5.9 | 11.5 | 4.8 | 10.7 |
| Avg. No.of Blackboards | 7.9 | 15.6 | 5.6 | 6.1 | 13.2 | 4.8 | 6.7 | 12.1 | 7.0 | 10.0 |
| Manpower | | | | | | | | | | |
| No. of Teachers (per school) | 2.3 | 5.5 | 1.3 | 2.4 | 6.0 | 1.4 | 3.5 | 9.3 | 4.3 | 8.0 |
| No. of Trained Teachers (per school) | 1.6 | 5.3 | 1.2 | 2.4 | 5.9 | 1.1 | 1.1 | 4.0 | 2.5 | 2.0 |
| No. of Teachers staying in the same village(per school) | 1.5 | 5.5 | 1.0 | 1.0 | 0.8 | 0.7 | 2.0 | 7.3 | 2.5 | 5.0 |
| No. of Admin. Staff (per school) | 1.0 | 1.9 | 0.5 | 1.0 | 1.0 | 1.0 | 0.0 | 0.5 | 1.0 | 1.0 |
| Avg No. of Students Enrolled (M) | 75 | 136 | 38 | 44 | 105 | 24 | 64 | 186 | 64 | 98 |
| Avg No. of Students Enrolled (F) | 60 | 105 | 34 | 35 | 86 | 22 | 21 | 57 | 29 | 61 |
| No. of pupils per teacher | 59 | 44 | 56 | 33 | 32 | 33 | 24 | 26 | 22 | 20 |
| No. of Girls per 100 Boys (girls: boy ratio) | 80 | 77 | 89 | 80 | 82 | 92 | 33 | 31 | 45 | 62 |
| <i>Note: GPS= Govt. Primary Schools; GUPS= Govt. Upper Primary Schools; RGPS=Rajiv Gandhi Primary Schools; and SKPS=Shiksha-Karmi Primary Schools</i> | | | | | | | | | | |
| <i>Source: Our sample survey, April-May 2006.</i> | | | | | | | | | | |

If the cost to the family of sending its children to the private or public schools were the same, the sex ratio among students in the two types of schools would have been almost the same.

We now consider the cost aspects of the infrastructure and administration of the surveyed schools in the two districts. *Table 8* presents the findings. It can be seen from the table that the capital cost of items does not differ substantially across schools or the districts in spite of the geographical differences. The recurring costs however, are substantially different for a private and the public schools. School administration and examination costs are substantially higher in the private schools than the public schools. This is largely on account of the quality of the materials used and the autonomy for day-to-day decisions like maintenance and operations. What is clearly brought out in the table is that difference in the average salary of teachers is substantially higher in the public school than in the private school. A part of the difference is explained by the training or qualifications of the teachers and availability of local employment, but a large part of the difference could be simply the rent earned by the unionised government teachers. The private schools reflect more closely the market rate of wages determined by the relative scarcity of resources.

In Rajasthan, the textbooks used by students in the private and public schools are the same. Therefore, the difference between the two types of schools reflects on the delivery and effectiveness of the service rather than any fundamental difference of syllabus. However, the textbooks prescribed for the primary classes in various subjects need a critical look. We have attempted a very cursory content analysis of the textbooks keeping in view the rural audience. *Appendix C* provides its description and our comments. In general terms, we have found that it is good to introduce English as a subject from the first standard, but that the level of difficulty increasing sharply and suddenly from third standard would be extremely discouraging for both students and teachers in the rural areas. The same is the case with the level of abstraction in Mathematics. On the other hand, principles of Science are comparatively less emphasised in the current textbooks.

Table 8: Capital and Recurrent costs of public and private schools in Jalore and Chittorgarh

| Capital Cost | Government Schools | | | | | | | Private Schools | | | |
|--|--------------------|-------|-------|-------------|-------|-------|-----------|-----------------|-------|-------------|-------|
| | Jalore | | | Chittorgarh | | | | Jalore | | Chittorgarh | |
| | | GPS | GUPS | RGP & SKS | GPS | GUPS | RGP & SKS | PPS | PUPS | PPS | PUPS |
| School Building | Rs.Lacs | 4.43 | 9.94 | 3 | 3 | 10 | 3 | 5 | 8 | 4 | 5 |
| Toilet & Urinals | Rs. | 15000 | 20000 | 6400 | 15000 | 20000 | 9000 | - | 20000 | - | - |
| Black board wooden (1 unit) | Rs. | 247 | 300 | 385 | 370 | 267 | 270 | 282 | 354 | 270 | 500 |
| Table (1 unit) | Rs. | 700 | 728 | 560 | 750 | 680 | 450 | 1375 | 1519 | 650 | 583 |
| Chair (1 unit) | Rs. | 250 | 278 | 250 | 292 | 327 | 300 | 271 | 250 | 205 | 348 |
| Mid-day Meals (Utensils) | Rs. | 2000 | 2000 | 1100 | 1800 | 2000 | 750 | - | - | - | - |
| | | | | | | | | | | | |
| Recurrent Cost | | | | | | | | | | | |
| Building Maintenance (Per Year) | Rs. | 5000 | 5000 | - | 5000 | 5000 | - | 6057 | 8600 | 8870 | 12600 |
| Black Board | Rs. | 35 | 50 | 20 | 41 | 32 | 30 | 25 | 64 | 25 | 30 |
| School Administration cost | Rs. | 3000 | 7833 | 1200 | 1600 | 6200 | 1160 | 4263 | 9125 | 3000 | 7500 |
| Examination cost (per pupil) | Rs. | 6.32 | 8.17 | 5.88 | 6.15 | 8.8 | 5.81 | 8.28 | 8.37 | 9.47 | 12.58 |
| Mid-day Meals (per student per day) | Rs. | 3 | 3 | 3 | 3 | 3 | 3 | - | - | - | - |
| Monthly Salary per teacher | Rs. | 6878 | 9559 | 4878 | 9671 | 10274 | 3390 | 1850 | 2360 | 1088 | 862 |
| <i>Note: The Recurrent cost of building in case of private schools refers to the rent paid as most of the private schools are working in rented space.</i> | | | | | | | | | | | |
| <i>Source: Same as Table 7.</i> | | | | | | | | | | | |

The thrust of primary education in Rajasthan seems to be on language skills, History and Geography rather than logic, creativity and Science.

We now turn to some qualitative findings and specific relevant observations from our survey of schools in the two districts.

- *Sarva Shiksha Abhiyan* (SSA – Universal Education Campaign) provides annually Rs.5000 to a school for building repairs, Rs.2000 for school facility grant and Rs.700 for SMDC (School Development and Management Committee) meetings. Plus, it provides Rs.500 per teacher for teaching and learning materials. The amount is given to every school irrespective of its needs, and its size. Such indiscriminate uniform grants often do not serve the cause and get wasted.
- SSA also provides grants for upgradation of a government primary school to an Upper primary school for furniture and additional classrooms (Rs.50,000).
- There are set norms for charging fees from students belonging to different standards and different social strata (e.g. SC/ST/OBC⁶, boys and girls). However, in practice in several cases, these norms are not followed. Girls' education in the public schools is free upto 8th standard and boys' education upto 3rd standard. In the 4th and 5th standards, the fee is Rs.120 p.a. The special category students like SC/ST and OBC get 50% concession if they show their caste certificate. We came across several OBC students who paid full fees because it was more costly to produce the proper caste certificate! SC/ST families usually have the caste certificate because of several benefits given to them require such a certificate. But OBC families do not often have such certificates because they hardly qualify for other benefits.
- In some RGPS schools they were not collecting any fees from students so far because of the poverty of the people around. In some other schools, they were collecting Rs.20 per child for the school development fund. Similarly, scouting fee, examination fee, etc. also get charged from students depending on the discretion of school authorities. This happens because all public schools in Rajasthan are now managed by SMDC usually headed by the principal of the school and represented by ward representatives and parents. If they decide not to

⁶ SC = Scheduled Caste; ST = Scheduled Tribe; and OBC = Other Backward Castes.

