



जिला प्राथमिक शिक्षा कार्यक्रम
DISTRICT PRIMARY EDUCATION PROGRAMME

progress towards
universal access
and **retention**

Analytical Report

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National Institute of Educational Planning and Administration

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Foreword

The DPEP which began towards the end of 1994 as a modest effort for providing financial and technical assistance to states to move towards achieving the objectives of universal primary education is now one of internationally recognized programs. The DPEP began with 42 districts spread over seven states. It now covers 271 districts spread over eighteen states and is perhaps the largest ever program of primary education development in the world. Alongwith horizontal expansion, the DPEP is also moving into a phase of consolidation and replication into non DPEP districts as well.

An important aspect of DPEP has been its clear focus on decentralized and participatory planning and monitoring of development initiatives. The effective decentralization requires more systematized data flows to support decision making at all levels. The appraisal of the educational statistics at the time of implementation of DPEP pointed to the weaknesses of the existing system to support DPEP. Therefore, a conscious decision was taken to establish a sound data collection and reporting system which not only served the needs of the grassroots but also of the educational administrators at the state and national level. I am happy to note that NIEPA responded to this challenge and developed a school level management information system which is now functional in all DPEP districts. The periodic revisions of the database components have reduced the states' dependence on alternative sources of data collection.

Ever since the inception of DPEP, the DISE database has provided valuable insights into various aspects of access and retention. Many issues based on the analysis of time series and cross-sectional data led to timely and remedial interventions in states/districts covered under DPEP. The first comprehensive analytical report based on the DISE database was produced by NIEPA at the time of indepth review of DPEP in 1997. Since then, it has become an annual feature to share the findings of the national level analysis with the DPEP review missions and others. I am happy to note that the present study is fifth in this series and throws considerable light on issues relevant for policy planners engaged in implementing the DPEP. The analysis particularly focuses on issues related to equity at the district and sub-district level. Detailed time series and cross-sectional analysis of institutions by type and management, enrolment, teachers, classrooms and repetition rates is presented in various chapters.



Besides highlighting the positive aspects of change in performance indicators, the study has also identified the areas of concern that require further administrative action, research and analysis. It is hoped that all those concerned with the DPEP would reflect on these findings and initiate appropriate measures so that timely intervention can be made to correct the situation wherever necessary. The MHRD has also taken certain decisions which would provide the necessary framework for expanding the scope and coverage of the present DISE in a manner that all states adopt a uniform system of data collection by 2003. This year, the access and retention study is being issued in two volumes, namely, the analytical report and district report cards.

I would like to thank Prof. B. P. Khandelwal, Director NIEPA and Prof. Yash Aggarwal for having agreed to undertake the study at a short notice. It is due to Prof. Aggarwal's initiative that the analytical report has become a regular feature of DPEP review. The contribution of Sh. M.K. Talukdar in providing the necessary logistic and other support for implementation of EMIS in the DPEP states is gratefully acknowledged. Shri Sumit Bose, Joint Secretary and Mrs. Rashmi Sharma, Director (EE&L) deserve special appreciation for promoting the use of norm based planning and making the use of EMIS data for planning of district and state plans a reality.

I hope the publication would be of interest not only to those associated with the implementation and review of DPEP but to a wider audience of researchers and educational administrators engaged in EFA and other similar programs in India and abroad.

B. K. Chaturvedi
(B. K. Chaturvedi)

Acknowledgements

The study of Access and Retention under DPEP has now become a regular feature of the DPEP review process. The total number of districts covered under DPEP was 248 (including the bifurcated districts) out of which the data for 192 districts have been analyzed and presented in this report. The study of this magnitude cannot be completed without the participation of national and sub-national level professionals involved in the implementation of the DPEP. The author greatly benefited by the contribution of Shri Sumit Bose, Joint Secretary, Department of Elementary Education and Literacy, Ministry of Human Resource Development in facilitating the organization of this study. The extensive discussions on an earlier draft were very valuable in giving the study a final shape. The contribution of Smt. Rashmi Sharma, Director, who looks after the MIS component of the DPEP is gratefully acknowledged. She made tremendous efforts to ensure that the state and district level capacity is created to collect, analyze and present the data for planning, management and monitoring of the DPEP.

The contribution of Prof. B.P. Khandelwal, Director, NIEPA is duly acknowledged. The data collection for DISE is undertaken regularly by the state/district level EMIS professionals. Although, it is not possible to name each and every individual working at the state/district level, their contribution is gratefully acknowledged. At the national level, the MIS unit of the Technical Support Group led by Shri M.K. Talukdar, Chief Consultant (MIS), played a critical role in providing technical, professional and administrative support to the states in the implementation of DISE.

The DISE project team, located at NIEPA, provided valuable support for the analysis and preparation of analytical tables and district report card for all the districts. Thanks are due to Shri Shalender Sharma for facilitating the preparation of district report cards. The contribution of other members of DISE team including Shri Naveen Bhatia, Shri Sudhir Ardak, Shri Kamal Uppal and Smt. Komal Rajan is gratefully acknowledged. I am also thankful to my colleague Smt. Sunita Chugh for her valuable assistance and suggestions at the report writing stage. The secretarial and administrative support was provided by Mr. Ravinder Gupta and Smt. Santosh Khanna respectively.

I shall be failing in my duty, if I do not acknowledge the promptness with which M/s New Concept Information Systems undertook to complete the design, layout and printing of this report.

I am fully conscious of the fact that despite best possible efforts of everyone involved in this study, some errors and omission may still remain. I take the full responsibility for that.

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November 13, 2001

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Abbreviations

APEP	Andhra Pradesh Primary Education Project	JRM	Joint Review Mission
AS	Alternative Schooling	JSM	Joint Supervision Mission
BAS	Baseline Assessment Studies	LJ	Lok Jumbish
BEO	Block Education Officer	LSA	Lok Sampark Abhiyan
BRC	Block Resource Centre	M&E	Monitoring and Evaluation
CR4	Completion Rate (four years primary education cycle in four years)	MAS	Mid-term Assessment Survey
CR5	Completion Rate (five years primary education cycle in five years)	MBC	Most Backward Classes
CRC	Cluster Resource Centre	MHRD	Ministry of Human Resource Development
CRF	Completion Rate in Five Years	NCERT	National Council of Educational Research and Training
DFID	Department for International Development	NER	Net Enrolment Rate
DIET	District Institute of Education and Training	NFE	Non Formal Education (a centrally sponsored scheme)
DISE	District Information System for Education	NGO	Non Government Organization
DPEP	District Primary Education Program	NIEPA	National Institute of Educational Planning and Administration
DPI	Director, Public Instruction	NSS	National Sample Survey
EC	European Commission	NSSO	National Sample Survey Organisation
ECR	Ever Completion Rate	OBC	Other Backward Classes
EE&L	Elementary Education and Literacy	OECD	Organisation for Economic Cooperation and Development
EFA	Education For All	PMIS	Project Management Information System
EGS	Education Guarantee Scheme	SC	Scheduled Caste
EMIS	Educational Management Information System	SCR	Student Classroom Ratio
GDP	Gross Domestic Product	SSA	Sarva Shiksha Abhiyan
GER	Gross Enrolment Rate	ST	Scheduled Tribe
GOI	Government of India	TSG	Technical Support Group
GTR	Grade Transition Rate	UEE	Universal Elementary Education
IGE	Index of Gender Equity	UPE	Universal Primary Education
ISE	Index of Social Equity	UT	Union Territory

The Indian education system is the second largest in the world and is perhaps the most complex in terms of its spatial outreach and profile of students and teachers in terms of their linguistic, social, cultural and economic background. Implementing educational reforms in such diversified system is fraught with challenges of unprecedented nature.



The context

The decade of nineties would be considered as a turning point in the Indian education history. A number of bold initiatives were taken to fulfill the constitutional mandate of providing education to all children up to the age of 14 years. The NPE, 1986 was revised to provide for more focused attention of attaining UPE/UEE in a time bound manner. A number of flagship programs to overcome illiteracy and removal of imbalances in the elementary education were initiated during the nineties. As a consequence there is a greater political commitment at the highest level than ever before. All the developed and developing countries of the world reasserted their support for eradication of illiteracy and providing quality primary and basic education for all through a number of international and national forums. It is also seen that a world free from poverty would be possible only if illiteracy and ignorance can be eradicated.

At the international level, the world leaders met at Jomtien in 1990 to charter an agenda for ensuring that all children irrespective of their caste, creed and affiliation acquire at least basic education. Basic education is not only necessary from the viewpoint of human development but is also a fundamental right of all children. The Jomtien declaration renewed the commitment of the world community to achieve the goals of EFA by 2000. Meeting these goals was an easy task for some countries where enrolment rates were high. Nevertheless, EFA was a major challenge for South Asian countries where most of illiterates live and participation rates in primary education were low. The meeting of E-9 countries held in Delhi in 1993 further resolved to focus the development programs in a way that diverse needs of out of school children are met on priority basis. The development planners in India also realized that rapid economic growth was not possible unless the questions of illiteracy and lack of basic social services for the masses are addressed. It was in this context that external funding in elementary education was started. The Bihar Education Project, Uttar Pradesh Education for All project and many other innovative programs were introduced for meeting the EFA goals. The progress towards

The working Group on elementary education has estimated that out of about 200 million children, there were 42 million out-of-school children in 6-14 age group.



these goals was reviewed in Dakar in 2000 (10 years after Jomtien) and mixed type of signals regarding the progress emerged. While it was recognized that considerable progress has been made by different countries but some could not achieve the EFA targets adopted at Jomtien. The Dakar meet came out with revised targets for the countries where the goals of EFA could not be achieved.

1.1 Education for All: Dakar Framework for Action:

The participating countries made the commitment to achieve the following goals by 2015.

- i) *Early childhood care and education*: expanding and improving comprehensive early childhood care and education, especially for the most vulnerable and disadvantaged children;
- ii) *Free and compulsory primary education by 2015*: ensuring that by 2015 all children, particularly girls, children in difficult circumstances and those belonging to ethnic minorities, have access to and complete, free and compulsory primary education of good quality;
- iii) *Life skills for adolescents and youth*: ensuring that the learning needs of all young people and adults are met through equitable access to appropriate learning and life-skills programs;
- iv) *Improvements in adult literacy by 50 percent*: achieving a 50 per cent improvement in levels of adult literacy by 2015, especially for women, and equitable access to basic and continuing education for all adults;
- v) *Eliminate gender disparities*: eliminating gender disparities in primary and secondary education

by 2005, and achieving gender equality in education by 2015, with a focus on ensuring girls' full and equal access to and achievement in basic education of good quality;

- vi) *Enhance educational quality*: improving all aspects of the quality of education and ensuring excellence of all so that recognized and measurable learning outcomes are achieved by all, especially in literacy, numeracy and essential life skills.

The Indian education system is the second largest in the world and is perhaps the most complex in terms of its spatial outreach and represents the most diversified system of students and teachers in terms of their linguistic, social, economic and cultural background. It comprises nearly 627 thousand primary and 190 thousand upper primary schools; about a quarter million non-formal education centres; about 1.9 million teachers and 111 million students study in primary classes alone in the recognized schools (1998-99). The enrolment at the secondary and senior secondary level was more than 27 million in 1998-99. The number of children studying at primary stage in India is approximately equal to twice the population of France. As per the 1991 Census estimates, there were about 116.7 million children in primary school age group in the country and it would have increased to 118 million by 2001¹. The latest educational statistics indicate a GER of 92.14 percent for primary classes (82.9 percent being for girls and 100.9 percent for boys)². The working Group on elementary education has estimated that out of about 200 million children, there were 42 million out-of-school children in 6-14 age group. However, the estimates from different sources vary considerably. With all the constraints, the government is committed to universal elementary education and is actively pursuing a policy for fulfilling its constitutional and moral commitment.

¹ The data on the number of school going age group children is computed from *Social and Cultural Tables*, Census of India, 1991.

² For details see *Selected Educational Statistics, 1999-00*, MHRD, New Delhi.

1.2 Recent trends in literacy

The progress of education is normally measured in terms of stock and flow variables. The literacy rate and levels of educational attainment of the population refer to the former and the number of children studying in various courses and associated indicators reflect the flow variables. A proper understanding of the educational scene in a region or a country necessitates the understanding of both stock and flow variables. Larger the intensity of flow variables, the sooner the goal of universal literacy would be attained. The levels of educational attainment can gradually increase as a result of mass participation in schooling. Alternating between world of work and education would also result in marginal improvement in the indicators of educational attainment. The educational attainment is usually measured through mean/median years of education. Similarly, literacy rates can be raised through schooling as well as through adult literacy programs. The increase in school participation would lead to a slower increase in the overall literacy rate, although the younger age groups may be fully or nearly universal literate. When these efforts are supplemented by intensive adult literacy programs, the overall literacy can increase significantly.

For the first time, the 1991 census showed that the country achieved a distinction of having more literate persons than illiterates (52 percent literacy rate). While this was a positive gain, the flip side of the achievement was that the number of illiterates increased from 305 million in 1981 to 329 million in 1991.

The NSSO data on literacy and educational attainment based on 52nd round of NSS (1995-96) showed a significant improvement in national literacy rate from 52 percent to 62 percent. The male and female literacy for 1995/96 were 73 and 50 percent respectively. An increase of 10 percentage points in national literacy within a short span of about 5/6 years was seen as a significant development. The NSS data also revealed that such an increase was possible due to significant gains in educationally backward states. In terms of male-female literacy,

significantly higher gains were recorded in female literacy as compared to male literacy. A second source of data on literacy after the 1991 census was National Family Health Survey (NFHS-2) conducted nationally during 1997/98. The NFHS-2 estimated a literacy rate of 63 percent for the total population and 74.5 and 51.4 percent for male and female population aged six and above.

Table 1.1
Literacy rates in India: 1951-2001

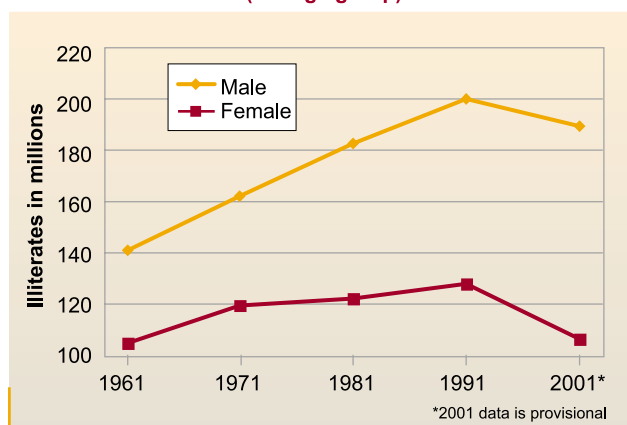
Census year	Persons	Male	Female
1951	18.33	27.16	8.86
1961	28.30	40.40	15.35
1971	34.45	45.96	21.97
1981	43.75	56.38	29.76
1991	52.21	64.13	39.29
2001	65.38	75.85	54.16

The above improvements in literacy rates were further confirmed by the preliminary findings of the 2001 population Census. As per 2001 population census, the overall literacy rate was 65.4 percent (male literacy rate 75.9 percent and female literacy rate 54.2 percent). The time series data on literacy rate is presented in Table 1.1. The analysis of literacy and educational attainment data by age groups for 1991 indicates that the lack of successful literacy programs and less than universal coverage for 6-14 age groups was responsible for skewed distribution of literacy and educational attainment for different age groups. Corresponding data for 2001 census is yet not available. The results of recent efforts are evident from the figure as the impact of literacy and elementary education development programs is evidently high up to the age of about 30 years.

The NSS data revealed that an increase in national literacy was due to significant gains in educationally backward states. Significantly higher gains were recorded in female literacy as compared to male literacy.



Figure 1.1
India: Trends in Illiteracy, 1961-2001
(7 + Age group)



Another important aspect of national literacy was that 1991 marked a turning point in the history of Indian education, when the number of literates was more than the corresponding number of illiterates. The 2001 census is characterized by the fact that the number of literate women has exceeded the number of illiterate women. Figure 1.1 shows the trends in the number of male and female illiterates. Figure 1.2 to 1.4 show the total literacy rate, female literacy rate and rural female.³

1.3 Centre and state partnership in elementary education

Since the beginning of planned development in early fifties, the planners rightly recognized that expansion of educational facilities has to be accompanied with significant improvements in quality and relevance of education at all levels⁴. Various five-year plans incorporated programs and strategies based on periodic assessment of the progress of education by the Ministry of Education, Commissions and Committees appointed by the central and state governments. However, in actual practice, there has always been a trade-off between quality and quantity, tilting in favor of the latter. This not only affected the internal efficiency of the education system but also resulted in a situation where only a few graduates of the school and higher

education system could attain the expected skills and competencies. Since, 1976, education is on the concurrent list, whereby both the state and the central government can legislate on matters related to development of education in the country. Over the years, the states have continued to shoulder the major responsibility of planning and management of school education. Besides policy formulation and review, the centre provides financial assistance for some schemes in priority areas or for undertaking specific educational reforms. The Central Advisory Board of Education (CABE) is the apex level advisory body and has representation of educationists, state and central government officials. From time to time the CABE reviews the educational developments in the country and advises the government on various policy and program issues.

The government expenditure on education has been steadily growing since independence. In early fifties, about 1.4 percent of GDP was spent on education and it increased to about 4 percent in late eighties and early nineties. Despite the government commitment to increase public expenditure on education to about 6 percent of GDP by the end of ninth plan (1997-2002), it has remained in the range of 3.5-3.8 percent for the last many years. The pace of improving primary education can not be enhanced without additional allocation of financial resources.

Estimates indicate that about 8 percent GDP may be required to achieve the target of universal elementary education. While the need for additional resources is urgent, the cost effectiveness and efficiency of educational expenditure also needs to be examined to obtain the optimal returns from investment in education. In addition to government expenditure, the private sector also runs a large number of educational institutions at all levels. The share of private sector enrolment has witnessed a phenomenal increase in recent years (Aggarwal, 2000a). The Expert Group Report on 'Financial

³ Literacy rate corresponding to 2001 Census Data.

⁴ Government of India. (1951). *First Five-Year Plan*, Government of India, New Delhi.

Requirement for Making Elementary Education a Fundamental Right' (Majumdar Committee, MHRD, January, 1999) estimated that an additional amount of Rs. 136,822 crores (Rs. 1.36 trillion) would be required to achieve UEE by the year 2007-2008. The experts may differ on the magnitude of financial requirements, but the immensity of the additional financial requirements is evidently clear from the report and the estimates made by educational experts.

Assuming a 5% real growth of GDP per annum between 1996-97 and 2007-08, on an average 0.7% of GDP would be additionally required per annum for achieving the targets of UEE. However, such an increase has not taken place in the recent years. Therefore, cost sharing, cost effectiveness, optimal deployment of existing resources and additional mobilization of funds from various sources would be essential for the years to come (Bashir, 2000). Additionally, planning processes both at the macro and micro level will have to undergo significant changes with a clear focus on reducing inter and intra-regional imbalances in the quality of access, internal efficiency and learning outcomes.

India is one of the few countries where during the stabilization phase of structural adjustment, expenditure on school education has gone up substantially. This is also accompanied by a shift in favour of decentralized planning and management with increased emphasis on quality improvement at primary stage. Gender issues and problems of the vulnerable children especially in the educationally backward areas have attracted more attention. While maintaining the contextuality of primary education, a favourable environment has already been created for a big push.

1.4 Universal Elementary Education: A Constitutional directive

According to the five decades old Constitutional directive, the goal of providing free and compulsory education to all children up to the age of 14 years should have been attained by 1961. This translates into free and compulsory education up to 8th Grade,



India is one of the few countries where during the stabilization phase of structural adjustment, expenditure on school education has gone up substantially.

officially known as elementary education for all children in 6-14 age. However, this target had to be revised from time to time. Despite significant efforts made in the last fifty years, the goal is yet to be fully achieved. The inability to achieve UEE is the result of many factors including stagnating economic growth, persistence of poor socio-economic conditions and the inadequate funding for education in general and for elementary education in particular. Consistent with the international thinking at that time, the emphasis was on expanding access assuming that even the remotest school with skeleton facilities would be able to provide quality education—an assumption not borne out by the results. The period of fifties and sixties in India coincides with a phase of rapid population increase, which further complicated the task of providing universal access more difficult than anticipated. Despite policy pronouncements and fixing of fresh deadlines, various studies and reviews have shown that the fulfillment of the objective for elementary education for all children is apparently not possible within the next few years. The newly formulated strategy of *Sarva Shiksha Abhiyan* (SSA) has proposed an ambitious target of achieving UEE by 2010. The achievement of the goal of UEE requires that all the following four conditions should be fulfilled:

- ♦ Provision of easy access to an educational facility for all children in eligible age group (6-14 years).
- ♦ Universal intake of five/six-year-old children in formal, non-formal or alternative modes of education.
- ♦ Universal retention throughout the primary and upper primary education cycle.
- ♦ Universal transition from primary to upper primary cycle of education.
- ♦ Comparable and satisfactory level of

achievement by all students in primary and upper primary Grades.

The National Policy on Education formulated in 1968 and 1986 and subsequently revised in 1992 enunciated a number of guiding principles for the development of education in general and that of elementary education in particular. While there has been a considerable expansion of the formal education system, it was not possible to provide primary formal school within walking distance from the residence of all children. A large number of habitations are of very smaller size and the provision of a normal type of formal primary school is neither possible nor viable in these habitations even on social considerations. The norms for the opening of formal primary schools are based on population and distance between the school and the habitation⁵. The norms are flexible and vary from state to state and also within the state depending upon the terrain and settlement structure.

After the formulation of 1968 policy, the concern for the provision of universal access to provide primary education to all children led to the search for alternative modes of education for imparting primary education especially to a large number of out-of-school children. The scheme of Non Formal Education (NFE) was launched in 1997 to provide education to out-of-school, dropouts and working children through a flexible and part time system of education. The policy also highlighted the need to improve the quality of education at all levels. Considerable emphasis was given to bring the teachers to the centre stage of educational reforms and a number of initiatives were taken to promote the teachers' empowerment and also to sharpen their skills and teaching competencies. It was only in 1991, five years after the formulation of the National Policy on Education, 1986 that a decision was taken to identify the Minimum levels of Learning (MLL) that would be followed by all primary schools in the country. The MLLs for upper primary, non-formal and

alternative schools are yet to be defined. The establishment of MLLs for primary education was seen as a major step for improving the quality of primary education. However, the slow progress in implementing the curricular reforms remains an area of concern. The pace of curriculum reforms has to be hastened to bring about qualitative change in primary education.

Concerned about the unsatisfactory outcome of the NFE scheme, many attempts were made in the recent years to develop cost-effective and efficient alternative systems of primary education that could supplement the efforts of the formal primary schools. Many other state governments have adapted *Shiksha Karmi* model of Rajasthan. The state of Madhya Pradesh has launched a novel scheme called Education Guarantee Scheme (EGS) which provides schooling facilities 'on demand' if such facilities are not available within the framework of the prescribed norms. Many other states have also evolved similar alternatives for providing educational facilities to out-of-school, working children and children with special needs. The instructors/Gurus or Para-teachers appointed in alternative centres are volunteers and hence are cost effective since they are paid much less than the regular full time teacher of the state government. While these efforts to enlarge the access for all children are commendable, the question remains whether the ultimate objective of universal access resulting in comparable standards of learning outcome for all children is achieved or not. Efforts have to be made to ensure that quality concerns are not sacrificed at the altar of quantitative expansion.

How to decide that a state or a district has attained the level of universal primary/elementary education? Despite considerable discussion on the issue, a clear set of indicators that would be used to monitor and declare an area as having attained the objectives of UPE/UEE is yet to be defined by the Indian government. In the absence of such a measure(s), the states continue to adopt different

⁵ All habitations with a population of 300 or above are served with a primary school either within the habitation or at a walking distance of less than 1 km.

indicators of performance monitoring. Is it not the right time to define such indicators, especially in the Indian context?

The pay-off from an improved, consistent and timely availability of data on key and simple performance indicators of social and economic development can be enormous. It will not only provide the right type of signals to project managers, but also help in more sharply focusing the scarce resources for areas/activities where these are most needed. Educational planning is no exception. Therefore, like other sectors of the economy, a modern and adequately staffed system of data collection, collation, analysis, communication, sharing and dissemination is a prerequisite for the successful implementation of any educational reform. A review of Monitoring & Evaluation strategies in education shows that it has remained an area of concern both at the central as well as the state level. The externally funded projects taken up from time to time have also not given adequate importance to M&E. While the education policy highlights the need for M&E, but in reality there is a lack of clarity on implementation of M&E strategies. Consequently, information on the impact of reforms on target groups, time and cost overruns is scanty. The situation with respect to many externally funded projects is not much different. Since its inception, the DPEP placed greater emphasis on developing M&E systems that addresses the need for planning, management, and monitoring of project inputs and outputs. Building on the success of M&E strategies under DPEP, the MHRD has emphasized that M&E would be given a key place under the newly designed initiative of *Sarva Shiksha Abhiyan* (SSA).

1.5 The DPEP framework

In addition to the national commitment for the universalisation of elementary education as reflected in the NPE-1986, a positive ambience for reforming education was created after the Jomtien conference in 1990 and the formulation of DPEP benefited from the same. The DPEP was triggered as a response to social safety net provisions during the structural adjustment phase of early nineties but was later

taken up as a regular Centrally Sponsored Scheme (CSS) of the Government of India (GOI). The states besides maintaining the existing level of public expenditure bear 15 percent of the project cost. The remaining 85 percent of the DPEP cost is provided by the central government as grant to the states. Each district has an investment ceiling of about Rs. 40 Crores spread over five to seven years (about 9 million US\$ at current exchange rate). The systemic issues at the time of launch of DPEP were:

- ♦ *The infrastructure facilities were inadequate and unusable* in most rural areas. The provision for creation and maintenance of infrastructure and related facilities were not commensurate with the prescribed norms. There was hardly any information about the adequacy of facilities even in places where such facilities were available. The shortage of school places co-exists with areas of excess capacity. An assessment of such imbalances in the provision of facilities is yet to be made either through All India Educational Surveys conducted by the NCERT or by other methods.
- ♦ *Teachers' competence, motivation and performance were at low levels* and the increasing backlog of teachers' vacancies was a matter of concern. The quality of the pedagogy and training of teachers was mediocre.
- ♦ *Textbooks, syllabi and curricula were outdated and inappropriate* and required major revisions. Learning outcomes were low even in educationally advanced states like Kerala and non satisfactory system of pupil's evaluation existed in any state.
- ♦ *Academic support structures were dysfunctional* and linkages between directorates of education and the state and sub-state level resource institutions were largely ineffective. Hundreds of DIETs established after the 1986 policy were not fully operational and lacked adequate capacity and the will to handle the new tasks.



DPEP has placed greater emphasis on developing M&E systems that addresses the need for planning, management, and monitoring of project inputs and outputs.

- ♦ *Teacher deployment was not rational* and teacher absenteeism was reportedly high in many areas. The school inspection was reduced to a ritual and no one took it seriously. Teaching was not learning oriented and serious concerns about the relevance of education for the unreached children persisted. Multigrade teaching was practiced on a large scale in rural areas without proper orientation of teachers to handle such situations.
- ♦ *Community linkages were weak* and the statutory framework for their involvement in planning and management of primary education was non-existent. The 1992 Constitutional amendments (73rd and 74th) made it mandatory for the states to decentralize and delegate authority for planning and management to elected representative at the village level.
- ♦ *Financial resources provided by the central and state governments were insufficient to undertake major qualitative improvement.* The ongoing concern for inadequate funding is historically reflected in the persistence of low allocations for quality improvement programs and ever increasing number of vacancies of teaching and non-teaching posts. The recent increase in wage bill of teachers due to pay revision has further strained the investment for quality improvement.
- ♦ *Persistence of weak monitoring and evaluation framework* for centrally sponsored schemes and other programs of educational development

Table 1.2
Status of DISE data availability for DPEP districts, (up to 30th September, 2001)

State	Total districts 2001 census	Covered under DPEP 2001 census	Districts covered under DPEP for the purpose of MIS			Districts for which DISE data is available		
			Phase I	Phase II & others	Total	1998-99	1999-00	2000-01
Andhra Pradesh	23	19		19	19	5		18
Assam	23	9	4	5	9	9	9	9
Bihar	37	20		20	20	11	8	11
Chhattisgarh	16	15	4	2	6	6	6	1
Gujarat	25	5		3	3	3	3	3
Haryana	19	7	4	3	7	7	7	7
Himachal Pradesh	12	4		4	4	4	4	4
Jharkhand	18	7		7	7	6	5	6
Karnataka	27	17	4	7	11	11	11	11
Kerala	14	6	3	3	6	6	6	6
Madhya Pradesh	45	33	15	13	28	28	28	28
Maharashtra	35	11	5	4	9	9	9	9
Orissa	30	8		8	8	8	8	8
Rajasthan	32	10		10	10	0	0	0
Tamil Nadu	30	7	4	3	7	7	7	7
Uttar Pradesh	70	54		50	50	14	14	48
Uttaranchal	13	6		6	6			6
West Bengal	18	10		10	10	5	5	10
Total	487	248	43	177	220	139	130	192

have resulted in *information blackout* on achievements and effectiveness of development programs. Data on key performance indicators is either not available or available with unbearable time lags. When available, it is hardly in a form usable for policy review and decision-making in the decentralized context.

The DPEP as a centrally sponsored scheme was launched towards the end of 1994 in 42 districts spread across seven states, namely, Assam, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra and Tamil Nadu. Over the years, the program was extended to Andhra Pradesh, Bihar, Gujarat, Himachal Pradesh, Orissa, Rajasthan, Uttar Pradesh and West Bengal. Three newly created states of Chhatisgarh, Jharkhand and Uttaranchal also inherited the DPEP from the states of Madhya Pradesh, Bihar and Uttar Pradesh respectively. The expansion was both in the already covered states as well as in the states not covered during the first phase. Presently the program covers eighteen states, about 248 districts and approximately 60 percent of the child population in primary school going age group in the participating states (Table 1.2). While these numbers are quite impressive and large by international

standards, the decentralized mode of educational planning and management ensures that the usual constraints experienced in large-scale development projects do not hamper the implementation of DPEP. The spatial coverage of DPEP districts is presented in Figure 1.2

Table 1.3 provides detailed description about the date of approval and the date of sanction of funds for the Phase II and the districts subsequently covered under DPEP. For the purpose of the present study a different classification was used. This is explained in the section on coverage.

DPEP has also drawn upon the experiences of earlier programs such as the Lok Jumbish Project of Rajasthan, the Uttar Pradesh Basic Education Project (UPBEP), the Bihar Education Project (BEP), the Mahila Samakhya Program (MS) and the Andhra Pradesh Primary Education Project (APPEP). DPEP also gained from the experiences of numerous educational initiatives of the government and non-government sector. Many large-scale experiments and innovations initiated under DPEP were carefully piloted, evaluated and systematically refined before up scaling. Recognizing the worthiness of these

Table 1.3
Implementation status of DPEP Phase II districts

Sr. No.	DPEP state	Date of approval EFC	Date of sanction of funds
1	Himachal Pradesh, Gujarat and Orissa	12-4-1996	14-26 th November, 1996
2	Andhra Pradesh (5 districts)	27-8-1996	17-9-1996
3	West Bengal	24-4-1997	10-6-1997
4	7 DPEP Phase I states (expansion districts), Uttar Pradesh, Bihar and Orissa (3 districts)	2-9-1997	23 rd to 26 th Sept., 1997
5	Andhra Pradesh (14 districts)	3-2-1999	14-6-1999
6	Uttar Pradesh (3 districts)	1-6-1999	3-11-1999
7	Uttar Pradesh (38 districts)	November, 1999	27-3-2000
8	West Bengal (5 districts)	15-12-1999	28-12-1999
9	Orissa (Phase 2 districts)	May 2001	
10	Rajasthan Phase I (10 districts)	Sept. 1999	
11	Rajasthan Phase 2 (9 districts)	Sept. 2000	

DPEP specifically focuses on the educational development of the girls and children belonging to the SC and ST families, who suffer maximum from all types of deprivations.



efforts, states have ventured to replicate many activities in the non-DPEP districts as well⁶.

The DPEP aims to achieve the long cherished goal of UEE in the country through district planning with emphasis on participatory processes, empowerment of the local community and weaker sections of the society and building the systems' capacity to handle large scale projects. Each district prepares its educational development plan with an overall ceiling of about Rs.30-40 Crores covering a period of 5-7 years. The DPEP encourages districts to develop area specific and need based plans so that these remain relevant for the district. The DPEP also encourages the involvement of local administrators, community and other interest groups in the preparation of district perspective plan. The DPEP is thus a unique experiment for reaching the unreached with quality primary education. The DPEP specifically focuses on the educational development of the girls and children belonging to the SC and ST families, who suffer maximum from all types of deprivations. The ceiling of 24 percent for civil works (now revised to 33 percent) and 6 percent for management expenses ensured that DPEP inputs are predominantly utilized for qualitative improvements.

DPEP is a contextual program and this premise is fully reflected in the establishment of Block Resource Centre (BRC) and Cluster Resource Centre (CRC) in each district so that the academic needs of teachers are better responded at the lower levels. The district education officer is far too removed and inaccessible to the remote primary schools. The teachers in DPEP districts face a major challenge of teaching the first

generation learners having diverse background and expectations. Therefore, teacher development is central to quality improvement efforts under DPEP. The BRCs and CRCs are not administrative units but focus on academic functions. Despite this clarity about the role of BRCs, in some places tension prevails between the BRC Coordinator and the Block Education Officer. Notwithstanding this, the establishment of sub-district structures have created a positive ambience for the teacher development through peer group discussions, seminars, short duration training, discussion groups and sharing of experiences.

The mid-term review of the DPEP was conducted in 1998 and it endorsed the premise that the DPEP is progressing in the right direction. It also highlighted some concerns, especially those pertaining to sustainability aspects. The future challenge for DPEP is to ensure that decentralised planning and management is accompanied by building partnership with local bodies and Panchayati Raj institutions. It also requires adequate capacity building up to the grassroots so that the long-term sustainability of innovative practices can be ensured.

1.6 Monitoring and evaluation framework under DPEP

There is a growing body of literature that suggests that the basic necessity for the success of any sustainable reform is to have a continuous and unbiased assessment of the system by clearly identifying its strengths and weaknesses. No development program has ever been completed successfully without a sound monitoring and decision support system. The slow progress or the failure of a program to take-off is often associated with poor monitoring and feedback mechanisms. The complexity and diversity of a monitoring system increases directly in proportion to the outreach and physical deployment of movable and immovable resources in geographical space. Education is a

⁶ Experimentation with different models of alternative schooling including EGS of Madhya Pradesh, textbook design and development, teacher training, district information management system, monitoring and evaluation mechanisms and research based intervention have led to their replication within DPEP and non-DPEP districts.

unique development sector with the highest degree of penetration in geographical space as compared to any other organized activity under the management and control of the government. It is also one of the largest employers of educated manpower. These characteristics of the education sector make it necessary to have strong and integrated system of data management, flow of information and its analysis and sharing across various users. As India strives to increase access and participation of students in various types of educational activities, the complexity and spatial spread will further increase. Similarly, the demand for information multiplies as the layers of decision-making, control and monitoring increase. The move towards decentralization of decision making in social sectors, including school education, may not reduce the need for centralized databases and monitoring systems but will necessitate the development of integrated and national level information systems so that the information/data needs of development administrators at various levels could be met in an integrated, consistent, comprehensive and comparable framework. Since DPEP is a district specific project, M&E activities also focus on the district and lower levels. It was decided to establish information systems at various levels with the following objectives:

- a) Track the progress of delivery of project inputs;
- b) Monitor trends in key education parameters in the project areas; and to
- c) Measure the progress towards long-term development objectives of the education sector.

It was postulated that the first set of indicators would be provided from a specially designed Project Management Information System (PMIS) which reports on fund flows and delivery of key project inputs such as civil works, appointment of teachers, training of personnel, completion of research and other studies, expenditure and reimbursement claims submitted. The PMIS tracks both physical and financial data. It was postulated that PMIS data for each DPEP district would be available quarterly. In a recent decision of the MHRD, the national level monitoring of PMIS uses the state level aggregates

and the district level monitoring is undertaken by the respective state governments. Thus there is no systematically maintained database on district level performance indicators covered under PMIS.

The second set of indicators is to be derived from a school information system that was developed at NIEPA. The school information system is established under the name of District Information System for Education (DISE). The DISE reports on key variables and performance indicators at the school, CRC, Block and district level. Important variables for monitoring purposes include number of schools, enrolment, teachers, classrooms, and is further disaggregated in terms of male/female, SC/ST or other similar categories. The trends in key performance indicators are also reported in terms of repetition rates, GER, NER, student classroom ratio, pupil teacher ratio and other such indicators.

The third set of indicators are to be derived from monitoring and supervision reports of the review missions, research studies conducted at the district, state and the national level and special surveys conducted to examine some aspects of delivery, implementation and impact of project activities. Survey research would be complemented by evaluation studies including classroom observations. Household surveys and micro planning studies conducted as a part of district planning would provide further insights into the functioning of educational institutions and form the basis for the development of plans for universal primary education in each village. The foregoing description provides a synoptic view of the importance attached to M&E in the DPEP framework. Table 1.4 provides an overview of DPEP objectives and the sources of information for monitoring of project activities.



Project Management Information System tracks both physical and financial data. It was postulated that PMIS data for each DPEP district would be available quarterly.

Table 1.4
DPEP objectives and benchmarks

Objective	Benchmark	Data source
Access	Provide, according to national norms, access for all children to primary education Grades, or where not possible, to equivalent non-formal education.	PMIS, EMIS
Equity	Reducing differentials in enrolment, dropout and learning gender and social achievement among groups to less than 5%	PMIS, EMIS, MRE and project progress reports
Efficiency	Reducing the overall primary dropout rate for all students to less than 10%	EMIS
Achievement	Raise average achievement levels in language and mathematics by at least 25% over measured baseline levels and ensure 40% achievement levels in other competencies.	MRE
Capacity building	Number and percentage of active VECs, number of functional BRCs; DIETs adequately staffed; SIEMAT established staffed and operating; DPEP Resource Groups established and operating in participating states; PMIS, MIS and monitoring-research and evaluation (MRE) program operating.	Progress reports Special studies Review reports and field visits

Source: Staff Appraisal Report, Second District Primary Education Project, World Bank, 1996.

1.7 Objectives of the study

The present study examines various dimensions of access and retention in DPEP districts and specifically focuses on:

- ♦ The analysis of the structure and trends in enrolment for DPEP districts and to examine trends in district level performance indicators.
- ♦ The analysis of equity related issues in access and retention.
- ♦ The analysis of data pertaining to completion rates using true cohort method.
- ♦ The identification of issues and implications of the above findings on the design and management of the program for universal primary education in general and that of DPEP in particular.

1.8 Sources of data and framework of analysis

The data collected by the DPEP states using DISE formats continues to be the main data used in the

present analysis. In addition, data from census and other secondary sources was used depending upon their availability. It may be noted that the analysis pertaining to enrolment data collected through DISE/MHRD and other sources suffers from some serious inadequacies. First, DISE collect data on enrolment as on 30th September of each year and does not collect any data on attendance. Some data was collected on attendance through the survey for 'Sample Validation of DISE Data' and was shared with the DPEP states and other concerned agencies. Second, data on age distribution of children in various classes is not collected through educational statistics of the MHRD. However, DISE provides the age specific enrolment data disaggregated by sex, caste and class; and finally, the distribution of enrolment by different social and economic categories is generally not available from MHRD in the disaggregated form. An attempt was also made to collect data on new admissions in various Grades. However, the scrutiny of data capture formats indicated that the concept was not properly

Share of girls in enrolment (I-IV/V)

$$\text{Index of Gender Equity (IGE)} = 100 \times \frac{\text{Share of girls in enrolment (I-IV/V)}}{\text{Share of girls in population (6-10/11)}}$$

Share of girls in population (6-10/11)

understood in many districts. Therefore, the data on new admissions has not been used in the present study. The DISE data on the distribution of enrolment by caste groups (SCs and STs) has also been used in the study.



Social Equity was reported for only those districts where the SC or ST population constituted more than 5 percent of the total population.

1.8.1 Index of Gender Equity

Besides descriptive statistics, the following indices were developed to sharply focus on equity issues.

The above ratio adjusts the share of girls' enrolment in relation to sex ratio for each district. A value of 100 for the index reflects a complete absence of gender inequities. A value of less than 100 shows less than proportionate representation of girls in enrolment and the opposite if the calculated value of the index is more than 100. However for the purpose of the present study, a value of 95 and above for the IGE was considered as indicative of the near absence of gender based inequities, as it is within 5 percent of the maximum attainable of 100. It may be noted that IGE reflects the level of inequities and does not tell anything about the achievement of universal access or retention. The IGE may tend to give high values even when the participation of both boys and girls is low. GER and NER should be used in conjunction with IGE to fully understand the situation as far as participation in primary education is concerned. The ultimate objective is to achieve high value of GER/NER along with high values of IGE. Low GER and high IGE may not be of much consolation, as it would represent a situation where both boys and girls participate equally but the levels of participation remains low.

1.8.2 Index of Social Equity

The share of SC and ST students to total enrolment does not convey much except when it is compared with their corresponding share in the population. Similarly, the GER, which is often used as a measure of access and participation, does not reflect on the

inequities between SC and other groups of population. Therefore, in order to overcome these problems, an Index of Social Equity was calculated in the following manner:

Similarly the Index of Social Equity can be calculated for the participation of STs in primary education. The Index of Social Equity may not present correct picture if the share of SC/ST to total enrolment is very low. The results should be interpreted carefully when the share of SC/ST in total population is less than 5 percent. In the present study, the Index of Social Equity was reported for only those districts where the SC or ST population constituted more than 5 percent of the total population.

The indices of equity as discussed above are gross in nature. It includes all primary school attending children in the numerator and the corresponding share of age specific population in the denominator. Therefore, the presence of a large number of underage and overage children will tend to over estimate the index especially when the population base is small. Moreover, the proportion of population belonging to different social groups is not available on year-to-year basis. Therefore, the present study uses the proportions based on 1991 census. Any change in this proportion after 1991 will have a corresponding effect on the index of social/gender equity, which has not been captured in this study. Maharashtra has recently included many castes under the category of ST but their population size is not available from any source. Therefore, the estimation of the indices based on

$$\text{Index of Social Equity (ISE)} = 100 \times \frac{\text{Share of SC enrolment in total enrolment (I-IV/V)}}{\text{Share of SC population in total population}}$$

DPEP program has expanded to cover 248 districts in eighteen states. The present study covers a total of 192 districts of which 39 belonged to Phase I.



ST population may not reflect true picture for the state of Maharashtra.

1.8.3 Repetition rates

The repetition rate is an important indicator of the internal efficiency. It is defined as the proportion of children of a cohort enrolled in a given Grade at a given time who study in the same Grade in the following school year. The repetition rate was calculated separately for the primary cycle of education and for Grade i. Repetition rate was also calculated for the boys and girls separately for comparative purposes. The repetition rate was calculated using the following formula.

$$r_i^t = \frac{R_i^{t+1}}{E_i^t}$$

Where

r_i^t is the repetition rate in Grade I in school year t

R_i^{t+1} is the number of pupils repeating Grade I in school year t+1

E_i^t is the number of pupils enrolled in Grade I in school year t

1.9 The coverage and classification of districts

As mentioned above, the DPEP was initiated in 1994 in 42 districts spread over seven states (now eight). Since then the program has expanded to cover 248 districts in eighteen states As mentioned in the EFC approval, the number of districts for Bihar was taken to be 17. Similarly, the program interventions were not made for first few years in Karbi Anglong district. The original three districts of Tamil Nadu were split into four soon after the launch of DPEP and hence reporting is being done for four districts for Tamil

Nadu. This effectively brought the number of DPEP districts in Phase 1 to 43. The present study covers a total of 192 districts of which 39 belonged to Phase I. Time series data for five years is available for Phase I and three years (with the exception of Kerala, Andhra Pradesh and Rajasthan) for Phase II districts.

Time series data is not available for all DPEP districts. Therefore, the data for some districts was excluded because of incomplete data for all years. Based on the availability of data for various years, the districts were divided into the following four Groups. The present study follows the classification as shown below.

Group 1: Group 1 consisted of DPEP Phase 1 districts but excludes those districts for which complete time series data was not available. The data for 39 districts is included in Group 1.

Group 2: This group consists of expansion districts, Phase II, Phase III and other districts where the DPEP implementation was initiated during 1997/98. The districts for which complete time series data was not available were excluded. In all data for 86 districts is included in Group 2. The state of Andhra Pradesh was covered under DPEP during 1997/98 but the complete DISE data is not available for the previous years. Therefore, none of the districts from Andhra Pradesh is included in Group 2.

Group 3: Group 3 districts consist of those districts for which the data is reported for the first time during 2000-01. The states of Andhra Pradesh, Uttar Pradesh and Uttaranchal are included in Group 3. Some districts of Uttar Pradesh were included in Group 2. Five expansion districts of West Bengal were also included in Group 3.

Group 4: Group 4 includes districts for which complete time series data was not available. The missing data may be for the current year or for any of the previous years. Such districts were grouped separately so that there are no problems during the time series analysis. In all 4 districts were included in Group 4.

Table 1.5
Classification of DPEP districts into groups, 2000-01

State	Group 1	Group 2	Group 3	Group 4	Total
Andhra Pradesh			18		18
Assam	4	5			9
Bihar		8		3	11
Gujarat		3			3
Haryana	4	3			7
Himachal Pradesh		4			4
Karnataka	4	7			11
Kerala	3	3			6
Madhya Pradesh	15	13			28
Maharashtra	5	4			9
Orissa		8			8
Tamil Nadu	4	3			7
Uttar Pradesh		14	34		48
West Bengal		5	5		10
Chhatisgarh		1			1
Jharkhand		5		1	6
Uttaranchal			6		6
Total	39	86	63	4	192

Table 1.5 provides the details of the districts included in various Groups. A complete list of districts falling in each Group is given as Annex Table 1. The present analysis is based on this classification. The situation regarding the availability of data from various states/districts has already been presented earlier.

The present study uses the data received from the states. It is assumed that the DPEP states have taken adequate care to collect the required data from all schools and has satisfied itself about the coverage, quality and authenticity of the data submitted to the DPEP Bureau for the compilation of national trends. However, some inconsistencies in the data were observed at the national level and the same were referred back to the states for their feedback and verification. The authors of this report are not responsible for the quality of school data. It is anticipated that the states would be again able to

reflect on the findings of this study and undertake appropriate studies to validate the findings.

It was decided to classify the states in terms of quality of data and its reporting on time. While the indicators for measuring the quality of data are under discussion and are yet not final, an attempt is made to classify the states in terms of timeliness of data collection and reporting. Discussions with the states would be initiated in the coming days to develop a mutually acceptable scheme of classification based on the above indicators. For this year, the states have been classified according to the completeness of data and the time when the data was finalized and shared with the TSG. The five categories into which the states have been classified are as follows:

The annual DISE review workshop is held every year and besides other things, a tentative plan of completing the DISE activities for each year is drawn

Table 1.6
Classification of states according to completion of DISE activities for 2000-01

Category	Criterion	States
A	Data for all DPEP districts shared at the national level by end January 2001	No state could supply complete data before end of January, 2001
B	Data for all districts shared at the national level by end March 2001	Bihar, Gujarat, Himachal Pradesh, Karnataka, Kerala, and Tamil Nadu.
C	Data shared for all districts at the national level by end June 2001	Assam, Haryana, Madhya Pradesh, Orissa and West Bengal
D	Incomplete data shared or data shared after June 2001	Andhra Pradesh, Chhatisgarh, Jharkhand, Maharashtra, Uttar Pradesh and Uttaranchal
E	No data shared for academic year 2000-01	Rajasthan

up. These plans for 2000-01 indicated that most states should have shared the DISE data with the DPEP Bureau by end of January 2001. Table 1.6 clearly illustrates that many states could not complete the computerization and analysis of DISE data till June, 2001. As many as six states supplied the data after June, 2001. The late finalization of data seriously affects its utilization for planning and management of education. Rajasthan has not been able to articulate its strategy for implementation of DISE. It is understood that the professional staff in Rajasthan has been recently appointed for Phase I districts and the position regarding Phase 2 districts is yet not clear.

The Government of India has recently taken a decision to recognize the DISE data as official data which would ensure long term sustainability of DISE and also paves the way for its extension to SSA and non DPEP districts in all states in a phased manner. It is therefore important that the states should take all precautions to get the data in time by following the prescribed procedures.

It is proposed that the above classification would be further refined and fine tuned in the coming days and would be applied to the data collection for 2001-02.

1.10 Strengthening of school education statistics

Each DPEP district is implementing DISE, which is

the prime source of data for analysis presented in the following sections. Each district is expected to complete the data collection during October and complete the computerization by December/January of each year. A comprehensive program of sharing the data at the block/cluster and school level was developed by all states. A copy of the district data is also received at the state level, where the comparative analysis is undertaken for all the DPEP districts. Another copy of the district level data is obtained at the Technical Support Group (TSG) of the DPEP Bureau for compilation of the national reports.

Despite best efforts of the MHRD/TSG/NIEPA, the implementation of DISE continues to suffer in some states/districts. This is reflected in delayed data collection, lack of proper consistency checking and validation of data, inadequate training of the field functionaries and school heads, lack of required manpower and hardware, less than expected response from state/district administration and inability to share data according to the prescribed procedures. It is no doubt true that DISE has reached a stage of sustainability and paved the way for its large scale replication at the national level; localized problems of compliance remain to be resolved.

The states should be impressed upon to follow norm based planning and persuaded to implement national systems of monitoring and evaluation. This would not only help the DPEP, but the country

as a whole in establishing a reliable and dependable system of data collection, management and analysis.

In addition to the DISE, many additional mechanisms for data validation and quality control of school statistics were also introduced. First, a 5-10% validation check is undertaken in all districts immediately after data collection. Second, the software provides for many consistency and validation checks. Third, a national survey is conducted every 2-3 years to establish the quality and reliability of DISE data. The second post enumeration validation survey is in progress now. Fourth, the reverse flow of data has been strengthened to ensure transparency and dissemination of data up to the school level. These types of validation measures and transparency of data has resulted in considerable improvement in the quality of data collection and reporting.

The DISE has also a inbuilt provision for regular feedback. Besides the annual review workshops, the first major review of the DISE was undertaken during 1997/98 and was further followed by an extensive review during 2000/01 resulting in DISE2001. The capacity building program for implementing the new data capture formats and the software (DISE2001) have been undergoing since the last one year. The continuous improvisation is necessary to reduce data redundancy and fine tune the data collection formats and the corresponding software with the emerging needs. Therefore major reviews with a 3-4 years gap have not only provided the necessary inputs for updating the EMIS approach but also ensured continuous involvement of the states and stakeholders in monitoring and evaluation.

The success of the DISE to provide timely data for planning and monitoring of DPEP activities created a positive atmosphere for extending the scope and coverage of DISE, both horizontally as well as vertically. A major review of school level data collection mechanisms was initiated in the year 2000 and has just been completed successfully. The review was undertaken to:

- a) examine the data capture format for its relevance;
- b) examine the scope for expansion of coverage to upper primary education;
- c) examine the likely revisions in the DCF as a result of the above;
- d) develop and upgrade the DISE software to make it more rewarding for the states and districts;
- e) provide facilities for collection of supplementary and additional data without resorting to multiple collection of data from schools;
- f) examine the possibilities of supporting the states willing to extend the DISE to non DPEP districts; and
- g) examine the mechanisms for strengthening the capacity of the districts and states to use the DISE data for planning, and monitoring of DPEP activities at the state, district and sub-district level.

During the last one and a half year, the DISE review was completed with the participation of educational experts, the representatives of the MHRD and the state governments of the DPEP states. New data capture formats were designed which included the data up to upper primary stage and included many new variables on which school data was necessary. While doing so many unnecessary variables were also deleted. Data on individual teachers, medium of instruction, transfer cases from one school to another, types of repetition, children with special needs and examination results in penultimate Grades would be collected from year 2001-02. The main features of the revised DISE are summarized as:

- ♦ DISE would cover complete elementary stage (Grades 1 to 8). Thus the DISE data for September, 2001 would pertain to both primary and upper primary levels of education.



New data capture formats were designed which included the data up to upper primary stage and included many new variables on which school data was necessary.

- ◆ The revised DCF capture two types of data: village and the school level.
- ◆ Village level data comprises variables relate to the access to educational facilities of various types, identification of habitation without access to primary and upper primary schools based on distance norms, inventory of all types of educational institutes including recognized and unrecognized schools in the village, selected data on the number, enrolment and teachers/instructors in NFE/EGS and alternative schools, pre-primary education including *Anganwadis* and *Balwadis*. Data on age specific population and out of school children generated through household surveys forms part of the village data.
- ◆ The concepts and definitions of educational variables have been standardized at the national level. All states/districts follow the same definitions.
- ◆ The software provides facilities for school code generation which is unique and consistent with various administrative levels. This facilitates the analysis of data for various administrative levels.
- ◆ Defines core data on school location, management, rural-urban, enrolment, buildings, equipment, teachers, incentives, medium of instruction, age-grade matrix, and children with disabilities, examination results and student flows.
- ◆ The states/districts have flexibility of adding supplementary variables depending upon their specific requirements on year to year basis. No additional software for computerization and analysis of state/district specific data is required.
- ◆ Detailed database on individual teachers, Para-teachers and community teachers and their profile including data on in-service training received would be available under DISE2001.
- ◆ Eliminates the chances of data manipulation at various levels. The school remains responsible for the correctness of the data supplied. The software provides for internal consistency and exceptional cases listing.
- ◆ The state/districts can develop their own large databases using 'designer' module and integrate a variety of school/cluster/block level data with DISE2001. The software handles multiple databases at various levels and includes many tools of data analysis and presentation.
- ◆ A large number of standardized reports on school related variables and performance indicators aggregated at the cluster, block and district level are generated by the software.
- ◆ School summary report for each school is generated for sharing with the school/VEC. The school summary report contains key data on school and a summary of indicators which are compared with the cluster, block and the district averages. The transparency and sharing of data at school/village level has led to considerable improvement in the quality of reporting and also provides a chance to the stakeholder to know about the status of their school.
- ◆ An easy to use dynamic graphics facility to enhance the presentation of various types of graphs and data. This feature is available for the raw data as well as with the generated variables.
- ◆ Multi-user and modular system of software design for better management and security of databases. The software uses 'Oracle' as the backend tool for database management. The software works on both personal Oracle as well as Oracle for Workgroups.
- ◆ Predefined queries on standard aspects like school list, list of villages without primary and upper primary schools, single teacher schools, schools without buildings, schools with high PTR etc., Users can define and save other queries.
- ◆ User defined dynamic query on hundreds of variables to facilitate day-to-day management.
- ◆ Facilities for basic statistical analysis including generation of new variables and their analysis.
- ◆ The 'report viewer' module provides the facilities for sharing of standard reports with a multiple users without full software installation. This provides for sharing of electronic reports on performance and other indicators.
- ◆ Data can be exported to many other formats for statistical and other analysis by users.
- ◆ The data from the district to state level is

transferred following multiple modes including the transfer through Internet.

The data transparency, downward communication and sharing of data up to the school level has been initiated as a part of DISE. The school summary report is made available to all schools for data verification and sharing with VEC members. For the first time, a District Report Card on primary education was released during 2000 which contained time series and cross-sectional data on more than one hundred variables/indicators at the district level.

NIEPA has been preparing a national level report on Access and Retention based on DISE data. Four such annual reports have already been released. The states also prepare a consolidated report and share their findings in project review meetings. Efforts are also continuing to promote the use of DISE data for planning, management and monitoring of DPEP through case studies, orientation and training workshop of educational administrators and professional staff belonging to EMIS cells at the state and district levels.

It is not only a question of reducing physical distance between the school and the learner but bridging of the social distance is equally important. Quality infrastructure, dedicated teachers, relevant curriculum and participatory modes of decision making and monitoring are necessary conditions for imparting quality primary education.



Improving quality of universal access

A prerequisite for the attainment of UPE/UEE is the participation of all children in education through formal or alternative and through government or private modes of education. Therefore, matching the demand and supply of educational facilities is a continuous process and is the outcome of complex social and economic development factors. It is also necessary to recognize that any type of school would not do, if the real education is to be imparted. The quality of infrastructure in formal or alternative systems of education is as important as their availability. All schools should have similar quality of infrastructure whether in rural or in urban areas and should be provided with similar quality of teachers and other resource inputs without any discrimination between rural and urban schools or between the schools in economically backward and prosperous regions. *A level playing field* in terms of facilities and resource inputs for primary schools is vital for achieving the objectives of quantity and quality. Planning for creation and management of educational infrastructure is thus fraught with many challenges, especially in a country like India which is characterized by vast regional, social and economic differentials. A perusal of various commissions and committee reports unambiguously highlight the imbalances in the creation and maintenance of educational infrastructure. It is not difficult to find schools without buildings, schools without teachers and teachers without schools.

The DPEP has addressed the issues related to school infrastructure in a big way. But the resources available within the DPEP framework are far too short to completely undo the historically obtained imbalances in school infrastructure. Convergence with social sector development programs and a long term strategy is required to address many of these issues. A five year plan period is too short to address infrastructure related questions. The department of education in the states as well as at the national level should develop a ten or twenty year plan of rehabilitation of school infrastructure. In the present chapter, issues related to the availability of schools and related infrastructure would be examined in detail.

2.1 Demographic challenge

The size and structure of population are both the determinant of development as well as its consequences. It is also associated with the provision of educational infrastructure and other social services. One of the reasons for the slow progress towards UPE/UEE was a steep rise in India's population during the fifties and sixties. Therefore, population growth is the single most important factor determining the long term demand for education and associated services. It not only raises the issues related to the long term financing of education but also provides an insight into the geographical, social and gender disparities that require resolution in the long term. It is in this context the projections of 6-14 year age group population becomes imperative not only at the

national but also at the micro level as the investment in creation of physical capital assets like classrooms and other fixed investment are rooted in the micro systems. Studies on enrolment and demographic projections are limited and their implications at the micro level are yet to be examined in the comprehensive manner. Such efforts would be particularly important that the demographic characteristics of various regions in India are undergoing significant changes.

The year 2000 was of great significance in Indian demographic history as the population crossed 1 billion mark. The 2001 census provisional estimates indicate a total population of 1.03 billion as on March 1, 2001. The percentage decadal growth during 1991-2001 registered the sharpest decline

Table 2.1
Population growth in DPEP states

Sr.	India/State	Total population (in thousands)			Sex ratio (females per 1,000 males)	Density (per sq. km)	Decadal growth rate
		Persons	Males	Females			
	INDIA	1,027,015	531,277	495,738	933	324	21.34
1	Andhra Pradesh	75,728	38,287	37,441	978	275	13.86
2	Assam	26,638	13,788	12,851	932	340	18.85
3	Bihar	82,879	43,154	39,725	921	880	28.43
4	Chhatisgarh	20,796	10,452	10,344	990	154	18.06
5	Gujarat	50,597	26,344	24,253	921	258	22.48
6	Haryana	21,083	11,328	9,755	861	477	28.06
7	Himachal Pradesh	6,077	3,085	2,992	970	109	17.53
8	Jharkhand	26,909	13,861	13,048	941	338	23.19
9	Karnataka	52,734	26,856	5,878	964	275	17.25
10	Kerala	31,839	15,469	16,370	1,058	819	9.42
11	Madhya Pradesh	60,385	31,457	28,928	920	196	24.34
12	Maharashtra	96,752	50,334	46,418	922	314	22.57
13	Orissa	36,707	18,612	18,095	972	236	15.94
14	Rajasthan	56,473	29,382	27,091	922	165	28.33
15	Tamil Nadu	62,111	31,269	30,842	986	478	11.19
16	Uttar Pradesh	166,053	87,466	78,587	898	689	25.80
17	Uttaranchal	8,480	4,316	4,163	964	159	9.20
18	West Bengal	80,221	41,488	38,733	934	904	7.84

Note: The states are arranged in terms of descending order of population increase during 1991-2001.

since independence. It declined from 23.9 percent for 1981-91 to 21.3 for 1991-2001 (Table 2.1). West Bengal, Uttaranchal and Kerala have achieved a decadal growth of less than ten percent during nineties and are closely followed by Tamil Nadu and Andhra Pradesh which showed a decadal growth of 11.2 and 13.9 percent respectively. The growth rates of population in Rajasthan, Uttar Pradesh and Madhya Pradesh are now at a level where Kerala and Tamil Nadu were about four decades ago. Therefore, the demographic situation in India presents mixed picture of hope and despair. The impact of DPEP on population dynamics is too early to detect. However, the literacy profile of DPEP districts has been examined in later chapters.

The Working Group on Elementary and Adult Education constituted by the MHRD has projected the enrolment till 2006-07. Three alternative scenarios have been presented and all the three projections point to an enrolment of 117.64 million in primary Grades in 2006-07. The current estimates vary from 113 million given by the MHRD to 102.25 million obtained after adjustment of over reporting. In our view the problem now is not in terms of the difference of gap in existing and target enrolment but it is a question of locating and bringing the out of school children back to the fold of education through formal and alternative modes of education. Locating the children is thus a major problem which has to be solved through innovative strategies of targeting.

The other implication of enrolment projections is a clear indication that the pressure for upper primary school places is going to rise considerably. The Working Group estimates indicate an enrolment of

about 58.2 million in 2006-07 as compared to the present enrolment of about 44 million. The additional demand for elementary education in the government schools is the net outcome of two factors, namely the increased coverage at primary stage, secondly, the improved internal efficiency and holding power of the primary schools; thirdly, with a focus on upper primary education, the access to upper primary education and its internal efficiency would also increase. The implication of such a scenario for the policy and development planners need to be examined not only at the national but more so at the state and district level. It requires a clear strategic plan for each district in the country to meet the quantitative and qualitative targets so that the progress towards UEE/UPE does not jeopardize the objectives of equity and social justice.

2.2 Improving access

As mentioned above, the provision of primary education facilities is governed by the nature and structure of the target population groups and their distribution across geographical space. In view of the small children who attend primary schools, the provision of schooling facilities within easy walking distance of all children is a prerequisite for achieving the goal of UPE. A unique feature of settlement pattern in India is the presence of a large number of smaller habitations with a population of less than 300 persons. Studies show that an independent primary school with five Grades is not viable in nearly 50 percent habitations having population of less than 300 persons. The latest data from Sixth All India educational Survey shows that 93.8 percent population had access to primary school/section either within the habitation or at a maximum distance of 1 Km. from the habitation¹. It also shows that

¹ The NCERT's Sixth All India Education Survey presents a large number of tables on issues related to access. Despite some valuable data, the analysis and the framework of data collection on accessibility suffers from many inadequacies. First, in terms of access, it does not refer to the school going age group population (6-14 years age group) but is based on the total population. There are significant variations in the structure of population, especially at the village and habitation level. Second, the availability of schooling facilities does not mean their adequacy. There are many instances when a single dilapidated school is serving a village of a population of 5000 or above. Third, the proportion of population served by a school within different distance slabs refers to government schools only. In the recent years, many habitations are exclusively served by the private schools and the government school may not be available in the neighbourhood. Fourth, the analysis does not provide an idea about the shortage/excess capacity in the existing schools. This is necessary for perspective planning, especially at the grassroots. Finally, the concepts of a habitation and the measurement of distance are not clearly defined and leave much to the judgement of the field investigator.

The urban areas present a classic case, where the out-of-school children can be found in the neighbourhood of many government schools.



nearly 2 percent of population does not have access to a primary school even within 2 kms. Therefore, even within the prescribed norms, 6.2% population is not being served by a primary school within the habitation or within a distance of one kilometre from the habitation. The corresponding value in some of the educational backward states is higher- for example, 11.4 percent of population in Uttar Pradesh was without access to a primary school within a distance of 1 km. Fig. 2.1 shows the percentage population served by a primary school/section within the habitation.

An important reason for the relatively easy success of universal primary education in states like Kerala, Tamil Nadu and Karnataka is the near absence of very small habitations. The states of Uttar Pradesh, Madhya Pradesh, Rajasthan, Orissa and Bihar are characterized by the presence of a large number of small and dispersed habitations. In view of these factors, the provision of a primary school within all habitations is not feasible. The state norm is to provide a school in all habitation having a population of 300 either within the habitation or at a maximum distance of 1 km. Relaxation is available for habitations in hilly and sparsely populated areas.

The availability of schooling facilities at a particular location does not mean that there is no further scope for improving access. There are hardly any studies that have examined the accessibility conditions and their adequacy to meet the present and projected demand for education. The urban areas present a classic case, where the out-of-school children can be found in the neighbourhood of many government schools. Moreover, walking a distance of 1 km., in adverse climatic or

topographic conditions like hills, uneven terrain, rains, summer and extreme windy weather has its own problems and affects regular school attendance even though the school is located at a reasonable distance from the habitation. It is also important to mention that the availability of schooling facility does not imply adequacy of infrastructure including teachers, classrooms and instructional materials. Often, schools in isolated rural settings are found to be without adequate teachers, classrooms and instructional materials.

The availability of schooling facility even within the habitation does not offer any guarantee that all children in the eligible age group attend school. Estimates indicate that due to various constraints, a large number of children in the 6-10 age group continue to remain outside the formal/informal system². These groups include working children, school dropouts and those who never attended a school. Children with special needs are another such group. Therefore, even if the strategy for UEE takes into account non-formal strategies to reach the out of school and working children, some children are hard to reach.

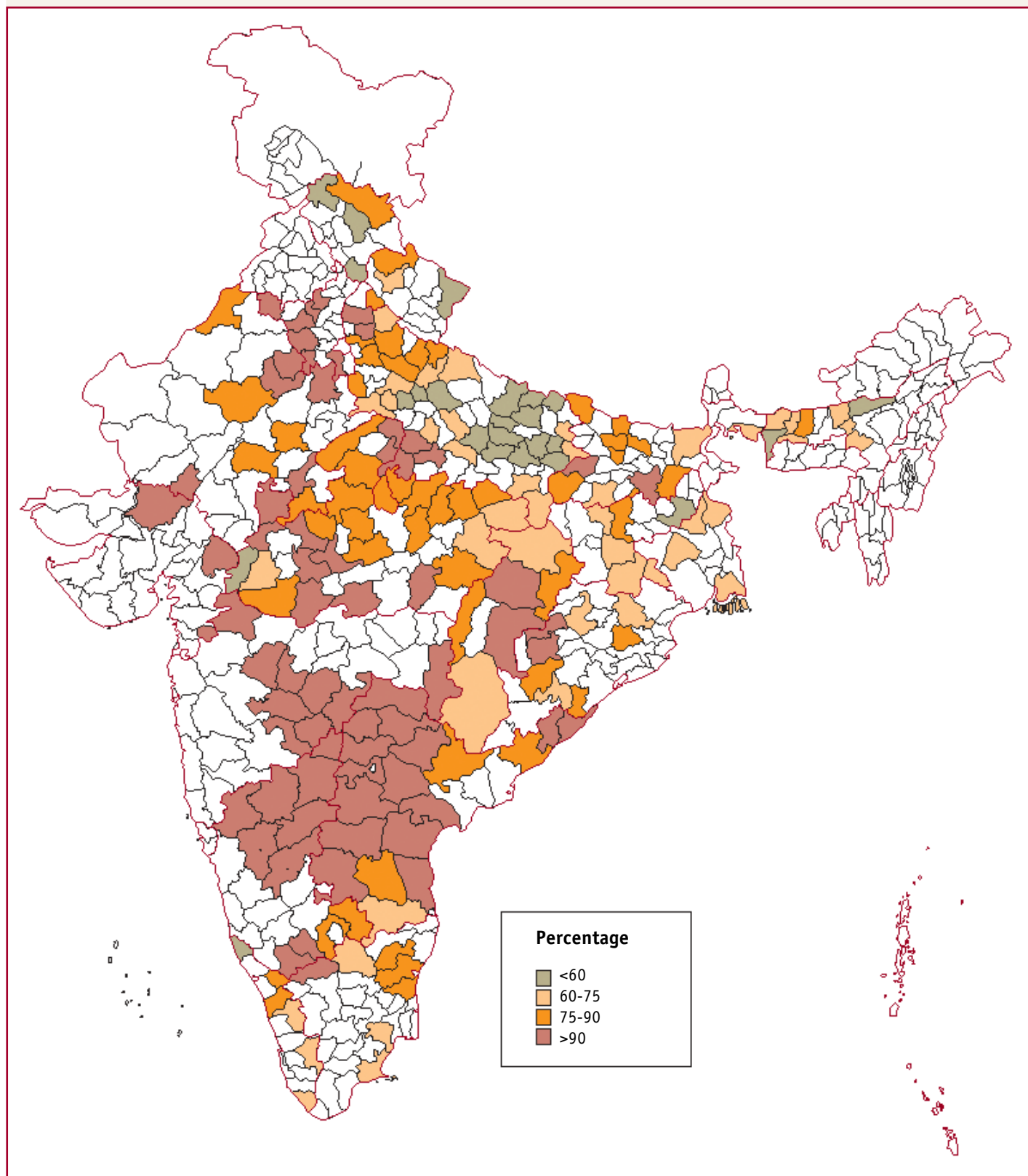
2.3 Alternative and innovative modes of teaching learning

Based on the experiences of implementing the NFE, a need was felt to develop a more flexible approach to the education of the out of school children in 6-14 years age group. The DPEP experimented with a number of innovative models. These efforts are classified under the category of 'Alternative Schooling'. In the last few years, the AS has expanded considerably especially in all DPEP states but more so in Madhya Pradesh. It is reported that many students from the regular schools have shifted to the alternative/EGS centers due to their convenient location and the commitment of teachers working in these centres. However, precise estimates of the shift away from formal schools to AS/EGS are not available. The phenomenon is worth studying.

² The NSSO estimates (52nd round data) indicate that 31 percent of children in 6-11 age group were not attending school.

**% Population served by a primary school/section
(within habitation)-1993**

India: DPEP districts



Note: Map not to scale

The data received from states shows that 66,998 AS/EGS were functional in various states with an estimated enrolment of 2,456,228. These statistics do not include a vast majority of pupils who attend short term bridge courses or part time classes of a short duration (Table 2.2).

Madhya Pradesh alone accounted for 46% of all learners in AS/EGS centres in DPEP states. It may be noted that not only new AS centres are established but some are closed as well. In Madhya Pradesh, many EGS schools were closed recently. Some EGS schools were closed especially in habitations that did not qualify under the norms. (DPEP, 2000). The number of AS/EGS for each district is reported in District Report Card given at the end of this report.

The outreach of AS/EGS is not comparable even in the educationally backward states like Orissa and west Bengal. A detailed discussion on the

contribution of AS/EGS would be undertaken subsequently.

2.4 School management

The primary schools are often established by the Government to meet the social demand for education. As a matter of policy, the government also encourages the establishment of educational institutions by linguistic minorities, social and welfare trusts, organizations or individuals interested in the cause of education. The schools run by the private managements are further classified into two categories, namely, the recognized and the unrecognized schools. The recognized schools follow the rules and regulations prescribed by the Grant-in-aid rules of the respective state governments where the schools are located. The unrecognized schools are neither required to register with educational authorities nor are forced to follow the state norms for management and organization of

Table 2.2
AS/EGS by state level (September 2001)

Sl. No.	State	Total AS/EGS centres	Total no. of learners attending AS/EGS	% Distribution of learners
1	Madhya Pradesh	23,856	1,130,219	46.0
2	West Bengal	8,556	274,431	11.2
3	Rajasthan	6,088	245,650	10.0
4	Chhatisgarh	5,587	214,863	8.7
5	Assam	3,138	129,622	5.3
6	Uttar Pradesh	4,560	129,323	5.3
7	Bihar	2,251	57,804	2.4
8	Gujarat	2,282	49,422	2.0
9	Maharashtra	3,471	46,773	1.9
10	Orissa	1,631	44,527	1.8
11	Andhra Pradesh	1,332	35,183	1.4
12	Haryana	1,550	35,000	1.4
13	Jharkhand	1,165	30,048	1.2
14	Tamil Nadu	960	19,765	0.8
15	Kerala	325	7,108	0.3
16	Uttaranchal	236	6,490	0.3
	Total	66,988	2,456,228	100.0

Source: DPEP (2001). Progress Overview, 14th JRM, EdCIL, Noida.

Most of the resources allocated for elementary education are consumed by the salaries of teaching and non-teaching staff thus leaving hardly anything for quality improvement interventions.



education as per the prescribed norms. Such schools do not get any state assistance. States like Maharashtra do not allow private unrecognized schools. In reality such schools exist even in smaller towns and rural areas. The private recognized schools are also classified into aided and unaided category. The aided schools receive grants from the government on sharing basis whereas the unaided schools do not get any financial support from the government but follow the state curriculum. Historically, the government had exercised control over the opening of schools. This was particularly emphasized by the colonial powers to limit the spread of mass education. The curriculum for all stages of education is prescribed by the central government and is implemented by the state governments by suitably adopting it to the state situation. All the recognized schools are expected to follow the state prescribed curriculum.

The recognized schools are generally classified into the following categories in terms of their management:

- a) Department of education;
- b) Tribal/social welfare department;
- c) Local bodies;
- d) Private aided;
- e) Private unaided; and
- f) Others (schools established by central agencies like Railways, defense and other departments of the central government).

Categories (a), (b), (c) and (f) belong to the category of government schools and the category (d) and (e) are classified as private schools. The government statistics do not take into account the unrecognized schools.

The state governments have played a significant role

in promoting education in a manner that equity and social justice is achieved in terms of access to educational facilities, especially at the elementary level of education. On an average, the states are spending about 20 percent of their revenue budget on provisions related to education. Of this, nearly half the resources are allocated for elementary education alone. Most of the resources allocated for elementary education are consumed by the salaries of teaching and non-teaching staff thus leaving hardly anything for quality improvement interventions. The central and state governments are supported by a number of national and state level specialized institutions. At the district level, DIETs were established to support the decentralization of educational planning and management of elementary education.

The department of Tribal/Social Welfare also establishes and maintains schools for the children belonging to ST population. The central/state government has a provision of 'special component plan' for the areas dominated by the STs. The schools established by the Tribal/Social Welfare department also follow the curriculum prescribed by the state department of education.

In addition to the above, many other organizations also run schools either on profit basis or as a social service. The education is free (no tuition fee is charged) in government schools and a number of incentives are also given to socially and economically backward sections of the society whose participation in education was low due to historic reasons. Despite free education in government schools, the quality of instruction is poor and hence many parents decide not to send their children to the government schools. Taking advantage of this situation, many entrepreneurs have established fee charging private schools. In the recent years, there has been a great proliferation of private fee charging schools. Between 1986 and 1993, the enrolment in private unaided recognized schools increased at a compound growth rate of 9.5 percent per annum. This is significantly higher than the corresponding increase in enrolment in government schools.

Table 2.3
Trends in the number of schools covered under DPEP

State	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01
Group 1						
Assam	3666*	5152	5714	5297	5379	5436
Haryana	2092	2396	2399	2395	2531	2461
Karnataka	9176	9777	10332	10907	10679	11523
Kerala	1683	893	1653	1778	1778	1787
Madhya Pradesh	20864	23485	23990	23913	25646	25734
Maharashtra	7550	8924	9509	9641	9746	9839
Tamil Nadu	6941	7015	7082	7209	7355	7357
Total Group 1	51972	57642	60679	61140	63114	64137
Group 2						
Assam			6353	6002	6172	6337
Bihar			15465	15701	16114	16311
Chhatisgarh			3092	279	3101	2297
Gujarat			5656	5910	6127	6315
Haryana			1867	1873	2040	2306
Himachal Pradesh			2442	2811	2929	2945
Jharkhand			7174	7184	7339	7887
Karnataka			11764	16153	16408	16746
Kerala			1733	1719	1756	1781
Madhya Pradesh			17929	19728	21123	21538
Maharashtra			7985	7991	8219	8276
Orissa			11275	11363	11515	12209
Tamil Nadu			3181	3275	3323	3307
Uttar Pradesh			19340	20990	22973	23866
West Bengal			11010	13410	14227	14354
Total Group 2			124533	134389	143366	146475
Group 3						
Andhra Pradesh						53954
Uttar Pradesh						43781
Uttaranchal						4406
West Bengal						9264
Total Group 3						111405
Group 4						
Bihar		6029	7713	6704		7756
Chhatisgarh	10791	12339	16175	14901	18880	
Jharkhand			2299	2290		2384
Total Group 4	10791	18368	26187	23895	18880	10140

* Excludes Karbi Anglong district.

Consequently, the share of primary Grades enrolment in private unaided unrecognized schools increased from 5.1 percent in 1986 to 8.6 percent in 1993. There are large inter-state variations, especially with respect to government aided schools. The state of Kerala had close to 50 percent schools under the category of government aided schools. The share of similar schools in other states is very small.

2.5 Schools in DPEP districts

Since its inception, the DPEP has tried to expand access by opening of new schools, especially in the unserved habitations. The DPEP has also tried to coordinate and supplement the efforts of the state department of education as far as provision of new classrooms and schools are concerned. The analysis of additional classrooms and new schools constructed under DPEP would be examined in detail in the subsequent chapters.

Table 2.3 provides data on the trends in number of primary schools/sections for various groups of districts. The trends in the number of primary schools may be the right indicators as far access is concerned. It is a general practice to upgrade the primary schools into upper primary schools and upper primary into secondary or high schools. Therefore, we have examined the trends in the number of schools/sections having primary classes. As per the 2000-01 data, the DPEP Group1 districts had 64,137 primary schools/sections; group 2 districts had 146,475 and the number of primary schools/sections in group 3 districts was 111,405. The overall coverage of DPEP in 2000-01 was 332,000 primary schools/sections.

The distribution of recognized schools by the type of management is shown in Table 2.4. In the DPEP districts, 91.4 percent schools belonged to the category of government, 3.6 percent to private aided

Table 2.4
Distribution of schools by management, 2000-01

State	Government	Private aided	Private unaided	No response	Total
Kerala	53.8	44.9	1.1	0.2	100
Maharashtra	80.8	15.2	3.7	0.4	100
Karnataka	87.8	3.5	7.8	0.9	100
Haryana	87.9	7.3	3.1	1.7	100
Uttar Pradesh	89.0	2.9	7.6	0.4	100
Madhya Pradesh	89.2	1.7	6.5	2.5	100
Tamil Nadu	89.5	10.3	0.2	0.0	100
Andhra Pradesh	92.3	3.1	2.0	2.5	100
Uttaranchal	93.6	1.9	4.5	0.0	100
Chhatisgarh	94.7	0.4	1.2	3.6	100
Gujarat	94.9	2.5	1.7	1.0	100
Jharkhand	96.4	3.1	0.1	0.5	100
Orissa	98.1	0.4	0.5	1.0	100
Bihar	98.7	0.4	0.0	0.9	100
West Bengal	99.5	0.1	0.0	0.3	100
Himachal Pradesh	99.8	0.0	0.0	0.1	100
Assam	100.0	0.0	0.0	0.0	100
Total	91.4	3.6	3.9	1.2	100

and 3.9 percent to the category of private unaided schools. Therefore, the performance of government schools considerably influences the overall DPEP performance. States with high share of privately managed schools include Kerala, Maharashtra, Tamil Nadu, Karnataka, Haryana and Uttar Pradesh. The private schools are practically absent in the state of Assam, Himachal Pradesh and West Bengal. The state of Assam had recently provincialized all private schools. There are large number of venture schools who fall in the category of unrecognized schools and hence their data is not reflected in the analysis.

2.6 Schools by category

Different states have organized their educational systems differently. These differences are not only in terms of the number of years spent in various stages but also in terms of the organizations of the schools. These two types of differentials have resulted in various typologies of schools. For example, there are

primary schools with four years of primary education cycle as independent primary schools, or as a part of the upper primary or of higher levels of schools. Some states have more of composite schools with facilities for 1—7 or 1-8 years of education. The other states have upper primary Grades as part of the secondary and higher secondary schools. The distribution of schools by category is shown in Table 2.5.

Overall, 82.7 percent schools covered under DPEP were primary schools only. Another 14 percent were having Grades 1-7 or 1-8 and hence were classified as elementary schools. These are also called upper primary schools. 2.4 percent schools covered under DPEP belonged to the category of high and higher schools and having the primary sections also.

The state of Karnataka stands out as a unique case where the ratio between primary and upper sections/schools was in favour of upper primary schools. For

Table 2.5
Distribution of schools by category, 2000-01

State	Primary	Elementary primary	Others	No response	Total
Karnataka	43.5	53.5	2.1	0.9	100
Gujarat	55.4	42.3	1.5	0.9	100
Maharashtra	58.0	28.5	13.3	0.3	100
Kerala	69.0	24.0	6.6	0.3	100
Jharkhand	81.0	18.3	0.3	0.5	100
Bihar	81.1	18.0	0.2	0.7	100
Andhra Pradesh	82.2	11.3	5.2	1.3	100
Haryana	84.3	7.1	7.2	1.4	100
Madhya Pradesh	84.9	11.5	2.2	1.4	100
Tamil Nadu	86.7	13.2	0.1	0.0	100
Orissa	87.5	10.9	0.8	0.9	100
Chhatisgarh	91.3	5.0	0.6	3.0	100
Uttaranchal	97.1	2.5	0.3	0.1	100
Uttar Pradesh	97.3	1.8	0.4	0.4	100
Assam	97.8	2.0	0.1	0.1	100
West Bengal	98.3	1.1	0.3	0.2	100
Himachal Pradesh	99.1	0.7	0.0	0.2	100
Total	82.7	14.0	2.4	0.8	100

2000-01, the upper primary schools were far more in number as compared to primary schools. This is in contrast to the situation of Himachal Pradesh where more than 99 percent schools with facilities for teaching of primary Grades were primary schools only. This would invariably mean that given the demand for upper primary education, most of the children can continue in the same school where they received primary education but in the case of Himachal Pradesh, practically all children have to change schools after completing primary education. Annex table 1 provides the information on the structure of primary education in various states.

2.7 Availability of facilities

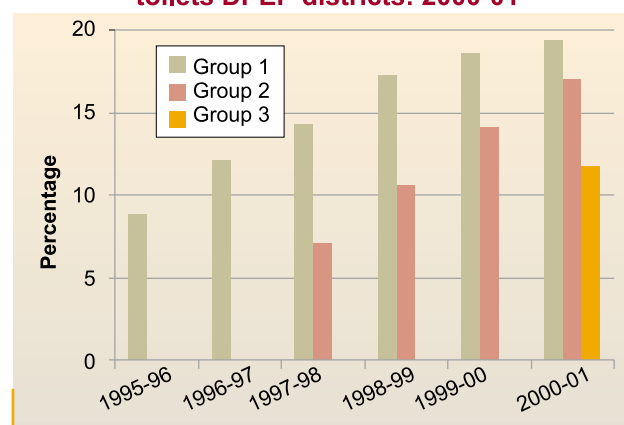
Besides, the teachers and learners, the availability of adequate infrastructure facilities and teaching learning materials constitute the core around which educational activities are organized. Various reviews and research studies have established the link between infrastructure and performance indicators of schools (Aggarwal, 2001). In the following analysis, the availability of general toilets, girls' toilets, boundary wall, drinking water facilities was examined for the DPEP districts.

It is important to highlight that the availability of facilities mentioned above does not mean that all such facilities are fully operational and in use. There are many instances when the toilets and drinking water facilities exist but are in unusable condition due to various factors. The utilization and the condition of infrastructure facilities is, therefore, as important as their availability. Unfortunately such data can not be collected on census basis. It is therefore, suggested studies aimed at studying the utilization pattern of various types of infrastructure facilities including the blackboards, mats and other furniture should be undertaken.

2.7.1 Toilets

Toilets are considered as an essential provision to retain the students. Schools have a provision of two types of toilets, namely, general and girls' toilets. There is considerable gap in the availability of data on infrastructure related variables. The only source

Figure 2.2
Trends in the share of schools having girls toilets DPEP districts: 2000-01



of data on these and related variables is the All India Educational Surveys conducted by the NCERT. The surveys are conducted with a gap of 5-8 years and the results are available after a gap of a minimum of 3-5 years. Moreover, the NCERT data is aggregative in nature and is not amenable to its use for day-to-day decision making.

In the recent years considerable emphasis is given to the provision of toilet facilities, especially for the girls. The DPEP also provides limited funds for the construction of toilet facilities for girls. The Central government also provided considerable financial assistance to the states for the construction of girls' toilets in upper primary schools as per the recommendations of the Tenth Finance Commission. The DPEP has also given considerable importance to the construction of toilets and provision of drinking water facilities (DPEP Progress overview, 2001). Funds from rural development scheme and from the Tribal/Social Welfare departments were also used for the provision of these facilities. As a result of the multi-pronged strategy, the proportion of schools with general toilets and toilets for girl students has increased considerably (Table 2.6 and 2.7).

The following conclusions are drawn from the data presented in table 2.6 and 2.7.

- a) The availability of general toilets is far better than the availability of toilets for girls.

Table 2.6
Trends in the share of schools with general toilets

State	% share of schools having general toilets					
	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01
Group 1						
Assam	4.3	11.0	13.4	17.9	21.7	23.0
Haryana	44.1	60.4	59.9	62.2	63.9	69.0
Karnataka	7.3	10.1	13.7	17.0	21.7	22.7
Kerala	57.0	58.5	60.7	66.8	71.6	70.2
Madhya Pradesh	13.3	12.7	15.6	23.3	25.9	26.8
Maharashtra	18.6	33.4	39.4	42.3	41.0	44.2
Tamil Nadu	10.4	11.9	14.2	17.4	17.8	20.3
Average group 1	14.7	17.9	21.6	26.8	29.0	30.5
Group 2						
Assam			7.0	8.4	14.0	19.0
Bihar			16.9	16.9	16.2	16.6
Gujarat			12.6	19.0	22.0	28.9
Haryana			19.3	28.0	34.7	47.9
Himachal Pradesh		6.6	8.9	16.0	23.9	
Karnataka			12.9	13.2	17.3	20.6
Kerala			65.3	64.9	69.1	72.2
Madhya Pradesh			11.0	22.7	26.6	29.3
Maharashtra			17.2	17.0	19.7	30.5
Orissa			4.2	8.9	12.1	16.8
Tamil Nadu			10.8	12.5	15.0	20.5
Uttar Pradesh			24.3	32.2	43.3	52.0
West Bengal			10.5	15.0	19.4	26.1
Chhatisgarh			5.3	3.6	30.3	31.4
Jharkhand			10.3	11.8	12.9	13.3
Average Group 2			13.4	18.7	23.6	28.5
Group 3						
Andhra Pradesh						23.3
Uttar Pradesh						29.8
West Bengal						11.1
Uttaranchal						19.9

Table 2.7
Trends in the share of schools having girls' toilets

State	% share of schools having girls' toilets					
	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01
Group 1						
Assam	0.5	2.4	4.6	3.8	4.2	4.6
Haryana	30.8	54.4	55.9	60.2	63.9	63.9
Karnataka	4.6	7.5	10.3	12.8	14.6	14.8
Kerala	35.4	36.8	40.4	43.6	49.9	31.8
Madhya Pradesh	7.6	7.7	9.5	13.3	15.1	16.5
Maharashtra	11.6	23.7	25.7	29.3	28.5	31.9
Tamil Nadu	6.2	7.7	8.9	10.4	10.7	12.8
Average Group 1	8.8	12.1	14.3	17.3	18.6	19.4
Group 2						
Assam			0.9	0.7	2.9	6.8
Bihar			4.9	4.9	5.4	5.8
Gujarat			6.4	10.1	15.4	19.3
Haryana			13.0	16.9	19.9	27.3
Himachal Pradesh		2.5	4.3	6.3	9.0	
Karnataka			9.0	10.3	12.3	14.2
Kerala			43.6	43.8	46.8	37.9
Madhya Pradesh			5.9	12.1	13.1	14.5
Maharashtra			14.8	15.0	16.8	24.7
Orissa			2.2	4.3	6.6	8.6
Tamil Nadu			6.3	7.1	8.2	12.3
Uttar Pradesh			15.3	22.9	33.6	40.5
West Bengal			2.1	3.2	5.7	9.1
Chhatisgarh			2.1	1.8	14.3	14.1
Jharkhand			4.6	4.9	7.3	6.5
Average group 2			7.1	10.5	14.0	17.1
Group 3						
Andhra Pradesh						8.8
Uttar Pradesh						17.4
West Bengal						2.2
Uttaranchal						11.3
Average Group 3						11.7

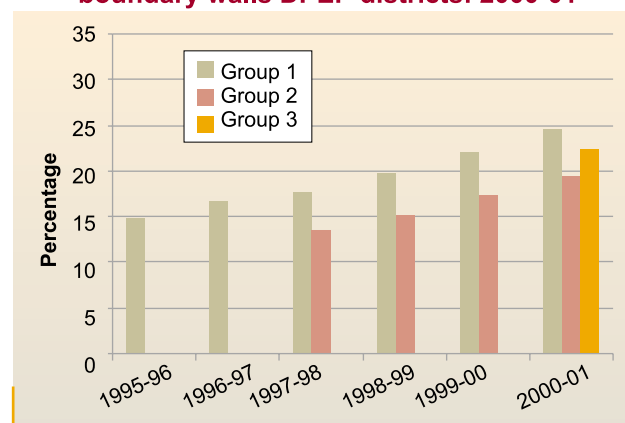
- b) During the last five years, the availability of general toilets has almost doubled in terms of percent share. It increased from 14.7 percent in 1995-96 to 30.5 percent in 2000-01 for group 1 districts. Similarly for Group 2 districts it increased from 13.4 percent in 1997-98 to 28.5 percent in 2000-01.
- c) The inter-state differences are large as far as availability of toilets is concerned. States like Kerala and Haryana have already covered about 70 percent schools under toilet facilities as compared to Jharkhand, Orissa, Assam (Group 2 districts) and Bihar where even in 2000-01, less than 20 percent schools had general toilet facilities.
- d) Haryana has shown a significant improvement in terms of the availability of girls toilets (63.9 percent in 2000-01) and ranks first as far as the provisioning of girls toilets is concerned. Many DPEP states still continue to have almost negligible proportion of schools with girls toilets. Notable among these are: West Bengal (Group 3 districts with 2.2 percent), Assam (4.6 percent), Bihar (5.8 percent) and Jharkhand with 6.5 percent schools having girls toilets. These states have a long way to go as far as provision of infrastructure facilities is concerned.

2.7.2 Drinking water facility

Availability of safe drinking water facility of any type is a basic requirement for the schools. It is particularly so in the case of schools located in hot and humid climatic zones. There are various types of sources of drinking water in schools. Hand pumps, wells, piped water are some of the important sources of water. It was observed that most of the schools reported hand pump as the major source of drinking water. The proportion of schools having any type of drinking water facility is given in Table 2.8.

Generally, quite a large proportion of schools reported the availability of drinking water facility within the school premises. With extensively greater availability of drinking water facilities, it should be possible to make provisions for toilets.

Figure 2.3
Trends in the share of schools with boundary walls DPEP districts: 2000-01



Among the Group 1 states/districts, Haryana, Tamil Nadu and Kerala top the list with more than 90 percent schools having access to safe drinking water facility in the school premises. The states with the lowest coverage include Uttaranchal and Assam.

2.7.3 School boundary wall

Among the school infrastructure facilities, a school with the boundary wall is considered safe and desirable. The data collected from the schools indicate that the position with respect to the availability of boundary walls varies considerably across the states (Table 2.9).

Over the years, the proportion of schools having boundary wall has increased in all states. There are very few schools with boundary walls in the states of Assam, West Bengal, Himachal Pradesh and Bihar.

2.7.4 Condition of classrooms

The availability of classrooms is central to teaching learning processes. Since the schools have been established at different points of time and the quality of construction and maintenance varies from one site to another, a proper inventory of the building assets is required to be maintained. While the schools maintain the record of buildings, there is no such information available at the districts, state and the national level. When the DISE was introduced, it was considered as necessary information. Therefore, data on the number of

Table 2.8
Trends in the availability of drinking water facility

State	% schools having drinking water facility					
	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01
Group 1						
Haryana	77.5	83.6	86.7	89.7	91.8	92.2
Tamil Nadu	57.1	51.8	45.7	71.5	70.0	92.0
Kerala	83.3	85.6	88.1	89.0	90.6	91.9
Maharashtra	44.0	53.5	64.7	64.6	68.7	72.9
Madhya Pradesh	54.7	58.3	61.3	62.0	65.0	68.8
Karnataka	36.1	44.5	51.9	54.9	60.9	66.8
Assam	21.7	25.8	36.7	43.5	48.0	51.5
Average Group 1	49.7	53.0	57.8	62.6	65.8	71.8
Group 2						
Tamil Nadu			64.4	77.8	89.5	96.3
Uttar Pradesh			74.8	80.9	84.6	91.7
Kerala			78.0	87.0	89.2	91.1
Maharashtra			52.6	53.4	62.7	74.5
Haryana			60.6	60.3	67.7	72.3
Bihar			57.9	59.1	60.2	70.7
Jharkhand			56.3	56.3	60.7	69.3
Himachal Pradesh			60.6	60.0	62.0	69.1
West Bengal			58.7	61.1	63.0	68.5
Gujarat			56.1	60.8	67.5	67.7
Madhya Pradesh			58.9	59.9	62.9	67.0
Chhatisgarh			50.5	54.1	56.6	63.6
Karnataka			43.7	47.9	50.2	61.6
Assam			38.2	42.8	54.4	59.6
Orissa			39.0	41.3	48.1	55.9
Average group 2			56.2	59.7	64.0	71.3
Group 3						
Uttar Pradesh						92.1
Andhra Pradesh						63.9
West Bengal						61.8
Uttaranchal						36.2
Average Group 3						73.7

Table 2.9
Trends in the share of schools having boundary wall

State	% Schools having boundary wall					
	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01
Group 1						
Haryana	75.2	74.5	81.8	81.8	86.4	86.7
Karnataka	19.9	22.2	23.2	26.4	29.8	30.9
Kerala	21.2	21.9	25.5	25.4	30.5	27.2
Madhya Pradesh	13.2	13.5	16.2	17.7	20.3	24.1
Maharashtra	7.7	19.0	14.3	16.1	17.6	19.4
Tamil Nadu	8.4	8.6	8.8	11.2	12.0	15.0
Assam	0.6	1.4	2.4	3.8	3.7	5.7
Average group 1	14.8	16.8	17.8	19.8	22.0	24.5
Group 2						
Haryana			57.3	58.2	58.9	63.9
Gujarat			33.8	36.4	39.9	43.4
Chhatisgarh			40.3	33.0	42.9	41.0
Kerala			31.7	33.7	37.7	37.6
Karnataka			22.8	26.3	28.3	31.4
Uttar Pradesh			15.5	18.2	19.5	21.7
Madhya Pradesh			12.8	16.4	18.2	21.4
Maharashtra			11.0	11.8	13.5	15.7
Orissa			9.2	11.4	13.6	14.5
Jharkhand			11.2	12.0	12.9	14.2
Tamil Nadu			6.9	7.4	7.5	9.9
Bihar			6.0	6.0	6.7	7.9
West Bengal			3.9	5.8	6.4	7.4
Himachal Pradesh			5.2	5.4	6.2	6.7
Assam			1.8	1.8	3.8	5.5
Average Group 2			13.4	15.3	17.3	19.3
Group 3						
Andhra Pradesh						25.6
Uttar Pradesh						22.5
Uttaranchal						17.0
West Bengal						5.6
Average Group 3						22.4

Table 2.10
Condition of classroom, 2000-01

Academic year	% Classrooms in good condition	% Requiring minor repairs	% requiring major repairs
1995-96	54.8	27.4	17.8
1996-97	58.3	25.2	16.5
1997-98	59.5	24.9	15.6
1998-99	63.2	23.7	13.1
1999-00	67.0	21.4	11.6
2000-01	65.9	22.5	11.7
Average Group 1	61.8	24.0	14.2
Group 2			
1997-98	45.3	29.9	24.9
1998-99	47.8	29.5	22.7
1999-00	53.4	25.8	20.8
2000-01	55.1	25.6	19.3
Average Group 2	49.8	27.8	22.3
Group 3			
2000-01	58.3	24.9	16.8

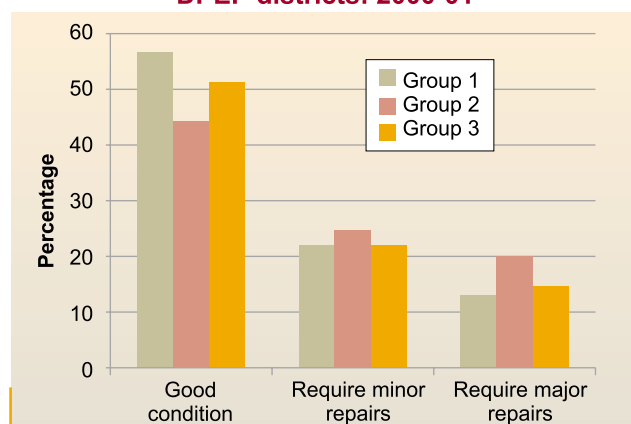
classrooms and their condition was collected. This has further been strengthened in the revised DISE to be implemented for 2001-02. The new data on the school buildings/classrooms not only counts the number of classrooms and their condition but also provides such information for other rooms available in the school building. The position with regard to

the availability of classrooms would be discussed with the help of student: classroom ratio. The present section analyses the condition of existing classrooms for the 2000-01 academic session (Table 2.10).

It is observed that the proportion of classrooms in good condition have shown significant improvement over the years. The proportion of classrooms in good condition in Group 1 states/districts improved from 54.8% in 1995-96 to 65.9 percent in 2000-01. Similar improvement in the share of classroom in good condition was also observed for group 2 states/districts. The improvement is largely the outcome of the additional classrooms constructed under DPEP and other schemes.

A serious problem with the existing infrastructure is the large share of classrooms which needs major repairs. The share of such classroom was 14.2 percent for Group 1 and 22.3 percent for Group 2 and 16.8 percent for Group 3 districts/states. Crude calculations indicate that out of a total of 3.6 million

Figure 2.4
Condition of classrooms
DPEP districts: 2000-01



classrooms in DPEP districts (192 for which data was available) as many as 575,000 classrooms required major repairs. As is evident from table 2.10, an equally larger number of classrooms require minor repairs.

An important necessary precondition for achieving UPE/UEE is equity in access. Access is to be measured not only in terms of the availability of educational infrastructure and other facilities but the quality of these provisions is equally important. The analysis in terms of the quality of classrooms, availability of facilities like toilets, boundary wall, drinking water etc., leave much to be desired. The gaps between the available and desirable level of

these facilities are too large and often biased towards the haves rather than the have nots. While DPEP is trying to address these issues, the magnitude of the problem even in DPEP districts is so large that it alone would never be able to fill the gap. An important implication of the above analysis is therefore to take the questions of access seriously and the national and state governments should draw up a long term national plan for rehabilitation of educational infrastructure. A national debate on the possible approaches to resolve the problems of infrastructure should be initiated among the intellectuals, development planners, educators and stakeholders.

The DPEP has added about 16,000 new schools and 26,000 classrooms which have provided about 3 million school places. Additional works for about 1.5 million school places are in progress. Despite this, 7 percent school in Group 1, 15.6 percent in Group 2 and 21.2 percent in Group 3 states were overcrowded.



Adequacy of classroom facilities

3.1 An Overview

Historically, the emphasis on expansion and improving the access was driven by the considerations of equity in access to educational facilities. Therefore, in the initial years of development planning, quantitative expansion and removing supply side constraints was considered as an effective strategy for achieving universal primary education. Till the sixth five year plan, quantitative targets were fixed for opening of new schools in each state and not much consideration was given to quality improvement and making education more relevant to the perceived needs of the masses. This was based on the belief that there is a dormant demand for primary education and as soon as a school is opened and a teacher is provided in a given habitation or unserved area, all the children would immediately get enrolled. As a consequence, the quality of educational infrastructure both in terms of physical provisions as well as the deployment of human resource suffered a major setback. It took development planners many decades to realize that the provision of school infrastructure and a teacher is a necessary but not a sufficient condition for universal primary education. More schools and more teachers do not necessarily lead to sustainable growth rates in participation and retention.

The National Policy on Education (NPE), 1986 and the revised NPE, 1992, reiterated the urgency to address the questions of quantitative expansion and qualitative improvements in schools education on priority basis. The concern for equity and social justice demands that the two aspects should be handled together and not sequentially. Even with a emphasis on quality of primary education, there has always been a trade-off between quality and quantity, in favor of the latter.

At the time of DPEP inception, the country was facing massive backlog of classrooms and the need for additional civil works to provide for toilets, boundary walls, replacement of dilapidated classrooms and the demand for new schools

It is important to ensure that the construction of additional classrooms and new schools keeps pace with enrolment expansion so that the school environment remains attractive.



in the unserved habitations/villages was immense. The backlog of infrastructure was particularly serious in many DPEP districts as it was targeted at low female literacy districts. Some of the deficiencies in the infrastructure are duly highlighted in the sixth All India Educational Survey conducted in 1993. About 10.5 percent primary schools in the country were without even a single classroom and another 24.5 percent schools were having only one room for instructional purposes. Forty four percent of schools had drinking water facilities and only 18.9 percent had common urinal and the primary schools with separate urinals for girls accounted for a mere 8.7 percent. Many of these facilities may not be in usable condition due to poor maintenance and inadequacy of the provision. Schools with these types of deficiencies cannot present an attractive environment for teaching and learning. While the situation has improved over the years, the backlog is still enormous.

The experience of implementing various development projects shows that as a result of improved access and retention, the classrooms often tend to be overcrowded and the Student: Classroom Ratio (SCR) and PTR worsen. This may not be reflected in the aggregate numbers but the overall distribution remains skewed. It is also observed that upkeep and maintenance of school buildings has suffered considerably in the past. Overcoming shortages of classrooms and teachers take considerable time due to long gestation period involved in both cases. The persistence of high PTR and overcrowded classrooms often leads to frustration and disenchantment among the teachers, learners and their parents. This is particularly true of government schools. Therefore, it is important to ensure that the construction of additional classrooms and new schools keep pace with

enrolment expansion so that the school environment remains attractive.

Some parts of the country are going through a demographic transition whereby the population in school going age group especially at the primary stage is becoming stable. After Kerala, the other states where age group population is either stabilizing or is showing the signs of absolute decline are Tamil Nadu, Karnataka and parts of Maharashtra. The usual approach to infrastructure development would not work in these areas. Provision has to be made in such a way that classrooms can be used for next 20-30 years.

The DPEP had a major challenge in this area. To what extent the resources should be spent on infrastructure development and in what areas? In order to bring about convergence in the development of school infrastructure, the DPEP rightly put a ceiling of 24 percent for civil works programs. The ceiling has now been raised to 33 percent under certain conditions. Targeting this amount had to be done judiciously.

The Directorates of school education do not collect regular data on school infrastructure. Collection of data on the number of classrooms and their condition from each school is an important component of DISE. The PMIS also collects some data on the new civil works to monitor their progress over time. Therefore, DISE is the only source of data that captures the condition of school infrastructure on annual basis. The DISE data for DPEP Phase I and Phase II districts has helped the project authorities to identify schools without adequate number of classrooms, toilets and drinking water facilities.

Funds from multiple sources are used for creation and maintenance of school buildings. Generally, the community contributes the land for the construction of school buildings. The government provides the funds for construction of classrooms and other facilities. Since the village community provides the land, its quality and location is an important indicator affecting the participation of various social

and economic groups of population. In many places, schools are located at inconvenient distance due to non-availability of land at the ideal location.

Besides the DPEP, the centrally sponsored schemes of Operation Blackboard (OB) and Jawahar Rojgar Yojna have large allocation for civil works that are used for the construction of new schools as well as the additional classrooms. The state governments also make some provisions in their budgets for the upgradation of schools and construction of additional classrooms. However, such allocations are meager as compared to the requirements. Funds for civil works are also available under the Member Parliament Constituency Area Development fund. Some Members of Parliament have used these funds for the improvements in school infrastructure including construction of a boundary wall. Despite these efforts, there are large number of schools, even within the urban areas, without sufficient classrooms and associated facilities. In a significant development in the recent past, the limit for civil works was increased from 24 to 33 percent of the project cost. It is also postulated that the states would attend to repair and maintenance of the school buildings, which has remained a neglected area so far. Even the upkeep of the buildings constructed under DPEP has not been up to the mark.

The newly launched scheme of Sarva Shiksha Abhiyan (SSA) has done away with various schemes and has proposed an integrated framework for the development of primary education in India. The scheme has benefited from the provisions of DPEP as far as infrastructure development is concerned. A ceiling of 24 percent is also prescribed under SSA.

The upkeep and maintenance of schools buildings has suffered a lot in the recent decades due to budgetary constraints. It is easier to establish a new school rather than to regularly maintain an old school. It is due to the fact that capital assets are created out of the Plan budget whereas the maintenance expenditure is met out of the Non-plan budget. While considerable resources are available for new development initiative under the Plan

component, not much flexibility exists under the Non plan budget. The Non-plan budget is barely sufficient to meet the committed expenditure on salaries and allowances of the teaching and non-teaching staff. Therefore, the strategies for regular upkeep and maintenance of school buildings should be evolved. The government spends huge sums of money on various types of incentive schemes but the schools are not given a fraction of this amount for maintenance of buildings and other capital assets created under various schemes.

One component of DPEP relates to the provision for additional classrooms and establishment of new schools. In most of the DPEP-I states, except Tamil Nadu and Karnataka, the construction of schools, additional classrooms and other civil works are conducted through the VECs. The issues related to the adequacy, design and cost effectiveness of civil works were addressed at the national/ state level. Considerable progress has been made to adopt innovative designs, use of low cost and locally relevant materials for construction of various types of school buildings. A design manual containing a number of school building designs suited for different topographic conditions has been produced by the DPEP. A significant feature of civil works in Phase II districts has been the adoption of child friendly and cost effective building designs. The success of the DPEP civil works programs is evident from the fact that their designs are being replicated in non DPEP districts also. Recently, the Government of Gujarat decided to use the services of the DPEP to undertake rehabilitation work in earthquake hit districts.

Under DPEP, initiatives to improve the availability of facilities in primary schools fall in the following categories:



A significant feature of civil works in Phase II districts has been the adoption of child friendly and cost effective building designs.

- Construction of new school buildings out of DPEP funds as well as through the efforts of the state government.
- Rehabilitation of the dilapidated facilities through reconstruction and repairs to the existing classrooms using DPEP funds for civil works or the school grant, if the cost of such repairs is within contingency grants provided to the school.
- Provision of additional classrooms in areas of overcrowding or where such facilities were insufficient to meet the growing demand.
- Provisions of hand pumps for safe drinking water, construction of boundary walls and toilets.

Community participation has been one of the most significant aspects of civil works under DPEP. This

has not only led to 'sense of ownership' but also greater participation of community in management of school education. Under the DPEP, the construction of more than 16,600 new schools and an additional 26,000 classrooms was completed by the February, 2001 (Tables 3.1 and 3.2). These would provide more than 3 million school seats (@ 40 students per classroom). The actual number of additional school places provided by the DPEP can not be calculated as the distribution of newly constructed schools/classrooms into rehabilitation and new schools/classrooms was not available. Under the DPEP-II and expansion districts, the pace of civil works completion picked up during 2000-01. This was possible due to completion of a large number of civil works in Andhra Pradesh and Uttar Pradesh during 1999-00 and 2000-01. It is

Table 3.1
New schools construction completed

Sl. No.	State	Phase I		Phase II/III/IV		Expansion	
		September 1999	February 2001	September 1999	February 2001	September 1999	February 2001
1	Andhra Pradesh			710	6652		
2	Assam	233	368				42
3	Bihar				27		99
4	Chhatisgarh						
5	Gujarat				164		
6	Haryana	134	172				44
7	Himachal Pradesh			12	277		
8	Jharkhand				0		
9	Karnataka	414	446			14	301
10	Kerala	135	177			1	12
11	Madhya Pradesh	2976	2618			208	2120
12	Maharashtra	330	405				60
13	Orissa				175		
14	Rajasthan						
15	Tamil Nadu					13	
16	Uttar Pradesh			15	2156		10
17	Uttaranchal						
18	West Bengal				276		
	Total	4222	4186	737	9727	236	2688

Source: Progress Overview, 13th JRM, DPEP.

Table 3.2
Additional classrooms constructed (completed)

Sl. No.	State	Phase I		Phase II/III/IV		Expansion	
		September 1999	February 2001	September 1999	February 2001	September 1999	February 2001
1	Andhra Pradesh			519	11737		
2	Assam	75	106				252
3	Bihar			8	74		
4	Chhatisgarh						
5	Gujarat						
6	Haryana	690	773		238	4	125
7	Himachal Pradesh			2	17		
8	Jharkhand				100		
9	Karnataka	15	16			41	134
10	Kerala	549	588			13	172
11	Madhya Pradesh	2711	2841			230	1519
12	Maharashtra	880	980				85
13	Orissa				276		
14	Rajasthan				0		
15	Tamil Nadu	825	842			13	364
16	Uttar Pradesh			284	3620		
17	Uttaranchal				0		
18	West Bengal				1079		
	Total	5745	6146	813	17141	301	2651

Source: Progress Overview, 13th JRM, DPEP.

estimated that by February, 2001 the construction of about 13,000 new schools and more than 7,000 classrooms was in progress (Table 3.3). These would provide approximately 1.5 million school places in the districts covered under DPEP.

Andhra Pradesh, Uttar Pradesh and Madhya Pradesh are the significant beneficiaries as far as construction of new schools and classrooms are concerned.

The DPEP is also making significant investments in the construction of toilets and drinking water facilities.

The DPEP has established BRC and CRC as important academic support units in all the DPEP districts. The

construction of buildings for the BRC and CRC are also provided through the DPEP funds. As a result of massive civil works many states had already exhausted the ceiling of 24 percent. It was because of these reasons that the upper ceiling has now been revised to 33 percent.