- charge a fee, it will not be charged. However, the examination fees are charged by the government and it is charged even for girls when the education of girls is made free.
- Most of the schools have some facility for providing drinking water by a hand-pump or a tank. In both the districts, hand-pumps are not operative between January to July every year. Under such circumstances, drinking water needs to be fetched from 1 to 2 kms. This is an extra work for the school-administration. In Jalore and some parts of Chittorgarh, the government has constructed water tanks to store water. However, it remains unutilised in most of the schools. Where it is used, it is extremely dangerous because the water stored in tanks does not get treated for months. It could be one of the reasons for high morbidity rates in Jalore and Chittorgarh and consequent absenteeism and drop out of students.
 - In most of the public schools, urinals for boys and girls were separate, but toilets were common. Very often, therefore, the urinals would be very dirty and unusable because they would be used as toilets!
 - Physical location of some schools we visited raised questions about rationality of the decision. One school was situated on the Pratapgarh – Banswara road and is about 1.5 to 2 kms. away from the village, it was supposed to serve. On the way to the village, there were rivers / rivulets. The chosen location was perhaps very convenient to the school inspectors or teachers who do not stay in the village, but was extremely inconvenient to the students from the village. Our survey findings do show that distance of the schools is an important distracting factor particularly for the girls and their parents.
 - Government provides free note-books to the primary and upper-primary students, but does not provide uniform or stationary. Several students in the school did not have textbooks. This is certainly a matter of affordability for the weaker sections. It will definitely adversely affect the quality of their learning.
 - Cash subsidy (or scholarship) is generally given to the SC/ST students in 6th to 8th standards only. These scholarships are also not available on time and often get delayed beyond limit.

- Although there are regular examinations every six months, nobody fails in the primary schools in Rajasthan. This is as per the government order. However, if a student is not present for 50% of the school days, he/she can be prevented from appearing in the examination and thereby compelled to repeat the standard. Here again, in standard one, there is no deadline for admission and the 50% of the presence applies to the remaining school days after his/her admission.
- For standard 1 and 2, the examination is internal, and for stands 3 onwards, it is centralised government examination. Administration of such examinations would involve huge human and material cost.
- Most of the primary and upper primary schools do not have enough equipment and space for play and exercise. Similarly, proper library facilities are also absent. At most, some schools keep 200 to 400 books in a box.
- Newly appointed teachers or those who are transferred generally do not get any salary for 3 to 4 months. Such administrative inefficiencies can cause many problems for the teachers, students and the whole educational system.
- Inspections of schools by the District Education Department should be done on a fairly regular basis. However, in some cases, the last inspection was done during 1998!
- Poor road connectivity, bad quality of roads connecting smaller villages with larger villages or towns, and poor transport facilities are major deterrents for children of smaller villages to study further.
- The salary difference between a so-called “trained or qualified” teacher and “untrained” teacher is amazingly high in the government schools. While untrained teachers are paid Rs.400 fixed p.m., a trained teacher gets Rs.7,300 fixed p.m. The difference in formal qualifications is that a trained or qualified teacher would have passed RPSC (Rajasthan Public Service Commission) examination for which a candidate must have either STC (School Teacher Certificate) or B. Ed. degree. Of late, a third category of teachers called “Para-Teachers” is introduced. They get a fixed monthly salary of Rs.2,800, Rs.3,000 or Rs.3,200 depending on the type of schools. Several of them are highly qualified with M.Ed. degrees. This helps to explain the difference in the teacher’s

- salaries in public and private schools in Rajasthan. Such a system can destabilise private schools and provide breeding ground for corruption.
- We have found a new type of reservation in Rajasthan for widows in the teachers' jobs. In order to fulfil their quota, educational qualifications are often put aside. It would also encourage social-regressivity by encouraging a widow to remain widow for ever.
 - Mid-day meal scheme operates in public schools for students in standard 1 to 5, and is generally managed by the respective school. One of the teachers is in-charge of the mid-day meal in the school. Wheat, rice, utensils, etc., for the mid-day meals are kept in one of the rooms in the school. Where the schools are unsafe, this material is kept in the house of an influential person in the village. Usually, a lady from the village is employed on *ad hoc* basis to prepare the meal and clean the utensils @ Rs.100 to 800 p.m. depending on the number of students. When an area (*Taluk/block*) is declared drought-hit by the government, the mid-day meal is operated round the year even during holidays/vacation. Thus, "Mid-Day Meal" is not only an education oriented programme, but a general welfare programme without being adequately targeted. It is for such reasons that families are encouraged to register their children in the public school, though they attend a private school for education!
 - Upto last year, after the annual examination in April, the schools would be closed on vacation upto June, and the new term would begin in July. If some students for one or the other reason could not appear for the annual examination in April, they were given another chance on reopening of the schools in early July. This year onwards, the system has changed. The schools continued working after the annual examination with the new term beginning immediately. Hence the re-examinations were kept during the first half of May. This is an extremely unthoughtful measure from the viewpoint of the seasonally migrant families who migrate out during March to June every year. In a situation such as this, students are forced to repeat the year and hence would loose interest in studies. There is a need to be sensitive to their problems by making some definite arrangements like providing free hostels with meals and water or giving some specific concessions.

- We have covered one BSS or Girls' Education Camp (*Balika Shikshan Shibir*) in Jalore district. These camps are meant for the illiterate or dropped-out girls belonging to the age-group 6-14. Such camps are for 6 months. Girls from all neighbouring villages can attend such camps. The girls stay with lady teachers in the camp. There were no "qualified" teachers in the camp we had visited. The SSA provides funding for such camps including salary (@ Rs.2,000 p.m. per teacher), 3 meals, one pair of clothes, school bags, medicine and medical attention, etc., to all participants. In addition, all teaching aids and material as well as training and guidance to teachers are provided by SSA. This is a major initiative to improve female literacy and educational levels.
- Finally, we would like to point out the non-teaching work expected to be carried out on priority basis by teachers working in the public schools. The list of such activities carried out by teachers on regular basis is given along with their frequency in *Table 9*. It can be seen that public primary school teachers in rural areas are involved in so many activities other than teaching the students. This happens largely because teachers are the most qualified individuals available in smaller villages to do such government activities. It also shows the government's mentality of not outsourcing such activities and thereby hoping to save some financial resources. However, what is sacrificed in the process is the quality and reliability of the activities themselves, because these activities are thrust on the school teachers. Even the financial resources are not saved ultimately because the teachers demand compensation for extra work directly and indirectly through higher salaries. There is a need to reform this aspect urgently to improve quality of these activities and teaching.

It may be noted here that as per the DPEP, MIS, survey of schools in Rajasthan, the average number of instructional days in a year is 186 and the average number of days spent on non-teaching assignment per school teacher in a year is only 4.2. While these numbers may not accurately reflect the ground realities in a smaller village because they are averaged out over small and big villages and towns, the situation is not so grave as

made out by teachers. The reforms are, however, needed to assign all such non-teaching jobs to other agencies in the interest of the quality of both the work and teaching.

| <i>Table 9: Non-Teaching Activities Required to be Done by School Teachers in Rural Rajasthan</i> | | <i>Primary</i> |
|---|---|---|
| Sr. No. | Work | Frequency |
| <i>A</i> | <i>Election Related Work</i> | |
| 1 | Preparation of voter list* | Once in 5 years |
| 2 | Collection & certification of voter list | Once in a year |
| 3 | Identity card preparation for voters | Once in a year for new voters |
| 4 | Distribution of voter identity cards. | Once in lifetime |
| 5 | Election work/duty | Thrice in 5 years |
| <i>B</i> | <i>Survey/Demography Related Work</i> | |
| 6 | Population census/counting* | Once in 10 years |
| 7 | Economic survey/counting | Once in 5 years |
| 8 | Animal survey/counting | Once in 5 years |
| 9 | Toilet survey/counting | Part of population census – once in 10 years. |
| <i>C</i> | <i>Medical & Health Related Work</i> | |
| 10 | Pulse polio immunization* | Thrice in a year. |
| 11 | Presence in family planning camp | Once in 2-4 years |
| <i>D</i> | <i>Other Work</i> | |
| 12 | Preparation & distribution of ration cards for BPL, Antyodaya, etc. | Once in lifetime. |
| 13 | Small saving scheme with target | Regular but incentivized |
| 14 | Presence in Panchayat meetings* | Once in 1-2 months. |
| 15 | Organise Public Awareness Campaign* | Once in 6 months. |
| 16 | Plantation work* | Once in a year. |
| 17 | Supervise civil construction under SSA* | Once in 5-10 years. |
| 18 | Birth-death certification. | As and when needed. |
| 19 | Drought-Relief work. | When drought occurs. |
| * These activities are indirectly related to Primary education sector | | |
| Source: Based on information supplied by Jalore Collectorate. | | |

V. Estimating Required Scaling-up Efforts

Literacy and primary education in Rajasthan has to be made universal. The most important goal is to increase the net enrolment rate in the age-group 6-11 years in rural areas to full 100% in Rajasthan. The Census of India, 2001 provides population of states by rural-urban residence and five year age-groups. By making appropriate adjustments and assuming annual growth rate of 1.8% we get 7,774,553 children in the age-group 6-

11 years in rural Rajasthan in the (mid-) year 2003-04; and 8,349,617 in the (mid-) year 2007-08.

As a second step, we consider the crucial 4 parameters (ratios), *viz.* enrolment per classroom (E/CR); classrooms per school (CR/S); teachers per classroom (T/CR); and enrolment per teacher (E/T). For physical quantity and quality of primary education, these four parameters are very important. Their existing and desirable average values in rural Rajasthan are presented in *Table 10*.

| Values | Enrol./CR | CR/School | Teachers/CR | Enrol./Teacher |
|------------------|------------------|------------------|--------------------|-----------------------|
| Existing Values | 34.08 | 3.2 | 1.11 | 31 |
| Desirable Values | 36.00 | 3.3 | 1.67 | 22 |

Source: Tables 1, 3, and 4 above; and our discussions and Survey, 2006

The problems of primary education in rural Rajasthan are of low density of population with less developed road network and connectivity. There is a need to build additional classrooms in some schools selectively and increase the number of teachers to ensure better attention and improve the learning environment. We have considered all these aspects while fixing the targets for the parameter values. *Table 11* provides and estimates of the gap between the required and existing levels of services in primary education in rural Rajasthan. This is done in two steps: (1) Estimating the gap in 2003-04 with existing values of parameters, and (2) Estimating the gap in 2007-08 with desired (target) values of parameters.

| Sr. No. | Year | Schools | Enrolment | Teachers | Classrooms |
|----------------|--|----------------|------------------|-----------------|-------------------|
| 1 | 2003-04 (Existing Situation) | 66,359 | 7,253,416 | 236,774 | 212,835 |
| 2 | 2003-04 (Required with Existing Parameter) | 71,067 | 7,774,553 | 253,221 | 228,127 |
| 3 | 2003-04 (Gap=2-1) | 4,708 | 521,137 | 16,447 | 15,292 |
| 4 | 2007-08 (Required with Desired Parameter) | 68,216 | 8,349,617 | 386,557 | 231,934 |
| 5 | 2007-08 (Gap= 4-1) | 1,857 | 1,096,201 | 149,783 | 19,099 |

Source: Tables 1, 3, 4 and 10 above.

Major thrust of envisaged action on improving the physical learning environment in primary school as seen from *Table 11* is to increase marginally enrolment per classroom and classrooms per school, but reduce the pupil-teacher ratio substantially and increase teachers per classroom in the rural areas. A school must have at least 3 classrooms and 5 teachers to run standards 1 to 5. In such schools, there can be two shifts – standard 1 to 3 in the afternoon and standard 4 and 5 in the morning. This would substantially improve the learning environment and also the quality of education imparted.

We now estimate the financial resources required to scale up primary education services in rural Rajasthan. We have considered only one regular teacher per new school proposed. The rest of the shortfall of teachers should be met with para-teachers. We also take note of the major repairs, minor repairs and toilets needed in the existing schools in the state and provide for the same. A helper per school is also provided for cooking, cleaning, gardening, etc. *Table 12* provides the norms for various costs items and our estimates of the required cost.

| Table 12: Additional Expenditure Requirement for Scaling-up Rural Primary Education in Rajasthan | | | | | |
|---|--|--|---------------------------|-------------------------------|----------------------------|
| Sr. No. | Item | Remarks /Details | Unit Cost (Rs.000) | No. of Unites Required | Cost in Rs. Million |
| 1 | Classrooms | Average unit cost including extension. | 96 | 19,099 | 1,833.5 |
| 2 | New schools + toilets + furniture - classrooms | Furniture – Rs.14,000* Toilets – Rs.30,000* Existing school w/o building | 106 | 1,857 +7,091 | 196.8 751.6 |
| 3 | Major repairs | Per classroom | 20 | 20,000 | 400.1 |
| 4 | Minor repairs | Per classroom | 10 | 45,632 | 456.3 |
| 5 | Toilets | 1 unit = 1 boys' + 1 girls' | 30 | 37,725 | 1,131.8 |
| | Total Capital Cost | - | - | - | 4,770.1 |
| 6 | Maintenance | Utilities + colour + garden | 15 | 68,216 | 1,023.2 |
| 7 | Regular Teacher | New Regular teachers @Rs.7,300 p.m. | 90 | 1,857 | 167.1 |
| 8 | Para-Teachers | @ Rs.2,000 p.m. | 24 | 147,926 | 3,550.2 |
| 9 | Teaching contingency | To each teacher | 0.5 | 149,783 | 74.9 |
| 10 | Training Stipend - Regular Teachers | For Regular Teachers @ Rs.70 for 20 days / year. | 1.4 | 1,857 | 2.6 |
| | - Para Teachers | @ Rs.70 for 30 days / year. | 2.1 | 147,926 | 310.6 |
| 11 | Helper | Cleaning, gardening, cooking and general. | 6 | 68,216 | 409.3 |
| 12 | Textbook + stationary | To all students | 0.1 | 1,096,201 | 109.6 |
| 13 | Scholarship | To all BPL and SC+ST+OBC students | 0.3 | 438,480 | 131.5 |
| | Total Recurring Cost | - | - | - | 5,779.0 |
| | Total Cost | - | - | - | 10,549.1 |
| | Per Capita basis | 64,269,484 is estimated population of Rajasthan for (October) 2007-08 (Per capita cost in Rs.) | - | - | 74 |
| | - Capital Cost | | - | - | 90 |
| | - Recurring Cost | | - | - | 164 |
| | - Total Cost | | - | - | 164 |
| | Total Cost | - | - | - | 164 |
| <i>Note : * Furniture unit for a school includes 3 tables + 6 chairs + 3 cupboards + 3 wooden blackboard + 4 hanging blackboard; and toilet unit includes 1 toilet each for boys and girls.</i> | | | | | |
| <i>Source: Tables 1, 2, 3, 4, 7, 8 and 11 and our Survey, 2006.</i> | | | | | |