3.2 Schools by number of classrooms

As is evident from the above analysis, the DPEP has contributed considerably to enhancing the stock of classrooms in primary schools. However, the magnitude of the backlog of civil works is large and it would require sustained efforts to overcome the classroom and other deficiencies. Table 3.4 provides the distribution of schools by the number of classrooms.

Table 3.3
Progress of civil works as in February, 2001

Sl. No.	State	New schools under construction			Additional classrooms under construction		
		Phase I	Phase II/III/IV	Expansion	Phase I	Phase II/III/IV	Expansion
1	Andhra Pradesh		1747			2387	
2	Assam	150		259	11		431
3	Bihar		99			235	
4	Chhatisgarh						
5	Gujarat		124			110	
6	Haryana	1		26	12		177
7	Himachal Pradesh	365			19		
8	Jharkhand		181			143	
9	Karnataka	14		204	0		29
10	Kerala	36		8	96		104
11	Madhya Pradesh	1925		4757	42		160
12	Maharashtra	36		303	37		318
13	Orissa		790			239	
14	Rajasthan		20			47	
15	Tamil Nadu						43
16	Uttar Pradesh		1352			2307	
17	Uttaranchal		66			79	
18	West Bengal		185			217	
	Total	2162	4929	5557	198	5783	1262

Source: Progress Overview, 13th JRM, DPEP.

It is observed that 7.2 per cent schools in Group 1, 7.6 per cent in Group 2 and 4.8 per cent in Group 3 were without any classroom for teaching learning processes. The existence of schools without classroom is a cause of concern, especially in Phase 1 state/districts. One of the reasons for zero classrooms may be that these are newly established schools and construction may have not been completed in such schools. However, the large proportion of such schools in Phase I districts of Madhya Pradesh (14.1%) and Karnataka (6.91%) is a cause of concern. Similarly, among Group 2 states Madhya Pradesh Phase 2 (10.3%), Chhatisgarh (10.7%), Jharkhand (10.8%), Himachal Pradesh (10.4%) and Haryana Phase 2 districts (10.6%) schools were without any classroom for instructional purpose. As mentioned earlier, some of these school

buildings may be under construction. The proportion of schools with only one classroom is also very high in some states. In Assam (Group 1 districts), 74.4 per cent schools had only one classroom. Similar situation also prevails in many other states from Group 2.

Mean enrolment in schools classified by the number of classrooms would be useful to understand the fact whether the schools with one or no classroom are big or small in terms of enrolment (Table 3.5). Excepting the state of Kerala, schools without buildings are large and have enrolment in the range of 44 to 191. Similarly the schools with only one classroom had on an average 71 students in group 1, 96 in Group 2 and 92 students in Group 3 states.

Table 3.4
Distribution of schools by number of classrooms, 2000-01

State	Number of classrooms						6 & above
	0	1	2	3	4	5	
Group 1							
Assam	1.2	74.2	13.0	3.4	6.2	0.7	1.3
Haryana	2.0	1.4	8.4	16.6	16.3	22.2	33.1
Karnataka	6.9	15.8	41.3	12.9	17.0	2.3	3.9
Kerala	0.6	0.3	0.5	1.3	26.7	8.3	62.3
Madhya Pradesh	14.1	7.3	24.8	28.4	11.1	6.4	7.9
Maharashtra	0.6	12.5	21.6	12.3	12.2	17.0	23.7
Tamil Nadu	0.0	8.7	36.1	8.6	18.3	11.6	16.7
Average Group 1	7.2	15.0	26.2	17.5	13.4	8.1	12.5
Group 2							
Assam	4.9	61.2	15.6	6.2	8.1	1.9	2.1
Bihar	9.2	13.1	40.8	13.9	7.8	6.9	8.3
Chhatisgarh	10.7	8.5	24.8	26.3	12.9	10.4	6.4
Gujarat	5.2	7.3	33.5	15.8	8.6	7.0	22.7
Haryana	10.6	5.6	16.8	19.0	15.2	15.2	17.6
Himachal Pradesh	10.4	20.2	32.3	19.3	10.1	4.9	2.8
Jharkhand	10.8	4.8	48.3	8.3	10.2	5.5	12.1
Karnataka	5.4	15.7	35.1	14.4	21.5	2.9	4.9
Kerala	0.2	0.2	1.1	1.4	33.3	8.9	55.0
Madhya Pradesh	16.3	9.4	28.0	25.5	10.6	5.3	5.0
Maharashtra	3.8	24.5	25.3	11.5	11.3	11.6	11.9
Orissa	6.7	9.2	36.0	17.8	12.2	11.0	7.1
Tamil Nadu	0.0	37.6	26.1	11.6	7.8	7.4	9.6
Uttar Pradesh	5.3	3.0	39.2	31.2	6.4	8.2	6.7
West Bengal	3.2	31.2	30.0	17.6	12.8	3.3	1.9
Average group 2	7.6	15.0	33.1	18.7	11.3	6.6	7.8
Group 3							
Andhra Pradesh	5.5	38.8	24.2	11.2	5.4	4.9	10.0
Uttar Pradesh	4.2	2.5	47.5	24.7	6.3	8.9	6.0
Uttaranchal	3.2	1.8	59.7	21.9	5.4	4.6	3.5
West Bengal	4.5	37.2	32.3	13.9	8.1	2.5	1.5
Average Group 3	4.8	22.9	35.4	17.1	6.0	6.3	7.5

Table 3.5
Mean enrolment of schools by their classroom category, 2000-01

State	Number of classrooms							Average students per schools
	0	1	2	3	4	5	6 & above	
Group 1								
Assam	85.7	81.2	112.6	125.4	129.2	168.3	163.2	91.5
Haryana	191.3	126.9	124.0	162.4	184.5	209.7	273.9	210.2
Karnataka	55.4	47.6	68.3	109.4	165.8	238.4	369.3	102.2
Kerala	0.0	52.2	116.0	129.9	114.7	163.8	309.3	240.8
Madhya Pradesh	76.2	82.8	91.1	100.9	116.3	151.0	198.1	107.0
Maharashtra	109.1	50.3	71.7	107.0	157.9	208.0	353.7	174.3
Tamil Nadu	0.0	76.3	82.5	130.7	145.0	180.8	306.7	146.4
Average Group 1	73.9	71.0	82.1	107.1	141.5	185.6	292.5	127.6
Group 2								
Assam	79.6	81.7	100.7	102.3	107.2	147.5	153.8	90.7
Bihar	107.5	123.6	141.1	168.3	214.1	210.9	292.4	162.8
Chhatisgarh	79.7	135.3	112.8	140.4	179.7	212.0	330.7	153.3
Gujarat	63.8	69.2	82.6	116.3	150.8	185.8	292.7	147.0
Haryana	134.2	112.5	133.3	147.5	170.2	178.2	209.5	160.9
Himachal Pradesh	40.9	40.3	53.4	69.8	87.5	127.3	173.7	63.0
Jharkhand	65.1	82.3	99.6	140.7	167.2	171.2	302.7	134.2
Karnataka	83.3	60.5	87.6	131.2	189.7	245.4	370.2	130.3
Kerala	33.0	33.0	60.6	95.1	102.0	164.0	296.2	213.5
Madhya Pradesh	74.7	94.2	95.2	110.3	126.8	169.0	209.1	108.9
Maharashtra	46.2	46.6	71.9	123.8	173.3	212.3	344.6	131.2
Orissa	43.4	53.4	64.5	97.7	118.6	155.7	187.2	93.7
Tamil Nadu		62.1	91.0	139.7	160.4	206.0	341.2	123.6
Uttar Pradesh	145.7	168.2	176.8	184.6	221.1	210.2	306.8	191.9
West Bengal	126.1	157.2	167.0	207.6	226.2	275.3	358.5	184.5
Average group 2	86.6	96.0	118.4	147.3	171.7	196.1	287.9	142.7
Group 3								
Andhra Pradesh	83.4	79.6	113.6	152.7	193.1	193.6	220.1	122.0
Uttar Pradesh	154.2	155.2	172.1	191.3	224.6	219.4	294.8	190.5
Uttaranchal	49.9	60.9	76.2	83.1	104.5	142.6	146.3	83.7
West Bengal	133.8	146.7	149.6	183.3	231.1	251.3	325.7	164.3
Average Group 3	110.1	91.9	144.7	173.1	207.2	208.4	244.0	150.9

The need for additional school buildings/classrooms is evident in many states. Most of the single classroom schools had high enrolments. Therefore, the need for second classroom is evident.

3.3 Student Classroom ratio (SCR)

Ideally, the space per unit is a good indicator of the infrastructure provisions. However, the absence of such data precludes the possibility of using this indicator on a large scale. The present study uses Student: Classroom as a proxy indicator for the availability of classroom space.

The data on the number of classrooms is not available from official statistics of the central and the state governments. However, the DISE data collection system incorporates data on the number of classrooms and their physical condition. The availability of data on the number of classrooms facilitates the calculation of SCR. The present study examines this ratio as a performance indicator of the project. However, SCR is a very broad indicator of the availability of classrooms in relation to the enrolment. There would be many assumptions involved in this analysis. First, the classroom size differs from state to state depending upon the geographical and topographical conditions of each region. Second, there may or may not be a correspondence between classrooms, teachers and sections. In multi-grade situation, one teacher teaches all grades in the same classroom. Therefore, many schools have big classrooms which are divided into two or more parts to meet the requirements of different grades. Third, the availability of classrooms does not ensure that these are adequately utilized. In many places, classes continued to be held outside even when the classrooms were empty. This may become necessary due to geographical conditions and the design of the classrooms. These factors should therefore be kept in mind while interpreting the results presented below.

The Student : Classroom Ratio (SCR) was used as a proxy for shortage/excess supply of classroom places. The larger the SCR ratio, the greater is the shortage of classrooms. A sharp decline in SCR would

indicate an excess supply and an increase in SCR would show the opposite. Normally, it is expected that a section/class of about 35-40 students will have a classroom. In multi-grade situations, the same classroom is used for holding two or more classes together. Ideally, the SCR should be calculated for each school so that excess/shortage of classrooms for each school can be determined. In the present study, the SCR was calculated for the schools as well as for the district aggregates. The analysis has been conducted only for those schools which have at least one classroom. There were many schools without buildings and these were excluded from the analysis. Those schools which did not provide data on the number of classrooms were also excluded from the analysis. The proportion of schools excluded from the analysis because of the above reasons is given in Table 3.6. Overall, 6.9 percent schools were excluded from the analysis during 2000-01 which is much lower than the

Table 3.6
**Percent schools without classrooms/
missing data, 2000-01**

State	% Missing/data not available
Andhra Pradesh	5.5
Assam	3.2
Bihar	9.9
Chhatisgarh	11.2
Gujarat	5.6
Haryana	6.4
Himachal Pradesh	10.4
Jharkhand	10.8
Karnataka	6.2
Kerala	0.4
Madhya Pradesh	15.7
Maharashtra	2.1
Orissa	6.9
Tamil Nadu	0.0
Uttar Pradesh	5.0
Uttaranchal	3.2
West Bengal	3.7
Total	6.9

corresponding value of 8.1 percent in 1999-00. The maximum proportion of schools without adequate data on the number of classrooms was found to be in Madhya Pradesh, Chhatisgarh, Jharkhand and Himachal Pradesh.

The national level trends in SCR are presented separately for all Groups in Table 3.7. The following observations are made on the trends in SCR.

- a) During the period of DPEP intervention, the average value of the SCR has gradually declined over the years (Table 3.7), which is positive aspect of improving the classroom availability in formal primary schools. It is significant to note that despite increasing enrolment over the years, the average SCR for Group 1 districts declined from 42 in 1995-96 to 38.8 in 2000-01. This shows a reduction of about 7.6 per cent over the last 5 years. Therefore, the increase in classroom capacity has generally been in tune with the increase in enrolment. Similarly, the SCR for Group 2 districts has declined from 52 in 1996-97 to 50.5 in 2000-01. Since, there is no time series data for Group 3 states, measurement of change was not possible. The SCR for 2000-01 for Group 3 states/districts was 55.5.
- b) The differences in the value of SCR both within as well as between three groups are pronounced. The districts belonging to Group 3 had the maximum value of SCR i.e. 50.5. This is approximately 43 per cent higher than the corresponding value of Group 1 districts. The need for additional classrooms is more in the case of Group 3 as compared to Group 2 or Group 1 districts.

Table 3.7
Trends in overall SCR for DPEP districts

Academic year	Group 1	Group 2	Group 3
1995-96	42.0		
1996-97	42.5	52.0	
1997-98	42.4	52.9	
1998-99	40.9	51.7	
1999-00	40.5	51.6	
2000-01	38.8	50.5	55.5

- c) The decline in the SCR for Group 2 districts has been much lower as compared to corresponding decline in Group 1 districts. This is perhaps due to slow progress of civil works and relatively more backwardness of Group 2 districts.

As noted above, there are large intra and inter-state variations in the value of SCR. Table 3.8 presents the trends in SCR by states and by Groups.

The district level SCR is presented in Fig. 3.1. The influence of the state policies in the provision of infrastructure is evident from a large cluster of districts having similar characteristics.

The value of SCR is influenced by a number of factors. First, the national and state level policy decisions influence the provision of facilities. The Operation Blackboard provides for a minimum of two all weather classrooms for each school irrespective of its enrolment. A large number of primary schools were covered under OB and two room buildings were provided. Therefore, many schools may have spare capacity and there may not be enough students to fully utilize the existing capacity. Second, the shift in enrolment from one mode of education to another may lead to changes in SCR. This is particularly important in the light of the population stabilization in many parts of the country, on the one hand and proliferation of private schools on the other. Similarly, there is a shift away from the formal primary schools to AS/EGS, especially in many districts where the coverage under the scheme has been substantial. In view of these factors, the SCR may decline not because of additional classrooms have been constructed but due to the composite effect of the other factors mentioned above. However, this is not valid across the districts. The state level average SCR for various Groups are presented in Table 3.8. The DPEP strategy for civil work has proved to be successful and the increased availability of classroom has generally kept pace with the additional enrolment. The following points emerge from the trends presented in Table 3.8:

- a) Among the Group 1 states, Assam continues to

Map

Note: Map not to scale

Table 3.8
Trends in SCR by states

State	SCR					
	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01
Group 1						
Assam	78.0	84.0	73.5	72.8	72.6	61.4
Haryana	50.0	49.1	47.8	47.0	42.6	39.7
Karnataka	37.0	30.1	35.6	36.3	43.8	40.7
Kerala	30.8	31.4	33.0	32.7	29.2	32.8
Madhya Pradesh	40.0	41.8	39.7	38.5	36.7	36.1
Maharashtra	46.0	47.3	49.2	43.5	42.4	39.6
Tamil Nadu	46.4	44.2	41.6	41.3	41.0	38.4
Group 2						
Assam			71.3	71.8	61.7	53.5
Bihar			64.9	60.0	58.9	61.3
Gujarat			38.0	38.7	38.7	37.7
Haryana			50.9	48.5	47.6	43.0
Himachal Pradesh			32.9	32.5	29.2	27.8
Karnataka			39.2	41.2	52.5	48.0
Kerala			29.6	29.2	26.3	31.5
Madhya Pradesh			47.8	47.9	43.9	42.2
Maharashtra			45.2	44.9	44.6	41.7
Orissa			32.8	33.5	33.2	31.7
Tamil Nadu			39.5	43.6	45.7	44.8
Uttar Pradesh			71.7	68.1	64.1	63.2
West Bengal			85.4	85.8	84.3	81.3
Chhatisgarh			52.0	54.8	52.6	50.6
Jharkhand			48.2	45.6	43.4	45.2
Group 3						
Andhra Pradesh						45.0
Uttar Pradesh						65.8
West Bengal						81.8
Uttaranchal						32.5

have highest average of 61.4 students per classroom as compared to corresponding average of 32.8 for Kerala. One is nearly half of the other.

- b) Among the Group 2 states, West Bengal continues to have the highest number of students per classroom. Even in 2000-01, on an

average, there were 81.3 students per classroom- although it has declined marginally from 85.4 in 1997-98. The effectiveness of teaching learning and child centred education in a situation when more than 80 children sit in a single classroom, howsoever big it may be, can be well imagined.

Table 3.9
Distribution of schools by category of SCR, 2000-01

State	0-20	20-40	40-60	60-90	90-120	> 120
Group 1						
Assam	7.28	20.73	22.43	23.25	12.77	13.55
Haryana	16.36	35.85	26.39	14.86	4.20	2.33
Karnataka	25.90	35.92	22.27	11.29	3.19	1.43
Kerala	9.52	76.41	12.33	1.41	0.28	0.06
Madhya Pradesh	23.80	40.18	20.29	10.42	3.17	2.13
Maharashtra	15.89	41.60	28.77	10.89	2.00	0.86
Tamil Nadu	10.52	46.26	28.43	10.49	2.95	1.35
Average group 1	19.00	39.55	23.26	11.73	3.78	2.68
Group 2						
Assam	11.12	23.20	20.84	21.80	11.42	11.63
Bihar	3.06	20.66	26.98	27.04	11.77	10.49
Gujarat	11.50	47.94	26.43	10.87	2.26	1.01
Haryana	16.76	35.91	22.59	14.29	5.59	4.86
Himachal Pradesh	38.11	42.61	12.88	5.04	0.98	0.38
Karnataka	16.64	31.45	26.38	17.23	5.38	2.93
Kerala	15.41	71.43	11.92	1.24	0.00	0.00
Madhya Pradesh	18.00	40.57	21.30	12.63	3.92	3.58
Maharashtra	15.39	39.21	29.48	12.18	2.70	1.03
Orissa	21.90	50.66	20.47	5.60	0.98	0.39
Tamil Nadu	7.47	37.86	28.94	16.39	5.72	3.63
Uttar Pradesh	4.25	20.33	24.01	26.02	13.48	11.90
West Bengal	4.17	16.57	19.43	21.03	12.95	25.85
Chhatisgarh	12.06	30.95	25.26	18.24	6.28	7.21
Jharkhand	9.47	37.69	29.72	15.68	5.06	2.39
Average Group 2	11.63	31.83	23.81	17.61	7.46	7.66
Group 3						
Andhra Pradesh	13.21	24.59	19.43	28.70	6.32	7.76
Uttar Pradesh	3.88	18.29	23.20	27.65	14.62	12.36
West Bengal	4.18	18.49	17.64	18.48	13.37	27.83
Uttaranchal	38.23	37.32	12.75	5.88	2.81	3.00
Average group 3	9.77	22.10	20.50	26.51	10.05	11.06

Since the inception of DPEP, the value of SCR for West Bengal has not reduced to the accepted levels. The other states where high SCRs continue to persist include Uttar Pradesh and Bihar, both of which have reported more than 60 students per classroom. The position with respect to Group 3 states is not much different. Both Uttar Pradesh and West Bengal have shown a very high value of SCR. It is learnt that some states have earlier constructed large rooms which are used for holding multiple class simultaneously. While this may release the pressure for school buildings, but for a teacher to teach 60-100 students in one classroom is a Herculean task. The classroom observation studies may unravel some of these complexities. The implications of having large classrooms where multiple classes are held need to be examined in detail. The review of civil work programme indicates that some states could not initiate the construction activities in time. The state of Uttar Pradesh has reported considerable progress. The value of SCR will further reduce in Uttar Pradesh as 1352 schools and 2307 classrooms were under construction till February 2001.

3.4 School level SCRs

The overall SCR provides a good indication of the availability of classrooms in relation to the students' enrolment. It is generally observed that even when the aggregated indicators show a comfortable position, there may be distribution problems i.e. some schools may be over-crowded and others may be under-utilized as far as availability of school places are concerned. Therefore, it is important to look at the inter-district and inter-district variations in the SCR over a period of time. The inter-state and inter-district trends have already been examined in the previous section. In this section, the school level SCR was calculated and their distribution to various categories for 2000-01 is presented in Table 3.9.

The data is presented at the state level. The main results are:

- a) The distribution of schools by SCR indicates wide variations. It is characterized by the existence of schools with very low SCR and simultaneously the existence of schools with very high SCR. The

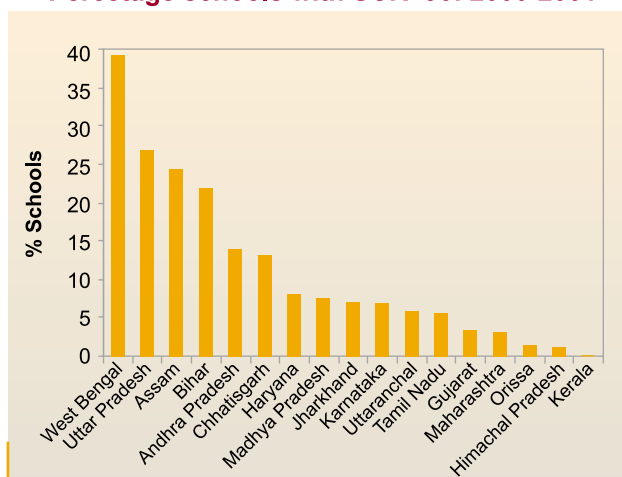
large the dispersion of SCR across schools, the greater are infrastructure related problems. The former situation shows excess capacity and the latter reflects the shortage of classrooms. Since the classrooms are fixed in terms of location, therefore, a judicious choice in the planning of civil works is extremely important.

- b) There were nearly 19 per cent schools in Group 1 and 11.6 per cent schools in Group 2 districts where there were 20 or less than 20 students per classroom. It implies that there were not sufficient students as compared to the available classroom capacity. In some areas the lower SCR is justified due to topographic conditions and typical features of the settlement structure. In others areas, it may be the outcome of migration of students from Government schools to either private or AS/EGS schools. A modest increase in enrolment in schools with low PTR may not require additional classrooms. The existing infrastructure can be used to accommodate the additional enrolment. It is, therefore, important to identify such areas. The states of Madhya Pradesh, Karnataka, Himachal Pradesh, Uttaranchal and Orissa shows more than 20 per cent of schools having less than 20 students per classroom. In Himachal Pradesh and Uttaranchal, low SCR is the result of topographic conditions.
- c) On the other extremes are the schools having crowded classrooms. In order to overcome the shortage of classrooms, classes are either held in the open or in the Varandah or under the shadow of a tree. India is known for extreme weather conditions. Rains, floods, droughts and higher temperature during summer months are typical when the teaching learning process get disrupted either due to the non-availability of classrooms or due to the unsafe condition of classrooms/schools.

The existing infrastructure can be used to accommodate the additional enrolment. It is, therefore, important to identify such areas.



Figure 3.2
Percentage schools with SCR>90: 2000-2001



3.5 Overcrowded classrooms

Overcrowding occurs when the infrastructure facilities fail to keep pace with the increasing demand for education. The national norm suggests one teacher per forty students and a minimum of two classrooms and two teachers for a school. The states could not fully implement these norms for various reasons. Recently NIEPA has completed an evaluation study of Operation Blackboard scheme. The study has identified many implementation issues. The final recommendations are yet not available.

It is difficult to fix a SCR, which may be taken as an ideal for the state or the district. However, for the purpose of the present analysis, schools having more than 90 students per classrooms are treated

as overcrowded. The data for 2000-01 shows that the schools having large proportion of overcrowded classrooms are confined to a large number of districts in Assam, Uttar Pradesh and West Bengal (Fig. 3.2).

Some of educationally backward states like Orissa and Jharkhand do not have serious problems of overcrowding. Therefore, expansion of enrolment may not create any immediate problems as far as provision of additional classroom space is concerned.

In Group 1 districts/states, the SCR was more than 90 in about 7 percent schools with an estimated enrolment of 10.7 percent. The position with respect to group 2 districts/states was more serious. The proportion of overcrowded school was 15.6 percent (more than twice of group 1 overcrowded schools) with an estimated enrolment share of 26.1 percent. Thus one in every four child in Group 2 districts/states was studying in overcrowded schools. The situation is extremely serious in Group 3 states, where one in every three students was studying in an overcrowded school (table 3.10).

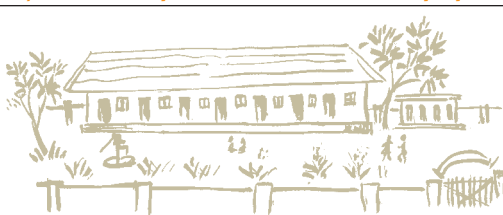
The persistence of overcrowded schools even in rural areas raises a few questions on the strategy for achieving universal access, retention and a comparable level of achievement for all students. The educators have to deliberate on the type of reforms that are possible in overcrowded schools.

Table 3.10
Overcrowded schools and their enrolment, 2000-01

Academic year	% Overcrowded schools			% Enrolment in overcrowded schools		
	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3
1995-96	10.3			16.0		
1996-97	9.9			15.5	29.6	
1997-98	9.4	18.4		15.3	29.4	
1998-99	8.9	17.3		14.1	27.9	
1999-00	8.6	16.6		14.0	27.2	
2000-01	7.0	15.6	21.2	10.7	26.1	35.5

Note: Schools with SCR of 90 and above are classified as overcrowded schools

Dummy text in the place of introduction: The analysis of population and demographic profiles of the DPEP districts show considerable variations in the population density and the spatial distribution of population in various settlements.



Trends in enrolment

The country has been striving to achieve the national goal of UPE/UEE. In view of the persistence of backlog in certain parts of the country, the goal had to be redefined many times in the last four decades. The National Policy on Education, 1986 postulated that UEE would be achieved during nineties. However, this goal had also to be shifted forward. Now the Government of India has initiated a new program under the banner of SSA for achieving UEE in the country in a time bound manner. The SSA was launched during 2000-01 and is the first program covering the whole country. The SSA has proposed the concept of habitation level planning based on the household surveys. Community ownership of the school is a key element in SSA strategy. The community would play a major role in planning, implementation and monitoring. It is expected that all districts in the country would be covered under SSA by April 2002. The SSA is thus seen as a main vehicle for achieving UEE in India in the coming years. The specific objectives of the SSA for the elementary education are:

- ◆ All children in school, Education Guarantee Centre, alternative schools, back to school camp and other innovative strategies by year 2003.
- ◆ All children complete five years of primary education by year 2007.
- ◆ All children complete eight years of elementary education by 2010.
- ◆ Focus on elementary education of satisfactory quality.
- ◆ Bridge all gender and social category gaps at primary stage by 2007 and at elementary education level by 2010.
- ◆ Universal retention by 2010.

The working group for the formulation of tenth five year plan has also endorsed these objectives (GOI, 2001). It is assumed that the eminent educational planners, members of the working group on elementary education, educational experts and administrators would have adequately satisfied themselves about the feasibility of the above objectives being achieved by the stipulated dates. Going by the present trends, these are unlikely to be achieved. A new trajectory has to be chartered in the next few years, if the stated goals of SSA are to be

DPEP has contributed immensely to the formulation of Sarva Shiksha Abhiyan. This would provide the umbrella guidelines for all development cooperation in elementary education including the DPEP.



achieved in reality. The working group has also proposed a number of strategies for achieving the objectives of SSA. A perusal of these would indicate that most of proposed strategies are along the traditional thinking. To main strategies suggested by the working group are:

Universal access

- ♦ All children in 6-14 years age group should have access to primary and upper primary schools or their alternatives within a walking distance of one km. and three km. respectively.
- ♦ Universal access to early childhood care and education centres for all children of 3-6 years age group.
- ♦ Need based expansion of upper primary education facilities, particularly for the disadvantaged sections. There should be one upper primary school for every two primary schools.
- ♦ All schools should have buildings, toilets, drinking water, electrification, playground, blackboards and other basic facilities.
- ♦ Provision of one classroom for every teacher at elementary stage.

Universal enrolment

- ♦ Enrolment of all children in schools or other alternatives by 2003.
- ♦ All children complete five years of primary schooling by 2007.

Universal retention

- ♦ Universal retention in primary cycle by 2003.
- ♦ Dropout to be reduced to less than 10 percent for Grades 6-8 by 2007.

Universal achievement

- ♦ Improve all aspects of quality of education

(content and process) to ensure reasonable learning outcomes at elementary level, especially in literacy, numeracy and in life skills.

Equity

- ♦ Bridge all gender and social gaps in enrolment, retention and learning achievement in primary cycle by 2007. In upper primary it should be reduced to less than 5 percent by 2007.
- ♦ Special intervention and strategies to include girls, SC/ST children, working children, children with special needs, urban deprived children, children from minority groups, children below poverty line, migrating children and children in hardest to reach groups.

Realizing the significance of computer education and use of information and communication technologies in teaching learning, the working group has given a special emphasis on introduction of computers at elementary stage. To begin with, one school in every cluster would have facilities for computer based learning for students and teachers in the adjoining schools.

The above discussion of the perspectives on Tenth Plan is important as SSA will subsume all existing programs and schemes of elementary education within its fold, except the schemes pertaining to mid-day meals and Mahila Samakhya. The DPEP experience has contributed immensely to the formulation of SSA. In future, the SSA would provide the umbrella guidelines for all development cooperation in elementary education including the DPEP.

The working group estimated that out of a population of about 200 million in 6-14 year age group, about 42 million children were not attending school. Going by the spatial distribution of these children, it could be easily concluded that most of them live in Hindi speaking states of Bihar, Uttar Pradesh, Madhya Pradesh, Rajasthan and Chhatisgarh. Even in these states, the spread of out of schools children is not ubiquitous but shows signs of dispersed concentration. Most of these

children are at risk due to one or the other factor. The identification and targeting the clusters where such children live would prove to be more difficult and time consuming as we move closer to the target of achieving the goal of UEE. For example, Kerala was the first Indian state to achieve near universal literacy and universal access to primary education decades ago. Notwithstanding the success of Kerala model, even now there are some pockets of underdevelopment in some districts of the state.

If the objectives of SSA are to be met, an additional enrolment (approximately 20 percent increase over the base year 2000-01) should be ensured by 2003. It is estimated that the number in children of school entry age would be approximately 29-32 million. The Grade 1 enrolment in 1999-00 was 31 million. Assuming about 20 percent underage and overage in Grade 1, the net enrolment in Grade 1 would be about 25-26 million in 1999-2000. Therefore, 4-5 million children need to be enrolled in Grade 1. But then how does one reconcile the fact that there were 15 million fewer girls than boys in primary Grades in 1999-00.

The national trends in primary Grades enrolment are showing signs of slow down and almost stagnating in enrolment. In fact a fall in enrolment was observed between 1996-97 and 1997-98. Last two years have witnessed an increase in enrolment of about 2.2 million per year showing an increase of about 2

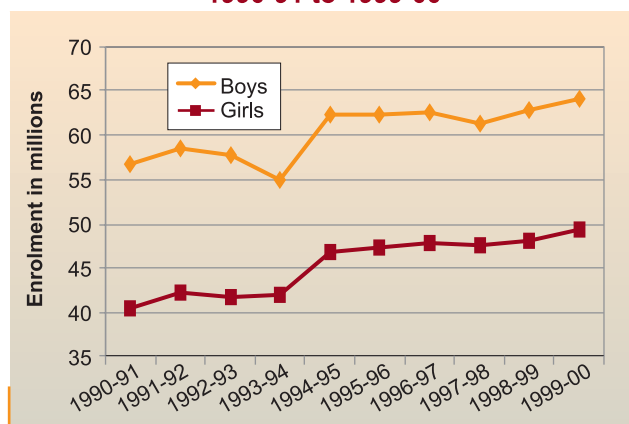
percent per annum. Much of this increase came from DPEP districts.

This is despite the fact that repetition and dropout rates are falling. Fall in dropout rates would lead to considerable increase in enrolment. Drop in repetition rates would have the reverse impact. The existing data does not permit a detailed analysis along the above lines. Does it mean that the system has reached a plateau as far as intake and enrolment in formal schools is concerned?

The above trends correspond only to enrolment in recognized primary schools which includes all government schools, schools managed by local bodies, schools managed by central and state government departments, recognized private schools (aided and unaided). In addition, recent years have also witnessed a great proliferation of the unrecognized primary schools in various parts of the country. A study of the unrecognized schools undertaken by the author in DPEP districts of Haryana indicated that 25-30 percent children are attending these schools (Aggarwal, 2000g). The NSSO data also suggest that significant proportion of children attend private fee charging schools. The government of India has yet not formulated a clear policy on the governance and state control of unrecognized primary schools.

As mentioned earlier, the enrolment and other data for all DPEP district is not available for all years. The non availability of the latest DISE data resulted in the exclusion of some districts from the time series analysis.

Figure 4.1
Trends in Primary Grades Enrolment: India
1990-91 to 1999-00



Improving access: The DPEP way

A major goal of DPEP is to provide universal access to all children in primary school going age group through formal or alternative modes of education. Traditionally, the children had only two routes to acquire primary education, namely through formal primary schools (government or private) or through non-formal education meant for school dropouts, never enrolled and working children. The Indian experience with NFE programs has not been very

satisfactory. Due to lack of effective strategy and commitment to the alternative modes of education, the program of NFE did not yield much. Various evaluations studies have highlighted the limited impact of the program in reducing the out of schools children. Many of these dropouts and never enrolled children would later be added to the list of adult illiterate.

Learning from the earlier experiences of development projects like Lok Jumbish, Bihar Education Project, Shiksha Karmi and other such initiatives, the DPEP adopted a multi-pronged strategy for providing access to out of school children living in smaller habitations, children from migratory families, urban children living under difficult conditions, working children and children with special needs. The DPEP strategy for promoting AS program is clearly based on the premise that the aim of AS is to supplement and strengthen the formal system of primary education. The AS meets the educational requirements of the children in habitations without easy access to schooling facilities, working children from rural and urban areas and tribal children with a special focus on education of the girl child. The DPEP initiatives to improve accessibility to primary education include the following:

- i. Establishment of new formal primary schools through DPEP/state funds in unserved habitations.
- ii. Provision of additional classrooms in overcrowded schools and other schools deficient in infrastructure facilities. The strengthening of infrastructure includes construction of new classrooms, girls' toilets and supply of drinking water etc.
- iii. Establishment of educational facility in smaller habitations where a formal primary school may not be viable due to smaller number of children or the formal school may not be available within the prescribed norm of one km. A variety of models have been attempted through DPEP initiatives.

Like the formal schools, the duration of AS/EGS is

four or five years. Some states have also launched bridge course of shorter duration. For example, the duration of bridge courses offered in Karnataka is 60 days. Andhra Pradesh is also trying such an approach.

The perusal of available evidence indicates that the issues related to access can be dealt in the following manner:

- a) Identification of out of school children through various methods of micro planning and household surveys.
- b) Achieving equity in access to comparable educational facilities. The available evidence indicates that the level of infrastructure and its quality is directly proportionate to the development indices of the region. The schools located in the socially and economically deprived areas are the most deficient in infrastructure and quality of resources deployed in such schools. Do these schools require less or more of quality resources? The answer is contrary to the contemporary approach. The concerns for quality of learning outcomes and adequacy of infrastructure persists even when the fee charging private schools have proliferated in large numbers in the unserved habitations. So far, the private fee charging schools have not faced any competition from the government schools. This is despite the fact that government schools not only provide free education but also pay incentives and scholarships to children for attending school. The present approach of AS/EGS has further perpetuated this divide between the organized, alternative and parallel system of private education. Will the AS/EGS strategy be able to offer any challenge to private unrecognized schools?
- c) Convergence between formal and alternative modes of primary education is necessary for UPE/UEE to be achieved in cost effective manner. A feeling is developing within the educational administrators that AS/EGS is a better mechanism to address the needs of the out of school children and those living in smaller habitations.

It is also cost effective due to small fee/honorarium paid to AS/EGS teachers. The net outcome is a large scale expansion of AS/EGS and sometimes at the cost of existing primary schools. There are reports from many states that the children from primary formal schools have joined the AS/EGS because of easy access. The concerns about the quality of education and the learning outcome in alternative system are equally relevant. Are we replacing one inefficient system with another of the same type and with similar areas of concern? The recently conducted study by IIM on various aspects of AS/EGS in Madhya Pradesh has dispelled these concerns. The study has shown that learning achievement among the AS/EGS schools is far better than the corresponding formal schools.

Identification of out of school children

Since the beginning of development planning in early fifties, extending the outreach of educational facilities in one or the other form has remained a major focus of development planning at the state and the national level. Considering the present network of educational institutions coupled with the facilities created in the private sector, it is not difficult to conclude that a considerably large proportion of children do not have access to educational facilities. It is also evident that a large number of children do not attend primary schools even when such facilities are available within a reasonable walking distance. It is here that we have to distinguish between access and participation, on the one hand, and the distinction between social and physical distance, on the other. Access is an enabling factor which does not ensure participation. Participation can be induced through awareness building campaigns or driven by the urge to send the children to school. The former serves a limited purpose whereas the latter is related to the relevance and effectiveness of primary education in the local context. The goals of UEE would not be achieved until the elementary education becomes locally relevant.

Many attempts have been made to identify the out

of school children and to understand their profiles. Most DPEP states have undertaken complete enumeration of thousands of households to develop an understanding of the profile of the out of school children. While the estimates vary, some inescapable conclusions are: the circumstances within which the out of school children live are varied and so are their educational requirements. In view of their socio-economic conditions and the immediate needs, these children require more of semi skills and basics of functional literacy and numeracy rather than academic and bookish knowledge. EFA approach also articulates these goals and objectives. The Dakar conference has reiterated the need for skill formation and relating education to the world of work. Unless the educational initiatives are re-oriented to these goals, the achievement of UEE may not have much meaning. Elementary education which can raise the quality of life of human beings and have a corresponding effect on social and economic development will be in demand by the left out groups.

The DPEP has championed the cause of providing alternative modes of access based on the formal school curriculum. But it has yet to experiment with the innovations aimed at providing alternative education which is meaningful to the currently out of school children and may not necessarily follow the curriculum prescribed for the formal schools. Innovations with alternative curriculum and its impact on teaching learning should be taken up as an innovative project.

There are many concerns with the ongoing programs of providing education through alternative modes. First, many alternative schools provide little alternatives as far as students are concerned. It is the same type of teacher, same type of curriculum, same number of daily teaching learning hours and same type of teaching methodology. Even the facilities extended to primary schools in the form of teacher grant and school improvement grant are being extended to the AS/EGS schools also. In states like Kerala, Madhya Pradesh and West Bengal, the scheme of mid-day meals, scholarships and other

The newly formulated EGS & AIE scheme will cover children in the age group of 6-14 years, however, for children with disabilities, it would cover children upto the age of 18 years.



facilities available to tribal, SC children and girl students have already been extended to children studying in AS/EGS. So, is there any real difference between the formal and AS/EGS? In fact more than 1000 AS/EGS schools were converted into formal primary schools in Andhra Pradesh.

The availability of suitable infrastructure for AS/EGS schools is an issue about which there is a lack of clarity. In most of the cases, the AS/EGS are run from the space provided by the local communities. The progress overview of DPEP reported that in most places the space provided for AS is neither suitable nor adequate¹. It is also reported that the non availability of adequate and appropriate space is also affecting the quality of teaching in such schools. How this issue is to be addressed is not clear.

Education Guarantee Scheme

The Centrally Sponsored Scheme of Non Formal Education (NFE) was introduced in 1979-80 on a pilot basis with a view to support the formal system in providing education to all children up to the age of 14 years. The National Policy on Education (NPE), 1986 recognized that the school could not reach all children and a large and systematic program of non formal education would be required for school dropouts, for children from habitations without schools, working children and girls who could not attend whole day schools.

The NFE centres function for two hours daily at a time suitable for learners. But in many states the centres also functioned in the evening and at night to accommodate children who work during the day. The NFE Scheme did advocate flexibility in various

aspects of running of centres but the manner of its implementation resulted in a uniformity and rigidity. Certain states like Andhra Pradesh and Madhya Pradesh could not implement modified approaches which had been worked out by them within the existing NFE scheme. A large number of NFE centres were set up in habitations which had formal schools and therefore the small and scattered SC and ST habitations without schools did not receive the high priority.

The NFE scheme functioned largely as a separate intervention for 'out of school' children resulting in poor linkages with the formal system, inadequate emphasis on mainstreaming of children from the NFE system and duplication of enrolment between the formal and alternative systems. Several evaluations and assessments by State Governments, institutions and most notably the Programme Evaluation Organisation (PEO) of the Planning Commission have concluded that the implementation of the Scheme is not been satisfactory. The scheme was therefore revised twice in the last ten years.

The newly formulated EGS & AIE scheme would cover children in the age group of 6-14 years, however, for children with disabilities, it would cover children upto the age of 18 years so as to comply with the provisions of *Persons with Disabilities (Equal Opportunities, Protection or Rights and full Participation) Act, 1995*. It will continue to have 3 components as in the earlier NFE scheme:

- i) *State-run centres* (now EGS/Schools or a variety of alternative schools/back to school camps run by the state government.
- ii) *EGS/Learning centres or alternative schools run by Voluntary Agencies (VAs).*
- iii) *Innovative and Experimental projects* and DRUs run by VAs.

Since EGS & AIE would be implemented as an integral part of the UEE effort under SSA, the structures and personnel for EGS & AIE would therefore necessarily

¹ DPEP (2001). DPEP Progress Overview (p.99).

have to converge with or be a part of the elementary education structures at all levels. EGS & AIE supports flexible strategies including schools in unserved habitations, seasonal hostels or condensed courses for migrating children, bridge course, residential camps, drop-in centres for street and slum children, remedial coaching for children enrolled in formal schools, short duration summer camps etc.

The EGS & AIE would accord a priority to setting up of EGS centres (primary level) in unserved habitations where no school exists within a radius of 1 k.m. and atleast 15 children in the age group of 6-14 who are not going to schools are available. In exceptional cases e.g. remote habitations in hilly areas of Jammu & Kashmir and parts of North East India, EGS schools could be supported even for 10 children within the overall cost norms of the scheme VAs could also apply for setting up of EGS schools. A second category of interventions that would be accorded priority are bridge courses, back to school centres or camps that aim at mainstreaming of 'out of school' children into formal schools.

EGS & AIE would support the following 3 broad kinds of strategies :

- a) Setting up of schools in school-less habitations (EGS).
- b) Interventions for mainstreaming of 'out of school' children viz bridge courses, back to school camps etc.
- c) Strategies for very specific, difficult groups of children who cannot be mainstreamed.

Strategies under (b) and (c) above would be together referred to as the AIE component of the EGS & AIE Scheme (to distinguish them from the EGS component).

The provisions of the EGS & AIE scheme have been made such that there is no compromise on the quality of teaching learning in the school/camp/centre. The following are the non-negotiable viz-a-

viz the classroom processes:

- ♦ Classroom processes to be child centred.
- ♦ Use of appropriate and adequate activities and TLM for children.
- ♦ The activities should allow children to learn at their own pace while emphasizing progression through the curriculum.
- ♦ The teacher to work as a facilitator in the multi-level teaching-learning process.
- ♦ To make the learning effective use of appropriate learning material (textbooks, workbooks, activity cards or sheets, multi-grade kits).
- ♦ Continuous and comprehensive evaluation of learners.

It is expected that in most states, the EGS schools would follow the formal schools curriculum and textbooks.

Present coverage under AS/EGS

The DPEP Progress Overview, 2001 reported a total of 67,000 Alternative Schools of different types covering 2.5 million children in the DPEP districts. State-wise analysis shows that the major increase in the number of AS is reported from the state of West Bengal to the tune of (4,045) followed by Uttar Pradesh (3,275), Rajasthan (2,373), Maharashtra (1,415), Orissa (1,196) and Madhya Pradesh (1,195). A total of 2,065 Alternative Schools were closed down for various reasons during the last six to eight months. Earlier, some centres in Maharashtra and Tamil Nadu were also closed down. In Karnataka the emphasis is now on the mainstreaming through bridge courses. More than 1000 centres have been converted to formal primary schools in Andhra Pradesh.

Increase in enrolment is mainly reported from the states of Madhya Pradesh (1,02,029) West Bengal (98,336), Rajasthan (95,750), Uttar Pradesh (62,268), Orissa (33,535), Gujarat (3,363) and Kerala (750)².

2 DPEP, Progress Overview, Vol. 1, pp 113. (presented to the 14th Joint review Mission, November, 2001)

The DPEP progress overview reports that many states have been able to universalize access to primary education by opening EGS schools. It further postulates that within a period of one year rest of the unserved habitations would be covered by EGS centres in all the DPEP states³. However, the basis for such optimistic conclusions is not provided in the progress overview. This assertion becomes a matter for further concern as there is hardly any regular and systematic database at TSG on the nature of alternative schooling, coverage, enrolment by gender and caste groups and the number of teachers working in these centres in the DPEP districts. At the national level, the AS unit relies heavily on the aggregated data provided by the states which do not even follow a constant date of reference⁴. The district level data provided by the AS unit does not fully match with the state aggregates.

Intervention in Makhtabs and Madarsas

Recently there was a significant effort to improve functioning of Madarasas in Madhya Pradesh, Uttar Pradesh, Assam and Rajasthan. Currently under DPEP 1061 Madarasas have been adopted. This is one of the most difficult and important areas of work from

the point of view of bringing gender equity. The education in Madarasas has often been restricted to 'Deeni Taleem' only. In consultation with the local communities and Maulavees, formal school textbooks and curriculum has been introduced in the Madrasas. Wherever qualified Maulavis are available, they have been trained in transaction of the formal curriculum. In other places, local teachers were appointed with community support. Children are also given free textbooks and teaching learning materials.

Composition of primary grades enrolment

The structure of primary Grades is examined along two dimensions, namely, Grades and category enrolment.

Composition of enrolment by Grade

Ideally, enrolment pyramid at any given point of time should look like cylindrical. The UEE/UPE can not be achieved when Grade to Grade enrolment declines fast representing a pyramid with wide base and narrow top. All children entering Grade 1 should be able to complete primary education. Due to various measures taken to improve retention of children in various Grades, it is expected that the

Table 4.1
Enrolment by Grades for Group I States: 2000-01

State	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
Assam*	220	113	91	73	
Haryana	103	106	112	105	88
Karnataka*	306	294	297	267	
Kerala*	98	107	110	113	
Madhya Pradesh	584	529	545	496	482
Maharashtra	361	341	349	357	312
Tamil Nadu	229	220	213	214	202

Note: * indicates states with four year primary education cycle.

3 ibid.

4 All the educational statistics in the country are collected with 30th September as the date of reference but the AS/EGS data does not follow any fixed date of reference. Therefore integration of this data with formal schools data poses many problems, some of which have been discussed in this chapter.

Table 4.2
Enrolment by Grades for Group 2 States: 2000-01

State	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
Assam	233	136	115	90	0
Bihar	903	572	472	385	311
Gujarat	251	206	184	154	128
Haryana	72	72	82	78	60
Himachal Pradesh	37	36	40	40	32
Karnataka	572	543	552	493	0
Kerala	89	94	97	100	0
Madhya Pradesh	501	472	493	403	365
Maharashtra	235	218	216	219	197
Orissa	315	246	217	188	169
Tamil Nadu	89	81	81	81	77
Uttar Pradesh	1311	1070	892	726	551
West Bengal	944	612	561	527	0
Chhatisgarh	77	69	70	66	64
Jharkhand	354	213	187	164	142

difference between the number of children in Grade I and the penultimate class would be small, if not negligible. However, the reality is vastly different (Table 4.1). Among the Group 1 states, Assam has the most distorted enrolment pyramid. The remaining states of Kerala, Tamil Nadu, Maharashtra, Haryana, Madhya Pradesh and Karnataka show a more balanced structure of primary Grades enrolment.

The position with respect to group 2 states is different (Table 4.2). Besides Assam, Bihar, Gujarat, Orissa, Uttar Pradesh, West Bengal and Jharkhand show highly distorted structure of enrolment. The children in penultimate Grades are far lower than Grade 1 enrolment. This indicates that there are

serious problems with retention of children in primary schools in these states. Many districts belonging to Group 2 states have implemented DPEP for 4-5 years.

The enrolment pyramid is equally distorted in all Group 3 states. Among group 3 states, Andhra Pradesh has a long history of development assistance in primary education. Before the DPEP was undertaken, the state was covered under Andhra Pradesh Primary Education Project supported by the ODA (now DFID).

The imbalances in Gradewise enrolment highlight need to more vigorously pursue the retention

Table 4.3
Enrolment by Grades for Group 3 States: 2000-01

State	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
Andhra Pradesh	1905	1313	1193	1112	1184
Uttar Pradesh	2457	1902	1700	1442	1188
West Bengal	633	328	297	259	0
Uttaranchal	114	78	69	60	47

policies. The strategy should shift from enrolment to enrolment and retention. If the enrolled children can not be retained, then this is a poor reflection on the education system.

Categorywise composition of enrolment

The districts covered under DPEP were not only low female literacy districts but also those having larger concentration of deprived social and economic groups. The SCs and STs constitute such groups of population. The population distribution shows that the share of SC and ST population was about 16 and 8 percent respectively at the national level. In some DPEP states and districts, their proportion is much higher. The District Primary Education Report Card provides the share of SC and ST population in each DPEP district corresponding to 1991 census. The data on SC and ST for 2001 census is yet not available.

For group 1 states, out of a total of 8 million students, 1.6 million belonged to SC, 1.1 million to ST and 2.6 million to OBC category. By far the recently created OBC category emerged as the single largest group in terms of social composition. The definition of caste groups belonging to OBC category are state specific. Thus, in terms of SC and ST enrolment, the Group 1 states represented about 20 percent and 14 percent respectively (Table 4.4).

Table 4.4

Trends in enrolment by category: Group 1

(Enrolment in thousands)

Category of students	1997-98	1998-99	1999-00	2000-01
All	7,933	8,016	8,139	8,036
SC	1,379	1,406	1,614	1,616
ST	945	977	1,140	1,136
OBC	2,505	2,496	2,568	2,587
General	3,104	3,138	2,816	2,696
% SC	17.4	17.5	19.8	20.1
%ST	11.9	12.2	14.0	14.1
%OBC	31.6	31.1	31.6	32.2
%General	39.1	39.1	34.6	33.6

Similarly, for group 2 states, out of a total of 20.7 million students, 4.4 million belonged to SCs, 2.5 million to STs and 5.5 million to OBC category (Table 4.5). In terms of social composition, the Group 3 states present a different picture (Table 4.6). These states had about 28.3 percent children belonging to SCs and 4.6 percent belonging to STs. Thus, these states do not have large concentration of ST population. Group 1 and Group 2 states had a large concentration of STs.

It is also observed that both SC and ST students has consolidated their position by improving their proportion in overall enrolment. This is a positive

Table 4.5

Trends in enrolment by category: Group 2

(Enrolment in thousands)

Category of students	1997-98	1998-99	1999-00	2000-01
All	18531	19079	20264	20694
SC	3678	3940	4376	4423
ST	1885	2027	2357	2492
OBC	4553	4622	5147	5502
General	8414	8489	8384	8277
% SC	19.8	20.7	21.6	21.4
%ST	10.2	10.6	11.6	12.0
%OBC	24.6	24.2	25.4	26.6
%General	45.4	44.5	41.4	40.0

Table 4.6

Enrolment by category: Group 3

(Enrolment in thousands)

Category of students	2000-01
All	17280
SC	4894
ST	790
OBC	4503
General	7093
% SC	28.3
%ST	4.6
%OBC	26.1
%General	41.0

Table 4.7
Trends in the share of OBC enrolment to total enrolment

State	Share of OBCs to total enrolment			
	1997-98	1998-99	1999-00	2000-01
Group 1				
Assam	11.6	11.5	12.2	11.8
Haryana	19.6	17.6	18.1	18.2
Karnataka	22.3	26.6	33.8	41.4
Kerala	71.2	72.5	72.4	65.0
Madhya Pradesh	37.8	34.8	31.9	31.0
Maharashtra	11.6	10.3	10.2	10.5
Tamil Nadu	60.7	62.0	63.6	62.9
Average	31.6	31.1	31.6	32.2
Group 2				
Assam	13.2	15.1	15.7	14.5
Bihar	18.1	16.5	17.0	22.6
Gujarat	42.4	41.9	44.7	45.9
Haryana	32.6	31.9	30.6	36.6
Himachal Pradesh	5.8	6.5	6.3	5.8
Karnataka	32.3	34.1	40.2	42.0
Kerala	48.4	48.2	49.5	48.6
Madhya Pradesh	36.6	31.8	30.9	32.1
Maharashtra	16.8	16.0	16.3	14.8
Orissa	32.5	28.3	29.2	33.2
Tamil Nadu	57.3	72.5	71.2	73.7
Uttar Pradesh	31.2	26.9	26.9	26.7
West Bengal	0.5	0.8	0.3	0.7
Chhatisgarh	56.1	54.1	52.3	38.3
Jharkhand	17.0	18.9	18.9	22.8
Average group 2	25.1	24.2	25.4	26.6
Group 3				
Andhra Pradesh				26.6
Uttar Pradesh				30.0
West Bengal				5.9
Uttaranchal				6.1
Average group 3				26.1

development and has been examined in detail in the subsequent chapters. The trends in the proportion of OBC enrolment to total enrolment are presented in Table 4.7. The share of OBC to total enrolment has shown significant increase in many states. Some states have also shown a decline in their share. These states are: Kerala and Madhya Pradesh from Group 1, Madhya Pradesh, Maharashtra and Chhatisgarh from group 2 states.

Trends in enrolment in primary grades

The trends for Group 1 enrolment were examined for the DPEP districts. As mentioned earlier, districts belonging to Chhatisgarh (formerly Madhya Pradesh) have not submitted data for 2000-01. In the absence of such data, the time series comparison of the enrolment and other characteristics is not possible for all Phase I districts. The present analysis covers only 39 out of a total of 43 districts belonging to DPEP Phase 1. The aggregates of enrolment would be less than reported last year as the data for Chhatisgarh has been removed for the previous years so that the time series data becomes comparable. Another caution needs to be taken while interpreting the results. After the formation of three new states, the DISE database was reorganized to obtain the data for the reorganized states so that time series analysis could be undertaken for the reorganized states. Therefore, the old data for Uttar Pradesh, Bihar and Madhya Pradesh would not be comparable with the new totals presented in this report. A new set of data corresponding to reorganized states shows the following:

- In the initial years of DPEP I, there was considerable focus on universal enrolment. Hence many innovative strategies including awareness campaigns and mobilization drives were undertaken. Consequently, the enrolment expansion was rapid till 1997-98. However, the additional enrolment did not keep pace with past trends. There were two states, namely, Kerala and Tamil Nadu which showed a modest decline in enrolment from the beginning of DPEP-I. The decline in these states is attributed to shrinking base of the school going age group population

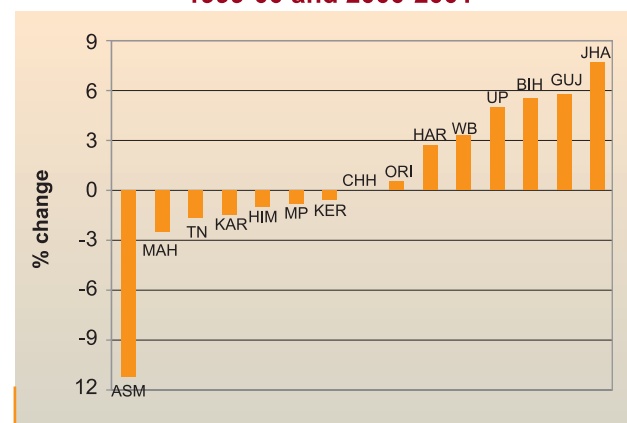
as a result of demographic changes. The overall enrolment in Phase I districts (39 in number) is hovering at around 8 million for the last four years (Table 4.8). In fact a decline of about 103,000 (1.26%) in overall enrolment in formal schools was observed between 1999-00 and 2000-01. The percentage change in enrolment for Phase I states is presented in Fig 4.2.