Table 12 shows that the total additional requirement of financial resources is Rs.10.5 billion in Rajasthan to scale up the rural primary education services. On per capita basis, it works out to Rs.164 which is almost the same as in the case of Uttar Pradesh (Bajpai, Dholakia, Sachs, 2005). The federal government has already stepped up resource allocation to this sector through special programmes like DPEP and SSA in the recent past. Flexibility in the form of employing para-teachers, providing them increased

teacher training, building additional classroom as extension, etc. have significantly reduced additional resource requirements to meet the targets about the selected parameters (*Table 10*). Moreover, the 12th Finance Commission has provided Rs.1 billion of additional resources for this purpose (see, *TFC, 2004, p.180*). Thus the state has to allocate additional resources of Rs.9.5 billion to primary education sector. To this amount, we may also add the cost of organising Girls' Education Camps (BSS) and Boys' Education Camps (BSS) in the state regularly for the next 5 years to provide basic education to the school dropouts. This is needed to take care of the special problems of migrant population, high rate of school dropouts, and non-viability of schools in small habitations in remote locations. Considering a norm of Rs.0.6 million for one camp of 90 children + 5 (para) teachers for 6 months, 100 such camps for girls and 100 camps for boys additionally would cost about Rs120 million, which may be added to our estimate of total cost.

Rajasthan has been allocating a substantially higher amount to education sector than the other BIMARU states⁷. In 2003-04, Rajasthan allocated around Rs.600 per capita compared to only around Rs.350 in UP and MP while the country as a whole (centre + states) spent around Rs.780. However, in the last two years Rajasthan has increased allocation to the education sector by almost 33% on per capita basis making it Rs.817 in 2005-06 (BE). During the same period, the national public expenditure on education increased to around Rs.800. Thus, during the last two years, Rajasthan became a state spending above average amount on education from the one spending only 70% of the national average. If the tempo achieved during the last two years in Rajasthan continues for the next couple of years, an increase of Rs.164 in the spending on education can be easily achieved to fulfil the targets. Rajasthan can also consider a more flexible and alternative strategy to induce the private sector to share several of the basic infrastructural facilities for the sector. This can reduce the pressure on the scarce public resources competing for several pressing needs in the state.

⁷ BIMARU states are poor performers on socioeconomic front. They are **B**ihar, **M**adhya Pradesh, **R**ajasthan and **U**ttar Pradesh making the acronym.

VI. Recommendations

As we have discussed in the paper, rural Rajasthan does not have severe shortfall in terms of physical facilities and access of population. Being geographically the largest state with large areas under desert, there are some problems of unviable small habitations in remote locations which cannot be provided with several infrastructural facilities including a primary school. The problem is more in terms of improving the quality of services in public schools. The basic physical infrastructural facilities like water, electricity, classrooms, toilets, etc. are very important determinants of the learning environment. All such facilities need to be adequately and urgently provided. This requires a multi-departmental or “integrated” approach. If coordination among education, health, power, construction (PWD), roads, transport departments, is not possible at a higher level, education department will have to take responsibility of all these activities and provide a comprehensive solution.

There is a technical problem in budget making at the state level. It is very well-known that most of the revenue expenditure on education consists of teachers’ salaries. However, this is considered a non-plan expenditure item in the state budget. In the overall environment of severe resource crunch and constant pressure under Fiscal Responsibility and Budget Management (FRBM) concerns even at the state level, the non-plan expenditures are always the easy targets for the cuts. That is how, sanctioned posts of teachers in primary and secondary schools are allowed to remain unfilled for years leading to the serious scarcity of teachers in the public schools. Currently, these vacancies are filled on *ad hoc* temporary basis by para-teachers who are paid almost one-fourth or less of the salary of a regular teacher. While this is a reasonable solution to save public resources in the short run, it may not work in the long run unless a new scale/cadre of para-teachers is formally established in the government. Another “solution” is to treat teacher salaries as a plan expenditure item.

Another powerful solution to the problem of resources is to encourage private participation in building and running schools. As the draft Approach Paper of XI Plan (2006) suggests, the weaker sections of the society can be given coupons and thereby a choice of choosing the school for their kids. This can take off a lot of financial burden from the government. We have seen that in the private sector schools, the number of teachers per school, classrooms per school, students per teacher, and students per classrooms are far better than the public schools. The government needs to take a policy stance to positively encourage private schools to expand their scale and area of operation by providing appropriate incentives, establish inspection norms, admission criteria and procedures, etc. The idea is for the government not to withdraw but provide competent and qualitative benchmarks for the private schools through their illustrative presence in different areas. The expansion of employment of teachers and helpers as visualised in *Table 11* and *12* can largely take place in the private sector if proper policies are followed to allow some of the public primary schools to be taken over by the private management.

Accountability of teachers should be accorded high priority. The assessment of a teacher must be made on the basis of his performance in class especially with reference to enrollment, retention, percentage of children passed, percentage of children in the higher

ranks, development of learning skills and the like. Similarly, it is also necessary to ensure that administrative staff exercises proper control and supervision over the teachers by inspections and other improvement mechanisms.

Since the coverage of primary schools is now reasonably good, especially with the help of SSA, with a primary school in almost every square kilometre, the focus should now be on improving the quality of education. The key requirement for this is training of teachers for skill upgradation and for developing higher levels of motivation. This, in turn, requires well qualified master trainers with security of tenure and even remuneration so that the quality of training is of a high order. There must be periodic training of all teachers and they must be new trends in educational theory, pedagogical practices and classroom transaction methods. To improve the quality of regular teachers, annual grant for 20 days training is provided. For para-teachers, annually 30 days of training is recommended. The District Institutes of Educational Training (DIET) need to be upgraded and mechanisms introduced for evolving training modules that can help large number of teachers.

The education of the girl child is a crucial area in Rajasthan. Rajasthan has been known to have very adverse figures of girl child enrollment and retention. The government needs to pay much greater attention to girl child education in the State. Suitable strategies will have to be evolved to attract the girl children to schools and to ensure that they complete senior secondary level. Special programs, including stipend or scholarships can be considered in this regard.

Special separate educational camps for boys and girls in the age-group 6-14 years can be organised to address the problem of illiterate and school dropouts. These camps can be for 6 months on the lines of BSS under SSA. This will solve the problems of children from remote locations and migrant families because all expenses of children including health, medicine, textbooks, stationary, clothing and food are taken care of in these camps.

With immediate effect, there is a need to address the problem of migrant family children missing the annual examination and not getting a chance to appear in the re-test because of the change of academic calendar this year. Otherwise, this will result in wastage and dropouts by such children from schools.

There is an urgent need to streamline the administration for providing caste certificates to all SC/ST and OBC families. If the government thinks that these families need concessions and subsidies/ incentives, they must first be properly identified and certified so that they do not have to incur disproportionate resources to obtain such certification. Otherwise, the scheme becomes wasteful, discriminating and unjust for the real target group.

For public schools, the teachers must stay in the respective village itself and not in the radius of a 5 or 10 kms. This is because once a distance of 5 or 10 kms is allowed, it becomes almost impossible to monitor whether it is 5 kms. or 50 kms. in practice.

The non-teaching activities expected from a school teacher can be reduced considerably and effectively outsourced to increase employment in the rural areas.

While the mid-day meal scheme seems to be working well in the state, however, Financial allocation needs to be raised for the mid day meal program. The government of Rajasthan spends only 50 paisa per day, per child on recurring costs of mid-day meals, compared with more than one rupee per child, per day in Karnataka. Additionally, there is a need for introducing more varied and nutritious lunch since children are fed 'Ghoogri' most of the time. There is also potential for linking mid-day meals with related inputs such as micronutrient supplementation, health services and nutrition education.

Every primary public school should maintain a small garden/ compound and should have a helper to take care of cleaning, cooking, gardening, etc.

Primary schools with 3 classrooms and 5 teachers should run in two shifts to ensure availability of separate classroom for every standard.

Textbooks need to be modified and contents of syllabus made more oriented to the rural children. English getting introduced from Standard I is good, but the contents become more difficult suddenly from Standard III for the students and teachers in rural areas. Similarly, the level of abstraction increases sharply from Standard III in Mathematics. We find that the principles of Science are comparatively less emphasized and more emphasis seems to be on language skills, History and Geography.

Notebooks and pencil/pen should also be provided free to children besides textbooks. These subsidies may be targeted to SC/ST/OBC/BPL family children only and not be made available indiscriminately.

Private schools need to be properly supervised and inspected regularly for the quality of their education services and physical infrastructure.

Grants for repairs/maintenance and facilities to schools should be determined by the size of the school and needs of the schools.

Government administration needs to be sensitive to teachers' conditions and be efficient in disbursing salaries to them when transferred.

References

Bajpai, Nirupam, Ravindra Dholakia and Jeffrey D. Sachs. (2005). 'Scaling up Primary Education Services in Rural India: Case Studies of Uttar Pradesh and Madhya Pradesh', *Center on Globalization and Sustainable Development*, Working Paper No. 28, Columbia University, New York.

Government of India, Planning Commission (2006): *Towards Faster and More Inclusive Growth – An Approach to the 11th Five Year Plan*, Govt. of India, June 14. (Referred to as "Approach Paper to 11th Plan").

Government of India (2005) Report of the Twelfth Finance Commission.

Government of India, Ministry of Finance (Sept. 2005): *Indian Public Finance Statistics, 2004-05*, Govt. of India.

Reserve Bank of India (Feb. 2006): *State Finances – A Study of Budgets of 2005-06*.

APPENDIX A

Methodology of Sample Survey of Households in Rajasthan

The basic objective of the present study was to assess the prevailing conditions of primary education and health facilities in terms of quantity and quality in the rural areas of Rajasthan. The adequacy of these services had to be considered from the perspectives of the access of vulnerable sections of the society. A sample survey of households was conducted to get this perspective.

Rajasthan is geographically the largest state in the country because desert covers almost one-third of its area. Parts of the state also fall under the tribal belt in the country. These two specific features needed special attention for provision of basic services like primary education and health, particularly in the rural areas. It was, therefore, decided to survey some households in the two districts – Jalore, a desert area; and Chittorgarh, a tribal area. In order to select a sample of households for a detailed survey to reflect conditions of the vulnerable sections in the rural areas of the district, it was necessary to select poorer households from different parts of the district. We, therefore, selected five *Tehseels / Talukas* (or blocks) in each of the two districts, and then, selected one medium sized village from each of those *Tehseels* for survey. Since *Tehseel* is a second level of the administrative unit having about 75 to 200 villages, selecting 5 *Tehseels* in a district would capture geographical diversity in the district.

Selection of villages depend on several criteria, viz., literacy rate, female literacy rate, percentage of scheduled cast / tribe population, worker population ratio, sex-ratio, average size of households, and absolute number of households. The main consideration was that the selected village should reflect the conditions of rural areas of the *Tehseel* as closely as possible on all these counts. All the same, the selected village should not be too large or too small. We could consider all these aspects while selecting the villages because *Census of India, 2001* readily provided data on all these aspects by villages. *Table A-1* provides data on all these variables for the list of selected *Tehseels* and villages in the two districts for the year 2001. It can be seen from the table that the aggregate of the

Table A-1: Characteristics of Selected Villages and Tehseels in Chittorgarh and Jalore Districts, 2001.

| Level | Name | No. of HH | Total Population | Total Population - Males | Total Population - Females | ST Population | SC Population | Literate Population | No. of Literate Females | Working Population | Average Members/ HH | % Literate Population | % Literate Female | % ST Population | % SC Population | WPR | Sex Ratio | SC +ST % |
|--------------------|-------------------------------|--------------|------------------|--------------------------|----------------------------|---------------|---------------|---------------------|-------------------------|--------------------|---------------------|-----------------------|-------------------|------------------|------------------|------------------|------------------|------------------|
| Chittorgarh | | | | | | | | | | | | | | | | | | |
| Rural Districts | Chittorgarh | 300125 | 1514255 | 767555 | 746700 | 377641 | 213085 | 609259 | 185075 | 835750 | 5.0454 | 0.4023 | 0.2479 | 0.2494 | 0.1407 | 0.5519 | 0.9728 | 0.3901 |
| Tehseel Village | Rashmi Jagpura | 15230 145 | 75326 662 | 37282 334 | 38044 328 | 4411 32 | 15859 181 | 27730 273 | 7998 81 | 43018 395 | 4.9459 4.5655 | 0.3681 0.4124 | 0.2102 0.0247 | 0.0586 0.0483 | 0.2105 0.2734 | 0.5711 0.5967 | 1.0204 0.0982 | 0.2691 0.3218 |
| Tehseel Village | Rawatbhata Gujarori Ki Morvan | 16505 127 | 82701 532 | 43420 292 | 39281 240 | 29391 200 | 8959 27 | 30530 108 | 8707 26 | 42554 330 | 5.0107 4.0189 | 0.3692 0.0203 | 0.2217 0.1083 | 0.3554 0.3759 | 0.1083 0.0508 | 0.5146 0.6203 | 0.9047 0.8219 | 0.4637 0.4267 |
| Tehseel Village | Dungla Jal Kheri | 18711 114 | 89975 493 | 44919 255 | 45056 238 | 12213 64 | 13801 90 | 35913 226 | 10836 78 | 51501 303 | 4.8087 4.3246 | 0.3991 0.4584 | 0.2405 0.3277 | 0.1357 0.1298 | 0.1534 0.1826 | 0.5724 0.6146 | 1.0003 0.9333 | 0.2891 0.3124 |
| Tehseel Village | Pratapgarh Ratniya Kheri | 37466 120 | 201229 563 | 102788 287 | 98441 276 | 113195 370 | 15363 00 | 84277 276 | 27808 84 | 113145 346 | 5.0371 4.6917 | 0.4188 0.4902 | 0.2825 0.3043 | 0.5625 0.6572 | 0.0763 00 | 0.5623 0.6146 | 0.9577 0.9617 | 0.6389 0.6572 |
| Tehseel Village | Arnod Karadia | 22074 76 | 119837 363 | 60826 181 | 59011 182 | 80577 354 | 6006 9 | 44092 103 | 13776 20 | 65647 206 | 5.4289 4.7763 | 0.3679 0.2837 | 0.2334 0.1099 | 0.6724 0.9752 | 0.0501 0.0248 | 0.5478 0.5675 | 0.9702 1.0055 | 0.7225 1 |
| Total | Sample VI | 582 | 2613 | 1349 | 1264 | 1020 | 307 | 986 | 289 | 1580 | 4.4897 | 0.3773 | 0.2286 | 0.3904 | 0.1175 | 0.6047 | 0.937 | 0.5078 |
| Jalore | | | | | | | | | | | | | | | | | | |
| Rural Districts | Jalore | 219457 | 1338946 | 679637 | 659309 | 240252 | 121310 | 469691 | 136120 | 692597 | 6.1012 | 0.3508 | 0.2065 | 0.0906 | 0.1794 | 0.5173 | 0.9701 | 0.27 |
| Tehseel Village | Ahore Tormi | 38808 72 | 207961 401 | 102790 212 | 105171 189 | 40031 71 | 24009 56 | 86345 170 | 30382 68 | 91161 189 | 5.3587 5.5694 | 0.4152 0.4239 | 0.2889 0.3598 | 0.1154 0.1397 | 0.1925 0.1771 | 0.4384 0.4713 | 1.0232 0.8915 | 0.3079 0.3167 |
| Tehseel Village | Jalor Kuaber | 29932 120 | 174551 717 | 87879 356 | 86672 361 | 36818 93 | 18897 120 | 59306 91 | 16942 19 | 66877 280 | 5.8316 5.975 | 0.3398 0.1269 | 0.1955 0.0526 | 0.1083 0.1674 | 0.2109 0.1297 | 0.3831 0.3905 | 0.9863 1.014 | 0.3192 0.2971 |
| Tehseel Village | Bhinmal Bheempur | 30917 230 | 182266 1375 | 91159 968 | 91107 677 | 30233 269 | 18947 208 | 57438 381 | 14963 70 | 76255 502 | 5.8953 5.9783 | 0.3151 0.2771 | 0.1642 0.1034 | 0.0104 0.1513 | 0.1659 0.1956 | 0.4184 0.3651 | 0.9994 0.9699 | 0.2698 0.3469 |
| Tehseel Village | Bagora Jogao | 20206 149 | 130895 1043 | 66774 519 | 64121 524 | 13828 4 | 13201 77 | 40744 431 | 10447 130 | 68382 561 | 6.0478 7 | 0.3113 0.4132 | 0.1629 0.2481 | 0.1009 0.0738 | 0.1056 0.0038 | 0.5224 0.5379 | 0.9603 1.0096 | 0.2065 0.0777 |
| Tehseel Village | Sanchore Chandpur | 52070 97 | 342120 593 | 176546 316 | 165574 277 | 61350 141 | 15330 40 | 121168 221 | 33477 65 | 239113 326 | 6.5704 6.1134 | 0.3542 0.3727 | 0.2022 0.2347 | 0.0448 0.0675 | 0.1793 0.2378 | 0.6989 0.5497 | 0.9379 0.8766 | 0.2241 0.3052 |
| Total | Sample V | 668 | 4129 | 2101 | 2028 | 578 | 501 | 1294 | 352 | 1858 | 6.1811 | 0.3134 | 0.1736 | 0.1213 | 0.14 | 0.45 | 0.9653 | 0.2613 |