- b) The increase in enrolment in DPEP II districts has been quite moderate as compared to Phase I districts (figure 4.3). The overall enrolment in Group 2 districts increased from 20.2 million in 1999-00 to 20.7 million in 2000-01. During 1999-00 and 2000-01, the overall enrolment increased from 20.3 million to 20.7 million students for 86 districts in this group (Table 4.9). The Phase II districts were relatively more backward as compared to Phase I districts and hence the increase in enrolment in first few years should have been much higher. While the overall trend is still positive, some states have started showing the signs of decline in overall enrolment (Figure 4.3). Assam is perhaps the only state which is showing abnormal decline in overall enrolment for the last few years. During the last two years, a decline of 11.3 percent was observed for Assam. States like Kerala and Tamil Nadu have reported decline in age specific population. Perhaps the 6-11 years age group population in Karnataka is also reaching plateau and it could be one of the reason for decline in

Figure 4.2
Enrolment change (Group 1)
1999-00 and 2000-2001



Figure 4.3
Enrolment change (Group 2)
1999-00 and 2000-2001



enrolment. Jharkhand is the only states where a significant increase in enrolment is observed between 1999-00 and 2000-01.

- c) The progress of enrolment with respect to 63 districts falling in Group 3 can not be evaluated since the data for only one year is available for these districts. The data for 200-01 is presented in Table 4.10. The total enrolment in group 3 districts is almost twice that of the Group 1 districts. Overall, 17.3 million students were enrolled in Group 3 states/districts. Group 3 includes 5 districts of Andhra Pradesh, where the DPEP has been running since 1996 but the DISE was implemented only during the last year. The state of Rajasthan is running in to the third year of program implementation for Phase 1 districts and second year for Phase 2 districts. Despite the best efforts by the DPEP Bureau, NIEPA and TSG, the state of Rajasthan has not seriously taken up the implementation of DISE so far. No data is, therefore, reported for Rajasthan. Only one year data is reported for Andhra Pradesh due to late start of EMIS activities.
- d) Many states have conducted household surveys to identify out of school children and children attending unrecognized schools. Despite these surveys, neither the overall estimates of out-of-school children in DPEP districts are available nor do the state estimates add up to the often quoted number of out of school children. The

report of Working Group on Elementary and Adult Education for the Tenth Five Year Plan (GOI, 2001) mentions that 42 million children in 6-14 age are out of school. There is bound to be a large concentration of out of school children in DPEP states. Going by the trend in enrolment in last few years, the additional coverage in enrolment is modest and no where comparable to other estimates of out of school children. It appears that the issues related to access have not been resolved fully even in DPEP districts.

- e) It is generally believed that formal school enrolment is not showing much signs of improvement as there is a major shift towards alternative schooling in the DPEP states. While the significance of alternative schools is not to be undermined at all, its contribution to overall access has to be properly understood. The latest Progress Overview of the DPEP (DPEP, 2001) has estimated an enrolment of about 2.5 million in all types of alternative schools, which roughly accounts for about 4-5 percent of overall DPEP enrolment in various Phases. About half of AS/EGS enrolment is in Madhya Pradesh alone. The Alternative Schooling Unit of TSG does not maintain district level enrolment profile of AS/EGS. Nor does it maintain a separate record of AS/EGS schools by DPEP Phase and the year when these centres were started⁵. In the absence of comparable time series data, it is not possible to track progress for Phase I, expansion and Phase II and III districts/states as far as alternative schooling is concerned. Further, it is possible, that all enrolment in AS/EGS is not fresh enrolment of out of school children. Many children studying in formal primary schools have migrated to AS/EGS due to easy access. Presently, there is no check that a student can be enrolled either in the formal or in an AS/EGS school. It is quite possible that some children are enrolled in both the systems. The extent of duplicate enrolment, if any, is not clear. The AS or the Research Unit in TSG or their



The decline in overall enrolment in DPEP states is a serious matter and needs to be carefully examined. The decline in enrolment was also pointed out in Year 2000 report on Access and Retention.

counterparts in the states should have not examined some of these issues in detail. Merely combining AS and formal school enrolment may further distort the educational statistics.

- f) Four positive developments which can lead to an overall decline in primary Grades enrolment are: effect of quality improvements in school level data reporting, decline in fertility and crude birth rate, reduction of Grade repetition and clearing the backlog of underage and overage children. On the contrary, the enrolment figures would continue to show artificial increase due to over reporting of enrolment by the schools, double or multiple counting of students in formal recognized, unrecognized and AS/EGS centres, and significant reduction in dropout rate at primary stage. These and many other aspects related to flow of students, internal efficiency and quality of data reporting need to be examined to unravel the complexities of educational development. Sample studies are required to estimate the effect of these factors on primary Grades enrolment.

The decline in overall enrolment in DPEP states is a serious matter and needs to be carefully examined. The decline in enrolment was also pointed out in Year 2000 report on Access and Retention. It was also pointed out that the year on year increase was also declining pointing to the difficult task of reaching the unreached out of school children over the years. The planning strategy has to undergo some important changes, if the DPEP target of universal access is to be achieved in a time bound manner. The enlarged strategy must take into account the following issues:

⁵ The cut off date for reporting AS statistics has not been fixed. The reporting period for alternative school related statistics varies according to the JRM schedule. Reporting data on ad-hoc basis does not make much sense.

Table 4.8
Enrolment trends in Group 1 districts/states

Group 1	No. of districts	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01
Assam	4	352	561	589	555	546	497
Haryana	4	432	501	540	550	556	513
Karnataka	4	1,050	1,108	1,145	1,176	1,165	1,165
Kerala	3	478	459	438	446	433	428
Madhya Pradesh	15	2,093	2,392	2,413	2,445	2,605	2,635
Maharashtra	5	1,448	1,651	1,735	1,770	1,759	1,720
Tamil Nadu	4	1,079	1,072	1,073	1,075	1,074	1,078
Total Group 1	39	6,932	7,744	7,933	8,016	8,139	8,036

Table 4.9
Enrolment trends in Group 2 districts

Group 2	No. of districts	1997-98	1998-99	1999-00	2000-01
Assam	5	689	644	648	575
Bihar	8	2,703	2,540	2,503	2,643
Gujarat	3	742	807	873	924
Haryana	3	328	340	355	365
Himachal Pradesh	4	180	189	187	185
Karnataka	7	1,574	2,134	2,191	2,160
Kerala	3	390	388	382	380
Madhya Pradesh	13	1,931	2,081	2,251	2,234
Maharashtra	4	1,082	1,034	1,112	1,085
Orissa	8	1,087	1,108	1,128	1,135
Tamil Nadu	3	412	418	415	409
Uttar Pradesh	14	3,650	3,922	4,330	4,550
West Bengal	5	2,298	2,406	2,561	2,645
Chhatisgarh	1	399	41	345	346
Jharkhand	5	1,067	1,029	982	1,059
Total Group 2	86	18,531	19,079	20,264	20,694

Table 4.10
Enrolment in Group 3 districts, 2000-01

Group 3	No. of districts	2000-01
Andhra Pradesh	18	6,706
Uttar Pradesh	34	8,689
West Bengal	5	1,516
Uttaranchal	6	369
Total Group 3	63	17,280

Figure 4.4
Group 1: Trends in Enrolment

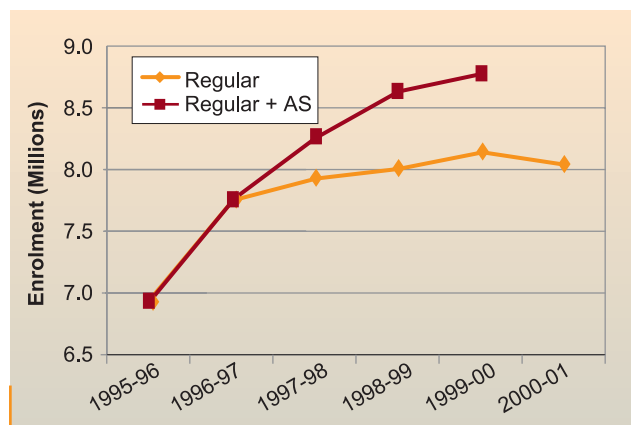
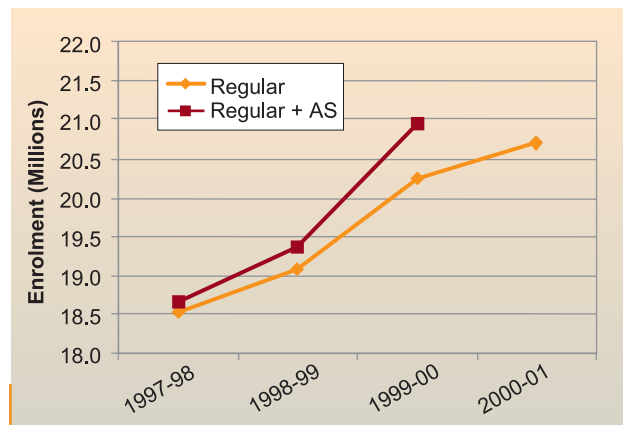


Figure 4.5
Group 2: Trends in Enrolment



First, the DPEP has ignored the cause of out of school children living in the urban areas. These also constitute a significant proportion of out of school population. Second, the outreach of all programs leaves many target groups out of reach. For example, the DPEP started the IED program very late and the impact has been only marginal. Third, out of school children in the 9+ age group have not been effectively targeted. This group of children may be more difficult to track and retain in the system for five years. Fourth, the management of delivery systems has to be further de-bureaucratized. Fifth, many interventions require extensive cooperation and convergence between DPEP and state directorates of education and other departments like social welfare, women and child development and labour department.

Sixth, the issues related to sustainability and convergence should be addressed upfront and dovetailed with regular programs. Seventh, the efforts to revitalize and strengthen educational support institutions have been thwarted as many issues having bearing on various departments/directorates could not be resolved. Eighth, the school as an institution is yet not fully integrated into the planning and monitoring framework. Ninth, the increased preference for private fee charging schools is also resulting in a diversion of students from government to private schools and disillusionment among parents about the role of government

schools. The government schools must become competitive to the private schools rather than being condemned as 'beyond repair'. It is only then that the students would get the maximum benefit from the schools and would be able to build their academic and professional career. Tenth, the normal approaches of micro planning and removing supply side constraints would not achieve beyond a point. That threshold has already arrived in many DPEP districts. Therefore, a more proactive approach to educational planning is required.

Trends in Grade 1 Enrolment and Intake

The success of any educational development program should be measured not only by enrolment growth at various stages but also in terms of the pattern of basal level enrolment and its progression through the educational cycle. In view of the hierarchical nature of educational processes, any child who does not enter school at the right age would have little chance of making up later through alternative modes of education. Any distortions, discrimination or inequities in participation at the basal level would get further compounded as the children progress in the educational hierarchy. Therefore, in this section an attempt is made to examine the Grade 1 enrolment and intake.

The progression of students through the educational system can be traced and monitored through

The enrolment comprise of new admissions or intake and repeaters. Intake is defined as the number of children admitted to Grade I who are not repeaters or are admitted for the first time to the school in Grade I.



multiple approaches. The cohort studies or the child tracking system as is called in many DPEP states is one such method. Establishing a system of student flows on year to year basis is another. At this stage, it is important to differentiate between enrolment and intake at Grade 1 level. The enrolment usually will comprise of new admissions or intake and repeaters. Intake is defined as the number of children admitted to Grade 1 who are not repeaters or are admitted for the first time to the school in Grade 1.

The analysis of intake is necessary, especially in states/districts where improvements in internal efficiency are taking place at a faster rate. The analysis of enrolment trends in Grade 1 was reported in Year 2000 Access and Retention study as well as in earlier studies. The 1999 Access and Retention study pointed out to the decline in Grade 1 enrolment/intake. The problem was confined to select few districts. However, over the years, it further accentuated and the issue of declining Grade 1

enrolment/intake has now acquired serious dimension.

It is quite possible that the intake remaining the same, the decline in Grade I enrolment may be the result of a reduction in the number of repeaters. Similarly, as a result of increase in repeaters in Grade 1, the Grade I enrolment may appear to be increasing without a corresponding increase in intake. While former is a healthy trend but the latter reflects poor efficiency of the educational system and a false signal that the indicators of access are showing increase in enrolment. The same may also be true of other Grades, especially as a result of lateral movement across government and private systems. Therefore, trends in enrolment, especially in Grade I should be examined carefully. Here both types of analysis is carried out so that the differences due to repetition in Grade I could be highlighted. The effect of lateral movement and late admissions can not be isolated with the present data. The revised data capture formats which would be used for data collection for September, 2001 contains some data on late entry and lateral movement of children in primary and upper primary Grades.

The intake can reduce due to two factors, namely, an absolute decline in the number of 6 years old children and secondly, as a result of shift away from

Table 4.11
Enrolment trends in Group I districts/states

(000s)

State	No. of districts	1996-97	1997-98	1998-99	1999-00	2000-01
Assam	4	231	181	170	156	147
Haryana	4	111	124	109	105	95
Karnataka	4	291	284	309	297	293
Kerala	3	98	100	102	99	98
Madhya Pradesh	15	595	562	545	555	560
Maharashtra	5	376	397	367	355	341
Tamil Nadu	4	206	210	207	211	204
Total Group I	39	1863	1858	1809	1778	1739

Table 4.12
Trends in Grade 1 intake: Group 2

(000s)

State	No. of districts	1997-98	1998-99	1999-00	2000-01
Assam	5	254	199	176	163
Bihar	8	829	645	648	682
Gujarat	3	183	169	189	194
Haryana	3	93	76	68	68
Himachal Pradesh	4	42	34	29	29
Karnataka	7	585	578	547	535
Kerala	3	90	89	87	89
Madhya Pradesh	13	469	532	514	483
Maharashtra	4	257	226	225	221
Orissa	8	291	282	241	230
Tamil Nadu	3	82	79	78	77
Uttar Pradesh	14	1238	1090	1249	1261
West Bengal	5	823	711	749	731
Chhatisgarh	1	93	90	83	75
Jharkhand	5	295	243	226	277
Total Group 2	86	5625	5044	5109	5115

government schools to that of private unrecognized or AS/EGS mode of education. The population data especially in terms of single year age group is not easily available.

The long term implications of declining intake in Grade 1 are quite serious for the government schools. It would not only lead to a reduction of average school size but may also result in increased single teacher schools or schools with few children in penultimate Grades. There is also a feeling among researchers that a dual system of education is emerging, government schools for the poor and those who can not exercise a choice about the school and the second for the socially and economically better off families who can chose the school of their choice.

A pertinent question at this stage is, where are the children getting educated or not? Are they entering non government schools or there is a real decline in participation in primary education as was witnessed

in some of the Sub-Sahara African countries during the eighties. In the Indian context, it is apparently clear that more and more children are attending schools now than ever before. However, their participation into various modes of education is not fully understood due to multiplicity of systems and absence of a composite database. Therefore, special micro studies with households as the unit of analysis need to be conducted at the earliest.

The absolute number of children entering Grade 1 is examined with the help of Tables 4.11 and 4.12. The district level trends are presented in District Primary Education Report Cards.

Decline in Grade 1 intake is observed in all states excepting Madhya Pradesh, where the decline in intake was high till 1999-00. May be it is only a small respite for a year or so. The position with respect to Group 2 states is not much different. Except for the states of Bihar, Gujarat, Uttar Pradesh

Table 4.13
Number of districts showing decline in primary Grades enrolment
between 1999-00 and 2000-01

State	No of districts showing increase in enrolment	Number of districts showing decrease in enrolment	Total districts
Assam	1	8	9
Bihar	8	0	8
Gujarat	3		3
Haryana	3	4	7
Himachal Pradesh	1	3	4
Karnataka	4	7	11
Kerala	2	4	6
Madhya Pradesh	16	12	28
Maharashtra	1	8	9
Orissa	4	4	8
Tamil Nadu	4	3	7
Uttar Pradesh	11	3	14
West Bengal	4	1	5
Jharkhand	2	0	2
Uttaranchal	4	0	4
	68	57	125

Table 4.14
Trends in Underage and Overage Children

Academic year	Male	female	All
Group 1			
1995-96	9.9	9.9	9.9
1996-97	9.1	9.0	9.1
1997-98	8.6	8.5	8.5
1998-99	8.6	8.4	8.5
1999-00	8.8	8.5	8.6
2000-01	9.0	8.8	8.9
Group 2			
1996-97	13.3	13.8	13.5
1997-98	12.0	12.1	12.0
1998-99	10.2	10.3	10.2
1999-00	11.3	11.2	11.3
2000-01	10.8	10.8	10.8
Group 3			
2000-01	13.6	13.6	13.6

and Jharkhand, all the other states have shown decline in intake of varying degree.

The foregoing analysis shows that there has been a deceleration in growth of enrolment in DPEP districts. The recent decline in enrolment in a large number of Group 1 districts is a major cause of concern, especially when the DPEP would be coming to an end in these districts in about a years' time or so. The outcome of DPEP has thus fallen short of expectations as far improvements in access and participation were concerned.

The progress of enrolment is slower in DPEP II districts, most of which happen to be more backward than the districts/states included in Phase I. This calls for close monitoring and acceleration of efforts through micro planning studies as the implementation has been slow in most of Phase II states. Acceleration would also be necessary since a

large number of districts in Phase II have project duration of five years as compared to normal duration of seven years as was envisaged at the beginning of the DPEP. Seen in this context, the recent decline in intake in Grade I in many districts is a matter of serious concern. The AS and EGS are claimed to have achieved a major success in providing access to out of school children at more convenient distance from their house than ever before. While this is a welcome development, the outreach of these innovations has been confined to limited areas. The universal access needs to be achieved at the earliest in a manner that the quality of education does not suffer.

The phenomenon of declining enrolment in DPEP districts/states was further examined by considering the districtwise enrolment. The districts which have shown decline in enrolment between 1999-00 and 2000-01 were identified (Table 4.13).

Evidently, as many as 57 districts out of a total of 125 districts for which 1999-00 and 2000-01 data was available have shown decline in overall primary Grades enrolment. While in Kerala and Tamil Nadu the decline can be associated with demographic transition. But for the remaining 50 odd districts, the reasons for decline in enrolment have to be studied seriously. Many of the districts showing decline belong to Phase 1.

Underage and overage students

The DISE data collection system includes data on underage and overage children in various Grades. The main purpose of these data items is to examine the age grade matrix for each state/district. Often it is stated that a large number of underage children are enrolled to boost the school enrolment. However, due to weaknesses in the monitoring and supervision system of schools, the underage children are never detected. In fact many state governments encourage the students in higher Grades to bring their younger brothers and sisters to school. It serves two purposes; one it encourages the elder children to attend schools who otherwise would have been taking care of their younger brothers and sisters at home. Second, it helps

the education authorities at all levels to show increased enrolment and maintain the teachers' position at the inflated level of enrolment.

The DISE data on underage and overage has yet not been validated and hence the reliability concerns may remain. Notwithstanding this, an effort was made to understand the nature and incidence of underage and overage children in primary Grades. Trends in underage and overage for the Group 1 and Group 2 states were calculated (Figure 4.6).

The proportion of underage and overage children varies from year to year and from state to state. The overall percentage of such students in Group 1 was 8.9 percent, 10.8 percent for Group 2 and 13.6 percent for Group 3 states. Over the years, there is a significant decline in the share of underage and overage children. However, the decline is more pronounced in group 2 states as compared to group 1.

The above trends in underage and overage children show positive aspects of DPEP. But the district level analysis would be more revealing. All the DPEP states should examine the proportion of underage and overage students in primary Grades.

The analysis of enrolment trends in formal and alternative modes of education does not present a healthy trend. While considerable attention has been given to establishment of AS/EGS schools in unserved habitations, the improvement in participation and enrolment in formal schools is showing signs of strain and an absolute decline in the number of students at primary Grades as well as intake stage is now very clearly discernible. The fact that is happening towards the end of Phase I is a

The improvement in participation and enrolment in formal schools is showing signs of strain. An absolute decline in the number of students at primary Grades & intake stage is now very clearly discernible.



matter of further concern. Is it true that the gains in enrolment witnessed in earlier years of DPEP implementation were artificial and the program has failed to sustain these gains? While these signals were emerging from 1999 onwards, the national and state governments failed to act on these signals. No indepth studies have been conducted to find out the real magnitude of decline and the reasons thereof. If the decline due to the emergence of the parallel system of private fee charging schools, then

the government schools must respond to this challenge by improving the quality of teaching learning in the classrooms. However, if it is due to diversion of students from formal to AS/EGS (which we do not think it to be), then the questions of complementarities need to be addressed in a big way. Finally, if real decline is taking place in intake at Grade 1 level for the last many years, then the system is in for serious trouble as far as EFA and UPE/UEE is concerned.

Dummy text in the place of introduction: The analysis of population and demographic profiles of the DPEP districts show considerable variations in the population density and the spatial distribution of population in various settlements.



Gross and net enrolment ratio

The Gross and Net Enrolment ratio are two most commonly used indicators for measuring progress towards universal enrolment. Both the indicators relate the enrolment with age specific population. The GER and NER use the same denominator i.e. the population size in the school going age group, which is 6-11 or 5-10 in the case of primary education in India. Therefore, there is a relationship between the two indices of participation. In the numerator, the enrolment is taken-total enrolment in the case of GER and net enrolment in the 6-11 or 6-10 years in the case of NER. The value of GER tends to higher or at most equal to the value of NER but can not be lower than the NER. The difference between the two reflects the grossness in the age-grade matrix. By its very nature, the GER does not have an upper limit whereas the NER can not exceed 100, if the data on age distribution of population and enrolment are correct.

Limitations of GER and NER analysis¹

While the GER and NER are most commonly used indicators of participation, these suffer from many inadequacies and need to be interpreted with caution. The following discussion will clarify some important issues involved in the construction and interpretation of GER and NER.

First, for these indicators to fully reflect the reality, it should include enrolment from all type of schools and educational institutions including government and non-government schools offering instructions at a particular level of education. In the Indian context, the official GER is calculated based on the enrolment data collected from recognised schools only. It does not make any adjustment even for the enrolment in government supported schemes like NFE etc. Moreover, no adjustment is made for a large number of children who attend private unrecognised schools about which the state/central government do not

¹ This section is an updated version of a similar discussion in Aggarwal, Yash (2001). *DPEP 2000: An Assessment of Trends in Access and Retention*, NIEPA, New Delhi.

Recently, the DPEP has started a large scale program of AS/EGS, which had an enrolment of about 2.5 million students in primary grades in September, 2001.



collect any type of data. Preliminary investigations in one of the DPEP states, namely, Haryana showed that the unrecognised schools account for about 15-25 percent of enrolment in regular recognised schools. Similar evidence about the enrolment in unrecognised schools is not easily available from other states. The penetration of unrecognised schools varied from one district to another. Recently, the DPEP has started a large scale program of AS/EGS, which had an enrolment of about 2.5 million students in primary grades in September, 2001. The enrolment of AS/EGS schools is not included in the national official statistics of the MHRD. Therefore, if the educational statistics of the central and state governments are considered, the official GER is a gross underestimation of the real situation. Therefore, low GER/NER may not necessarily correspond to low participation.

Second, the data for the calculation of GER/NER generally comes from two sources, namely, the school enrolment from the department of education and population statistics produced by the census department. The data from two sources may not necessarily match with each other. This is particularly so as the confusion about the exact age at the time of school entry can distort the indicator. Moreover, the age at entry is flexible in some states. For example, the official age of entry in many states is completion of five years. It is only in some rural or urban areas that a child is allowed to enter school at the age of five years. Even within the states with 5+ as the age of entry, not all children get enrolled at 5+ age. The analysis of data for some states with 5 years as age of entry indicates that many children are enrolled after attaining the age of six years. The other serious problem in India is that a large number

of underage children are enrolled and shown as 5 or 6 year old. This creates problems with the calculation of GER/NER corresponding to the official age group of 6-11 or 6-10 years, as the case may be. Which denominator should be used in such situations: 5-9 or 6-10 year age group? The actual enrolment will tend to far exceed the age specific population whichever of the two denominators is considered.

Third, the age at entry to a school is generally recorded by the head teacher and is based on the birth certificate or some other evidence of the date of birth. In socially and economically backward areas, where birth records are not properly maintained, the admission is given on the basis of an undertaking by the parents. Large-scale variations between the undertaking and the actual age may lead to erroneous results, especially in the calculation of NER. In some instance the calculated NER exceeds 100 due to problems with school age records. Some times, the teacher distorts the age records to maintain a particular level of enrolment. These are serious problems that make the use of GER/NER problematic and imprecise in such cases.

Fourth, the estimates for age specific population are generally not available in a consistent manner and small variations in the growth rates can have pronounced effect on GER and NER. This is particularly true of the situation when the country is undergoing demographic transition from high to low population growth scenario. The researcher was also faced with a similar problem of estimating the age specific population, especially for the districts for which such information was not available through DISE data. The population projections are now available up to the year 2005 as worked out by the Expert Committee on Population Projections set up by the Planning Commission². The official projections of the population have always proved to be under estimates as compared to the actual.

² The state level projections are available in *Selected Educational Statistics, 1996-97*, MHRD, New Delhi

Notwithstanding the above, these estimates are available only up to the state level and district level projections were not made. The Planning Board or the office of DPI in certain states derived their own estimates, whereas in many other states such estimates were not available. The census of India, 1991 has now made available the single year age structure based on 10% sample of the population. Based on these estimates, it is possible to derive the number of children in the 6-10/6-11 year age group. However, these estimates may not remain valid at village, cluster and even at the Block level. These estimates at the district level were used in the present study especially in cases where age specific population in the 6-10/6-11 was not available from the Directorates of Education.

Fifth, the districts being geographic entities are reorganised from time to time for administrative reasons. After the reorganisation, it takes a long time to estimate various indicators of educational development, particularly the population of the district and its distribution by different age groups. Population estimates obtained from different sources continue to differ widely. In the context of DPEP, there has been a large-scale reorganisation of districts in Uttar Pradesh, Orissa and Karnataka. Revised population estimates for most of the new districts are not available as yet. Based on imperfect data, the GER/NER could be wide off the mark.

Sixth, GER/NER yield best results when examined at the aggregated level, say a state or the country as a whole. Both measure lose their significance as one reaches the grassroots. While the aggregate analysis is important, the micro analysis is relevant for decision making. Therefore, GER/NER can not be used for institutional planning. The use of GER and NER as a tool of planning becomes difficult as regions reach the saturation phase of participation in education. A stage comes when the GER is expected to drop to close to 100. During this phase it is difficult to conclude whether the decline in GER is due to consolidation or there is sharp fall in participation. The only alternative in such a situation would be to examine the behavior of NER.

The above issues have been highlighted with a view to reiterate that while GER and NER are useful measures of access and participation and are used universally, these suffer from many limitations and inadequacies. Alternative sources of information on children attending/not attending school also need to be explored to supplement the GER/NER. Realising these limitations, the DPEP efforts should be to consolidate the household data collected as a part of the micro planning and school mapping exercise. The exercise has already been initiated in some states/districts. The issues related to the use of the micro planning data for developing district level indicators would be discussed later in the study. Many types of data gaps in the calculation of GER/NER can be plugged partly through proper orientation and training of the education administrators and development planners about the significance of these measures.

Faced with the type of problems mentioned above, the MHRD stopped the collection and publication of data on NER even at the national level. It is only through All India Educational Surveys, which are held at an interval of 5-8 years, that data on age grade structure becomes available. The latest estimate of NER pertains to 1993-94 (Sixth All India Educational Survey). An attempt was made to capture age grade matrix through DISE data and the same has been used in the present study. The DISE data on age grade structure also suffers from some of the limitations and inadequacies mentioned above. Continuous efforts are required to improve the quality and reliability of age specific data.

The GER/NER calculated in the present study makes some adjustments for the missing component in the following manner.

- a) The GER and NER were calculated using the traditional method by considering the enrolment in recognised primary schools/sections alone (Er). This makes the GER and NER comparable with the official statistics.
- b) The enrolment data on AS and EGS schemes was obtained from the state DPEP offices and added

National Sample Survey Organization provides information on employment trends, health and nutritional status, consumption patterns of various social and economic groups, educational attainment and levels of literacy.



to the enrolment of recognised schools. If E_r is the enrolment in recognised schools (as at (a) above) and E_a for the alternative systems, the GER and NER were calculated using $(E_r + E_a)$ in the numerator. The denominator remained the same. It is based on the assumption that all children in AS/EGS are of 6-10 age.

The estimates of GER and NER would get further refined after the data from unrecognised schools is also included.

NSSO evidence on school going age group children

The department of education at the central or the state level does not collect any data from the households. The National Sample Survey Organization is a national level organization responsible for the collection of household on social and economic characteristics of the Indian population. This provides very important information on employment trends, health and nutritional status, consumption patterns of various social and economic groups, educational attainment and levels of literacy. The NSSO in its 52nd round of investigations collected data on participation in education. Based on the data, the NSSO provided state level estimates of the Gross Attendance Rate (GAR) and Net Attendance Rate (NAR) for 1995-96 (Table 5.1).

The GAR and NAR are presented separately for the DPEP and non-DPEP states³. The NAR for primary

classes varies between 41 percent for Bihar to 94 percent for Goa. The extent of inter-state disparities is evident from the fact that the NAR for Bihar is even less than half of the corresponding value for Goa. The participation and attendance rates for the upper primary classes were also low for most of the states. For example, the NAR for Bihar for upper primary was merely 33 percent. This is way behind the target set for the next few years. The DPEP states, on the basis of their GAR (primary classes) can be classified into three categories. The first group includes states having exceptionally low GAR. Bihar (54 percent), Orissa (75 percent) and Uttar Pradesh (80 percent) fall in this category. The second group consists of those states, which have crossed the threshold of 80 percent but are below 90 percent. Madhya Pradesh (84 percent), Andhra Pradesh (86 percent) and Karnataka (87 percent) fall in this category. The states in the third group have crossed the level of 90 percent GAR. The states of Haryana, Himachal, Kerala, Maharashtra and West Bengal fall in this category. West Bengal is one exceptional state for which trends emerging from the analysis of DISE data are not consistent with NSSO findings.

The NSSO data reveals that NAR is significantly lower than GAR for all the states. The NAR was lowest for Bihar: 41 percent. Excepting Kerala, for none of the DPEP states, the NAR exceeds 85. Thus a large segment of children in 6-11 age group are not attending school. Since, DPEP districts are among the backward areas of these states, the values of GAR and NAR for these districts may be lower than state average.

The persistence of large difference in GAR and NAR is a matter of concern even in educationally better off states like Kerala, Tamil Nadu and Maharashtra. Large gaps are essentially indicative of the presence of overaged children in primary classes, late entry

³ Net Attendance Rate (NAR) is defined as the number of persons of age group 6-10 years attending primary classes I-V expressed as percentage of estimated child population of the corresponding age group (6-10 years). Gross Attendance Rate (GAR) is defined as the total children attending primary classes I-V regardless of their age, expressed as percentage of estimated child population of the official primary age group (6-10 years).

Table 5.1
Gross and Net Attendance Rates for DPEP and Non DPEP States, 1995-96

State	Rural		Urban		All Groups	
	GAR	NAR	GAR	NAR	GAR	NAR
DPEP states						
Andhra Pradesh	81	66	101	82	86	70
Assam	90	72	102	77	91	72
Bihar	51	39	78	58	54	41
Gujarat	93	75	100	84	95	78
Haryana	104	77	111	83	106	78
Himachal Pradesh	118	85	120	93	118	85
Karnataka	84	70	98	83	87	73
Kerala	109	91	109	92	109	91
Madhya Pradesh	80	59	102	76	84	63
Maharashtra	105	85	108	86	106	85
Orissa	73	60	92	76	75	61
Tamil Nadu	98	83	99	86	98	84
Uttar Pradesh	79	58	90	68	80	59
West Bengal	91	64	105	75	94	66
Non DPEP states						
Arunachal Pradesh	87	56	112	85	90	60
Goa	125	96	108	92	118	94
Jammu & Kashmir	86	62	94	80	88	67
Manipur	87	57	103	70	91	60
Meghalaya	108	65	133	83	111	67
Mizoram	96	58	117	94	102	69
Nagaland	105	67	103	76	105	70
Punjab	100	80	102	84	100	81
Rajasthan	68	51	100	76	74	55
Sikkim	119	77	103	79	118	77
Tripura	110	80	116	86	110	80
All-India	81	63	100	78	85	66

Note: UTs have been excluded for the analysis.

GAR =Gross attendance rate. NAR = Net attendance rate

Source: NSSO (1998).

and high degree of grade repetition in the primary classes. The analysis of 1991 census data on school attendance by single year age group showed that nearly half of the 6 year old were attending schools. The participation rates increased with age till the peak was obtained for 10-11 years old.

GER in DPEP districts

The trends in GER and NER were calculated using DISE data provided by different states. The data on population is not provided by all districts. Even if provided, it may not be consistent across years. As a part of the Access and retention study in 1997,

the age specific population was calculated during 1997 based on the single age structure provided by the social and economic tables of 1991 census. Suitable projections are made to these population estimates and used for the calculation of GER and NER in this report. This also ensures that the age specific population base remains the same for the districts under study.

Although, the new population census was conducted early this year, the districts are yet not able to get the age distribution of population from the Census office. The existing estimates of population provided by many districts were not realistic. The problems were far more serious in districts which were split into two or more after the 1991 census. It is therefore important that besides the conceptual issues in the use of GER and NER, these difficulties must be kept in mind.

The GER for 38 Phase I districts was calculated and is presented in Table 5.2.

The value of GER for some districts appears to be quite low. For example, many districts from Haryana fall into the category of 75-85 percent GER which does not mean that 15-25 percent children in 6-11 years age group were out of schools. As The GER

Table 5.2
Classification of districts by GER, Group I

GER	No. of districts
<65	0
65-75	5
75-85	7
85-95	16
>95	10
All districts	39

presented here only refer to the coverage under the government formal schools. Studies have shown the presence of a large private sector in primary education especially in Haryana which accounts for about 25-30 percent of total enrolment in the DPEP districts. No adjustment can be made for the enrolment in unrecognized school due to lack of data on unrecognized schools in various states.

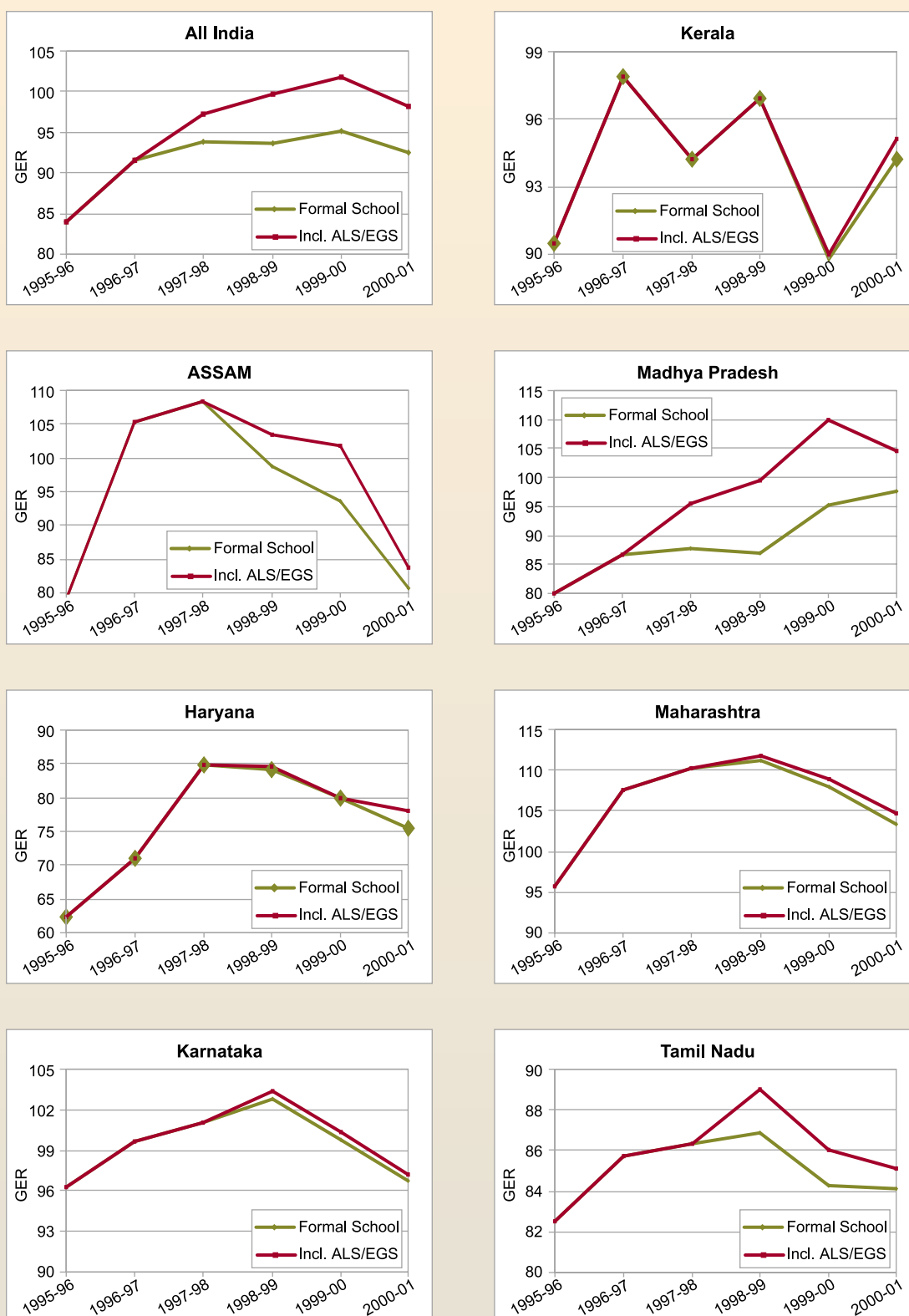
In the present analysis, we have added the enrolment of AS/EGS schools as a further correction to GER. While the data from two sources is added to calculate GER, it is assumed that there is no duplication of enrolment between the government primary and AS/EGS schools. Table 5.3 presents the trends in the GER based on enrolment in formal as

Table 5.3
Trends in GER, Phase I districts (Formal plus alternative schools)

State	Formal primary schools (Er)						Including AS/EGS (Er+Ea)			
	1995-1996	1996-1997	1997-1998	1998-1999	1999-2000	2000-2001	1997-1998	1998-1999	1999-2000	2000-2001
Assam	79.1	105.2	108.4	98.7	93.5	80.7	108.4	103.5	101.7	83.7
Haryana	62.4	70.9	84.9	84.2	79.9	75.4	84.9	84.6	79.9	78.1
Karnataka	96.3	99.6	101.0	102.8	99.8	96.8	101.0	103.4	100.3	97.2
Kerala	90.5	97.9	94.2	96.9	89.8	94.2	94.2	96.9	90.0	95.1
Madhya Pradesh	80.1	86.6	87.8	87.0	95.3	97.6*	95.6	99.4	109.8	104.7*
Maharashtra	95.8	107.6	110.3	111.1	107.9	103.4	110.3	111.7	108.8	104.7
Tamil Nadu	82.5	85.7	86.3	86.9	84.3	84.1	86.3	89.0	86.0	85.1
All India	83.9	91.6	93.9	93.6	95.1	92.5	97.3	99.7	101.7	98.2

Excluding 4 districts which now form part of Chhatisgarh

Figure 5.1
Trends in GER (Group 1)



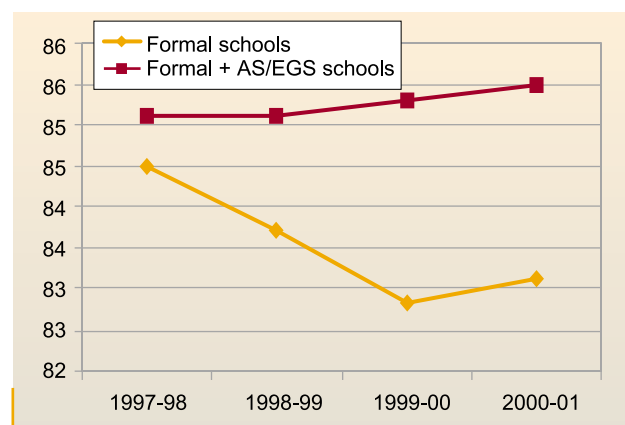
well in formal plus alternative schools. The data is presented separately for Phase 1 and Phase 2 districts/states.

The GER for Phase I states was hovering around 93-95 percent for last three years. The GER has shown a marginal decline during 2000-01 as compared to 1999-00. Similarly, after the adjustment for the AS/EGS enrolment is made, the GER increases from 92.5 percent for recognized schools to about 98.2 percent for recognized schools plus the enrolment in AS/EGS. The state level trends in GER are shown in Figure 5.1

The GER in DPEP I does not exceed 103. Excepting Haryana and Assam, the GER is more than 90 percent for the remaining DPEP I states. In Haryana, the GER is low due to unrecognized schools and in Assam it is due to the existence of venture primary schools, from which the data is not collected.

The comparable data from 80 districts belonging to Phase II was analyzed and the comparative trends

Figure 5.2
Trends in GER: Phase 2 districts



are presented in Table 5.4. The trends in GER for Phase 2 districts are presented in Figure 5.2.

The overall GER for Phase 2 (83.1 percent) districts is much lower than the corresponding GER for Phase I districts (92.5 percent). Moreover, the GER has not improved much in Phase 2 districts. Therefore, the impact of DPEP is not significantly high in Phase2 states, excepting in the state of Gujarat

Table 5.4
Trends in GER, Phase II districts (Formal plus alternative schools)

State	Districts reporting data			GER excluding AS/EGS				GER including AS/EGS			
	1997-98 & 1998-99	1999-2000	2000-2001	1997-1998	1998-1999	1999-2000	2000-2001	1997-1998	1998-1999	1999-2000	2000-2001
Assam	5	5	5	77.7	71	67.7	64.6	77.7	71.9	75	66.8
Bihar	15	13	13#	77.6	73.7	68.4	63.5	77.6	74	69	77.1
Gujarat	3	3	3	89.3	84.6	102.4	106.3	89.3	84.6	107.1	106.3
Haryana	3	3	3	67.6	75.2	75.5	72.9	67.6	75.4	75.5	75.2
Himachal Pradesh	4	4	4	120.9	111.7	114.7	119.1	120.9	111.7	114.7	119
Karnataka	6	7	7	93.4	101	101.3	97.5	96.1	105.7	101.3	97.6
Kerala	3	3	3		97.3	97.9	99.3		97.3	97.9	99.4
Madhya Pradesh	6	12	13	82.9	95.1	92.3	99.5	89.2	103.8	107.4	103.9
Maharashtra	4	4	4	103.5	98.1	97.2	99.3	103.5	102.6	98.9	102.3
Orissa	7	8	8	88.6	86.5	84.3	87.4	88.6	86.5	84.3	87.4
Tamil Nadu	3	3	3	84.5	84	88.2	85.3	84.5	84	90.3	90.1
Uttar Pradesh	3	14	14	107.2	99.5	88.2	84.3	107.2	100.1	89.2	99.1
Phase II	59	76	80	84.5	83.7	82.8	83.1	85.1	85.1	85.3	85.5

Table 5.5
Table 5.5: Trends in NER for Phase I states

State	Formal primary schools(Er)					
	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01
Assam	76.9	99.9	98.9	95.7	88.7	76.0
Haryana	59.7	67.1	80.7	79.9	76.0	71.2
Karnataka	93.0	96.9	98.7	99.3	96.0	92.2
Kerala	86.9	94.0	90.4	93.0	86.2	90.4
Madhya Pradesh	73.1	79.7	81.1	80.1	87.9	90.4
Maharashtra	82.6	95.6	99.2	98.8	99.3	95.3
Tamil Nadu	69.6	71.0	70.4	71.5	69.1	68.4
All India	75.8	83.2	85.9	85.5	86.8	84.2

and Madhya Pradesh. The adjusted GER is also shown in table 5.4. Even if the enrolment under EGS is taken into account, the GER does not improve significantly. Therefore, the population growth is generally higher than the enrolment growth in some states.

NER for DPEP districts

The calculation of NER is based on the assumptions mentioned in the beginning of this chapter. The NER is estimated from the age grade matrix generated through DISE data. This data was used for all DPEP districts. The state level NER for DPEP Phase 1 states is presented in Table 5.5.

The NER for some states like Haryana, Tamil Nadu and Assam are relatively lower than other states. The low NER is Haryana is due to the large coverage under unrecognized schools. In the case of Tamil Nadu, the problem of calculation NER is further

compounded due to multiple age of entry. Children completing 5 years become eligible to enter school but many children get enrolled at the age of 6 years. This issue was discussed in detail in the Year 2000 Access and Retention Study (Aggarwal, 2000f, page 58). The overall impact of this situation is also reflecting on the national average.

From the above discussion of GER and NER, it is evident that the GER and NER although calculated for a number of situations, do not help the administrators in improving the quality and effectiveness of decision making. The abnormal behaviour of both the indicators have to be examined in detail before drawing any conclusions about the performance of the educational system. It is in this context that the analysis of household data and its matching with the institutional enrolment becomes relevant.

Dummy text in the place of introduction: The analysis of population and demographic profiles of the DPEP districts show considerable variations in the population density and the spatial distribution of population in various settlements.



Teachers profile and associated characteristics

The teachers are the single largest category of professionally qualified and educated workers in India. Teachers constitute a diversified group with large variations in their social and economic background. Like students, many teachers belong to the category of first generation learners and their families were also the first to enter public sector jobs (Aggarwal, 1995). Many teachers were not even professionally trained when they joined the service. Notwithstanding the critical role of teachers in the development of education and paving the way for an egalitarian society, their social standing and respect in the society has declined in the recent decades. This is largely attributed to the emergence of a large segment of the scientific, technical and management professionals who work in more lucrative and powerful positions.

The growth in the number of teachers in the formal education system is a response to the increasing demand for mass education especially at the level of primary and basic education. The increase in the demand for additional teachers led many states to dilute the academic and professional qualifications for entry into the teaching profession. This was particularly so in the case of states with inadequate capacity for teacher training. While this helped the states in providing immediate relief and provided the services of a teacher to a large number of first generation learners, the adverse impact of such short cuts on retention and quality of teaching learning is evident. Many problems of the contemporary educational system (high dropout rates, low internal efficiency, low levels of achievement and declining standards of education especially at the lower levels of educational hierarchy) can be traced to these factors.

6.1 Teachers: an indispensable educational resource

Since the beginning of development planning in India, a number of efforts were made at the central and state level to improve the quality of education by reinforcing the teacher competencies, preparation of supplementary instructional materials, teachers' guides and recurrent training in pedagogy and classroom

The quality of teaching workforce for imparting primary education relates to the large scale appointment of the para teachers in the recent years especially in the DPEP districts.



teaching learning processes. The NCERT and SCERTs played a significant role in providing policy framework and operational modalities for strengthening the teacher education and training. To provide further boost to these efforts, the National Council for Teacher Education (NCTE) was established in 1995. The main objectives of the council are to achieve planned and coordinated development of the teacher education system in India, regulation and proper maintenance of norms and standards of teacher education. The functions of NCTE also includes the laying down of norms for various types of teacher education programs, recognition of teacher education institutions, laying down of guidelines in respect of minimum qualifications for appointment of teachers.

As a follow up of the NPE, 1986 and the subsequent Program of Action, the District Institutes of Education and Training (DIET) were established at the district level and it was visualized that each district would have a DIET so as to provide support for the implementation of educational reforms with the full involvement of teachers in the education and training processes. The DPEP also recognized DIETs as the technical and professional institutions for implementing reforms in educational management and teacher education and training. It is difficult to conceptualize a teacher development strategy without the involvement of DIETs. So far 461 DIETs have been sanctioned and 425 of these are imparting preservice and inservice training. It is also reported that more than 1.6 million teachers were given orientation under the Scheme of Special Orientation program for Primary Teachers (SOPT) in the use of OB materials and implementation of MLL strategy with a focus on teaching of language, mathematics and environmental studies

(Government of India, 2001a). Similarly, efforts were also made to strengthen the State Council of Educational research and Training. The program of teacher training has been undergoing regular modifications and revisions with SCERTs and NCERT acting as resource institutions.

6.2 Strengthening teacher development

As a part of the DPEP, the resource centres at the Block and the Cluster level were established to provide academic support to teachers and to strengthen the inservice training of teachers. In many states, the inservice teacher training has been shifted to Block level resource centres. With the help of BRCs and CRCs, the scope and nature of teacher training has also undergone significant changes. The DPEP training is perceived to be need based and emphasis is to provide teachers with skills required for activity based teaching learning. In view of its significance for non DPEP districts, a proper discussion on viable teacher training model should take place.

Another development which will have long term bearing on the quality of teaching workforce for imparting primary education relates to the large scale appointment of the para teachers in the recent years especially in the DPEP districts. The para teachers are appointed at a much lower salary as compared to regular teachers and so are their educational and professional qualifications. The main objective of appointing para teachers is to bring down PTRs and to provide teachers in remote and inaccessible areas. So far, more than 30,000 para teachers have been recruited in DPEP states. Many more would be recruited in the coming years. The increased emphasis on appointment of para teachers is evident in some policy decisions regarding the recruitment of new teachers. For example, the Government of Gujarat has taken a decision that in future only para teachers would be appointed. Till now, nearly half of the total para teachers are working in Madhya Pradesh alone (DPEP, 2001).

In view of the flexibility in the academic and

professional qualifications of the para teachers, the need for intensive inservice teacher training is crucial to sustain the quality of teaching learning outcomes. Thus the training of para teachers poses a new challenge for teacher educators. Many new innovative strategies for designing teacher training packages are also being tried out in DPEP states. The appointment of para teachers are considered as a cost effective model for regular primary schools also. This approach is a boom to the states facing difficult financial and fiscal situation.

The teacher is thus the most important resource for teaching learning to take place in the schools. The students come to schools from different social and economic backgrounds and with varying levels of interests and objectives for pursuing education. The teachers address these questions by following a flexible approach to teaching learning so that all children gain the maximum from classroom transactions. Many rural schools exclusively cater to the requirements of the first generation learners and those belonging to deprived families. Children from these families do not get enough academic support from their parents. Such children are also not able to pay for the private cost of engaging a tutor. The same type of situation prevails in some urban schools located in and around the areas dominated by the urban poor. In view of these factors, the same teacher, over the years, produces a variety of teaching learning outcomes. Notwithstanding the key role of teachers, they do not have the freedom regarding the choice of curriculum, textbooks, school timings, certification and evaluation processes. These are the issues of policy formulation and state practices in which teachers as collective body or individually can contribute immensely.

6.3 Recruitment and deployment of teachers: The DPEP initiatives

Recruitment and deployment of teachers in the government schools is made according to the state rules and regulations meant for the purpose. The recognized aided and unaided schools also follow the same pattern of recruitment. However, the unrecognized fee charging private schools do not

follow a uniform pattern for recruitment of teacher and their remuneration (Aggarwal, 2000c). The teachers in government schools, once recruited, also have a security of service like other government employees. It is often argued that due to the security of service and lack of accountability, many teachers do not take teaching as a serious activity. One reason for the disenchantment with the government schools is the indifferent attitude of the teachers towards teaching learning and disregard for hardships and social deprivation faced by the learners from poor and vulnerable families. Parents often complain about the uncaring attitude of the teachers. The teachers also have many grievances towards the administration and the members of the community. Given a choice, the parents are not keen to send their children to government schools (Aggarwal, 2000c).

A PTR of 40 is considered ideal for Indian conditions, with relaxation in hilly and SC/ST dominated areas. OB recommended the appointment of a minimum of two teachers in each school and the central government provided financial assistance for the appointment of the second teacher. The OB scheme also postulated that the second teacher should preferably be a female teacher. In 1993, the scheme was modified to provide for a third teacher and a third room in primary schools wherever the enrolment exceeded 100 and to cover upper primary schools through provision of additional teachers and instructional materials. The MHRD reviews indicate that about 150,000 posts of additional teachers for single teacher primary schools, about 75,000 posts of additional teachers for upper primary schools and more than 83,000 posts of third teachers in primary schools with more than 100 enrolled students were sanctioned (Government of India, 2001a, pg. 33). It is also reported that nearly 182,000 additional



Many teachers do not take teaching as a serious activity. They have indifferent attitude towards teaching learning and disregard for hardships and social deprivation faced by the learners from poor and vulnerable families.

classrooms were constructed under the scheme of OB. The scheme also proposed that no new single teacher schools would be established after 1987. However, the reality is different. As the subsequent discussion would show, the number of single teacher schools in the recent years including in the DPEP districts/states have increased sharply. All single teacher schools follow multi-grade teaching.

DPEP initiatives have resulted in a significant improvement in the availability of teachers. Rationalization of teachers' deployment, postings and transfers based on DISE and other databases has helped the states in overcoming some imbalances in the demand and supply of teachers. Much remains to be done, especially in Group II districts/states, where the shortages are far more serious than the Group I districts. The states of Maharashtra, Madhya Pradesh, Karnataka and Haryana have made serious attempts to redeploy teachers. For the last two years, Karnataka has adopted a unique and transparent model of teacher transfers, whereby the teachers preferences are also given due consideration.

Recognizing the key role of teachers, a systematic effort is made to empower them through intensive and repeated in-service training, on-site academic support and their involvement in the design and development of textbooks and other instructional materials. Teacher training in DPEP is not perceived as a one-time activity but a continuous effort to reinforce the pedagogical skills. State level resource groups exist to guide the authorities to design the teacher training materials. From time to time, in-service training and enrichment programs are also organized for teachers. In the DPEP districts, special packages for in-service teacher training have been developed and practically all the teachers have been provided one round of training in Phase I districts and the second phase of training is in progress. Teacher training is followed through school visits and monthly meetings conducted by BRC-CRC coordinators. A major focus of teacher training continues to be to evolve strategies for teaching under multi-grade situations and activity-based

teaching. Teacher training programs are usually residential. DIETs play an important role as nodal institutions for teacher development.

In habitations where regular schools are not viable, the DPEP has opened a number of alternative schools and schools under Education Guarantee Scheme (EGS) and other modes. While these schools are less expensive in terms of teachers' salaries and other investments needed to establish a regular school, the long-term cost effectiveness and sustainability of such innovative efforts need to be evaluated. The demand for primary school places may soften in states like Tamil Nadu, Karnataka and Maharashtra and so would be the need for additional teachers. But in other states, the demand for additional teachers would continue to rise.