Source: Census of India, 2001 (Rajasthan State)

5 selected villages from each district compares very well with the rural district in terms of all these characteristics.

At the second stage, we had to select households from the weaker section in each village for the survey. It is important, therefore, to identify households belonging to the vulnerable section. Fortunately, government of Rajasthan conducted a detailed census of all households in the rural areas to identify economically weaker section. It was called the BPL survey and was conducted in 2002-03 by respective school teachers at village level. The survey collected information on land and other asset holding, physical living conditions, broad consumption items, literacy, source of livelihood, condition of children, etc. Based on the survey data, points were awarded to each household. The scheme of awarding points to households on the basis of possible responses to the 13 different questions in their survey is presented in *Table A-2*.

Till the time we decided to go on the field to conduct our sample survey of households, the government of Rajasthan had not decided about the aggregate cut-off points for identifying the BPL families. We had, therefore, decided to derive the aggregate cut-off points by considering question-wise points for the purpose as follows: Q.1 – 2 pts.; Q.2 – 2pts.; Q.3 – 1pt.; Q.4 – 3pts.; Q.5 – 1pt.; Q.6 – 0pt.; Q.7 – 1pt.; Q.8 – 1pt.; Q.9 – 2pts.; Q.10 – 0pt.; Q.11 – 1pt.; Q.12 – 0pt.; and Q.13 – 0pt. Summation of all these question-wise points is 14. Any household scoring 14 points or less would be weakest on almost all fronts. We have to provide for households not being the weakest on all fronts, but still are considered in the weaker section when the aggregate picture is considered. Hence we added 5 points to the minimum of 14 points and took 19 points as the cut-off for identifying the weaker section.

Given the objective of our sample survey, we chose a purposive sample only from the weaker section of the rural society in the two districts in Rajasthan. It was decided to survey about 250 households from each district⁸. In Jalore

⁸ The ideal sample size is given by $S = (z^2 \cdot p \cdot q / \alpha^2)$ where z and α are respectively the standard normal variate at the required confidence level and the significance level; and p and q are probabilities of required variate. Considering $z = 1.96$, $\alpha = 0.05$, $p = 0.8$ and $q = 0.2$, sample size (S) works out to be 246.

Table A-2: Scheme of Awarding Points on Possible Responses in the BPL Survey, Rajasthan, 2005

| Sr. No | Questions | Points | | | | |
|--------|---|--|--|--|--|----------------------------------|
| | | 0 | 1 | 2 | 3 | 4 |
| 1 | Land (in Ha.) | No land | <1 non-irrigated <0.5 irrigated | 1-2 non-irrigated <0.5 irrigated | 2-5 non-irrigated 1-2.5 irrigated | >5 non-irrigated >2.5 irrigated |
| 2 | House type | No house | <i>Kachcha</i> | Partial <i>kachcha</i> | <i>Pukka</i> | City like |
| 3 | Cloths (per person) | <2 | 2-3 | 4-5 | 5-9 | >10 |
| 4 | Meals a day | <1 | One but sometimes less | Once sufficient | Two but sometimes less | Sufficient food available |
| 5 | Toilet facility | Open space | Common toilet w/o water supply | Common toilet with water supply. | Common toilet with water supply & sweeper. | Personal toilet. |
| 6 | Consumer durables: TV, Elec. Fan, Pressure cooker, Radio. | None | Any one | Any two | Any 3 or all | All and more |
| 7 | Literacy level of most educated member of family. | Illiterate | 5 th standard | 10 th standard | Diploma | Professional |
| 8 | Labour situation in the family. | Bonded labour | Women & child labour | Only adult women labour. | Only adult man labour. | Other |
| 9 | Source of livelihood | Agricultural labour | Farmer | Rural artisan | Salary | Other |
| 10 | Situation of children | Do not go to school & employed | Going to school and employed | Not going to school and not employed | Going to school but working. | Going to school and not working. |
| 11 | Type of debts | For daily use from non-insti. sources. | For agriculture from non-insti. sources. | For other use from non-insti. sources. | Only insti. Sources | No debts. |
| 12 | Reason for staying away from family. | Accidental work | For seasonal employment | Any other type of employ. | Not staying away. | Any other reason. |
| 13 | Requirement of aid. | For employment | For self-employment | For training and skill addition. | For housing. | Aid not required. |

Source: BPL Survey, Rajasthan, 2002-03.

district, 650 households and in Chittorgarh district 560 households from the selected villages belonged to the weaker section as per our definition of the 19 points cut-off. Accordingly, we selected 38% and 45% of the households belonging to the weaker section from each of the selected villages respectively in Jalore and Chittorgarh. *Table A-3* provides the distribution of the total and sample households in the selected villages in the two districts.

We conducted the sample survey during April and May, 2006. These are the peak months of summer heat in Rajasthan and several families in the rural areas are migrating out to neighbouring state of Gujarat in search of water, fodder and livelihood or employment. While selecting the families for our sample survey, this was an added constraint. It was also important to avoid very small households without children below 14 years and women considering the purpose of the survey. We collected information from selected households through a 5 page questionnaire (given below for ready reference). In all we surveyed 247 households in Jalore and 253 households in Chittorgarh.

| Table A-3: Distribution of Total and Sample Households by Selected Villages in Jalore and Chittorgarh | | | | | |
|--|----------------|----------------|------------------|---|---------------|
| District | Tehseel | Village | Total HH. | Weaker Section HH with Points \leq 19 | |
| | | | | Total | Sample |
| Jalore | Raniwada | Chandpura | 90 | 38 | 16 |
| | Bhinmal | Bheempura | 359 | 182 | 66 |
| | Bagoda | Jogao | 243 | 160 | 62 |
| | Jalore | Kuaber* | 646 | 228 | 86 |
| | Ahore | Tormi* | 99 | 42 | 17 |
| Chittorgarh | Dungla | Jalkhedi | 123 | 100 | 45 |
| | Rashmi | Jagpura | 176 | 126 | 57 |
| | Rawatbhata | Morwan | 125 | 112 | 51 |
| | Pratapgarh | Rataniakhedi | 196 | 151 | 70 |
| | Arnod | Karadia | 92 | 70 | 30 |
| <i>*Note: The HH list of these villages was merged with other surrounding villages under the same village Panchayat.</i> | | | | | |
| <i>Source: BPL Survey, GoR and the methodology described in the Text.</i> | | | | | |

Household Questionnaire (Rajasthan)

(For “Scaling up Services in Rural India” project by the Earth Institute, Columbia University and IIM Ahmedabad sponsored by Hewlett Foundation.)