Locally recruited matriculates are provided a training of 20-40 days before being appointed as AS/EGS teachers. The quality of training of para-teachers is not uniform across states and can not be equated with the pre training curriculum. The concept of appointing para-teachers in regular schools has also been accepted by some states. States have also adopted different recruitment policies for instructors/teachers in AS/EGS. Due to the lack of adequate database, the present study does not include the teachers working in such centers. It is confined to the regular teachers in the formal schools only.

The above discussion clearly demonstrates that quality of teachers is as important as their availability. Mere appointment of more teachers without adequate preparation to meet the emerging challenges would not lead to improvement in the quality of education. In the Indian context, the indicators of the quality of teachers have not been adequately articulated and defined. The discussion in this chapter is therefore confined to quantitative indicators alone. The present chapter discusses the spatio and temporal trends in teachers profile and their associated characteristics in terms of the following:

- ◆ Number of teachers
- ◆ Pupil teacher ratio
- ◆ Teachers by gender and social caste groups
- ◆ Schools by number of teachers
- ◆ Single teacher schools

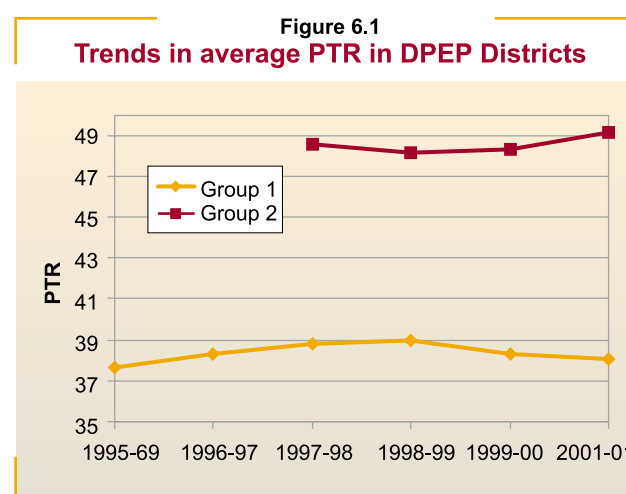
6.4 Number of teachers

There were about 2 million teachers working in primary schools in 1999-2000 (Government of India, 2001d). The analysis of DISE data shows that in 2000-01 there were about 1.02 million teachers working in primary schools/sections covered by the various Phases of the DPEP. Many more new teachers have been appointed during the year 2001. Of the 1.02 million teachers working in DPEP districts, about 213,000 work in Group 1, 419,000 in Group 2 and 365,000 in Group 3 districts. About 28,000 teachers were working in districts with incomplete time series data. The number of female teachers was about 291,000. The Para teachers numbering about 30,000 are in addition to the numbers of teachers cited above. Similarly, not much information is available for the teachers/instructors engaged in NFE and other programs of elementary education. The DPEP has thus reached a stage when it covers nearly half of the teachers working in formal primary schools/sections. The data on educational qualifications, age profile and other characteristics of the teachers is yet not available in most states. It is paradoxical that none of the Indian states has followed systems approach to management of teachers' workforce. In its absence, planning for teacher preparedness can hardly be attempted. This particularly perplexing when nearly 95 percent or even more than that of educational budget is allocated for teachers' and allied staff.

The DISE software has now been modified to capture detailed information about all the teachers working in the DPEP districts. The important teacher variables include age, sex, caste, academic and professional qualifications, subjects and classes taught and details of inservice training received. Therefore a detailed profile of teachers would be developed from the next year onwards.

6.5 Pupil Teacher Ratio (PTR)

Currently the average PTR for Group 1 districts is 38.1 (Fig. 6.1). Since the inception of DPEP, the PTR on year-to-year basis for Group 1 districts has witnessed marginal changes. Till 1998-99, the PTR increased marginally and then the decline has been observed. A decline in PTR indicates more teachers per student.



However, the situation with respect to Group 2 districts is different. These districts not only have much higher PTR as compared to Group 1 districts, but are also characterized by an increasing value of PTR in the last few years. The average PTR for Group 2 districts in 2000-01 was 49.2, approximately 29 percent higher than the corresponding average for Group 1 districts. The increase in the number of teachers is thus not commensurate with the increase in enrolment in Group 2 districts (Table 6.1).

Table 6.1
Trends in overall PTR in DPEP districts

Year	Group 1	Group 2	Group 3	Group 4
1995-96	37.9			38.1
1996-97	38.1	45.3		41.4
1997-98	38.7	48.7		44.8
1998-99	38.9	48.3		44.9
1999-00	38.3	48.4		44.4
2000-01	38.1	49.2	46.5	46.0

Since the recruitment of teachers and their deployment is a state specific activity, there are large variations in the norms for teachers appointment and the actual PTR. Many states have also reported that a large number of teachers vacancies could not be filled up due to various factors. Time consuming procedures, ban on additional recruitments, stay orders by the courts and critical position of state finances are some of the reasons for persistence of large vacancies. The data on actual

vacancies is not in public domain. The state specific trends in PTR are shown in Table 6.2.

Himachal Pradesh and Assam have low PTR due to adverse topographic conditions and the presence of sparsely populated smaller habitations. In such a situation, the teachers are required to be provided by relaxing the prescribed conditions and hence the PTR declines.

Table 6.2
Trends in overall PTR in DPEP states

State	Pupil teacher ratio					
	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01
Group 1						
Assam	36.8	52.4	42.3	42.4	40.8	37.1
Haryana	47.3	49.0	53.8	49.4	45.9	46.5
Karnataka	39.6	32.5	39.9	39.8	43.6	40.9
Kerala	22.3	25.8	30.8	30.5	28.6	29.6
Madhya Pradesh	38.6	36.2	33.9	34.9	33.6	34.9
Maharashtra	37.9	39.2	43.1	42.8	43.3	42.1
Tamil Nadu	42.9	44.5	41.3	42.1	40.4	39.9
Group 2						
Assam			41.7	38.4	36.4	32.9
Bihar			57.0	55.7	55.7	58.4
Chhatisgarh			49.4	58.5	49.9	57.6
Gujarat			40.4	41.9	44.4	40.1
Haryana			50.8	50.0	47.2	45.6
Himachal Pradesh			26.5	25.0	25.0	25.0
Jharkhand			52.4	51.0	50.5	52.1
Karnataka			43.1	42.5	45.2	45.0
Kerala			28.4	28.2	27.1	29.0
Madhya Pradesh			41.3	40.7	39.4	41.0
Maharashtra			41.6	39.5	40.7	39.7
Orissa			34.8	36.5	37.2	38.3
Tamil Nadu			35.6	38.6	35.6	36.5
Uttar Pradesh			63.2	65.8	67.2	69.9
West Bengal			62.3	66.6	60.5	60.1
Group 3						
Andhra Pradesh						36.1
Uttar Pradesh						58.0
Uttaranchal						35.3
West Bengal						60.6

The problem of PTR is serious in five DPEP states. These are: Uttar Pradesh, West Bengal, Bihar, Chhatisgarh and Jharkhand. Of these, Uttar Pradesh (Group 2 districts) has shown a consistent increase in the value of PTR ever since the inception of the DPEP. In the last four years, the average PTR has increased from 63.2 in 1997-98 to 69.9 in 2000-01 (An increase of more than 10 percent). The data for Group 3 districts in Uttar Pradesh is available only for one year and the average PTR for these districts was 58, which is somewhat lower than the corresponding average for Group 2 districts. The persistently high value of PTR highlights the need to focus on the provision of additional teachers in Uttar Pradesh.

The district level PTR was also calculated and presented in Fig 6.2. It is clear from the Figure 6.2 that a large number of spatial clusters are formed with similar characteristics.

As a result of recent increase in teachers' salary and worsening position of state finances, the state governments are not keen on filling up of teachers' vacancies by appointing new regular teachers. Various alternatives are being thought of to minimize the cost of teachers. Alternatives like para teachers are being tried out in some states. Gujarat has adopted this model in a big way in the recent years. The core thrust of these efforts is to take advantage of the large unemployment situation and recruit teachers at a lower salary without offering permanent status. Recently, Haryana has made a significant progress in recruitment and deployment of additional teachers and consequently the PTR declined sharply in the last two years. In Uttar Pradesh, the DPEP program has undertaken the appointment of Shiksha Mitras or community based teachers. Majority of these Shiksha Mitras were appointed in single teacher schools. So far 11987 Shiksha Mitras have been appointed by the Village Education Committees.

6.6 School level PTR

The average PTR though useful for overall policy analysis and estimation of the demand for additional

teachers, masks ground level mismatches in the deployment of teachers at the school level. It is often found that rationalization of teachers can lead to considerable improvement in the availability of teachers without affecting the overall PTR. Therefore, identification of the schools in the very low and very high PTR zones would be necessary to correct imbalances between the demand and supply of teachers (Table 6.3). On the basis of school level PTR, the redeployment of teachers can be undertaken effectively.

Table 6.3, clearly highlights the need for rationalization of teachers' deployment in many DPEP states. For example, in Bihar, 7 percent schools had less than 30 pupils per teachers and at the same time 22.1 percent schools had more than 90 pupils per teacher. In Uttar Pradesh, more than two third schools had a PTR of 60 and above. While low PTR may be unavoidable in some instances, there are instances when many schools near the urban areas have extremely low PTR even when the schools are large enough.

6.7 Overcrowding in schools

For the purpose of the present study, a school is considered to be overcrowded, if the PTR is 90 or more. It is not to suggest that a school with a PTR of less than 90 is not overcrowded. Ideally, a PTR of 40 is desirable.

There is no way such overcrowded schools (with PTR $\Rightarrow$ 90) would have normal classroom interaction. For one teacher to manage a group of 90 students is a Herculean task, especially when it is in the context of multigrade teaching. Overcrowded classrooms hinder the activity based and child centred learning. It becomes difficult for teachers' to give individual attention and especially to the



As a result of recent increase in teachers' salary and worsening position of state finances, the state governments are not keen on filling up of teachers' vacancies by appointing new regular teachers.

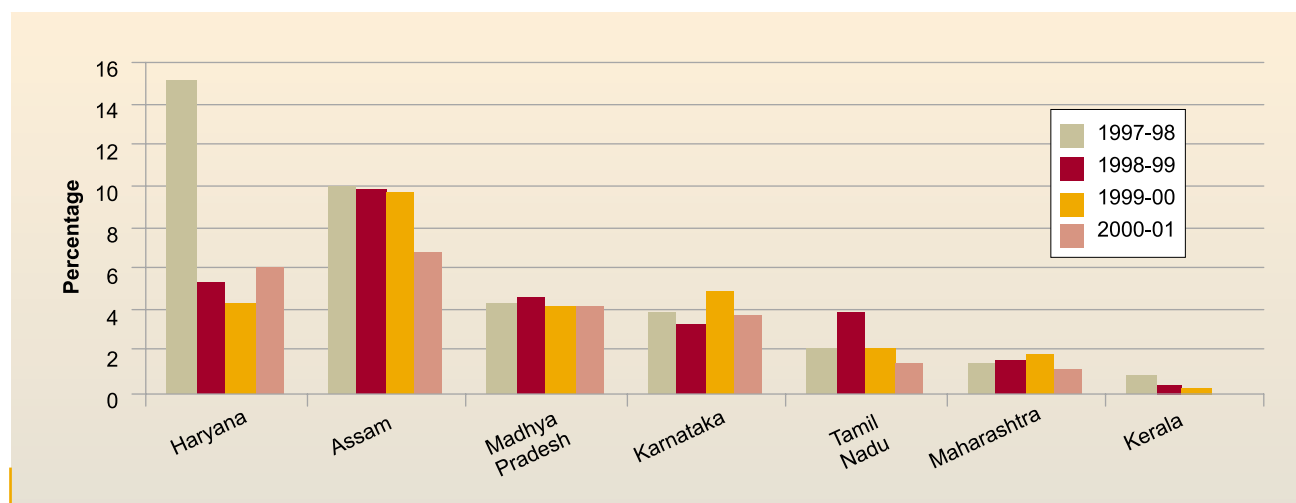
Table 6.3
Distribution of schools by PTR range in 2000-01

State	PTR		PTR Range						Total 120
	2000	1-15	15-30	30-45	45-60	60-90	90-120	Above	
Group 1									
Assam	37.1	9.0	32.7	24.5	14.5	12.6	4.3	2.4	100.0
Haryana	46.5	1.9	11.5	35.7	28.5	16.4	3.8	2.3	100.0
Karnataka	40.9	12.8	31.5	25.0	15.9	11.1	2.7	1.1	100.0
Kerala	29.6	3.7	56.2	37.0	2.6	0.3	0.1	0.0	100.0
Madhya Pradesh	34.9	7.6	28.1	32.4	16.7	10.9	2.7	1.5	100.0
Maharashtra	42.1	5.3	23.6	37.4	22.2	10.5	0.9	0.2	100.0
Tamil Nadu	39.9	1.8	24.0	44.0	20.6	8.3	1.0	0.4	100.0
Group 2									
Assam	32.9	13.5	31.9	24.1	14.3	11.2	3.0	1.9	100.0
Bihar	58.4	0.6	6.4	18.8	22.7	29.5	12.4	9.7	100.0
Chhatisgarh	57.6	3.8	15.7	23.3	24.2	22.9	6.5	3.7	100.0
Gujarat	40.1	3.1	23.9	42.1	19.6	8.6	1.8	0.8	100.0
Haryana	45.6	3.5	19.9	33.8	19.4	14.7	4.8	4.0	100.0
Himachal Pradesh	25.0	24.1	48.8	19.0	5.2	2.2	0.6	0.1	100.0
Jharkhand	52.1	1.3	12.4	26.9	24.0	22.6	8.0	4.9	100.0
Karnataka	45.0	10.0	24.5	25.6	19.7	15.3	3.5	1.4	100.0
Kerala	29.0	7.8	55.3	33.5	3.1	0.3	0.0	0.0	100.0
Madhya Pradesh	41.0	5.0	22.3	32.5	20.1	14.1	3.6	2.4	100.0
Maharashtra	39.7	9.4	29.0	32.7	16.9	9.6	1.8	0.6	100.0
Orissa	38.3	5.5	26.9	32.5	19.3	12.1	2.7	1.1	100.0
Tamil Nadu	36.5	3.2	36.5	40.1	14.1	5.4	0.4	0.1	100.0
Uttar Pradesh	69.9	0.7	6.3	12.7	14.8	25.8	15.6	24.0	100.0
West Bengal	60.1	1.6	13.1	24.8	20.9	23.5	9.4	6.7	100.0
Group 3									
Andhra Pradesh	36.1	12.1	23.8	20.1	11.6	21.1	3.9	7.5	100.0
Uttar Pradesh	58.0	1.1	8.7	18.8	22.9	27.5	10.7	10.3	100.0
Uttaranchal	35.3	16.8	33.1	20.5	12.3	10.5	4.1	2.8	100.0
West Bengal	60.6	1.8	12.4	23.2	19.9	23.7	10.0	9.0	100.0

weaker students. The training of teachers in the use of teaching aids, activity based learning and ensuring joyful learning would remain a meaningless exercise if on an average, there is only one teacher for 90 or more students.

On an average, 3.4 percent schools from Group 1 districts had a PTR of more than 90. The corresponding average for Group 2 and Group 3 districts was 13.6 and 15.4 percent respectively. The overcrowding is thus more serious in Group 2 and Group 3 districts. The state level position of

Figure 6.3
Overcrowded schools: Group I districts Percentage schools with PTC>90



overcrowded schools is shown in Figure 6.3 and 6.4.

Figure 6.3 shows that Haryana in the recent years has done commendable work in reducing overcrowding in primary schools. In Haryana, the proportion of overcrowded schools declined from 15 percent in 1997-98 to 6 percent in 2000-01. Contrary to this, the proportion of overcrowded schools in Uttar Pradesh (Group 2 districts) increased from 26.3 percent in 1997-98 to 39.1 percent in 2000-01. In Bihar, the proportion of overcrowded schools has remained constant for many years. In West Bengal, the proportion of overcrowded schools has shown a sharp decline from 19 percent in 1997-98 to 16.1 percent in 2000-01. However, even 16 percent overcrowded schools are unacceptably high. The three states, namely Uttar Pradesh, Bihar and West Bengal should follow multi-pronged approach to reduce overcrowding in the primary schools. Reducing overcrowding may not necessarily require additional recruitment and deployment of teachers but it may also require rationalization and redeployment of existing teachers.

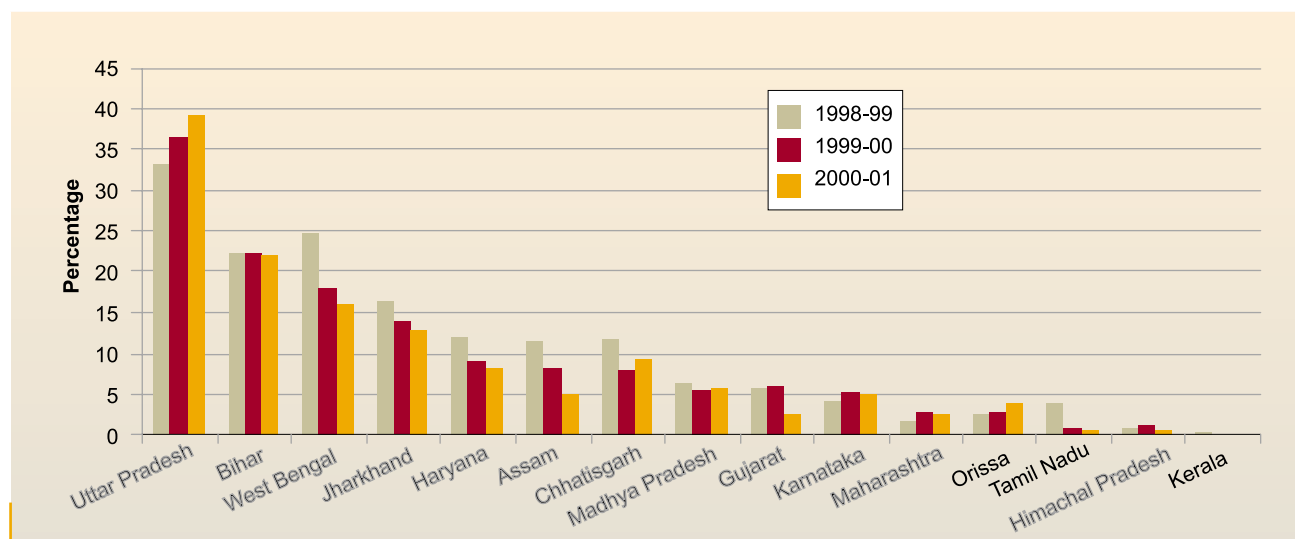
It is pertinent to note that the gains of improved access would whither away if the problem of overcrowding and deficiency of classrooms is not resolved immediately.

6.8 Female teachers

There is a greater realization that the share of female teachers in India at primary stage is low and needs to be improved. At the national level, the share of female teachers to total teachers at primary stage was 35.6 percent. Recruitment of female teachers has been adopted as an important strategy under DPEP. The overall share of female teachers at primary stage has improved over the years. However, these improvements are neither uniform across all states nor are sufficient. It is also important to note that historically obtained distortions in the share of female teachers can not be removed in a short span of 3-5 years. Bringing about equity in the share of female teachers can only be attempted through new recruitment. From this standpoint, the age distribution of teachers would be a better indicator to determine whether the states/districts are moving towards gender equity or not. It is expected that the share of female teachers in the younger age groups would be higher as compared to the higher end age groups.

The spatial distribution of the share of female teachers to total teachers is shown in Fig. 6.5. Generally, the districts in the southern parts of India had much better representation of women in teaching workforce. The educationally backward states show the least share of women teachers.

Figure 6.4
Overcrowded schools: Group II districts Percentage schools with PTC>90



The share of female teachers to total teachers was computed separately for each group of districts (Table 6.4). Overall the share of female teachers to total teachers increased from 32.2 percent in 1995-96 to 36.9 percent in 2000-01 for Group 1 districts. Similarly for Group 2 districts, the increase was from an average of 26.7 percent in 1997-98 to 31.3 percent in 2000-01. For the Group 3 districts, the average stood at 29.5 for 2000-01. Time series data is not available for Group 3 districts.

Bihar, West Bengal and Chhatisgarh are three states where the share of female teachers remains less than 25 percent. It is not only that the share of female teachers is low but the problem is more serious due to marginal changes in the share of female teachers. Thus the efforts of the state governments of these states have not yielded much as far as recruitment of women teachers is concerned.

Three states, namely, Kerala, Tamil Nadu and Karnataka have achieved high rates of women participation in teaching profession. Among the Hindi heartland, Haryana is the only states where the share of women teachers exceeds 40 percent. The inter-state variations in the share of female teachers are quite striking. For example, among the Group 1 states, it varies from 61.2 percent in Kerala to 25.7 percent in Assam.

Similarly, the range for Group 2 states was from 16.1 percent for Chhatisgarh to 75.5 percent in Kerala. Even within Kerala, the Group 2 districts had a higher share of female teachers as compared to districts of Kerala in Group I.

6.9 Imbalances in the deployment of teachers

A gender sensitive school should have roughly an equal number of male and female teachers. The educators have argued for a much larger share of female teachers especially at pre-primary and primary education stage. The presence of female teachers is also considered necessary to promote girls education, especially in isolated rural and educationally backward pockets of urban areas. Because of social traditions, some communities do not like to send the girls to schools which do not have female teachers. Following the recommendations of NPE, 1986, priority is to be given to the recruitment of female teachers and removal of imbalances between the deployment of male and female teachers. Some practical difficulties will have to be overcome for speedy achievement of these objectives. The women teachers find it difficult to go the remote and inaccessible schools. Their preference is to be posted in the urban or nearby areas so that commuting is easier. This can continue as long as they are in minority. Once their

Table 6.4
Trends in the share of female to total teachers

State	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01
Group 1						
Kerala	56.2	57.8	61.3	61.1	59.5	61.2
Tamil Nadu	39.2	42.3	46.8	47.0	50.1	51.4
Karnataka	36.2	38.7	40.6	43.5	49.3	48.7
Haryana	43.1	45.6	45.4	42.4	42.7	43.3
Maharashtra	22.8	25.5	26.8	27.6	27.9	29.4
Madhya Pradesh	23.6	22.2	23.5	26.0	27.5	28.0
Assam	21.2	22.0	24.8	24.7	25.4	25.7
Average Group 1	32.2	31.0	33.2	34.6	36.0	36.9
Group 2						
Kerala			74.2	73.5	73.6	75.5
Tamil Nadu			53.4	56.3	56.2	57.6
Karnataka			40.2	43.2	47.2	50.0
Haryana			43.5	44.6	48.0	40.1
Gujarat			33.7	34.5	35.7	35.9
Himachal Pradesh			32.3	33.0	33.3	33.7
Jharkhand			27.2	27.7	27.4	29.3
Uttar Pradesh			25.9	27.1	28.0	29.2
Madhya Pradesh			22.7	28.2	27.3	27.9
Maharashtra			26.6	26.4	27.4	27.8
Assam			23.7	27.8	26.9	26.2
Orissa			21.4	22.9	22.7	24.9
Bihar			21.1	20.9	20.9	21.2
West Bengal			14.6	17.2	15.8	18.9
Chhatisgarh			17.4	12.4	22.4	16.1
Average Group 2			26.7	30.4	30.7	31.3
Group 3						
Uttaranchal						48.1
Andhra Pradesh						32.4
Uttar Pradesh						26.0
West Bengal						22.3
Average Group 3						29.5
Group 4						
Bihar		21.2	18.0	17.6		18.6
Chhatisgarh	44.8	21.3	21.5	24.5	24.0	
Jharkhand			19.0	18.8		19.4
Average Group 4	44.8	21.3	20.3	20.7	24.0	18.8

Note: the states are arranged in descending value of the last col.

representation increases, the place of posting may no longer remain an individual choice. Table 6.5 shows the distribution of schools by the number of female teachers.

It is observed that in Group 1 districts, 83.9 percent of single teacher schools were all male schools. The remaining 16.3 single teacher schools were all women teacher schools. In the case of two teacher schools, 63.3 percent were all male teacher schools,

Table 6.5
Distribution of schools by the number of total and female teachers

All Teachers		Female Teachers										Total
		0	1	2	3	4	5	6	7	8	9 & above	
Group 1												
	1	83.9	16.1									100
	2	63.3	27.7	9.0								100
	3	42.3	30.8	18.5	8.4							100
	4	29.7	23.5	21.8	14.6	10.4						100
	5	24.4	20.4	21.2	15.1	12.5	6.5					100
	6	17.3	15.9	17.3	18.0	15.3	10.8	5.4				100
	7	12.8	14.1	14.3	16.4	13.1	12.0	11.0	6.2			100
	8	8.8	7.9	12.0	14.5	14.5	12.2	12.5	9.8	7.6		100
	9+	4.8	4.9	6.7	6.8	9.3	9.5	11.8	9.7	9.9	26.5	100
Group 1 average		50.0	22.8	11.7	5.7	3.7	1.9	1.3	0.8	0.7	1.4	100
Group 2												
	1	88.0	12.0									100
	2	68.4	23.7	7.9								100
	3	51.9	26.5	14.5	7.0							100
	4	35.1	23.8	18.6	12.6	10.0						100
	5	27.7	19.7	18.2	14.3	11.6	8.4					100
	6	22.2	16.5	14.5	14.5	12.2	11.6	8.5				100
	7	17.7	14.5	12.6	12.0	12.2	10.8	11.7	8.5			100
	8	15.4	10.8	10.4	10.2	10.7	11.0	11.4	10.3	9.8		100
	9 & above	10.1	6.6	7.3	6.9	7.9	8.2	7.8	8.7	9.2	27.3	100
Group 2 average		59.3	20.5	9.4	4.2	2.6	1.4	0.9	0.6	0.4	0.8	100
Group 3												
	1	91.5	8.5									100
	2	68.4	23.0	8.5								100
	3	51.9	26.3	15.2	6.6							100
	4	41.5	22.6	20.1	9.6	6.1						100
	5	32.3	18.5	19.9	13.0	9.9	6.4					100
	6	28.4	14.6	17.4	15.1	11.5	7.0	6.1				100
	7	24.8	12.2	17.9	14.3	11.2	7.8	6.9	4.9			100
	8	23.3	10.6	15.6	9.2	16.8	7.0	8.0	4.8	4.7		100
	9 & above	16.2	6.9	11.3	6.8	10.9	6.9	8.8	5.0	6.1	21.1	100
Group 3 average		60.4	18.1	10.4	4.3	2.7	1.3	0.9	0.4	0.4	1.0	100
Group 4												
	1	90.6	9.4									100
	2	76.8	18.2	5.0								100
	3	66.1	19.6	8.2	6.0							100
	4	57.4	23.4	8.7	6.0	4.5						100
	5	56.9	20.4	8.8	6.4	4.5	3.1					100
	6	48.0	24.1	12.1	5.9	4.3	3.7	1.9				100
	7	40.9	24.3	11.7	7.8	6.1	3.0	3.5	2.6			100
	8	28.3	21.4	19.3	7.6	6.9	2.8	4.8	5.5	3.4		100
	9 & above	22.0	16.3	11.9	7.1	5.1	7.5	5.1	4.7	5.4	14.9	100
Group 4 average		72.1	17.6	5.7	1.9	1.0	0.6	0.4	0.3	0.2	0.4	100

27.7 percent were one male and one female teacher and the remaining 9 percent were all female teacher schools. The situation further gets accentuated in the case of Group 2 districts as 88 percent single teacher and 68.4 percent two teacher schools had no female teacher. The corresponding situation with respect to Group 3 districts was even worse as 91.5 percent single teacher schools and 68.4 percent of two teacher schools had no female teachers.

The position with respect to other categories of schools is not much different. It is interesting to note that among the five teacher schools, 24.4 percent schools in Group 1 districts, 27.7 percent schools in Group 2 districts and 32.3 percent schools in Group 3 districts were all male teacher schools.

The above data clearly shows the extent of problems with the availability and deployment of women teachers. It also shows that the OB norms for the appointing a female teacher as the second teacher have not been adhered to. The above evidence also shows that the deployment of female teachers is more skewed in Group 2 districts.

A comparison between the situation in 1999-2000 and 2000-01 shows that there has been some reduction in the proportion of all male teacher schools. For example, in 1999-2000, the share of all male teacher schools for Phase I districts was 55.6 percent which has roughly declined to about 50 percent in 2000-01. Similar improvements are



The analysis presented in Year 2000 Access and Retention Study showed that many OB schools were without a second teacher.

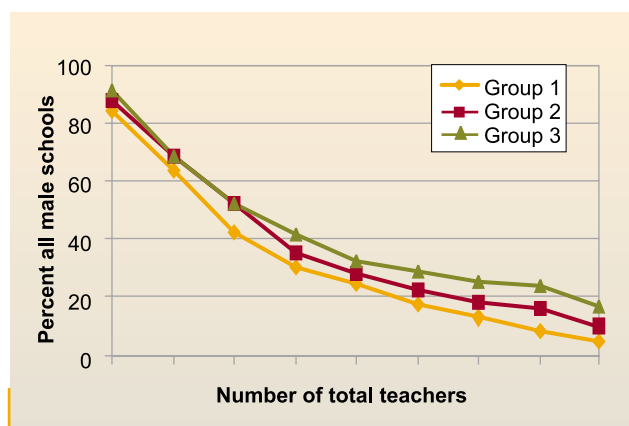
visible across other categories as well.

The state level position of all male teachers' schools is presented in Table 6.6. Figure 6.7 shows the spatial clusters of districts having similar characteristics as far as all male teacher schools are concerned. Kerala is the only state with a balanced deployment of male and female teachers. The differences are very striking in Assam, Madhya Pradesh and Maharashtra (all having more than 50 percent all male teacher schools)

Further, the analysis presented in Year 2000 Access and Retention Study showed that many OB schools were without a second teacher. It was observed that 25 percent of OB schools in Bihar and 27 percent in Uttar Pradesh were reportedly single teacher schools (Aggarwal, 2000f, pg. 80).

Is the pace of improvement in the reduction of all male teachers adequate or something more could be achieved through rationalization and redeployment of female teachers? Each district has to examine the DISE data and explore various possibilities for bringing about equity in the deployment of female and male teachers.

Figure 6.6
All male teacher schools: 2000-01



6.10 Teachers' deployment: the malaise of single teacher schools

In the first instance, we examined the distribution of schools by number of teachers in position (Table 6.7).

The single teacher school phenomenon is unique to some states in India. The OB guidelines postulate that a primary school should have a minimum of two teachers-preferably one male and one female. As mentioned above the central government provided financial assistance to the states for the appointment of second teacher in single teacher

Table 6.6
Percentage share of all male teacher schools

State	% all male teachers school				
	1996-97	1997-98	1998-99	1999-00	2000-01
Group 1					
Assam	71.9	62.1	62.4	61.4	61.7]
Haryana	35.1	38.3	37.3	36.0	36.0
Karnataka	48.2	44.5	43.4	53.8	44.0
Kerala	6.3	3.2	4.5	3.5	3.1
Madhya Pradesh	71.3	66.6	66.0	62.5	59.9
Maharashtra	62.8	60.3	59.2	60.4	57.5
Tamil Nadu	40.1	29.0	51.3	27.1	22.6
Group 1 average	59.8	54.2	55.9	53.8	50.0
Group 2					
Assam		63.1	54.2	55.2	59.7
Bihar		68.1	69.2	70.0	68.9
Chhatisgarh		72.3	74.2	67.0	69.5
Gujarat		54.5	53.6	50.0	42.8
Haryana		47.0	42.6	39.5	47.9
Himachal Pradesh		53.2	55.2	55.9	53.8
Jharkhand		68.5	68.9	69.3	64.6
Karnataka		41.5	40.0	48.4	38.6
Kerala		1.3	1.3	1.3	1.6
Madhya Pradesh		73.5	65.9	63.6	62.4
Maharashtra		63.6	61.6	62.9	61.6
Orissa		68.7	68.4	72.6	68.9
Tamil Nadu		27.6	56.8	24.5	22.6
Uttar Pradesh		65.7	66.9	66.8	65.6
West Bengal		73.6	73.3	78.4	66.3
Group 2 average		63.9	61.5	62.5	59.3
Group 3					
Andhra Pradesh					60.6
Uttar Pradesh					59.4
Uttaranchal					47.7
West Bengal					69.5
Group 3 average					60.4

Table 6.7
Trends in the distribution of schools by number of teachers in position

Teachers in position	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01
0	2.3	3.9	1.1	1.3	1.8	0.3
1	18.3	16.0	14.6	14.2	14.6	15.0
2	36.5	36.7	36.5	36.4	35.5	37.1
3	12.9	13.3	15.8	16.1	16.0	15.9
4-7	20.3	21.0	24.0	24.6	24.6	24.6
8-10	5.2	5.4	4.8	4.5	4.5	4.4
>10	4.6	3.7	3.3	3.0	3.0	2.7
Total	100.0	100.0	100.0	100.0	100.0	100.0
0		1.6	1.5	1.7	1.7	0.5
1		14.3	17.6	18.4	18.6	18.7
2		39.2	38.8	37.8	38.0	39.7
3		18.6	17.2	16.2	16.5	16.1
4-7		20.3	20.0	21.0	20.7	20.8
8-10		3.9	3.2	3.2	3.0	2.8
>10		2.1	1.6	1.7	1.6	1.4
Total		100.0	100.0	100.0	100.0	100.0
0						1.6
1						21.8
2						30.5
3						17.7
4-7						22.2
8-10						3.3
>10						3.0
Total						100.0

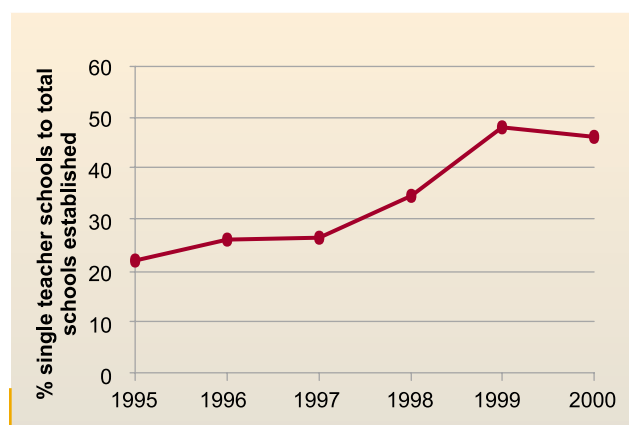
schools. It was also postulated that no single teacher school should be established after 1987. However, this premise received a big jolt after the recent hike in salaries of the government staff which included the government school teachers as well.

In terms of teachers' deployment, four types of trends were observed across the states. First, notwithstanding the provision of OB scheme, more single teacher schools are being opened. Second, alternative modes of education were developed so that the unit cost could be reduced without violating the OB norms. There are no norms like the

deployment of a minimum of two teachers in alternative/EGS. Third, in schools where OB teachers were appointed, the non OB teacher was transferred leaving the school with a single teacher appointed under OB norms. Fourth, fresh appointment of teachers to two teacher schools is not made after one of them superannuates.

The analysis of the number of single teacher schools showed that many of them had already been covered under OB scheme. It was also evident that many new single teacher schools were established in the recent years (Aggarwal, 2000f,

Figure 6.8
Trends in the establishment of single teacher schools



pg. 80). Figure 6.8 shows the proportion of single teacher schools to total schools established since the inception of DPEP. The spatial patterns are shown in Fig. 6.9. The proportion of new schools established as single teacher schools is extremely large. For example, during 2000-01, 2642 new schools were established in DPEP districts, out of which 46 percent were single teacher schools. Similarly, in 1999-2000, 6031 new schools were established and the share of single teacher schools was close to 50 percent. How much time does it take for a newly established school to acquire the full compliment of teachers, equipment and other facilities? The answer is probably not known to any body. What probably can be stated is that many of the newly established single teacher schools will remain in the same category for years to come, may be till another centrally sponsored scheme is formulated to provide financial support for strengthening the resource base of such schools.

Cohort studies conducted in Tamil Nadu and other states have shown that completion rates are generally lower for single teacher schools as compared to two or more teacher schools. This is due to the fact that when two teachers teach five grades, the quality of teaching learning would be better as compared to the situation when only one teacher teaches all students.

While there was a significant reduction in the

proportion of single teacher schools in Group 1 districts till 1998-99, the reversal of this trend has been confirmed in the last three years. The proportion of single teacher schools is rising, albeit slowly. In the case of Group 2 districts, the outcome of the trends is more alarming. The proportion of single teacher schools has increased consistently from 14.3 percent in 1996-97 to 18.7 percent in 2000-01. Not much can be said about the trends in districts belonging to Group 3 (Table 6.8). Only one year data is available for these districts. Notwithstanding this, the single year data adequately reveals the seriousness of the problem in these districts also. It is estimated that in 2000-01, about 21.8 percent schools in Group 3 districts were single teacher schools. This proportion is highest average among all three Groups of districts considered in the present study.

The analysis of single teacher schools was further carried out at the district level. The proportion of single teacher schools is shown in Figure 6.9. The large concentration of single teacher schools in the northern states is evident.

6.11 Representation of SC and ST teachers

The state governments provide various types of reservations in jobs for the candidates belonging to SC and ST categories. This is true of the

Figure 6.10
Trends in single teacher schools

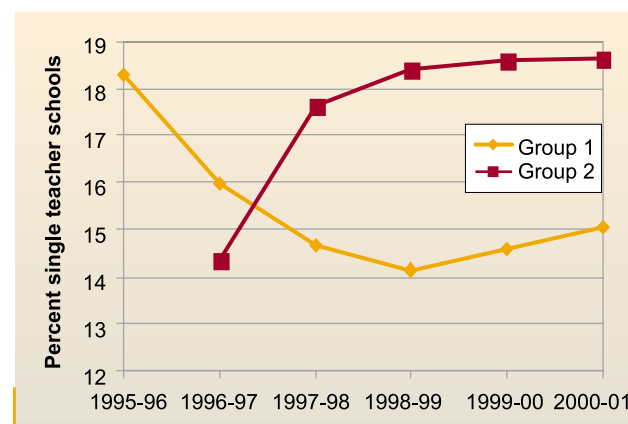


Table 6.8
Distribution of schools by number of teachers in position: 2000-01

State	Classification of schools based on the number of teachers							Total
	0	1	2	3	4-7	8-10	> 10	
Group 1								
Assam	0.0	20.9	45.9	17.4	14.2	1.2	0.4	100
Haryana	0.3	6.7	18.4	17.3	44.9	8.9	3.5	100
Karnataka	0.2	21.3	44.4	13.9	18.2	1.5	0.5	100
Kerala	0.0	0.6	0.7	1.8	44.0	32.4	20.4	100
Madhya Pradesh	0.6	16.2	41.4	16.5	19.9	3.2	2.2	100
Maharashtra	0.0	13.2	25.8	12.7	38.0	6.0	4.3	100
Tamil Nadu	0.0	6.0	35.0	23.4	28.4	4.4	2.8	100
Group 1 average	0.3	15.0	37.1	15.9	24.6	4.4	2.7	100
Group 2								
Assam	0.0	13.1	49.0	18.7	16.2	1.8	1.2	100
Bihar	0.1	21.1	46.9	11.4	15.5	3.8	1.2	100
Chhatisgarh	4.2	10.1	40.8	21.1	21.2	1.7	1.0	100
Gujarat	2.3	9.0	34.0	17.2	29.3	5.1	3.1	100
Haryana	1.5	9.2	25.9	19.5	36.7	5.6	1.6	100
Himachal Pradesh	0.8	13.4	51.7	17.8	15.3	0.8	0.3	100
Jharkhand	0.1	26.4	48.4	8.8	11.9	2.7	1.8	100
Karnataka	0.2	10.5	41.7	17.9	27.2	2.0	0.5	100
Kerala	0.0	0.3	1.1	2.4	53.0	28.7	14.4	100
Madhya Pradesh	0.7	20.6	45.7	14.1	15.7	2.0	1.1	100
Maharashtra	0.0	18.5	34.0	13.6	28.3	3.5	2.0	100
Orissa	0.7	26.6	40.2	16.8	13.9	1.1	0.7	100
Tamil Nadu	0.1	11.4	41.6	17.3	22.2	4.6	2.8	100
Uttar Pradesh	0.6	29.5	34.3	13.6	17.8	2.8	1.5	100
West Bengal	0.4	8.3	29.5	29.9	30.8	1.0	0.2	100
Group 2 average	0.5	18.7	39.7	16.1	20.8	2.8	1.4	100
Group 3								
Andhra Pradesh	2.8	30.9	23.3	15.2	19.1	4.0	4.8	100
Uttar Pradesh	0.2	11.4	35.7	20.6	27.5	3.1	1.5	100
Uttaranchal	0.4	26.6	46.7	11.8	12.3	1.6	0.5	100
West Bengal	1.9	15.0	39.8	21.8	19.9	1.3	0.4	100
Group 3 average	1.6	21.8	30.5	17.7	22.2	3.3	3.0	100

department of education also. The proportion of reservations varies from one state to another. Generally, the reservations are proportionate to the share of SC and ST population in the state. It is also observed that despite reservations in many states, the number of SC and ST teachers is not commensurate with their share in the total

population.

The share of teachers in group 1 districts was 12.2 percent in 1995-96 and 12.5 percent in 2000-01 (Table 6.9). Almost the same trend was observed in group 2 districts/states. Kerala registered a marginal decline in the share of SC teachers. Haryana stands

Table 6.9
Trends in the share of SC teachers to total teachers in position

State	1996-97	1997-98	1998-99	1999-00	2000-01
Group 1					
Assam	5.6	6.1	5.4	5.6	5.5
Haryana	6.8	7.2	10.1	11.0	10.9
Karnataka	15.5	16.0	15.8	17.0	15.8
Kerala	4.6	3.7	4.5	4.0	3.8
Madhya Pradesh	11.7	11.7	12.6	12.3	12.8
Maharashtra	13.3	13.3	13.8	13.8	13.9
Tamil Nadu	15.3	14.6	14.8	15.1	15.1
Average for Group 1	12.2	11.8	12.4	12.3	12.5
Group 2					
Assam		5.9	5.1	5.4	5.4
Bihar		11.0	11.1	11.6	11.8
Chhatisgarh		13.6	18.7	15.6	18.7
Gujarat		12.6	11.8	11.1	12.9
Haryana		8.2	11.1	13.3	12.9
Himachal Pradesh		11.4	12.2	12.4	12.1
Jharkhand		7.0	6.7	6.8	7.2
Karnataka		14.8	15.5	15.1	14.9
Kerala		5.8	5.9	5.6	5.3
Madhya Pradesh		14.3	14.1	14.4	14.4
Maharashtra		12.7	12.7	12.5	12.9
Orissa		11.6	11.8	12.3	12.0
Tamil Nadu		14.3	15.0	14.8	14.9
Uttar Pradesh		11.3	10.7	10.6	10.9
West Bengal		18.7	18.9	19.4	20.5
Average Group 2		12.5	12.4	12.6	12.9
Group 3					
Andhra Pradesh					8.4
Uttar Pradesh					14.5
Uttaranchal					10.0
West Bengal					15.3
Average Group 3					11.4

out uniquely as far as improvement in the share of SC teachers was concerned. As a result of the recent recruitment of teachers, the proportion of SC teachers increased from 6.8 percent in 1995-96 to 10.9 percent in 2000-01. Similar progress was also reported from group 2 districts/states.

Similar analysis was also undertaken for the share

of ST teachers to total population of the ST teachers in the state. Table 6.10 presents the share of ST teachers to total teachers.

Assam has show a phenomenon increase in the share of ST teachers. There is a large concentration of ST teachers in Assam, Gujarat, Jharkhand, Madhya Pradesh and Chhatisgarh. Haryana, Tamil Nadu and Uttar Pradesh do not have ST population group and

Table 6.10
Share of ST teachers to total teachers in position

State	1996-97	1997-98	1998-99	1999-00	2000-01
Group 1					
Assam	14.7	25.4	27.3	28.4	29.0
Haryana	0.1	0.1	0.1	0.1	0.3
Karnataka	3.1	3.5	3.5	3.3	3.6
Kerala	1.5	1.4	1.2	1.6	0.7
Madhya Pradesh	13.2	12.8	13.8	13.9	13.6
Maharashtra	6.3	5.6	5.7	5.7	6.1
Tamil Nadu	0.4	0.4	0.4	0.5	0.4
Group 1 average	7.4	8.0	8.3	8.7	8.6
Group 2					
Assam		25.2	28.3	24.1	22.9
Bihar		0.6	0.5	0.7	0.7
Chhatisgarh		16.5	15.9	17.0	16.0
Gujarat		22.9	25.2	26.2	25.5
Haryana		0.4	1.5	0.7	0.4
Himachal Pradesh		12.7	11.7	11.8	11.8
Jharkhand		28.4	28.4	28.2	29.8
Karnataka		3.8	3.5	3.5	3.8
Kerala		1.2	1.4	0.9	0.7
Madhya Pradesh		17.3	17.6	17.8	18.7
Maharashtra		12.4	11.9	12.2	13.5
Orissa		12.9	13.4	14.3	14.7
Tamil Nadu		0.2	0.1	0.1	0.1
Uttar Pradesh		0.6	0.3	0.4	0.3
West Bengal		2.3	2.0	2.6	3.0
Group 2 average		9.4	9.2	9.3	9.6
Group 3					
Andhra Pradesh					4.0
Uttar Pradesh					0.5
Uttaranchal					2.0
West Bengal					6.1
Group 3 average					2.7

hence the share of ST teachers was negligible.

The foregoing analysis of teachers profile has highlighted many issues about which the present understanding was inadequate. First, there is a need to develop qualitative indicators of teachers’ involvement and outcomes in teaching learning processes. Second, there is a considerable backlog of teachers’ vacancies. The states prefer to appoint contractual teachers at a consolidated salary which is much lower than the corresponding salary of a regular teacher. Third, there are serious imbalances in the deployment of teachers. Some schools have excess teachers and other schools were facing shortages and overcrowding. Therefore redeployment of teachers using DISE data becomes imperative. Fourth, the share of female teachers is considerably lower. Kerala, Tamil Nadu, Karnataka and Haryana had relatively higher ratio of female teachers. Therefore, more proactive strategies are required to improve participation of women in teaching workforce. Fifth, despite significant interventions under DPEP, the proportion of single

teacher schools either remained constant or increased. Sixth, there were issues related to deployment of female teachers. As many as 50 percent schools in Group 1, 59.3 percent in Group 2 and 60.4 percent in Group 4 were all male teacher schools.

Notes [not be printed for info only]

Four district level maps in this chapter.

- 1. PTR
- 2. % Female teachers
- 3. % no female teacher schools
- 4. Single teacher schools

Dummy text in the place of introduction: The analysis of population and demographic profiles of the DPEP districts show considerable variations in the population density and the spatial distribution of population in various settlements.



Gender and social equity

The formal education system in India was used as a potent instrument of discrimination by the colonial powers by restricting access to institutions of education in general and that of higher education in particular. Therefore, at the time of independence, the Indian society was highly stratified in terms of gender, caste and religion. Many population groups were not able to participate and benefit from the development processes due to their low social and economic status. The constitution of India while taking note of these factors identified 'growth with equity' and 'social justice' as the major thrust of development planning. It also provides for positive discrimination for the upliftment of the socially and economically deprived sections of the society who suffered various types of deprivations during the colonial period. The Indian constitution forbids any type of discrimination based on caste, creed, religion or any social or economic factors. The constitution also envisaged that the government policies and programs would be able to create an egalitarian society in the first few years of development planning.

Education and equity

The analysis of literacy and educational attainment data for the early years of independence shows the persistence of large differentials between male-female, rural-urban and between various socially backward and progressive categories of population. Even after five decades of development planning, the reduction in differentials is not in tune with the spirit of the constitution. Based on 1991 literacy data it was found that certain caste groups did not have even a single literate person (Aggarwal, 1994). These differences in the levels of literacy and educational attainment, though reduced over the years, have continued to persist. Despite all round development initiatives, many districts continue to have low literacy rates. The 2001 census shows that there were 13 districts where the average rural female literacy rates were less than 20 percent. Overall, the rural female literacy (46.6 percent) was nearly half of the urban male literacy rate of 86.4 percent. More striking differences still persist in educational

Government of India has launched various centrally sponsored schemes based on the principles of positive discrimination and with a special focus on improving enrolment and retention of girls.



attainment between SC and other, rural and urban, ST and non-ST population groups.

Since the beginning of development planning in India, it was duly recognized by development planners that there is no contradiction between the demand for 'equity' and 'growth'. Equity without growth is a stagnant cesspool wherein only misery, ignorance and obscurantism can be equitably distributed. Growth without equity leads to the accentuation of structural disequilibria that constrains growth itself. The social concern for the two can be handled together, sustaining and sustained by each other (Raza and Aggarwal, 1983). It was in this context that India initiated the poverty alleviation programs since early fifties and is perhaps the first among the developing countries to have undertaken a unique approach to poverty eradication. The principles of positive discrimination adopted since the early fifties were a positive steps in this direction. As a consequence, the gap between male-female and SC, ST and others is reduced considerably but still there are miles to go before the objectives of growth with equity can be fully realized.

It may also be noted that the absence of inequities does not mean that the participation and achievement rates for girl or any other groups of students have reached the desired level. In fact there may be certain situations where the participation rates for both boys and girls or between haves and have nots will be low. In such cases too, the gender or other forms of inequity may be nearly absent and efforts will be required to increase the participation rates of both boys and girls. Therefore, the indices of gender and social equity discussed in this chapter should be seen in association with the enrolment coverage or GER and NER or as the case may be.

In the sphere of education, inequities in educational attainment of different groups and regions have been both the cause and effect of differentials between their levels of economic development. A proper strategy of human resource development, therefore, calls for optimal development as well as full utilization of the capabilities of diverse kinds in all segments of population. Education was rightly considered to be of crucial importance for human resource development as well as for the unfolding of entire spectrum of human creativity.

All the five year Plans accorded high priority to widening the access to education for all communities and caste groups. In order to achieve these objectives, the Government of India launched various centrally sponsored schemes based on the principles of positive discrimination and with a special focus on improving enrolment and retention of girls. Central and state governments initiated a number of incentive schemes to offset the direct and indirect costs of education. These measures would help reduce the inequities in access, retention and achievement to the minimum. Similar schemes have been implemented for the SC and ST students as well. The norms for opening of schools in predominantly SC and ST habitations have also been relaxed. Since the Tribal population groups face more difficulties in accessing formal schools, provisions for residential schools have also been made. Free textbooks, free uniforms, attendance scholarships and free transportation are some of the important schemes available to the SC and ST students. In addition, the seats for SC and ST students are reserved in the institutions of higher learning as well as in the labour market, especially for the appointments and promotions in the public sector. Despite these measures, the levels of literacy and educational attainment continue to remain low for the SC and ST population.

Primary education is free in government schools and no tuition fee is charged from any student. The students are required to pay tuition fee and other charges in private schools. Even in government schools, in addition to tuition fee, there are many

other types of recurrent costs that the parents have to bear. These are: development fee, examination charges, transport expenses, textbooks, stationery, uniforms and other similar expenses. Therefore, primary education is not free in real sense. The Working Group on Elementary and Adult Education for the Tenth Five Year Plan has proposed a sum of Rs. 250 per student per year to meet the direct and indirect cost of primary education.

While there are many types of inequities, the present chapter examines the progress towards equity in access and retention with a special focus on girls, SC and ST learners. Such an analysis acquires greater significance because primary education constitutes the basal level of educational hierarchy where entry and exit points follow a linear path governed by administrative decisions. For a child to acquire certification, the prescribed number of years has to be spent in the educational system.

Inequities in educational development of SCs and STs

A broad understanding of the important characteristics of the spatial dispersion of the SC and ST population would be discussed before undertaking the analysis of their educational progress. The SC population is ubiquitously distributed across the national space, whereas the STs are concentrated in selected areas characterized by isolation and enclavisation due to their primitive life styles. The SC population suffers from social isolation and economic deprivation, whereas the tribes suffer the most from geographical isolation, inaccessibility and lack of contact with the outside world (Aggarwal, 1995a). Figure 1 & 2 present the spatial patterns of SC and ST population distribution. The social and economic development issues for both the groups of population can not be resolved with the same approach. The former requires more of economic upliftment and in the case of latter, the focus will have to be on the mainstreaming (Aggarwal, 1994). It is also evident that the policy of positive discrimination can not continue for ever. After some time, such a policy can become counter productive and harm the interests of those who need these facilities the most.

The SC and ST population composition and their literacy rates for 2001 are yet not available. Therefore, the 1991 population data is used wherever necessary. The share of SC population to total population was about 16 percent in 1991 and the corresponding share of ST population was about 8 percent. Therefore, nearly one fourth of the total population in the country is classified as socially deprived. Recently many more social groups were identified as 'Other Backward Classes' or 'Backward Classes'. These groups are further divided into sub-groups. Some states have adopted the economic variables as tools for categorization of communities into various groups. These groups are also entitled for various types of concessions and reservations in educational institutions as well as in access to labour market. In the present discussion, these groups have been excluded as their identification is a state subject and complete information on the coverage and other attributes is not available at the national level.

In view of the spatial concentration of the SC and ST population, the social composition of schools also varies from one region to another. The schools located in tribal areas have a large proportion of children belonging to these communities as compared to the schools in non-tribal areas. These factors also affect the classroom interactions, as the teachers are required to be equipped to deal with socially deprived classes. Moreover, many students coming from SC and ST families are first generation learners and are at risk due to poor condition of their parents. This has implications not only for teaching learning processes but also about the content and relevance of primary education. The textbooks are prescribed at the state level. All schools in the state follow the textbooks produced

Primary education constitutes the basal level of educational hierarchy where entry and exit points follow a linear path governed by administrative decisions. For a child to acquire certification, the prescribed number of years has to be spent in the educational system.



at the state level. All the children are not able to follow these textbooks due to differences in the medium of instruction and the spoken language at home or the mother tongue of the child. Many parents who reluctantly send their children to schools are not fully convinced about the contribution of education to their way of life and its impact on their fight against hunger and poverty.

Distortions in sex ratio and gender based inequities

India is perhaps, one of the few countries where males outnumber females. The sex ratio has worsened during the last fifty years. The average sex ratio based on 2001 census was 933 which shows a marginal improvement over 1991 (927) with large interstate and intrastate variations. Historically, there was a perceptible bias towards the education of the male child. The situation is changing now. Therefore an analysis of the gender issues, especially the participation of girls in primary education is also attempted in this chapter. The analysis in the following paragraphs pertains to enrolment in recognised primary schools only. The analysis of enrolment in AS/EGS and unrecognised institutions could not be undertaken due to non-availability of the disaggregated data on SC/ST students.

Approach for Tenth Five Year plan

The Tenth Five Year Plan (TFYP) is due for implementation from 2002 to 2007. The Working Group on Elementary and Adult Education constituted by the Planning Commission has proposed a number of new initiatives to reduce the differentials in educational attainment and literacy between gender, rural-urban and SC/ST and other caste groups. The following recommendations have been made by the working group to achieve the objectives of UEE/UPE.

Girls' education

The approach paper calls for a comprehensive and well designed package for making girls education totally free and it should also take care of both the direct and indirect opportunity cost of education.

The SSA provides for Rs. 150 per girl child towards free textbooks. The working Group recommended Rs. 250 per child per year to defray the direct and indirect costs of education. The working Group also suggested that immediate attention should be given to improve the quality of education in government and aided schools as most girls depend on these schools for their education. The analysis of enrolment profile of unrecognized schools in selected districts of Haryana substantiated these findings. It was observed that more girl children are sent to government schools and the male children to private schools (Aggarwal, 2000g). Other recommendations of the Working Group include the following:

- ♦ Making education more meaningful and relevant to the masses.
- ♦ Encourage contextual and need based flexible learning systems for adolescent girls.
- ♦ Teacher training facilities for women should be augmented so that more women teachers can be recruited to increase their representation in the teaching workforce.
- ♦ Focused measures to enroll out of school girls should be examined in the areas having large concentration of out of school children. The field experiences from DPEP and other innovative projects should be replicated wherever possible.
- ♦ Provision for special coaching and remedial classes for the girls, SC and ST students and strengthening of science and mathematics teaching in all schools should be taken up.
- ♦ Reduction in gender disparities should be the key concern for educational planning particularly at the micro-planning stage.
- ♦ Develop capacity for gender sensitive data collection and its use by development planners, PTAs, school heads and the members of the VEC and the village community.
- ♦ Special schemes which promote girls education should be implemented in areas where participation of girls is low. At the same time, the emphasis should continue on mainstreaming of girls who study in alternative and NFE centres.

Scheduled caste and Scheduled tribes

Realizing that the castes comprising SC and ST groups are not homogenous in terms of their size, composition and educational attainment, the tenth plan proposes that caste groups which are more deprived and disadvantaged should be identified through micro-planning. The following interventions are proposed by the Working Group:

- ♦ Improving access especially in unserved habitations.
- ♦ Improving the quality of education.
- ♦ Ensure greater representation of SC/ST community members in VEC, PTA and other forms of school management committees.
- ♦ Using teachers available locally and upgrading their skills periodically.
- ♦ Monitoring of attendance, retention and achievement of all learners.
- ♦ Provision of extended facilities in schools in the form of hostels and other facilities that may be essential to enroll and sustain the participation of children belonging to tribal population groups.
- ♦ Converge between the schemes of the education department, tribal welfare department and social welfare department would be necessary to get the maximum returns and to develop a consistent approach to educational development of the deprived.
- ♦ Improve the availability of locally relevant teaching learning materials especially for the tribal children.
- ♦ All SC/ST children attending school should be provided with incentives in terms of free textbooks, uniform, stationery, scholarship, transport allowance upto Rs. 250 per child per year to defray the indirect opportunity cost of education.

The working Group has also projected the enrolment trends to achieve the UPE/UEE by 2007. However, such estimates are not available for the SC and ST children.

Concerns for gender equity in DPEP

Since its inception, the DPEP identified low participation of girls in primary education as a major



All SC/ST children attending school should be provided with incentives in terms of free textbooks, uniform, stationery, scholarship and transport allowance

factor hampering the drive towards UEE. It was therefore realized that a deeper understanding of the factors that inhibit girls' participation and retention should be examined in detail. The baseline and other studies conducted at the beginning of DPEP, duly incorporated gender and social assessment as key areas of investigation. As a result, a fair understanding of the equity concerns that DPEP had to address was developed through baseline assessment studies as well as through the few years of the DPEP program implementation.

The range of issues affecting low participation of girls, especially for those belonging to poor and socially orthodox families was large and varied from one region to another. Similarly, low participation of girls from SC and ST families required a different type of approach and was the result of lack of adequate family income and the need to support the family in household chores and other routine work.

The reasons for low participation of girls ranged from non availability of schooling facilities within the smaller habitations and the poor quality of infrastructure. Lack of women teachers, economic compulsions, illiteracy, high opportunity cost of sending children to schools, lack of attitude and social taboos were major factors affecting the girls education. The usual approach of looking at educational development from the supply side was not appropriate in such situations. It was also found that even when the schools were available either within the habitations or at a walking distance from the habitations, the social distance remained a major handicap. Therefore, the DPEP rightly recognized that removing social distance and change in attitude of community is as important as plugging the supply side constraints.

Special attention is being given to remove gender bias in textbooks and other instructional materials. These issues are accorded high priority at the time of revision of textbooks and materials.



The baseline and other studies also showed that poor retention of girls could be attributed to two major factors. The first is the tendency of the parents to withdraw the girls from schools after the attainment of pre puberty stage (usually 9+ years). The second set of factors relate to the school environment. Many school teachers had a negative attitude towards girls' education and hence the girls were made to sit separately and often confined to back benches. The participation of girls in classroom interaction was also low. Teachers do not encourage girls to fully express themselves during classroom interactions. Long spells of absence from schools also affects the continuation of girls considerably.

The studies also revealed that general prescriptions for the education of girls and for the other socially and economically deprived groups of population would not work. The contextual factors need to be taken into account while planning for their enrolment and retention. Therefore, target oriented approach even in the decentralized context would be essential to have sustainable gains. The DPEP, therefore, adopted a multi-dimensional approach which included general strategies for encouraging girls' education and also a focused and target oriented approach. The gender strategies under DPEP can be summarized as under:

- ♦ Gender perspective is taken as an integral part of the project preparation, implementation and monitoring. The District Information System for Education collects school level information on various dimensions of gender and social groups. Disaggregated data on enrolment, teachers, distribution of incentives and repeaters by gender and caste group has helped the states and districts in articulating gender interventions which are based on the ground situation. Similar

is the case for the educational planning of SC and ST communities.

- ♦ Strengthening of research base on educational issues in general and that of girls, children with special needs and SC and ST groups. The assessment and outcome of DPEP interventions is also made through mid term evaluations, annual reviews, JRMs, external evaluation studies and through many other participatory processes.
- ♦ Creation of a girl friendly environment and to promote joyful learning in the schools through awareness building among the communities as well as among the teachers;
- ♦ Emphasis on gender sensitive issues in teacher training curriculum and training teachers through the dissemination of special materials and the use of interactive processes. Methods for reducing gender bias practices in the classrooms are discussed with all teachers during the training programs as well as in discussions at the CRC and the BRC meetings.
- ♦ Gender sensitization programs for educational administrators especially at the district and sub-district level.
- ♦ Appointment of more female teachers.
- ♦ Redeployment of existing teachers so that mismatch in the placement of male and female teachers is reduced. It is anticipated that all schools should have a minimum of one female teacher.
- ♦ Strengthening of Mahila Samakhyas and other programs of women's empowerment in rural areas. Convergence between women development programs and educational initiatives can yield quick results.
- ♦ Strengthening of ECE as a support for enrolment and retention of girls at primary stage.
- ♦ Special attention is given to remove gender bias in textbooks and other instructional materials. These issues are accorded high priority at the time of the revision of textbooks and other instructional materials.

In addition to the above, the representation of women has been made mandatory in all type of

elected bodies at the village level. For example, one third members in the VEC have to be women. Reservations for women are also available in Panchayati Raj institutions at the village and higher levels. A bill for reservation of 33 percent seats for women in parliament is pending in the Parliament. These measures have created an environment which is more conducive for sustaining educational reforms aimed at improving participation and retention of girls in education.

As has been mentioned earlier, the selection of districts for inclusion in DPEP was based on female literacy rate. All DPEP districts, with the exception of Kerala, have low female literacy rate (less than the national average of 40 percent). The following indicators are used in various chapters of this study to highlight gender related issues.

- ◆ Share of girls in enrolment at various grades.
- ◆ Repetition rate for girls in various grades.
- ◆ Proportion of female teachers and their deployment.

The planning and program interventions based on the gender issues identified through above framework have resulted in a considerable improvement in access, participation, retention and achievement in general and that of girls in particular. Some of the emerging trends are discussed in the following paragraphs.

The available gender disaggregated data shows that a significant and consistent improvement in the share of girls to total enrolment is observed in the last few years. As a result of DPEP interventions, the share of girls, both in Group I and Group 2 districts has witnessed significant improvements. Overall, the share of girls improved from 45.6 percent in 1995-96 to 47.5 percent in 2000-01. Similarly, the Group 2 districts reported an increase from 43.6 percent in 1996-97 to 45.7 percent in 2000-01. The Group 3 districts for which only one year data was available include Phase 3 districts of Uttar Pradesh and 18 districts from Andhra Pradesh, which are reporting DISE data for the first time. The share of girls in Group 3 districts was 47.1 percent. The relative

backwardness of Group 2 districts is evident from the above presentation (Figure 3).

The share of girls at primary stage at the national level is taken from the provisional statistics of the MHRD (Selected Educational Statistics, 1999-2000). The data for 2000-01 is yet not available. The national statistics indicate almost stagnation in the share of girls to total enrolment for the last five years. The Group 2 districts, most of which happened to be most educationally backward, were almost at the same status as the national average in 1996-97. However, due to DPEP interventions these districts have registered considerable faster progress as compared to the national scenario. This reflects that gender strategies under DPEP have been more effective than what the state governments are usually doing in non DPEP districts.

It is imperative that DPEP and non DPEP states should adopt and extend the DPEP gender based interventions and strategies for the non DPEP districts as well. It is high time that the country should start a program of sensitization of non DPEP states about various successful strategies and their outcome. This would create an environment for sustaining successful educational reforms. A question which is relevant for the SSA relates to the adoption of gender sensitive strategies especially in those states which have already been covered under DPEP.

Figure 7.1
Trends in the Share of Girls Enrolment to Total Enrolment

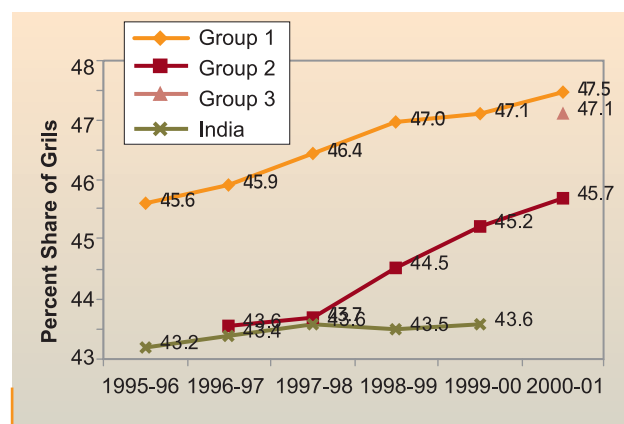


Table 7.1
Trends in the Index of Gender Equity

Category IGE	Number of districts					
	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01
Group 1						
<75	1					
75-85	5	5	3	1		
85-95	15	12	14	11	11	8
>95	18	22	22	27	28	31
Total districts	39	39	39	39	39	39
Group 2						
<75			3	1	1	
75-85			14	14	9	6
85-95			24	23	22	24
>95			40	43	49	51
Total districts			81	81	81	81
Group 3						
<75						
75-85						1
85-95						11
>95						39
Total districts						51

Differential in girls' enrolment across districts and states

While the aggregate picture shows positive trends as far as girls share to total enrolment is concerned, it would be necessary to examine the spatial dimension of this aspect. This would help us in understanding the extent of improvement in various districts over a period of time.

Index of gender equity

The Index of Gender equity as defined earlier in Chapter 1 was calculated for all districts. Both the time series as well cross-section analysis was attempted. The trends in the value of IGE are presented in Table 7.1.

It is considered that an IGE of 95 and more represents the absence of gender based inequities in enrolment. In 1995-96, at the time of the inception of DPEP, there were 21 districts where the IGE was less than

95. However, over the years, the number of such districts has been reduced to only eight (2000-01). Even these eight districts fall in the category of 85-95 value of IGE. Thus these eight districts are also not very far away from achieving gender equity. Six of the eight districts belong to Madhya Pradesh. These are: Dhar, Guna, Sidhi, Rajgarh, Ratlam and Mandsaur. Mallapuram district of Kerala falls on the margin with IGE as 94. Raichur from Karnataka is another district belonging to the category of IGE ranging between 85 and 95. Some of these districts were very backward as far girls' education was concerned and have covered lot of ground in the last few years. A small push at this stage would bring them in league with the other districts where gender based inequities are nearly absent.

The overall position with regard to Group 2 districts is not as easy as for the Group 1 districts. While 51 of the 81 districts for which analysis was done, the

IGE exceeds 95 thus showing the near absence of gender disparities in majority of the Group 2 districts. The data on IGE for the last three years shows persistence of gender disparities in some districts especially in the 85-95 category. While there is no district with less than 75 as the value of IGE, the 6 districts falling in 75-85 range are a matter of concern. Out of the six districts belonging to the 85-95 category of IGE, three belonged to Bihar, 2 to Uttar Pradesh and 1 to Madhya Pradesh. The names of the districts are: Paschim Champaran, Sitamarhi, Darbhanga, Jhabua, Gonda and Sidharathnagar. Special efforts are required to identify pockets of low coverage of girls and develop interventions so that more and more girls are brought to the formal or alternative schools.

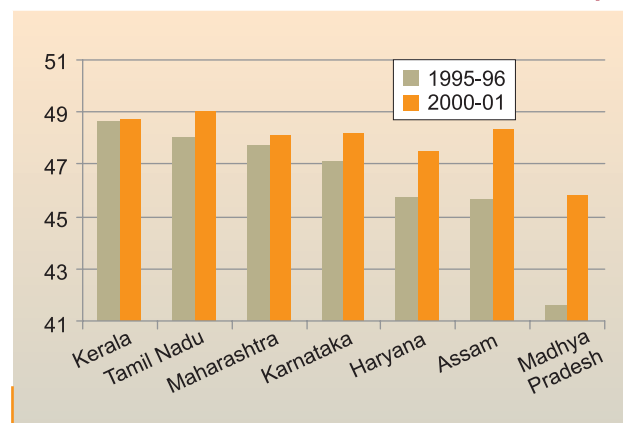
Group 3 districts also present a relatively satisfactory position as far as IGE is concerned. There were only 12 districts where the IGE was less than 95. With the sustained on going efforts, the situation is likely to improve soon.

Share of girls to total enrolment

The share of girls to total enrolment was also examined for the DPEP states and districts (Figures 4 and 5). The ranking of the states shows that Madhya Pradesh among the Group 1 states and Bihar and Uttar Pradesh among the Group 2 states show significantly lower proportion of girls enrolment to total enrolment (Table 7.2). The districts showing low participation of girls in these states have already been identified. In addition to the districts mentioned above, there may be some pockets of low participation in other districts as well. In order to improve the overall situation, the pockets of low participation and retention even in educationally advanced districts need to be identified to bring about total equity in girls participation in primary education.

Further analysis of the data presented in Table 7.2 shows three type of state level profiles as far as share of girls to total enrolment is concerned. These are:

Figure 7.2
Trends in the Share of Girls Enrolment: Group I



- High share at the inception of DPEP and high share now.
- Low share at inception of DPEP and high share now.
- Low share at inception of DPEP and low share now.

It is the third category of districts/states which are a major cause of worry. Bihar is the only state for which the share of girls enrolment registered only marginal increase from a low base. For example, in 1997-98, the share of girls was 39.2 percent which increased to 41.4 percent in 2000-01 and still continues to be the lowest. The situation in Bihar is further complicated if we consider that it was the first state to be covered under any large scale primary education project. The Bihar Education Project was implemented in Bihar with the UNICEF assistance in early nineties. It seems that the impact of BEP on girls enrolment has not been significant enough to ensure that majority of girls attend school regularly.

The impact of BEP on girls enrolment has not been significant enough to ensure that majority of girls attend school regularly.

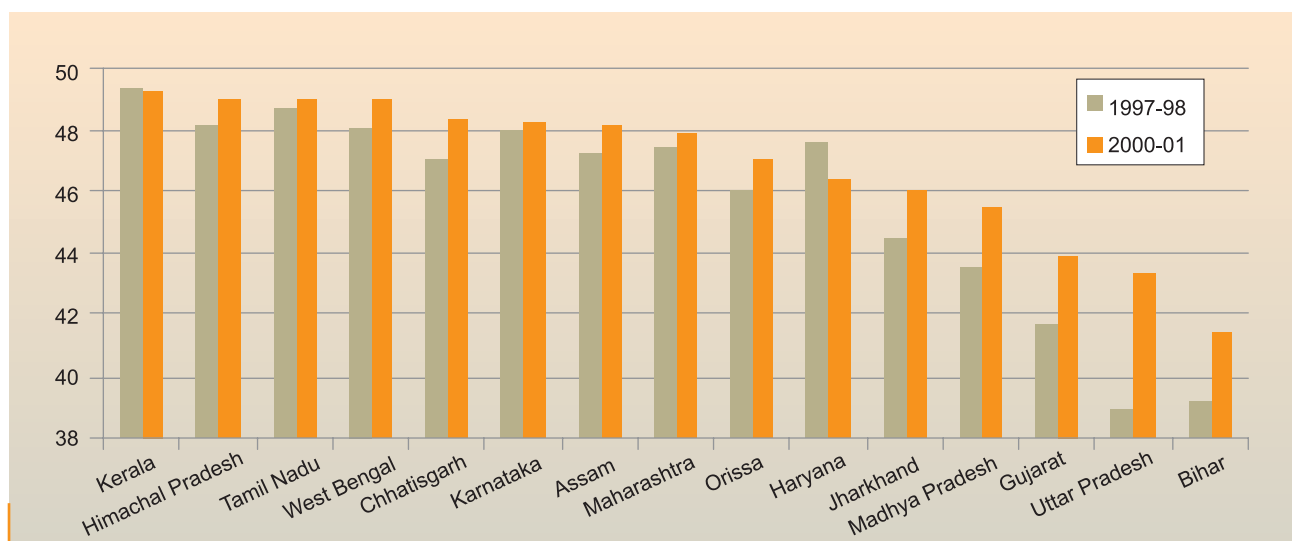


Table 7.2
Trends in Share of Girls Enrolment to Total Enrolment (Primary Grades)

State	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	Rank 2000-01
Group 1							
Tamil Nadu	48.0	48.2	48.4	48.7	48.8	49.0	1
Kerala	48.6	48.6	48.7	48.7	48.7	48.7	2
Assam	45.7	47.2	47.7	48.1	48.2	48.3	3
Karnataka	47.1	47.3	47.4	47.6	47.9	48.2	4
Maharashtra	47.7	48.0	48.2	48.3	48.2	48.1	5
Haryana	45.8	46.0	46.7	47.1	46.8	47.5	6
Madhya Pradesh	41.6	42.3	43.1	44.3	44.9	45.8	7
Average Group 1	45.6	45.9	46.4	47.0	47.1	47.5	
Group 2							
Kerala			49.3	49.3	49.4	49.3	1
Himachal Pradesh			48.2	48.7	48.9	49.0	2
Tamil Nadu			48.7	48.8	48.9	49.0	3
West Bengal			48.0	48.2	48.7	49.0	4
Chhatisgarh			47.1	43.8	55.9	48.3	5
Assam			47.2	47.7	48.0	48.2	6
Karnataka			47.9	48.0	48.1	48.2	7
Maharashtra			47.4	47.9	47.9	47.9	8
Orissa			46.0	46.3	46.7	47.0	9
Haryana			47.6	47.4	47.6	46.3	10
Jharkhand			44.4	45.1	45.3	46.0	11
Madhya Pradesh			43.5	44.3	44.8	45.5	12
Gujarat			41.7	42.6	43.2	43.8	13
Uttar Pradesh			38.9	40.4	41.6	43.3	14
Bihar			39.2	40.1	40.5	41.4	15
Average Group 2			43.7	44.5	45.2	45.7	
Group 3							
Uttaranchal						50.2	1
Andhra Pradesh						47.7	2
West Bengal						47.6	3
Uttar Pradesh						46.4	4
Average Group 3						47.1	

Within each Group, the States have been arranged in descendig order of last col.

Figure 7.3
Trends in the Share of Girls Enrolment: Group 2



Compared to Bihar and many other states in India, the state of Uttar Pradesh has done remarkably well as far as girls education is concerned. Its rank was lower than Bihar in 1997-98. However, in the last four years, the share of girls improved from 38.9 percent to 43.3 percent. Some of the districts in Uttar Pradesh were as backward as those in Bihar

Inter grade differences in girls' enrolment

Another issue which requires immediate attention is the decline in girls share as one progresses from grade 1 to Grade 5. While the gap between the share in the Grade 1 and grade 5 is reducing over time, more focused attention is required to improve retention and completion among girls. This is essentially a reflection of low retention of girls as compared to boys. While the analysis has shown lower repetition rates for girls, due to high dropout rates the transition rates tend to be low. For example, in Group 1 districts, the share of girls in Grade 1 stands at 47.8 percent; the same is not true for their share in Grade 5, which stands at 45.5 percent (Table 7.3).

The issues related to low retention are more pronounced in Group 2 districts. In Grade 5 the share of girls was only 42.3 percent as compared to 46.4 percent for Grade 1. The available evidence thus indicates that Group 2 states/districts should

develop more focused strategies to improve girls participation in primary education.

Predominantly SC and ST schools

Since the inception of development planning in India, great care has been taken to expand access in unserved habitations. The NCERT surveys have identified the SC and ST dominated habitations so that additional care can be taken to provide schooling facilities within and around the SC/ST dominated habitations. The state governments have relaxed conditions for establishment of schools in habitations which are predominantly SC/ST. The DPEP has also given considerable emphasis to expansion of access in tribal areas by opening NFE centres, alternative schools, community schools and schools under the Education Guarantee Scheme. Despite these initiatives there are still many habitations where the children in the school going age group do not have proper access to either a full time or a part time educational facility.

The DPEP districts vary considerably in terms of the geographical area, number of habitations, topographic features, population structure and demographic characteristics. As mentioned earlier, the patterns of the spatial dispersion of SC and ST population vary considerably across space. The SCs have characteristics of dispersed minority but the

Table 7.3
Trends in the Share of Girls by Grades

Academic year	% Girls Enrolment to Total Enrolment by Grade				
	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
Group 1					
1995-96	46.8	46.1	45.7	45.0	42.5
1996-97	47.0	46.4	45.7	45.2	43.8
1997-98	47.8	47.0	46.2	45.6	44.1
1998-99	48.1	47.9	46.8	46.2	44.4
1999-00	47.8	48.0	47.5	46.4	44.7
2000-01	47.8	48.0	48.0	47.3	45.5
Group 2					
1996-97	44.7	44.0	43.7	42.8	38.2
1997-98	45.3	44.3	43.3	42.5	39.1
1998-99	45.9	45.4	44.4	43.4	39.7
1999-00	46.1	46.0	45.5	44.6	41.3
2000-01	46.4	46.2	45.9	45.4	42.3
Group 3					
2000-01	47.7	47.5	48.0	46.4	45.0

STs could be classified as concentrated minorities. It is easy to identify areas of ST concentration as compared to areas of SC concentration. In view of these characteristics, some schools have high proportion of children belonging to these communities. The school level data for 2000-01 was used to classify schools into various categories based on the share of SC and ST enrolment to total enrolment in the school (Table 7.4).

The analysis covered 63,046 schools belonging to Group 1 districts, 145,178 to Group 2 districts and 111,291 schools belonging to Group 3 districts. Out of these 74,811 schools comprising 23.4 percent of the total schools had more than 60 percent of their pupils belonging to SC and ST categories taken together.

Two districts from Phase II states, namely The Dangs in Gujarat and Lahul and Spiti in Himachal Pradesh had more than 80 percent of SC/ST enrolment in more than 90 percent of their schools. The whole of the Dangs and Lahul and Spiti districts are treated

as tribal districts.

In Assam, 35.5 percent schools in Group 1 districts had more than 80 percent students belonging to SC and ST groups of population. This was followed by Maharashtra where the corresponding value was 22.9 percent for the SC and ST students. Many districts of Maharashtra covered under DPEP belong to educationally backward area of *Marathwada*. These areas have also large concentration of SC and ST population. The Phase II districts of Maharashtra had a much larger concentration of SC and ST population and this is reflected in Table 7.4. It is observed that 38.4 percent schools in Group 2 districts of Maharashtra had more than 80 percent children belonging to SC and ST categories. This was followed by Gujarat and Orissa. Among the Group 3 districts, West Bengal had 26.9 percent schools where the share of SC and ST students was more than 80 percent. The large number of schools with concentration of SC and ST population makes it easy to implement school based reforms for improving the internal efficiency and effectiveness of schooling.

Table 7.4
Distribution of Schools by Share of SC and ST Enrolment to total Enrolment: 2000-01

State	Share of SC and ST Enrolment to Total Enrolment					Total	% enrolment of SC and ST in 80%+ category (col. 6)
	0-20%	20-40%	40-60%	60-80%	80%+		
I	2	3	4	5	6	7	8
Group 1							
Assam	50.5	5.2	4.9	3.9	35.5	100	74.0
Maharashtra	17.4	28.2	19.3	12.2	22.9	100	29.1
Madhya Pradesh	32.1	26.2	15.6	8.6	17.4	100	28.3
Tamil Nadu	47.0	19.2	13.1	8.3	12.4	100	27.7
Karnataka	46.7	22.7	14.6	7.8	8.3	100	17.0
Haryana	27.0	39.0	21.2	8.7	4.1	100	7.9
Kerala	81.3	14.0	3.0	1.0	0.7	100	2.2
Average Group 1	37.0	23.4	14.7	8.4	16.6	100	28.1
Group 2							
Maharashtra	19.6	19.0	14.0	9.0	38.4	100	47.1
Gujarat	41.9	13.8	5.1	4.4	34.7	100	65.4
Orissa	11.5	18.8	20.0	17.0	32.7	100	40.8
Madhya Pradesh	26.5	23.0	14.2	9.0	27.3	100	41.1
Jharkhand	27.9	19.0	14.2	12.1	26.8	100	38.3
Assam	57.6	7.3	5.4	3.5	26.1	100	63.8
Himachal Pradesh	27.9	20.3	17.0	11.1	23.7	100	32.2
West Bengal	34.6	16.9	15.7	13.7	19.0	100	35.9
Chhatisgarh	29.2	22.9	17.5	14.7	15.7	100	19.3
Karnataka	44.5	25.1	12.7	6.6	11.1	100	22.8
Tamil Nadu	51.5	24.8	12.0	5.1	6.6	100	16.2
Uttar Pradesh	37.1	32.6	18.2	7.3	4.8	100	12.3
Bihar	59.8	25.2	8.7	3.3	3.1	100	7.6
Kerala	59.5	31.2	5.0	2.5	1.9	100	3.8
Haryana	52.9	33.1	10.1	2.7	1.1	100	4.2
Average Group 2	36.7	22.8	13.8	8.5	18.2	100	30.9
Group 3							
West Bengal	29.0	15.4	15.0	13.7	26.9	100	46.0
Andhra Pradesh	56.6	15.6	8.9	5.7	13.3	100	32.6
Uttaranchal	51.6	21.2	13.1	7.3	6.8	100	17.0
Uttar Pradesh	28.6	34.4	23.9	9.4	3.7	100	7.4
Average Group 3	43.1	23.2	15.5	7.9	10.4	100	

Note: the states have been arranged in terms of descending order of Col. 6 within each Group.

The state of Assam shows a unique type of distribution of school enrolment profile. Majority of the schools have much lower concentration of SC and ST students and is followed by large concentration of SC and ST students in other schools. This trend is quite different from other states and is reflection of high concentration of SC and ST population in selected habitations/villages.

In addition to above, the dispersion of SC and ST enrolment is an important factor affecting the participation, retention and quality of learning. The above distribution shows that Kerala is a unique example where the SC and ST students are well integrated into general schools and there are no schools having large concentration of SC and ST students. Similar trends were also observed in Haryana.

The larger share of SC and ST enrolment in selected schools is evident for the state of Assam, Maharashtra, Gujarat and Orissa. For example, in Assam, 35.5% schools having more than 80 percent children from SC and ST groups accounted for 74 percent of SC and ST enrolment. Therefore, the educational profile of the schools which are predominantly SC/ST should be developed identify special problems, if any.

Schools having larger concentration of SC/ST enrolment had a higher proportion of SC and ST

teachers (Table 7.5). For example, in schools with more than 80 percent SC and ST students, there were 49 percent SC and ST teachers in Group 1, 50.5 percent in Group 2 and 28.3 percent SC and ST teachers in Group 3 districts. It is expected that as the proportion of teachers belonging to SC and ST categories increases, their deployment would also be proportionate to schools dominated by SC and ST students.

The implications of the above analysis for DPEP are obvious. The first implication is for teacher training. It is important that teachers teaching in schools dominated by SC and ST students are provided additional inputs for handling not only the first generation learners but the first generation learners from the socially and economically vulnerable groups of population. The second implication is for the identification of such schools at the district level to provide for more focused and ongoing support to these schools by the BRC and CRCs. The processes of pedagogical renewal have to be closely watched in areas of concentration of SC and ST students. It is quite possible that some remedial teaching may be required for learners in these schools. Third, these schools should be on the special watch list, as far as timely distribution of special incentives is concerned. There are many instances when the problems with the delivery of incentives were reported. Fourth, the community organizations including VECs have to be made more responsive in the areas dominated by the SC and ST families. This would bring a sense of involvement and a positive attitude among the respondents. Often, the community organizations are weak and strife ridden in these areas. Finally, the policies regarding the deployment of teachers should be reviewed periodically. Not all schools are similar nor are the teachers. Only those teachers should be posted in these schools, who have a greater aptitude for teaching socially and economically deprived children.

SC and ST enrolment profile
As mentioned earlier, the SC and ST population is not uniformly distributed across space. Some districts

Table 7.5
Deployment of teachers in SC/ST dominated schools

Schools in SC/ST enrolment category	% SC/ST teachers		
	Group 1	Group 2	Group 3
0-20%	12.2	12.9	9.9
20-40%	20.0	18.4	13.4
40-60%	23.7	25.2	17.5
60-80%	28.5	32.5	21.6
Above 80%	49.0	50.5	28.3
Overall average	21.3	22.4	14.3

have larger concentration of SC or ST population. In order to understand the problems of the education of the SC and ST children, the share of their enrolment to total enrolment was calculated. It is observed that 26 out of a total 191 districts for which data was examined reported less than 20 percent enrolment belonging to these communities. Most of the district reported 20-35 percent of their enrolment in the SC and ST category. There were 23 districts where the enrolment share of SC and ST exceeded 50 percent. Therefore, these districts could be classified as predominantly SC/ST districts as far as primary education is concerned (Table 7.6).

Index of social equity

Like IGE, an index of social equity for the SC and ST population was also calculated for those districts where the share of SC or the ST population was more than 5 percent. The index is named as ISEsc and ISEst respectively. Before interpreting the results a few limitations of the index of social equity should be understood.

The index is based on the population share of SC and ST communities for 1991. If there are any changes in the population composition of the districts during the nineties, these would not be captured by the index. Similarly, if the caste composition is changed after 1991 by adding or deleting some caste groups, the results may not remain valid as the corresponding data would become available in 2001 census tabulations. Moreover, it is also assumed that the age



An index of social equity for the SC and ST population was calculated for those districts where the share of SC or the ST population was more than 5 percent.

composition of the SC and ST population remains the same over a period of time. Some districts were bifurcated after 1991 but the estimates of their SC and ST population are yet not available. ISEsc may record a value of more than 100 due to the presence of underage and overage children or due to changes in the population composition over the years. The data for 2001 population is yet not available for the SC and ST groups.

There were 152 districts for which the share of SC population was more than 5 percent. 36 of these districts belonged to Group 1, 75 to Group 2 and 41 to Group 3 states (Table 7.7). Similarly there were 69 DPEP districts for which the share of ST population was 5 percent or more. Of these 19 districts belonged to Group 1, 40 to Group 2 and 10 to Group 3 states (Table 7.8). Some districts from DPEP Phase I could not be included due to the absence of data for 2000-01.

The analysis of ISEsc as presented in Table 7.7 indicates that SCs have generally kept pace with the overall enrolment trends. 33 of the 36 districts in Group I indicated the near absence of disparities in

Table 7.6
Distribution of DPEP Districts by the Share of
SC and ST Enrolment: 2000-01

Group	Distribution of Districts by Share of SC and ST enrolment					
	<= 20	20-35	35-50	50-65	65 +	Total
1	5	18	12	3	1	39
2	12	40	18	10	6	86
3	6	31	23	1	1	62
4	3			1		4
Total	26	89	53	15	8	191

Table 7.7

Trends in Index of Social Equity (ISE_{sc})

Distribution of districts by ISE _{sc}					
ISE _{sc}	1996-97	1997-98	1998-99	1999-00	2000-01
Group 1					
<=75	1	1			
75-85	1				
85-95	1	1	1	2	3
95-105	6	4	4	3	2
>=105	27	30	31	31	31
Total Group 1	36	36	36	36	36
Group 2					
<=75		6	7	7	7
75-85		2	1		
85-95		1	1	4	2
95-105		13	12	8	9
>=105		53	54	56	57
Total Group 2		75	75	75	75
Group 3					
<=75					2
85-95					1
95-105					2
>=105					36
Total Group 3					41

enrolment of SC and others. Similar is the situation with respect to Group 2 and Group 3 districts.

There were seven districts belonging to Group 2 which had persistently shown lower values of ISE_{sc} (less than 75). All the seven districts in this category belonged to Karnataka. These districts were: Dharwad, Bangalore Rural, Mysore, Bijapur, Bellary, Bidar and Gulbarga. It is also observed that the same seven districts belonged to this category during 1999-00 also. Thus the relative stagnation in the position of these districts is a matter of concern. Two districts from Group 3 states, namely, Vishakhapatnam and Nizamabad from Andhra Pradesh also low value for ISE_{sc} (less than 75). Therefore, efforts should be made to identify pockets

of SC concentration which do not have adequate access to primary education.

The Index of Social equity (ISE_{sc}) for the Group I shows that the ongoing efforts were not sufficient to bring about the desired results as far as ST children were concerned (Table 7.8). While there was considerable improvement in the first two/three years of DPEP, the gains have not been significant in the last two years. In fact, there has been some slippage so far as enrolment of ST children in formal schools is concerned. The number of districts with a value of less than 75 for ISE_{sc} remained at the same level while the number of districts in 95+ category declined from 13 in 1998-99 to 11 in 1999-00 and further to 10 in 2000-01. The districts with low

Table 7.8
Trends in Index of Social Equity (ISEst)

ISEst	Distribution of districts				
	1996-97	1997-98	1998-99	1999-00	2000-01
Group 1					
<=75	2	1	1	1	1
75-85	3	4	1	1	3
85-95	6	4	4	6	5
95-105		2	4	2	
>=105	8	8	9	9	10
Total Group 1	19	19	19	19	19
Group 2					
<=75		7	6	6	6
75-85		4	2	1	2
85-95		4	13	9	6
95-105		11	8	10	11
>=105		14	11	14	15
Total Group 2		40	40	40	40
Group 3					
<=75					3
85-95					1
95-105					1
>=105					5
Total Group 3					10

participation of ST were: Panna, Shahdol, Guna and Sehore in Madhya Pradesh. In Group 2 states, all the six districts belonged to Karnataka. Their names are: Bangalore Rural, Mysore, Dharwad, Bijapur, Gulbarga and Bidar. Similarly, in Group 3 states, the three districts with ISEst (75 and less) were: Nizamabad and Adilabad in Andhra Pradesh.

The foregoing analysis of the Index of social and gender participation indicates that the situation with respect to the participation of girls is relatively satisfactory in most of the districts. Similarly, the

enrolment of SC students is also commensurate with their share in population. Fewer districts are still far away from achieving the target of social equity. However, when it comes to ST enrolment, the situation is not as satisfactory. There are signs of stagnating share of enrolment of STs to total enrolment. Many districts continue to have lower share of ST enrolment as compared to their share in the population. While lot of efforts were made to improve access to primary education in tribal areas through AS/EGS schools, more focused attention needs to be given to formal primary schools also.

Maps:

Fig 1 and fig 2: Share of Sc and St population to total population in 1991.

Dummy text in the place of introduction: The analysis of population and demographic profiles of the DPEP districts show considerable variations in the population density and the spatial distribution of population in various settlements.



Grade repetition

The Grade repetition is an important indicator of internal inefficiency of an educational system. The higher the value of Grade repetition, the greater is the inefficiency of the school. Whatever may the reasons for repetition, it is the responsibility of school teachers to ensure that all children complete primary education cycle in the specified period. Therefore, reduction in repetition rate is a major component of educational reforms in developing countries.

8.1 Issues in Grade repetition

In India, the state governments have laid down the norms for students' evaluation at the end of each academic session. Generally, the students are not promoted to the higher Grade for two reasons, namely, the poor academic performance or unsatisfactory attendance. Many states are also implementing no detention policy, whereby the students are not detained in particular Grades due to poor academic performance.

There are two other factors that affect the school performance and leads to wastage of scarce resources. The first is when a child leaves the educational system without completing a particular cycle of education and the second relates to under achievement of the prescribed competencies and skills even after the child has successfully completed the primary education cycle. This former phenomenon is usually referred to as dropout and the latter as low achievement.

There could be a difference of opinion as to how the dropout and repeaters students should be accounted for especially in terms of their literacy and numeracy achievement and other development skills. In the educational planning literature, these are known as components of wastage. The profile of repeaters and dropouts is thus an important area of study in educational planning. The present chapter addresses some important dimensions of Grade repetition and to some extent the dropout question also.

The concept of internal efficiency in education has some advantages, especially when it is used as a diagnostic tool for inter-regional and temporal analysis.



Theoretically, the concept of efficiency evolved during the study of the relationship between input and output of an industrial production system. In simple terms, the objective of any production system is to optimize output for a given input or to minimize inputs to produce a certain amount of output. Since the inputs and outputs are of different types and quantities, the efficiency of a production system is usually measured in terms of the monetary value of the outputs and inputs. The efficiency of the production system thus keeps on changing as the prices of inputs and outputs vary. A production process which is efficient at one of time may become inefficient at another due to relative changes in the prices of inputs and outputs.

Notwithstanding the above limitations of the approach, the concept of efficiency has also been applied to social sector programs including that of education. There are numerous problems of measuring efficiency of the educational system and its sub-systems. The major problem arises from the fact that the inputs and outputs of the social sectors are not homogenous in terms of their quality across space and time. Similarly, the monetary value of inputs and outputs of the social sector programs can not be measured accurately. In view of this, a basic concern for efficiency analysis in education remains as to how do we define the inputs and output of the educational system so that the assumptions of homogeneity and the measurement of the value of inputs and outputs are not violated? One can even challenge the assertion as to whether a value can be computed for the output of the educational cycle. There are no easy answers available to these questions.

Despite these constraints, the educational planners

often measure the input and output of the school system in a very simplistic way. One such approach consists of considering the input and output of a given cycle of education as the number of students who enter and consequently those who complete (graduates) the cycle respectively. This is a restricted definition of input and output as it is based on some very strong assumptions. This definition assumes that the dropouts do not acquire any of the expected skills and competencies during their stay in the school system and hence the value of output is zero for dropouts. In practice, this assumption does not hold good even at the primary stage. The assumption regarding the homogeneity of inputs and outputs is also violated in education. The problems of output measurement further get complicated if the achievement levels of the graduates are considered which are not the same for a cohort of students. Moreover, the value of education is different to different type of graduates.

Similarly, there are some assumptions involved in measuring inputs. Stated simply, the inputs into the educational system are teachers, instructional materials, buildings and other support services which can be aggregated financially in terms of budgetary allocations or expenditure per pupil-year. In the efficiency analysis, the inputs are generally expressed in terms of the pupil-years, which is a non-monetary measure. Therefore, the efficiency analysis assumes that expenditure per pupil-year is constant for all students in the educational system, which is generally not true. The methodology of efficiency analysis in education is not clear as to how the above factors can be brought within the framework of quantitative analysis. Moreover, the concept of internal efficiency is applicable only to those situations where the conventional age-Grade pattern is followed in a closed system. Despite the limitations mentioned above, the application of the concept of internal efficiency in education has some advantages, especially when it is used as a diagnostic tool for inter-regional and temporal analysis. Therefore, while interpreting the results of internal efficiency, the limitations mentioned above must be fully recognized.

The two factors adversely affecting the internal efficiency of an educational system are dropout and Grade repetition. There are various exogenous and endogenous factors due to which the internal efficiency varies from school to school. Among the school related factors, Grade repetition is negatively correlated with school effectiveness. In order to overcome the problem of Grade repetition among first generation learners, many states are following a policy of 'no-detention' for the first few years of schooling. This was considered necessary to ensure that all children, especially the first generation learners are not detained due to poor academic performance. Under the policy, a child can only be detained in a school if (s)he fails to complete a specified proportion of attendance, usually 80%. The

no detention policy was based on assumption that once a child stays for 2-3 years in a school, the chances of dropping out or Grade repetition reduce considerably. Therefore, under the no-detention policy, the repetition rates should be practically zero in those states where such a policy is in operation. Queries revealed that 'No detention policy' is operative in all DPEP states excepting in the state of Tamil Nadu where the annual examinations are held at the end of each Grade. Some states have even gone to the extent of specifying that no end term examinations will be held till Grade IV and all children will appear for a qualifying examination at the end of Grade V (Table 8.1). The ground reality is different. In actual practice a large number of children continue to be shown as repeaters in Grade

Table 8.1
Status of on detention policy in DPEP states

Sl. No.	State/U/T.	Status of examination/no detention
1.	Assam	No detention policy for Grades I/II. The first examination is to be conducted for Grade III.
2.	Bihar	No detention in classes I to VIII with minimum attendance of 75%.
3.	Gujarat	The Examination is taken in all classes of primary schools. In lower standard, promotion is on the basis of attendance/examination.
4.	Haryana	No examination in classes I to IV. There is examination in Class V.
5.	Himachal Pradesh	Internal annual exam in Classes I to IV and VI to VII. External exam in Classes V and VIII. No detention policy in Classes I to III.
6.	Karnataka	No detention in Classes I and II based on 70% attendance. Annual Examination from Classes III to VIII.
7.	Kerala	No detention policy only in class I.
8.	Madhya Pradesh	Board Examination in Classes V and VIII. Annual Examinations in Classes III, IV, VI and VII. No detention policy for classes I and II.
9.	Maharashtra	Instead of exams, competency based tests are given for continuous evaluation of the students in standard I to IV. Annual Examination system is in existence in the state from Standard V onward.
10.	Orissa	Annual Examination in Classes I to VIII. Board Examination in Class VII. No detention in classes I to IV.
11.	Rajasthan	No exam in Classes I and II. No detention in classes I and II. Annual exam in classes III to VIII.
12.	Tamil Nadu	No automatic promotion in any class. School level examination for classes I to V; and block level examination in classes VI to VIII - evaluation at adjoining school.
13.	Uttar Pradesh	Annual examination from classes I to VIII. No detention in classes I and II.
14.	West Bengal	No annual examination in classes I to IV. No detention in Classes I to III.

Source : Department of Elementary Education and Literacy, MHRD.



Many states follow a policy of 'no-detention' for the first few years of schooling. This is to ensure that all children, especially the first generation learners are not detained due to poor academic performance.

I - II for the following reasons:

- a) The child is not regularly attending the school.
- b) An underage child is enrolled in Grade-I to boost enrolment and then subsequently shown as repeater till attaining the age of entry to the Grade-I. This practice is practically followed in all states.
- c) A child is shown as enrolled whereas he/she may be a long term absentee. It is reported that there are government instructions in some states which clearly mention that a child once enrolled should be allowed to remain on the school rolls even if he/she had not attended the school at all. Such children are shown repeaters over the years.
- d) The teachers are not aware of the operational aspects of the no detention policy and continue to hold end term examinations and detain the children on academic grounds.

The artificial or induced repetition as a result of above factors can provide misleading signals regarding the school effectiveness. Over reporting of enrolment is a common phenomenon in many states and needs to be curbed so that a realistic analysis is possible to identify the causes for poor internal efficiency.

There are large numbers of studies, which have tried to examine the magnitude and the reasons for dropout (Srivastava, 1999). These studies are based on aggregate data and have little utility for decision makers at the grassroots. However, there are not many empirical studies where the causes of repetition have been examined. It is therefore not possible to find out the exact magnitude and the reasons for repetition. However, it is important to observe that repetition is essentially a school related

phenomenon. Once a child enters the school, it should be ensured that barring exceptional circumstances, the child does not repeat in any class and is able to complete the primary education cycle with specified competencies. Otherwise how do we plan to achieve UPE? A child who is lagging in studies should be identified at the beginning of the academic session and remedial coaching should be provided to avoid Grade repetition. The school with the cooperation of VEC members should also take the parents into confidence and involve them in the school affairs.

8.2 Grade repetition in India

The Grade repetition is usually measured in terms of repetition rate (RR). The RR can be examined to study the equity and social dimension of educational wastage. In the present study, the repetition rates were calculated for the primary cycle as well as for the individual Grades.

The perusal of educational statistics published by the MHRD and various state governments shows that not much importance has been given to the study of repetition. The Selected Educational Statistics published by the MHRD do not provide any data on Grade repetition. Education in India provides some data on repeaters but it is outdated and does not reflect the reality. The latest publication in the series pertains to 1992-93. The Sixth All India Educational Survey provides some data on repeaters for 1993-94. The Sixth Survey did not calculate the RR but provides the share of repeaters to total enrolment in the same years. The average percentage of repeaters for the country was 8.44 percent. Therefore, it is not possible to examine the all India trends in Grade repetition. Our studies in DPEP districts have shown that repetition is serious phenomenon in many states.

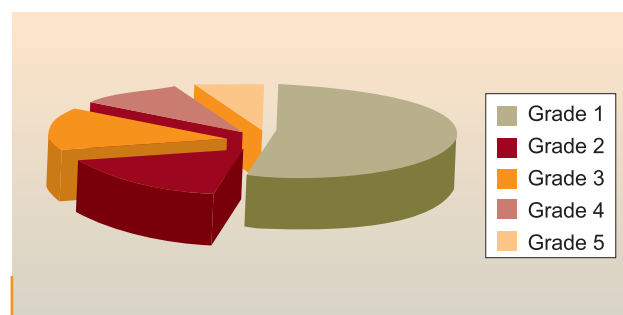
Table 8.2 provides the number of repeaters in various Grades in DPEP districts. Figure 8.1 present the share of each grade among the total repeaters. The data has been aggregated by the type of DPEP districts. During 2000-01 academic session there were approximately 3.2 million pupils who were

repeating in various Grades. This would mean that 3.2 million child years are lost due to repetition. It is also anticipated that many of these children would be potential dropouts.

If the DPEP repetition rate is applied for the non DPEP districts, the approximate number of pupils repeating Grades in primary education may be around 7.5 to 8 million. Even if it is assumed that an average expenditure of Rs. 1000/- per students is incurred, the total financial loss would amount to Rs. 750 to Rs. 800 crores per year. The household cost of education and the foregone earnings may increase the loss many fold. Imagine, how many less schools places would be required, if there was no repetition. With a 1:40 student per teacher, approximately 200,000 less teachers would have been required to maintain the same PTR. These numbers are large enough to raise alarm about the persistence of the problem of Grade repetition even when most of the states do not hold examination at the end of Grade I and II.

The problem of Grade repetition is highly localized as more than half the repeaters were in Grade 1, the very first year of regular study in the school. What is so bad about Grade 1 that so many children are forced to stay back? Is it true that the repetition is an artificial phenomenon which has been perpetuated due to vested interests of various types? Is it that many of the repeaters never attend the school and their names appear in school attendance/enrolment registers? Is it true that many first generation learners are repelled by the school

Figure 8.1
DPEP: Number of repeaters by Grade: 2000-01



environment and the lack of proper care and affection? Not easy answers to these questions are available. While educational research in areas of dropout has been plenty, there is hardly any evidence on the reasons for dropout. The DPEP should therefore, as a first priority, should sponsor and commission research in this vital area of school efficiency and effectiveness.

The extent of repetition varies from school to school. The analysis in the present study is limited to the district level but the districts are advised to calculate repetition rates for each school and identify the schools having high RR. Additional efforts may be required to reduce RR in schools with high RR.

The impact of DPEP intervention on RR is evident from table 8.3. There was a significant decline in average RR for Group I states till 1998/99. However, the states of Karnataka, Kerala, Madhya Pradesh and Maharashtra have shown an increase in RR for 1999/2000 over the previous year.

Table 8.2
Number of primary school repeaters by Grade, 2000-01

Group	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	(in thousands)
						All Grades
Group 1	163	91	104	86	68	512
Group 2	869	260	239	164	101	1,633
Group 3	569	140	108	63	24	904
Group 4	81	27	22	15	9	154
Total	1,682	518	473	328	202	3,203

Table 8.3
Trends in Grade repetition (Primary cycle)

State	Overall Repetition Rate					Repetition Rate (Girls)				
	95/96	96/97	97/98	98/99	99/2000	95/96	96/97	97/98	98/99	99/2000
Group 1										
Assam	32.9	26.6	21.4	24.4	19.8	33.6	27.1	21.6	24.5	19.8
Haryana	13.7	12.7	11.0	11.6	9.4	12.9	12.2	10.7	11.4	9.4
Karnataka	8.2	9.4	5.2	4.0	5.2	8.3	9.4	5.0	4.0	5.2
Kerala	2.2	9.6	4.7	4.2	4.4	1.9	8.2	4.1	3.6	3.8
Madhya Pradesh	5.5	4.9	3.4	3.5	4.0	5.6	5.2	3.5	3.5	4.1
Maharashtra	8.4	6.0	4.4	4.0	4.7	8.6	6.0	4.3	3.9	4.6
Tamil Nadu	11.2	9.3	9.2	9.1	8.0	11.1	9.2	8.8	8.6	7.5
Average group 1	9.0	8.7	6.6	6.5	6.3	9.2	8.8	6.6	6.4	6.3
Group 2										
Assam			24.4	28.6	17.9			24.7	28.7	18.0
Bihar			12.2	11.5	12.2			13.2	12.1	12.6
Gujarat			20.1	17.4	16.3			21.3	18.5	17.4
Haryana			8.7	9.9	8.1			8.7	9.9	8.0
Himachal Pradesh			12.5	14.4	12.6			12.1	13.6	12.0
Karnataka			7.8	6.5	7.5			7.8	6.5	7.4
Kerala			3.4	3.5	3.8			3.2	3.1	3.2
Madhya Pradesh			2.9	3.0	3.4			2.8	3.0	3.5
Maharashtra			5.5	4.6	4.1			5.6	4.6	4.2
Orissa			5.6	11.0	13.7			6.1	11.6	14.2
Tamil Nadu			10.2	9.9	9.6			9.7	9.3	8.9
Uttar Pradesh			6.1	3.5	2.8			6.4	3.6	2.9
West Bengal			9.4	8.8	10.9			9.5	8.9	11.0
Chhatisgarh			0.7	16.7	1.2			0.7	11.0	1.0
Jharkhand			12.2	10.8	12.0			12.8	11.2	12.2
Average group 2			9.0	8.2	8.1			9.3	8.5	8.2

Overall, the RR for group 1 states has shown a marginal decline from 6.5 percent to 6.3 percent between 1998/99 and 1999/2000. The RR for girls is not much different from the corresponding average for the state. Therefore, it is apparent that the RR for boys and girls are similar for group I states/districts. The highest incidence of repetition was observed for the state of Assam and is closely followed by Haryana.

The position in respect of group 2 states is different.

The overall decline in RR since the inception of DPEP has not been very significant. The overall RR declined from 9 percent in 1997/98 to 8.1 percent in 1999/2000. Since many educationally backward districts are included in Group 2, the RRs are generally higher. Of the fifteen states belonging to DPEP Group 2, as many as seven had more than 10 percent RR. The highest RR for 1999/00 was observed in Assam (17.9 percent) and was closely followed by Gujarat. Orissa and west Bengal have shown significant increase in RR during the last 2-3

years. The RR for girls has also increased in Orissa, West Bengal and Madhya Pradesh.

Trends in repetition rates for girls are presented in Fig. 8.2. persistence of high RR for Group 2 districts is evident. The decline in RR for group 2 districts is far less than that of the Group 1 districts. The statewide changes in repetition rates are shown in Fig. 8.3.

Since, the earlier analysis showed significantly higher repeaters in Grades as compared to other Grades, the overall RR for Grade 1 was also calculated (Table 8.4).

The districtwise repetition rates for year 1999/2000 were also calculated and are presented through Figure 8.4. Similarly the district level repetition rates for girls are shown in Figure 8.5. Districts falling in Group 3 could not be included in the maps as the data for two years is required to calculate repetition rates.

At the inception of DPEP-1, the problem of Grade 1 repetition was quite alarming in many states. For example, Assam had a RR of 51.5 percent in 1995/96. Part of the problem was with the enrolment statistics. However, due to consistent efforts for improving the quality of education, the RR came down to 29.5 percent in 1999/2000. Even this rate is unacceptably high and major efforts are required to improve the internal efficiency of the educational system.