Village: _____ Tehsil: _____ District: _____

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

Date: _____

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

2. Land owned _____ (Ha./Acre/_____)

3. Caste: SC/ ST/ OBC/ Muslims/Others;

B. 1. No. of Animals/ Cattle: _____

Buffalo: ____; Cows: ____; Bullocks: ____; Goats & Sheep: ____;

Donkey: ____; Camel: ____; Poultry: ____

2. How far do you take them for grazing? ____ km. **3. Who takes them?** _____

C. Information on HH Amenities:

1. Is the HH electrified? Yes/ No.

2. Electricity available for_____ days/week and ____ hrs./ per day

3. Source of drinking water:

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

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

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

4. Distance to the source of drinking water: _____ k.m. **5. Who fetches drinking water?** _____

6. Do you filter water? Yes/ No

7. Do you boil the water? Yes/ No.

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

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

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

11. Road cleaning and waste removing facility: Yes/ No; ____ 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 | | | | | | | | |
| 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.a.) | | | | | | | | |

@ Farmer – **Ag.**; Animal Husbandry – **AH**; Poultry – **P**; Rural Artisan – **RA**; Any Service – **SS**; Agri. Labour – **AL**; Other Labour – **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. Did the mother get antenatal checkups? Yes/No; _____ times.
7. Did the mother receive any injection / vaccination? Yes/No; Any
medicine? Yes/No
8. Did the mother die at the time of delivery? Yes/No; which delivery? _____
9. Was THE delivery attended by a *Dai* / Nurse/ doctor? Yes/No

b) Infants' Health (below 1 year):

1. Is the infant looked after regularly by any health worker? Yes/No;
How often?
_____/week; Examination? Yes/No; Weight? Yes/No; Medicines? Yes/No
2. Are you aware about supplementary feeding programme/ *Anganwadi*
workers / Any govt. programme for your infant? Yes/No; Which ? -

3. Any emergency so far? Yes/No; What? _____

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. Did the children receive immunisation/ vaccination/ *Tika* ? : Yes/No
5. Do children (below 5 yrs.) suffer from :
 - Fever: Yes/No; _____ times/year.
 - Stomach related: Yes/No; _____ times/year.
 - Malaria: Yes/No; _____ times/year.
 - Respiratory Disease: Yes/No; _____ times/year.

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? / Go to private doctor/ Tantrik/ Nothing.
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. According to you, who manages the health facility in your village? Village Panchayat/ District Panchayat / District Administration
7. According to you, will the situation improve if the management and oversight functions are shifted to: Village Panchayat/ District Panchayat / District Administration? Yes/No

F. Education Related Information

Number of children eligible for schools (>5)

| | 1 | 2 | 3 | 4 |
|--|---|---|---|---|
| Age | | | | |
| Sex | | | | |
| Going to school? (Govt./ Pvt./ No) | | | | |
| Distance to school in k.m. | | | | |
| Is cash subsidy given (Rs. / No) | | | | |
| 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 & text books | | | | |
| @ HH activities – HH; Employment – Em; Sickness – Sk; Marriage – Ma; No interest – Ni; Irregularity of teachers – It; Behaviour of teacher – Bt; Others – Ot (specify). | | | | |

1. According to you, who manages the primary school in your village? Village Panchayat/ District Panchayat / District Administration
2. According to you, will the situation improve if the management and oversight functions are shifted to: Village Panchayat/ District Panchayat / District Administration? Yes/No

APPENDIX B

Sample Survey of Primary Schools in Rajasthan

It was decided to conduct a detailed survey of selected sample primary schools in rural areas of the two districts of Rajasthan – Jalore and Chittorgarh. During our field visit in April and May, 2006 for conducting the sample survey of households we decided to cover primary schools in and around the selected villages. There were 5 different types of primary schools – regular Government Primary Schools (GPS), Rajiv Gandhi Primary School (RGPS), Shiksha-Karmi Primary School (SKPS), Government Upper Primary Schools (GUPS), and Private Primary Schools (PPS). *Table B-1* gives the number of all these schools we covered for detailed investigation in the two districts. It can be seen that in Jalore district, we also covered one Balika Shikshan Shibir (BSS) or Girls’ Education Camp.

| Sr. No. | Type of Primary Schools | Chittorgarh | Jalore |
|---------|--|-------------|--------|
| 1 | GPS (Government Primary School) | 17 | 9 |
| 2 | RGPS (Rajiv Gandhi Primary School) | 5 | 4 |
| 3 | SKPS (Shiksha-Karmi Primary School) | 2 | 1 |
| 4 | GUPS (Government Upper Primary School) | 9 | 9 |
| 5 | PPS (Private Primary Schools) | 7 | 12 |
| 6 | BSS (Girls’ Education Camp) | - | 1 |
| | Total | 40 | 36 |

Although we had a formal school questionnaire of 4 pages (give below for ready reference), we followed discussion mode with the headmaster or the principal teacher of the school and others associated with the school.

School Questionnaire (Rajasthan)

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

Head of the school/principal: _____ Investigator: _____

Type of school: (A) Panchayat / District Panchayat / District Admn. / Private
: (B) Pre-primary / Primary/ Secondary/ Higher Secondary

Building : Own/Rented /Donated; Number of Rooms ____;
Total sq. feet: _____

A. Information Regarding Staff and Students in primary section (Stds. I to V) last year

| Sr. No. | Particulars | Sex / Status | Primary | Remarks |
|---------|---|--------------|---------|---------|
| 1 | Number of students enrolled (Stds. I to V) | 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 | | |
| | | Retirement | | |
| | | Resignation | | |
| 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 the 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 | | | |

D. Dropout and Completion Rates:

How many standards are there in the school? : _____

Year wise & standard wise enrolment in the school

| Standard | 2005-06 | 2004-05 | 2003-04 | 2002-03 | 2001-02 |
|----------|---------|---------|---------|---------|---------|
| 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%; For how many days/ years? _____ days.

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.