Among the group 2 states, Assam, Bihar, Jharkhand, and Gujarat had similar problem of high repetition in Grade 1. A worrying aspect of RR among group 2 states is the relative stagnation or a smaller increase in the RR. For example, since 1997/98, the RR increased for nine out of a total of fifteen states. The states which recoded increase in RR are: Bihar, Himachal Pradesh, Karnataka, Madhya Pradesh, Orissa, Tamil Nadu, Uttar Pradesh, West Bengal and

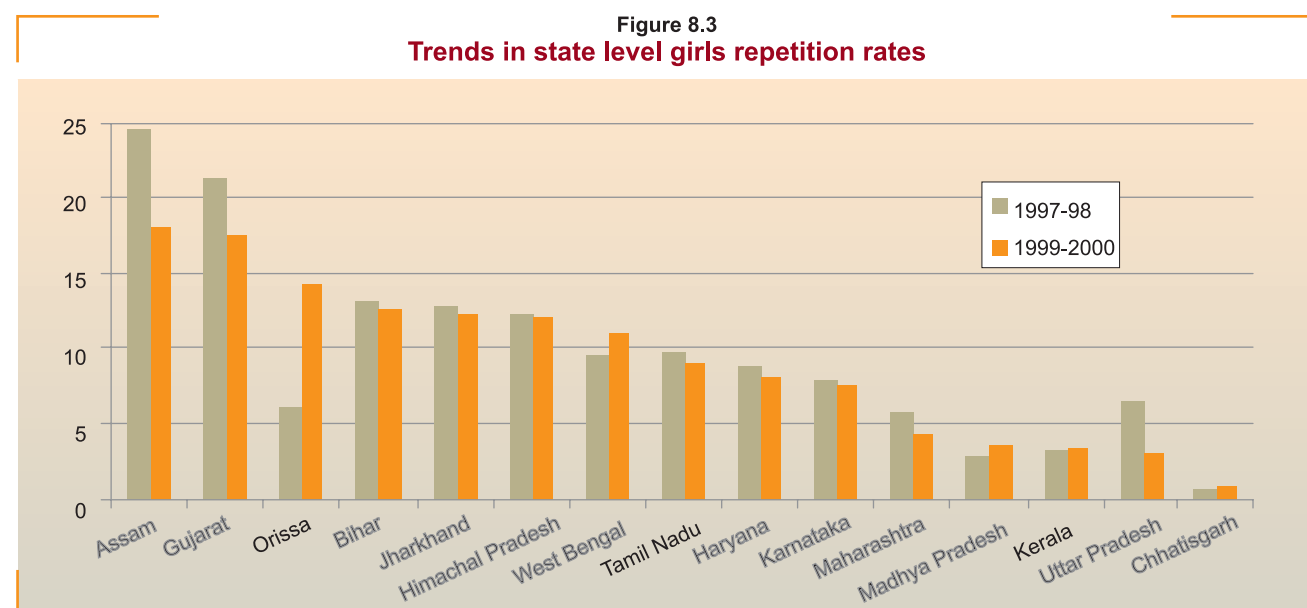
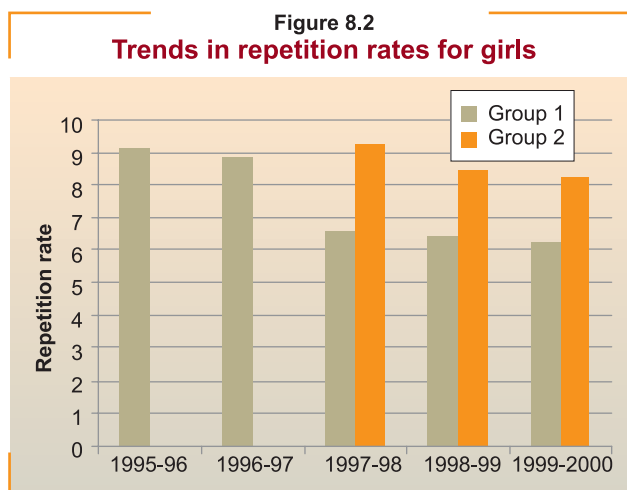


Table 8.4
Trends in Grade I repetition

State	95/96	96/97	97/98	98/99	99/2000
Group 1					
Assam	51.5	35.1	31.2	34.7	29.5
Tamil Nadu	12.9	10.8	11.6	9.3	10.8
Haryana	13.6	13.1	10.1	8.6	6.6
Maharashtra	10.1	7	4.5	4.9	5.4
Karnataka	10.5	10.6	5.6	4.1	4.3
Madhya Pradesh	4.9	3.6	2.9	3.1	4.2
Kerala	0.1	0.4	0.2	0.2	0
Average Group 1	12.4	11.4	8.9	8.7	8.3
Group 2					
Orissa			10.9	22.4	27.2
Bihar			24.5	23.4	25.7
Jharkhand			23.2	21.6	25.7
West Bengal			18.1	18.3	23.5
Gujarat			28.5	25.2	23.1
Assam			33.9	40.8	22.9
Himachal Pradesh			17.9	21.5	19.5
Tamil Nadu			12.9	13.3	13.8
Karnataka			5.7	6.2	6.5
Maharashtra			6.6	6.8	6.1
Haryana			5.7	6.0	5.1
Uttar Pradesh			9.2	5.0	3.8
Madhya Pradesh			2.6	2.6	3.3
Chhatisgarh			1.1	19.5	2.2
Kerala			0.0	0.1	0.0
Average Group 2			15.4	14.6	14.6

Note: the states are arranged in descending order of RR.

Jharkhand. What is more worrying is that in six of the fifteen states, more than one fourth students from Grade 1 repeat every year.

The above analysis again highlights the need for focusing on school reforms which specifically address the needs of repeaters. Many suggestions can be considered for this purpose. First, the academically

weak students should be provided with additional coaching much before the end of the academic session. Second, supplementary instructional materials may be developed for the academically poor performing students. Third, more experienced teachers should be appointed in low performing schools rather than appointing the fresher to the interior rural schools.

8.3 Repetition among SC and ST students

The repetition rates for SC students are presented in Table 8.5. Contrary to the general belief, the RR for SC pupils was lower than the corresponding rates for the total student population. Over the years, some states have also shown rapid decline in RR for SC students. The states of Assam, Gujarat, Himachal Pradesh and Orissa continue to have relatively higher RR. Some states have shown large variations in RR on year to year basis. This is largely due to the small share of SC and ST population in these states.

Similarly the RR for ST children was calculated and is shown in Table 8.6.

The RR for Assam, Gujarat, Orissa and Himachal Pradesh are still very high and special strategies are required to improve the transition and retention among the ST children. It is also observed that in Orissa the RR for ST students has tended to increase over the years.

The foregoing analysis of repetition rates presents many challenges for educators. First, a clear policy on promotions, dropout and repetition is required. In the absence of guidelines, the teachers follow different methods of evaluation and promotion. Second, the incidence of high repetition has to be curbed by improving the quality of classroom practices. If need be, the schools should organize remedial teaching or alternative models of supporting weak students should be evolved. Third, the recent increase or even stagnation in repetition rates is matter of concern. Further reforms would not lead towards UPE/UEE until the high repetition rates are checked. Fourth, research into causes of

Table 8.5
Trends in Grade Repetition for SC Students (Primary cycle)

State	1995-96	1996-97	1997-98	1998-99	1999-00
Group 1					
Assam	34.1	18.3	14.7	18.3	15.8
Haryana	18.5	17.3	14.5	15.9	12.0
Tamil Nadu	11.0	9.3	9.3	7.8	7.1
Maharashtra	7.8	6.5	4.2	4.6	4.8
Karnataka	5.3	6.5	3.8	3.5	4.0
Madhya Pradesh	3.5	3.4	2.2	3.1	3.7
Kerala	1.8	1.0	3.6	2.7	2.3
Average group 1	8.0	7.8	6.1	6.3	5.9
Group 2					
Gujarat			18.1	20.0	16.1
Assam			20.0	22.0	15.2
Himachal Pradesh			15.2	18.3	13.0
Orissa			5.7	11.5	12.6
West Bengal			11.4	10.7	12.4
Jharkhand			10.6	10.5	10.1
Bihar			10.6	9.6	9.8
Haryana			11.8	14.7	9.5
Tamil Nadu			10.3	11.3	9.0
Karnataka			7.6	6.0	5.7
Maharashtra			6.8	5.9	4.8
Kerala			3.4	3.1	3.8
Madhya Pradesh			3.2	2.1	2.5
Uttar Pradesh			5.1	2.5	2.1
Chhatisgarh			0.0	693.5	1.2
Average Group 2			8.2	7.1	6.9

repetition is lacking even in DPEP districts. Efforts should be made to examine this issue in detail. Fifth, it is the school which remains at the heart of internal efficiency. Therefore, school level improvement

plans are required to overcome the problems of internal efficiency in each school. Different types of schools require different type of focus.

Table 8.6
Trends in Grade repetition for ST students (Primary cycle)

State	1995-96	1996-97	1997-98	1998-99	1999-00
Assam	37.3	14.2	13.8	19.3	15.8
Tamil Nadu	8.1	8.6	8.6	9.0	7.5
Maharashtra	6.5	19.4	4.8	5.1	5.0
Madhya Pradesh	4.3	3.4	2.0	4.7	4.7
Karnataka	4.4	5.0	3.6	3.9	4.0
Kerala	4.0	2.4	0.5	0.6	0.6
Average group 1	8.1	7.9	4.8	6.5	5.9
Group 2					
Gujarat			23.7	21.8	18.7
Assam			23.1	29.1	16.0
Orissa			4.5	12.9	14.8
Himachal Pradesh			13.0	14.8	13.7
West Bengal			9.1	6.6	8.6
Bihar			6.0	10.9	8.0
Tamil Nadu			5.8	13.9	7.7
Jharkhand			10.9	10.0	7.1
Maharashtra			6.8	5.2	6.9
Madhya Pradesh			4.5	4.4	5.2
Karnataka			5.2	4.6	4.3
Kerala			2.1	1.9	3.3
Uttar Pradesh			3.3	3.7	2.3
Chhatisgarh			0.3	95.5	0.5
Average Group 2			9.6	10.4	9.5

Dummy text in the place of introduction: The analysis of population and demographic profiles of the DPEP districts show considerable variations in the population density and the spatial distribution of population in various settlements.



Completion rates

The school education system in most of the Indian states is characterized by low internal efficiency and the persistence of high dropouts and repetition rates. The net result of these efforts is serious erosion in the number of children who would have otherwise completed primary education. It not only leads to the wastage of precious time of the pupils who stay in the educational system without learning much, but also leads to the wastage of scarce public resources. No country in the world has ever been able to achieve universal primary education with an inefficient system. India can not be an exception. Despite its significance, the area of internal efficiency of the school education system is least researched. Most of the studies are confined to dropouts.

9.1 Reflections on internal efficiency

Reflecting on the problems of dropouts and repetition, many commissions and committees have suggested various alternatives. Alternative methods for retaining the first generation learners and those who find it difficult to adjust to the school environment were also suggested by the state and the national government. One suggestion among these was the introduction of no-detention policy at primary/elementary stage. The premise was that the learners would not be detained on account of poor academic performance in the end term examinations but the teachers would implement a model of continuous and comprehensive evaluation so that a more friendly and responsive system of tracking the learners progress over a period of time is introduced. Such a system would also help the teachers to identify children with special learning needs. While many states are following no retention, the repetition rates continue to be high due to various reasons. No state has been able to implement a sustainable program of continuous and comprehensive evaluation at primary/elementary stage. Are there any special pedagogical and administrative problems in introducing such a system or there is a lack of commitment and will to do it? The position of the central and the state governments on this issue is yet not fully clear and definitely the actions are not matched with promises.

For achieving universal primary education, all the children entering grade one in a particular cycle should be able to complete primary education in five/four years as the case may be.



Over a period of time, repetition has also emerged as an alibi for showing higher levels of enrolment and thus inflating the normal educational statistics for different purposes. Some one is doing it to protect their posting at a preferred location, some one else is doing to show relatively higher progress in their district/state. The other motive may be to ensure that the incentives meant for the needy and deserving learners are siphoned off. Whatever be the real cause, the part of the problem of repetition and dropout is artificial and creates an impression of systems inefficiency which may not be real. For overcoming this problem, serious reforms for standardization of concepts and definitions of educational variables and indicators on the one hand and reforms in the collection of data on performance and monitoring indicators, on the other would be required by the central and the state governments. This is particularly difficult as the responsibility for data collection lies exclusively with the state governments. The analysis in this chapter is based on official statistics of the state governments and the MHRD. It is supplemented by primary data collected specially for the purpose of calculation of completion rates.

The educational statistics of the MHRD indicate that about 40 per cent of children in Grade I in 1995-96 left the school without completing primary education. Going by these standards, for every ten additional children enrolled at Grade 1, as many as four would never be able to complete primary education. Of those who remained in the system, many could not complete primary education in five years. There is hardly any data on completion rates at primary and upper primary stage. Whatever estimates are available are based on distorted statistics and the other assumptions are far too complex and unrealistic. Therefore through the study of completion rates as reported in this chapter,

the intention is to generate a debate on the concerns for the internal efficiency of the educational system, particularly at the primary stage. The problems of internal efficiency at other levels also need to be addressed to improve the efficiency and effectiveness of the educational system as a whole.

The goals of universal primary education cannot be attained unless the following four conditions are satisfied:

- ♦ Provision of easy access to an educational facility for all children in the eligible age group.
- ♦ Universal intake through formal, non-formal or alternative modes of educational facility.
- ♦ Universal retention and completion of the primary/upper primary education cycle.
- ♦ Comparable and satisfactory level of achievement by all students at the end of primary classes whether through formal or alternative mode of education.

For universal primary education to be achieved it is imperative that a child completes primary education cycle of five years in the five year period. However, the experience shows that on year to year basis, the following situations emerge:

- ♦ The student dropouts before completing primary education.
- ♦ The student repeats in one or more grades as a consequence of low performance or continued absence from the school.
- ♦ Even if a child continues in the education system, he/she may not complete primary education in five years.
- ♦ The levels of achievement after completing primary education may remain low and many children may not have acquired the prescribed competencies.

It is evident from the above discussion that for achieving universal primary education, all the children entering grade one in a particular cycle should be able to complete primary education in five/four years as the case may be. This would imply a completion rate of hundred per cent. However, due to various reasons, a level of about 90-95 per

cent can be considered to be a satisfactory for achieving the objectives of universal primary education. A perusal of various research studies, official documents and reports indicate that not much evidence is available on the proportion of children completing primary education within five years.

9.2 Objectives of cohort studies

In order to overcome this gap in educational indicators, a pilot study based on retrospective analysis of students flow data using true cohort method was initiated by the author in Tamil Nadu in 1998-99. Encouraged by the findings of the pilot study, it was replicated in all schools in all the seven DPEP districts of Tamil Nadu. Other DPEP states were also requested to organize similar studies. Encouraged by the relevance and effectiveness of the tools, many states have already completed such studies either on complete enumeration of pupils or on sample basis. The reports from various states indicate that besides Tamil Nadu, the states of Andhra Pradesh, Karnataka, Maharashtra, Orissa, West Bengal and Assam have completed such studies. Work is in progress in the state of Uttar Pradesh and other states may also initiate such studies in the near future. The main objectives of the cohort studies are:

- ♦ To estimate the proportion of children of a cohort who are able to complete primary education in five years period and to examine the Grade to Grade progression.
- ♦ To examine the differentials in completion rates by gender, caste and other related characteristics.
- ♦ To classify schools according to the efficiency level so that remedial measures and other interventions for improving school efficiency can be designed.

9.3 Indicators of school effectiveness

The situation in a school as an institution of teaching learning can be analyzed in various ways. Normally, the classical model of input, process and output is applied for understanding school effectiveness both at the aggregated as well as at the school level. With

a focus on output, indicators like input-output ratio, dropout and promotion rate are considered. The average years required to complete primary education is also considered as a proxy for the internal efficiency of the educational system. No doubt, many of these indicators are useful, but also suffer from many inadequacies. The indicators based on aggregated data often fail to reflect on school level differences. Often, the situation is that intra-district variations are more pronounced than the inter-district variations. Therefore, disaggregated analysis is always more useful than the aggregated analysis.

It is postulated that the completion rate of primary education in five years can be considered as an important indicator of the school effectiveness. A complete understanding of the effectiveness of educational system can be developed if the indicator of the completion rate is used in consonance with some indicator of learning levels of those pupils who are able to successfully complete the primary education in five years. Although there is considerable evidence on learners' achievement in DPEP districts, a more specific analysis for all the schools would be required, so that it would be possible to classify the schools on the basis of efficiency and achievement indicators. Such a classification would be necessary, if school is to become the unit of planning. Field visits and discussions with educational administrators suggest that there is hardly any correlation between school effectiveness and the geographical area where such schools are located. For example, two schools within the same village may present large variations in their performance indicators.

Certain aspects of the DPEP approach are unique and innovative in developing a framework for achieving the objectives of universal primary education. More notably is the decentralized planning model based on participatory processes of planning and monitoring of school related activities. The emphasis on quality of education is evident from the fact that 70 percent of additional resources are to be spent on quality improvement

programs. Perhaps for the first time, an attempt was made to organize large scale achievement studies at primary level. These efforts need to be sustained and integrated with the existing system. Some states have also introduced mechanism for school level and even pupil level monitoring of learning outcomes. These efforts should be further strengthened in a manner that each school could be finally classified on the basis of two sets of performance indicators, namely the internal efficiency as measured by the completion rate and quality as measured by the learning achievement scores.

The present chapter presents an analysis of completion rates based on the cohort studies for three states, namely, Tamil Nadu, Maharashtra and Karnataka and tries to draw some general conclusions and their implications for the universalization of primary/elementary education. As mentioned above, such studies have already been completed in Orissa and Andhra Pradesh but their results are not discussed here. All the DPEP districts in the three states of Karnataka, Maharashtra and Tamil Nadu were covered under cohort studies.

The flow of students from one grade to another for a period of five years was recorded in terms of:

- ♦ Grade in which studying, if continued education in the same school.
- ♦ Transfer certificate case, if left school after obtaining the TC;
- ♦ Dropout case, if discontinued studies after passing or failing in a particular grade;
- ♦ The penultimate grade examination result of each child if staying in the same school for five years and appearing in the end term examination.

The flow model was adjusted suitably in states following four years of primary education cycle. Therefore, schools established after 1996-97 were excluded from the purview of the study as a Grade 1 cohort from such schools did not complete 4 or 5 years of education by the end of the academic session 1999-00.

9.4 Maharashtra cohort analysis

A cohort study for the children in Grade 1 in 1996-97 in all nine districts and in all DPEP schools was conducted in Maharashtra during June-September 2001. This cohort would have completed four years primary education by the end of academic session 1999-2000. The Maharashtra study was different from cohort study conducted in Tamil Nadu in many ways. There were a large number of schools with upper primary grades i.e. Grade 1 to 7. In such schools the study covered the full five year cycle. Therefore, the completion rate of primary education cycle of five years was calculated. The second difference relates to the fact that the end term examination result of Grade 4 or 5 was also recorded. The third major differential is that Maharashtra follows no detention policy whereas Tamil Nadu holds annual examinations at the end of each grade. While interpreting the result of examinations, it must be noted that the end term examination in Grade 4 or Grade 5 is held at the school level and the decision to promote or detain the child in the same grade is taken by the school teacher. The discussions indicate that there are no clear guidelines for the promotion of pupils from one to another grade. The teachers use different methods and sometimes their discretion to promote/detain the children.

The study covered all schools which had Grade 1 in 1996-97 and offered instruction up to the end of Grade 4 or Grade 5 by 1999-2000/2000-01. The study was conducted in all nine districts covered under DPEP. Five districts belonged to DPEP Phase 1 and in these districts the DPEP program would be coming to an end during the next year. The remaining four districts belonged to Phase II where the program began during 1997-98. Separate analysis is undertaken for schools with 4 year cycle (4YC) and 5 year cycle (5YC). The study covered a total of 13,216 schools and 553,169 students in the cohort.

Transfer cases

The first focus of the cohort data analysis was to develop a profile of transfer cases and exclude them from the subsequent analysis. The children obtain

transfer certificate and leaving the school either to join another school or discontinue education. The number of children after adjusting for TC was 472,284. The district level distribution of students and the proportion of transfer cases are shown in the following table.

Table 9.1 shows that on an average, 12.7 percent children obtained transfer certificate from the school in which they were admitted. Some districts like Beed

and Dhule showed higher rates of TC as compared to Nanded and Aurangabad where the TC rate was less than 10 percent over a four year period.

The transfer rate during five years of stay in upper primary schools is higher (16 percent) as compared to primary schools (12.7 percent). Beed district has recorded the highest transfer rate of 21.6 percent (Table 9.2). One of reason for high transfer cases could be that parents consider education up to grade

Table 9.1
Transfer cases within four year cycle

District	Schools	All students In Grade I in 1996-97	Students Excluding TC cases	% TC cases
Dhule	1,746	69,625	59,731	14.2
Aurangabad	664	22,585	20,386	9.7
Jalna	435	15,781	13,816	12.5
Parbhani	653	20,866	18,655	10.6
Beed	958	32,608	27,574	15.4
Latur	537	19,819	17,634	11.0
Nanded	1,027	25,947	23,661	8.8
Osmanabad	331	13,333	11,592	13.1
Gadchiroli	769	9,581	7,902	17.5
Total	7,120	230,145	200,951	12.7

Table 9.2
Transfer cases with five year cycle

District	Schools	All students In Grade I in 1996-97	Students Excluding TC cases	% TC cases
Dhule	481	27,226	21,895	19.6
Aurangabad	587	34,421	30,086	12.6
Jalna	605	33,645	28,134	16.4
Parbhani	726	37,692	32,912	12.7
Beed	750	47,033	36,885	21.6
Latur	832	43,175	35,556	17.6
Nanded	1,131	62,406	55,464	11.1
Osmanabad	502	23,746	19,050	19.8
Gadchiroli	482	13,681	11,351	17.0
Total	6,096	323,025	271,333	16.0

4 as a stage and do not send their children for upper primary education even the school had facilities for such education.

It is observed that on an average 14.6% students took TC certificate due to various reasons and left the schools in which they started their educational career. Many students were found to have taken TC after failing in the examination and may thus not get admitted to any other schools. In the analysis and discussion on completion rate and retention in the school, all TC cases were excluded as it is very difficult to trace them once they have left the school.

Holding power of the schools

The first issue that we examined related to finding out the extent of retention of children for four or five years as the case may be. The continuation of students in the school, irrespective of the fact whether the child is learning or not or the child is repeating or not forms the basis for the retention of the children. For the purpose of present study, this is described as the holding power of the school system. This terminology is used to avoid confusion with the standard terminology of retention which is open ended and does not pertain to any specified period. The holding power is nothing but the retention of the cohort of students for the specified period comprising the primary education cycle. Essentially this indicator tells us the extent to which the children continue to participate in primary education.

Table 9.3 shows that an average 76.6 per cent children stay within the same school with 4 years of education and about 66.2 per cent stay in the same school for the 5 year cycle. The remaining children dropped out during various years. The persistence of high dropout rates in some districts is a major cause of concern. Since there are no annual examinations and the children are promoted indiscriminately without any regard to their educational attainment, the problem becomes serious in Grade 5.

Table 9.3
Holding power and dropout rates

District	% Children in the system		% Dropout	
	4YC	5YC	4YC	5YC
Dhule	69.7	47.6	30.3	52.4
Aurangabad	82.8	72.5	17.2	27.5
Jalna	76.7	69.0	23.3	31.0
Parbhani	73.4	66.3	26.6	33.7
Beed	75.0	67.1	25.0	32.9
Latur	79.1	74.4	20.9	25.6
Nanded	87.0	58.0	13.0	42.0
Osmanabad	79.3	72.8	20.7	27.2
Gadchiroli	84.4	79.7	15.6	20.3
Average for DPEP districts	76.6	66.2	23.4	33.8

The holding capacity of various districts varies considerably. The district of Nanded shows the highest holding power among the Grade 4 students but shows very poor performance for the Grade 5 schools. The high dropout rates may also be the result of artificially inflated enrolment in some schools. For example, the practice may be to show some children enrolled in one year and dropout in another. Further analysis of the persistence of dropouts is necessary for the districts of Dhule, Nanded and Jalna. Excepting Nanded, the other two districts belong to Phase II of DPEP.

What happens to children who stay in the system for five years? The above analysis shows that 76.6% students in 4YC and 66.2% in 5YC remained in the same school for five years. It was observed that 92.2 per cent students were in Grade IV in schools with 4 years school and 88.5 per cent in Grade V schools. The proportion of children who were lagging by one year was 6.7 per cent for school for 4 years cycle and 9.8 per cent for schools with 5 years cycle of primary education (Tables 9.4 and 9.5). These numbers are low due to absence of end term examinations. Large inter-district variations are also observed in terms of repetition rate.

Table 9.4
Distribution of students by Grade in fourth year of study

District	Grades in which studying in fourth year				Total
	Grade 1	Grade 2	Grade 3	Grade 4	
Dhule	0.4	1.1	5.6	92.9	100
Aurangabad	0.5	1.3	10.5	87.7	100
Jalna	0.2	1.3	12.4	86.1	100
Parbhani	0.1	0.7	6.6	92.6	100
Beed	0.2	0.8	4.1	94.9	100
Latur	0.0	0.7	6.7	92.6	100
Nanded	0.0	0.6	5.9	93.5	100
Osmanabad	0.0	0.4	7.5	92.0	100
Gadchiroli	0.0	0.3	4.5	95.2	100
Average for DPEP districts	0.2	0.9	6.7	92.2	100

Table 9.5
Grades in which studying in fifth year of study

District	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Total
Dhule	0.2	0.3	1.1	9.0	89.3	100
Aurangabad	0.2	0.4	1.8	11.0	86.6	100
Jalna	0.2	0.5	2.5	14.6	82.3	100
Parbhani	0.1	0.1	1.5	10.4	87.9	100
Beed	0.1	0.3	1.1	5.9	92.5	100
Latur	0.0	0.1	0.8	8.5	90.6	100
Nanded	0.0	0.0	1.5	11.2	87.3	100
Osmanabad	0.1	0.2	1.1	8.9	89.7	100
Gadchiroli	0.0	0.0	0.6	6.1	93.2	100
Total	0.1	0.2	1.4	9.8	88.5	100

In the case of upper primary schools, 88.5 percent children were studying in Grade 5 in the fifth year of their study (Table 9.5). Those studying in Grade varied between 14.6 percent in Jalna district to only 6.1 percent in Gadchiroli. The high percentage of children in Grade 4 in some districts is indicative of forced repetition in some schools. The school level analysis would help in identifying schools having high repetition rates.

Completion rates

The completion rates for both types of schools were calculated and are presented in Table 9.6. It is observed that on an average 62.1 per cent of children were able to complete 4 years primary education in 4 years. Similarly, the completion rate for 5 year education was 54.8 per cent. The completion rates for 4 year cycle varied from 54.3 per cent for Nanded and to a maximum of 77.5 per cent for Gadchiroli. The Grade 5 completion rates

presented a more alarming situation in some of the districts. For example, in the two districts, namely, Dhule and Nanded less than half students could not complete 5 years of education in 5 years. It is also possible that although the many schools offers instructions from Grade I to Grade V, many children dropout or discontinued through education after completing Grade IV and hence do not get admitted in Grade V.

The completing rates were examined for boys and girls separately. It is observed that the completion

rates are generally similar for boys and girls both in Grade IV as well as in Grade V schools.

The analysis of completion rates for different caste group was also undertaken (Tables 9.7 and 9.8). The ST population in both the cases is having the least completion rate, whereas the OBCs and general population have recorded the highest completion rates both in Grade IV as well as in Grade V schools. The intra-district variation in the case of completion rates for SC and ST are large. VJNT is a special class among the tribal population and has been treated as a separate category in the present analysis.

Table 9.6
Completion rate by districts

District	4 Year cycle			5 Year cycle		
	All	Boys	Girls	All	Boys	Girls
Dhule	60.4	59.8	60.9	40.9	41.0	40.8
Aurangabad	68.1	67.7	68.4	59.6	58.6	60.6
Jalna	55.8	57.9	53.8	51.6	52.2	51.1
Parbhani	62.2	62.5	61.9	54.8	54.5	55.1
Beed	62.3	63.0	61.5	58.1	58.1	58.2
Latur	64.1	63.9	64.4	63.3	61.6	64.8
Nanded	54.3	53.8	54.7	45.6	44.6	46.7
Osmanabad	70.2	70.8	69.6	62.0	62.0	62.0
Gadchiroli	77.5	77.0	78.1	71.0	70.0	72.1
Total	62.1	62.2	62.1	54.8	54.1	55.4

Table 9.7
Completion rates by caste groups for four year cycle

District	SC	ST	OBC	General	VJNT
Dhule	64.0	47.8	78.3	78.4	60.2
Aurangabad	63.1	54.6	74.1	72.0	63.1
Jalna	52.0	49.5	64.7	59.1	48.9
Parbhani	61.1	53.9	66.1	67.0	55.8
Beed	59.7	52.2	71.8	65.7	56.1
Latur	62.6	56.9	67.8	65.6	61.2
Nanded	53.4	53.0	60.1	58.0	50.3
Osmanabad	67.4	61.5	73.0	74.2	60.7
Gadchiroli	81.8	65.9	89.6	82.1	82.8
Average for 4 year cycle	60.6	50.6	74.2	68.2	56.7

Table 9.8
Completion rates by caste groups for five year cycle

District	SC	ST	OBC	General	VJNT
Dhule	37.6	39.9	43.5	44.2	35.9
Aurangabad	55.1	41.7	63.3	64.3	56.8
Jalna	44.1	46.0	59.2	54.8	46.2
Parbhani	49.1	49.3	58.5	59.3	49.8
Beed	49.7	49.5	64.6	61.5	55.9
Latur	60.4	57.2	62.8	64.8	65.8
Nanded	45.3	44.8	47.5	47.6	42.4
Osmanabad	59.0	53.5	63.7	65.6	53.9
Gadchiroli	78.1	62.1	79.9	80.0	72.2
Average for 5 year cycle	51.1	46.9	58.9	59.0	51.5

The completion rates were also calculated by age of entry into Grade 1 (Figure 9.1). It is observed that 67.8 per cent of 5 year old children were able to complete primary education as compared to only 33.6 per cent of the 9 year children completing primary education. A similar trend was also observed in the case of primary schools with 5 years of schooling.

Distribution of schools by completion rate

In order to make distinction between completion rate of four year and five year education cycle, the following abbreviations are used:

CRF = Children completing primary education in five years.

CR4 = Children completing primary education in four years.

The distribution of schools into various categories of CR4 is shown in Table 9.9.

Overall, 35.4 percent schools were found to have high CR4 (more than 75%). On the other hand, there were large number of schools who could be considered as low performing schools as far as

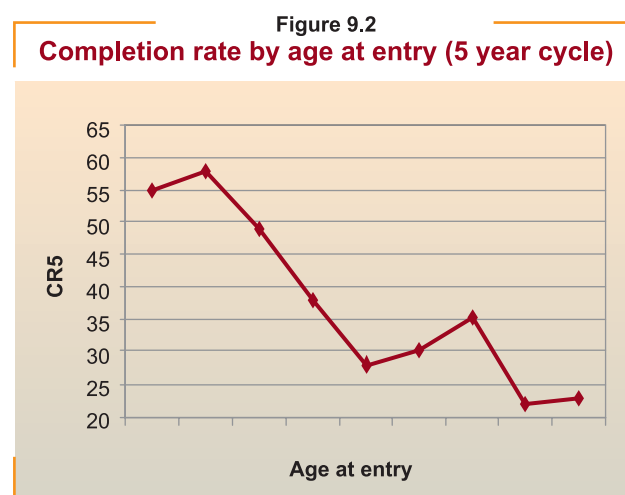
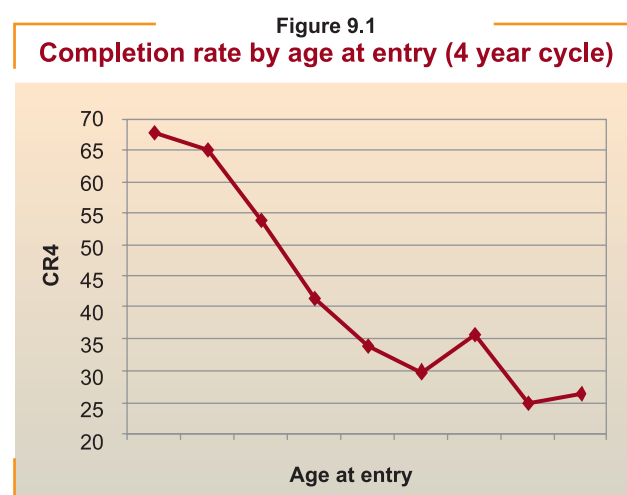


Table 9.9
Distribution of schools by CR4 category

District	CR4					Total
	0-30	30-45	45-60	60-75	75 +	
Dhule	14.9	14.2	20.7	22.4	27.9	100
Aurangabad	7.9	6.8	16.3	25.8	43.2	100
Jalna	23.0	15.0	17.3	21.7	23.0	100
Parbhani	10.7	12.4	21.6	25.8	29.4	100
Beed	19.9	9.9	13.9	21.9	34.4	100
Latur	16.4	7.1	12.5	16.8	47.3	100
Nanded	15.4	13.0	19.5	23.2	28.9	100
Osmanabad	6.1	6.7	14.6	24.6	48.0	100
Gadchiroli	18.3	6.0	8.0	12.0	55.7	100
Total	15.1	10.9	16.9	21.7	35.4	100

internal efficiency was concerned. Overall, 15.1 percent schools in the DPEP districts had lower than 30 percent completion rates. This is essentially indicative of poor conditions in the school. Such schools must be identified and remedial action taken to improve their internal efficiency.

The preliminary results as presented above are only indicative and further analysis would be undertaken soon.

9.5 Karnataka cohort analysis

A study similar to the above was conducted for the state of Karnataka also. The State project Office of the DPEP collected the data for four years cycle with the beginning of Grade 1 students in 10 DPEP districts. The cohort beginning Grade 1 during 1996-97 was covered in Karnataka. The students beginning Grade 1 in 1996-97 would have completed four years of primary education cycle in 1999-2000. The examination result at the end of 1999-2000 was also recorded to determine if the student has completed the primary education successfully or not. The study covered a total of 22,754 schools and 717,145 learners. This is perhaps one of the largest data on student flows following the methodology of retrospective cohort method. The data was collected during 2000. The data entry and

preliminary analysis was undertaken at the MIS unit of the DPEP, Karnataka. The main findings of the study are presented below. A detailed analysis on the lines of Tamil Nadu cohort study would be undertaken in the coming months.

Transfer Cases

Many students belonging to the cohort under study migrated from one school to another within as well outside the district. The migration of students takes places due to a variety of factors. Many students take transfer certificate either after completing a particular grade or during the academic session, either to join another school or discontinue their studies. The number of such children varies from district to district. The share of children taking TC from the cohort under examination is presented in Table 9.10.

The proportion of children who obtain transfer certificate within the 4 years of their education was about 7.5 per cent. However, these proportions varied from as low as 3.7 percent in Gulbarga to about 11 per cent in Belgaum district. These rates refer to a period of four years. The proportion of children obtaining transfer certificates in Karnataka are somewhat lower than the corresponding figures for the states of Tamil Nadu and Maharashtra for

Table 9.10
Transfer cases by districts of origin

Dist	Schools	All students in Grade I	Transfer cases	% TC
Bangalore rural	2185	35448	3319	9.4
Belgaum	2895	104237	11392	10.9
Bellary	1547	66172	3852	5.8
Bijapur	2411	92971	5510	5.9
Dharwad	2132	86563	8429	9.7
Gulbarga	1882	93041	3455	3.7
Kolar	3252	59028	5272	8.9
Mandya	1973	36488	3511	9.6
Mysore	2692	72145	6111	8.5
Raichur	1776	71052	3278	4.6
Total	22745	717145	54129	7.5

which similar data was also collected. It was also observed that more male children obtain the transfer certificates as compared to the female students. The transfer cases consisted of two types; those who fail and take TC. Most of these children may not continue their studies. The other group corresponds to those children who obtain TC after completing a grade

successfully. The share of female students, the total students obtaining transfer certificates was 45.1 percent (Table 9.11).

In the case of Karnataka also, the TC cases were excluded from the analysis of completion rates.

Table 9.11
Share of female students getting TC

District	Boys	Girls	Total	% Girls
Bangalore rural	1645	1674	3319	50.4
Belgaum	6266	5126	11392	45.0
Bellary	2168	1684	3852	43.7
Bijapur	3130	2380	5510	43.2
Dharwad	4555	3872	8427	45.9
Gulbarga	1988	1455	3443	42.3
Kolar	2880	2392	5272	45.4
Mandya	1870	1639	3509	46.7
Mysore	3321	2785	6106	45.6
Raichur	1872	1405	3277	42.9
Total	29695	24412	54107	45.1

Holding power of the schools

While undertaking the cohort analysis, the first issue that we examined related to finding out the proportion of children who remained in the same school for a period of 4 years (Table 9.12).

Table 9.12

Holding power of the school and dropout rates

District	% children in system in 4 th year	Cohort dropout rate
Bangalore rural	89.7	10.3
Belgaum	88.9	11.1
Bellary	81.6	18.4
Bijapur	76.3	23.7
Dharwad	85.8	14.2
Gulbarga	73.6	26.4
Kolar	84.5	15.5
Mandya	90.1	9.9
Mysore	87.4	12.6
Raichur	73.3	26.7
Average for All DPEP districts	82.1	17.9

The average cohort dropout rate for all the DPEP districts was 17.9 percent. When compared with the corresponding data for Maharashtra, these are relatively on the lower side. Since, Karnataka also follows no detention policy for Grade I and II, the situation is somewhat comparable for the two states. Some districts in Karnataka are characterized by low holding power and hence a home of relatively high dropouts. The two worst districts were Raichur and Gulbarga, where more than one fourth students dropped out from the cohort. The other district with high dropout rates was Bijapur. Bijapur presents an interesting case of educational development. It was one of the districts to be covered under the initial phases of the Total Literacy Campaign during eighties. The success of Bijapur in achieving high literacy standards was shown as a success story to the rest of the country. However, the position in the subsequent years deteriorated and it is now one of most educationally backward districts of the country.

The literacy rates between 1991 and 2001 have also remained stagnated for this district. The experience of Bijapur also shows that sustaining education development requires intensive and continuous efforts. Belgaum is another educationally backward district but has shown low dropout rate. So is the case with Mandya district.

The next question that we examined was that what happened to the children who stayed in the educational system for four years? Did they complete primary education or were still struggling in the system. On an average, 82.1 per cent of the children stayed in the same school for 4 years. This does not mean that all of them reached Grade 4. The district wise averages varied from 73.3 per cent for Raichur to 90.1 per cent for Mandya district.

The fact that about 80 per cent of children stayed in the educational system for four years is a positive feature of the primary education system in Karnataka. While the efforts to further reduce dropout rate should continue, an equal amount of efforts are also required to ensure that those who continue in the system progress well and are able to complete primary education in time and also acquire the necessary competencies and skills.

Table 9.13 shows the distribution of students by Grades who continued to stay in the same school for four years. It was observed that 85.4 per cent of all those children who stayed in the same school for 4 years were studying in Grade 4. Another 11.4 per cent could not progress satisfactory in the primary grades and hence were repeating by one year. This repletion implied a lag of a minimum of one year for reaching Grade 4. Thus 11.4 percent children were able to reach Grade III in a period of 4 years.

Similarly, there were 2.2 percent students who repeated twice and hence were studying in Grade II. Another 1 per cent students could not progress at all and were reported to be in Grade I only. This is a matter of serious concern. It is possible that the names of some students are continued to be shown in school records whereas they may not be

Table 9.13
Distribution of students by Grade of study, Karnataka

District	Grade of study in fourth year of the cohort				Total
	Grade 1	Grade 2	Grade 3	Grade 4	
Bangalore rural	0.1	0.6	8.7	90.5	100
Belgaum	1.5	2.7	11.4	84.5	100
Bellary	0.5	1.8	12.5	85.1	100
Bijapur	1.6	2.2	8.6	87.6	100
Dharwad	0.9	2.0	12.8	84.4	100
Gulbarga	1.9	5.7	19.7	72.7	100
Kolar	0.1	0.4	6.3	93.2	100
Mandya	0.2	0.5	3.7	95.7	100
Mysore	0.3	0.8	7.3	91.6	100
Raichur	1.2	2.9	16.8	79.2	100
All DPEP	1.0	2.2	11.4	85.4	100

coming to school at all. In all probability, the 1 percent students may belong to the category of artificial enrolment.

Table 9.13 also provides some insight to the phenomenon of grade repetition. However, the values indicated here may not be true repetition rates. These should be seen as repeaters from a cohort within a time frame of 4 years. The extent of repetition as reflected in the above table is high in some district, namely, Gulbarga, where 19.7 per cent children were repeating for one year and 5.7 per cent for two years and 1.9 per cent for three years. The overall repetition is, therefore, quite high in the district of Gulbarga. Similar trends have also been observed for the Raichur district. The implications of high repetition rates in some districts need to be examined further to evolve suitable policies and programs for ensuring the continued participation of weak students in studies. Repetition is essentially a school related phenomenon and hence the institutional development plans must focus on this aspect.

Completion rates

The continuation of a child even in the same school for 4 years does not mean that he/she will graduate

successfully without repetition. The students could face different situation in four years of their stay in the school system. Besides repetition the students could also fail in the final examination in the penultimate grade due to poor academic performance. Therefore, the completion rate would tend to be lower than the proportion of children studying in Grade 4.

Table 9.14
Cohort completion rate by gender:
Karnataka

District	Cohort completion rate (CR4)		
	All	Male	Female
Bangalore rural	80.1	79.6	80.6
Belgaum	72.1	72.9	71.3
Bellary	69.4	70.0	68.9
Bijapur	64.6	65.1	64.0
Dharwad	64.0	64.6	63.4
Gulbarga	50.5	52.0	48.8
Kolar	76.3	76.6	76.1
Mandya	85.1	85.0	85.2
Mysore	78.5	77.7	79.4
Raichur	57.5	59.3	55.4
Average for DPEP districts	67.5	67.9	67.1

Large variations between the CR of SC, ST and others exist. The overall completion rate for the SC, ST and OBC students were lower than CR of the students belonging to the general population.



The proportion of students who successfully completed primary education of 4 years is presented in table 9.14. Overall, 67.5 per cent of children in DPEP districts in Karnataka were able to complete primary education in 4 years. Although this is somewhat higher than the corresponding value of Maharashtra (62.1 percent), the unfinished task before the state is tremendous. To attain a level of 95 percent would require very serious consideration of various options and a strong commitment on the part of educators in the state. The Tamil Nadu evidence has also shown that despite significant contribution of DPEP, the improvements in CR4 are difficult to come about. Therefore, the overall situation with respect to efficiency of primary education in the state is not very encouraging.

The intra-district variations in completion rates are extremely large in the case of Gulbarga district. Nearly half of the students entering Grade I fail to

complete primary education in a period of 4 years in Gulbarga. In contrast to this is the district of Mandya where 85.1 per cent children were able to complete primary education in time. This is highest CR4 recorded by any district in the study area.

The male/female completion rates were also calculated. Excepting Mandya and Gulbarga, the male/female differences in completion rates were not significant. Thus the gender related differentials in completion rate are not significantly different. This is the result of gender sensitive policies and programs undertaken by the states for the last many decades. The gender differences in the participation rates are also low in most of the districts in the state.

Large variations between the CR of SC, ST and others exist. The overall completion rate for the SC, ST and OBC students were lower than CR of the students belonging to the general population. The average completion rate for SC students was 63.7 per cent as compared to 73.7 percent for students belonging to the general population (Table 9.15). The SC children showed relatively better average than ST. Students are also found to have very low value in the Gulbarga district.

Table 9.15
Completion rates by caste groups, Karnataka

District	Completion rates by caste groups			
	SC	ST	OBC	GEN
Bangalore rural	78.1	81.1	80.7	82.7
Belgaum	67.8	65.1	70.1	75.9
Bellary	66.1	69.1	70.4	70.9
Bijapur	56.6	63.5	65.6	69.7
Dharwad	56.6	64.2	65.3	65.0
Gulbarga	49.4	47.0	48.7	59.0
Kolar	74.3	75.4	76.6	83.1
Mandya	82.1	73.4	81.1	87.3
Mysore	78.9	75.8	77.8	84.4
Raichur	52.5	51.9	58.6	64.4
Average CR for DPEP districts	63.7	64.5	66.8	73.3

Figure 9.3
Karnataka: Completion rate by age at entry



CR4 by age at entry

The analysis of completion rates by age at entry has also shown results similar to that of other states. There is an inverse relationship between the age at entry and the completion rates. The children, who enter the school at the right age, have the highest chances to complete primary education in 4 years period. As the age of children entering formal primary schools increase, the chances of their completing primary education recede (Figure xx).

The completion rate for the children who entered the school at the age of 5 was 76.2 per cent as compared to 40.3 per cent for the children who entered at the age of 8. There were few students who were reported to have entered school at the age of 12 to 14 years. While the completion rates for such students are extremely low, one has to examine the reasons for such older children being enrolled in the primary school. A similar analysis at the district level can also be undertaken.

Finally, to understand the school level variations in CR, it was decided to compute CR for schools with more than 5 students in Grade 1. This would ensure that schools with a few students do not create problems of either very high or very low ratios. As a result of this adjustment, a total of 20,689 schools were included in the analysis. The schools were classified according to the following scheme (Table 9.16).

Based on the above classification, schools falling in D and E category require immediate attention to improve their performance. Low values of CR reflect serious problems with the continuation of children in the school with their regular studies. These are also the schools which would have extremely high repetition and dropout rates.

A very positive indication of school efficiency is reflected in Mandya district where more than 75 percent schools had more than 75 percent completion rate (Table 9.16). The other good performing districts are Bangalore rural and Mysore. On the other extreme are the districts like Gulbarga and Raichur where only 25 percent schools could surpass 75 percent completion rate. The case of Gulbarga is particularly worrying as more than one fourth of all schools had less than 30 percent CR.

Of the total schools 16.7 percent schools belonged to D and E category. The state must initiate reforms in improving school efficiency in districts where the overall situation is not satisfactory. School specific analysis for low performance needs to be undertaken to identify the contextual factors.

Table 9.16
Classification of schools by efficiency criterion based on CR

Category	Description	Classification
A	Schools with 75 percent and above CRF	Most efficient
B	Schools with 60-75 percent CRF	Highly efficient
C	Schools with 45-60 percent CRF	Average efficiency
D	Schools with 30-45 percent CRF	Low efficiency
E	Schools with less than 30 percent CRF	Very low efficiency

Table 9.16
Classification of schools based on CR4, Karnataka

District	Completion rate					Total
	0-30%	30-45%	45-60%	60-75%	Above 75%	
Bangalore rural	2.1	4.2	9.7	17.0	67.1	100
Belgaum	3.0	6.7	17.0	24.9	48.5	100
Bellary	5.5	11.1	16.5	21.1	45.9	100
Bijapur	15.6	6.6	13.7	18.3	45.8	100
Dharwad	12.1	7.1	16.2	24.4	40.1	100
Gulbarga	26.2	18.6	17.1	12.9	25.2	100
Kolar	3.2	6.0	13.3	20.2	57.2	100
Mandya	0.6	2.7	5.4	15.4	75.9	100
Mysore	2.7	4.7	9.9	22.0	60.7	100
Raichur	15.8	19.4	22.1	17.9	24.9	100
Average DPEP districts	8.4	8.3	14.1	19.8	49.4	100

The above analysis of the students flow data clearly highlights the persistence of intra-district variations for various indicators of internal efficiency as well as completion rates. The evidence also shows that the persistence of repetition is relatively higher. These findings indicate that sustained efforts are required to initiate programs for improving the retention of children in primary trends. Improving retention by identifying weak and low performing schools should be now the focus of decentralized planning.

9.6 Cohort studies in Tamil Nadu

The state of Tamil Nadu was the pioneering state as far as cohort studies are concerned. The first initiative was taken in 1998 by piloting the model in nine blocks of the DPEP districts. The success of the model prompted the state to replicate it in all DPEP districts by covering all schools. Since the first full cohort study considerable efforts have been made by the state to use the findings for strengthening of institutional development planning and monitoring process. Since the analysis of cohort data was extensively undertaken, many new aspects of school efficiency and its correlates with other school characteristics were also examined. The state of Tamil Nadu follows a primary education

cycle of five years. Moreover, the state does not follow the no-detention policy and school level examinations are held at the end of each grade. The decision regarding the promotion of children is taken at the school level.

Overall performance levels

The holding power of the educational system in Tamil Nadu was about 82.4 percent in DPEP districts. It varied from 78.1 percent for Dharmapuri to 86.5 percent for Cuddalore district-both belonging to DPEP I. Thus the cohort dropout rate was an average of 17.6 percent varying between 13.5 percent for Cuddalore to 21.9 percent for Dharmapuri district (Table 9.17).

However, not all children retained in the school progress at the same rate and not all of them pass the final examination in whichever grade they are. Of the children retained in the school for five years, 28.5 percent did not reach Grade 5. A large share of the cohort students (an average of 23.5 percent) repeated once in their educational career and could reach only Grade 4 instead of Grade 5. Further, 4.1 percent children could reach only Grade 3 in five-year period (Table 9.18).

Table 9.17
Holding power of the primary education system, Tamil Nadu

District	Number started in Grade I	% children in school in the fifth year	Cohort dropout rate
Cuddalore	36,738	86.5	13.5
Dharmapuri	52,587	78.1	21.9
Pudukkottai	26,873	82.3	17.7
Ramanathapuram	26,217	82.3	17.7
Villupuram	54,323	82.0	18.0
Thiruvannamalai	43,957	85.4	14.6
Perambalur	22,443	81.5	18.5
Total	263,138	82.4	17.6

Which are the children who lag behind by one, two or more years? What can be done to prevent large-scale repetition? Can the school identify such children at early stage and undertake remedial teaching to ensure that their progress is not jeopardized due to poor teaching learning conditions in the school or due to the neglect of studies by the children. Overcoming these constraints would result in considerable improvement in CRF. In four out of the seven DPEP

districts, at least one out of four students has stagnated for one year.

The persistence of high repetition rates across all districts is a cause of concern. It defies the strategy of human resource development. The cumulative effect of the one/two years lag in the educational career of a student can slow down the process of human capital formation.

Table 9.18
Distribution of children retained for five years in different grades

District	Studying in Grade I	Studying in Grade II	Studying in Grade III	Studying in Grade IV	Studying in Grade V	Students retained for five years
Cuddalore	1.5	1.5	4.9	21.6	70.6	100
Dharmapuri	0.1	0.3	3.9	26.0	69.7	100
Pudukkottai	0.0	0.4	4.1	25.0	70.5	100
Ramanathapuram	0.0	0.2	4.3	26.6	68.9	100
Villupuram	0.7	0.9	4.3	21.0	73.1	100
Thiruvannamalai	0.1	0.4	3.3	21.1	75.2	100
Perambalur	0.1	0.3	3.8	26.2	69.6	100
Total	0.4	0.6	4.1	23.5	71.5	100
Phase I schools	0.5	0.7	4.0	22.5	72.2	100
Phase II schools	0.0	0.3	4.1	25.9	69.7	100

One major cause of low internal inefficiency is grade repetition. As observed earlier that 28.5 percent students were repeating in various grades. Is there any pattern to grade repetition? Further analysis of repeaters data showed that there were 50,881 students who could reach Grade 4 in five years. All these children thus repeated a grade once after they started in Grade I in 1994-95. It was observed that 35.1 percent of these children repeated in Grade I, 18.8 percent in Grade 2, 20.7 percent in Grade 3 and 25.4 percent in grade 4. The high incidence of repetition in all grades, particularly in Grade I is a matter of concern.

Following the above analysis, the CRF was calculated for all districts (Figure 9.4).

The average value of CRF for seven districts was 55 percent and it varies from 50.7 percent for Dharmapuri to 60.4 percent for Thiruvannamalai district-a difference of nearly ten percentage points. These levels of completion rates are low for achieving the objectives of UPE in any of the DPEP district.

Differentials in Completion Rate

The starting point in the disaggregated analysis was the differentials in CRF in DPEP II districts and I. Phase I districts had better CRF (55.9 percent) as

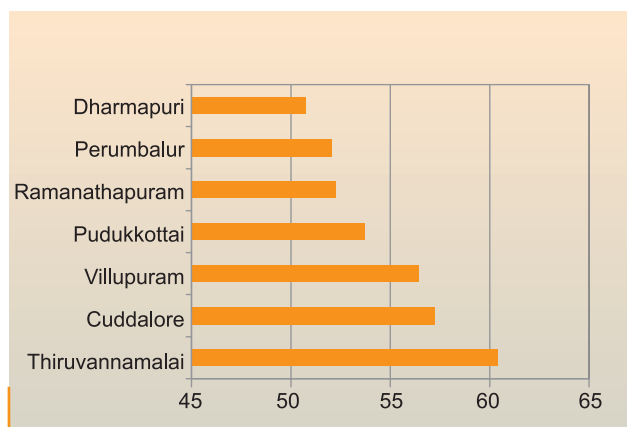
compared to Phase II districts (52.7 percent). The differences were striking and significant. Two districts belonging to Phase II, namely, Pudukkottai and Ramanathapuram had higher literacy rates as compared to the Phase I districts. Despite higher literacy rates, the low completion rates in both the districts were a matter of concern.

The girls were having higher CRF (56.1 percent) as compared to boys (54 percent). It is true for all the seven districts. Thus, there is no parental discrimination in supporting the girls' education. The state has also been implementing Mid-day meals program since 1957, which boosted girls' participation in elementary education. The preference for appointment of women teachers especially for primary schools has also resulted in greater participation of girls in education. The share of female teachers at primary stage in DPEP districts was more than 50 percent in Tamil Nadu¹. The state has also reported favorable sex ratio of 986 as compared to the national average of 933 (2001 census provisional results). Thus, the importance given to girls' education and lack of gender discrimination not only in education but also in other spheres of social and economic development clearly resulted in consistently higher completion rates among girls.

The children belonging to general caste groups had the highest CRF (58.5 percent) as compared to ST students having a completion rate of 45.2 percent only. Since, the number of ST students in Tamil Nadu is low; a school specific analysis would throw more light on their performance levels as compared to other social groups. The CRF for MBC and SC students was also far lower than the general students. The differences were more striking in Phase II schools.

The age at entry has a significant association with CRF. The late entrants have lower CRF as compared to those who enter school at the right age. The CRF for children who entered school at the age of 8 years

Figure 9.4
Tamil Nadu: CRF by DPEP districts



¹ Aggarwal Yash (2000). *Ibid.*

Figure 9.5
Completion Rates: DPEP Tamil Nadu



In India, enough research is not available on time for school functioning. It is felt that students and teachers in small schools waste more time in non-teaching activities rather than keeping the learners fully engaged in studies.



was as low as 38.5 percent as compared to 55.2 percent for those entering school at the age of five years.

Although the proportion of late entrants is low, the chances of their completing primary education are significantly and negatively associated with age at entry. The late entrants thus face an uncertain future as far educational attainment is concerned. They are more likely to discontinue their studies than the children entering at the age of five or six years. This phenomenon has also implications for the organization of teaching learning in the classroom and the preparation of supplementary instructional materials, which are suited to children of specified age groups. Integration of older children into mainstream education should form an integral part of teacher training curriculum. There are implications for the 'back to school' campaigns launched by many DPEP states. If older children, who are either non-starters or dropouts, are brought back to school, then their educational needs have to be addressed separately.

In the case of Tamil Nadu, further analysis of completion rates was undertaken by correlating the DISE data with students flow data. This was done for a number of variables which included number of teachers, rural and urban schools, government and private schools and the schools with a without facilities like drinking water, girls toilets and boundary wall (Figure 9.5). The main findings of the analysis are discussed below.

The number of teachers in a school was found to be strongly correlated with CRF. Single teacher schools had the lowest CRF (45.5 percent) as compared to 49.8 for 2 teacher and 57.3 percent for schools with more than two teachers. A correlation coefficient of

0.708 was observed between the number of teachers and CRF. Therefore, half of the variations in CRF are explained by a single factor i.e. the number of teachers in a school. Does it mean that under the present scenario, multi-grade teaching results in lower completion rates (high dropout and repetition rates) as compared to large schools having more than two teachers? Have the teachers been adequately trained to address the needs of multigrade teaching? What about the teaching learning materials and the classroom interactions? Single teacher schools were also found to be more isolated and deficient in school infrastructure and other provisions. All these factors considerably affect the teaching-learning environment in such schools and consequently lead to low standards of learning outcomes in single teacher schools even when the teachers may be doing their jobs sincerely.

While DPEP has devoted considerable resources for up gradation of teachers to handle a variety of classroom situations, it appears that the full impact of such innovations/reforms is yet to be reflected in the completion rates. If it is so, more emphasis has to be on preparing the teachers for multigrade teaching learning situations. In India, enough research is not available on time at task for school functioning. It is felt that students and teachers in small schools waste more time in non-teaching activities rather than keeping the learners fully engaged in studies. Some teachers are also required to participate in non-academic activities and attend to administrative work at the block and cluster level, thus reducing the time at task.

The most striking differences in CRF were based on the school management. School management reflects a composite effect of many variables associated with school effectiveness and efficiency. The principles of accountability and motivation play an important role along with the background of the students. While it is true that government schools cater to the general masses including the poor people whereas the private schools admit children from well to do families or those whose economic status is relatively better than the poor people.

Similarly, single teacher schools will be found in smaller habitations with high social disparities and low economic development. Therefore, the need is to further strengthen the government schools, especially those located in under served areas, rather to neglect them. The reality is the opposite. More attention is given to large schools and the small schools are the last to be covered through innovations and reforms package. The private schools showed 61.5 percent CRF as compared to a mere 53.8 percent for the government schools-the former is higher by about 15 percent as compared to the latter. The private schools covered in the study were recognized (aided and unaided) schools only. The private schools in Phase I and Phase II were not much different as far as CRF was concerned. As noted earlier, the differences in the CRF for government schools were significantly different for Phase I and Phase II districts.

The distance decay function operates in the case of completion rates also. Schools within short distance (less than 3 kms.) from the Block headquarters had an average of 62 percent completion rate as compared to 52.8 percent for schools located at a distance of more than 15 kms. from the block headquarters. Why should distance from the block headquarter emerge as one of the key variables associated with completion rates? It seems that schools in the interior rural areas and those in isolated habitations suffer the most as far as educational attainment is concerned. Similar patterns were observed for children in both phases.

Does the school incharge/head matters as far as completion is concerned? The completion rate was higher for male headed schools (58 percent) rather than schools with female head teachers (54.4 percent). The results were consistent across Phase I and II districts and the differences were statistically significant. Tamil Nadu happens to have large number of female teachers.

The presence or absence of certain facilities was also associated with the CRF. About 20 percent girls were studying in schools having girls' toilet. About 80

percent of girls did not have access to girls' toilet in their schools. The analysis further showed that girls' toilets were available in large schools only. The average enrolment in schools with girls' toilet was 274 as compared to 128 for schools without girls toilets. The large schools are generally located in urban areas or in large villages where basic amenities have been created due to large number of students. Schools without girls' toilet were having a lower CRF (53.7 percent) as compared to schools with girls toilet (62 percent). A separate analysis of CRF for girls in schools with and without girls toilets indicated sharp differences between the two categories. The CRF for girls in schools with girls' toilets was 64 percent as compared to 54.5 percent for schools without girls' toilet. While there could be differences of opinion about the utility of toilets and their functionality, the empirical evidence clearly establishes that the availability of girls' toilets is significantly associated with completion rate. Availability of girls toilets is a necessary condition but not a sufficient condition for improving retention and hence the internal efficiency of schools.

Another important correlate of CRF is the rural urban location of the schools. The children in urban schools had a higher chance of completing primary education in five years as compared to their counterparts in rural schools. In general children studying in urban schools had about 20 percent higher CRF as compared to their counterparts in rural schools. The differences are more striking in Phase II districts (30.9 percent).

Similar results were observed for schools with/without boundary walls. About 18 percent children were studying in schools with boundary wall. The remaining 72 percent children study in schools

The private schools in Phase I and Phase II are not much different as far as CRF is concerned. The differences in the CRF for government schools are significantly different for Phase I and Phase II districts.



without boundary walls. Many rural schools were without boundary walls and other basic amenities.

The presence or absence of boundary wall or such other facilities may not be directly related to the classroom processes of teaching learning but is definitely related to the school environment. It was observed that CRF for schools with boundary walls was 62.3 as compared to 53.5 for the schools without boundary walls.

Besides the school management, the school category is also associated with CRF. The distribution of students in 1994-95 cohort indicated that 81 percent children were studying in primary school only. The analysis of CRF shows much higher completion rates for children in high and higher secondary schools as compared to those who studied in primary schools. The primary school completion rate was 54 percent with an advantage of about 5 percentage points for each higher category of school. The primary section students in high and higher secondary schools reported a CRF of about 65 percent.

In all the analysis presented above, one major trend is clear. Phase II districts lag behind by about 5-6 percentage points in CRF as compared to the average for the Phase I districts. It is important to highlight that this difference could point to the impact of the various positive interventions made in Phase I districts. It also has implications for planning and management of DPEP in Phase II districts. One factor may be that Phase II districts are economically backward as compared to Phase I districts but not necessarily in terms of literacy rates. Secondly, Phase I districts reflect the outcome of DPEP interventions, where the program has been running for nearly six years now as compared to Phase II districts where DPEP interventions have been for last three years only. The foregoing analysis also indicates that CRF is associated with many type of deprivations like school size, infrastructure facilities, number of teachers and the location of schools. These factors play an important role in school environment building and the functioning of the school as an institution.

School level CRF

School level analysis is important to identify the need for various interventions and remedial measures to improve school effectiveness. The analysis of variance shows that inter-school variations are more as compared to inter-block variations. Therefore, the analysis of school level CRF would be more appropriate to take actions for improving the school effectiveness. There are many schools, from where only a few children are able to complete primary education in five years, whereas on the other extreme are the schools for which the CRF is very high (more than 90 percent). Thus, the schools belonging to the latter category are far more efficient than the former.

For many schools in the study, the completion rate was even less than 30 percent (Table 9.19). These are extremely poor performing schools and can be put under special watch scheme to provide necessary academic and professional support for revitalization of teaching learning processes.

Field investigations revealed that some schools belonging to this category were without teachers or had special problems like mobile population or generally, the level of economic prosperity is very low. As many as 11.2 percent Grade I students started their educational career from these schools. On the other hand, many schools had more than 75 percent completion rate. The share of such schools to total schools was 16.5 percent and approximately the same proportion of students was studying in these schools. These schools can be classified as high performing schools. A suggestive classification of schools based on CRF as presented in Table 9.16 was also followed for Tamil Nadu state.

It may be important to determine the factors associated with low performance of schools, especially those falling in D and E category. Of the total schools, 16.5 percent got classified into E category and another 22.8 percent in D category. The total number of schools falling under category D and E was 3,861 (39.3 percent). Is it because of teachers' non-availability, vacant posts,

Table 9.19
Distribution of schools by CRF, Tamil Nadu

District	CRF category					Number of	
	0-30	30-45	45-60	60-75	75-100	Total	schools
Cuddalore	12.9	18.1	27.2	21.7	20.2	100.0	1,328
Dharmapuri	20.4	23.6	27.5	17.8	10.7	100.0	1,914
Pudukkottai	17.5	22.0	25.1	20.1	15.4	100.0	1,241
Ramanathapuram	22.0	22.2	23.5	17.0	15.2	100.0	1,109
Villupuram	13.8	19.3	24.5	23.2	19.1	100.0	1,834
Thiruvannamalai	9.6	15.8	25.7	26.6	22.3	100.0	1,585
Perambalur	18.9	24.2	27.5	18.7	10.7	100.0	814
Total	16.1	20.5	25.9	21.0	16.5	100.0	9,825
Number of schools	1583	2012	2540	2056	1624	9,825	
% students in schools	11.2	20.5	28.0	23.7	16.6	100.0	

inaccessibility to educational administrators or the poor performance of pupils is due to some special characteristics of the schools. It is quite possible that some of low performing schools are located in areas where the demand for child labor (paid and unpaid) is high or some other special factors prevail. Hence different types of strategies are required to overcome these constraints. The normal approaches of access, retention and imparting of quality education may not be applicable to these schools. It is also possible that the schools may be small and educational administrators may have not given any serious attention to look into their problems. The District Program coordinators should identify

schools with poor CRF and hold detailed discussions with the Head teachers of such schools to develop plans for improving their internal efficiency as well as learning outcomes. Table 9.20 provides the share of schools in each of the categories of CRF as discussed above.

Special quality improvement drives should be undertaken in schools whose completion rates are more than 75 percent. Special teacher training packages should be developed for schools with high internal efficiency. These training packages should focus on maintaining high quality standards. Good performing teachers from schools with high CRF

Table 9.20
Distribution of schools by efficiency criterion

Category	Range (CRF)	Number of schools	Percent to total schools in DPEP districts
A	<35	1,583	16.1
B	30-45	2,012	20.5
C	45-60	2,369	24.1
D	60-75	2,237	22.8
E	>75	1,624	16.5
Total schools	9,825	100.0	

should be identified as resource teachers and should be chartered to provide necessary on-site training for the teachers from poor quality schools. Such action plans have to be implemented in a manner that normal teaching is not disturbed and the teachers acting as resource persons are adequately compensated.

Concluding observations

Besides the above factors, there are many implications of the above findings for planning and management of education not only in the state of Karnataka, Maharashtra and Tamil Nadu but also for the country as a whole. The studies have shown the need to shift the focus of planning to the school. It also shows that despite considerable progress that has been made in the recent years, there is no room for complacency. The unfinished task is tremendously difficult and there would be pockets of strong resistance as the system progresses and improves the internal efficiency. The main issues are discussed below.

First, the focus of decentralized planning should shift to school development planning with a perspective of five to seven years rather than confining it to district or block level aggregates. Integration of DISE database with planning processes would facilitate the development and monitoring of school development plans.

Second, the focus of planning should be on consolidation of the ongoing educational reforms and improving the internal efficiency of schools by classifying the schools based on their strengths and weaknesses. For example, the schools with high repetition have to be treated in a different way than the schools with high dropout rates.

Third, the focus of teacher development strategies should remain on improving the effectiveness of classroom teaching learning processes. The use of information and communication technologies should be made for improving teachers' competencies and skills especially in areas like teaching under various types of multigrade

situations as well as heterogeneous classes where a large number of pupils are underage and overage.

Fourth, repetition is essentially a school related phenomenon. The school teachers should be able to identify the potential repeaters and undertake remedial teaching so that the malaise of high repetition rates can be effectively contained. High repetition may also be result of the design and content related problems of textbooks and other instructional materials.

Fifth, the achievement studies have indicated low levels of achievement in mathematics across many DPEP districts. Some degree of repetition may be the result of poor performance in mathematics. The present study does not have enough evidence on this but improving the quality of teaching learning in mathematics should be considered as a specific strategy to reduce repetition and improve the quality of primary education.

Sixth, the analysis of cohort data has clearly demonstrated the positive association between the availability of school infrastructure facilities and indicators of internal efficiency. The study has reinforced the assertion that a school is a formal structure and must be provided with basic minimum equipment and facilities. This would facilitate the creation of an environment, which is necessary for optimizing the internal efficiency.

Seventh, the academic support to schools is provided through new structures like BRCs and CRCs created under the DPEP. How effective is this support to help individual schools to improve their efficiency and effectiveness is yet to be established through empirical research. These new structures can play vital role in improving school effectiveness by proper monitoring and implementing the concept of continuous and comprehensive evaluation which has remained neglected in the past.

Eighth, many states do not follow no-detention policy and hence examinations are held every year at the end of each academic session. Two of three

states follow no-detention policy. The findings are different for two sets of states. There is a clear need to articulate the no-detention policy. Wider dissemination of the guidelines would be necessary to ensure the success of no-detention policy.

Ninth, various types of structures have been established at the grassroots to encourage the participation of village community in the school affairs. Formation and delegation of responsibilities to village education committees is an important reform introduced in the recent years. The interface between the school and the community is still weak in many areas. The village communities are yet not fully aware about the role and functions of the VECs. Active participation of these committees in school affairs can reduce dropout and repetition considerably.

Tenth, the review of teacher training (both in-service and preservice) programs is necessary. While it is desirable to have a common curriculum throughout the state, but at the same time it must be responsive to the district/sub-district specific requirements.

Eleventh, each DIET should be made responsible for developing an annual status report on elementary education in their district. The existing data collected through DISE in the DPEP districts should be used to the extent possible.

Twelfth, the states should introduce the concept of enrolment audit. A distinction between long term

absentees and regularly attending students should be introduced. The names of children who remain absent beyond a specified limit should be struck off and a separate register for such students should be maintained. The states should also evaluate the impact of enrolment audit on the entitlement and delivery of incentives. It is a paradox that, in some states, attendance scholarships are given to the undeserving students.

Thirteenth, there is a need for improving the transparency of norm based decision making processes at the state and the district level through the involvement of teachers and community representatives especially in matters affecting the access, retention and learning outcome of the school children.

Fourteenth, a set of simple indicators should be developed for measuring progress towards UPE/UEE. Three key indicators are suggested for this purpose. First, proportion of out-of-school children; second, completion rate (CRF) and finally, the average achievement score. These indicators can be generated at all levels of spatial aggregation and for different social and economic groups of population without losing their basic character.

The above recommendations are listed with a view to assist the educational planners to draw up well defined action plans for overcoming the malaise of internal inefficiency in the educational system which has perpetuated over the years.

Dummy text in the place of introduction: The analysis of population and demographic profiles of the DPEP districts show considerable variations in the population density and the spatial distribution of population in various settlements.



Female literacy and DPEP performance indicators

The selection of DPEP districts was pro poor because most of the low female literacy districts were included in the DPEP framework. It is important to mention that it does not mean that the selected districts had the lowest female literacy rate. In this section, in the absence of district wise poverty and socio economic development indicators, it is assumed that literacy can be considered as a correlate of development and illiteracy as a strong correlate of poverty and underdevelopment. A perusal of DPEP districts would indicate that Phase II and expansion districts were relatively more backward as compared to the Phase I districts.

The analysis of population and demographic profiles of the DPEP districts show considerable variations in the population density and the spatial distribution of population in various settlements. Similar characteristics in mortality and fertility indicators would be evident. Similarly, the distribution of deprived and tribal population varies from one district to another. Most of the DPEP districts are rural. The DPEP districts thus present social, economic, geographical and demographic diversity.

The perusal of DPEP progress also shows large variations in the outcome indicators. Some of these aspects have already been discussed in the previous chapters. Intra-district differentials in development indicators and the outcome of DPEP interventions would also be a matter of concern. The DPEP has hardly undertaken any research which unravels the intra district differentials in inputs, processes and the output of DPEP interventions. While many states have started focusing on school as the unit of educational planning, little evidence is available on school characteristics within the districts.

A question often raised in many discussions relates to the impact assessment and cost effectiveness of the DPEP interventions. While special studies are required to answer these questions, an effort has been made in this Chapter to

A literate family has higher chances of overcoming poverty than the illiterate family. Therefore participation in education is considered as a first step for breaking the vicious circle of poverty and ignorance.



understand as to which type of districts (based on literacy profile) have gained more from the DPEP interventions. Are the gains of DPEP confined to few districts or spread across many districts? What is the relative gain or loss among the low female and relatively high female literacy districts. While interpreting the results of the following discussion, it should not be taken as an impact of the DPEP alone. There may be several other factors which would have contributed to the educational outcomes in the DPEP districts.

It is true that primary education contributes to improvement in literacy rates. The rate of return studies have also shown significantly high rates of return from primary education as compared to higher levels of education. A literate family has higher chances of overcoming poverty than the illiterate family. Therefore participation in education is considered as a first step for breaking the vicious circle of poverty and ignorance.

Choice of indicators

Ten indicators were selected for trend analysis to understand the correlates of educational development based on the female literacy profile of the DPEP districts. Choice of indicators was governed by their relevance and availability of time series data. The base year was selected as 1995-96 for Group I districts and 1997-98 for Group 2 districts. The terminal year was taken to be 2000-01 for both the groups of districts. The districts belonging to Group 3 have not been included in the analysis as only one year data is available for such districts.

The time series changes in the following indicators were examined:

- ◆ Overall enrolment.

- ◆ Share of girls' enrolment to total enrolment.
- ◆ Share of SC enrolment to total enrolment.
- ◆ Share of ST enrolment to total enrolment.
- ◆ Student: classroom ratio.
- ◆ Pupil: teacher ratio.
- ◆ Repetition rate.
- ◆ Single teacher schools.
- ◆ Average school size.
- ◆ Percentage female teachers.

Due to the limited nature of data on DPEP districts, many crucial indicators could not be included in the analysis. For example, the inclusion of indicators relating to DPEP expenditure would have reflected on the ability/inability of the poor regions to attract more resource as compared to relatively advanced districts. However, the corresponding data has not been released by DPEP. In the absence of such a data, it is not possible to examine the resource absorption capacity of poor districts as compared to relatively better-off. For the purpose of this study, the female literacy rate based on 1991 census was used for classification of DPEP districts. The DPEP districts were classified into the following four categories (Tables 10.1 and 10.2).

- ◆ Very low literacy districts with female literacy rate below 20 percent (VLF).
- ◆ Low literacy rate districts with female literacy between 20 and 30 percent (LFL).
- ◆ Moderate literacy rate districts with female literacy between 30 and 50 percent (MFL).
- ◆ High literacy districts with female literacy above 50 percent (HFL).

The distribution of Group 1 and Group 2 districts into various literacy categories along with important characteristics is shown in Tables 10.3 and 10.4.

The association between female literacy and demographic indicators like sex ratio and literacy level is evidently clear from Tables 10.3 and 10.4. The low female literacy districts had the lowest sex ratio. The very low female literacy districts belonging to Group I had a sex ratio of 909 as compared to 901 for the Group 2 districts belonging to the same

Table 10.2

Classification of Group 2 districts by levels of female literacy 1991C

Category 1	Category 2	Category 3	Category 4
Paschim Champaran	Gaya	Kokrajhar	Palakkad
Sitamarhi	Rohtas	Bongaigaon	Idukki
Shivpuri	Muzaffarpur	Goalpara	Trivandrum
Shajapur	Vaishali	Barpeta	
Jhabua	Darbhangha	Sonitpur	
Kalahandi	Munger	The Dangs	
Gajapati	Banas Kantha	Gurgaon	
Rayagada	Panch Mahals	Mohindergarh	
Moradabad	Gulbarga	Bhiwani	
Budaun	Morena	Chamba	
Bareilly	Datia	Kullu	
Pilibhit	Dewas	Lahul & Spiti	
Shahjahanpur	West Nimar	Sirmour	
Lalitpur	East Nimar	Banglore Rural	
Kheri	Vidisha	Mysore	
Hardoi	Mandla	Bellary	
Gonda	Jalna	Dharwad	
Siddharthnagar	Gadchiroli	Bijapur	
Maharajganj	Bolangir	Bidar	
Deoria	Firozabad	Bhind	
Sonbhadra	Murshidabad	Damoh	
Chhatra	Hazaribag	Seoni	
Dumka		Dhule	
		Beed	
		Sambalpur	
		Keonjhar	
		Dhenkanal	
		Bargarh	
		Pudukkottai	
		Ramanathapuram	
		Perambalur	
		Koch Bihar	
		South 24 Paraganas	
		Bankura	
		Birbhum	
		Raipur	
		Purbi Singhbhum	
		Ranchi	

Table 10.3
Group 1 district profile by female literacy

Literacy Category	No. of	% population	Sex ratio	Literacy rate 2001	
				Female	Male
Very low female literacy	5	9.3	909	40.4	70.9
Low female literacy	13	30.4	940	47.1	73.1
Moderate female literacy	18	52.7	947	53.0	75.6
High female literacy	3	7.7	1050	83.9	91.2
Group 1	39	100.00	949	52.7	75.6

Group 2 district profile by female literacy

Literacy Category of district (1991)	No. of DPEP districts	% pop. to total pop. (2001)	Sex ratio	Literacy rate 2001	
				Female	Male
Very low female literacy	23	28.2	901	32.6	59.9
Low female literacy	22	29.4	931	42.0	68.1
Moderate female literacy	38	38.7	949	53.9	76.3
High female literacy	3	3.7	1051	83.4	91.5
Total	86	100	934	46.0	69.9

category. These ratios are far below the national average of 933. The low female literacy districts had an average sex ratio of 940 as compared to 1050 for the high female literacy districts. Similar trends are observed for Group 2 districts.

The relative situation of districts has not changed much. The average female literacy for Group 1 districts in 2001 was 52.5 percent which is lower than the corresponding national average of 54.2 percent. The districts in Group 2 were far more backward as compared to the districts in Group 1. The average female literacy of 86 districts in Group 2 was 46 percent which is much lower than the national average. The districts belonging to very low female literacy group still show an average of 32.6 percent thus showing that two out of three female were still illiterate in these districts. These districts numbering 23 accounted for 28.2 percent of the population of districts in Group 2.

The data also shows that differentials in male-female

literacy are significantly higher for the very low female literacy districts as compared to other categories. In fact, the male-female differentials in literacy tend to reduce as one moves from the very low female literacy category to high literacy category. Therefore, the Group 2 DPEP districts continue to remain backward and require extensive efforts to move towards the goal of universal literacy. The impact of primary education on the literacy situation of these districts is yet not clear.

Trends in selected indicators

Enrolment changes by literacy categories

The time series data on enrolment for different categories of districts classified by levels of 1991 female literacy does not present a healthy picture.

There is a decline in overall enrolment in Group 1 districts between 1999 and 2000. The overall decline is to the tune of about 2.2 percent. The decline is inversely related to literacy category i.e. the districts with high female literacy have witnessed

higher decline. Part of the decline could be attributed to demographic changes and the fall in fertility rates in Kerala and Tamil Nadu. But the relative stagnation in enrolment in very low female literacy districts is a matter of concern.

The position with respect to Group 2 districts is somewhat consistent over the years. Group 2 districts recorded an overall increase of 1.8 percent during 1999-2000 period. The districts with very low female literacy recorded an increase of about 4.6 percent during the 1999-2000 period.

Does it mean that Group I districts have reached the plateau as far as enrolment in formal schools is concerned? While it sounds plausible from the DPEP perspective but the reality is that the literacy rates in many of DPEP districts are still low and there are large number of out of school children.

One reason for the overall decline could be the decline in intake in Grade I reported for the first time during 1998 review (Aggarwal, 1998a). The trend has perpetuated over the year and was again highlighted in the year 2000 report (Aggarwal, 2000f, pg. 48). The review study had recommended that research is required to analyze the reasons for

decline in Grade I enrolment. The studies commissioned by the TSG could not provide a meaningful insight on this very important aspect of access. Neither the DPEP Bureau nor the DPEP states could examine this matter in detail and hence there is hardly any response to the major issue of declining enrolment in DPEP districts.

Share of girls' enrolment to total enrolment

Over the years, the share of girls' enrolment to total enrolment has increased for all categories of districts in both Group 1 and Group 2 districts and maximum gains are observed in very low female literacy districts (Table 10.5). Thus a positive development in terms of gender participation is reflected in the faster increase in participation in relatively low female literacy districts.

Despite significant improvement in girls' participation, the relatively low share of girls in very low female literacy districts in Group 2 needs to be further probed. The present share of 42 percent has to increase rapidly to reduce gender differentials in participation to less than 5 percent. Therefore more focused attention is required for very low female literacy districts.

Table 10.5

Share of girls enrolment to total enrolment by literacy profile of districts

Literacy category	Share of girls enrolment to total enrolment					
	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01
Group 1 districts						
Very low female literacy	38.7	39.3	40.0	41.9	43.1	44.0
Low female literacy	43.5	44.2	45.1	46.0	46.2	46.9
Moderate female literacy	47.6	47.8	48.0	48.2	48.2	48.4
High female literacy	48.6	48.6	48.7	48.7	48.7	48.7
Average for Group 1	45.6	45.9	46.4	47.0	47.1	47.5
Group 2 districts						
Very low female literacy			38.9	40.2	41.3	42.8
Low female literacy			42.9	44.0	44.5	45.2
Moderate female literacy			47.6	47.9	48.4	48.2
High female literacy			49.3	49.3	49.4	49.3
Average for Group 2			43.7	44.5	45.2	45.7

Share of SC and ST enrolment

The second aspect of inequities in educational development pertains to the participation of SC and ST children in primary education. It is also observed that SC and ST population is largely concentrated in low female literacy districts as compared to high female literacy districts. Based on 1991 census data, a negative correlation between the share of SC and ST population and female literacy was observed

(Aggarwal, 2000f, pg. 106). Tables 10.6 and 10.7 show that excepting the category of high literacy group, all other categories had about 30-35 percent primary Grade students belonging to the category of SC/ST in 2000-01. Quite consistent with the trends, the gains are more pronounced in very low female literacy districts. Therefore, the distribution of SC/ST enrolment by literacy category shows the positive impact or the outcome of DPEP and other efforts.

Table 10.6
Share of SC enrolment to total enrolment by literacy profile of districts,
1995-96 to 2000-01

Literacy category	1996-97	1997-98	1998-99	1999-00	2000-01
Group 1 districts					
Very low female literacy	14.9	15.9	19.8	20.1	20.6
Low female literacy	16.0	17.4	17.1	16.9	17.2
Moderate female literacy	22.1	22.6	22.9	23.0	23.0
High female literacy	8.2	7.6	7.5	7.4	7.3
Total Group 1	18.7	19.5	19.9	19.9	20.1
Group 2 districts					
Very low female literacy		24.3	24.9	25.5	26.1
Low female literacy		17.2	17.3	17.3	17.3
Moderate female literacy		21.2	22.3	22.0	22.4
High female literacy		16.9	17.0	16.9	16.6
Total Group 2		20.7	21.4	21.5	21.8

Table 10.7
Share of ST enrolment to total enrolment by literacy profile of districts
1995-96 to 2000-01

Literacy category	1996-97	1997-98	1998-99	1999-00	2000-01
Group 1 districts					
Very low female literacy	10.7	10.4	12.4	11.9	12.1
Low female literacy	15.8	16.7	17.7	17.6	17.8
Moderate female literacy	6.7	11.2	11.8	12.0	12.2
High female literacy	2.9	3.3	3.3	3.3	2.9
Average for Group 1	9.7	12.4	13.2	13.3	13.5
Group 2 districts					
Very low female literacy		6.5	6.8	6.1	6.1
Low female literacy		10.9	12.1	12.6	12.2
Moderate female literacy		16.1	15.3	15.5	15.6
High female literacy		1.8	1.8	1.9	1.9
Average for Group 2		11.6	11.6	11.7	11.5

Both the SC and ST students have increased their share in total enrolment over the years. Thus year 2000 witnessed the highest ever participation of SC/ST children in primary education. This is a significant achievement as both SCs and STs have benefited from the DPEP interventions in formal schooling. It is also pertinent to point out that still there are many pockets of SC and ST concentration where the participation of SC/ST children should improve.

Student Classroom Ratio (SCR)

The analysis of SCR is important as it shows the expansion of essential infrastructure required for classroom teaching learning. The analysis was also carried out in terms of districts classified by their literacy category. Over the years, the SCR in all categories has declined showing lesser students per classrooms which is a positive development and shows that even in educationally most backward districts, which also happen to socially and economically backward, the increase in enrolment is backed by additional infrastructure creation.

The following observations emerge from the Table 10.8:

- a) Despite significant increase in enrolment, there is a gradual decline in the overall SCR for all type of districts thus showing that the civil works program has addressed the needs of all type of districts.
- b) The SCR is highest for very low literacy districts in both Group 1 and Group 2 districts. Thus despite expansion of civil works and creation of additional school places, the districts with very low literacy still require more infrastructure strengthening than the high female literacy districts. It is also supported by the fact that the backlog and out of school children are much large in the low and very low female literacy districts. Thus more attention should be given to creation of classroom places in low literacy districts.
- c) The Group 2 districts have generally higher SCR as compared to the corresponding category in Group 1 districts. In 2000-01, the average SCR for very low female literacy group of districts was 44.5 and 56.3 for Group 1 and Group 2 districts. Thus there is a greater need for creation of additional school places in Phase 2 districts in general and that of low and very low female literacy districts in particular.

Table 10.8
SCR by literacy profile of the districts: 1996-97 to 2000-01

Literacy category	1996-97	1997-98	1998-99	1999-00	2000-01
Group 1 districts					
Very low female literacy	48.6	48.1	46.1	45.2	44.5
Low female literacy	43.4	42.1	40.9	39.8	37.9
Moderate female literacy	41.2	42.7	41.1	41.5	38.8
High female literacy	65.4	33.0	32.7	29.2	32.8
Average for Group 1	43.5	42.3	40.8	40.3	38.6
Group 2 districts					
Very low female literacy		62.0	60.4	56.4	56.3
Low female literacy		54.5	52.1	52.7	52.1
Moderate female literacy		47.0	48.5	50.2	47.0
High female literacy		29.6	29.2	26.3	31.5
Average for Group 2		51.9	51.7	51.6	50.5

Different state governments have fixed different norms for appointment of teachers in primary and upper primary schools. The suggested national norm is to provide one teacher for every 40 students.



The above analysis of SCR should be conducted at school level to identify overcrowded schools so that further capacity can be created in those schools. It is also evident that the DPEP funds for the creation of additional school places may not be adequate and there is a need for convergence between rural development investment and allocation of greater resources from the education department for strengthening and maintenance of school in educationally backward districts.

Pupil Teacher Ratio

As noted earlier, PTR is an important input indicator. In most rural schools textbooks and teachers are the only teaching learning resources that are available to most learners. Different state governments have fixed different norms for appointment of teachers in primary and upper primary schools. The suggested national norm is to provide one teacher for every 40 students.

Over the past few years, the rural schools had to bear the brunt of vacancies of teachers. Many state government finances are under strain especially after the implementation of revised pay scales. Teacher vacancies have also persisted due to other legal and administrative problems. To what extent the low female literacy districts had to bear the brunt of teachers' availability?

The low female literacy districts have higher PTR as compared to high female literacy districts (Table 10.9). The differences in the value of PTR for different category of districts are pronounced and show the persistence of the bias in the positing of teachers in educationally backward districts.

Overall, the PTR has shown an erratic behavior for the Group 1 districts (Table 10.9). It has increased for the very low female literacy districts from 39.2 in 1999-00 to 41.3 in 2000-01. The PTR registered a marginal decline for the low female literacy districts.

The PTR is very high for Group 2 districts as compared to the corresponding value for the very low literacy districts in Group 1 districts. For Group 2 districts the PTR has been consistently rising for very low female literacy districts. The relative increase is lesser for the other category of districts.

Table 10.9
Trends in PTR by literacy profile of districts

Literacy category	1996-97	1997-98	1998-99	1999-00	2000-01
Group 1 districts					
Very low female literacy	38.0	37.8	39.7	39.2	41.3
Low female literacy	38.2	37.0	37.6	36.7	36.6
Moderate female literacy	38.7	41.2	41.1	40.8	39.9
High female literacy	38.5	30.8	30.5	28.6	29.6
Average for Group 1	38.2	38.8	39.0	38.4	38.2
Group 2 districts					
Very low female literacy		56.4	57.7	57.8	60.9
Low female literacy		49.6	49.2	50.2	50.8
Moderate female literacy		43.7	44.0	43.5	43.1
High female literacy		28.4	28.2	27.1	29.0
Average for Group 2		47.9	48.2	48.3	49.2

The above evidence suggests that there are not only large variations in teachers' availability across districts but the districts with very low literacy rate do not have adequate number of teachers and their PTR is highest. In reality, it should have been the other way round because the educationally backward districts require more teachers. Therefore, the state governments should seriously look at the question of reducing PTR in general but particularly in school in very low female literacy districts (with female literacy less than 20 percent). The analysis further strengthens the need for rationalization of teachers' deployment.

Repetition rate at primary level

Generally, there is a decline in the repetition rates in DPEP districts. The earlier analysis showed that the repetition rate for some districts had shown increase in the last two years. While the reasons for increase in repetition rate need to be further examined, the present analysis would explore the trends in repetition rates by the category of districts in terms of their female literacy rate. The repetition rates also depend upon the state policies regarding the annual examination and promotion policies. As mentioned in earlier chapters, many states follow no detention policy whereas many others have

examinations at the end of each grade. Since these policies have remained constant for many years, it is possible to combine districts from various states, irrespective of the fact whether such states have no detention policy or not.

The repetition rates have generally tended to decline over time (Table 10.10). However, a significant increase in repetition rate is observed for 1999-00 for very low female literacy districts belonging to Group 1. The repetition rate for this group during 1999-00 was 5.9 percent as compared to 4.0 percent a year ago. In most other categories, there has been a small decline in repetition rates. Therefore, as a result of DPEP and other interventions, the internal efficiency of schools has generally improved. The above evidence is also contrary to the assumption that low female literacy districts have high dropout and repetition rates. In the absence of realistic estimates of dropout a complete analysis of internal efficiency is not possible.

Single teacher schools

Soon after the formulation of 1986 education policy, it was realized that the presence of a large number of single teacher schools has adversely affected the quality of primary education. The Government of

Table 10.10
Trends in repetition rates by literacy profile of districts

Literacy category	1995-96	1996-97	1997-98	1998-99	1999-00
Group 1 districts					
Very low female literacy	6.4	5.8	3.8	4.0	5.9
Low female literacy	7.3	7.6	6.0	5.8	5.1
Moderate female literacy	11.0	9.7	7.4	7.2	6.7
High female literacy	2.2	9.6	4.7	4.2	4.4
Average Group 1	8.8	8.7	6.5	6.3	6.0
Group 2 districts					
Very low female literacy			7.1	5.2	5.0
Low female literacy			10.5	9.2	8.9
Moderate female literacy			8.9	9.9	9.4
High female literacy			3.6	3.5	3.8
Average Group 2			9.0	8.2	7.9

The trends in Group 2 districts have shown a sharp increase in the proportion of single teacher schools in very low female literacy districts.



India, therefore decided to launch a centrally sponsored scheme of Operation Blackboard (OB) which postulated that besides other facilities, each primary school should have a minimum of two teachers. As per the provisions of the OB scheme, there should not be any single teacher school. However, in reality the number of such schools is gradually increasing in the country. As mentioned earlier, the percentage of single teacher schools has been falling in Phase I districts but increasing in Phase II and other districts. Therefore, it was decided to examine the existence of single teacher schools in districts based on their female literacy classification (Table 10.11).

The strategy of reducing single teacher schools was progressing satisfactorily till 1999-00. The proportion of single teacher schools increased in many districts in the last two years. This is

particularly worrying as the increase has been highest in the very low female literacy districts in Group 1 districts. However, the trends in Group 2 districts have shown a sharp increase in the proportion of single teacher schools in the very low female literacy districts. This is so ever since the beginning of DPEP in Phase 2 and expansion districts. In view of this disturbing trend, the state governments should evolve clear policy guidelines about the single teacher schools. Part of the problem may be resolved through redeployment of teachers within the district or even within the block.

Average enrolment size

The school enrolment size is a function of the settlement structure and the availability of the formal and alternative modes of educational facilities. The DPEP districts vary considerably in terms of population dispersion and the availability of primary schools in the habitations/villages. In order to understand this, the average school size (enrolment) was calculated for different category of districts.

The schools in very low female literacy districts in Group 2 are almost 37 percent larger as compared to the same category for Group 1 districts (Table 10.12). The average school size has increased

Table 10.11

Trends in the share of single teacher schools by literacy profile of districts

Literacy category	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01
Group 1 districts						
Very low female literacy	29.5	22.6	22.0	19.5	18.9	19.8
Low female literacy	23.9	18.9	15.9	15.0	14.5	14.7
Moderate female literacy	12.9	13.4	11.6	11.9	13.6	14.1
High female literacy	0.2	0.2	0.3	1.7	0.7	0.6
Average Group 1	18.3	16.0	14.6	14.2	14.6	15.0
Group 2 districts						
Very low female literacy			18.8	21.9	25.3	28.3
Low female literacy			20.7	21.2	21.4	17.8
Moderate female literacy			14.8	14.8	13.2	14.0
High female literacy			0.3	0.2	0.2	0.3
Average Group 2			17.7	18.4	18.6	18.7

Table 10.12
Trends in average school enrolment size, 1995-96 to 2000-01

Literacy category	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01
Group 1 districts						
Very low female literacy	105	105	106	110	114	116
Low female literacy	117	119	121	119	116	116
Moderate female literacy	145	144	145	142	140	135
High female literacy	281	254	278	267	252	241
Average Group 1	135	131	134	132	130	128
Group 2 districts						
Very low female literacy			158	157	158	160
Low female literacy			148	144	143	147
Moderate female literacy			135	131	129	127
High female literacy			242	235	221	213
Average Group 2			145	143	142	143

marginally in very low female literacy districts and decreased a little in high and moderate female literacy districts. Thus there is unsatisfied demand in low female literacy districts.

Percentage female teachers

The share of female teachers is not only pertinent from gender equity concerns but is also considered

as an important associate of the quality of learning. Therefore, the proportion of women teachers was calculated for all the four categories of districts (Table 10.13).

Two important observations emerging from the above analysis are: First, the share of female teachers is directly associated with the levels of literacy.

Table 10.13
Trends in percentage female teachers by female literacy profile of districts

Literacy category	1996-97	1997-98	1998-99	1999-00	2000-01
Group 1 districts					
Very low female literacy	16.3	18.0	22.4	23.4	25.3
Low female literacy	24.4	25.4	26.8	27.0	28.5
Moderate female literacy	35.2	37.3	37.7	40.2	41.5
High female literacy	57.8	61.3	61.1	59.5	61.2
Average Group 1	31.0	33.2	34.6	36.0	36.9
Group 2 districts					
Very low female literacy		23.3	26.1	25.7	27.2
Low female literacy		24.3	26.0	25.8	27.4
Moderate female literacy		30.1	32.2	33.4	33.3
High female literacy		74.1	73.5	73.6	75.5
Average Group 2		26.7	30.4	30.7	31.3

Districts falling in the category of very low female literacy rate had the lowest proportion of female teachers. This is true for both the groups of districts. During 2000-01, the very low female literacy districts in Group 1 and Group 2 had 25.3 and 27.2 percent female teachers. Second, there has been a gradual improvement in the share of female of teachers in all categories but the increase has been relatively higher for the very low female literacy districts, which is a positive development. The share of female teachers in very low female literacy districts increased from 16.3 percent in 1996-97 to 25.3 percent in 2000-01 for Group 1 districts.

The foregoing analysis of the performance indicators by category of districts (classified on literacy rates) reveals both the positive aspects of DPEP implementation and its outcome as well as identifies the areas concern. It may not be justified to take these findings as an impact of the DPEP as the data on inputs (financial and non financial) is not available for DPEP districts. Therefore, the association between the inputs and outputs in different category of districts could not be examined. There is a need for further studies in the area of impact assessment of DPEP bit at the macro as well as at the micro level.

DUMMY TEXTsystem is the second largest in the world and is perhaps the most complex in terms of its spatial outreach and profile of students and teachers in terms of their linguistic, social , cultural and economic background. Implementing educational reforms in such diversified system is fraught with challenges of unprecedented nature.



Lesson learnt and future challenges

The discussion in the earlier chapters has highlighted the progress towards achieving the super goals of access and retention under DPEP. It has also identified many areas of concern that require immediate resolution to improve the effectiveness and efficiency of the program. Some conclusions of the study have bearing not only for the design and implementation of DPEP strategies but also for planning and management of education reforms in the rest of the country. Many issues are also relevant for sustainability of DPEP. The DPEP has been in operation for more than six years in 42 districts and would terminate in about a years' time. The experiences of implementing DPEP in Phase I districts is large enough to draw policy and program implications which would be relevant for strategic planning for Phase II and expansion districts as well as for SSA. It would be a mistake if the good practices of the DPEP are not replicated in non DPEP districts either through SSA or by other mechanisms. An impression should not be created that DPEP resources and expertise is not available to non DPEP districts. This would negate the very purpose for which DPEP was initiated. Therefore, the focus in the coming years should be on improving efficiency of DPEP and evolving the strategies for its replication in non DPEP districts.

DPEP is perhaps the single largest project anywhere in the world which has demonstrated the success of decentralized planning and management of primary education. What distinguished DPEP from other projects is its emphasis on participatory processes for demand management, pedagogical reforms and involvement of community and stakeholders in decision-making. DPEP has also established a management system that generates adequate information on project implementation and also for project planning and monitoring. DPEP with a clear focus on the education of girls and that of SC, ST and children with special needs has demonstrated that it is possible to bring about improvements in the quality of education with quantitative improvements in access and retention. Similarly, DPEP has demonstrated that a strong M&E framework contributes immensely to measuring the progress and timely identification of

The annual study on access and retention is limited to the analysis indicators generated from school information system. Using the national database, the study identifies issues having implications for the district and sub-district level activities.



issues requiring special attention of the project managers at the national, state and the district level. The emphasis on research and innovations has generated a vast body of empirical research on issues about which not much was known before the DPEP was initiated. Many of these studies are now available to researchers and administrators in published form.

The present review of access and retention strategies is the fifth since 1997 and provides synthesis of major trends in access and retention related indicators for the DPEP districts. The level of analysis is not only confined to the district and state but school level variations and trends are also examined in the national report. While some trends are easily discernible during the period of implementation, others require long period of time to show their impact.

The EMIS system established since the inception of DPEP has played a positive role in providing timely information on various performance indicators and also helped the project management in tracking various types of inputs, processes and outputs. The recent decision of the MHRD to extend the scope and coverage of DISE is a major landmark in the sustainability of the DPEP activities.

The annual study on access and retention is limited to the analysis indicators generated from school information system. Using the national database, the study identifies issues having implications for the district and sub-district level activities. Wherever possible, efforts were also made to supplement DISE data with sample studies or other research evidence. Such a review would not only help the project management in understanding the progress towards super goals but would also help them in evaluating

the cost-effectiveness and efficacy of various interventions to achieve the policy objectives. The present study provides significant improvements over the earlier attempts. For the first time, a comprehensive discussion on completion rates based on student flow analysis has been attempted. In addition, indepth analysis of the school infrastructure helped in unraveling the main trends. The district level data is being published separately for use by researchers and others interested in primary education in India. The present study covers 39 Phase 1 districts and 86 districts from the Phase II/III and expansion districts for which three years comparative data was available. It also includes 67 districts for which only one year data was available. Thus the present study covers 192 districts. The quality of data in terms of coverage, consistency and validation may vary across districts. It is our constant endeavour to impress upon the states for following the prescribed procedures by highlighting the need for quality data. Processes have also been initiated for undertaking a major exercise for the validation the DISE data on sample basis. The first attempt in this context was made during 1998-99 and was repeated for validation of 2000-01 data. While all out efforts were made to check the internal consistency of data received from the states, the author/MHRD are not responsible for errors, which might have crept in the analysis due to misreporting of data by the states/districts. Moreover, a number of additional suggestions for sharing of data with school management committees, VEC and other representative organizations in the village have also been discussed with various state governments. In order to strengthen decision-making, efforts are also being made to extend DPEP-MIS to other states. It is now envisaged that the states covered under SSA would also implement DPEP-MIS system.

The analysis has shown that significant gains in access and retention have been made both under the formal as well as alternative systems of primary education. Despite considerable progress in enrolment and retention, it is becoming evident that additional efforts would be required before the overall objectives of DPEP can be fully realized. The

major trends and issues emerging from the analysis are discussed below:

Enrolment Trends

Since the DPEP districts were mostly low female literacy district having a large pool of out of school children, the DPEP focused on improving access through formal and non-formal modes of education. A three fold strategy was adopted to improve accessibility; (a) to open new formal schools and construct new classrooms in overcrowded or dilapidated schools, (b) to open AS/EGS schools in habitations not having adequate access, (c) to improve the quality of existing infrastructure by providing additional facilities like toilets, drinking water and boundary wall etc. The trends in primary grade enrolment in India have shown a relatively slow progress during the last 5-7 years and the enrolment has been around 110-130 million.

With the emphasis of AS/EGS, the DPEP has now opened 67,000 alternative schools of different types, covering 2.5 million children in the DPEP districts. The three states of Madhya Pradesh, West Bengal and Rajasthan account for about two third of the AS/EGS enrolment during 2000-01. It is observed that during the earlier years of DPEP, there was considerable expansion in Phase 1 district which continued till 1997-98. However, in the subsequent years, the enrolment increase did not keep pace with the past trends and have started showing signs of stagnation or a modest increase in enrolment. In Kerala and Tamil Nadu, the decline in enrolment is attributed to decline in age specific child population. In other states the reasons are different. During the 1999-00 and 2000-01, an absolute decline of about 1.26 percent in overall enrolment in formal schools is reported. Overall enrolment in Group 1 district has been hovering at around 8 million for the last three years. The Phase 2 districts have registered a modest increase from 20.3 million in 1999-00 to 20.7 million in 2000-01. Assam has shown a substantial decline in enrolment. The marginal decline in enrolment is also observed in Karnataka, Madhya Pradesh, Maharashtra and West Bengal. It is observed that Group 1 enrolment declined in all

states excepting Madhya Pradesh. The analysis also showed that out of a total of 125 districts for which time series data was available, 57 districts showed decline in enrolment. It is argued that the decline in enrolment in some states may be due to rapid increase in enrolment under AS/EGS. While this may be true in some states, in others the reasons may be different. In view of the serious implications of decline in enrolment, especially in Group 1 district, in depth study needs to be conducted on priority basis to identify the reasons of decline in enrolment in DPEP districts.

Teachers and Associated Characteristics

The teachers are most important resource for teaching learning to take place in the classrooms. The DPEP has initiated a number of programmes for strengthening of teaching competencies and also to provide professional support through the establishment of block and cluster resource centers. A major development which will have long term bearing on the quality of teaching work force relates to the appointment of large number of para teachers in the recent years. The main objective of appointing para teacher is to bring down PTRs and to provide teachers in remote and inaccessible areas where not many regular teachers are willing to go and work. It is estimated that more than 30,000 para teachers have been recruited in DPEP states and many more would be recruited in the coming years. A PTR of 40 is considering ideal for Indian condition. The Operation Black Board Scheme provided for appointment of a minimum of two teachers in all primary schools. The DPEP initiatives have resulted in filling up of vacant position of teachers and also appointment of new teachers or para teachers. About

The teachers are most important resource for teaching learning to take place in the classrooms. The DPEP has initiated a number of programmes for strengthening of teaching competencies and also to provide professional support through the establishment of block and cluster resource centers.



1.02 million teachers are working in DPEP districts. Overall PTR on year to year basis has shown marginal changes. Till 1998-99 the PTR showed marginal increase and then the decline has set in. A declining PTR indicates more teachers for per student. The PTR with respect to Group 2 district is still showing an increase over time. The average PTR for Group 2 districts in 2000-01 was 49.2 which is approximately 29 percent higher than the corresponding average for Group 1 districts. The problem of PTR is serious in 5 DPEP states, namely, Uttar Pradesh, West Bengal, Bihar, Chhatisgarh and Jharkhand. Uttar Pradesh (Group 2 districts) have shown a consistent increase in PTR ever since the inception of DPEP.

The disaggregate analysis of the school level data shows large imbalances in the deployment of teachers. The PTR has also been used as an indicator to examine overcrowding in schools. It is considered that a PTR of greater than 90 would not be conducive to the normal teaching learning process. The proportion of such schools in Group 2 and Group 3 districts was 13.6 and 15.4 percent respectively. The proportion of female teachers though improving over time shows that further efforts are required to raise the share of female teachers in the total teaching work force. Some of the states like Bihar, West Bengal, Chhatisgarh and Jharkhand have abnormally low proportion of female teachers (less than 22 percent). Whatever limited number of female teachers are available, their distribution into various schools is highly skewed. It was observed that 91.5 percent of single teachers schools were all male teachers schools. Similarly, 63.3 percent of two teacher schools were without any female teacher. The position is not much different with respect to other categories of schools.

The increasing share of single teacher schools is another area of concern. In the recent years, the share of single teacher schools has increased marginally both in Group 1 as well as in Group 2 districts. 18.7 percent schools in Group 2 and 15 percent schools in Group 1 continue to be single teacher schools. The analysis of newly established schools shows that most of the new schools are

established as single teachers schools. The state-wise analysis showed a large concentration of single teacher in the states of Andhra Pradesh, Uttar Pradesh, Orissa, Jharkhand, Assam, Bihar and Karnataka.

Grade repetition

Grade repetition is a form of wastage which occurs due to inability of a child to meet the academic and other requirements for promotion to next grade. The estimates show that in 2000-01 academic session, about 3.2 million primary school students were repeaters. If there was no repetition, approximately 200,000 less teachers would have been required to maintain a modest level of PTR (1:40). The problem of grade repetition is highly localized as more than half repetition occurs during the first year of schooling itself. What is so bad about Grade 1 that so many children are not promoted? There is hardly evidence on the magnitude of repetition and the reason thereof. The DPEP interventions were able to control RR in initial years of schooling but in the last two years, there has been some increase in RR. Karnataka, Kerala, Madhya Pradesh and Maharashtra have shown increase in RR during 1999/2000 period. Some Group 2 states have shown higher RR as compared to group 1 states. Highest repetition is observed in Assam. The problems of repetition are far more serious in Grade 1. Assam with 29.5 percent and Orissa with 27.2 percent Grade I repetition top the list. The analysis showed that repetition among SC and ST students was as high as for the students belonging to the general category. Among the other issues, policy guidelines are necessary to streamline the promotion and repetition procedures.

Completion rates

The Indian education system is characterized by low internal efficiency due to the persistence of high dropout and repetition rates. No country has ever been able to achieve Universal primary education with an inefficient system of primary education. A perusal of the literature revealed that it was difficult to answer a question as to how many children complete primary education in five years, which is a primary condition for achieving UPE/UEE. In order

to estimate the completion rates, a study of retrospective cohort was undertaken in three states, namely, Tamil Nadu, Maharashtra and Karnataka. The Tamil Nadu study covered about 9,000 schools and 263,000 Grade I students. The corresponding coverage for Maharashtra study covered a total of 13,216 schools and 553,169 students. The Karnataka study covered 22,754 schools and 717,135 students of Grade 1. Thus the cohort studies in these three states covered 27 DPEP districts, 45,000 primary schools and 1.5 million Grade 1 students. This is perhaps the largest ever cohort study conducted in India and perhaps in any developing country. Many other states have also initiated such studies on a large scale.

The analysis of data showed that the holding power of the system is far greater than the completion rates in four/five years as the case may be. It was also found that repetition is a major factor affecting the completion rates. The dropout phenomenon was not as serious as it was being made. The completion rate for Karnataka was 76.5 percent (CR4) as compared to 62.1 percent (CR4) for Maharashtra and 55 percent for Tamil Nadu (CRF). Large inter district variations in completion rates were also observed. The main highlight of the study was that it has led to classification of schools on the basis of their performance as measured through completion rates. The schools having low completion rates were identified and remedial action was taken up on priority basis. Such an approach resulted in better monitoring of weaker schools and in many cases special measures were taken to improve the efficiency and effectiveness of the low performing schools. The studies have also highlighted the need for institutional planning rather than focus entirely on district level planning.

Gender and equity issues

The Indian constitution provides for growth with equity and social justice. Education can be both the cause of perpetuation of gender and social disparities as well as a tool to overcome the disparities. The principles of positive discrimination adopted since the formulation of the Indian



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constitution were positive steps for reducing the gender and social differentials to the minimum. The DPEP has also provided considerable focus to the eradication of inequities through designated interventions. The success of DPEP efforts is evident from a number of indicators. First, the share of girls to total enrolment increased substantially as compared to a stagnating share as far as national trends are concerned. Second, the index of gender equity has shown considerable improvement over the years and the number of districts with IGE greater than 95 has increased from 18 to 31 in Group I states and from 40 in 1997/98 to 51 in 2000/01 for Group 2 states. The progress in terms of girls education has been phenomenal in Uttar Pradesh, Gujarat and to some extent in Bihar. The SCs have generally been showing significantly higher enrolment growth as compared to other. However, the situation with respect to STs is not that satisfactory. The Index of Social equity for ST population shows the signs of stagnation. This is a matter of concern.

Regional dimension of DPEP

The selection of DPEP districts was based on the female literacy. All districts with less than the national literacy rate were eligible for the DPEP. Some districts having successfully completed total literacy campaigns were also included in the DPEP framework. An often asked question relates to the impact of DPEP on various types of districts. This is a complex question and requires extensive data on inputs, processes and output in the selected districts. As a proxy, we classified the districts into four categories on the basis of their female literacy rate. The categories were: very low female literacy districts (<20 percent), low female literacy districts (20-30 percent), moderate female literacy rate districts (literacy varying between 30-50 percent)

and the high literacy districts with more than 50 percent female literacy rate. Enrolment indicators including SCR, PTR, single teacher schools, percent female teachers and repetition rates were selected to measure the direction of change. The analysis supported the assertion that low female literacy districts got more benefit from DPEP as compared to high female literacy districts. Due to increase in repetition rates, the low female literacy districts showed much higher increase in literacy rate as compared to high female literacy districts. An area of concern is that despite significant improvement in the value of indicators mentioned above, the low female literacy districts continue to suffer due to faulty allocation of physical, financial and human resources.

In addition to the above, the M&E framework for the DPEP provides for a comprehensive set of indicators for the project planning, management and monitoring purposes. The school information system is only one component of the total mm strategy under DPEP. The quarterly performance indicators are also monitored through PMIS. The following discussion relates to issues related to the school information system and does not cover other forms of M&E.

Improving the compliance for data reporting

The design and implementation of a national reporting system under DPEP was a unique effort to improve the availability of educational statistics at various levels. Over the years, the possibility of establishing a national M&E system has been adequately demonstrated. It is perhaps, for the first time, that a comprehensive and up to date school level time series data for three to five year is available in computerized form for 127 districts. This could not have been achieved without the active involvement of the central and state government officials. The sustainability of this particular reform depends on the continued interest of the state governments in monitoring and evaluation systems. DPEP experience has shown that considerable persuasion and follow up was required with the

states to implement the DISE data collection system. This needs to be pursued further so that it becomes a regular feature of reporting school statistics. After the initial efforts, the participating states have realized the significance and utility of school information management systems and are requesting for extension of DISE to non-DPEP districts also. It is postulated that a revised an updated system of data collection and management would be implemented in a phased manner to cover the whole country. This would necessitate the strengthening of state and national level structures meant for collection and dissemination of educational statistics.

Improving quality of data collection and analysis

DPEP experience has shown that there are large variations in the quality of data collection, computerisation and reporting. There are many reasons for poor quality of data notably from the districts facing various types of administrative and other problems. These include lack of adequate staff, disinterest among teachers, lack of adequate training and supervision in data collection and lack of sharing of data with the school teachers and village education committee. In order to improve the quality of data, steps at two levels would be required. Firstly, the practice of sharing school data with stakeholders and the community has to be strengthened by making it mandatory for all school headmasters to share their school level data with the Village Education Committee. Secondly, periodic validation of data through scientifically designed sample surveys should be undertaken and the margin of error should be estimated at the district level. Schools providing misleading or incorrect data should be taken to task.

Promoting the use of data in planning, monitoring and decision making

The experience of last few years in implementation of DISE has been a mixed bag of success and failures. Some very exciting applications of the DISE data have been reported in the recent years. These include, rationalization of teachers, identification

of schools requiring major civil works, estimating the number of textbooks required for various grades and analysis of various types of equipment and facilities available in the schools. The basic data has also been used for training needs assessment studies. On the other extreme are the districts/states where data has not been effectively analysed and used. DISE is seen as another reporting system for state and the national level authorities. This is contrary to the spirit of DISE which is designed as tool for planning and management at the district

level. Each state will have to evolve strategies to ensure that maximum dividend is derived out of the investment made in data collection. Options like, case studies, sharing workshops, seminars and other modes of interaction should be explored so that district and lower level functionaries are comfortable with the analysis and interpretation of data. Particular emphasis needs to be given for sharing of school summary reports with the village community, representatives and members of VECs.

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