- If it is a private school, syllabus and text-books are the same/different from the government schools.
- Is there a system of failing students in the Primary Section? Yes/No.
- Are there examinations in each Primary standard? Yes/No.
- What is your opinion on Teachers' Performance Appraisal?
Principal:

Teachers:
- What is your opinion about parents' attitude on the primary education of their sons and daughters here?
- Is there a specific bias against girls' education? Yes/No; Why? _____
- How the learning / educational requirements of migrants / nomadic tribes' children met? _____

Any special schemes for them ? (Details):

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 Comments/ Observations/ Notes:

APPENDIX C

Content Analysis of Primary School Textbooks in Rajasthan Board Schools

| <i>Number of Textbooks by Classes in Rajasthan</i> | | | |
|--|--------------|---|---------------------------------|
| Standard/Grade | No. of books | Name of the books | Pages including cover page |
| I | 3 | <i>Anand pothi-1</i> <i>Anand Pothi-2</i> Learn and Enjoy (English) | 76 148 76 |
| II | 3 | <i>Anand Pothi-1</i> <i>Anand Pothi-2</i> Learn and Enjoy (English) | 92 148 92 |
| III | 4 | Hindi <i>Hamara Parivesh</i> <i>Ganit</i> <i>Aravalli Reader</i> | 140 144 168 108 |
| IV | 5 | <i>Vigyan</i> <i>Aravalli Reader</i> <i>Samajik vigyan</i> Hindi <i>Ganit</i> | 112 136 136 168 192 |
| V | 5 | <i>Hindi</i> <i>Paryavaran-I (Samajik Vigyan)</i> <i>Paryabaran-II (vigyan)</i> <i>Ganit</i> <i>Aravalli Reader</i> | 180 140 144 204 116 |

| English | | |
|----------------|---|---|
| Standard/Grade | Content in Brief | Observations |
| Standard I | Simple Rhymes, Formation of the letters of the Alphabet, pre-writing and pre-reading patterns, oral sentences, reading, recognizing animals, fruits flowers and Human body parts. | English to Hindi pronunciation is given. It is simple to understand for the teachers and students in rural areas. |
| Standard- II | Simple Rhymes, Small and Capital letters, Listening, speaking, Reading and writing of small words and sentences recognizing alphabets with different objects, birds, animal, insects and vegetables | Revision of class I. Revision of the course at regular intervals. Select dictionary useful to rural students. |
| Standard-III | Small Rhymes, Introducing articles, learning by solving simple puzzles, solving jumbled words. Numbers and counting, names of animals, birds, vegetables and fruits, recognizing colours, parts of body, service personnel and their duties. Sentence formation with grammar. | Puzzles provide learning, recognition and fun together. Exercises given at the end of the chapters are explained in Hindi. However, suddenly the contents have increased and rural students and teachers would find it difficult. |
| | | |

| English | | |
|-----------------------|--|---|
| Standard/Grade | Content in Brief | Observations |
| Standard IV | Emphasis on grammar content, longer sentences and types of sentences, singular, plural, introducing verbs, picture reading, adjectives, tense, object identification, days of a week. | Main thrust is on grammar, exercises at the end of chapters are quite elaborate. Rural students and teachers would find it difficult. |
| Standard V | Longer lessons of 50 to 100 words Longer rhymes. Lessons specific to particular subjects. Letter writing, conversation, description of events and places, introducing the concept of family, increasing word power | More systematic in approach. But exercises are lengthy. Greater efforts needed from students and teachers in rural areas. |

| Science and Environment Studies | | |
|--|---|--|
| Standard/Grade | Content in brief | Observations |
| Standard I | Awareness about the village and city, different institutions like post office, bank, and school. Routines of daily life, small stories from mythologies and learning from these stories. | No separate book. However, <i>Anand Pothi-1</i> and <i>Anand Pothi-2</i> covers the environment and other general understanding. |
| Standard II | Identification of various social institutions in the society like schools, post office, etc. Recognition of various plants and animals found in the surroundings, usefulness of domestic and wild animals and birds, awareness about conservation of environment and the need to keep the area around our schools, houses and tourist places clean. Importance of seasons, air, water, soil and energy. | <i>Anand Pothi</i> covers Science and Environment Science along with Hindi and Mathematics. There is no separate text book for the subject. Focus is on learning about various plants and animals as well as the importance of making/keeping the environment clean. |
| Standard-3 | The earth, planets as our friends, knowing about animals, staying healthy, different types of houses, clothes, occupations, Gram Panchayat, changing environment, modes of transportation, identifying matter, soil formation, seasonal changes, preparing solutions, work and energy, shadows, our festivals, drawing maps, our country, our districts, services available to us. | Separate books for the subject. Useful for developing the desired qualities among students related to environment |

| Science and Environment Studies | | |
|--|---|---|
| Standard/Grade | Content in brief | Observations |
| Standard-4 | <p>Part-I- Industry and business, banks and post offices, conservation of fuels, local government, transportation and communication.</p> <p>Part-II- Plants, crops, diseases, states of matter, force, forms of energy, light and shadow, solar system, characteristics of water, rotation of Earth, air, features of soil and conservation, changes in seasons, wild animals, safety and first aid.</p> | The course content seems to be developed keeping in view the rural children of Rajasthan. Low weightage to health and hygiene. |
| Standard-5 | <p>Part-I- Healthy society, awareness among consumers, unity is the strength, loans, employment, our role as citizens, continents and oceans, freedom struggle, development of industries in Rajasthan, main crops of India, transport and communication, tourist places in India, some great leaders and freedom fighters, climate and physical features of India, usage of water and electricity.</p> <p>Part-II- Science, interdependence of plants and animals, different organ systems in human body, purification of food, causes and prevention of diseases. First aid, harmful effects of intoxicating substances, manufacturing clothes, our houses, effects of force, uses of energy, light, types of water, importance of atmosphere, minerals found in Rajasthan , natural resources, eclipses and seasons.</p> | The contents are vast. There are two separate books for the subject (social science and science). Teacher's intervention and inputs are required. |

| Mathematics | | |
|-----------------------|---|---|
| Standard/Grade | Content in Brief | Observation |
| Standard-I | Numbers Counting through objects, matching objects through counting, Writing of Numbers, reciting of numbers (1 to 100). Addition and subtraction up to 2 digits. Ascending and descending order. | No separate text book for mathematics. Exercises are simple enough. Relevant for rural areas. |
| Standard-2 | Numbers up to 1000, memorizing numbers upto hundred. Addition in groups. Addition and subtraction upto three digits. Ascending and descending order. Write numbers in expanded form. Multiplication. Tables from 1 to 10. Sums on rupees and coins. | No separate textbook. Revision paper at the end to check the understanding. Problem solving through games. Emphasis on memory. Difficult for children in rural areas. |

| Mathematics | | |
|-----------------------|---|---|
| Standard/Grade | Content in Brief | Observation |
| Standard-3 | Numbers upto 10,000. Addition and subtraction upto 4 digits. Multiplication and division upto 3 digits. Fractions and points. Small sums involving the above. Calculation of time, calendar, weight and measures with units, simple co-ordinate geometry, measurement, sums on rupees and coins. | Separate text book. Revision of earlier standard in the starting of the text. Revision test after every 2 chapters. Level of abstraction increases with difficult topics. Considerable efforts needed from teachers and students particularly in rural areas. |
| Standard-4 | Numbers up to 10,000 and above, idea about thousand, lakh and million, etc. Sums on additions, subtraction, multiplication and division up to 5 digits. Problems on profit and loss, height and weight and their units, etc. more study on co-ordinate geometry. Sums on time, measurement. Addition and subtraction, multiplication of fractions. Angles and measurement. | The course content seems to be quite lengthy and difficult for rural children. |
| Standard-5 | Numbers up to 10 million. Addition, subtraction, division and multiplication upto eight digits. Sums on percentage, profit and loss, interest, time and other measurements, unitary method, average, difference. More sums on decimal differences, LCM, HCF, percentage calculation, construction of Tables upto 99; calculation of area, measurements through compass instruments. | Exercises are heavy and time consuming. More effort from students and teachers is required. Good understanding of basics and fundamentals needed for the teachers to do justice. |

General Observations:

- ✓ Quality of paper and printing of the books is good.
- ✓ Contents are well sequenced in all subjects.
- ✓ English getting introduced from Standard I is good, but the contents become more difficult suddenly from Standard III for the students and teachers in rural areas.
- ✓ Level of abstraction increases sharply from Standard III in Mathematics.
- ✓ Principles of Science are comparatively less emphasized.
- ✓ More emphasis seems to be on language skills, History and Geography.